Maine Coastal Program

STRATEGIC OUTLOOK 2021 – 2025

Assessment and Strategy under Section 309 of the Coastal Zone Management Act

October 27, 2020

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Table of Contents

Introduction

The Maine Coastal Program and The National Coastal Zone Management Program

Maine is one of 36 states and territories that participate in the National Coastal Zone Management Program. The program is a voluntary partnership between the federal government and U.S. coastal and Great Lakes states and territories authorized by the Coastal Zone Management Act (CZMA) of 1972 to address national coastal issues. The program is administered by the National Oceanic and Atmospheric Administration's (NOAA) Office for Coastal Management.

Maine's Coastal Program (MCP) was approved by NOAA in 1978. Maine's coastal zone includes:

- 5,408 miles of coastline;
- All municipalities with tidal waters in their jurisdiction; and
- State-owned submerged lands and islands out to three nautical miles.

MCP is a partnership among local, regional, and state agencies for the purpose of managing Maine's coastal resources in a way that balances development and conservation. The Maine Coastal Program is a Division of the Maine Department of Marine Resources. MCP distributes Federal funds matched by state and local sources—for projects that benefit Maine's coastal communities.

NOAA's Coastal Zone Enhancement Program. To foster innovation and continuous improvement in state coastal programs, NOAA administers the Coastal Zone Enhancement Program referred to as "Section 309 of the CZMA". The program provides incentives to states to enhance their coastal programs in nine key topic areas of national concern as follows:

- Aquaculture – facilitating farming/cultivation of aquatic organisms such as fish, shellfish and plants.
- Coastal Hazards – eliminating or reducing threats to public health, safety and welfare from storms, climate change, erosion, etc.
- Cumulative and Secondary Impacts of Development – addressing impacts associated with land development and other stressors.
- Energy and Government Facilities Siting – facilitating sound siting of large-scale essential services.
- Marine Debris – eliminating or reducing trash and other refuse in coastal waters or on shorelines.
- Ocean Resources – planning for existing and potential new uses in coastal waters, including consideration of marine resources (species and habitats), cultural/historic resources, water quality, sand and gravel deposits, dredging, etc.
- Public Access – facilitating public access to the shore.
- Special Area Management Plans – planning for resources or geographic areas of concern.
- Wetlands – protecting, restoring or enhancing wetlands.

Strategic Outlook (Section 309 Assessment and Strategy)

Every five years, the Maine Coastal Program develops a Strategic Outlook (also known as the CZMA Section 309 Assessment and Strategy), assessing the status of the topics above, reviewing our past performance, and meeting with partner organizations, stakeholders and other state agencies to develop priorities and strategies for program innovation and improvement. Initiatives outlined in this document provide a general blueprint to guide MCP's work over the next five years (2021-2025). The document is also intended for use by others to assess opportunities for potential partnerships and joint efforts.

How this Document was Prepared

NOAA requires each state participating in the Section 309 Enhancement Program to develop cursory "Phase I "Assessments for each of the nine topic areas listed on the previous page. For issue areas that are chosen as priorities, a "Phase II", more detailed assessment is required. Finally, for those areas chosen as high priority, states develop strategies for projects for the next five-year period. Interagency teams led by MCP staff developed this draft Strategic Outlook. Draft 309 plans are reviewed by NOAA's Maine project specialist, reviewed by stakeholders, and an interdisciplinary NOAA team, prior to NOAA approval. States are also required to respond to public comments on the draft document.

Public Outreach

To obtain feedback on the draft MCP priorities and associated strategies, MCP posted the draft document for the 30-day period ending on August 14th, 2020. In addition to the web-posting, MCP sent the survey directly to more than 7,800 people and organizations on MCP's mailing lists. While the number of respondents was extremely small, those answering the survey overwhelmingly agreed with MCP's stated priorities and strategies. MCP did not make any changes to the A&S text after analysis of the comments provided. A summary of the survey results and MCP responses to commenters is provided in Appendix A.

How Priorities were Established

NOAA Section 309 Enhancement Area funds for states are intended to improve state programs. What qualifies as a program improvement is determined by NOAA and includes passage of new or revised state statutes and rules, new or revised municipal plans and ordinances, guidance, agreements, and creation of new funding sources, procedures, policies and agreements. Section 309 priorities cannot address ongoing MCP programming or cover ongoing staffing needs.

MCP's high-priority issue areas in this 2021-2025 assessment are Coastal Hazards, Wetlands and Ocean Resources. Other issue areas are still considering to be priority needs for the state as a whole, but not for Section 309 funding.

These priority areas - Ocean Resources Management, Wetlands and Coastal Hazards were developed by MCP staff teams in consultation with topic experts and informed by current efforts, public comments and in consideration of recommendations presented to the Maine Climate Council by its Coastal and Marine Working Group in June 2020 . That working group was co-chaired by MCP and the University of Maine's Darling Marine Center, staffed by MCP and DMR staff and a UMaine graduate student.

The following table lists the nine issues of national significant identified in the Coastal Zone Management Act and the corresponding priority ratings of the Maine Coastal Program in 2015 and 2020.

MCP Priorities 2015 and 2020

CZMA Enhancement Area	2015 Priority Rating for Section 309	2020 Priority Rating for Section 309
Aquaculture	Low	Low
Marine Debris	Low	Low
Wetlands	High	High
Coastal Hazards	High	High
Cumulative Impacts	High	High
Special Areas Management Planning	High	Low
Public Access	Medium	Medium
Ocean Resources	High	High
Energy and Government Facility Siting	Medium	Medium

Some of the priority ratings for the 2015 and 2020 assessment cycles have stayed the same as and others have changed. Aquaculture and Marine Debris were rated "low" in both planning cycles. While these issues are important in Maine, MCP's work on these issues is supported by our base program funding and not Section 309. With respect to 309, Aquaculture *is* addressed under the high priority Ocean Resources section, with a focus on user conflicts.

Changes to Maine's Coastal "Core Laws" 2015-2020

Over the last five years, MCP has fostered improvement to the state's coastal laws, policies and guidance as described in this section.

NOAA's approval of the Maine Coastal Program in 1978 was based, in part, on Maine's ability to balance the development and conservation of coastal resources through state land use and environmental laws (sometimes referred to as the program's "core laws") which provide the "enforceable policies" of Maine's coastal zone management program. In Maine, the core laws are comprised primarily of statutes and rules administered and enforced by the Maine DEP.[1]

The CZMA requires that changes to the core laws of a state coastal zone management program must be approved by NOAA. After each session of the Maine Legislature, the Coastal Program submits changes to core law statutes along with changes to core law rules adopted by DEP and other administrative agencies to NOAA for its review and approval. NOAA-approved changes to the Maine Coastal Program over the last five years are summarized below. The summary does not include minor, technical changes or changes not directly related to the assessment categories listed.

[1] A complete list of Maine's coastal core law can be found at - https://www.maine.gov/dmr/mcp/downloads/Final_Maine_Guide-Federal_Consistency_Review_5thed_update1_8.18.pdf

Coastal Hazards

The following changes to state laws concerning coastal hazards were submitted to and approved by NOAA for inclusion in the Maine Coastal Program:

Coastal Hazards Program Changes	**Submittal to OCM[2] (Y/N) and if (Y), Date of OCM approval**
CMR 06-96, ch. 355(6)(6) (DEP rules ch. 355), as amended effective 10.10.14 – Amends the state sand dune rules to allow relocation of a residential structure located on a back dune to the adjoining frontal dune under specified, limited circumstances	Y – 12.21.15
CMR 06-096, ch. 310, section 5(A)(1-2) (DEP rules ch. 310), as amended effective 11.11.18 – amends state wetlands management rules (see Wetlands section below) to add "shoreline stabilization" to the types of projects for which an alternatives analysis is required, but for which an alternative is not presumed, if proposed in, on, or over wetlands of special significance	Y – 11.22.19

Coastal Hazards – Anticipated Future Program Changes

Several primarily planning-oriented bills have been introduced in recent legislative sessions to improve the state's ability to address sea-level rise and storm surge issues and the resiliency of its coast. The Maine Climate Council, which was established the Maine Legislature in 2019, is expected to make wide-ranging policy recommendations which may include proposed coastal resiliency-related statutory and rules changes. DMR intends to include pertinent provisions, if any, in an upcoming RPC submission(s).

Cumulative and Secondary Impacts of Development

The following changes to state laws concerning cumulative impacts were submitted to and approved by NOAA for inclusion in the Maine Coastal Program:

Cumulative Impacts Program Changes	**Submittal to OCM (Y/N) and if (Y), Date of OCM approval**
PL 2015 c. 83(2, 4, and 5) - Amends state law regarding collection and recycling of mercury-added thermostats	Y – 12.21.15
PL 2015 c. 190(4) - amends provision regarding scenic impact assessment of a proposed grid-scale wind energy development to clarify that it includes consideration of primary and cumulative effects during both day and night and to address how sequential observation-related effects must be	Y- 12.21.15

[2] OCM is NOAA's Office of Coastal Management

considered. See Energy and Government Facilities Siting section below.	
PL 2015 c. 11(1) - Provides a limited exemption from Shoreland Zoning Act setback requirements for certain pedestrian walkways or trails adjacent to a river within the boundaries of a "downtown revitalization project"	Y – 12.21.15
PL 2015 c. 75(1) - Prohibits application of fertilizer within 25 feet of the normal high-water line of a great pond, with allowance for certain applications no closer than 10 feet	Y – 12.21.15
CMR 06-96, ch. 500 (multiple provisions), as amended effective 8.12.15) - These amendments to DEP's stormwater management rules involve the following elements: • revision of general standards regarding stormwater treatment levels to allow alternative approaches under circumstances where the standard treatment requirements are impracticable or would be ineffective; • establishment of a voluntary Low Impact Development (LID) credit that reduces the volume of stormwater which a permittee who uses LID techniques must treat; • establishment of scaled treatment requirements for redevelopment projects; updates to the rules' appendices to reflect current best management practices for addressing stormwater; • and minor, technical clarifications and corrections.	Y- 12.21.15
CMR 06-96, ch. 501, as adopted effective January 13, 2015) - establishes a program to allow applicants to undertake a compensation project or pay a compensation fee in lieu of meeting certain stormwater control requirements and a related compensation fee schedule and earned mitigation credits for projects required to meet the general stormwater and phosphorous control standards.	Y – 12.21.15
CMR 06-96, ch. 1000 (multiple provisions), as amended effective January 26, 2015 – Changes to Chapter 1000 of DEP's rules providing guidelines for municipal shoreland zoning ordinances to address changes to the Shoreland Zoning Act in the prior	Y – 12.21.15

three years; and clarify the model ordinance and better reflect DEP's interpretations of the rule and related statutory provisions. Notable changes, which include those addressing stakeholder recommendations include: • conforming the model ordinance's provisions regarding commercial fisheries and maritime activities districts to P.L. 2013, ch. 320, including the law's exemption of certain brownfields projects from vegetative clearing-related requirements; • combining two differing rule provisions regarding expansions and changing footprint and height restrictions as applied to a nonconforming expansion in accordance with P.L. 2013, c. 320; • specifying that the rules' vegetative clearing restriction does not apply to removal of non-native invasive plants; • exempting natural rock and ledge outcrops from the calculation of a lot's non-vegetated surface area; and • using the total project "footprint" to determine the applicability of special permit exemptions in accordance with P.L. 2013, c. 320.	
PL 2015 c. 423(1-2) - consolidates and replaces prior provisions in the Maine Endangered Species Act regarding education and research-related and incidental take authorization and adds a new section which allows for development and approval of an incidental take plan that covers a "widespread activity", subject to conditions to safeguard listed species' prospects of recovery	Y – 8.2.16
CMR 06-096, ch. 501, section 3(A), Table 2, as amended effective 5.22.16 - Amends DEP's rules (ch. 501) regarding stormwater management compensation fees and mitigation credits to clarify mitigation credits applicable to certain activities involving landscaped areas, parking lots, and rooftops	Y – 8.2.16
CMR 01-137, ch. 8.06, changes effective 4.8.17 – establishes protection guidelines and exemptions for certain activities as they related to bat species listed as threatened or endangered under the Maine Endangered Species Act	Y – 12.5.17
CMR 06-096, ch. 502 (DEP rules ch. 502), as amended effective 2.18.18 - Implementing the Storm Water Management Act and Site Location of Development	Y – 7.31.18

Act, in pertinent part, Chapter 502 details criteria used to identify the direct watersheds of lakes most at risk from new development and urban impaired streams, and lists those waterbodies. These changes update the rule to reflect current water quality conditions and identify the lakes now most at risk from development activities and urban impaired streams	
PL 2019 c. 40(5) - Requires local shoreland zoning ordinances to require submission of a pre-development and a post-development photograph	Y – 11.22.19

Cumulative and Secondary Impacts of Development – Anticipated Future Program Changes

Various core laws, such as those regarding stormwater management and shoreland zoning, serve to address the cumulative effects of development on water quality and other natural resources. Amendments to these laws over the next five years, e.g., to improve their efficacy or address changes in technology, are reasonably foreseeable. DMR intends to include statutory and rule changes to such core laws enacted during the next five years in an upcoming RPC submission(s).

Energy and Government Facilities Siting

The following changes to state laws concerning energy and government facilities siting were submitted to and approved by NOAA for inclusion in the Maine Coastal Program:

Energy and Government Facilities Siting Program Changes	**Submittal to OCM (Y/N) and if (Y), Date of OCM approval**
P.L. 2015 c. 190(1-4) - This law makes changes to how DEP must consider a proposed grid-scale wind energy development's effects on scenic resources of state or national significance under state wind power siting laws. These changes serve to clarify how DEP must consider a proposed project's "cumulative scenic impact or effect" on such scenic resources when it's proposed in a location whose viewshed includes other grid-scale wind energy facilities and thus presents potential for "combined observation" of more than one project, "sequential observation" of a proposed project along a national scenic trail designated for pedestrian use, and "successive observation" of more than one group of wind energy facilities, in accordance with those terms as defined in the law. The law clarifies that such a viewshed is limited to the area within eight miles of the proposed development.	Y – 12.21.15
P.L. 2015 c. 265(1-6) – Amends law governing siting of grid-scale wind energy development in	Y – 12.21.15

the state's unorganized area to clarify that the Land Use Planning Commission (LUPC) may remove as well as add places to the expedited area within which specific procedures and standards apply to review of proposed grid-scale wind energy development projects; and that LUPC may not certify that a proposed grid-scale wind energy development is an allowable use in the district or subdistrict in which it's proposed to be located if the proposed location is included in a pending petition to remove it from the expedited area; and to make technical, clarifying corrections related to new provision for removal of places from the expedited area.	
PL 2015 c. 264(1-3) - Replaces provision on process for DEP's consideration of public comment on an application for a permit for a grid-scale wind energy development; adds requirement that a small-scale wind energy development that requires DEP certification under 35 M.R.S. §3456 must obtain a Natural Resources Protection Act (NRPA) permit; and establishes NRPA permit requirements for a small-scale wind energy development that requires DEP certification	Y – 12.21.15
CMR 06-096, ch. 382 (DEP rules ch. 382) – as adopted effective 4.30.18 - Regulations implementing standards of approval under the Maine's Wind Energy Act (WEA), 35-A M.R.S. §§3451-59. These regulations clarify and provide further guidance on the review process for permit applications for wind energy projects under the WEA and elaborate on the licensing standards for wind energy projects, including those regarding impacts to scenic character, tangible benefits, decommissioning, public safety, and shadow flicker	Y – 7.31.18
CMR 06-096, ch. 450 (DEP rules ch. 450) and CMR 01-672, ch. 11 (LUPC rules ch. 11), as adopted effective 11.2.17 - Regulations implementing the Maine Waterway Development and Conservation Act (MWDCA), a long-standing core law which applies to new construction, relicensing, and certain renovations to hydroelectric power facilities	Y – 7.31.18

CMR 01-672, ch. 10, sections 10.2(199 and 200); 10.21 (various provisions) (LUPC districts and standards), as amended effective 3.15.18 - Amendments to various provisions in the LUPC's land use districts and standards to allow development of grid-scale solar energy generation facilities in the Commercial Industrial Development Subdistrict (D-CI), subject to LUPC permitting by establishing criteria for locations eligible for redistricting to D-CI for the purpose of developing a grid-scale solar energy generation facility, providing for automatic reversion to the prior subdistrict designation if the facility is not developed within a reasonable period of time or if built, when it's decommissioned, and limiting such development in areas with prime agricultural soil.	Y – 7.31.18
PL 2019 c. 124(3) - Clarifies and replaces existing NRPA permitting exemption regarding dam maintenance or repair by specifying its applicability to "non-hydropower" dams only and providing more detailed, objective, natural resources-related criteria on the types of projects to which the exemption applies	Y- 11.22.19
PL 2019 c. 294(2) - Prohibits any person from performing or causing to be performed or the DEP from authorizing any oil or natural gas "exploration", "development" or "production" in, on or under the waters of the State	Y; OCM did not approve this program change

Energy and Government Facilities Siting - Anticipated Future Program Changes

Energy policy remains a significant topic for Maine's lawmakers and regulators, due in part to its close connection to climate change-related issues. Recent changes in state law call for Maine to generate 80% its electric power demand by 2030 and 100% by 2050 and reduce greenhouse gas emissions by 45% by 2030 and 80% by 2050. It is reasonably foreseeable that the Maine Climate Task Force's recommendations will address state energy policy including that regarding renewable ocean energy. Accordingly, bills which address the statutory framework for renewable ocean energy and related energy policy issues and related changes to agency rules are reasonably foreseeable. DMR intends to include pertinent provisions of any such law or rules changes, if any, in an upcoming RPC submission(s).

Marine Debris

No marine debris-specific changes were made to coastal core laws in the last five years.

Marine Debris - Anticipated Future Program Changes

In recent years the Maine Legislature considered but did not enact bills to facilitate cleanup of lost fishing gear. 2015 Resolves c. 76(1) directed the Departments of Marine Resources, Environmental Protection, Inland Fisheries and Wildlife, and Agriculture, Conservation and Forestry to consider the marine debris and related effects that may result from their actions and how that potential marine debris may be managed and mitigated. In 2019, the State enacted laws which, with exceptions, ban single-use plastic bags and foam food containers, partly due to concerns about plastics which make their way and persist in the marine environment. DMR intends to monitor foreseeable legislative efforts over the next five years to address marine debris issues and propose related program changes if and as appropriate.

Ocean Resources

Changes to state laws concerning ocean resources were submitted to and approved by NOAA for inclusion in the Maine Coastal Program as follows:

Ocean Resources Program Changes	**Submittal to OCM (Y/N) and if (Y), Date of OCM approval**
PL 2015 c. 80(1) - Repeals and replaces the provision which defined the circumstances under which the commissioner of the Department of Marine Resources may adopt or amend emergency rules	Y – 12.21.15
PL 2015 c. 201 (1-2) - Clarifies that the DMR commissioner may require a marine resources wholesale or retail license holder to purchase equipment needed to comply with electronic reporting requirements; and commissioner may refuse to renew or issue a marine resources wholesale or retail license to a person who fails to pay for or returns to DMR in poor condition equipment needed to comply with electronic reporting requirements	Y – 12.21.15

PL 2017 c. 146(1) - Amends provision prohibiting use of offal as bait for lobster or crab fishing	Y – 12.5.17
PL 2017 c. 350(1-2) – Clarifies that the geographic scope of a municipal shellfish management ordinance is limited to the "intertidal zone" as defined this law	Y- 7.31.18

Wetlands

The following changes to state laws concerning ocean resources were submitted to and approved by NOAA for inclusion in the Maine Coastal Program:

Wetlands Program Changes	**Submittal to OCM (Y/N) and if (Y), Date of OCM approval**
CMR 06-096, ch. 310, sections 3(G), 3(P), and 5(A)(1-2) (DEP rules ch. 310), as amended effective 11.11.18 - Amends the definitions of "emergent marsh vegetation" and "peatland" to implement NRPA provisions regarding management of wetlands and waterbodies; and adds "shoreline stabilization" to the types of projects for which an alternatives analysis is required, but for which an alternative is not presumed, if proposed in, on, or over wetlands of special significance	Y – 11.22.19

Wetlands - Anticipated Future Program Changes

Although Maine has a longstanding, well-established wetlands management program, changes to build on and improve that program are not uncommon; accordingly, it's reasonably foreseeable that changes to wetlands-related core laws and rules may be enacted and subsequently submitted as proposed program changes during the next five-year 309 planning period. The efficacy of the state in-lieu fee program as applied to mitigation of impacts to subtidal habitat defined as wetlands under the NRPA is an issue currently under discussion which has potential to generate proposed core law changes.

Phase I (High Level, Cursory) Assessments

Please note that the Phase I Assessments follow a format required by NOAA.

Wetlands Phase I Assessment

CZMA Section 309 Enhancement Objective: *Protection, restoration, or enhancement of the existing coastal wetlands base, or creation of new coastal wetlands. §309(a)(1)*

> *Note: For the purposes of the Wetlands Assessment, wetlands are "those areas that are inundated or saturated at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions." [33 CFR 328.3(b)]. See also pg. 174 of the CZMA Performance Measurement Guidance[3] for a more in-depth discussion of what should be considered a wetland.*

PHASE I (HIGH-LEVEL) ASSESSMENT:

Purpose: To quickly determine whether the enhancement area is a high-priority enhancement objective for the CMP that warrants a more in-depth assessment. The more in-depth assessments of Phase II will help the CMP understand key problems and opportunities that exist for program enhancement and determine the effectiveness of existing management efforts to address those problems.

Resource Characterization:

1. *Using provided reports from NOAA's Land Cover Atlas,[4] please indicate the extent, status, and trends of wetlands in the state's coastal counties. You can provide additional or alternative information or use graphs or other visuals to help illustrate or replace the table entirely if better data are available. Note that the data available for the islands may be for a different time frame than the time periods reflected below. In that case, please specify the time period the data represents. Also note that Puerto Rico currently only has data for one time point so will not be able to report trend data. Instead, Puerto Rico should just report current land use cover for all wetlands and each wetlands type.*

Table 1. Current wetland acres in the Coastal Zone. Wetland acres are from National Wetland Inventory (NWI) and the National Wetlands Inventory 2007 update. The 2007 NWI update covers the majority of the Maine coast and is considered supplemental to the original NWI data, however the 2007 mapping ends within the town of Cutler. Therefore, the original NWI data remain the best available wetlands mapping data for the rest of the Downeast Coast east of Cutler. Impervious surface data are from the Maine Department of Inland Fisheries and Wildlife (IFW) (2014) and represent impervious surface area at varying resolutions (1-5m), compiled primarily from leaf-off imagery from 2001-04 (T1) and leaf-on imagery collected in 2007 (T2) through the National Agriculture Imagery Program (NAIP). The percent change in this table includes creation, restoration, and enhancement totals for gain, and altered or filled totals for loss. It does not include acres preserved, since that is a status change that does not indicate a gain. **Please note: There has not been any updates to C-CAP, NWI or IFW since the last assessment. This table, used in the last assessment, is the most recent data available.**

[3] https://coast.noaa.gov/czm/media/czmapmsguide2018.pdf
[4] https://coast.noaa.gov/digitalcoast/tools/lca.html. Note that the 2016 data will not be available for all states until later Summer 2019. NOAA OCM will be providing summary reports compiling each state's coastal county data. The reports will be available after all of the 2016 data is available.

Coastal Wetlands Status and Trends						
Current state of wetlands in coastal zone in 2014 (acres, according to NWI)	NWI wetlands acres		Impervious surface acres in NWI wetlands		Current wetland acres (2014)	
	Tidal	1,600,911	Tidal	167	Tidal	1,600,744
	Non-tidal	428,926	Non-tidal	1,789	Non-tidal	427,137
	Total	2,029,838	Total	1,956	Total	2,027,882
Percent net change in total wetlands (% gained or lost)*	from 2004-2014		from 2010-2014			
	-.018%		-.007%			
Percent net change in non-tidal) (% gained or lost)*	from 2004-2014		from 2010-2014			
	-.087%		-.036%			
Percent net change in tidal wetlands (% gained or lost)*	from 2004-2014		from 2010-2014			
	-.00046%		-.00019%			

Current state of wetlands in 2016 (acres): 2,027,882 as of 2014

Table 2. Square miles of wetlands land cover that has been transformed to other land cover types, according to C-CAP data (2006-2010 change detection)**. Please note: C-CAP data has not been updated since 2010. This table, used in the last assessment, is the most recent data available.**

How Wetlands Are Changing*	
Land Cover Type	Area of Wetlands Transformed to Another Type of Land Cover between 2006-2010 (Sq. Miles)
Development	.572
Agriculture	.018
Barren Land	.128
Water	.147
Total Area CZM	4,300.738

Table 3. Impacts and Compensation to Coastal Wetlands and Freshwater Wetlands in 2018. Overall program debits (impacts) and credits (compensation) are carefully tracked to ensure the timely and effective compensation of functions and values that have been lost.

	Debits (impact)	Credits (Compensation)	Balance
Coastal Wetland	12.454	3.846	8.608
Freshwater Wetland	203.857	133.962	69.895
Total Wetlands	216.311	137.808	78.503

According to 2018 data provided by Maine Natural Resource Conservation Program, impacts to freshwater wetlands overall totaled approximately 72.1% of total impacted area. Coastal wetland impacts accounts for approximately 1.5% of the total impacts. In 2018, 9 projects were awarded funded which included freshwater wetland restoration, wetland preservation and salt marsh

enhancement. Awards totaled $1,469,350 and contributed to the restoration and enhancement of 28.9 acres of wetland resources.

2. *If available, briefly list and summarize the results of any additional state- or territory-specific data or reports on the status and trends of coastal wetlands since the last assessment to augment the national data sets.*

Marsh Monitoring and Coastal Resilience Tools:

- Salt marsh surveys: Coast-wide mapping and ground truthing of tidal marshes, to create a comprehensive tidal marsh map for Maine. As part of this effort the Maine Coastal Program began establishing Sentinel Marsh Monitoring Sites at eleven marshes spanning the entire coastline from York to Lubec. At these marshes, Maine Coastal Program and statewide partners installed and have installed 33 rod surface elevation tables (3 at each marsh), taken preliminary measurements of salt marsh elevation starting in 2018, piloted water level monitoring to determine local tide height and marsh flooding duration and depth, and piloted vegetation change monitoring based on established regional protocols. This long-term monitoring information will be used to document whether marshes in Maine are keeping pace with sea level rise and if marshes "migrate" inland in response to rising water levels.

- Tidal Restriction Atlas: Roads, dams, and other structures crossing through estuaries often restrict tidal flow. Sufficiently restrictive conditions can alter and impair the physical, chemical, and biological conditions necessary for these systems to persist and thrive. Knowing the locations and condition of tidal restrictions provides an opportunity to reverse or alleviate these impacts and is a key element in efforts to apply the most effective allocation of restoration resources to affected sites. After several stakeholder meetings to discuss the needs and preferences of our statewide group of project partners, Maine Coastal Program, with the work of a NOAA Coastal Management Fellow, developed a desktop assessment method allowing rapid identification of tidal restrictions along Maine's coast by using readily available data. This information has been developed into an online Tidal Restriction Atlas Viewer that will be a resource for communities, restoration practitioners, land trusts, and others to identify priority crossings for replacement and to assess the potential for wetland restoration. The Viewer shows information for over 1000 current tidal crossings as well as crossings projected to be tidal by 2100 based on sea level rise scenarios.

- Compensation Planning Framework – This document was created by the Maine Natural Areas Program and The Nature Conservancy as an essential part of Maine's In-Lieu Fee Instrument (Maine DEP 2011). The Compensation Planning Framework (CPF) is used to provide guidance in the selection and implementation of aquatic resource restoration, enhancement, preservation, or creation. The CPF addresses 10 elements, including a delineation of service areas. In Maine the service areas are broken out by biophysical region. Additional elements of the framework address threats to aquatic resources, an analysis of historic aquatic resource loss, an analysis of current aquatic resource condition, and a statement of aquatic resource goals and objectives for each biophysical region. Other elements of the framework address strategy and progress reports. The Coastal Zone intersects with at least three of the biophysical regions delineated in the CPF. Maps and tables in the CPF outline the threats (projected development), aquatic resource loss (permitted impacts), and current condition (extent of wetlands, acres of wetlands in conservation, and water quality).

- Eco-Regional Surveys – The Maine Natural Areas Program annually surveys rare natural communities and ecosystems and rare plant populations on a site-by-site basis, but does not identify trends or summarize conditions across the coast. In 2019, the Maine Natural Areas Program piloted an Ecological Integrity Assessment of several of Maine's tidal marshes to gather information on vegetation communities.

- CoastWise Tidal Road Crossing Design: For several years, MCP and project partners contributed to the successful development and deployment of Stream Smart (non-tidal) road crossing design principles in Maine. While engaged in the project, we began exploring development of a coastally focused analog to Stream Smart. We quickly found that there were no examples of comprehensive and detailed guidance for designing tidal road crossings that integrate ecological, cultural, and public safety considerations, all in the context of climate change. In response, in 2019 we engaged a diverse group of partners to develop the CoastWise Approach. CoastWise will deliver a set of voluntary best practices for climate resilient tidal road crossing design, while supporting the needs of coastal communities and ecological systems. After development of guidance materials in 2020, we will focus on the Outreach Phase.

Management Characterization:

1. *Indicate if there have been any significant changes at the state or territory level (positive or negative) that could impact the future protection, restoration, enhancement, or creation of coastal wetlands since the last assessment.*

Significant Changes in Wetland Management

Management Category	Significant Changes Since Last Assessment (Y or N)
Statutes, regulations, policies, or case law interpreting these	Y
Wetlands programs (e.g., regulatory, mitigation, restoration, acquisition)	Y

2. *For any management categories with significant changes, briefly provide the information below. If this information is provided under another enhancement area or section of the document, please provide a reference to the other section rather than duplicate the information:*
    a. *Describe the significance of the changes;*
    b. *Specify if they were 309 or other CZM-driven changes; and*
    c. *Characterize the outcomes or likely future outcomes of the changes.*

State Wildlife Action Plan

The Maine Coastal Program (MCP), in collaboration with the Maine Department of Marine Resources (DMR), worked with the Maine Department of Inland Fisheries and Wildlife (MDIFW) to complete the 2015 State Wildlife Action Plan (SWAP) that was accepted by USFWS in 2016. The 2015 plan incorporates a greater awareness and recognition of the potential impacts of climate change and sea level rise on Species of Greatest Conservation Need (SGCN) as well as their associated habitats. Tidal Marshes were associated with 36 SGCN and their species-specific

conservation actions. A further 26 conservation actions were developed specific to tidal marsh habitat. In a 2020 re-assessment of these tidal marsh habitat specific conservation actions, nine have been initiated, one has been completed under the leadership of Maine Coastal Program ("Find ways to support culvert replacement in or near intertidal, subtidal, and tidal marsh habitats using best management practices"), and 16 are ongoing.

Coastal Focus Areas

Beginning with Habitat (BwH) Focus Areas are landscape scale areas that contain exceptionally rich concentrations of at-risk species and natural communities and high quality common natural communities, significant wildlife habitats, and their intersection with large blocks of undeveloped habitat. These non-regulatory areas are intended as a planning tool for landowners, conservation entities, and towns. BwH Focus Areas, unlike some other habitat values, are tied to specific environmental settings and are not geographically transferable. Thus, they warrant place-specific conservation attention through a variety of methods ranging from conservation acquisition to focused implementation of best management practices. It is hoped that identification of BwH Focus Areas will help to build regional awareness and concentrate conservation initiatives in those areas of the landscape with the greatest biodiversity significance. Biologists from the Maine Natural Areas Program (MNAP), Maine Department of Inland Fisheries and Wildlife (MDIFW), Maine Department of Marine Resources (DMR), U.S. Fish and Wildlife Service (USFWS), The Nature Conservancy (TNC), Maine Audubon, and Maine Coast Heritage Trust (MCHT) completed review of these designations after the 2015 State Wildlife Action Plan revision in order to ensure that Focus Areas along the coast are adequately incorporating coastal and marine features. Over 75% of Maine's tidal marshes are identified within the updated BwH Focus Areas.

Stream Crossing Upgrade Grant Program: One of the chronic hindrances to habitat restoration in Maine is the relative lack of funding at the state level for restoration projects. Most of these projects require funds to address faulty road crossings, like those that are undersized, perched, or otherwise unsatisfactory. Starting in 2015, Maine voters were offered and approved bond packages of up to $5 million dollars annually for municipal road-stream crossing upgrades. This funding supports a competitive grant program administered by Maine Department of Environmental Protection. The program is designed to match local funding for the upgrade of municipal culverts at stream crossings to improve fish and wildlife habitats and increase community safety. It achieves this by guiding road owners to various guidelines and mapping resources, such as Stream Smart, Maine Stream Habitat Viewer, and Beginning with Habitat, among others. Forty-six projects in the coastal zone have been funded for a total of $3,876,056, leveraging $4,254,840.32.

Enhancement Area Prioritization:

1. *What level of priority is the enhancement area for the coastal management program?*

   High __X___
   Medium _____
   Low _____

2. *Briefly explain the reason for this level of priority. Include input from stakeholder engagement, including the types of stakeholders engaged.*

   Nearly 20,000 acres of tidal wetlands are scattered along Maine's coast, comprising 20% of the state's coastline. Spanning the entire coast, tidal marshes support a diverse range of highly valued goods and services to local communities including storm surge reduction, floodwater attenuation, maintenance of fish and wildlife, local fisheries production, pollutant filtering, and carbon sequestration. These important ecosystems are threatened by sea level rise, coastal development, and structures such as undersized culverts that restrict natural tidal flow. Tidal wetlands have tremendous recreational and educational value, from serving as hands-on field laboratories to providing opportunities for boating, kayaking, fishing, and hunting. With 5,408 miles of coastline, Maine recognizes the need to protect and conserve salt marsh ecosystems.

   Maine Coastal Program leads several efforts of tidal marsh conservation and restoration throughout the state including marsh elevation and Sentinel Site monitoring, development of the CoastWise Approach to improve or re-establish tidal flow at restrictions, and creation of the state's first Tidal Restriction Atlas. Our partners in these efforts include the Maine Natural Areas Program, Maine Department of Inland Fisheries and Wildlife, U.S. Fish and Wildlife Service, The Nature Conservancy, Maine Audubon, Maine Coast Heritage Trust, Casco Bay Estuary Trust, and numerous local land trusts and municipalities. These partners also support that monitoring, protecting, and restoring tidal wetlands is a high priority in the state and that the Maine Coastal Program should continue these efforts and build upon them to further. The Maine Coastal Program collaborates with each of these partners on tidal wetland programs they are leading, for example the BwH Focus Area work led by Maine Inland Fisheries and Wildlife and advising project selection for the MNRCP wetland restoration program. Maine Coastal Program and our partners have identified multiple next steps to current projects that will greatly enhance tidal wetland management over the next five years.

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Coastal Hazards Phase I Assessment

CZMA Section 309 Enhancement Objective: *Prevent or significantly reduce threats to life and property by eliminating development and redevelopment in high-hazard areas, managing development in other hazard areas, and anticipating and managing the effects of potential sea level rise and Great Lakes level change. §309(a)(2)*

Note: For purposes of the Hazards Assessment, coastal hazards include the following traditional hazards and those identified in the CZMA: flooding; coastal storms (including associated storm surge); geological hazards (e.g., tsunamis, earthquakes); shoreline erosion (including bluff and dune erosion); sea level rise; Great Lake level change; land subsidence; and saltwater intrusion.

PHASE I (HIGH-LEVEL) ASSESSMENT:

Purpose: To quickly determine whether the enhancement area is a high-priority enhancement objective for the CMP that warrants a more in-depth assessment. The more in-depth assessments of Phase II will help the CMP understand key problems and opportunities that exist for program enhancement and determine the effectiveness of existing management efforts to address those problems.

Resource Characterization:

1. *In the table below, indicate the general level of risk in the coastal zone for each of the coastal hazards. The following resources may help assess the level of risk for each hazard. Your state may also have other state-specific resources and tools to consult. Additional information and links to these resources can be found in the "Resources" section at the end of the Coastal Hazards Phase I Assessment Template:*

    - *The state's multi-hazard mitigation plan.*
    - *Coastal County Snapshots: Flood Exposure*
    - *Coastal Flood Exposure Mapper*
    - *Sea Level Rise Viewer/Great Lakes Lake Level Change Viewer*
    - *National Climate Assessment*

General Level of Hazard Risk in the Coastal Zone

Type of Hazard	General Level of Risk[5] (H, M, L)
Flooding (riverine, stormwater)	M
Coastal storms (including storm surge)	H
Geological hazards (e.g., tsunamis, earthquakes)	L
Shoreline erosion	H
Sea level rise	H
Great Lakes level change	N/A
Land subsidence	L
Saltwater intrusion	M
Other (superstorm assessment)	H

[5] Risk is defined as "the estimated impact that a hazard would have on people, services, facilities and structures in a community; the likelihood of a hazard event resulting in an adverse condition that causes injury or damage." *Understanding Your Risks: Identifying Hazards and Estimating Losses. FEMA 386-2. August 2001*

2. *If available, briefly list and summarize the results of any additional data or reports on the level of risk and vulnerability to coastal hazards within your state since the last assessment. The state's multi-hazard mitigation plan or climate change risk assessment or plan may be a good resource to help respond to this question.*

Overall risk levels have not changed significantly from the last assessment. Many beaches, dunes, and bluffs in Maine are experiencing more acute erosion and flooding problems than in the last assessment (FFY2017-2021).

While Superstorm Sandy in 2012 did not have a significant impact to Maine, a slightly different storm track might have resulted in coastal hazards and damage beyond that ever experienced in Maine. MGS analysis of historical storm surges and tides indicated that Maine could experience superstorm conditions with coastal flooding about 2 feet higher than the Blizzard of February 1978, the "100-year storm" on the Maine coast. The extent of flooding (without quantification of wave damage) could result in up to 28,000 acres of inundation of coastal lowlands.

Maine continues to hold the biennial State of Maine's Beaches Conference (2015, 2017, and 2019 in conjunction with the State of NH) on regional coastal erosion issues. This conference brings together over 200 coastal stakeholders from across the New England region. The Maine Geological Survey (MGS) coincides the release of the State of Maine's Beaches reports in conjunction with the conference. These reports detail observed shoreline changes from volunteer beach profile data collected by the State of Maine Beach Profiling Program (SMBPP), now in its 20th year, and the Maine Beach Mapping Program (MBMAP). MBMAP collects shore-parallel shoreline change data using RTK-GPS on an annual basis.

Beaches reports since the last assessment include:
State of Maine's Beaches in 2015 (Slovinsky et al., 2015);
State of Maine's Beaches in 2017 (Slovinsky et al., 2017);
State of Maine's Beaches in 2019 (Slovinsky et al., 2019); and
2019 Beaches Conference: Maine Beach Profiling Program Posters (Corney et al., 2019).

Annually, MGS continues to support the State of Maine Beach Profiling Program in conjunction with Maine Sea Grant. This program monitors vertical changes at set beach profile transect locations at 14 southern Maine beaches in 10 different communities. In 2019 and 2020, MGS has been working with Maine Sea Grant to transfer the administration and collection of beach profile monitoring data from Maine Sea Grant to MGS via the MGS Collect website.

MGS continues to map shoreline erosion along sandy beaches in southern and mid-coast Maine as part of the Maine Beach Mapping Program (MBMAP). This program maps key shoreline change features annually at 33 beaches in 15 different coastal communities including dune change, beach change, and dry beach width change. Data is made available to the public and local and regional decision-makers via the MBMAP website which was released in 2016.

In the last assessment, MGS began investigating sea level trends, storm tide, storm surge, and "nuisance" tidal flooding at Portland, Bar Harbor, and Eastport NOAA tide gauge datasets. These investigations have continued and become more focused through this assessment period. MGS constructed several different databases which automatically query NOAA tide gauge data (as it becomes available) and allows for quick analysis of storm surge, water level, and sea level rise

statistics. Initial analyses indicate that 2019 had several of the highest monthly sea level averages since the three gauges were installed. Information will be provided in Phase II assessment.

In 2015, MGS and the Maine Natural Areas Program (MNAP) created and released a viewer detailing potential marsh migration areas for the coast of Maine. This dataset built on previously created sea level rise data (scenarios of 1, 2, 3.3 and 6 feet by the year 2100) created by MGS.
Since the last assessment, MGS created a new viewer detailing newer potential sea level rise scenarios (ranging from low to extreme) for the coast of Maine following work by Sweet et al. (2017) and from the U.S. Army Corps of Engineers Sea Level Change Curve Calculator. This information has been made available to the public and decision-makers via the Sea Level Rise/Storm Surge viewer.

In the last assessment, MGS completed statewide Potential Hurricane Inundation Maps (PHIMs) for Category 1 and 2 events making landfall at mean high tide and mean tide. Since then, working with the U.S. Army Corps of Engineers and FEMA, MGS updated its Sea Lake and Overland Surges from Hurricanes (SLOSH) viewer to incorporate new mapping results for Category 1-4 events hitting at mean high tide to support hurricane evacuation planning.

In support of Maine's Shoreland Zoning regulations, MGS created a viewer depicting the extent of the highest astronomical tide (HAT) along the Maine coastline. Maine's Land Use Planning Commission (LUPC) has already adopted use of the HAT, though Maine DEP currently still references the highest annual tide for each year. DEP is investigating switching to HAT as part of rulemaking in 2020. Switching to the highest astronomical tide for a tidal datum epoch provides a slightly higher yet stable (for 20-25 years) planning number which can be used for an extended period instead of a single year. This helps create consistency in local regulatory processes.

Also, in support of Shoreland Zoning, MGS added the Coastal Bluff Map viewer to allow analysis and overlays with shaded relief Lidar data, parcel boundaries, surficial geology, well depths, and base orthophotographs. This system is designed for map updates and easy download by municipalities for SZ mapping. The map database preserves earlier versions, adds legacy annotation about changes that were made, and allows for timely updates to Digital Maine with new 1:24,000 scale digital maps in PDF format.

The MCP team have completed several different NOAA Projects of Special Merit (POSM) during the assessment period. These included an analysis of the vulnerability of several of Maine's Coastal State Parks (Slovinsky et al., 2016) to sea level rise, coastal flooding, and coastal erosion, including the built and natural environments and resources. Adaptation strategies were developed and presented to the DACF Bureau of Parks and Lands for consideration.

In conjunction with the University of Maine and Cumberland County Soil and Water Conservation District (CCSWCD), the Maine Coastal Program Team completed a project focusing on bluff vulnerability and management at several demonstration locations in Casco Bay. Outcomes from this effort included the creation of an MGS living shoreline decision support tool, several different CCSWCD bluff assessment analysis and decision-tree support tools, several analysis case studies, a Coastal Planting Guide for bluff stabilization, and several stakeholder workshops. Many of these products are available from the CCSWCD coastal bluffs page and the MGS living shorelines page. A final report, Building Resiliency Along Maine's Bluff Coast, describes the full scope and accomplishments by the Team (Dickson, 2017).

Another POSM effort, titled Assessing Sediment Budgets in Support of Beach Nourishment and Coastal Community Resiliency, includes partners from MCP, MGS, and a UAS contractor. The Team has been mapping nearshore beach bathymetry using a UAS, the MGS Nearshore Survey System (NSS), and Maine Coastal Mapping Initiative's (MCMI) multibeam research vessel to better understand sediment movement adjacent to ongoing beach nourishment projects (Slovinsky et al., 2019). Study areas include beaches adjacent to locations of beach nourishment in Wells, Saco, and Scarborough. At these sites, the U.S. Army Corps of Engineers regularly dredges river channels and beneficially places material as either beach nourishment or nearshore disposal. Monitoring will determine optimal nearshore and berm placement and analyze the depth of closure or seaward most extent of the subtidal beach.

MCP and MGS also partnered with NH, MA, RI, and CT on a regional (New England-wide) NOAA Regional Resiliency Grant in order to understand the regulatory challenges associated with implementing green infrastructure (living shoreline) approaches. As part of this effort, each state researched existing local, state, and federal regulatory mechanisms for furthering living shoreline applications. This effort determined that there were not enough demonstration living shoreline projects in New England to understand their efficacy. This grant was completed in conjunction with NERACOOS and The Nature Conservancy.

A subsequent regional grant was sought and received in order to build on the findings of the previous effort. This ongoing effort works to install demonstration living shoreline treatments in conjunction with municipal partners in Casco Bay, ME. Maine is also working with the other New England states – in addition to TNC – to develop a regionalized monitoring approach which can be implemented at all demonstration treatments. Three sites in Casco Bay, Maine have received permits for living shoreline installations in spring 2020 and are described on the MGS Living Shorelines web site. The Maine Team is also working with Maine regulators at the state and federal levels in order to potentially implement regulatory changes to further living shoreline approaches. This project is ongoing.

Since the last assessment, the Maine Team continues to work with coastal communities on various aspects of coastal resiliency efforts. MCP and the Municipal Planning Assistance Program (MPAP) continues to fund municipal resiliency efforts through the issuance of Coastal Community Grants. MGS continues to provide technical assistance to partner municipalities as part of CCG efforts. Since 2015, MGS helped support efforts which furthered wastewater treatment plant resiliency to sea level rise (Wiscasset and Boothbay Harbor), working waterfront resiliency (Boothbay Harbor, Stonington, Islesboro and Vinalhaven), resiliency of drinking water supplies to sea level rise (Monhegan Island), inclusion of sea level rise in comprehensive plans (York, Bowdoinham, Saco and Scarborough), and climate resiliency/action plan efforts (Belfast, Camden, Georgetown, South Portland, and Portland). Case studies related to coastal hazards and planning guidance for climate change are available on the MPAP web site.

MGS also continues to participate in other completed and ongoing efforts to increase understanding of coastal hazards and resiliency in Maine. This includes participation on the steering committee for the Gulf of Maine Research Institute (GMRI) C-RISE sea level rise education efforts, which to-date has reached over 1000 adults and over 4000 students. MGS also serves on a steering committee for the University of Southern Maine/Environmental Finance Center-led effort to understand vulnerability and develop adaptation strategies for wastewater facilities in the Saco Bay area. MGS also participates with the Maine Math and Science Alliance WeatherBlur project, a NSF-funded

cyberlearning investigation on place-based student and community learning focused on a STEM curriculum and interaction with scientists.

MGS also participates on the Maine Silver Jackets Team along with federal agencies and the Floodplain Management Program. In 2017-2019, the Team successfully implemented a "high water marks" initiative with the communities of York and Portland to raise community awareness regarding historic and potential future coastal flooding. After the February 1978 historic storm event (which caused over $20M in damages in Maine), USGS established high water "marks" along the Maine coastline. For the most part, these marks have been lost over the years. Working with partner communities, marks were re-established and converted into the NAVD88 datum, and elevations translated to publicly owned and accessible locations. The Team worked with the communities to develop signage associated with the new marks that also documented potential low to extreme (by 2050) sea level rise scenarios on top of the historic storm of 1978. Since completion of this effort in 2019, the SJ Team decided to expand the high-water marks initiative to include several additional communities including South Portland, Scarborough, and Belfast. Work with these communities is ongoing.

Since the last assessment, the Maine Emergency Management Agency added information on tsunamis and meteotsunamis to its preparedness library. In March 2016, with technical assistance from MGS and the National Weather Service, MEMA held the LANTEX Tsunami Table Top Exercise focused on Maine. This effort led to inclusion of a Tsunami Incident Annex to the State Emergency Operations Base Plan. The State Hazard Mitigation Plan was updated in 2019 for tsunami risk and response.

Salt water intrusion from sea level rise of a meter (3.3 feet) was investigated in the POSM Parks project described above. This study at Popham Beach State Park addressed vulnerability of a sand aquifer in coastal dunes to sea level rise. The analysis included susceptibility of the leach field to a rising freshwater table as sea level rises. Numerical modeling of salt water intrusion from rising seas was the first of its kind in Maine (Gordon and Dickson, 2016).

Management Characterization:

1. *In the tables below, indicate if the approach is employed by the state or territory and if significant state- or territory-level changes (positive or negative) have occurred that could impact the CMP's ability to prevent or significantly reduce coastal hazards risk since the last assessment.*

Significant Changes in Hazards Statutes, Regulations, Policies, or Case Law

Topic Addressed	Employed by State or Territory (Y or N)	CMP Provides Assistance to Locals that Employ (Y or N)	Significant Changes Since Last Assessment (Y or N)
Elimination of development/redevelopment in high-hazard areas[6]	Y	Y	N
Management of development/redevelopment in other hazard areas	Y	Y	N
climate change impacts, including sea level rise or Great Lakes level change	Y	Y	Y

Significant Changes in Hazards Planning Programs or Initiatives

Topic Addressed	Employed by State or Territory (Y or N)	CMP Provides Assistance to Locals that Employ (Y or N)	Significant Changes Since Last Assessment (Y or N)
Hazard mitigation	Y	Y	Y
Climate change impacts, including sea level rise or Great Lakes level change	Y	Y	Y

Significant Changes in Hazards Mapping or Modeling Programs or Initiatives

Topic Addressed	Employed by State or Territory (Y or N)	CMP Provides Assistance to Locals that Employ (Y or N)	Significant Changes Since Last Assessment (Y or N)
Sea level rise or Great Lakes level change	Y	Y	Y
Other hazards	Y	Y	Y

2. *Briefly state how "high-hazard areas" are defined in your coastal zone*.

Maine does not have a specific state-wide definition of "high hazard area". For beach and dune systems, Maine regulates activities through the Coastal Sand Dune Rules (Chapter 355 of the NRPA), which use a geologic definition of frontal dune and back dunes. Higher hazard areas are considered to be velocity zone (V-zone) areas and areas of the frontal dune. New construction and reconstruction are limited in these areas. High hazard areas also include areas of back dunes that are defined as Erosion Hazard Areas, or EHAs (all frontal dunes are EHAs). EHAs are defined as:

> *Any portion of the coastal sand dune system that can reasonably be expected to become part of a coastal wetland in the next 100 years due to cumulative and collective changes in the shoreline from:*

[6] Use state's definition of high-hazard areas.

(1) Historical long-term erosion;
(2) Short-term erosion resulting from a 100-year storm; or
(3) Flooding in a 100-year storm after a two-foot rise in sea level,

or any portion of the coastal sand dune system that is mapped as an AO flood zone by the effective FEMA Flood Insurance Rate Map, which is presumed to be located in an Erosion Hazard Area unless the applicant demonstrates based upon site-specific information, as determined by the department, that a coastal wetland will not result from either (1), (2), or (3) occurring on an applicant's lot given the expectation that an AO-Zone, particularly if located immediately behind a frontal dune, is likely to become a V-Zone after 2 feet of sea level rise in 100 years.

Additionally, Maine has classified its bluff shorelines as Stable, Unstable, or Highly Unstable. Per Maine's Mandatory Shoreland Zoning Act (Ch. 1000), areas of the coastline defined as Unstable or Highly Unstable require that development be set back 75 feet from the top of a bluff, instead of 75 feet from the highest annual tide line (which is the standard for stable bluff areas). Some communities (e.g., Brunswick) have increased this required setback to 125 feet.

3. For any management categories with significant changes, briefly provide the information below. If this information is provided under another enhancement area or section of the document, please provide a reference to the other section rather than duplicate the information:
    a. Describe the significance of the changes;
    b. Specify if they were 309 or other CZM-driven changes; and
    c. Characterize the outcomes or likely future outcomes of the changes.

Significant Changes in Hazards Statutes, Regulations, Policies, or Case Law

As described in the previous 2015 assessment, the Maine Legislature passed *An Act Regarding Reconstruction of Residential Structures on Sand Dunes* (P.L. 2013, Ch. 277) authorizing DEP to enact a rule that allows a reconstructed building, whose entire footprint is in the back dune of the coastal sand dune system, to be moved seaward into the frontal dune if certain specific standards are met (Ch. 355 Section 6(B)(6)). Based on MGS's analysis, this rule revision only affects a small number of properties. This 2013 law also repeals a prior version of a comparable rulemaking directive (P.L. 2011, Ch. 538, Section 15) and directs DEP to repeal the rule enacted under that prior provision. This change was not driven by 309 or CZM but rather by Maine DEP to provide consistency with Ch. 355, Section 6(B)(5). The likely outcome is that one or two back dune residential structures will be reconstructed in a frontal dune.

Significant Changes in Hazards Planning Programs or Initiatives

Hazard Mitigation: As described previously, MCP (along with various partners) completed two NOAA Projects of Special Merit (POSM) during this assessment period. This included work to understand vulnerability of several coastal state parks to coastal hazards and sea level rise and develop transferable adaptation strategies for other local, regional and state parks. Another effort focused on developing resiliency of Maine's bluff coastline, working with a Soil and Water Conservation District along with several partner communities to develop transferable adaptation strategies and products for bluff

management. Maine's current Beaches POSM is assessing sediment movement in the vicinity of larger federal dredge/beach nourishment efforts in three communities in order to help inform the development of beach/sediment management plans.

Maine also completed a Regional Resiliency Grant (RRG) in conjunction with TNC and four other New England states in order to understand the regulatory challenges and opportunities associated with implementing green infrastructure approaches in New England. This led to the current RRG, which seeks to permit, construct and monitor living shoreline demonstration treatments in order to minimize coastal hazards, better understand living shoreline efficacy in the challenging New England climate, and develop required monitoring information for regulatory reform.

Climate Change Impacts:

In September 2019, Maine began work of the Maine Climate Council through the Governor's Office of Policy Innovation and the Future (OPIF) under *An Act to Promote Clean Energy Jobs and To Establish the Maine Climate Council (*LD 1679). The Council is made up of stakeholders from a variety of backgrounds and its work is being informed by a Science and Technical Subcommittee, along with 6 different working groups (Energy, Transportation, Buildings and Infrastructure, Coastal and Marine, Natural and Working Lands, and Community Resilience, Public Health and Emergency Management). The working groups (and council) are tasked with creating a 4-year State Climate Action Plan, due in December 2020. Goals of the Plan are to reach bold emissions reductions (45% reduction below 1990 levels by 2030 and 80% by 205), develop mitigation and resilience strategies, and transition to a low carbon economy (through jobs and protecting rural, low-income, and elderly populations). Various members on different working groups are either MCP staff or are funded through CZM. Likely outcomes include recommendations on how to achieve Maine's climate goals, suggested governmental organizational changes at state, regional and local levels in order to help support climate resiliency at the local level, policy and regulatory changes (such as a state-wide sea level rise policy), and funding needs/sources.

In addition, the projects of special merit and RRG described under hazard mitigation are relevant under climate change impacts, as well. The two projects of special merit focused on vulnerability, coastal hazards and sea level rise and the RRG, which focuses on living shorelines, are all in effort to understand and mitigate the effects of climate change.

Significant Changes in Hazards Mapping or Modeling Programs or Initiatives

Highest Annual Tide (2015): MGS completed coast-wide mapping of the predicted 2015 highest annual tide to inform Shoreland Zoning. This data was superseded by the mapping of the highest astronomical tide, below. This was a NOAA 309 effort.

Highest Astronomical Tide (HAT): MGS completed coast-wide mapping of the predicted HAT using tide prediction station data along with NOAA's VDATUM software. This data helps inform Shoreland Zoning boundaries and setbacks and was completed under a NOAA 309 effort.

Sea Level Rise Mapping: MGS completed coast-wide mapping of the HAT plus scenarios of 1.1, 1.6, 3.9, 6.1, 8.8 and 10.9 feet of sea level rise or storm surge (regionalized numbers from Sweet et al. (2017) and the US Army Corps of Engineers Curve Calculator). This was a NOAA 309 effort.

Hurricane Inundation: Working with USACE and FEMA, MGS also completed coast-wide mapping of inundation associated with Category 1-4 landfalling hurricanes in order to inform emergency response

efforts. This was a NOAA 309 effort and superseded previously completed Potential Hurricane Inundation Maps (PHIMs), completed as part of the last assessment.

Maine Beach Mapping Program: MGS continued mapping of shoreline features (vegetation line and mean high water contour) using RTK-GPS at southern and mid-coast Maine's larger beach systems. The MBMAP viewer allows for analysis of shoreline change of dunes, beaches, and dry beach width. The data supports local, regional, and state decision-making on shoreline erosion and beach nourishment. This was funded through Section 309.

Coastal Community Grants

2016

- Chebeague Island/Greater Portland Council of Governments- Coastal Hazards and Adaptation Study
- Islesboro - Resilience Planning for the Future with the Threat of Flooding from Storm Surge & SLR
- Lincoln County Regional Planning Commission - Boothbay Harbor Waste Water Treatment Plant Coastal Hazard Resilience Project (Boothbay Harbor, Boothbay & Southport)
- Wiscasset - Waste Water Treatment Plant Coastal Hazard Resilience Project
- Hancock County Planning Commission - Orland Waterfront Revitalization Plan

2017

- Lincoln County Regional Planning Commission - Downtown Boothbay Harbor Adaptation Options for Increased Storm Surge Resiliency
- Lincoln County Regional Planning Commission - Coastal Hazards Resiliency Tools Phase III- SLR overlay zone in Floodplain Management Ordinances
- Vinalhaven - Coastal Flooding Vulnerability Study of Downstreet Business District

2018

- Harpswell - Coastal Flooding: Plan for Basin Point Road and its Wetlands
- Machias Waterfront Resilience and Renewal

2019

- Bowdoinham - Re-Development of Public Works Waterfront Property
- South Portland - Vulnerability Assessment Mapping
- Stonington - Flood Vulnerability Assessment and Adaptation Plan for Municipally Owned Infrastructure
- Washington County Council of Governments - Washington County Resilience (Eastport, Jonesport, Lubec, Machias, Machiasport, Milbridge)

2020

- Bustins Island Village Corporation/Cumberland County Soil & Water Conservation District: Green Infrastructure- 2020
- Camden - Harbor Park Seawall and Montgomery Dam Redesign
- Monhegan Plantation: Monhegan Island Alternative Domestic Water Supply Feasibility Study – 2020
- Southern Maine Planning and Development Commission: Tides, Taxes and New Tactics-2020

Enhancement Area Prioritization:

1. *What level of priority is the enhancement area for the coastal management program?*

High	___X__
Medium	_____
Low	_____

2. *Briefly explain the reason for this level of priority. Include input from stakeholder engagement, including the types of stakeholders engaged.*

Coastal hazards continue to be a high priority for the Maine Coastal Program. A series of coastal storms in March 2018 (three storms during the month) and January 2019 (2nd highest observed water level since 1912 in Portland) resulted in extensive coastal flooding and beach, dune, and bluff erosion in Maine's coastal municipalities. In addition, monitoring of sea levels around the state indicate that sea levels continue to rise at or slightly above global averages.

Maine continues to increase hazard resiliency of its coastal communities by engaging at the local and regional levels of governance. To date, over 60 coastal communities have been engaged with MCP or its partners in hazard adaptation planning and implementation. Participation has been through interlocal agreements, county-wide regional planning efforts, county emergency management efforts and municipal planning grants and efforts. With the work being forwarded by the Maine Climate Council, MCP expects that coastal hazard, floodplain, and sea level rise adaptation and resiliency efforts will continue to have a high priority.

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https://tidesandcurrents.noaa.gov/publications/techrpt83_Global_and_Regional_SLR_Scenarios_for_the_US_final.pdf

Public Access Phase I Assessment

CZMA Section 309 Enhancement Objective: *Attain increased opportunities for public access, taking into account current and future public access needs, to coastal areas of recreational, historical, aesthetic, ecological, or cultural value. §309(a)(3)*

PHASE I (HIGH-LEVEL) ASSESSMENT:

Purpose: To quickly determine whether the enhancement area is a high-priority enhancement objective for the CMP that warrants a more in-depth assessment. The more in-depth assessments of Phase II will help the CMP understand key problems and opportunities that exist for program enhancement and determine the effectiveness of existing management efforts to address those problems.

Resource Characterization:

1. *Use the table below to provide data on public access availability within the coastal zone.* ***Please note: This table may be updated with more recent data before the final draft is submitted***

Public Access Status and Trends

Type of Access	Current number[7]	Changes or Trends Since Last Assessment[8] (unknown)	Cite data source
Beach access sites	178	Has not been updated since the last assessment	MCPAG database
Shoreline (other than beach) access sites	539	Has not been updated since the last assessment	MCPAG database
Recreational boat (power or nonmotorized) access sites	292	?	**Department of Agriculture, Conservation and Forestry** https://www.maine.gov/dacf/parks/water_activities/boating/public_boat_launches/boat_sites.shtml

[7] Be as specific as possible. For example, if you have data on many access sites but know it is not an exhaustive list, note "more than" before the number. If information is unknown, note that and use the narrative section below to provide a brief qualitative description based on the best information available.

[8] If you know specific numbers, please provide. However, if specific numbers are unknown but you know that the general trend was increasing or decreasing or relatively stable or unchanged since the last assessment, note that with a ↑ (increased), ↓ (decreased), – (unchanged). If the trend is completely unknown, simply put "unkwn."

Type of Access	Current number[7]	Changes or Trends Since Last Assessment[8] (unknown)	Cite data source
Number of designated scenic vistas or overlook points	206.5 miles of scenic byway in the coastal region		Department of Transportation
Number of fishing access points (i.e. piers, jetties)	645	Has not been updated since last assessment	MCPAG Database
Coastal trails/ boardwalks *(Please indicate number of trails/boardwalks and mileage)*	No. of Trails/boardwalks 218	Has not been updated since last assessment	**MCPAG**
Number of acres parkland/open space	1,324 miles conserved lands with permanent protection 29,843 acres of conserved land with permanent protection within 250 ft of coastline **Please note: this data refers to coastline and does not represent the entire coastal zone**		Data is from an assessment completed by Maine Natural Areas Program and is based on LiDAR based HAT data from Maine Geological Survey.
Access sites that are Americans with Disabilities Act (ADA) compliant[9]	**21** 16 of these sites have limited (some features are accessible, some are not). 5 sites have good access (most features are accessible)	Unknown- This figure is not an indicator that was tracked in the past.	Maine Bureau of Parks and Rec https://www.maine.gov/dacf/parks/visitor_accessibility/access_guide.pdf

[9] For more information on ADA see *www.ada.gov*.

Type of Access	Current number[7]	Changes or Trends Since Last Assessment[8] (unknown)	Cite data source
Other (please specify)			

2. *Briefly characterize the demand for coastal public access and the process for periodically assessing demand. Include a statement on the projected population increase for your coastal counties. There are several additional sources of statewide information that may help inform this response, such as the Statewide Comprehensive Outdoor Recreation Plan,[10] the National Survey on Fishing, Hunting, and Wildlife Associated Recreation,[11] and your state's tourism office.*

The Maine Coastal Program does not have an established process for accessing the demand for public access. Thus far, this has not been a high priority given limited resources and staff time. It can be inferred, that some locations, access is inadequate to meet demand- usually in the form of limited parking. However, other data can be used as indicators of the demand for public access to the coast.

Coastal population:
The overall population of the State of Maine is projected to increase by .8% from 2016 to the year 2026. While some coastal counties are expected to see loss in population, six of the state's coastal counties are expected to increase (Cumberland, Hancock, Penobscot, Sagadahoc, Waldo, York).
(data from Maine State Economist of the Department of Administrative and Financial Services)

Tourism:
Tourism is one of Maine's largest industries and most of this tourism occurs along the coast. According to the Maine Office of Tourism, Maine saw 20.52 million overnight visitors and 24.79 million day visitors in 2018. The Maine Office of Tourism divides the state up in eight tourism regions with four being along the coast. The highest proportion of overnight visitors reported that the Maine Beaches region was the primary destination at 24%, followed by 18% in Downeast & Acadia. Three of four coastal regions either saw the same percentage of visitors as or saw an increase in visitors from 2017. According to the 2018 data, Maine beaches region also saw the highest day visitors at 35%. Other coastal region percentages are: Downeast & Acadia-14%, Greater Portland- 10%, Midcoast- 9%. While tourism growth fluctuates with national economic conditions, overall visitation has increased steadily in the past 5 years and it is expected to remain strong.
https://motpartners.com/wp-content/uploads/2019/06/2018-Annual-Report.pdf

[10] Most states routinely develop "Statewide Comprehensive Outdoor Recreation Plans", or SCROPs, that include an assessment of demand for public recreational opportunities. Although not focused on coastal public access, SCORPs could be useful to get some sense of public outdoor recreation preferences and demand. Download state SCROPs at*www.recpro.org/scorp-library*.
[11] The National Survey on Fishing, Hunting, and Wildlife Associated Recreation produces state-specific reports on fishing, hunting, and wildlife associated recreational use for each state. While not focused on coastal areas, the reports do include information on saltwater and Great Lakes fishing, and some coastal wildlife viewing that may be informative and compares 2016 data to 2011, 2006 and 2001 information to understand how usage has changed. See www.wsfrprograms.fws.gov/subpages/nationalsurvey/national_survey.htm

Kayaking:
Maine's long coastline and 4,600 islands are a huge attraction for resident and non- resident kayak and canoe paddlers. In 2019, Maine Island Trail Association had 234 island and mainland sites with 6,500 members. Since reporting in 2015, this is a 2,500 increase in memberships and 22 increase in acquired sites.
https://mita.org/

Fishing:
According to data provided by the Department of Marine Resources, 2,497 licenses were sold in the state of Maine while 2,466 were sold in in 2019. These numbers include the Recreational Saltwater Registry and non-commercial lobster/crab licenses. While fishing growth fluctuates from year to year with national economic conditions, fishing and the need for public access is expected to remain strong.

Management Characterization:

1. *Indicate if the approach is employed by the state or territory and if there have been any significant state- or territory-level management changes (positive or negative) that could impact the future provision of public access to coastal areas of recreational, historical, aesthetic, ecological, or cultural value.*

Significant Changes in Public Access Management

Management Category	Employed by State or Territory (Y or N)	CMP Provides Assistance to Locals that Employ (Y or N)	Significant Changes Since Last Assessment (Y or N)
Statutes, regulations, policies, or case law interpreting these	Y		Y
Operation/maintenance of existing facilities			
Acquisition/enhancement programs			

2. *For any management categories with significant changes, briefly provide the information below. If this information is provided under another enhancement area or section of the document, please provide a reference to the other section rather than duplicate the information:*
    a. *Describe the significance of the changes;*
    b. *Specify if they were 309 or other CZM-driven changes; and*
    c. *Characterize the outcomes or likely future outcomes of the changes.*

Notable Law Court Decisions re: public access to the coast, 2015-19

In 2019, Maine's state supreme court issued a decision in its line of cases interpreting the public trust doctrine which has implications for public access to and utilization of marine resources. In *Ross v. Acadian Seaplants, Ltd, 2019 ME 45 (March 28, 2019)*, ("Ross"), a majority of the Law Court upheld a lower court's ruling that "rockweed [a commercially-valuable type of marine algae] growing in the

intertidal zone is the private property of the upland property owners" and not "property that is held in trust by the State through the *jus publicum* for the public to harvest." The majority explained its ruling as follows:

> "…we conclude that, pursuant to both of the differing legal constructs our opinions have articulated to define the scope of the public's intertidal property rights, rockweed attached to and growing in the intertidal zone is the private property of the adjacent upland landowner. Harvesting rockweed from the intertidal land is therefore not within the collection of rights held in trust by the State, and members of the public are not entitled to engage in that activity as a matter of right. And because neither view of the public's right to use the intertidal zone accommodates the activity at issue here, we determine—contrary to the position of the concurring justices— that this case does not present us with the occasion to consider the vitality of the holding in Bell II."

As the above quote illustrates, a majority of the Law Court has yet to agree on whether the nature and scope of the public easement over Maine's intertidal zone should be interpreted as common law with specific allowable uses evolving over time with societal changes or strictly by the terms of the 17th century colonial ordinance which specified the rights of "fishing, fowling, and navigation." In "Bell II", *Bell v. Town of Wells, 557 A. 2d 168 (Me. 1989)*, the Law Court held that the public's rights in the intertidal zone are limited to "fishing, fowling, and navigation" for commercial or recreational purposes and declared unconstitutional on takings grounds a state law that recognized broader public recreational rights.

A minority of the Court concurred with the result reached by the majority in *Ross* but not with its reasoning. The minority opined that the Law Court's decision in Bell II is "a regrettable error, limiting public access to the intertidal zones on Maine's beaches", emphasizing that "[s]ince that time, a member of the public has been allowed to stroll along the wet sands of Maine's intertidal zone holding a gun or a fishing rod, but not holding the hand of a child." The minority indicated it would have used the *Ross* case to "clarify the applicable law and set aside the holding in Bell II." Had it done so, the minority explained, it would also have concluded as the majority had that "even according to the public's common law access rights to the intertidal zone, the public does not have the right to take attached plant life from that property in contradiction to the fee owner's wishes—not because such activity falls outside of the constrictive trilogy, but because the taking of attached flora from fee owners was not within the reasonable access contemplated when the *jus publicum* was established."

DMR manages the harvest of rockweed pursuant to licenses issued to harvesters. Legislation introduced during the 129th Maine Legislature, First Regular Session proposed to clarify that rockweed is a public not private resource. L.D. 1323, An Act to Revise the Laws Regarding the Public Trust in Intertidal Lands, would have amended the statute declared unconstitutional in Bell II to reflect the broader view of the public's rights in the intertidal zone as evolving common law that has been articulated by some members of the Law Court. Deliberations on the bill, which was not enacted, included discussion of options to clarify by statute that rockweed is a public trust resource and not private property.

In a 2019 beach access-related decision, *Almeder v. Town of Kennebunkport, 2019 ME 151 (October 3, 2019)*, the Law Court did not reach the public trust doctrine issue that had been addressed by the trial court at an earlier stage in the litigation. The case concerned ownership of the dry sand and intertidal area in front of numerous house lots along Goose Rocks Beach. The Law Court determined that "on the record before us, and in the absence of any evidence suggesting that the disputed land was conveyed

into private ownership, we affirm the holding of the trial court that in the unique circumstances of this case, legal title to the disputed land seaward of the seawall, including the beach, is held by the Town of Kennebunkport for the benefit of the public."

In a 2016 beach access case, *Cedar Beach/Cedar Island Supporters, Inc., et al. v. Gables Real Estate, LLC, 2016 ME 114 (July 19, 2016)*, the Law Court vacated the lower court's ruling and held that the adversity and non-acquiescence necessary to establish a prescriptive easement over privately-owned lands for public recreational access to Cedar Beach in Harpswell had not been shown. In making its decision, the Law Court referenced its ruling at a prior stage of the *Alemder* case discussed above that in Maine "public recreational use of private uncultivated lands is presumed to be permissive." This legal principle makes proof of a public prescriptive easement based on long-term use of coastal property difficult.

Coastal Community Grants

2016

- Cutler Harbor Public Access Project Part II-construction materials (supplements MaineDOT SHIP grant)
- Belfast - Rangeway Management Plan Project- Phase I & II
- Wells - Marsh Walk Design

3. *Indicate if your state or territory has a publicly available public access guide. How current is the publication and how frequently it is updated?*[12]

Publicly Available Access Guide

Public Access Guide	Printed	Online	Mobile App
State or territory has? (Y or N)	Y	N	N
Web address (if applicable)	https://www10.informe.org/webshop_ifw/index.php?c=&p=6896&storeID=8	N/A	N
Date of last update	2012	N/A	N/A
Frequency of update	Periodic- have not made updates		

Enhancement Area Prioritization:

1. *What level of priority is the enhancement area for the coastal management program?*

High _____
Medium __X__
Low _____

[12] Note some states may have regional or local guides in addition to state public access guides. Unless you want to list all local guides as well, there is no need to list additional guides beyond the state access guide. You may choose to note that the local guides do exist and may provide additional information that expands upon the state guides.

2. *Briefly explain the reason for this level of priority. Include input from stakeholder engagement, including the types of stakeholders engaged.*

Access to the shore is a traditional and way of life for Maine residents who value the coast for its scenic beauty, recreational opportunities and cultural heritage. The biggest industries in Maine depend on access to the water and tourism is a primary contributor to that state's economy. The state has several programs in place that can acquire easements and fee interest in coastal conservation and working lands.

MCP considers public access to be an issue of medium priority concern at this time. Other enhancement issue areas were more pressing and provided more opportunities for MCP-led enhancement project

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Marine Debris Phase I Assessment

CZMA Section 309 Enhancement Objective: *Reducing marine debris entering the nation's coastal and ocean environment by managing uses and activities that contribute to the entry of such debris. §309(a)(4)*

PHASE I (HIGH-LEVEL) ASSESSMENT:
Purpose: To quickly determine whether the enhancement area is a high-priority enhancement objective for the CMP that warrants a more in-depth assessment. The more in-depth assessments of Phase II will help the CMP understand key problems and opportunities that exist for program enhancement and determine the effectiveness of existing management efforts to address those problems.

Resource Characterization:

1. *In the table below, characterize the existing status and trends of marine debris in the state's coastal zone based on the best-available data.*

Existing Status and Trends of Marine Debris in Coastal Zone

Source of Marine Debris	**Significance of Source** (H, M, L, unknown)	**Type of Impact**[13] (aesthetic, resource damage, user conflicts, other)	**Change Since Last Assessment** (unknown)
Beach/shore litter	M	Aesthetic, potential harm to marine life and birds	We collect a similar amount each year.
Land-based dumping	L		Not a noticeable problem
Storm drains and runoff	unknown		
Land-based fishing (e.g., fishing line, gear)	L	Potential harm to marine life and birds	We collect very little each year.
Ocean/Great Lakes-based fishing (e.g., derelict fishing gear)	H	Derelict gear can have impacts on habitat, harmful to species through ghost fishing impacts	Derelict gear is very challenging, and we are working on finding meaningful ways to reduce the impact.
Derelict vessels	L	Unknown	Unknown
Vessel-based (e.g., cruise ship, cargo ship, general vessel)	L	Unknown	Unknown
Hurricane/Storm	L	Resource damage,	Very dependent on the severity of the storm event, there has been some increased impact.
Tsunami	L	Unknown	Unknown
Other (please specify)			

[13] You can select more than one, if applicable.

2. *If available, briefly list and summarize the results of any additional state- or territory-specific data or reports on the status and trends or potential impacts from marine debris in the coastal zone since the last assessment.*

We submit all our data to Ocean Conservancy's trash index which is available on-line.

Management Characterization:

1. *Indicate if the approach is employed by the state or territory and if there has been any significant state- or territory-level management changes (positive or negative) for how marine debris is managed in the coastal zone.*

Significant Changes in Marine Debris Management

Management Category	**Employed by State/Territory** (Y or N)	**CMP Provides Assistance to Locals that Employ** (Y or N)	**Significant Changes Since Last Assessment** (Y or N)
Marine debris statutes, regulations, policies, or case law interpreting these	Y	N	N
Marine debris removal programs	Y	Y	N

2. *For any management categories with significant changes, briefly provide the information below. If this information is provided under another enhancement area or section of the document, please provide a reference to the other section rather than duplicate the information:*
    a. *Describe the significance of the changes;*
    b. *Specify if they were 309 or other CZM-driven changes; and*
    c. *Characterize the outcomes and likely future outcomes of the changes.*

Enhancement Area Prioritization:

1. *What level of priority is the enhancement area for the coastal management program?*

High _____
Medium _____
Low __X__

2. *Briefly explain the reason for this level of priority. Include input from stakeholder engagement, including the types of stakeholders engaged.*

While marine debris is an important issue to address, it is not one of the most urgent problems for Maine. We have ranked this enhancement area as low priority for Maine Coastal Program. Derelict fishing gear remains a medium-high priority issue, but Maine Department of Marine Resources, and

more specifically Marine Patrol, is leading the effort to modify laws to make gear collection easier. Maine Coastal Program will continue assisting Marine Patrol in this process, as well as continue educating the public about marine debris through outreach and the annual Coastal Cleanup.

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Cumulative and Secondary Impacts Phase I Assessment

CZMA Section 309 Enhancement Objective: *Development and adoption of procedures to assess, consider, and control cumulative and secondary impacts of coastal growth and development, including the collective effect on various individual uses or activities on coastal resources, such as coastal wetlands and fishery resources. §309(a)(5)*

PHASE I (HIGH-LEVEL) ASSESSMENT:
Purpose: To quickly determine whether the enhancement area is a high-priority enhancement objective for the CMP that warrants a more in-depth assessment. The more in-depth assessments of Phase II will help the CMP understand key problems and opportunities that exist for program enhancement and determine the effectiveness of existing management efforts to address those problems.

Resource Characterization:

1. *Using National Ocean Economics Program Data on population and housing,[14] please indicate the change in population and housing units in the state's coastal counties between 2012 and 2017. You may wish to add additional trend comparisons to look at longer time horizons as well (data available back to 1970), but at a minimum, please show change over the most recent five-year period data is available (2012-2017) to approximate current assessment period.*

Trends in Coastal Population and Housing Units

	2012	2017	Percent Change (2012-2017)
Number of people	992,256	1,005,395	1.32%
Number of housing units	533,889	547,284	2.51%

2. *Using provided reports from NOAA's Land Cover Atlas,[15] please indicate the status and trends for various land uses in the state's coastal counties between 1996 and 2016. You may use other information and include graphs and figures, as appropriate, to help illustrate the information. Note that the data available for the islands may be for a different time frame than the time periods reflected below. In that case, please specify the time period that the data represent. Also note that Puerto Rico currently only has data for one time point so will not be able to report trend data. Instead, Puerto Rico should just report current land use cover for developed areas and impervious surfaces.*

[14] www.oceaneconomics.org/Demographics/PHresults.aspx. Enter "Population and Housing" section and select "Data Search" (near the top of the left sidebar). From the drop-down boxes, select your state, and "all counties." Select the year (2012) and the year to compare it to (2017). Then select "coastal zone counties."
[15] www.coast.noaa.gov/digitalcoast/tools/lca.html. Note that the 2016 data will not be available for all states until later Summer 2019. NOAA OCM will be providing summary reports compiling each state's coastal county data. The reports will be available after all of the 2016 data is available.

Distribution of Land Cover Types in Coastal Counties

Land Cover Type	Land Area Coverage in 2010 (Acres)	Gain/Loss Since 1996 (Acres)
Developed, High Intensity	81,824	9,830.40
Developed, Low Intensity	183,040	12,038.40
Developed, Open Space	67,200	8,761.60
Grassland	139,520	58,624
Scrub/Shrub	577,292.8	140,160
Barren Land	85,760	24,307.20
Open Water	2,310,598.4	-1,785.60
Agriculture	464,832	947.2
Forested	6,382,419.2	-242,272
Woody Wetland	1,204,684.8	-2,195.20
Emergent Wetland	210,073.6	1,126.4

3. *Using provided reports from NOAA's Land Cover Atlas,[16] please indicate the status and trends for developed areas in the state's coastal counties between 1996 and 2016 in the two tables below. You may use other information and include graphs and figures, as appropriate, to help illustrate the information. Note that the data available for the islands may be for a different time frame than the time periods reflected below. In that case, please specify the time period the data represents. Also note that Puerto Rico currently only has data for one time point so will not be able to report trend data. Unless Puerto Rico has similar trend data to report on changes in land use type, it should just report current land use cover for developed areas and impervious surfaces.*

Development Status and Trends for Coastal Counties

	1996	2010	Percent Net Change
Percent land area developed	3.297	3.631	0.09199
Percent impervious surface area	1.12	1.236	0.09385

** Note: Islands likely have data for another time period and may only have one time interval to report. If so, only report the change in development and impervious surface area for the time period for which data are available. Puerto Rico does not need to report trend data.*

Note: most recent data is from 2010, not 2016 as requested

[16] www.coast.noaa.gov/digitalcoast/tools/lca.html. Note that the 2016 data will not be available for all states until later Summer 2019. NOAA OCM will be providing summary reports compiling each state's coastal county data. The reports will be available after all of the 2016 data is available.

How Land Use Is Changing in Coastal Counties

Land Cover Type	**Areas Lost to Development Between 1996-2010** (Acres)
Barren Land	7,756.80
Emergent Wetland	307.2
Woody Wetland	3392
Open Water	17,824
Agriculture	864
Scrub/Shrub	2,860.80
Grassland	1,216
Forested	249.6

** Note: Islands likely have data for another time period and may only have one time interval to report. If so, only report the change in land use for the time period for which high-resolution C-CAP data are available. Puerto Rico and the Northern Mariana Islands do not report.*

4. *Briefly characterize how the coastal shoreline has changed in the past five years due to development, including potential changes to shoreline structures such as groins, bulkheads and other shoreline stabilization structures, and docks and piers. If available, include quantitative data that may be available from permitting databases or other resources about changes in shoreline structures.*

   According to data provided by Maine Geological Survey, 116 miles of coastal engineering structures in York, Cumberland and Sagadohoc counties. Data is not readily available for the entire coasts nor previous years, so it is unknown how these have changed over the last 5 years.

5. *Briefly summarize the results of any additional state- or territory-specific data or reports on the cumulative and secondary impacts of coastal growth and development, such as water quality, shoreline hardening, and habitat fragmentation, since the last assessment.*

   State of Maine Department of Environmental Protection, 2016 Integrated Water Quality Monitoring and Assessment Report

   This document fulfills biennial reporting requirements on both a federal and state level. The federal requirement arises from the Clean Water Act (CWA), particularly Section 305(b) (report on the state of waters), Section 303(d) (list of impaired waters), and Section 314 (Clean Lakes Program). Updates to water quality assessments for the 2016 Integrated Report were primarily based on monitoring data collected in 2013 and 2014, although more recent data was consulted where appropriate

   State Wildlife Action Plan

   Maine's 2015-2025 Wildlife Action Plan addresses the state's full array of wildlife and their habitats including vertebrates and invertebrates in aquatic (freshwater, estuarine, and marine) and terrestrial habitats. The Plan targets Species of Greatest Conservation Need (SGCN) and covers the entire state. The Department of Marine Resources and Maine Department of Inland Fisheries and Wildlife worked to form the wildlife plan to encourage agencies and partners to prioritize, monitor, collaborate and respond to the threats to wildlife and in turn. Fish and wildlife play an enormous role in the lives in Maine people as they provide recreation, employment and enjoyment. Protecting wildlife also protects the culture of Maine.

(https://www.maine.gov/ifw/docs/2015%20ME%20WAP%20All_DRAFT.pdf)

2018
Report on Casco Bay eelgrass distribution and percent cover changes are available here..

2020
1/15/2020 Air Emissions from Marine Vessels [PDF]

2019
4/30/2019 Maine Combined Sewer Overflow 2018 Status Report [PDF]
5/3/2019 Surface Water Ambient Toxics Monitoring Program 2017/2018 [PDF]
6/26/2019 Status of Licensed Discharges [PDF]

2018
4/1/2018 Maine Combined Sewer Overflow 2017 Status Report [PDF]

2017
2/1/2017 Protecting Maine's Beaches for the Future: 2017 Update [PDF]
4/1/2017 Maine Combined Sewer Overflow 2016 Status Report [PDF]
7/5/2017 Status of Licensed Discharges [PDF]
10/30/2017 Surface Water Ambient Toxics Monitoring Program 2015/2016 [PDF]

2016
1/1/2016 2016 Integrated Water Quality Monitoring and Assessment Report [PDF]
5/1/2016 Maine Combined Sewer Overflow 2015 Status Report [PDF]
Impact of Deicing Salt on Maine Streams - This Issue Profile is a summary of Maine DEP findings about how salt use in developed areas has adversely impacted aquatic life in some streams in Maine, and provides some strategies to keep in mind to help address this issue.

Management Characterization:

1. *Indicate if the approach is employed by the state or territory and if there have been any significant state-level changes (positive or negative) in the development and adoption of procedures to assess, consider, and control cumulative and secondary impacts of coastal growth and development, including the collective effect on various individual uses or activities on coastal resources, such as coastal wetlands and fishery resources, since the last assessment.*

Significant Changes in Management of Cumulative and Secondary Impacts of Development

Management Category	Employed by State or Territory (Y or N)	CMP Provides Assistance to Locals that Employ (Y or N)	Significant Changes Since Last Assessment (Y or N)
Statutes, regulations, policies, or case law interpreting these	Y	Y	
Guidance documents	Y	Y	
Management plans (including SAMPs)	Y	Y	

2. *For any management categories with significant changes, briefly provide the information below. If this information is provided under another enhancement area or section of the document, please provide a reference to the other section rather than duplicate the information:*
    a. *Describe the significance of the changes;*
    b. *Specify if they were 309 or other CZM-driven changes; and*
    c. *Characterize the outcomes or likely future outcomes of the changes.*

Statutes Regulations and Policies

See Changes to Maine's Coastal "Core Laws" 2015-2019 section of this document

Management Plans

Maine Non-Point Source Management Plan 2020-2024

Goosefare Brook Watershed Management Plan Saco May 2016
http://www.sacomaine.org/residents/news_and_agendas/goosefare_brook.php

Phillips Brook Scarborough Feb 2018 Feb 2028 Scarborough, Town of Not available online

Guidance Documents

The Stormwater BMP Manual

Volume I. Stormwater Management Manual

Volume II. Phosphorus Control in Lake Watersheds: A Technical Guide to Evaluating New Development

Volume III. BMP Technical Design Manual

Best Management Practices for Forestry: Protecting Maine's Water Quality - Third Edition 2017

Coastal Community Grants

2016

- Rockport- Addressing the Effects of Land Use on Water Quality
- Washington County Council of Governments - Rain Gauges and Shellfish Closure Outreach Project (Steuben, Milbridge, Harrington, Columbia Falls, Jonesport, Jonesboro, East Machias, Lubec, Pleasant Point, Cutler, Dennysville and Pembroke)
- Ogunquit - Addressing the Effects of Land Use on Water Quality in Ogunquit Watershed (in partnership with Wells, York and South Berwick)
- Brunswick - Mare Brook Watershed and Community Engagement Project
- Hancock County Planning Commission - Orland Waterfront Revitalization Plan

2017

- Washington County Council of Governments- Downeast Sustainability Project River Herring Restoration
- Gardiner - Stormwater Management Study
- Bath - Downtown Stormwater Management Study

2018

- Southern Maine Planning and Development Commission - York River Watershed Analysis (York, Kittery, Eliot and South Berwick)
- Boothbay Harbor - West Harbor Pond Water Quality Restoration
- Cape Elizabeth - Culvert and Habitat Assessment
- South Portland - Trout Brook Culvert Improvements

2019

- Greater Portland Council of Governments/Falmouth - Proactive Watershed Management in Falmouth
- Town of Lamoine/Hancock County Soil & Water Conservation District - Eastern Bay Watershed-Based Management Plan

Enhancement Area Prioritization:

1. *What level of priority is the enhancement area for the coastal management program?*

High	__X__
Medium	_____
Low	_____

2. *Briefly explain the reason for this level of priority. Include input from stakeholder engagement, including the types of stakeholders engaged.*

The population of Maine's coastal zone has steadily increased over the last 10 years and is expected to continue its growth, albeit at a rate much less than other parts of the country. With continuous growth comes land development and the challenge of managing cumulative and secondary impacts. Although developmental impacts are addressed at a state level, many land use planning decisions are made at the municipal level. Maine is home to many rural communities including several rural coastal towns to the north. These towns lack the expertise and funding to focus on impacts to coastal resources. The Maine Coastal Program considers Cumulative and Secondary Impacts to be a

high priority. This is a cross-cutting issue that is applicable to many aspects of coastal management, and there are numerous opportunities to partner with other organizations

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Special Area Management Planning Phase I Assessment

CZMA Section 309 Enhancement Objective: *Preparing and implementing special area management plans for important coastal areas. §309(a)(6)*

The Coastal Zone Management Act defines a special area management plan (SAMP) as "a comprehensive plan providing for natural resource protection and reasonable coastal-dependent economic growth containing a detailed and comprehensive statement of policies; standards and criteria to guide public and private uses of lands and waters; and mechanisms for timely implementation in specific geographic areas within the coastal zone. In addition, SAMPs provide for increased specificity in protecting natural resources, reasonable coastal-dependent economic growth, improved protection of life and property in hazardous areas, including those areas likely to be affected by land subsidence, sea level rise, or fluctuating water levels of the Great Lakes, and improved predictability in governmental decision making."

PHASE I (HIGH-LEVEL) ASSESSMENT: *Purpose: To quickly determine whether the enhancement area is a high-priority enhancement objective for the CMP that warrants a more in-depth assessment. The more in-depth assessments of Phase II will help the CMP understand key problems and opportunities that exist for program enhancement and determine the effectiveness of existing management efforts to address those problems.*

Resource Characterization:

1. *In the table below, identify geographic areas in the coastal zone subject to use conflicts that may be able to be addressed through a SAMP. This can include areas that are already covered by a SAMP but where new issues or conflicts have emerged that are not addressed through the current SAMP.*

Geographic Area	**Opportunities for New or Updated Special Area Management Plans** Major conflicts/issues
Coastwide	Coastal towns will continue to develop Municipal Comprehensive Plans under the Comprehensive Planning and Land Use Regulation Law (CPLURA) and submit plans to the State (DACF/Municipal Planning Assistance Program) for a consistency finding. Plans must address state goals expressed in CPLURA and the State's Coastal Policies Act. Municipalities are increasingly developing policies and implementation methods to address climate change; and a multi-town resiliency planning effort is now underway in coastal southern Maine, led by the Town of Kennebunkport. Shoreline management plans, beach and bluff management plans and resiliency plans are anticipated to be areas of focus for municipal and regional efforts, supported by MCP as resources allow.

2. If available, briefly list and summarize the results of any additional state- or territory-specific data or reports on the status and trends of SAMPs since the last assessment.

N/A

Management Characterization:

1. *Indicate if the approach is employed by the state or territory and if there have been any significant state- or territory-level management changes (positive or negative) that could help prepare and implement SAMPs in the coastal zone.*

Significant Changes in Special Area Management Planning

Management Category	**Employed by State or Territory** (Y or N)	**CMP Provides Assistance to Locals that Employ** (Y or N)	**Significant Changes Since Last Assessment** (Y or N)
SAMP policies, or case law interpreting these	N	N	N
SAMP plans	N	N	N

2. *For any management categories with significant changes, briefly provide the information below. If this information is provided under another enhancement area or section of the document, please provide a reference to the other section rather than duplicate the information:*
    a. *Describe the significance of the changes;*
    b. *Specify if they were 309 or other CZM-driven changes; and*
    c. *Characterize the outcomes or likely future outcomes of the changes.*

N/A

Enhancement Area Prioritization:

1. What level of priority is the enhancement area for the coastal management program?

High _____
Medium _____
Low __X__

2. Briefly explain the reason for this level of priority.

Maine has not used a formal Special Area Management Plan designation to date. The Coastal Program continues to address the need for comprehensive issue and geography-specific planning through a) financial and technical assistance to towns and regional planning councils; and b) development of special studies to inform state policy (for example, Penobscot Bay Working Waterfront Resiliency Study, 2019, and Protecting Maine's Beaches for the Future: 2017 Update. In addition, several place-based and/or issue-based projects are described in other sections of this assessment. If a formal SAMP designation is determined to be the best approach in a particular geography, MCP will submit a detailed work plan to NOAA/OCM.

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Ocean Resources Phase I Assessment

CZMA Section 309 Enhancement Objective: *Planning for the use of ocean resources. §309(a)(7)*

PHASE I (HIGH-LEVEL) ASSESSMENT:
Purpose: To quickly determine whether the enhancement area is a high-priority enhancement objective for the CMP that warrants a more in-depth assessment. The more in-depth assessments of Phase II will help the CMP understand key problems and opportunities that exist for program enhancement and determine the effectiveness of existing management efforts to address those problems.

Resource Characterization:

Status of Ocean and Great Lakes Economy for Coastal Counties (2015)

	All Ocean Sectors	Living Resources	Marine Construction	Ship & Boat Building	Marine Transportation	Offshore Mineral Extraction	Tourism & Recreation
Employment (# of Jobs)	55367	7938	321	12298	3339	138	31330
Establishments (# of Establishments)	3101	498	35	84	69	14	2401
Wages (Millions of Dollars)	1.7 b	71	12.3	862.3	131.4	2.6	653.4
GDP (Millions of Dollars)	2.6 b	239.9	20.8	744.9	183.2	7.6	1.4 b

Change in Ocean and Great Lakes Economy for Coastal Counties (2005-2015)[17]

	All Ocean Sectors	Living Resources	Marine Construction	Ship & Boat Building	Marine Transportation	Offshore Mineral Extraction	Tourism & Recreation
Employment (# of Jobs)	9.9%	-4.0%	-15.0%	7.2%	33.4%	2.2%	12.3%
Establishments (# of Establishments)	11.1%	20.5%	17.1%	-16.7%	-10.1%	-42.9%	11.0%
Wages (Millions of Dollars)	29.4%	29.3%	33.3%	26.4%	48.2%	19.2%	32.4%
GDP (Millions of Dollars)	26.9%	32.0%	15.9%	14.8%	35.8%	38.2%	31.8%

1. *Understanding existing uses within ocean and Great Lakes waters can help reduce use conflicts and minimize threats when planning for ocean and Great Lakes resources. Using Ocean Reports[18], indicate the number of uses within ocean or Great Lakes waters off of your state. For energy uses (including pipelines and cables, see the "Energy and Government Facility Siting" template following). Add additional lines, as needed, to include additional uses that are important to highlight for your state. Note: The Ocean Reports tool does not include data for the Great Lakes states. Great Lakes states should fill in the table as best they can using other data sources.*

[17] The trend data is available at the bottom of the page for each sector and type of economic data. Mouse over the data points for 2005 and 2015 to obtain the actual values and determine the change by subtracting 2005 data from 2015.

[18] www.coast.noaa.gov/digitalcoast/tools/ort.html. Go to "Quick Reports" and select the "state waters" option for your state or territory. Some larger states may have the "Quick Reports" for their state waters broken into several different reports. Use the icons on the left hand side to select different categories: general information, energy and minerals, natural resources and conservation, oceanographic and biophysical, transportation and infrastructure, and economics and commerce. Then scroll through each category to find the data to complete the table.

Uses within Ocean or Great Lakes Waters

Type of Use	Number of Sites
Federal sand and gravel leases *(Completed)*	NA
Federal sand and gravel leases *(Active)*	NA
Federal sand and gravel leases *(Expired)*	NA
Federal sand and gravel leases *(Proposed)*	NA
Beach Nourishment Projects	10
Ocean Disposal Sites	17
Principle Ports *(Number and Total Tonnage)*	2 (Portland: 5817486: Searsport: 1352913)
Coastal Maintained Channels	34
Designated Anchorage Areas	29
Danger Zones and Restricted Areas	2
Other (please specify)	

2. *In the table below, characterize how the threats to and use conflicts over ocean and Great Lakes resources in the state's or territory's coastal zone have changed since the last assessment.*

Resource/Use	Change in the Threat to the Resource or Use Conflict Since Last Assessment (unknown)
Benthic habitat (including coral reefs)	– Activity impacting benthic habitat is largely unchanged. It remains very site specific.
Living marine resources (fish, shellfish, marine mammals, birds, etc.)	Lobster ↑: Lobster landings reached a record high of 132 million pounds in 2016. Landings have subsequently declined, and are expected to total ~100 million pounds in 2019. While this is still well above the long-term average landings, there is concern that changing environmental conditions are becoming less favorable to maintaining the recent high abundance of this resource. Shellfish ↑: The threat to shellfish continues to increase due to environmental conditions such as ocean acidification and invasive species. Groundfish ↑: Threat has increased due to uncertainty about the status of the population, stock structure, and efficacy of management measures. Marine Mammals ↑: There are different trends within this group of species, but concerns about the North Atlantic Right Whale have dominated discussion in Maine. The potential increasing threat is not due to changes in other ocean uses, but a combination of an Unusual Mortality Event in 2017 and poor calving rates. Birds ↑: Coastal and ocean birds are increasingly threatened. Much of the threat is due to availability of prey, and climate variability is an overarching issue that is having a negative impact due to warming oceans, sea level rise, and coastal storms. SAV (eelgrass) ↑ : Threat level has increased and is expected to continue in this direction. Green crabs and ocean acidification are thought to be factors resulting in eelgrass decline.
Sand/gravel	– There is no known threat to the sand and gravel resource.
Cultural/historic	↑ Cultural and historical resources (e.g. archaeological sites, forts) are under increasing threat due to sea level rise and shoreland erosion
Other (please specify)	
Transportation/navigation	↑ Use conflict was increasing in certain localized areas between cruise ships and lobster gear. Agreements have been developed for recommended approach routes to avoid gear loss.
Offshore development[19]	– Use conflict has not increased.

Energy production	– Use conflict has not increased, but there is increased interest in the potential for offshore energy production (see Energy Section).
Fishing (commercial and recreational)	– Use conflict has not increased.
Recreation/tourism	– Tourism and recreation are increasing, but no known increase in use conflicts.
Sand/gravel extraction	– No activity.
Dredge disposal	↑ Modest increase in activities to address project-specific conflicts regarding the haul route used for maintenance of small, shallow-draft federal navigation projects.
Aquaculture	↑ Use conflicts occur on a case-by-case basis, associated with controversial lease applications. Small scale aquaculture operations (LPAs, less than 400 square feet) continue to increase.
Other (please specify) Scientific/Monitoring/Data	– Various survey, mapping, or other types of both NOAA and EPA cruises cause sporadic use conflicts due to lack of adequate notification to fishermen.

3. *For the ocean and Great Lakes resources and uses in the table above that had an increase in threat to the resource or increased use conflict in the state's or territory's coastal zone since the last assessment, characterize the major contributors to that increase. Place an "X" in the column if the use or phenomenon is a major contributor to the increase.*

[19] Offshore development includes underwater cables and pipelines, although any infrastructure specifically associated with the energy industry should be captured under the "energy production" category.

Major Contributors to an Increase in Threat or Use Conflict to Ocean and Great Lakes Resources

	Land-based	Offshore developm	Polluted	Invasive species	Fishing (Comm	Aquacultu re	Recreatio n	Marine Transport	Dredging	Sand/Min eral	Ocean Acidificati	Changing Environm ental	Sea Level Rise Shoreland
Living Marine Resources	X		X	X	X						X	X	
Cultural/historic													X
Transportation/Navigation					X		X						
Dredge Disposal					X								
Aquaculture					X	X							

4. *If available, briefly list and summarize the results of any additional state- or territory-specific data or reports on the status and trends of ocean and Great Lakes resources or threats to those resources since the last assessment to augment the national data sets.*

Lobster Data from Department of Marine Resources - DMR monitors the status of the lobster resource through sea sampling (collection of catch data aboard lobster vessels) and the ventless trap survey. There is also a settlement index, which may provide the earliest indication of any potential change in the status of the resource.
Maine Coastal Atlas – The Maine Coastal Atlas is a spatial display and analysis tool developed by MCP. It is used to depict coastal and marine spatial data, to serve as a data repository, and to allow for the download of otherwise inaccessible spatial data. A link to the Maine Coastal Atlas is here: http://www.maine.gov/dacf/mcp/coastalatlas/index.htm.

State of the Gulf of Maine – The State of the Gulf of Maine Report is a dynamic document hosted by the Gulf of Maine Council on the Marine Environment (GoMC). The GoMC is a partnership of state, provincial and federal (both Canadian and American) governments that work together to foster a vibrant Gulf of Maine. The Report delves into a range of issues affecting the marine environment. Information on the State of the Gulf Report can be found here: http://www.gulfofmaine.org/2/sogom-homepage/.

Maine Farmed Shellfish Market Analysis – In 2016, the Hale Group prepared a report at the direction of the Gulf of Maine Research Institute, describing the opportunity for Maine's aquaculture industry. The report also includes strategic recommendations to optimize growth to maintain product quality without competing with existing farms or overburdening coastal ecosystems and communities.

Maine Aquaculture Economic Impact Report. – In January 2017, the Aquaculture Research Institute at the University of Maine released the Maine Aquaculture Economic Impact Report. It found that Maine's aquaculture sector has a direct economic impact of $73.4 million in output, 571 in employment, and $35.7 million in labor income. Including multiplier effects, Maine's aquaculture sector generates a statewide annual economic contribution of $137.6 million in output (i.e., sales revenue), 1,078 full- and part-time jobs, and $56.1 million in labor income. Since 2007 the total economic impact of aquaculture has almost tripled from $50 million to $137 million dollars.

Management Characterization:

1. *Indicate if the approach is employed by the state or territory and if any significant state- or territory-level changes (positive or negative) in the management of ocean and Great Lakes resources have occurred since the last assessment?*

Significant Changes to Management of Ocean and Great Lakes Resources

Management Category	**Employed by State or Territory** (Y or N)	**CMP Provides Assistance to Locals that Employ** (Y or N)	**Significant Changes Since Last Assessment** (Y or N)
Statutes, regulations, policies, or case law interpreting these	Y	Y	Y
Regional comprehensive ocean/Great Lakes management plans	Y	N	Y
State comprehensive ocean/Great Lakes management plans	N	N	N
Single-sector management plans	Y	N	Y

2. *For any management categories with significant changes, briefly provide the information below. If this information is provided under another enhancement area or section of the document, please provide a reference to the other section rather than duplicate the information:*
    a. *Describe the significance of the changes;*
    b. *Specify if they were 309 or other CZM-driven changes; and*
    c. *Characterize the outcomes or likely future outcomes of the changes.*

Statutes, regulations, policies, or case law interpreting these

For living marine resources, DMR has made extensive changes to statutes and regulations over the past 5 years to improve management and reduce conflicts. Some notable examples of this include legislation to implement owner-operator requirements in the scallop and urchin fisheries and extensive changes to aquaculture laws and regulations. Much of this work was supported through 309 projects.

Regional comprehensive ocean/Great Lakes management plans

Northeast Regional Ocean Planning: The New England Regional Planning Body (RPB) was formed in 2012 and includes representatives from the five coastal New England states, ten federally recognized tribes, ten federal agencies, a representative of the New England Fishery Management Council, and two ex-officio members (one from a Canadian federal agency and one from the Mid-Atlantic Regional Ocean Council). The RPB has no authority to create new regulations. Its mandate is to create a plan and oversee its implementation, with many opportunities for public participation. The RPB is currently working to develop a regional ocean plan (to be completed in 2016) that will include goals that help to foster healthy oceans and ecosystems; effective decision-making; and compatibility among past, current, and future ocean uses. While the regional planning process is still underway, it is anticipated

that the final product will provide guidance; data and tools; and a data use agreement for regulatory certainty to agencies, the private sector, and the public.

a) More information on the RPB and the regional planning process can be found here: http://neoceanplanning.org/.

b) State Initiatives: The Maine Coastal Mapping Initiative (MCMI) was created by the Maine Coastal Program (MCP) in 2013 to acquire critical hydrographic data, which will be used by regulatory and planning agencies to maintain vibrant marine ecosystems, expand offshore economic opportunities, and prepare for environmental changes expected due to sea level rise and other environmental changes. Data will be used for:

a. Habitat Classification;
b. Ocean Planning;
c. Effective Management and Siting of Offshore Development;
d. Identification of Offshore Sand Deposits;
e. Fisheries Management;
f. Preservation of Unique Habitats;
g. Maritime Safety and Resilience;
h. Emergency Preparedness, and;
i. Improved Resiliency Modeling.

Single-sector management plans As referenced above, since 2010, the Maine Legislature has passed legislation that strengthened the Department's authority to develop state water Fisheries Management Plans (FMPs) by specifying what those plans should contain, and what they should seek to achieve. Since that time, DMR has developed a FMP for rockweed. Scallop, urchin, and lobster FMPs remain under development.

3. *Indicate if your state or territory has a comprehensive ocean or Great Lakes management plan.*

Comprehensive Ocean/Great Lakes Management Plan	State Plan	Regional Plan
Completed plan (Y/N) (If yes, specify year completed)	N	Y (2016)
Under development (Y/N)	N	N
Web address (if available)	N	https://neoceanplanning.org/plan/
Area covered by plan	N	Northeast (Long Island Sound to Hague Line)

Enhancement Area Prioritization:

1. *What level of priority is the enhancement area for the coastal management program?*

High ___X__
Medium _____
Low _____

2. *Briefly explain the reason for this level of priority. Include input from stakeholder engagement, including the types of stakeholders engaged*.

Maine Coastal Program has identified Ocean Resources as a high priority for its work. With increasing planning being done at the regional level, it is critical for Maine to increase its collection of baseline data. Most of the Gulf of Maine remains unmapped, which makes it difficult to make planning and management decisions on the regional, state, and local levels. Many state partners and stakeholders echoed this sentiment, sharing ideas for data collection that could measurably improve decision-making regarding coastal and ocean resources. Additionally, the Gulf of Maine is seeing rapid environmental change, and baseline data is crucial to provide a benchmark for a means of comparison to future conditions. MCP can have a role in this area by coordinating the collection and serving as a repository for this information. Additionally, climate variability and associated habitat impacts and shifts may necessitate changes to existing or the generation of new FMPs. Ocean acidification has been identified by several partners and by the Maine State Legislature as a significant threat to Maine's ocean resources. These are dynamic and complicated issues that must be addressed by leveraging MCP's resources with those of partners and other agencies and are of vital importance to the future of Maine's coastal and ocean resources and economy.

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Energy and Government Facility Siting Phase I Assessment

CZMA Section 309 Enhancement Objective: *Adoption of procedures and enforceable policies to help facilitate the siting of energy facilities and Government facilities and energy-related activities and Government activities which may be of greater than local significance. CZMA§309(a)(8).*

PHASE I (HIGH-LEVEL) ASSESSMENT:

Resource Characterization:

1. *In the table below, characterize the status and trends of different types of energy facilities and activities in the state's coastal zone based on best available data. If available, identify the approximate number of facilities by type.*

Status and Trends in Energy Facilities and Activities in the Coastal Zone				
Type of Energy Facility/Activity	**Exists in CZ**		**Proposed in CZ**	
	(# or Y/N)	Change Since Last Assessment (unknown)	(# or Y/N)	Change Since Last Assessment (unknown)
Energy Transport				
Pipelines	Y	↑	Y	↑
Electrical grid (transmission cables)	Y	↑	Y	↑
Ports	Y	↑	Y	↑
Liquid natural gas (LNG)	N	–	Y	↓
Energy Facilities				
Oil and gas	N	–	N	–
Coal	N	–	N	–
Nuclear	N	–	N	–
Wind	Y	–	Y	–
Wave	N	–	N	–
Tidal	Y	↑	Y	↑
Current (ocean, lake, river)	N	–	N	–
Hydropower	Y	–	Y	–
Ocean thermal energy conversion	N	–	N	–
Solar	Y	↑	Y	↑
Biomass	Y	↓	N	–

Narrative describing previous table:

Energy Transport

Pipelines:

Minor Increase in Existing Facilities:
Crude oil pipeline: Portland Pipe Line Corporation (PPLC) owns and operates a crude oil pipeline comprised of two co-located piping runs that for decades was used to transfer crude oil from the South Portland marine oil terminal to an oil refinery in Montreal. The Montreal refinery has closed, and the piping runs do not currently contain any product.

Marine Oil Terminals: There are six marine oil terminal facilities in South Portland which have piping runs of varying lengths from the terminal piers to aboveground storage facilities and which only contain product during the transfer of oil to and from ships and the storage tanks. One terminal has two pipelines that run from the South Portland shoreline to more distant storage tanks. Portions of these pipelines run underground through the South Portland community. Some are not in use and are filled with inert gas; others are available for use subject to testing. Similarly designed and operated marine oil terminal facilities are in Searsport, Yarmouth, Bucksport, and Bangor.

Natural gas pipelines: The state has three interstate natural gas pipelines - Portland Natural Gas Transmission System; Maritimes & Northeast Pipeline; and Granite State Gas Transmission Company - with sections in the coastal zone. Since the last assessment, local natural gas distribution lines have been installed in the coastal zone, including areas north of Portland and along the Kennebec River in Augusta and many of these local natural gas pipelines have been placed into service.

Minor Increase in Proposed Facilities.
Technological advances and economic conditions have spurred extraction of large volumes of oil from the Dakota/Canadian tar sands formation. The potential for use of the PPLC pipeline to transfer that oil from Montreal to South Portland for shipment to refineries, such as the one in New Brunswick, generated significant interest in the pipeline's operations and in 2014 the City of South Portland adopted local ordinances that would effectively prohibit use of the pipeline in this manner. PPLC has made no formal proposal for authorizations required to reverse the flow of its pipeline to carry tar sands oil to refineries. PPLC's challenge to those ordinances on constitutional and other grounds is now pending before the U.S. Court of Appeals for the First Circuit. Modest expansion of local natural gas pipelines to serve Maine communities continues.

Electrical grid (transmission cables)

Increase in existing land-based electrical grid. Land-based: Like other states, Maine has a statewide electrical transmission network connected to the regional power grid, parts of which are in the coastal zone. During the prior assessment period, Central Maine Power Company completed a large-scale upgrade of its transmission system, parts of which are in the coastal zone. Ocean-based: There are submerged cables to connect many (not all) inhabited islands to the shore-side electric power grid.

Increase in Proposed Facilities. The Maine Aqua Ventus ocean wind energy pilot project proposal (see below) includes submerged power lines to serve Monhegan Island and connect to the regional power

grid. During the prior 309 assessment period, Anbaric Transmission and National Grid were discussing with state officials their proposal to partner to build 1-gigawatt, sub-sea merchant power line, dubbed the "Maine Green Line", a roughly 300-mile HVDC line that would link northern New England and Quebec generation with Boston area markets and be located in the Gulf of Maine seabed. It appears that active consideration of this project is suspended. In some ways a functionally comparable project, the New England Clean Energy Connect (NECEC) project, which may include a small secondary line in the coastal zone, is under active consideration by regulators in 2020. If this controversial project, which would pass through Maine's North Woods, were approved and put into service, it would be a significant addition to Maine's electric transmission system and provide a route for Quebec's hydropower to connect to the ISO New England grid.

Ports

Increase in Existing Facilities. Maine continues to invest in port development to increase marine freight capabilities. MaineDOT, the Maine Port Authority, and an Icelandic shipping company, Eimskip, have partnered to develop and bring container service to the International Marine Terminal (IMT) in Portland Harbor. The IMT offers weekly container shipping service to Europe and Asia, and the operation continues to expand due to significant investment of state and federal dollars. Portland and Searsport Harbor remain the primary state energy ports, handling imported oil and other fossil fuel products. Searsport also handles bulk, project and heavy lift cargo, including wind turbine components. Eastport had major repair completed in 2017 after a 2014 breakwater collapse. The breakwater facility has since been used for passenger operations and has hosted military vessels as well. Eastport also continues its business exporting wood pulp at the Estes Head facility. Cruise ship calls are also continuing to increase in Maine, the primary cruise ports being Portland and Bar Harbor and Rockland.

Increase in Proposed Facilities. MaineDOT continues to consider future plans for port development, and several initiatives now underway have potential to increase the capacity and utility of key state ports. Cargo handling equipment, including new mobile harbor cranes, has been purchased for the IMT in recent years. Portland has made progress in the study of a confined aquatic disposal (CAD) cell and hopes to apply for federal funding in 2020 to construct the CAD cell and dredge the wharves and piers on the Portland waterfront. Searsport is hoping to receive maintenance dredging for the Searsport federal navigation channel in 2020. The U.S. Army Corps of Engineers is working with Sprague Energy to find a solution for upland sediment disposal at Mack Point Terminal for the Searsport channel dredging. Eastport hopes to achieve its goal of exporting Phyto-sanitized wood chips which, if successful, could involve expansion of infrastructure to meet demand. Development activities under each of these initiatives, if approved and funded, would likely occur over the next five years.

Liquid natural gas (LNG)

No change in Existing Facilities - There are no LNG import or export facilities on Maine's coast.

Decrease in Proposed Facilities: In 2016, FERC dismissed without prejudice the Downeast LNG terminal proposal then proposed as a bi-direction (import and export) LNG facility in Robbinston due to lack of progress toward application completion. No application for an LNG import or export facility is anticipated during this assessment period.

Energy Facilities

Oil and gas

No change in either Existing or Proposed Facilities: There are no existing oil and natural gas refining, development or production facilities in Maine and none are anticipated. A 2019 state law (P.L. 2019, Chapter 294, section 2) prohibits DEP from authorizing in any way any oil or natural gas exploration, development, or production in, on, or over state waters or transfer of oil or natural gas to or from state waters if the oil or gas was produced in the North Atlantic Planning Area, the federal OCS area proximate to state waters, where there are now no existing or proposed hydrocarbon leasing, exploration, or development-related activities, with an exception allowing import and transport of petroleum products, e.g., home heating oil and gasoline for cars, into and within the state. The U.S. Energy Information Administration (USEIA) reports that Maine remains one of the nation's most petroleum-dependent states. Many in Maine's largely dispersed population use oil for heating and, as elsewhere, gasoline for transportation. There are two power plants in the coastal zone which burn oil to produce electricity relatively infrequently as peaking facilities.

Coal

No change in either Existing or Proposed Facilities: There are no existing or proposed energy facilities in Maine's coastal zone that use coal as their sole or primary fuel. USEIA reports that only Vermont and Rhode Island use less coal than Maine. There is a 102 MW power plant which uses coal along with wood for power generation and a paper mill whose wood waste-fueled power generators use coal as a backup fuel.

Nuclear

No change in either Existing or Proposed Facilities: There are none existing or proposed nuclear power plants in Maine.

Wind

No change in Existing Facilities: Fox Islands Wind LLC 's three-turbine project in Vinalhaven remains the only commercial-scale wind power facility in the coastal zone.

Increase in Proposed Facilities: A floating wind turbine demonstration project, Maine Aqua Ventus, which has been proposed for siting in state waters off Monhegan Island and which would use a floating platform designed by the University of Maine, remains in the R&D phase. BOEM's Gulf of Maine Intergovernmental Task Force has potential to result in federal designation of one or more Wind Energy Areas on the Gulf of Maine. This effort, along with Governor Mills' policies addressing climate change in part by moving the state to meeting its electric power demand with 100% renewable sources by 2050, and general market conditions and technological advancements may be expected to spur increased interest among developers over the next five years in siting grid-scale offshore wind energy developments in OCS areas in the Gulf of Maine and potentially proximate to Maine's coastal waters. Although there have been press accounts indicating developers are exploring options for siting land-based wind projects in the coastal zone in Downeast Maine, no such project proposal is under active discussion with state regulators.

Wave

No change in either Existing or Proposed Facilities: There are no existing or proposed wave power projects in Maine's coastal zone and none are anticipated. Studies have indicated that Maine does not have a promising wave power resource.

Tidal

Increase in Existing Facilities: In 2012, the first grid-connected in-stream tidal power project in the U.S., Ocean Renewable Power Company's (ORPC) facility in Eastport, came on line. Off-line for several years after a mechanical failure necessitated significant re-design, the project is slated to be back up and running in 2020.

Increase in Proposed Facilities: In 2020, ORPC is expected to file state and federal permit applications for a larger-scale tidal power project in Western Passage, also in the Eastport area, which has a commercially-significant tidal power resource. A proposal to site a tidal barrage project on Pennamaquan River in Cobscook Bay region which was active during the prior 309 assessment period has been discontinued by the developer.

Current (ocean, lake, river)

No change in either Existing or Proposed Facilities: There are no projects of this kind existing or proposed in Maine's coastal zone.

Hydropower [update pending]

No change in Existing Facilities. No new FERC-licensed hydropower projects have come on line in the last five years.

No change in Proposed Facilities:

Four projects in the coastal zone - Ellsworth Hydro, FERC no. 2727 (Union River); America First Hydro, FERC no. 14856 (lower Mousam River); Green Lake Hydro, FERC no. 7189 (Reed Brook), and Rollinsford Hydro, FERC no. 3777 (Salmon Falls River) - are engaged in FERC's relicensing process. No other hydro projects in the coastal zone are slated to begin the FERC relicensing process prior to 2025. There are no current proposals for new hydropower facilities in the coastal zone other than the tidal power facilities discussed above.'

Ocean thermal energy conversion

No change in either Existing or Proposed Facilities: There are none in Maine's coastal zone and proposal of such a project is not anticipated.

Solar

Increase in Existing Facilities. The Solar Energy Industries Association (SEIA) reports that in 2019 Maine had 60.34 MW of installed solar power and that 11.38 MW was installed in 2018 and ranks 42nd in that

nation in terms of installed capacity. As noted in the prior 309 assessment, in early 2015 an estimated 10.4 MW of solar had been installed in Maine, almost all over the prior years. To date, solar power in Maine has been a distributed energy resource. Maine currently has no grid-scale solar power facilities on-line.

Increase in Proposed Facilities: SEIA estimates that solar capacity in Maine will continue to grow and projects an additional 849.47 MW will be added over the next five years. This is a notable increase over the growth in this sector projected in the prior 309 assessment. While SEIA ranks Maine low among states in terms installed capacity as noted above, it places the state in the middle of the pack (28th) in terms of projected growth. Pursuant to a state law enacted in 2019, the Maine Public Utilities Commission (PUC) is directed to issue power purchase agreements for 125 MW of distributed solar power from projects of 5 MW or less, environmental approvals for which must be in hand this year for a project to qualify. There is significant interest in the program. Under another state program, PUC is directed to purchase 1,000 MW of solar power from grid-scale projects which are anticipated to be built within the next five years. Significant additional solar power is expected to come on-line through state net-billing policies which allow businesses to effectively purchase distributed solar power unused by its generator.

Biomass

Decrease in Existing Facilities: Since 2015, biomass plants in West Enfield, Fort Fairfield, Ashland, and Jonesboro (only the latter is in the coastal zone) have closed. (The West Enfield and Jonesboro facilities remained licensed to operate and could theoretically restart at any time.) ND Paper purchased the now-closed pulp and paper mill in Old Town (not in the coastal zone) and is in the process of restarting operations which have included biomass generation. Two small biomass fired units (each about 8 MW, neither in the coastal zone) have been licensed in the last few years and are now operational.

Minor Change in Proposed Facilities: There are no biomass facilities proposed in the coastal zone. In Maine, biomass facilities have often been associated with industrial papermaking operations which overall are experiencing an economic downturn due to societal migration away from paper, international competition, and other factors. The biomass industry appears to be evolving. In Maine over the next five years, growth for some types of facilities, such as those associated with lumber mills, may be foreseeable. Such growth seems more likely outside the coastal zone, in inland areas closer to large-scale sources of wood and wood waste.

2. *If available, briefly list and summarize the results of any additional state-specific information, data, or reports on the status and trends for energy facilities and activities of greater than local significance in the coastal zone since the last assessment.*

   State of Maine Comprehensive Energy Plan

   The State updated the State Energy Plan in January 2015 http://maine.gov/energy/pdf/2015%20Energy%20Plan%20Update%20Final.pdf This plan focuses on residential energy costs, expanded mass transportation and related alternative fueling options, and expanded access of natural gas. It has not been amended since 2015. However, several major, bi-partisan legislative changes in 2019 as well as energy policy-related legislative and rule changes reasonably foreseeable over the next five years may result in notable revisions in the overall state energy plan. See, e.g., discussion regarding the Maine Climate Council and RPS standard in the Enhancement Priority Area section below. See also discussion above regarding state recent statutory incentives for development of solar power.

3. *Briefly characterize the existing status and trends for federal government facilities and activities of greater than local significance in the state's coastal zone since the last assessment.*

   There have been no marked changes in the general nature of activities related to federal government facilities since the last assessment. State and local authorities continue redevelopment activities at the Brunswick Naval Air Station, closed as recommended by the federal Base Closure and Realignment Commission (BRAC) before the prior 309 assessment. The Navy continues to maintain and make improvements to the Portsmouth Naval Shipyard's facilities. Review of these actions remains a significant part of the federal consistency review-related work of DEP's southern Maine regional office. There have been no significant new federal facilities built or proposed in the coastal zone since the last 309 assessment.

   Energy infrastructure-related development proposals, which are discussed above, continue to be the main category of foreseeable "activities of greater than local significance" potentially in or affecting the coastal zone. Given the strong and growing interest among lawmakers in in-state ocean-based and other renewable energy sources both to address climate change and to transition and grow the state economy, proposals for renewable energy facility siting in or potentially affecting the coastal zone are reasonably foreseeable. The work of BOEM's Gulf of Maine Interagency Renewable Energy Task Force, which BOEM convened at New Hampshire's request, has potential to result in designation of one or more Wind Energy Areas in the Gulf of Maine. The University of Maine-led Aqua Ventus floating wind turbine technology demonstration project also has potential to spark commercial interest in siting grid-scale floating wind farm(s) in deep waters off Maine's coast.

   As with other development, the adverse effects and changes stemming from energy-related development are experienced locally, while its benefits may be realized more broadly, at a state or regional scale. Consequently, proposals for siting large-scale energy facilities and related infrastructure, such as transmission lines, may be expected to be controversial.

Management Characterization:

1. *Indicate if the approach is employed by the state and if significant state-level changes (positive or negative) that could facilitate or impede energy and government facility siting and activities have occurred since the last assessment.*

2.

Management Category	Employed by State (Y or N)	CMP Provides Assistance to Locals that Employ (Y or N)	Significant Changes Since Last Assessment (Y or N)
Statutes, regulations, policies, or case law interpreting these	Y	Y[20]	N
State comprehensive siting plans or procedures	N	N/A	N

3. *For any management categories with significant changes, briefly provide the information below. If this information is provided under another enhancement area or section of the document, please provide a reference to the other section rather than duplicate the information:*
    a. *Describe the significance of the changes;*
    b. *Specify if they were 309 or other CZM-driven changes; and*
    c. *Characterize the outcomes or likely future outcomes of the changes.*

N/A

Enhancement Area Prioritization:

1. *What level of priority is the enhancement area for the coastal management program?*

High _____
Medium __X__
Low _____

2. *Briefly explain the reason for this level of priority. Include input from stakeholder engagement, including the types of stakeholders engaged.*

Current public and private sector interest in energy infrastructure development and related public policy issues is likely to continue and increase in the foreseeable future at the global, national, regional, state, and local levels. This is due in no small part to growing recognition of the immediate need to reduce greenhouse gas emissions to forestall the potentially catastrophic ecological, economic, and social consequences and existential threat of climate change. Comparable interest and activity regarding government facility siting is not anticipated. However, Maine policymakers' increasing focus on sea-level rise and other climate change-related issues, as noted below, is likely to increase consideration by the state and local governments of how best to ensure that public infrastructure developments are sited, designed, and built in ways that reflect the best available information regarding reasonably foreseeable climate change-related effects.

There is apparent interest in Maine's private sector and non-governmental organizations to build on progress to date and optimize the environmental and economic benefits to the state in the renewable ocean energy sector, particularly those regarding deep-water ocean wind and tidal power. At the

[20] The State (DEP) supports local implementation of the Mandatory Shoreland Zoning Act and, in a few instances, Site Law, under which a qualified municipality may exercise delegated authority.

initiative and with the leadership of Governor Mills, the state enacted laws in 2019 to create the Maine Climate Council and to increase Maine's renewable energy portfolio standard (RPS) from its current 40% to 80% by 2030 and 100% by 2050. The Maine Climate Council is tasked with making recommendations on how to reduce the state's greenhouse gas emissions by 80% by 2050 and 45% by 2030 in addition to other related policy objectives. With members and multiple, topic-specific working groups, including one focused on energy policy, the Council embodies its commitment to broad and diverse stakeholder input in charting a course for Maine's future. These and other new (see discussion of solar power incentives above) and foreseeable subsequent, related law and policy changes may be reasonably anticipated to result in systemic changes in state policy and law regarding energy and infrastructure development.

State-level public policy changes regarding renewable ocean energy and other energy facilities would likely focus in large part on economic and public utilities-related matters regarding which there is not a central role for the Maine Coastal Program (MCP) and which are under the purview of the Governor's Energy Office, Public Utilities Commission, and other agencies, industry organizations, and non-governmental entities. This factor, not the importance of the state policy regarding energy facilities siting, accounts for its medium priority ranking in this assessment. That said, significant policy work remains to be done to address federal-state coordination and other key issues to facilitate efficient and well-sited development of renewable ocean energy facilities, particularly in federal waters. MCP anticipates this will be a key topic for consideration by BOEM's Gulf of Maine Interagency Renewable Ocean Energy Task Force which began meeting in late 2019 and which will provide opportunities for stakeholder input at various points throughout its deliberations. MCP anticipates providing staff support for senior DMR leadership serving on the Task Force on various matters including stakeholder engagement. The Task Force's recommendations regarding ocean wind energy facility siting and related matters may result in policy options for consideration by state law makers and agency decision makers.

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Aquaculture Phase I Assessment

CZMA Section 309 Enhancement Objective: *Adoption of procedures and policies to evaluate and facilitate the siting of public and private aquaculture facilities in the coastal zone, which will enable states to formulate, administer, and implement strategic plans for marine aquaculture. §309(a)(9)*

PHASE I (HIGH-LEVEL) ASSESSMENT:

Purpose: To quickly determine whether the enhancement area is a high-priority enhancement objective for the CMP that warrants a more in-depth assessment. The more in-depth assessments of Phase II will help the CMP understand key problems and opportunities that exist for program enhancement and determine the effectiveness of existing management efforts to address those problems.

Resource Characterization:

1. *In the table below, characterize the existing status and trends of aquaculture facilities in the state's coastal zone based on the best-available data. Your state Sea Grant Program may have information to help with this assessment.*[21]

Status and Trends of Aquaculture Facilities and Activities

Type of Facility/Activity	Number of Facilities[22]	Approximate Economic Value	Change Since Last Assessment (unknown)
Finfish Leases	25 (637 acres)	confidential	Very slight increase in acreage, same # facilities
Shellfish Lease	91 (716 acres)	$11.2M	Moderate increase
Marine Algae Lease	69 (69 acres)	confidential	Significant increase
Limited Purpose Aquaculture License	596 (each site=400 sq ft)	Included in total revenues above by species	Significant increase

2. *If available, briefly list and summarize the results of any additional state- or territory-specific data or reports on the status and trends or potential impacts from aquaculture activities in the coastal zone since the last assessment.*

   Maine Aquaculture Economic Impact Report:
   A collaboration between the University of Maine and the Maine Aquaculture Association, this report summarizes economic impact of Maine's aquaculture sector, including direct vessel revenues, jobs, and indirect/supply chain revenue and jobs.

[21] While focused on statewide aquaculture data rather than just within the coastal zone, the *Census of Aquaculture* (*www.agcensus.usda.gov/Publications/Census_of_Aquaculture/*) may help in developing your aquaculture assessment. The census is conducted every 10 years and the last report was released in 2013. The report provides a variety of state-specific aquaculture data to understand current status and recent trends. .

[22] Be as specific as possible. For example, if you have specific information of the number of each type of facility or activity, note that. If you only have approximate figures, note "more than" or "approximately" before the number. If information is unknown, note that and use the narrative section below to provide a brief qualitative description based on the best information available.

https://umaine.edu/aquaculture/wp-content/uploads/sites/134/2017/01/Aquaculture-Econ-Report.pdf

Maine Farmed Shellfish Market Analysis:
The Gulf of Maine Research Institute conducted a market analysis to support its work with Focus Maine, a private-enterprise initiative to promote economic growth in three key sectors in Maine. This work assesses potential markets for increased shellfish aquaculture production. https://www.gmri.org/sites/default/files/resource/gmri_farmed_shellfish_final_with_cover_10.13.16.pdf

Edible Seaweed Market Analysis:
The Island Institute conducted a market analysis as interest in marine algae aquaculture has increased dramatically in Maine in recent years. In particular, kelp aquaculture is being promoted, through Island Institute programming and elsewhere, as a diversification opportunity for lobster fishermen. The kelp grow-out season is during the winter, when fishing activity slows considerably, and harvest occurs in the late spring prior to fishing picking back up. http://www.islandinstitute.org/resource/edible-seaweed-market-analysis

Sustainable Ecological Aquaculture Network project database:
This EPSCoR project includes four research themes: Carrying Capacity, Changing Environment, Aquaculture Innovation, and Human Dimensions. Project information is available online. https://umaine.edu/aquaculture/seanet-award/projects/

Maine Aquaculture: 2020 Research, Development & Education Priorities:
This report was produced by the Maine Aquaculture Innovation Center, in collaboration with Maine Aquaculture Association, Maine Sea Grant, and the University of Maine's Aquaculture Research Institute. This report is based on the research priorities survey conducted in June 2019 of Maine's aquaculture community, and is compared with surveys from 2012 and 2016 to look at trends.

Management Characterization:

I. *Indicate if the approach is employed by the state or territory and if there have been any state- or territory-level changes (positive or negative) that could facilitate or impede the siting of public or private aquaculture facilities in the coastal zone.*

Significant Changes in Aquaculture Management

Management Category	Employed by State or Territory (Y or N)	CMP Provides Assistance to Locals that Employ (Y or N)	Significant Changes Since Last Assessment (Y or N)
Aquaculture comprehensive siting plans or procedures	No	No	No
Other aquaculture statutes, regulations, policies, or case law interpreting these	Yes	Yes	Yes

II. *For any management categories with significant changes, briefly provide the information below. If this information is provided under another enhancement area or section of the document, please provide a reference to the other section rather than duplicate the information:*

a. *Describe the significance of the changes;*
b. *Specify if they were 309 or other CZM-driven changes; and*
c. *Characterize the outcomes or likely future outcomes of the changes.*

Aquaculture continues to grow in Maine and accordingly, the state continues to revise statutes and rules regularly in order to facilitate appropriate growth in the sector. Since the previous assessment, a number of statutory and regulatory changes have been made to the aquaculture leasing and licensing program to improve the efficiency of application review, increase opportunities for meaningful public engagement in the lease evaluation process, and facilitate compliance with regulations and lease conditions.

Public Law 2017, Chapter 159 statutory changes included: removal of a prohibition on the provision by the Department of Marine Resources of promotional and marketing assistance to the aquaculture industry; extension of the potential term of an aquaculture lease from 10 to 20 years; creation of a process by which a holder of a standard lease could seek an expansion of the lease area by up to 10% once during the duration of the lease without having to apply for a new lease; educational requirement for Limited-Purpose Aquaculture license holders; and public health provisions to ensure alignment with the National Shellfish Sanitation Program's model ordinance.

Public Law 2017, Chapter 296 created an aquaculture license. The holder of this license is exempt from certain requirements in law to hold a separate license for the removal, possession, transport or sale of cultured marine organisms and authorizes the holder to remove, possess, transport or sell cultured marine organisms.

In 2019, regulatory changes were made to clarify the aquaculture leasing regulations, including the elimination of redundant language from 12 M.R.S.A. §6072, 6072-A, and the Maine Administrative Procedures Act, elimination of duplicative references to the National Shellfish Sanitation Program (NSSP) Model Ordinance, and added/modified provisions based on the NSSP. The regulations also made several changes to the leasing procedures for standard and limited-purpose aquaculture leases, including the adjustment of the timing for the scoping session, the information required to be submitted regarding an applicant's financial capability, and a prohibition on the siting of leases

within the 300:1 dilution zone around a wastewater treatment plant. These regulations also: enacted lease expansion application procedures in accordance with 12 M.R.S.A. §6072(12-C), a statutory change made in 2017; restricted the number of pending limited-purpose lease applications any one applicant could have in process to two applications; clarified that an emergency lease could be utilized when the safety of the consumer is threatened, as well as that of the shellfish or animal; and clarified and established additional minimum lease maintenance standards.

Additional legislative changes meant to further improve the leasing and licensing program are currently pending for this program.

Enhancement Area Prioritization:

1. *What level of priority is the enhancement area for the coastal management program?*

High	_____
Medium	_____
Low	__x___

2. *Briefly explain the reason for this level of priority. Include input from stakeholder engagement, including the types of stakeholders engaged.*

The Governor, Department of Marine Resources (DMR) and constituents agreed that aquaculture is very important, but that Maine Coastal Program is likely not the best program to work in this area. In the last few years, MCP has provided bridge funding for DMR's Aquaculture program to hire a technical support position to administer the Limited Purpose Aquaculture licensing program and help support the early phases of lease application review. The Maine Coastal Program will also continue to work on issues in other priority enhancement areas that overlap and are important aquaculture, such as cumulative impacts of development (water quality) and ocean acidification. These efforts may assist in the expansion of the aquaculture industry in Maine.

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Phase II (In- Depth) Assessments

Note: The following Phase II Assessments follow a format required by NOAA.

Coastal Hazards

In-Depth Resource Characterization:
Purpose: To determine key problems and opportunities to improve the CMP's ability to prevent or significantly reduce coastal hazard risks by eliminating development and redevelopment in high-hazard areas and managing the effects of potential sea level rise and Great Lakes level change.

1. Based on the characterization of coastal hazard risk, what are the three most significant coastal hazards within your coastal zone? Also indicate the geographic scope of the hazard, i.e., is it prevalent throughout the coastal zone, or are there specific areas most at risk?

	Type of Hazard	**Geographic Scope** (throughout coastal zone or specific areas most threatened)
Hazard 1	Shoreline Erosion	2000+ miles of coastal dunes, beaches, marshes, and coastal bluffs are eroding with land loss threatening development and existing natural resiliency
Hazard 2	Coastal Flooding	Coastwide superstorm about 2.5 feet higher than 1% FIRM level with low awareness and preparedness for the risk statewide
Hazard 3	Sea Level Rise	Nuisance flooding frequency up 15-fold over 20th century and expanding by 370 acers/year statewide; tides 1.5 feet over year 2000 level projected for 2050; 3-5 feet very likely by 2100 with 10 feet a possible extreme level

2. Briefly explain why these are currently the most significant coastal hazards within the coastal zone. Cite stakeholder input and/or existing reports or studies to support this assessment.

Shoreline Erosion
Maine's 2015 309 Assessment found that about 13% (677 miles) of Maine's total coastline is classified as highly or very highly vulnerable to shoreline erosion. An additional 1,200 miles of bluffs may become erosional with higher tides. These areas are limited to coastal sand dunes (including beaches) and erodible bluff shorelines. MGS continues to monitor beach and dune changes through the Maine Beach Mapping Program (MBMAP)[1] at 33 beaches in 15 different municipalities in southern and mid-coast Maine. MBMAP continues to monitor the edge of dune vegetation and has been updated to include monitoring of changes in the mean high water (MHW) line and the dry beach width (the distance from the MHW to the vegetation line or coastal engineering structure). MGS digitized (a) coastal engineering structures along York and Cumberland County (Kittery to South Portland) and (b) dune-beach shorelines. Based on these data, about 28% of Maine's sandy beach shoreline is measurably eroding, while 43% is "stable due to armoring" yet over 80% of the coastal engineering structures and 60% of dune crests are below the FEMA base flood elevation [2].

Maine is also concerned about the potential impacts of long-term sea level rise and short-term storm events on the erodible bluff shoreline, which comprises about 33% (1874 miles) of mapped shorelines. A NOAA Project of Special Merit titled *Building Resiliency along Maine's Bluff Coast*[3] developed better predictive models relating to bluff response (and landslide hazard) to increased sea levels and storms, along with a range of products for assessing bluff stability and case studies[4]. MGS conducted a

pilot landslide study within Casco Bay, where approximately 250 coastal slope failure sites were identified using newly available LiDAR data. Previously only 118 identified landslide sites had been identified in this populated section of Maine coast[5]. Recent MGS research has identified multiple ways landslides occur by erosion at the toe of the slope[6].

About 13% (677 miles) of Maine's coastline is classified as highly or very highly vulnerable to shoreline erosion. These areas are generally limited to coastal sand dunes (including beaches) and erodible unstable or highly unstable bluffs. Through the Maine Beach Mapping Program (MBMAP), MGS monitors around 21.4 miles of sandy beaches and dunes in southern and mid-coast Maine. In addition, MGS has also either measured with GPS or digitized approximately 16 additional miles of seawall within and adjacent to these sandy beach areas. Based on these data, about 28% of Maine's sandy beach shoreline is measurably eroding, while 43% is "stable due to armoring." Coastal dunes "stabilized" are often lower[2] than the FEMA special flood hazard area elevation and thus could be prone to failure and inducing rapid erosion and flooding hazards to adjacent development.

Sea Level Rise and Flooding
Maine's 2021 Phase I assessment showed that about 42% (2,284 miles) of Maine's coastline is highly or very highly vulnerable to long-term sea level rise, and in turn, short-term coastal inundation. These numbers do not include regions of the coastal zone that may be vulnerable to freshwater flooding during precipitation events, which remains an unquantified hazard. Areas vulnerable to both sea level rise and inundation include all of Maine's mapped coastal sand dunes, coastal wetlands, other low-lying areas (such as developed waterfront areas or low-elevation freshwater wetlands), and unstable sediment bluffs.

In 2019, the Maine Geological Survey completed state-wide mapping of the Highest Astronomical Tide (HAT)[7] in support of Shoreland Zoning, the King Tide boundary, and as the foundation for sea level rise projections. MGS developed Maine-specific sea level rise projections using NOAA[8] and U.S. Army Corps of Engineers modeling[9] adapted to the region for the Maine Climate Council[10]and summarized in a draft report[11]. Scenarios of 1.6, 3.9, 6.1, 8.8, and 10.9 feet of static sea level rise (or storm surge) on top of the HAT are mapped for the entire Maine coast[12]. MGS and the U.S. Army Corps of Engineers collaborated to create hurricane inundation maps for categories 1-4 and MGS produced an online viewer[13] to show the inland extent of hurricane surge. Derivative map products were made for emergency managers in Lincoln County[14].

Through two NOAA-funded Projects of Special Merit, staff have developed (1) sea level rise and storm surge vulnerability assessments for marsh systems[15] (2) a tool for land-use development and land-conservation planning[16] and (3) sea level rise planning for coastal state parks and historic sites[17].

3. Are there emerging issues of concern, but which lack sufficient information to evaluate the level of the potential threat? If so, please list. Include additional lines if needed.

Emerging Issue	Information Needed
Damage from wave runup and overtopping	Combined flood and erosion modeling
Future coastal floodplain extent	Dynamic modeling of wave runup at higher sea level scenarios for 2050 and 2100

In-Depth Management Characterization:

Purpose: To determine the effectiveness of management efforts to address identified problems related to the coastal hazards enhancement objective.

1. For each coastal hazard management category below, indicate if the approach is employed by the state or territory and if there has been a significant change since the last assessment.

Significant Changes in Coastal Hazards Statutes, Regulations, and Policies

Management Category	**Employed by State/Territory** (Y or N)	**CMP Provides Assistance to Locals that Employ** (Y or N)	**Significant Change Since the Last Assessment** (Y or N)
Shorefront setbacks/no build areas	Y	Y	Y
Rolling easements	Y	N	N
Repair/rebuilding restrictions	Y	N	N
Hard shoreline protection structure restrictions	Y	Y	N
Promotion of alternative shoreline stabilization methodologies (i.e., living shorelines/green infrastructure)	Y	Y	Y
Repair/replacement of shore protection structure restrictions	Y	Y	N
Inlet management	N	N	N
Protection of important natural resources for hazard mitigation benefits (e.g., dunes, wetlands, barrier islands, coral reefs) (other than setbacks/no build areas)	Y	Y	N
Repetitive flood loss policies (e.g., relocation, buyouts)	N	N	N
Freeboard requirements	Y	Y	Y
Real estate sales disclosure requirements	N	N	N
Restrictions on publicly funded infrastructure	Y	N	N
Infrastructure protection (e.g., considering hazards in siting and design)	Y	Y	Y
Other (please specify)			

Significant Changes to Coastal Hazard Management Planning Programs or Initiatives

Management Category	Employed by State/Territory (Y or N)	CMP Provides Assistance to Locals that Employ (Y or N)	Significant Change Since the Last Assessment (Y or N)
Hazard mitigation plans	Y	N	Y
Sea level rise/Great Lake level change or climate change adaptation plans	Y	Y	Y
Statewide requirement for local post-disaster recovery planning	N	Y	N
Sediment management plans	Y	N	Y
Beach nourishment plans	Y	N	Y
Special Area Management Plans (that address hazards issues)	N	N	N
Managed retreat plans	Y (dunes)	N	N
Other (please specify)	Y	N	N

Significant Changes to Coastal Hazard Research, Mapping, and Education Programs or Initiatives

Management Category	Employed by State/Territory (Y or N)	CMP Provides Assistance to Locals that Employ (Y or N)	Significant Change Since the Last Assessment (Y or N)
General hazards mapping or modeling	Y	Y	Y
Sea level rise mapping or modeling	Y	Y	Y
Hazards monitoring (e.g., erosion rate, shoreline change, high-water marks)	Y	Y	Y
Hazards education and outreach	Y	Y	Y
Other (Living Shorelines)	Y	Y	Y

Discussion of Significant Changes

Shorefront Setbacks/No build areas – With support from MGS, the Town of Cape Elizabeth redefined its Shoreland Zoning setbacks to be measured from a newly defined "normal high water line". Instead of using the highest annual tide, it adopted using the Highest Astronomical Tide plus 3 feet.

Promotion of alternative shoreline stabilization methodologies (i.e., living shorelines/green infrastructure) – MCP and MGS continued to promote alternative shoreline stabilization methodologies in Maine through work through several NOAA-funded efforts. Working with several different project partners, Maine completed a project focusing on bluff shorelines in Casco Bay, and developed several different outputs useful for coastal decision-makers and stakeholders, including decision support tools for bluff evaluation and management, a Coastal Planting Guide, and a living shoreline suitability viewer for Casco Bay.

Working with the other New England states (NH, MA, CT, RI), NROC, and The Nature Conservancy through a Regional Resilience Grant, a Living Shorelines in New England: State of the Practice report was generated, along with specific guidance on living shorelines applications in coastal New England and a Living Shorelines stacker. This phase of work also generated valuable information on challenges and opportunities for implementing living shorelines in New England, which led to a second-funded phase of work on implementing and monitoring living shorelines. Maine's project entails the selection, design, and permitting of living shoreline demonstration treatments in Casco Bay that beneficially reused naturally occurring materials (in this case, trees and oyster shells). Construction of demonstration sites is slated for May 2020.

Maine also created a Coastal Structure and Dune Crest Inventory and Overtopping Potential viewer which documents the extent of shoreline engineering structures and natural dune crests in coastal areas of York and Cumberland County, and also determines the relationship of structure/dune crests with base flood elevations from FEMA flood maps.

Freeboard Requirements – working with partner RPOs, several municipalities developed increased freeboard requirements in their local floodplain management program ordinances. This included the communities of York (2 feet above BFE), and Saco and Damariscotta (3 feet above BFE).

Infrastructure protection (e.g., considering hazards in siting and design) - MCP and MGS completed a Project of Special Merit focused on determining vulnerability of 10 public working waterfronts in Penobscot Bay to flooding and sea level rise. The project included determining applicable adaptation measures for existing and future identified vulnerabilities to critical infrastructure, and simplified costs associated with those adaptation measures. Through an MPAP Coastal Community Grant (CCG), MCP and MGS supported the Lincoln County Planning Commission in a waterfront resiliency effort in Boothbay Harbor, which focused on public and private infrastructure. Other CCG funded efforts in Lincoln County focused on determining vulnerability and adaptation of wastewater treatment plant infrastructure in Boothbay Harbor and Wiscasset.

Hazard Mitigation Plan Updates – In 2018 Maine conducted a State Risk Assessment that included natural and built environments. This effort resulted in an updated State Hazard Mitigation Plan in 2019 including coastal erosion, mass wasting, hurricanes, winter storms, and historical sea level rise.

Sea level rise/Great Lake level change or climate change adaptation plans – Under the leadership of the Governor's Office, the Maine Climate Council was formed. The Council is tasked with developing mitigation strategies to meet state emissions reduction requirements in all sectors of the economy, with a focus on Maine's transportation, electricity, and buildings sectors, and resilience strategies that will make Maine people, industries, and communities resilient to the impacts of climate change.
MCC includes a Science and Technical Subcommittee which released a Scientific Assessment of Climate Change and Its Effects in Maine, Phase I Working Document (PDF) and many Working Groups, including: Energy; Transportation; Buildings, Infrastructure and Housing; Coastal and Marine; Natural and Working Lands; and Community Resilience Planning, Public Health and Emergency Management. Each group is tasked with developing specific recommendations for each of their sectors for consideration by the Council.

Maine also completed a NOAA-funded Project of Special Merit which focused on the vulnerability and resiliency of its working waterfronts in the Penobscot Bay region. Critical working waterfront

infrastructure from ten different communities (Belfast, Camden, Castine, Lincolnville, Northaven, Vinalhaven, Rockland, Searsport, South Thomaston, and Stonington) was selected for detailed engineering analysis for existing and potential future (1, 2 and 4 feet SLR) flood vulnerabilities. Site-specific reports, including engineering and adaptation plans (including estimated costs) were developed for the municipalities. Several education and outreach workshops (in-person and online) were held to disseminate results from the reporting and provide follow up.

Sediment management plans – MCP and MGS began monitoring sediment movement near three federal dredge/beach nourishment locations in Wells, Saco, and Scarborough as part of a NOAA-funded Project of Special Merit. This project uses offshore and nearshore bathymetric mapping in conjunction with UAS subaerial beach mapping in order to determine the fate of nourishment materials to help better optimize beach nourishment design and regional sediment management programs.
Beach nourishment plans – (see above). Maine also completed Protecting Maine's Beaches for the Future: 2017 Update which documents the need for and develops new strategies for implementing a statewide beach nourishment program. Maine also updated its Chapter 418 - Solid Waste Management Rules: Beneficial Use of Solid Wastes which documents procedures for the beneficial reuse of dredged materials for beach nourishment. Imported marine sediment must meet EPA contaminant thresholds.
General hazards mapping or modeling – as described under *Promotion of alternative shoreline stabilization methodologies (i.e., living shorelines/green infrastructure*, many new products and viewers were created relating to coastal bluffs and living shorelines.
Sea level rise mapping or modeling – MGS completed mapping of the Highest Astronomical Tide for the Maine coastline. It also released new regionalized sea level rise scenarios (1.2, 1.6, 3.9, 6.1, 8.8 and 10.9 feet) consistent with the latest work from NOAA (2017) along the entire Maine shoreline and released the Sea Level Rise/Storm Surge Viewer. The Maine Natural Areas Program (MNAP) used a 1-m SLR scenario to develop a Coastal Undeveloped Habitat Blocks Viewer to help guide land conservation organizations with acquisition priorities.

Hazards monitoring (e.g., erosion rate, shoreline change, high-water marks) – Maine continues to monitor beach and dune erosion through its Maine Beach Mapping Program, with updated information released annually to the public. The Southern Maine Beach Profiling Program (SMBPP) continues to collect monthly beach profile data at many of southern Maine's beaches. MGS recently migrated the database supporting this program to its MGS Collect page.
In conjunction with the Maine Silver Jackets Team, MGS and MCP worked with the communities of York and Portland to institute a high water marks program which re-established benchmarks from the 1% storm event (February 1978 along with other local storm events) and translated those marks to publicly accessible locations where signs were developed and placed. Marks and signs were developed to incorporate low to extreme (1-4 feet) sea level rise scenarios by 2050. Currently, the Maine Team is working with South Portland, Scarborough, and Belfast to re-establish marks in their communities and expand public outreach by developing newer signs and artistic murals which will be placed at strategic, publicly accessible areas of the community.

Hazards Education and Outreach – in conjunction with its NOAA Coastal Management Fellow (2015-2017), MGS and MCP created the Maine Flood Resilience Checklist, a community self-assessment guide which helps municipalities determine vulnerabilities of different key environments (built, social, natural) to existing and future flood hazards. Training was provided by MPAP to regional planning organization (RPO) staff and several NGO organizations (Island Institute) so that additional resources in each coastal region could be used to support completion of the checklist by municipalities.

MGS continued to provide education and outreach on coastal hazards at the municipal, regional, and state levels by providing over 50 presentations during the assessment period to a variety of coastal stakeholders and decision-makers. MGS also provides technical support to many communities who have received Coastal Community Grants from MPAP.

Living Shorelines – as described previously, MCP and MGS are participating in a regional resilience effort on demonstration treatments for living shorelines in Casco Bay, Maine. To support this and other living shoreline efforts in the region, MGS created a Living Shoreline Decision Support Tool for Casco Bay. This tool is meant to help guide stakeholders determine suitability of living shoreline applications, and accounts for a variety of factors (fetch, nearshore bathymetry, landward and seaward shoreline types, relief, slope and aspect).

2. Identify and describe the conclusions of any studies that have been done that illustrate the effectiveness of the state's management efforts in addressing coastal hazards since the last assessment. If none, is there any information that you are lacking to assess the effectiveness of the state's management efforts?

In 2017, NOAA completed a 312 review of MCP for the period October 2009-May 2017. This review included numerous accomplishments and recommendations relating to coastal hazards and resilience. Findings indicated that the MCP has been a leader in building coastal resilience through conducting and supporting research to improve understanding of localized impacts of coastal hazards including sea level rise, conducting outreach and education with local communities, and assisting local communities through funding and technical support to improve their coastal resilience.

Research into the socio-ecological resilience of Maine communities was published in 2019[18]. Using ecological, social, and economic metrics for coastal communities, strengths and weaknesses in comprehensive plans were evaluated. Most notably, plans lacked (a) sea level rise, (b) storm surge, (c) coastal hazard awareness. Existing plans were soundly based in (a) preservation of natural systems, (b) understanding of erosion, and (c) floodplain management. This study highlights the need for the Maine 309 program to address technical aspects of storm surge and sea level rise with content that can be applied at the local planning level.

A survey of Maine coastal communities published in 2019 evaluated the most important aspects of climate change planning at the local level[19]. Local leaders identified geospatial data sets and online mapping tools as the top priority need. The second most important need was for technical assistance. This plan provides to meet both top needs identified by Johnson et al. (2019).

Identification of Priorities:

1. Considering changes in coastal hazard risk and coastal hazard management since the last assessment and stakeholder input, identify and briefly describe the top one to three management priorities where there is the greatest opportunity for the CMP to improve its ability to more effectively address the most significant hazard risks. *(Approximately 1-3 sentences per management priority.)*

Management Priority 1: Coastal hazard mapping for the entire Maine coast identifying the geographic area at risk from storms and sea level rise in 2100.

Description: Inundation extent will be from a 4-foot (intermediate) scenario of sea level rise, a 4.8-foot superstorm surge, and a King Tide were presented in a report to the Maine Climate Council[11]. The state needs to prepare to manage hazards from this future superstorm condition, among others. This mapping effort will identify over 63,000 acres of coastal lowlands at risk in a *Sea Level Hazard Area*. Map criteria can be modified if a different alternative scenario selected by the Maine Climate Council in 2021. This product will be the foundation for sea level rise policy, adaptation planning, and resiliency efforts.

Management Priority 2: New Coastal Storm and Sea Level Rise Policies.

Description: In coordination with the Maine Climate Council, develop policies on adaptation, management. At the time of development of this Assessment, the Maine Climate Council (MCC) is developing a Maine Climate Adaptation and Mitigation Plan for submittal to the Maine Legislature in January 2021. Stakeholder outreach and public involvement begins in spring 2020. A Community Resiliency Working Group of the MCC has discussed a broad range of policy, regulatory and non-regulatory approaches as well methods of funding and technical assistance delivery.

Management Priority 3: Create Effective Technical Assistance Networks.

Description: Maine currently has a variety of technical assistance providers, but needs a more effective and coordinated method for technical assistance delivery. MCP funding has supported a coastal geologist and a land use planner, but demand exceeds capacity to meet municipal needs. Finally, the Maine Climate Council will be examining the technical assistance needs of municipalities as it relates to the 4-year state Climate Action Plan due to be released in December 2020.

2. Identify and briefly explain priority needs and information gaps the CMP has for addressing the management priorities identified above. The needs and gaps identified here should not be limited to those items that will be addressed through a Section 309 strategy but should include any items that will be part of a strategy.

Priority Needs	**Need?** (Y or N)	**Brief Explanation of Need/Gap**
Research	Y	Improved understanding of changing storm dynamics creating surge; advance wave modeling for coastal runup and future coastal flood hazard area determination
Mapping/GIS/modeling	Y	Updated sea level scenario mapping as national assessments change; map the hazard area from a superstorm in 2100
Data and information management	Y	Maintain and expand the MGS the coastal hazards and outreach web page; release digital data sets and publications on hazards
Training/Capacity building	Y	MEDEP training on coastal sand dunes, bluffs, and flooding; expand local and regional capacity on use of new data and tools Build capacity for effective delivery of technical assistance to municipalities
Decision-support tools	Y	Implementation of Flood Resilience Checklist with partners; use of sea level rise scenarios for vulnerability and risk assessments

Communication and outreach	Y	Storm damage assessments of natural systems; MEMA and others to do infrastructure damage. Provide storm reports on erosion, washover, flooding extent, and immediate land loss
Other (Partnership to acquire updated information)	Y	Develop a partnership to reacquire full-coast topo-bathymetric lidar and ortho photographs; evaluate 3-D coastal change

Enhancement Area Strategy Development:

1. Will the CMP develop one or more strategies for this enhancement area?
   Yes__X__
   No_____

2. Briefly explain why a strategy will or will not be developed for this enhancement area.

Coastal hazards will not abate and will become more acute over this assessment period and beyond. The Maine Legislature, acting on a bill submitted by Governor Mills, created the Maine Climate Council in 2019. A Maine Climate Mitigation and Adaptation Plan will be created by the Council and delivered to the Legislation in January 2021. The Plan will include recommendations for planning, management, policy development, and adaptation actions based on sound science. Critical leadership is present in Maine to consider significant new policies to prepare for environmental and socio-economic disruption anticipated from coastal hazards.

Ocean Resources

In-Depth Resource Characterization:
Purpose: To determine key problems and opportunities to enhance the ability of state CMP to better address ocean and Great Lakes resources.

1. What are the three most significant existing or emerging stressors or threats to ocean and Great Lakes resources within your coastal zone? Indicate the geographic scope of the stressor, i.e., is it prevalent throughout the coastal zone, or are specific areas most threatened? Stressors can be land-based development; offshore development (including pipelines, cables); offshore energy production; polluted runoff; invasive species; fishing (commercial and/or recreational); aquaculture; recreation; marine transportation; dredging; sand or mineral extraction; ocean acidification; or other (please specify). When selecting significant stressors, also consider how climate change may exacerbate each stressor.

	Stressor/Threat	**Geographic Scope** (throughout coastal zone or specific areas most threatened)
Stressor 1	Changing Ocean Conditions: • Temperature fluctuations and trends • SAV loss • Benthic habitat changes • Invasive species • Habitat "movement" and movement of commercially important fish stocks • Shell disease, new toxins.	Throughout Coastal Zone
Stressor 2	Ocean and Coastal Water Quality • Ocean acidification • Nutrient loading • SAV loss	Observed in Casco Bay; potentially in other embayments
Stressor 3	Managing Competing uses of Ocean Space • Commercial fishing • Aquaculture • Offshore energy • Dredging	Throughout Coastal Zone

2. Briefly explain why these are currently the most significant stressors or threats to ocean and Great Lakes resources within the coastal zone. Cite stakeholder input and/or existing reports or studies to support this assessment.

Stressor 1: Changing Ocean Conditions:

New climate scenario models developed for the Gulf of Maine provide figures for forecasted changes in sea level, pH, precipitation, coastal flow, salinity, and temperature that can be used to understand how the marine environment will change for the biological communities living in this space (Gulf of Maine 2050 Symposium). Increased precipitation will lead to increased freshwater and nutrient influx into nearshore

areas, both exacerbating nearshore ocean acidification and changing the environmental conditions. Invasive species are likely to expand in range and number.[23] Sea level rise will change the water depth over sensitive marine communities that are light and tide dependent for their growth and health, such as eelgrass, kelp, and rockweed, and on Maine's coast, our coastal communities are at risk of tidal or long-term flooding.[24] In 2019, the Maine Geological Service (MGS) updated a tool to show areas that may flood under different sea level rise scenarios that can be used for community planning based on the most recent regional sea level rise predictions (https://www.maine.gov/dacf/mgs/hazards/slr_ss/index.shtml), noting that the regional predictions are higher than the global predictions because of local changes to sea temperature and ocean circulation.

The Maine Climate Council was formed in 2019 by the Governor's Office of Policy Innovation and the Future in response to the documented climate-driven changes in the State and our communities with the legislative mandate of developing strategies for priority actions by the end of 2020. The Coastal and Marine Working Group within the Council has cited the importance of monitoring for mitigation and adaptation implementation. The Working Group describes coastal ecosystem conservation and restoration is necessary to both mitigate and adapt to critical climate change issues. Furthermore, coastal and marine ecosystem or habitat monitoring and mapping is necessary to determine baselines for carbon storage and carbon capture potential, and modeling or monitoring will help detect changes and inform climate change planning and adaptation strategies. Yet there is increasing awareness and interest in improving coastal restoration practices, and growing recognition of natural ecosystem and biodiversity values for Maine's people, communities, and economy. The Working Group as identified that strategies to the Climate Council and efforts in the state should build upon existing public and private efforts and also identify and develop new strategies to address gaps, including intertidal and subtidal ecosystem restoration and planning, and coordinated local implementation.

Stressor 2: Ocean and Water Quality:

Maine's marine ecosystems are vulnerable to the predicted changes in temperature and chemistry (increasing pH). the Gulf of Maine Research Institute and the University of Maine have established through a peer-reviewed process that the Gulf of Maine is warming faster than 99.85% of the Earth's oceans.[25] Recent research has shown the effect on some of Maine's marine species. For example, increasing water temperature can make some fish species like the summer flounder develop into single gender population[26], deplete oxygen from the water and stress fishes, and force marine animals to change their biological and migration patterns, in turn putting in jeopardy Maine's coastal economies' reliance on seasonal fishing[27]. Recent declines of kelp forests in Southern Maine are likely attributable to climate change driven environmental and biological changes that have dramatically impacted ocean conditions.[28]

[23] Spierre, Susan G. and Wake, Cameron P., "Trends in Extreme Precipitation Events for the Northeastern United States 1948-2007". (2010). The Sustainability Institute. 21. https://scholars.unh.edu/sustainability/21
[24] Scenario Paper: Temperature, Sea Level Rise and Storm Projections. 2019. Lucy Chisholm, Tracey Talbot, William Appleby. Gulf of Maine 2050 Symposium. 23 pp. https://www.gulfofmaine2050.org/wp-content/uploads/2019/11/Gulf-of-Maine-2050-Scenario_Sea-Level-Rise-and-Precipitation.pdf
[25] http://www.seascapemodeling.org/seascape_projects/2014/01/the-gulf-of-maine-is-warming-fast.html.
[26] Induced meiotic gynogenesis and sex differentiation in summer flounder (Paralichthys dentatus). 2008. Heidi R.Colburn, George C.Nardi, Russell J.Borski, David L.Berlinsky. Aquaculture
Volume 289, Issues 1–2, 3 April 2009, Pages 175-180
[27] Mills, KE, AJ Pershing, and CM Hernàndez. 2017. Forecasting the Seasonal Timing of Maine's Lobster Fishery. Front. Mar. Sci.
[28] Rasher, DB, TS Suskiewicz, RS Steneck, JEK Byrnes. 2019. Recovery, range contraction, and the fate of kelp forests in the Gulf of Maine. Gulf of Maine 2050 International Symposium.

Ocean and coastal acidification can lead to declines in shellfish like blue mussels, oysters, and clams[29]. These changes will in turn affect our coastal fisheries and community economies. The Maine Ocean and Coastal Acidification (MOCA) partnership, formed in March 2016 and of which MCP and DMR are members, seeks to implement recommendations of the Ocean Acidification Study Commission[30] and to coordinate the work of governmental agencies and private organizations and citizens who are studying and implementing means to reduce the impacts of or help adapt to ocean and coastal acidification. Through MOCA, partners in the state advance ocean acidification research, communication, and policy efforts. Over the next five years, MOCA and its partners aim to advance the understanding of the effect of ocean acidification on Maine's ecosystems and important local fisheries and advance policy and protection measures to mitigate the impact.

Stressor 3: Managing Competing Uses of Ocean Space:

Maine's largest commercial fishery is the lobster fishery, with 4800 license holders. The spatial footprint of the fishery is substantial, and as other fisheries have waned and lobster has become the dominant fishery in the coastal economy, customary approaches to sharing ocean space have shifted over time. Due to existing reporting requirements, which are limited, the state is limited in its available resources to characterize the scale and activity of this fishery, which dwarfs all other commercial fishing activity on the eastern seaboard. In 2017, Maine commercial harvesters took more than **twice the number of commercial fishing trips** than any other state on the east coast. That same year, Maine harvesters reported 447,523 trips while harvesters from Virginia, the next highest state, reported just 217,940.

Significant growth in the aquaculture industry has led to increased user conflicts in Maine state waters. While total area being used for aquaculture has not increased substantially, the number of small sites has, and this may be the basis for localized concerns about the rate of growth. Similarly, developing conversations around the future of offshore energy require methodologies to understand and evaluate impacts to existing uses. Finally, Maine has experienced increasing concern about coastal dredging projects and the transport of dredge materials to state waters and federal waters disposal sites. DMR's capacity to respond to community concerns and inform project permitting for all of these activities would benefit from additional planning and analytical tools that help assess impacts to existing uses based on objective data and information.

3. Are there emerging issues of concern, but which lack sufficient information to evaluate the level of the potential threat? If so, please list. Include additional lines if needed.

Emerging Issue	Information Needed
Ocean acidification	Monitoring and research, particularly on the impact on the state's two most economically important fisheries (lobster and mollusks)

[29] Effects of CO2-driven sediment acidification on infaunal marine bivalves: A synthesis. 2017. Author links open overlay panelJeff C.Clements, Heather L.Hunt. Marine Pollution Bulletin
Volume 117, Issues 1–2, 15 April 2017, Pages 6-16

[30] Report of the Commission to Study the Effects of Coastal and Ocean Acidification and its Existing and Potential Effects on Species that are Commercially Harvested and Grown Along the Maine Coast: https://digitalmaine.com/opla_docs/145/

Emerging Issue	Information Needed
Impacts of changing ocean conditions on fisheries, e.g., changes in predator/prey relationships, shell disease, new toxins	Research, monitoring, and modeling
Offshore wind energy development	Research, monitoring, and modeling, best practices for stakeholder engagement and siting to avoid use conflicts
Potential selection of a new dredged materials disposal site by the USACOA/EPA[31], and nearshore sand management in state submerged lands	Monitoring of pre- and post-disposal sands to determine sand transport patterns and nearshore beach nourishment potential, and improved intergovernmental coordination and stakeholder involvement.

In-Depth Management Characterization:

Purpose: To determine the effectiveness of management efforts to address identified problems related to the ocean and Great Lakes resources enhancement objective.

1. For each of the additional ocean and Great Lakes resources management categories below that were not already discussed as part of the Phase I assessment, indicate if the approach is employed by the state or territory and if significant state- or territory-level changes (positive or negative) have occurred since the last assessment.

Significant Changes in Management of Ocean and Great Lakes Resources

Management Category	Employed by State or Territory (Y or N)	CMP Provides Assistance to Locals that Employ (Y or N)	Significant Changes Since Last Assessment (Y or N)
Ocean and Great Lakes research, assessment, monitoring	Y	N	Y
Ocean and Great Lakes GIS mapping/database	Y	N	Y
Ocean and Great Lakes technical assistance, education, and outreach	Y	Y	N

2. For management categories with significant changes since the last assessment, briefly provide the information below. If this information is provided under another enhancement area or section of the document, please provide a reference to the other section rather than duplicate the information.
    a. Describe significant changes since the last assessment;
    b. Specify if they were 309 or other CZM-driven changes; and

[31] Including, but not limited to the Jackknife Ledge Disposal Area off Phippsburg, ME

c. Characterize the outcomes or likely future outcomes of the changes.

Ocean and Great Lakes research, assessment, monitoring

MCP, DMR and other partners continue to effectively monitor changes in the ocean and coastal environment. The Maine Coastal Mapping Initiative (MCMI), created by the Maine Coastal Program in 2012, is acquiring critical data about the seafloor and our oceanic environment, including bathymetry, sediment information, fauna type and abundance, and water column information. These data promote informed ocean planning and marine use by coastal managers and planners, private industry, fishermen, and researchers.

Ocean acidification continues to be ongoing challenge in the Gulf of Maine. The Maine Ocean and Coastal Acidification Partnership (MOCA) was created in 2016 to implement recommendations of the Ocean Acidification Study Commission (authorized by the 126th legislature) and to coordinate the work between governmental agencies, private organizations and citizens who are studying and implementing ways to reduce the impacts of ocean and coastal acidifications. With many agencies and researches studying ocean acidification, creating a forum to coordinate work, encourage collaboration and to communicate effectively between citizens, elected officials and researches, is crucial to combatting the issues of ocean acidification.

To further these connections and collaborations, The Gulf of Maine 2050 International Symposium which occurred in Portland, ME in November of 2019, brought together scientists from multiple disciplines, municipal planners, NGO's, business owners, community leaders and natural resource managers to examine the future of The Gulf of Maine in the face of rising seas and a changing climate. Plenary speakers delved into issues on acidification, coastal resilience and warming waters. These topics drove discussions during breakout sessions which fostered the development of shared visions and encouraged collaborations.

To provide a centralized source of information relevant to designing and implementing climate adaption measures, The Maine Climate Change Adaption Toolkit was developed through interagency coordination. The toolkit, created in 2015, provides information on regulations and opportunities to connect with state agencies and practitioners for technical advice and expertise.

These changes were partially CZM Section 309-driven.

Ocean GIS Mapping/Database

From 2015-2020, MCP has actively expanded marine mapping and habitat characterization in Maine in collaboration with our partners including MGS, BOEM, the Submerged Lands Program, and the University of Maine. During that time, between the efforts of MCP and NOAA, there is high-resolution bathymetry data from Kittery to portions of Penobscot Bay, with a gap in outer Casco Bay that MCP is currently working to fill. We have also taken sediment and benthic fauna data to classify habitat within the Coastal and Marine Ecological Classification System (CMECS). Products of this work have included seamless high-resolution bathymetry, backscatter, sediment, and benthic habitat maps that have been used for federal sand and gravel source identification offshore of midcoast Maine and volumetric estimates, nearshore sand transport models to inform beach nourishment management, identification of the current use of leased cable areas under the authority of the Submerged Lands Program, and may in the future be used for identification of offshore energy siting.

Working with regional and federal partners in addition to the Maine Geolibrary Board and Maine Office of GIS, we have advocated for the collection of not only high-resolution bathymetric data products, but also intertidal and nearshore LiDAR data. MCP is currently working with regional and federal partners to combine data for the Gulf of Maine into a seamless multi-resolution bathymetry product that will be used to create a geoform (the physical form of the marine environment) map for the entire Gulf of Maine spanning the coast out to federal waters.

These changes were partially CZM Section 309-driven.

3. Identify and describe the conclusions of any studies that have been done that illustrate the effectiveness of the state's or territory's management efforts in planning for the use of ocean and Great Lakes resources since the last assessment. If none, is there any information that you are lacking to assess the effectiveness of the state's or territory's management efforts?

No specific studies have been done to assess the management and planning efforts with regards to the projects undertaken during the previous Section 309 strategy period. For the habitat characterization and mapping work, the primary reason for this lack of performance data is that there have not yet been developments that have required application of these informational tools to support decision making. For the climate adaptation, research and monitoring efforts, results of this work are now being used to inform the work of Maine's Climate Council, established by Governor Mills in 2019. An initial set of recommendations is expected from that body's work in 2020.

For fisheries management plans, work is ongoing to develop a new approach to lobster research that will better inform management decisions in changing environmental conditions. In 2018, the Department of Marine Resources created the Lobster Research Collaborative (LRC). The LRC was formed through a request for proposals which sought research initiatives that take a collaborative approach toward improved science for the lobster fishery. Six awards were given to research programs that will contribute to an increased understanding of lobster habitat, monitoring and impacts of management actions on the fishery. The LRC is supported by a $500,000 investment from the Lobster Research, Education, and Development Fund. The LRC holds quarterly meetings to share project updates, discuss advances in relevant research and consider issues of the day. Each meeting is attended by researchers, students, policy makers and industry members. The LRC was funded as a two-year effort, but it is anticipated that the collaborations created will continue beyond the duration of the LRC.

Identification of Priorities:

1. Considering changes in threats to ocean and Great Lakes resources and management since the last assessment and stakeholder input, identify and briefly describe the top one to three management priorities where there is the greatest opportunity for the CMP to improve its ability to effectively plan for the use of ocean and Great Lakes resources. *(Approximately 1-3 sentences per management priority.)*

   Management Priority 1: Increased Monitoring of Ocean Acidification and Oceanographic Conditions

   Description: MCP and its partners will continue to work with existing (and identify new) partners to increase the State's capacity to monitor changes in the marine environment and assess how those changes might affect Maine's economy and existing ocean uses.

Management Priority 2: Spatial Management Tools and Strategies in Shared Waters

Description: DMR will work with MCP and other relevant state and regional partners to improve our spatial management tools and inform future development and siting of facilities in shared ocean space. Appropriate information to site aquaculture and offshore energy facilities and to inform fisheries management and dredging projects requires strategic engagement with industry partners and stakeholders and improved spatial characterization of commercial activity in ocean space. Additionally, DMR has had some success incorporating spatial management approaches into state water fisheries (e.g. research projects to understand small scale fishing patterns in the urchin fishery) and will be working toward an assessment of their effectiveness and any necessary modifications.

Management Priority 3: Continued Participation in State and Regional Management Efforts

Description: MCP will continue to work with the DMR, MGS, and other relevant state partners to address cross-boundary issues that impact the Gulf of Maine, the Northeast region and its user communities, including the Northeast Regional Ocean Council and its Ocean Planning Committee, the Gulf of Maine Council on the Marine Environment, and the Bureau of Ocean Energy Management Task Force process.

2. Identify and briefly explain priority needs and information gaps the CMP has to help it address the management priorities identified above. The needs and gaps identified here do not need to be limited to those items that will be addressed through a Section 309 strategy but should include any items that will be part of a strategy.

Priority Needs	**Need?** (Y or N)	**Brief Explanation of Need/Gap**
Research	Yes	Work is needed to unify, standardize, and expand Maine's nearshore monitoring efforts. Better information is needed about impacts of changing ocean conditions on marine resources, particularly species that are of significant economic importance to coastal communities (e.g., lobster, soft-shell clams, scallops, and shrimp).
Mapping/GIS	Yes	Although work during the past five years has greatly improved the availability of high-quality marine seafloor information, bathymetry and habitat information are still lacking for over half of state and federal marine waters. Numerous value-added products can be developed with these data. Specifically, collection of high-resolution bathymetry, backscatter, and spatial marine habitat data will provide the basis for interpreting spatial habitat availability and will be used in marine policy and management.
Data and information management	Yes	Partners in Maine are interested in developing standardized marine habitat definitions at mappable units to provides a geospatial framework to better understand how environmental change will affect coastal Maine ecosystems in the next century. This work has implications for determining

		how food webs and species complexes will adapt or become compromised during the next century.
Training/Capacity building	No	
Decision-support tools	Yes	MCP is currently developing a habitat and topographical data set that will serve as a baseline for certain geographies in Maine's coastal waters. Much additional work and consultation is needed with partners and federal agencies to finalize development and products. Additionally, work in the state to manage competing uses of the marine environment will rely on these tools and underlying data.
Communication and outreach	Yes	DMR and partner agencies continue regular outreach to industry and stakeholders as a key tool for endorsement and investment in management measures. Other tools include up-to-date websites and newsletters to keep various stakeholders informed about marine policy development and other policy initiatives.

Enhancement Area Strategy Development:

1. Will the CMP develop one or more strategies for this enhancement area?

   Yes **X**
   No _____

2. Briefly explain why a strategy will or will not be developed for this enhancement area.

Based on Maine's Phase I and Phase II Assessments, state and local priorities and efforts, and a regional identification of need, MCP will develop a strategy for the Ocean and Great Lakes Resources Section 309 Enhancement Area. MCP will work within the DMR and closely with other partners and stakeholders to ensure that all relevant needs are addressed and that communication among partner agencies is consistent and constant.

Wetlands

In-Depth Resource Characterization:
Purpose: To determine key problems and opportunities to improve the CMP's ability to protect, restore, and enhance wetlands.

1. What are the three most significant existing or emerging physical stressors or threats to wetlands within your coastal zone? Indicate the geographic scope of the stressor, i.e., is it prevalent throughout your coastal zone, or are there specific areas that are most threatened? Stressors can be development/fill; hydrological alteration/channelization; erosion; pollution; invasive species; freshwater input; sea level rise/Great Lakes level change; or other (please specify). When selecting significant stressors, also consider how climate change may exacerbate each stressor.

	Stressor/Threat	**Geographic Scope** (throughout coastal zone or specific areas most threatened)
Stressor 1	Development & Land Use Change in Wetlands and Wetland Buffers that impact tidal flow and marsh migration corridors	Coastwide, though greater impacts occur within Southern and Midcoast Maine, where there is more development.
Stressor 2	Sea Level Rise	Coastwide
Stressor 3	Changes in freshwater input and groundwater flows due to historical hydrological alteration & channelization and recent development	Coastwide, though greater impacts occur within Southern and Midcoast Maine, where there is more development.

2. Briefly explain why these are currently the most significant stressors or threats to wetlands within your coastal zone. Cite stakeholder input and/or existing reports or studies to support this assessment.

Stressor 1: Development & Land Use Change in Wetlands and Wetland Buffers that impact tidal flow and marsh migration corridors
The cumulative and secondary effects of coastal development, both to wetlands and the landscapes that support wetlands, can have significant impacts. Stressors in this category include road crossings and culverts that reduce tidal flow, sedimentation, marsh accretion, and Blue Carbon potential, development in low-lying areas surrounding marshes that limits potential marsh migration areas, and changes in land cover or land use type, habitat quality (size, connectivity) alteration in the surrounding watershed that impact habitat quality and marsh species behavior. This is a broad and significant stressor, as it ultimately lends to the incremental decline in wetland health and function. For example, these effects can lead to erosion and sedimentation into waterways, loss of wildlife habitat, increased invasive species infestations, decreased flood control capacity, poor water

quality, and loss of corridors and refugia that are needed to support species and habitat adaptation and resiliency to the impacts of climate change. Maine's 2015 State Wildlife Action Plan identifies housing/urban areas and commercial/industrial areas as moderate and severe stressors, respectively, for tidal marshes.

Stressor 2: Sea Level Rise

Tidal marshes and mudflats are some of the most vulnerable habitats to sea level rise in Maine. As the rate of sea level slowly increases over long periods of time, coastal marshes accumulate sediment and build up the marsh platform at a rate that matches that of sea level rise. During the last 5,000 years, sea levels in Maine have risen slowly and consistently. This has given tidal marshes, coastal dunes, and beaches enough time to accumulate sediment and organic material to keep up with sea level rise. Tide gauges in Portland have recorded a roughly 2mm rate of sea level rise per year since 1930, which is a much faster rate than any rate in the last 5,000 years[32]. If the rate of sea level rise exceeds the rate of sediment and material buildup on the marsh, plants of the low-lying parts of the marsh will drown and saltwater will intrude into areas that previously had mostly freshwater conditions. Under this scenario as sea level rises, the upper boundary of the marsh will shift inland and the lowest of the low marsh will become inundated and shift to subtidal, where marsh cannot grow. Potential impediments to marsh migration include unsuitable land cover types, development, soils, sediment accretion rates, and local topography. A recent study by the Maine Natural Areas Program and Maine Geological Survey[33] found that under a 3.3' sea level rise scenario only half of the area needed to accommodate marsh migration is currently wetland (the remainder is upland) and only 46% of the area needed to accommodate marsh migration is currently available. In other words, given current conditions and data Maine stands to lose up to 54% of its marsh area under a 3.3' sea level rise. The loss of tidal marsh acreage is concerning because it provides a range of important functions, services, and goods despite its meager representation in the coastal landscape. The potential impacts of sea level rise include habitat shifting and loss, altered hydrology, increased erosion, infrastructure impacts, flooding, and saltwater intrusion.

Stressor 3: Changes in freshwater input and groundwater flows due to historical hydrological alteration & channelization and recent development

Stressors under this category include wetland alterations that are unregulated and historical, such as fill, ditching, and current regulated alterations to wetland buffers such as increased impervious surface (and accompanying runoff). Tidal marshes in New England have been ditched, diked, and drained for agricultural, commercial, or residential use. Although dikes have been breached and ditches repurposed over the last century, the legacy effects of these structures can still affect water movement patterns, natural community distribution, and relative elevations within the marsh system.[34] Ongoing development around and within marshes, though regulated, can have significant impacts on freshwater input and groundwater flow. Both legacy and current effects can lead to die-off of salt tolerant plants that sequester carbon and build the marsh platform, and see these areas

[32] Kelley, J. T., Belknap, D. F., Jacobson, G. L., and Jacobson, H. A., 1988, The morphology and origin of salt marshes along the glaciated coastline of Maine, USA: Journal of Coastal Research, Vol. 4, no. 4, p. 649-665.

[33] Cameron, D. and P.A. Slovinsky. 2014. Potential for Tidal Marsh Migration in Maine. NOAA Project of Special Merit. Maine Natural Areas Program and Maine Geological Survey, Maine Department of Agriculture, Conservation and Forestry.

[34] Adamowicz, SC and G. Wilson. 2018. "Farmers in the Marsh." Oral presentation at New England Estuarine Research Society, Spring Meeting, Portsmouth, NH.

dominated by freshwater plants and invasive species (e.g. *Phragmites*), pools on the marsh surface, and overtime subsidence leading to increased methane and other greenhouse gas release.[35]

3. Are there emerging issues of concern but which lack sufficient information to evaluate the level of the potential threat? If so, please list. Include additional lines if needed.

Emerging Issue	Information Needed
Impact and extent of tidal flow restrictions	On-the-ground data collection characterizing tidal restrictions and rapid assessments of marsh ecosystem impacts
Sea level rise and marsh migration	Sediment accretion rates; sea level rise rate
Invasives	Forecasting, identifying, tracking, and responding to new invasive species
Anticipated changes in biodiversity in the coastal zone	Natural communities mapping for coastal area
Use of wetlands as "green infrastructure" for stormwater management	Reliability of this technique in cold climates; design guidelines to insure biological integrity of receiving wetlands.
Blue Carbon	Coastwide inventory of coastal blue carbon resources: quantify mitigation of existing tidal marshes and potential increase in emission mitigation based on tidal restoration opportunities; additionally, quantify potential at seagrass and seaweed beds; understand the impact of strategic aquaculture management.

In-Depth Management Characterization:

Purpose: To determine the effectiveness of management efforts to address identified problems related to the wetlands enhancement objective.

1. For each additional wetland management category below that was not already discussed as part of the Phase I assessment, indicate if the approach is employed by the state or territory and if significant state- or territory-level changes (positive or negative) have occurred since the last assessment.

[35] Johnson B.J., Lovelock C.E., Herr D. (2016) Climate Regulation: Salt Marshes and Blue Carbon. In: Finlayson C. et al. (eds) The Wetland Book. Springer, Dordrecht

Significant Changes in Wetland Management

Management Category	**Employed By State or Territory** (Y or N)	**CMP Provides Assistance to Locals that Employ** (Y or N)	**Significant Changes Since Last Assessment** (Y or N)
Wetland assessment methodologies	Y	N	Y
Wetland mapping and GIS	Y	N/Y*	Y
Watershed or special area management plans addressing wetlands	Y	Y**	Y
Wetland technical assistance, education, and outreach	Y	Y	Y

* Note that Maine Natural Areas Program (MNAP) provides assistance to locals in the areas of wetland assessment methodologies; wetland mapping and GIS; and wetland technical assistance, education, and outreach. MNAP is not a networked MCP partner.

** Maine DEP provides assistance with watershed management plans and is a networked MCP partner.

2. For management categories with significant changes since the last assessment, briefly provide the information below. If this information is provided under another enhancement area or section of the document, please provide a reference to the other section rather than duplicate the information.
    a. Describe significant changes since the last assessment;
    b. Specify if they were 309 or other CZM-driven changes; and
    c. Characterize the outcomes or likely future outcomes of the changes.

Wetland Assessment Methodologies

During 2017-2018, MCP and our partners established sentinel monitoring sites at eleven marshes spanning the coastline to document changes in salt marshes over time through monitoring elevation using Rod Surface Elevation Tables (RSETs), tidal inundation and duration, and vegetation change at eleven marshes spanning the coastline. Precise measures of sediment elevation, water/tide levels, and vegetation communities are necessary to determine rates of elevation change, particularly relative to sea level rise, and to gain an understanding of the processes and rates of change in marsh elevation and ecosystem composition. Maine Coastal Program worked with many partners to select these study locations, install the long-term monitoring equipment, and perform the first salt marsh elevation readings in 2018. Over the coming years, we will gather data from the RSETs to determine changes in marsh elevation. Additionally, we will collect information at each site about plant communities, sedimentation rates, water depth, and other environmental factors. The Maine Geological Survey and Maine Natural Area Program have developed coastal inundation models due to sea level rise and storm surges, and have created simulations of potential marsh migration under several different sea level rise scenarios. Marsh migration datasets, however, are not constrained by actual sedimentation rate measurements. Aside from short-term studies at localized areas, there has been no consistent, large scale monitoring of sedimentation rates in Maine's marsh systems. Development of this state-wide dataset through this project will have far reaching implications for marsh management from the local,

regional, and state-wide levels. By combining the results of the coastal inundation and marsh migration models with those of tidal marsh elevation dynamics gathered from these sentinel sites, we will develop a stronger understanding of the factors that threaten our coastal environments and communities and which areas are most vulnerable.
This management change was CZM-driven; 309 and NOAA Coastal Management Fellow.

The Maine Natural Areas Program (MNAP) employed a new wetland assessment methodology for Maine, the Ecological Integrity Assessment (EIA), which is based on a national methodology developed by NatureServe, but adapted specifically to Maine. MNAP is currently evaluating the use of this new assessment in wetlands across a spectrum of condition and type. Potential applications for this methodology include monitoring of restoration sites, long term monitoring of reserve areas, and more objective metrics for scoring and comparing wetland natural communities.
This management change was not CZM-driven.

Wetland Mapping and GIS
Roads, dams, and other structures crossing through estuaries often restrict tidal flow. Sufficiently restrictive conditions can alter and impair the physical, chemical, and biological conditions necessary for these systems to persist and thrive. Knowing the locations and condition of tidal restrictions provides an opportunity to reverse or alleviate these impacts and is a key element in efforts to apply the most effective allocation of restoration resources to affected sites. In 2014, MCP began exploring the feasibility of providing a tidal restriction atlas that would reflect current conditions, sea level rise considerations, and knowledge gained since RTT was initiated over 20 years ago. In 2018-2020, MCP with the support of a NOAA Coastal Management Fellow has developed such an atlas that will be a resource for communities, restoration practitioners, land trusts, and others to identify priority crossings for replacement and to assess the potential for wetland restoration. MCP used several sources of existing data to provide the locations of road crossings and dams in Maine or to assess the impact of known tidal restrictions. These included Conservation Law Foundation's (CLF) Return the Tides (RTT) project; the statewide crossing database maintained by the United States Fish and Wildlife Service's (USFWS) Gulf of Maine Coastal Program; and regional projects commissioned or executed by Maine Department of Transportation, Maine Coastal Program, Casco Bay Estuary Partnership, and several unreported efforts. The resulting Tidal Resilience Atlas is a free online map viewer that provides information on over 1,000 tidal crossings including salt marsh acreage impact, restriction of tidal flow, potential dam effects of crossings, marsh migration and sea level rise scenarios, ecological and aquatic organism passage information, and impacts of the restrictions.
This management change was CZM-driven; 309 and NOAA Coastal Management Fellow.

With the expanded availability of LiDAR imagery for the entire coastline over the past 5 years, the Maine Geological Survey was able to create new projection maps for sea level rise that were based on LiDAR's high-resolution topographic information.
This outcome was MCP-driven; 309.

Watershed or special area management plans addressing wetlands
In 2009, conversations on vernal pool regulations and the perceived impacts on development began in the Legislature. The Vernal Pool Streamlining Working Group was created and included representatives from the research, regulatory, development and non-profit communities and was co-led by the Maine

Coastal Program. The Maine Vernal Pool Special Area Management Plan (VP SAMP)[36], developed in 2016 as a result of the working group had the primary purpose to increase the mitigation options available for vernal pool protection using an approach that balances aquatic resource protection and economic development. This project was as a collaborative, conservation-based mitigation option that acknowledges the biological and ecological functions of vernal pools surrounded by development will be less likely to persist, recognizes the importance of local involvement in the long-term protection of vernal pools, understands that natural resources in rural areas are still under the threat of degradation from low-density sprawl, and respects that the economics of development is very location specific. The coastal town of Topsham is implementing the Vernal Pool SAMP, which allows more development in a highly developed area designated for commercial development in the town, whereby, additional disturbance is allowed and permanent protections are offered to functioning, intact pools elsewhere in Topsham.
MCP Section 309-driven

Wetland technical assistance, education, and outreach
From 2018-2020, MCP and partners have led the development of the CoastWise Approach for tidal road crossing design. CoastWise will deliver a set of voluntary best practices for crossing design with an emphasis on safety, road crossing climate-resilience, cost-effectiveness, low-maintenance structures, and proven methods for supporting tidal ecosystem quality. The CoastWise Approach includes various tools and outreach opportunities for road owners, restoration practitioners, and engineers to use when considering, designing, and constructing tidal road crossings. These include project checklists, methods supporting checklist steps, and outreach and training modules to explain how tidal, and specifically salt marsh, road crossings are complex issues that require consideration of not just the road crossing but also the surrounding environment, both built and natural.
This management change was CZM-driven; 309 and NOAA Coastal Management Fellow.

3. Identify and describe the conclusions of any studies that have been done that illustrate the effectiveness of the state's or territory's management efforts in protecting, restoring, and enhancing coastal wetlands since the last assessment. If none, is there any information that you are lacking to assess the effectiveness of the state's or territory's management efforts?

The below descriptions represent studies that relate to coastal wetlands management. However, Maine lacks a comprehensive report of the effectiveness of wetlands management in Maine.

Bartow-Gillies, E., S. Moore, and C. Enterline. 2020. Mapping Tidal Restrictions in Maine: Identifying, analyzing, and assessing tidal restrictions including culverts, bridges, and dams, to jumpstart efforts of community resiliency and habitat restoration throughout Maine. Maine Coastal Program Report.

From 2018-2020, MCP through the support of a NOAA Coastal Management Fellow performed a coast-wide assessment of tidal crossings and their restriction potential based on a compilation of past data sources and a rigorous desktop GIS assessment. This assessment catalogued and mapped over 900 current tidal restrictions and an additional ~250 potential future tidal crossings based on sea level rise scenarios. A report detailing these methods and findings will be completed in the fall of 2020.

[36] This Special Area Management Plan is not a SAMP as outlined in the Coastal Zone Management Act, but rather is a US Army Corps of Engineers designation

Maine Natural Resource Conservation Program, Annual Reports. U.S. Army Corps of Engineers, Public Notice.

Annually, The Nature Conservancy releases a report on the outcomes of the most recent round of Maine Natural Resource Conservation Program (MNRCP) projects. These detail in-lieu fee payments received by region, impacts to specific habitat types by region (and aggregated), and funds awarded. The report provides an update of past rounds of funded projects, but at this point does not comprehensively examine the success of the program.

Maine Wetland Program Plan 2017-2022

The Maine Wetland Program Plan was prepared by the Maine Wetland Interagency Team, led by Maine DEP. It provides a framework and direction for wetlands management in Maine, organized around four core elements: monitoring and assessment, regulatory activities, voluntary restoration and protection, and water quality standards for wetlands. The plan documents planned activities over the six-year period, responsible agencies, and potential partners. While the plan includes a diverse group of people and clearly links to wetlands goals, it does not comprehensively assess the effectiveness of programs.
https://www.epa.gov/sites/production/files/2017-07/documents/2017_01_27_mwpp_2017-2022_final.pdf

Craig, M. 2019. Long Reach Lane at Long Marsh, Harpswell, 2018 Post-Project Monitoring Report; Year 5 of 5. Casco Bay Estuary Partnership.

In 2012, the Maine Department of Transportation (MaineDOT) proposed a mitigation project at Long Reach Lane in Harpswell to compensate for the functional impacts to marine wetlands associated with the construction of the Martin's Point Bridge between Falmouth and Portland. The mitigation project was implemented in January and February 2014, and resulted in the successful replacement of a 36-inch (7.1 ft^2 flow area) round concrete pipe beneath Long Reach Lane with a larger 6-ft x 12-ft concrete box culvert (72 ft^2 flow area) in February 2014. This report primarily presents the results of pre-project monitoring, which occurred during the 2013 growing season, and Year 5 of post-project monitoring, which occurred during the 2018 growing season, at the Long Marsh mitigation site.
https://www.cascobayestuary.org/publication/long-reach-lane-at-long-marsh-harpswell-2018-post-project-monitoring-report-year-5-of-5/

Craig, M. 2017. Wallace Shore Road in Harpswell, Tidal Restriction Restoration 2017 Monitoring Report, Year 3 of 5, Post-Project. Casco Bay Estuary Partnership.

The primary objective of this project was to reestablish natural hydrology, and specifically, to restore natural tidal variability into the Appletree Marsh adjacent to Wallace Shore Road in Harpswell, ME. Two existing culverts were replaced according to amended designs provided with permit applications: A 3.3-ft box culvert was replaced with a 15-ft open bottom span concrete box culvert, and an 18-inch HDPE culvert was replaced with a 5-ft pre-cast concrete culvert. At the 15-ft open bottom box, remnant slugs of fill from the original crossing structure were dredged from the channel immediately adjacent to the crossing in order to promote the free exchange of water into and out of the marsh. A monitoring plan was incorporated into the Wallace Shore Road Restoration Work Plan. Casco bay Estuary Partnership is conducting pre- and post- project monitoring in the wetland adjacent to the project area.

Johnson, B., C. Bohlen, C. Gunn, E. Beirne, C. Barry, M. Craig, and P. Dostie. 2016. Ecogeomorphology of Two Salt Marshes in Midcoast Maine. Casco Bay Estuary Partnership.

This paper summarizes the geomorphological processes that created and sustain salt marshes in Maine and provides a broad overview of the vegetation zonation in marshes and the ecosystem services they provide. The paper details the human impacts to marshes in Maine, and uses as a case example the Long Marsh tidal crossing restoration project to detail the change in methane emissions that can be realized with re-establishing tidal flow at impaired systems through presenting methane data collected at the site pre- and post-restoration.

Identification of Priorities:

1. Considering changes in wetlands and wetland management since the last assessment and stakeholder input, identify and briefly describe the top one to three management priorities where there is the greatest opportunity for the CMP to improve its ability to more effectively respond to significant wetlands stressors. *(Approximately 1-3 sentences per management priority.)*

   Management Priority 1: Implement the CoastWise Approach through Trainings and Municipal Support Materials
   Description: MCP and its partners will continue to work with existing (and identify new) partners to roll out the CoastWise Approach for tidal crossing restoration to create and deliver material geared toward engaging municipalities and hands-on trainings with municipal road managers and/or contractors and professionals that frequently work with municipal clients.

   Management Priority 2: Marsh Health Assessment
   Description: MCP and its partners will adopt methods to gather on-the-ground information about the degree to which tidal restrictions are impairing marsh ecosystem health and aquatic passage, including information specific to tidal crossings as well as marsh health.

   Management Priority 3: Modeling and Monitoring to Inform and Document Changing Marsh Conditions and Potential for Marsh Migration
   Description: MCP and its partners will increase the State's capacity to monitor changes in tidal marshes through mapping and field data collection and assess how those changes might affect Maine's marshes ability to keep pace with sea level rise. In addition to understanding the passive impacts of sea level rise, this will include work to determine the current amount of marsh acreage impaired and possibly emitting greenhouse gases because of impaired tidal flow and marsh subsidence, and the potential Blue Carbon potential (greenhouse gas reduction) of restoring tidal flow at these sites. These objectives will build upon and continue MCP's sentinel site work and Tidal Restriction Atlas.

2. Identify and briefly explain priority needs and information gaps the CMP has to help it address the management priorities identified above. The needs and gaps identified here do not need to be limited to those items that will be addressed through a Section 309 strategy but should include any items that will be part of a strategy.

Priority Needs	**Need?** (Y or N)	Brief Explanation of Need/Gap
Research	Y	Sediment accretion rates associated with sea level rise. Plant and habitat shifts related to climate change. Development and field validation of methods for coast-wide assessment of

		impacts to tidal wetlands and feasibility of restoration. See Blue Carbon Optimization in #3 of section above
Mapping/GIS	Y	Expanded LiDAR. Documentation of impacts to wetlands less than 4300 sq. ft.; access to georeferenced data on permitted wetland impacts. New marsh migration scenarios.
Data and information management	Y	Field data collection at tidal restriction to inform wetland restoration projects, tracking of restoration projects and pre- and post-monitoring results.
Training/capacity building	Y	Implement the CoastWise Approach through trainings and municipal support materials.
Decision-support tools	Y	Maintenance and future update to Tidal Resilience Viewer to include field data collection information.
Communication and outreach	Y	Increasing technical assistance to municipal officials and landowners using the CoastWise Approach.

Enhancement Area Strategy Development:

1. Will the CMP develop one or more strategies for this enhancement area?
   Yes __X___
   No _____

2. Briefly explain why a strategy will or will not be developed for this enhancement area.

Wetlands are an integral part of the coastal environment, providing critical ecological function that benefits both natural and human communities. In Maine, wetlands are increasingly threatened both by coastal development and human alteration of the natural environment, as well as by sea level rise and erosion. Maine Coastal Program's management tools are appropriate for this area. MCP has worked effectively on wetlands issues in the past and will develop strategies for future enhancement of its work on wetlands. Lastly, the Maine Climate Council's Coastal and Marine Workgroup is advancing several strategies for consideration by the Council including: a blue carbon optimization strategy and a strategy to enhance protection, conservation and restoration of coastal habitats such that they continue to deliver ecosystem service like flood control.

Strategies

Note that the Strategies included in this section follow a format required by NOAA

Coastal Hazards Strategies

Coastal Hazards Strategy 1: Develop Statewide Policy, Plans, and Regulatory Framework on Sea Level Rise to the Year 2120

I. Issue Area(s)

The proposed strategy or implementation activities will support the following high-priority enhancement areas *(check all that apply)*:

- ☐ Aquaculture
- ☐ Energy and Government Facility Siting
- ☒ Coastal Hazards
- ☐ Ocean/Great Lakes Resources
- ☐ Special Area Management Planning
- ☐ Cumulative and Secondary Impacts
- ☐ Wetlands
- ☐ Marine Debris
- ☐ Public Access

II. Strategy Description

A. The proposed strategy will lead to, or implement, the following types of program changes *(check all that apply):*

- ☐ A change to coastal zone boundaries;
- ☒ New or revised authorities, including statutes, regulations, enforceable policies, administrative decisions, executive orders, and memoranda of agreement/understanding;
- ☒ New or revised local coastal programs and implementing ordinances;
- ☒ New or revised coastal land acquisition, management, and restoration programs;
- ☐ New or revised special area management plans (SAMP) or plans for areas of particular concern (APC) including enforceable policies and other necessary implementation mechanisms or criteria and procedures for designating and managing APCs; and,
- ☒ New or revised guidelines, procedures, and policy documents which are formally adopted by a state or territory and provide specific interpretations of enforceable CZM program policies to applicants, local government, and other agencies that will result in meaningful improvements in coastal resource management.

B. ***Strategy Goal:***

In 2019 the Maine Legislature, at the initiation of Governor Janet Mills, created the Maine Climate Council (MCC) and identified sea level rise and coastal storm damage as topics to examine in a new Climate Action Plan. By December 2020, the Council will have the beginnings of a policy framework for implementation. This Section 309 strategy will support a comprehensive coastal hazard plan for 5,400 miles of Maine coast, respond to the Council's efforts, do technical outreach, and provide public information. This strategy will work with the Council to take broad policies from the plan and develop them into more specific, actionable steps to address coastal hazards.

This effort provides the scientific foundation in support of both new policy and statewide hazard mitigation both temporally and spatially. In tandem with Coastal Hazards Strategy 2, this work will provide decadal assessments of sea level projections and probabilities from 2020 through 2120, guide the policy framework to focus on geographic areas of impact, and provide physical science for use by several MCC Work Groups. The MCC is now working only with projections to 2100, 80 years away.

This strategy will apply the most recent climate assessments related to coastal hazards to the next update to the Climate Action Plan expected to be in production by 2023. The Maine Geological Survey (MGS) will update the Sea Level Rise/Storm Surge Viewer with scenarios consistent with the next National Climate Assessment (NCA), a new NOAA National Tidal Datum Epoch (NTDE), and surge statistics from tide gauge data. Several specific tasks expected from Coastal Hazards Strategy 3 will complement this overall strategy. These efforts will provide a current scientific framework for regulatory development, rulemaking, and prioritizing actions to reduce coastal hazards, preserve coastal ecosystems, and manage commercial waterfronts.

The Council's Community Resilience Workgroup and its Coastal and Marine Workgroup identified a need for a coastal hazard overlay zone. A common geographic hazard area along the coast will be valuable for uniformity between state and municipal laws and regulations. Within a coastal hazard overlay zone, policies on sea level rise and coastal hazards can be applied evenly and consistently at both the state and municipal level. This Strategy will investigate a tiered approach within an overlay zone that combines risk from storm flooding and higher ocean levels. Geographic data from Coastal Hazards Strategy 3 and standards from Strategy 2 will help inform development of sea level rise policy on ecosystems, development, commercial activity, and public access, and economics within an overlay zone.

In addition, this strategy will include plans, as needed, in order to develop capacity at regional and local levels for implementing changes made on sea level rise policy in Maine.

III. Needs and Gaps Addressed

- The largest need is how to implement projections of sea level rise into policy, plans, and regulations. There is currently no consensus on what approach should be adopted.
- Projections of rising seas are based on greenhouse gas emissions and vary over ten feet or more by 2100. A policy framework based on probabilities and risk tolerance needs to be decided.
- Coastal flooding from potentially larger storm surges needs to be assessed and combined with sea level rise projections to identify future floodplains. Policy is needed for development within and managed retreat from future flood hazard areas. This information is not available from the retrospective FEMA Flood Insurance Rate Maps.
- Coastal change projections from erosion and accretion driven by higher sea levels and storm surges are needed to establish erosion hazard areas and possible development setbacks. Coastal processes, rates of sediment delivery to the intertidal zone, and land loss all factor into new approaches and regulations that consider living shorelines, hybrid engineering, and traditional hard structures. Projecting shoreline change is scientifically challenging without a major funding initiative. Work described in Coastal Hazards Strategies 2 and 3 is an affordable approach without a research team and an additional grant.
- Sea level projections will need to be revised for a new National Tidal Datum Epoch expected from NOAA in 2022-2023. This epoch provides the Highest Astronomical Tide (HAT) level upon which all Maine sea level rise projections are based. Recalculation of sea level rise will also update the curves and be able to provide projections to 2120, rather than from 2000 to 2100 available now.
- Status and trends in monthly and annual sea levels at tide gauges in Maine need regular updating. Recent analysis by MGS has compiled statistics that show tides are historically high in the last decade. The highest three years in over the last 100 in Portland were in 2010, 2011, and 2019 with almost all the records set in the last decade. Careful tracking of tide levels which

affect the frequency of nuisance flooding is critical to managing current flood hazards. These statistics have attracted the greatest attention of policymakers and are likely to influence legislation and regulation.

- The MCC will create a revised Climate Action Plan toward the end of this 5-year period.

IV. Benefits to Coastal Management

The primary benefit for coastal management is to expand awareness, preparation, mitigation, and anticipation of sea level rise for the entire Maine coast. Currently, only 3,600 acres within the Coastal Sand Dune System have regulations that deal with hazards from a 2-foot sea level rise. MGS estimates that a 1.6-foot sea level rise, projected for the year 2050 (from a 2000 level), and just 30 years from now, is expected to reduce Maine's dry beach area by 40% and convert 85% of the developed dune system into tidal wetlands. The 2-foot sea level rise standard used for Maine beaches and dunes is out of date, should be increased in concurrence with the Climate Council's guidance, and as such the current regulation underestimates the coastal hazard for an area that generated expenditures of $1.7 billion in 2018, a quarter of Maine's tourism revenue.

MGS has estimated that for every foot of sea level rise 7,400 acres of uplands become coastal wetlands. When a 100-year storm surge is added to a sea level rise of 3.9 feet (a 50% probability by 2100 relative to the year 2000) then 63,000 acres in Maine are affected. There is incomplete awareness of this expanding hazard in communities and there are a limited number (to date) of proactive community plans that integrate mitigation, adaptation, or avoidance planning for this expansive area.

Consequences of projected sea-level rise include loss of intertidal areas subject to a "public easement" which, as currently construed by Maine's highest court, provides the public rights of "fishing, fowling, and navigation" for both commercial and recreational purposes. This public easement reflects Maine's interpretation of the Public Trust Doctrine. The impact of sea-level rise on these public property rights, and their relationship to private property owners' rights and interests in shoreland protection measures are issues that merit further consideration by policy makers as stewards of Public Trust rights.

Ongoing economic analysis of sea level rise costs and benefits is being completed for the Climate Council based on MGS and NOAA projections. Results from this study will help drive decisions for hazard mitigation at the local and state level. The cost of protection, adaptation, and strategic retreat can be used to drive policy and management decisions. Rising tides will turn the 1% annual frequency storm into a 10% storm with a 1.4-foot sea level rise. Repetitive infrastructure damage is likely to occur with greater frequency and economic cost. Management decisions need to be made with each post-storm recovery effort and with expenditures of disaster assistance funds within a state hazard framework that anticipates avoiding repetitive losses and prolonged economic disruption.

V. Likelihood of Success

The likelihood of success is very high given Governor Mills' priorities and the attention to this subject through the inclusive and statewide effort of the Climate Council. There is more momentum focused on sea level rise and storm damage now than any time in the past 25 years in Maine.

The MGS coastal hazard products produced in the last 5 years have great credibility and have leveraged dozens of municipal planning and adaptation actions at the local level. Through a series of web applications and databases for tracking tides, shoreline change, engineering sufficiency, and living shoreline suitability, MGS repeatedly released multiple data sets used in hazard assessments, risk identification, and spatial visualization of coastal hazards. This approach will be advanced further in Strategies 2 and 3 below. These sources of information, along with more frequent nuisance flooding, beach erosion, and commercial losses, have led to heightened awareness and interest in hazard mitigation that supports both trust in science and willingness to minimize future economic disruption and job losses.

VI. Strategy Work Plan

Strategy Goal: Sea Level Rise Policy for Maine
Total Years: 5

Year(s): FY2021-2023
Description of activities: Development of sea level rise policy for statewide implementation through the State Climate Action Plan and efforts of the Climate Council
Major Milestone(s): Selection of target sea level rise amounts over time for planning and regulatory use. Use of probability and statistics for both sea level rise projections and storm surge flooding levels in statewide analyses of hazards. Interagency and stakeholder outreach to scope and design a coastal hazard overlay zone. Boundaries of a hazard overlay zone are released. Municipalities adopt SLR projections in local hazard mitigation, resource protection, and land-use planning.

Year(s): FY2024-2025
Description of activities: MGS provides technical and policy support to state agencies and municipalities and regional planning organizations.
Major Milestone(s): Updated data sets (Strategies 2 & 3) are applied in policy and regulations statewide. Timely updates of sea level projections for Maine are released and applied geographically in the MGS inundation viewer and, as appropriate, to update regulations. There will be updated coastal hazard assessments in the next Climate Action Plan of the Climate Council.

VII. Fiscal and Technical Needs

A. Fiscal Needs:

Although intended to be performed in-house with NOAA and state resources, the cost of completing this strategy is likely beyond the limitations of Section 309 funding, particularly if assistance from consultants is needed.

B. Technical Needs:

This strategy will rely on support from NOAA and other federal agencies for updated geospatial data (digital elevation models, land cover), projections of sea level rise and probabilistic estimates beyond 2100. Continued support from NOAA CO-OPS for tidal data and from the National Buoy Data Center and National Weather Service will be critical.

Coastal Hazards Strategy 2: Revising, Creating, and Updating Coastal Hazard Statutory Language and Supporting Regulatory Mapping Products and Transferable Models

I. Issue Area(s)

The proposed strategy or implementation activities will support the following high-priority enhancement areas *(check all that apply)*:

- ☐ Aquaculture
- ☐ Energy and Government Facility Siting
- ☒ Coastal Hazards
- ☐ Ocean/Great Lakes Resources
- ☐ Special Area Management Planning
- ☐ Cumulative and Secondary Impacts
- ☐ Wetlands
- ☐ Marine Debris
- ☐ Public Access

II. Strategy Description

A. The proposed strategy will lead to, or implement, the following types of program changes *(check all that apply):*

☐ A change to coastal zone boundaries;

☒ New or revised authorities, including statutes, regulations, enforceable policies, administrative decisions, executive orders, and memoranda of agreement/understanding;

☒ New or revised local coastal programs and implementing ordinances;

☒ New or revised coastal land acquisition, management, and restoration programs;

☐ New or revised special area management plans (SAMP) or plans for areas of particular concern (APC) including enforceable policies and other necessary implementation mechanisms or criteria and procedures for designating and managing APCs; and,

☒ New or revised guidelines, procedures, and policy documents which are formally adopted by a state or territory and provide specific interpretations of enforceable CZM program policies to applicants, local government, and other agencies that will result in meaningful improvements in coastal resource management.

B. ***Strategy Goal:*** This strategy is to address identified deficiencies with existing Maine regulations and policy and to develop supporting mapping products. This strategy is broken into three different efforts, including:

- Develop and Implement Changes to the Coastal Sand Dune Rules (Chapter 355);
- Develop a definition of a Future Coastal Wetland; and
- Develop an updated procedure for mapping Maine's bluff coast and create a transferable Model Bluff Management District for Maine's Mandatory Municipal Shoreland Zoning

Develop and Implement Changes to the Coastal Sand Dune Rules (Chapter 355) and Coastal Wetlands (Chapter 310). In previous 309 efforts, MGS completed mapping of the coastal sand dune system for the rest of the Maine coastline, adding approximately 1,500 acres of new sand dunes. As part of this effort, MGS will collaborate with DEP and MCP to facilitate the inclusion of the full geographic extent of the beach and dune system protected under existing regulation. The goal of this strategy is multifaceted and incorporates several key efforts currently being discussed Climate Council: 1) update the definition and mapping of the Erosion Hazard Area (EHA) for the new maps, 2) develop best management practice standards for dune creation, restoration, and enhancement anticipating sea level rise, and 3) work with DEP in order to implement the new

maps and provide educational and technical assistance to DEP staff, regional planning organizations, and municipalities to help implement the changes.

The current Erosion Hazard Area is defined as:

> *Any portion of the coastal sand dune system that can reasonably be expected to become part of a coastal wetland in the next 100 years due to cumulative and collective changes in the shoreline from:*
>
> *(4) Historical long-term erosion;*
> *(5) Short-term erosion resulting from a 100-year storm; or*
> *(6) Flooding in a 100-year storm after a two-foot rise in sea level,*
>
> *or any portion of the coastal sand dune system that is mapped as an AO flood zone by the effective FEMA Flood Insurance Rate Map, which is presumed to be located in an Erosion Hazard Area unless the applicant demonstrates based upon site-specific information, as determined by the department, that a coastal wetland will not result from either (1), (2), or (3) occurring on an applicant's lot given the expectation that an AO-Zone, particularly if located immediately behind a frontal dune, is likely to become a V-Zone after 2 feet of sea level rise in 100 years.*

Maine's previously completed Coastal Sand Dune Geology Maps incorporated the mapped EHA. Newly mapped areas do not have a defined EHA, and in two of the southern coastal counties (Cumberland and York) with the most mapped sand dunes, preliminary FEMA Flood Insurance Rate Maps (FIRMs) have not been adopted. In addition, many of the areas of the Maine coastline where new FEMA FIRMs have been adopted, no longer are there AO-Zones, but Coastal A Zones. In addition, the Climate Council is releasing new recommendations on scenarios of sea level rise (likely to exceed the current 2-foot standard) that will need to be incorporated into the Coastal Sand Dune Rules. As a result, the definition of the Erosion Hazard Area, regulatory standards for shoreline change in 100 years, and site stability that restricts building size all need revision and mapping. In conjunction with Maine DEP, this effort will advance regulatory changes. A revised EHA definition will also complement the creation of a definition of a Future Coastal Wetland that considers sea level rise and its proximity to low-lying dunes.

Following significant changes to the Coastal Sand Dune Rules, technical assistance by MGS to DEP, regional planning organizations, and municipalities will be required in order create awareness and streamlined permitting.

Develop a New Definition of a Future Coastal Wetland and Complete Subsequent Mapping. Maine's Natural Resources Protection Act (Chapter 310, NRPA) currently defines a coastal wetland:

> "*… as all tidal and subtidal lands; all areas with vegetation present that is tolerant of salt water and occurs primarily in a salt water or estuarine habitat; and any swamp, marsh, bog, beach, flat or other contiguous lowland that is subject to tidal action during the highest tide level for the year in which an activity is proposed as identified in tide tables published by the National Ocean Service* (Title 38, §480-B)."

A statutory change is needed in the NRPA coastal wetland definition to adopt the upland boundary as the Highest Astronomical Tide (HAT) based on the current National Tidal Datum Epoch. The existing definition is burdensome because it requires adoption of new tidal datums annually. This is labor intensive and often requires surveyors and DEP to spend time on mapping elevations that change a tenth of a foot in a year. MGS and the Land Use Planning Commission of the Department of Agriculture, Conservation and Forestry have already adopted the HAT for mapping sea level rise hazards and present boundaries of coastal wetlands. Guidelines for Mandatory Municipal Shoreland Zoning Ordinances (Ch. 1000) would similarly change the Coastal Wetland and Tidal Waters definitions through rulemaking or a minor-technical change without rulemaking.

Coastal wetlands provide hazard mitigation through reduction in wave energy along upland shorelines and are critical to coastal ecosystems. Sea level rise and shoreline engineering may inhibit inland marsh migration, contribute to the submergence of existing salt marshes, and result in greater shoreline hazards in the future. Policy development is needed to identify and recognize the importance of coastal ecosystem migration and the importance of continued public trust rights in the future intertidal zone. This policy effort will be combined with identification of low-lying upland areas that can become future coastal wetlands and areas of increased coastal flooding as sea level rises. Protection of lowlands and wetland ecosystems will help preserve storm-buffering environments, reduce future hazards, and maintain ecosystem functions and values during marine transgression. This strategy will create a statutory definition of a Future Coastal Wetland and will update previously completed tidal marsh migration mapping efforts with scenarios consistent with recommendations and sea level scenarios from the Climate Council. It will also complement proposed revisions to the definition of the Erosion Hazard Area (EHA), and possibly be integrated with several of these overlays into a comprehensive *Coastal Hazard Area* from Strategy 1.

Develop an Updated Procedure for Mapping Maine's Bluff Coast and Create a Transferable Model Bluff Management District. Previously, Maine completed mapping of many of its unconsolidated bluff shorelines (which make up approximately 48% of the 5,400-mile Maine coastline) in terms of stability (stable, unstable, or highly unstable). These bluff maps specifically relate to coastal development under Mandatory Municipal Shoreland Zoning Act (Chapter 1000) in terms of helping define required setbacks from bluffs based on the mapped stability of those bluffs. Unstable and highly unstable bluffs require setbacks be determined from the top of the bluff, while stable bluffs require setbacks be determined from the highest *annual* tide. These requirements have been riddled with problems: bluffs are being stabilized with coastal engineering structures so that setbacks can be minimized; the "top of the bluff" is extremely difficult to determine and does not have a standardized methodology; and tide values used by surveyors change every year. Because most mapping was completed over 20 years ago, bluff stability designations on some of the maps have been questioned (either due to mapping methods or subsequent changes in shoreline conditions). Furthermore, the maps do not account for future conditions. This strategy will include developing updated bluff mapping procedures and protocols at several key demonstration locations in Casco Bay in order to develop a transferable method for updating the current bluff maps and determining setbacks. Working with several partner municipalities, this effort will also investigate the development of a transferable comprehensive bluff management district model that will solve problems with Shoreland Zoning

language, develop alternatives analysis that includes living shorelines, and guide development away from high hazard areas.

This effort will build on a previous Project of Special Merit Building Resiliency Along Maine's Bluff Coast completed in 2017 and a current (2020-23) project to install three pilot Living Shorelines treatments in Casco Bay (NOAA Resiliency Award to TNC). This Strategy will build capacity for understanding and implementing nature-based alternatives to hard shoreline stabilization along soft, sedimentary environments. Capacity needs to be developed across local, state, and federal levels for projects to become viable alternatives. This new approach requires improved coordination across all levels of government, consistent and conformable standards, efficient regulatory review, environmentally sound installation, and post-project monitoring protocols.

III. Needs and Gaps Addressed

Maine identified deficiencies in several Maine regulations, described above, which directly relate to improving municipal and state-level coastal hazards resilience, including the Coastal Sand Dune Rules (Chapter 355), Coastal Wetlands (Chapter 310) and Shoreland Zoning (Chapter 1000). This strategy is designed to address these identified deficiencies by developing revised or new regulatory language and definitions, developing a new, transferable bluff and landslide management district model, and completing supporting maps for dunes, wetlands, and bluffs.

IV. Benefits to Coastal Management

Benefits are multiple and focus on improving the management of key natural resources impacted by current and future coastal hazards: beaches and dunes, wetlands, and coastal bluffs. Improvements in regulatory language coincide with efforts by the Maine Climate Council. Development of a transferable model bluff management district will allow for better municipal and regional management of a resource which comprises almost half of the Maine coastline.

V. Likelihood of Success

Given the interests of the Mills administration and ties to work by the Maine Climate Council, the likelihood of success is high.

VI. Strategy Work Plan

Strategy Goal: Improve Statutory Language and Map Newly Defined Coastal Hazard Areas
Total Years: 5

Year(s): FY2021-2025
Description of activities: Regulatory and statutory language that includes sea level rise for the statewide Coastal Sand Dune System and related erosion hazard areas in Ch. 355. Provide technical support for DEP to implement new rules.
Major Milestone(s):

a. New sea level rise standard(s) incorporated in rules
b. Improved Erosion Hazard Area definition with new SLR projection(s)
c. Development standards for new and reconstructed dune structures
d. Standards and BMPs related to SLR projections for dune restoration, enhancement, beach nourishment, and seawalls
e. Initial evaluation of areas where engineering structures will inhibit landward transition of the public easement.

Year(s): FY2021-2025

Description of activities: Regulatory and statutory language revisions and resource mapping that includes sea level rise for present and future coastal wetlands. Provide technical support for DEP to implement new rules.

Major Milestone(s):

a. New sea level rise standard(s) incorporated into Ch. 310, 305, 1000
b. Future Coastal Wetland definition added to NRPA anticipating marsh migration from sea level rise
c. Development standards for areas within Future Coastal Wetlands
d. Adoption of newly mapped boundaries of the HAT and Future Coastal Wetlands
e. White paper on public trust rights based on revised Maine SLR projections.

Year(s): FY2021-2025

Description of activities: Create new methodology for bluff mapping and bluff & landslide management district standards for Shoreland Zoning, Ch. 1000. Develop alternatives analysis for living shorelines in the permitting process. Provide technical support for DEP in implementation of new rules.

Major Milestone(s):

a. Defined transferable methodology for bluff mapping
b. Improved definitions for bluff and landslide hazards from erosion and SLR
c. Model language for Ch. 1000 on setbacks and development in a bluff district
d. Permit process that incorporates living shoreline alternatives
e. Increased capacity and coordination across local, state, and federal agencies
f. Bluff hazard overlay zone mapping protocol(s) for municipal adoption

VII. Fiscal and Technical Needs

A. Fiscal Needs:

The cost of completing this strategy is likely beyond the limitations of Section 309 funding, particularly if assistance from consultants is needed.

B. Technical Needs:

Maine will need bathymetric lidar (or some other remote sensing) of water depths to identify MLLW, capture the full intertidal extent and evaluate future public trust rights, as well as a method to quantify public use.

Projects of Special Merit (Optional)

Build on the white paper referenced above (public trust rights under future SLR scenarios) and examine policy options for mitigation or compensation.

Coastal Hazards Strategy 3: Expanding, and Improving Key Coastal Hazard Decision-Support Products

I. Issue Area(s)

The proposed strategy or implementation activities will support the following high-priority enhancement areas *(check all that apply)*:

- ☐ Aquaculture
- ☐ Energy and Government Facility Siting
- ☒ Coastal Hazards
- ☐ Ocean/Great Lakes Resources
- ☐ Special Area Management Planning
- ☐ Cumulative and Secondary Impacts
- ☐ Wetlands
- ☐ Marine Debris
- ☐ Public Access

II. Strategy Description

A. The proposed strategy will lead to, or implement, the following types of program changes *(check all that apply):*

☐ A change to coastal zone boundaries;

☒ New or revised authorities, including statutes, regulations, enforceable policies, administrative decisions, executive orders, and memoranda of agreement/understanding;

☒ New or revised local coastal programs and implementing ordinances;

☐ New or revised coastal land acquisition, management, and restoration programs;

☐ New or revised special area management plans (SAMP) or plans for areas of particular concern (APC) including enforceable policies and other necessary implementation mechanisms or criteria and procedures for designating and managing APCs; and,

☒ New or revised guidelines, procedures, and policy documents which are formally adopted by a state or territory and provide specific interpretations of enforceable CZM program policies to applicants, local government, and other agencies that will result in meaningful improvements in coastal resource management.

B. ***Strategy Goal:*** This strategy is for Maine Geological Survey (MGS) to continue to provide key informational products on coastal hazards for the public and local, regional, and state decision-makers, and expand the scope of current products for other areas of the Maine coastline. These include:

- Expand the Maine Beach Mapping Program (MBMAP) on shoreline erosion
- Update the Maine Sea Level Rise/Storm Surge Viewer
- Expand the Coastal Structure and Dune Crest Inventory and Overtopping Potential Viewer and collaborate with MEMA and NWS for geographically refined flood warnings
- Expand the Living Shoreline Decision Support Tool
- Update and expand the Maine Beach Scoring System

Expand the Maine Beach Mapping Program (MBMAP) Shoreline Erosion Mapping. MBMAP is entering its 15th year of data collection. This program uses RTK-GPS to map and monitor specific features along most of Maine's larger beaches in York, Cumberland, and Sagadahoc Counties, including the approximate mean high-water contour, the edge of dune vegetation, along with elevations of the beach, toe of dune, and along coastal engineering structures. This information allows for calculation of beach and dune erosion rates, along with a determination of the dry beach width – a proxy for the buffering capacity of a beach. Data from MBMAP is currently used by consultants, engineers, municipalities, RPOs, and state and federal agencies in helping guide property-to-community wide beach management decisions. This effort will include continuing

annual collection of MBMAP survey data, expanding of MBMAP to include several key larger beach systems (several of which are part of the Coastal Barrier Resources System) not currently monitored, and updating of the viewer with data collected each year.

Update the Maine Sea Level Rise/Storm Surge Viewer. MGS updated the Maine sea level rise viewer in 2018 to reflect the latest range of sea level rise scenarios regionalized for Maine based on work by Sweet and others (2017) and the U.S. Army Corps of Engineers Sea Level Change Calculator. This task will include several key efforts. First, sea level scenarios will need to be revised for a new National Tidal Datum Epoch expected from NOAA in 2022-2023. Recalculation of sea level rise will also update the curves and be able to provide projections from 2020 to 2120 (rather than from 2000 to 2100). Second, depending on recommendations from the Climate Council, the scenario(s) in the viewer may need to be updated or developed further, as deemed necessary. Finally, MGS plans to update the viewer based on sea level rise scenarios developed for the 5th National Climate Assessment (expected in 2022). MGS will further develop tutorials on using the viewer.

Expand the Coastal Structure and Dune Crest Inventory and Overtopping Potential (CSDCIOP) Viewer. In 2020, MGS released a viewer which mapped the extent of coastal engineering structures and coastal sand dune ridges along most of the open coastline in York and Cumberland County (Kittery to South Portland). Using available LiDAR and GIS, the approximate crests of these features were extracted and then compared with the preliminary (new Flood Insurance Rate Maps have not been adopted yet in York or Cumberland County) 100-year base flood elevations. Preliminary analyses showed that the majority of coastal engineering structures and frontal dune crests were well below the 100-year base flood elevation. This information has major implications for management of engineering structures and sand dunes in the face of rising sea levels and is helpful in determining where dune restoration might be needed. This effort will include the development of an automated GIS process and a phased 5-year expansion of the data for the viewer with assistance from contractual services for remaining coastal municipalities in Cumberland to Washington Counties. This effort will include coordination with the Maine Emergency Management Agency and the National Weather Service to refine coastal flooding and splashover warnings. MGS will also develop tutorials on using the viewer.

Expand the Living Shoreline Decision Support Tool. In 2020, MGS released a decision support tool (LSDST) developed for Casco Bay communities (Cape Elizabeth to Small Point in Phippsburg) which mapped the suitability of shorelines for living shoreline applications based on a variety of factors, including: annualized fetch, nearshore bathymetry, landward shoreline type, seaward shoreline type, aspect, relief, and slope. Given several ongoing projects on living shorelines and a high-level of interest from engineers, coastal property owners and municipalities, this information is critical to aiding local stakeholders in the potential siting of these kinds of applications and helps provide a better understanding of the factors involved. MGS also worked with researchers at the University of Maine, Machias to expand the tool to the larger Machias Bay region. This effort will include the hopeful development of an easily reproducible GIS routine and a subsequent phased 5-year expansion of the development of the data for this LSDST for other selected key areas of the Maine coastline. MGS will develop tutorials on using the tool.

Update and expand the Maine Beach Scoring System (BSS) by integrating new datasets. Previously, MGS developed a pilot beach scoring system for Saco Bay that was meant to aid municipalities in determining locations along the coastline where management was warranted, and whether beach nourishment or dune restoration would be appropriate responses. The system included factors such as: historic shoreline change; shoreline type; dry beach width; total width; difference from BFE; and beach volume changes. The Beach Scoring System (BSS) will help inform decisions relating to beach nourishment and dune restoration at the municipal and state levels and complements the Living Shoreline DST for beach and dune enhancement areas. This effort will: 1) update the scoring system with updated and new data, including but not limited to: MBMAP data, sea level rise inundation data, new FEMA base flood elevation data (from adoption of new FIRMs, expected in summer 2020), and CSDCIOP data; and 2) expand the scoring system for larger, developed beach systems that are monitored as part of MBMAP. These efforts support beach management and decisions about economics and funding. The past Beaches Advisory Group generated reports based on the Beach Scoring System but did not create action plans. Scoring factors support beach management plans for beach nourishment and dune restoration from a property level to ecosystems that cross municipal boundaries. The current Project of Special Merit *Assessing Sediment Budgets in Support of Beach Nourishment and Coastal Community Resiliency* has generated nearshore beach maps that indicate suitable nearshore placement areas as an additional component for regional beach management plans.

III. Needs and Gaps Addressed

Efforts identified as part of this strategy will provide key coastal hazard information (erosion and inundation vulnerabilities and using information to develop appropriate responses such as implementing living shorelines or dune restoration) for a variety of stakeholders and decision-makers ranging from property owners to municipal officials, and state and federal agencies. There is a continued need to collect data and understand current impacts and trends of storm events and sea level rise on Maine's beaches and dunes. Data collection and analyses along with other factors (such as through MBMAP, CSDCIOP, LSDST, BSS, and the SLR Viewer) directly relate to the Coastal Sand Dune Rules, Shoreland Zoning, Coastal Wetlands, and other regulations. In addition, these data support recommendations arising from the Climate Council not only in terms of key data development, but also in implementation of adaptation strategies to sea level rise and storms.

IV. Benefits to Coastal Management

Data collected and analyses conducted as part of this Strategy are vital to understanding many of the coastal hazards (and appropriate responses) along the Maine coastline. This work provides key information for planning, resource protection, and additional regulatory efforts for many stakeholders, including: the general public; private property owners; businesses, engineers and consultants; local planning boards and communities; non-profit environmental organizations; regional planning organizations; and government agencies (DEP; DMR; IF&W; USFWS; NMFS; and USACE). These data and tools also support a variety of regulatory decisions in Maine, including: NRPA Chapters 305, 355, and 310; Shoreland Zoning; management of rare and endangered species habitat; and the design and management of beach nourishment and dune restoration projects.

V. Likelihood of Success

The likelihood of success for continuing and expanding the Maine Beach Mapping Program is high. In 2020, this program has already been in-place for 15-years, and Maine has invested in the

program by purchasing and maintaining two network-capable RTK-GPS receivers and employing a seasonal intern who is trained in RTK-GPS surveying and aids in surveying activities. MGS has the demonstrated capacity to continue and expand MBMAP and maintain the viewer with current data.

The likelihood of success for updating the Maine Sea Level Rise/Storm Surge Viewer, as needed, is also high. Maine has already released two versions of this viewer consistent with sea level rise scenarios from the third and fourth National Climate Assessments. MGS has the demonstrated capacity to complete this kind of mapping and has developed structured GIS-routines to aid in updating future scenarios.

The likelihood of success for expanding the Coastal Structure and Dune Crest Inventory and Overtopping Potential (CSDCIOP) Viewer is moderate. This effort is labor-intensive and requires significant manual GIS editing of several features (wall crests and dune crests) which is difficult to automate. MGS expects to be able to expand the viewer for Casco Bay and larger developed beach systems in Sagadahoc County. We will explore contractual options to automate the GIS routine and expand the data created to additional developed beach communities in other coastal counties in subsequent years.

The likelihood of success to expand the Living Shoreline Decision Support Tool is moderate. Like the overtopping tool (CSDCIOP), this effort requires substantial manual GIS work. Now that LiDAR data is available for the entire coast of Maine, we will explore options to automate the GIS routine and to expand it to select estuarine reaches along the Maine coastline for use across a wider geography.

The likelihood of success to update and expand the Maine Beach Scoring System (BSS) by integrating new datasets is high. The geographic scope of expanding the BSS is limited to those areas where MBMAP data is collected and there is readily available historical aerial imagery for long-term shoreline change analysis. This effort will be expanded to other publicly-accessible and managed beach systems in York, Cumberland, Sagadahoc, and Lincoln counties.

VI. Strategy Work Plan

Strategy Goal: Expanding and Improving Key Coastal Hazard Decision-Support Products
Total Years: 5

Continue and Expand the Maine Beach Mapping Program (MBMAP) Shoreline Erosion Mapping
Year(s): FY2021-2025
Description of activities: MGS will continue to implement the MBMAP project with a seasonal summer intern and dedicated travel funds to support mapping efforts. MGS will expand the data collection to include several larger beach systems in Casco Bay, and Roque Bluffs State Park. MGS will update the MBMAP viewer annually with new beach, dune, and dry beach width changes. MGS will develop a tutorial on using the viewer.
Major Milestone(s): Continuation and expansion of the MBMAP. MGS will update the MBMAP viewer annually with new beach, dune, and dry beach width changes.

Update the Maine Sea Level Rise/Storm Surge Viewer
Year(s): FY2021-FY2025

Description of activities: Years 1-2: Review of 5th National Climate Assessment SLR scenarios and scientific direction from Climate Council and NOAA OCM for relevant scenarios for Maine; update to coastal elevations based on a new NTDE when available. Years 3-5: Develop and release the updated viewer and tutorials for users.
Major Milestone(s): Updated sea level rise data and viewer for Maine's coastline.

Expand the Coastal Structure and Dune Crest Inventory and Overtopping Potential (CSDCIOP) Viewer
Year(s): FY2021-2025
Description of activities: Years 1 and 2: Develop an automated methodology for expanding the viewer to other areas of Maine. Review product design with NWS, NOAA OCM, and MEMA. Compile and develop datasets, as needed. Expand the COSDCIOP to Casco Bay and Sagadahoc Counties. Year 3: Expand the COSDCIOP to select areas of Lincoln, Knox, and Waldo Counties. Year 4: Expand the COSDCIOP to select areas of Hancock County. Year 5: Expand the COSDCIOP to select areas of Washington County. Release an updated CSDCIOP viewer along with supporting tutorials as counties are completed.
Major Milestone(s): Development of a routine and expansion of the viewer to select areas of all coastal counties in Maine.

Expand the Living Shoreline Decision Support Tool
Year(s): FY2021-2025
Description of activities: Years 1 and 2: Develop an automated methodology for expanding the LSDST to other areas of Maine. Compile and develop datasets, as needed. Expand the LSDST to selected geographic areas in Sagadahoc County. Technical review of data with NOAA OCM. Year 3: Expand the LSDT to selected areas of Lincoln, Knox, and Waldo Counties. Year 4: Expand the LSDST to selected study areas of Hancock County. Year 5: Expand the LSDST to selected study areas of Washington County. Release an updated viewer along with tutorials.
Major Milestone(s): Development of a routine and expansion of the viewer to select areas of all coastal counties in Maine.

Update and expand the Maine Beach Scoring System (BSS) by Integrating New Datasets
Year(s): FY2022-2025
Description of activities: Years 1 -2: Compile and develop new datasets, as needed, for the BSS and develop an updated scoring methodology. Technical input/review from NOAA OCM. Years 3-4: Implement the BSS for beach systems in Kittery, York, Ogunquit, Wells, Kennebunkport, Kennebunk, Biddeford, Saco, Old Orchard Beach, Scarborough, South Portland, Cape Elizabeth, Portland (and island communities), Phippsburg, Georgetown, and Pemaquid. Year 5: Develop and release a Beach Scoring System Viewer on the MGS Coastal Hazards page.
Major Milestone(s): Development of a routine and expansion of the viewer to select areas of all coastal counties in Maine.

VII. Fiscal and Technical Needs

A. Fiscal Needs:

The cost of completing this strategy is likely beyond the limitations of Section 309 funding, particularly if assistance from consultants is needed.

B. Technical Needs:

NOAA CO-OPS needs to provide Maine tide stations with a new National Tidal Datum Epoch and Highest Astronomical Tide relative to the NTDE. Based on correspondence with CO-OPS staff, the anticipated release of a new NTDE is in 2022 or 2023. Timely release of products in this Strategy will depend on the availability of the new NTDE and direction from the Maine Climate Council. Technical input and review from NOAA OCM on SLR scenarios with probabilities and evaluation of different coastal hazard viewers will be needed.

C. Projects of Special Merit (Optional)

Ocean Resources Strategies

Ocean Resources Strategy 1: Monitoring and Modeling of Ocean Habitat to Support Spatial Management Tools and Strategies in Shared Waters

I. Issue Areas

The proposed strategy or implementation activities will support the following high-priority enhancement areas *(check all that apply)*:

- ☐ Aquaculture
- ☒ Energy and Government Facility Siting
- ☐ Coastal Hazards
- ☒ Ocean/Great Lakes Resources
- ☐ Special Area Management Planning
- ☐ Cumulative and Secondary Impacts
- ☐ Wetlands
- ☐ Marine Debris
- ☐ Public Access

II. Strategy Description

A. The proposed strategy will lead to, or implement, the following types of program changes *(check all that apply):*

☐ A change to coastal zone boundaries;

☒ New or revised authorities, including statutes, regulations, enforceable policies, administrative decisions, executive orders, and memoranda of agreement/understanding;

☒ New or revised local coastal programs and implementing ordinances;

☐ New or revised coastal land acquisition, management, and restoration programs;

☐ New or revised special area management plans (SAMP) or plans for areas of particular concern (APC) including enforceable policies and other necessary implementation mechanisms or criteria and procedures for designating and managing APCs; and,

☒ New or revised guidelines, procedures, and policy documents which are formally

adopted by a state or territory and provide specific interpretations of enforceable CZM program policies to applicants, local government, and other agencies that will result in meaningful improvements in coastal resource management.

B. Strategy Goal: Using previously collected and new marine and coastal monitoring and assessment information, create and implement policy guidance to respond to changing ocean and coastal conditions; improve Maine's spatial management tools in order to inform future development and siting of facilities, specifically offshore wind and aquaculture, in shared ocean space; inform development of proposed changes to refine Maine's federal consistency review process, including potentially those regarding necessary data and information and geographic location description(s)

C. Strategy Approach:

A diversifying marine economy increases demand for ocean space. Siting evaluation processes often require ocean users to demonstrate the locations and frequency with which they utilize that space. DMR will work with multiple sectors to develop better data collection, management and analysis tools to inform applicants, regulators, and the public about existing uses and relative importance of areas for those uses.

MCP and its partners will identify and address coastal and marine data acquisition priorities and goals, develop data products for use in addressing high priority coastal management issues using previously collected and new data acquisition, e.g. eelgrass decline, shifting habitats, invasive species, areas of significant habitat value. We will create formal and informal mechanisms to leverage limited resources through coordination with federal and state government, academia and not for profit organizations. This work will:

a. Provide critical data and information needed to accurately inform decision-making to address high priority coastal management needs (including offshore wind habitat availability for species vulnerable to climate change, and invasive species detection);
b. Create a mechanism for conveying management-oriented research needs to funders and academic researchers;
c. Assess the efficacy of how ocean and coastal data and data products are currently made available to stakeholders, including municipalities, regional planning organizations, and others, and formalize improved methods for data delivery and training and support for use of data products; and
d. Inform development of proposed changes to refine Maine's federal consistency review process, including potentially those regarding necessary data and information and geographic location descriptions.

We will accomplish these goals through increased coordination, prioritization of research, and assurance of compatible research methodologies. Specific spatial management goals using existing and newly collected data, based on *Emerging Issues* as identified in Phase II of this assessment, will be to explore offshore wind siting through the lens of reducing shared-space conflicts, and inform the selection and review of dredge areas and new disposal sites.

This work will complement or support the Governor's Energy Office under its Maine Offshore Wind Initiative, an effort to inform the state's participation in the BOEM Gulf of Maine Task Force. This may take a range of forms depending on the activity and areas in question, and the constituencies that need to be engaged. Staff time will be committed to increased outreach and communication

to coastal communities and impacted stakeholders. Stemming from these outreach activities, specific projects to advance the strategy goals will emerge. For example, interest in siting offshore wind in the Gulf of Maine would benefit greatly from improved spatial characterization of fisheries activities. If potential areas of interest can be narrowed, it may be possible to work more closely with area fishermen to obtain finer-scale location data to improve understanding of vessel movement and fishing activity in an area of interest. For aquaculture siting, a specific bay that is experiencing significant growth in the sector may warrant aerial or other survey work to establish a baseline for annual fishing activity to provide context for regulators and new aquaculture businesses.

Finally, through this strategy MCP will work with Maine Geological Survey, the US Army Corps of Engineers, and other relevant partners by providing supporting information for dredge coordination and disposal siting. This work will support more dynamic and streamlined permitting, particularly in cases such as time-sensitive permits required to navigate Naval ships into and out of the Kennebec River, and for small communities that require maintenance dredging for access by commercial and recreational vessels. Regarding the siting of new disposal areas, during the last five years, MCP has worked with MGS and other partners to determine the depth of closure for sand transport at Maine's six most popular beaches, with the goal of being able site clean sand dredge materials within this zone in order to replenish on-shore beach areas with minimal impact on the local biological benthic habitat. In light of this goal, within the next five years, we will be actively working with MGS and the US Army Corps of Engineers to relocate the disposal area for sand dredged from the Kennebec River closer to Popham Beach State Park

III. Needs and Gaps Addressed

While recent efforts have provided a great deal of marine habitat data along Maine's coast, there are still notable gaps for over two-thirds of Maine's coast with respect to basic information needed for well-informed and forward-looking ocean and coastal resource management. Critical ocean data gaps include bathymetry, habitat, water quality parameters, water column temperature profiles, and benthic species composition. This type of information is critical to the understanding of emerging issues and the development of science-based measures to address them.

In order to respond to the Ocean Resources stressors identified in Phase II of this strategy (changing ocean conditions to document and forecast temperature fluctuations and trends, SAV loss, benthic habitat changes, invasive species, "movement" of commercially important fish stocks due to changing habitat conditions, and ocean acidification) we must use existing data and in priority areas collect additional data to have a baseline understanding of present conditions and to build models forecasting changes. The response to these stressors cannot be based on speculation but must be based on sound science relying foremost on an accurate and robust depiction of marine habitat and baseline conditions. Understanding this, the Maine Climate Council's Coastal and Marine Working Group has identified in multiple strategies the need for marine mapping and monitoring. This strategy will help implement these anticipated recommendations of the Governor's Climate Council.

This strategy also addresses the third stressor identified in Phase II of this assessment, "managing competing uses of ocean space" by integrating information about a location, including the physical and biological characteristics of a space with the overlying issues of e.g. commercial fishing,

aquaculture, offshore energy, and dredging. In this way, this strategy will address the identified emerging issues of offshore wind development and potential new dredge disposal areas.

Other priority needs and gaps addressed by this strategy vary to some degree with the fishery or activity in question. In the course of DMR's regulatory work, agency staff often encounter situations where user groups assert an adverse impact from an activity, but where there is little data to use to assess the extent of that impact to inform decision making. Furthermore, often there is not an adequate venue or opportunity to develop tools outside of the regulatory process, where interests might be focused more on improving available information and less on individual outcomes. These are typically localized issues best addressed with fine-scale data collection and analysis, but the approaches will have broader statewide application and potentially be scalable as well. For example, development of dredge haul routes often occurs without input from area fishermen who may be impacted by the regular transit through their grounds. MCP and DMR have been working with the USACE and MEDEP to develop a protocol for early outreach with local fishermen to identify a haul route that minimizes impact. While early efforts are an engagement strategy using remote meeting technology to share charts, a refined approach could benefit from localized data area on fishing activities, particularly around disposal sites, such as the Isle of Shoals North site.

To support these management needs, MCP will use previously and newly collected data (such as bathymetry, benthic sediment and habitat, multi-species distributions, and human use) to produce layered spatial use models. These products will build upon mapping efforts by MCP and others, and will provide a data-driven tool for policy and management shared-use decision making.

IV. Benefits to Coastal Management

Discuss the anticipated effect of the strategy, including the scope and value of the strategy, in advancing improvements in the CMP and coastal management, in general.

Sound data based on established protocols, addressing key topics, such as the primary factors contributing to changing ocean conditions in the Gulf of Maine, and occurring in priority areas of interest will enhance the scientific rigor, predictability, and efficiency of ocean resources management and related regulatory decisions, including those concerning siting of ocean-based development and resiliency preparedness. A central feature of this strategy is the assurance that data collected, either as a direct result of this strategy's funding or leveraged by other initiatives, are made readily available to coastal decision-makers and that data products derived from coastal and ocean data are usable by target audiences. This strategy will enhance our ability to support state, federal and non-governmental management and policy decisions.

This work will create opportunities for education, outreach and engagement for all interested users of ocean space. It will also improve decision support tools for stakeholders, regulators and the public as new ocean uses are introduced, expand, and impact existing uses. Ideally, this will lead to reduced user conflict, increased diversification in the marine economy, and greater economic resilience for coastal communities.

V. Likelihood of Success

The likelihood of achieving this strategy's principal objectives is high and achievable in a 5-year time frame. MCP has cultivated partnerships with various ocean and coastal research institutions and built an ocean survey program from the ground up using various funding sources and in-kind contributions from its partners. Increased pressure on existing uses will make it increasingly necessary for concerned stakeholders to consider alternative approaches to ensure their uses are known and supported by data. Although wide-scale implementation of data collection, management and analysis may be challenging without additional resources, pilot-scale projects will be effective in beginning to effectuate social change. Finally, there has been recent legislative interest in increasing Maine's efforts in ocean and coastal monitoring. Stakeholders consulted during this Assessment and Strategy process confirmed that focus on collection and interpretation of data to address key information gaps and facilitation of the use of such data for decision-making and policy development implementation should be a major focus of the MCP's work during the next five-year period.

VI. Strategy Work Plan

Strategy Goal: Increase the capacity for monitoring/assessment and the use of coastal and ocean data at the federal, state, regional and local level to respond to changing ocean and coastal conditions.
Total Years: 1-3

Year(s): 1
Description of activities: Conduct outreach and education with coastal communities related to aquaculture; Support/follow early phases of stakeholder engagement strategy for Maine Offshore Wind Initiative; Identify opportunities to develop and implement specific projects to advance strategy goals
Major Milestone(s): Development of targeted projects to address information gaps

Years: 1, 2, 3
Description of activities: Convene partners at DMR, DEP, NOAA, academics and non-profit organizations, municipalities, RPOs and others within the first year to identify coastal and ocean management needs, priority areas of interest and types of data needed, data derivatives, spatial management tools, and models that can be used in making ocean and coastal resources management decisions, and opportunities for collaboration on data collection and synthesis. Re-convene these partners periodically in Year 2 and 3 to determine new or shifted priorities.
Major Milestones: Identification of coastal management priorities and data needs; identification of specific data applications and data users; identification of high priority monitoring/research goals and data products; development of a data distribution plan for municipal and regional governments.

Strategy Goal: Collect new marine habitat data including bathymetry, sediment, benthic fauna, and water chemistry information to support habitat assessments and forecast models, shared-space management and policy, and fisheries management
Total Years: 1-5

Year(s): 1-5

Description of activities: In areas of interest developed through the first strategy, gather priority data, refine benthic habitat model, and assist with place-based special studies.
Major Milestones: Completion of data collection for priority areas of interest as agreed upon by partners, analysis of data gathered during field seasons and development of models and tools, and successful application of benthic habitat modeling in the development of DMR and other agency management.

Strategy Goal: Development of Spatial Management Tools to Inform Marine Habitat Modeling and Shared-Space Uses such as Aquaculture, Offshore Wind Siting and Dredge Activities
Total Years: 2-5

Years: 2-4
Description of Activities: Integrate all previously and newly collected data as appropriate into DMR policy and fisheries management, use data to inform other state agency priorities and regional marine planning, including offshore wind siting, aquaculture siting, and habitat climate-forecasting models, and publicize data products to support information sharing, networking and collaborative projects.
Major milestones: Marine habitat information synthesized into reports and models for policy and management and used for multi-sector decision making

Year: 5
Description of Activities: Use the results of habitat classification work to identify areas of concern for future consideration by marine policy makers for planning decisions, including but not limited to those regarding federal consistency review. Publicize data products to support information sharing, networking and collaborative projects. Determine the use and downloads of data and derivative models to inform the applicability and demand for the products.
Major milestones: Existing and newly collected data synthesized into models and tools that are publicly available and distributed.

VII. Fiscal and Technical Needs

A. Fiscal Needs: DMR will utilize staff resources, funded by General Fund or Other Special Revenues, to support additional needs to achieve this strategy.

B. Technical Needs: Contractors and technical advisory team members will supplement state agency staff.

VIII. Projects of Special Merit (Optional)

- Shared-use decision making: using habitat and multi-species models to inform human use of ocean resources
- Modeling changing ocean conditions based on habitat availability and climate forecasts
- Research and disseminate findings on how adaptive management techniques can be developed/used in light of effects on species and communities from changing environmental conditions and applicable statutory and regulatory requirements.

- Developing marine habitat models based on mixed data-collection platform data: how bathymetry, backscatter, and sediment information collected using various methods can be used to create combined products.

Ocean Resources Strategy 2: Coordinating Interstate and Regional Management Efforts in the Gulf of Maine and New England

I. Issue Area(s)

The proposed strategy or implementation activities will support the following high-priority enhancement areas *(check all that apply)*:

- ☐ Aquaculture
- ☒ Energy and Government Facility Siting
- ☐ Coastal Hazards
- ☒ Ocean/Great Lakes Resources
- ☐ Special Area Management Planning
- ☐ Cumulative and Secondary Impacts
- ☐ Wetlands
- ☐ Marine Debris
- ☐ Public Access

II. Strategy Description

A. The proposed strategy will lead to, or implement, the following types of program changes *(check all that apply):*

☐ A change to coastal zone boundaries;

☒**New or revised authorities, including statutes, regulations, enforceable policies, administrative decisions, executive orders, and memoranda of agreement/understanding;**

☐ New or revised local coastal programs and implementing ordinances;

☐ New or revised coastal land acquisition, management, and restoration programs;

☐ New or revised special area management plans (SAMP) or plans for areas of particular concern (APC) including enforceable policies and other necessary implementation mechanisms or criteria and procedures for designating and managing APCs; and,

☐New or revised guidelines, procedures, and policy documents which are formally adopted by a state or territory and provide specific interpretations of enforceable CZM program policies to applicants, local government, and other agencies that will result in meaningful improvements in coastal resource management.

B. Strategy Goal: Enhance collaborative efforts across state governments and with federal government partners to address cross-boundary issues that impact the Gulf of Maine, the Northeast region and its user communities through development of mapping and modeling products for use at the federal, state, regional and local level; using regional partnerships to advance the understanding of regional processes such as climate change and shifting habitats, and shared interests such as resource use and energy facility siting; and building formal partnerships and agreements on cross-boundary issues

C. Strategy Approach:

MCP will work with other DMR staff, MGS and other state agency partners to support the work of the Northeast Regional Ocean Council and its Ocean Planning Committee and Habitat Classification and Ocean Mapping Committee; the Gulf of Maine Council on the Marine Environment; and the Bureau of Ocean Energy Management Gulf of Maine Task Force. This includes participation in the Regional Offshore Science Alliance, the Regional Wildlife Science Entity, the MARCO/NROC/RODA Commercial Fisheries Data Project and Regional Association for Research on the Gulf of Maine (RARGOM). This active participation will result in specific products such as:

- Regional marine habitat mapping, including updated regional bathymetry and sediment maps
- New local, state, and regional data available on the Northeast Ocean Data Portal, including Maine's seafloor data, marine mammal and avian observations, and other layers relevant to cross-boundary issues as identified by regional interest
- Identification of regional research priorities and collaboration on projects to advance the understanding of resource use and climate change on regional trends

In addition, it is anticipated that there will be both formal and informal processes to identify cross-jurisdictional research priorities and coordinated regional stakeholder engagement opportunities (e.g. a regional federal fisheries stakeholder group).

III. Needs and Gaps Addressed

Regional collaborative efforts address complex interjurisdictional issues and thus are resource-intensive, and hard to implement given limited staffing and other funding for state agencies and its nongovernmental partners. Several of the newly formed regional entities (i.e. Regional Offshore Science Alliance and the Regional Wildlife Science Entity) will focus their work on multijurisdictional data gaps and priority setting. The coordinated effort ensures that participants maximize their time and energy on development of actions, best management practices, and potential regional memorandums of agreement. For example, it is anticipated that ROSA may identify shared research needs and coordinate and coordinate design of research projects with government, fishing industry stakeholders and wind energy developers in order to achieve early buy-in from all stakeholders. This will help to ensure that results can be analyzed and used to inform management upon completion without delay or objection.

Other groups, such as an interjurisdictional fisheries working group being considered, will focus on stakeholder engagement at a regional scale. This will minimize burden on capacity-limited stakeholders, such as federally-permitted commercial fishermen, who would otherwise need to monitor disparate efforts by various jurisdictions. This will also limit the participation burden for state and federal partners who do not have additional staff to support this work, and facilitate information sharing between states and federal partners. It is anticipated that outcomes of such an effort could include best management practices for mitigating impacts on fishing activity in development of offshore wind construction and operations plans, or specific products such as transit studies.

The Ocean Resource Management Phase II Assessment identified the need to enhance the Northeast Data Portal with Maine spatial data to foster better regional approaches. Through this strategy, we will work to include these data to inform regional work and management decisions. MCP will provide newly-available coastal and marine mapping products, habitat information, and other CZM-driven efforts to regional partnerships to inform management, policy, and data-sharing goals. Additionally, this will include formalizing regional approaches for data and information management, and determining what needs and gaps exist that limit effectively working at the regional level.

IV. Benefits to Coastal Management

Regional planning entities are a key mechanism for intergovernmental coordination on issues of regional significance. MCP's continued engagement ensures that Maine's interests are represented, issues of significance to our coastal communities are identified and advanced, and

cross-jurisdictional sharing of best practices is facilitated. At a regional level, coordination on development of research needs and priorities related to offshore wind energy development ensures that the highest shared priorities are visible when funding opportunities arise.

V. Likelihood of Success

This is a highly achievable goal for the assessment period. Participation in regional coordination entities is supported at the agency and governor's office levels. Stakeholders and external constituents are supportive of intergovernmental coordination which minimizes burden for members of the public to participate, as opposed to having to participate in disparate state-specific processes in multiple jurisdictions.

VI. Strategy Work Plan

Strategy Goal: MCP will engage in formal and informal processes to identify cross-jurisdictional regional stakeholder engagement opportunities (e.g. a regional federal fisheries stakeholder group) to identify priority issues for regional stakeholders.
Total Years: 2

Year(s): 1-2
Description of activities: MCP will work with state and regional partners to identify cross-boundary issues that impact stakeholders in the Gulf of Maine, the Northeast region and its user communities.
Major Milestone(s): MCP, in collaboration with other DMR staff will determine what efforts should be developed and implemented to create work plans to address priority issues for regional stakeholders.

Strategy Goal: Enhance collaborative efforts across state government to address cross-boundary issues that impact the Gulf of Maine, the Northeast region and its user communities through developing mapping and modeling products for use at the federal, state, regional and local level.
Total Years: 4

Year(s): 1-4
Description of activities: MCP will work with state, regional, and federal partners to enhance regional marine habitat mapping, include new local, state, and regional data on the Northeast Ocean Data Portal, and identify regional research priorities and collaboration on projects to advance the understanding of resource use and climate change on regional trends.
Major Milestone(s): Updated regional bathymetry and sediment maps, inclusion of Maine's seafloor data, marine mammal and avian observations, and other layers relevant to cross-boundary issues as identified by regional interest available on regional data portals, and identification of regional research priorities and collaboration on projects to advance the understanding of resource use and climate change on regional trends.

Strategy Goal: MCP will engage in formal and informal processes to identify cross-jurisdictional research priorities to facilitate shared collection, use and transfer of coastal and marine data, tools, and planning principles.
Total Years: 3

Year(s): 3-5
Description of activities: MCP, in collaboration with DMR staff, MGS, and other relevant state partners will address cross-boundary issues that impact the Gulf of Maine, the Northeast region and its user communities, including the Northeast Regional Ocean Council and its Ocean Planning Committee, the Gulf of Maine Council on the Marine Environment, and the Bureau of Ocean Energy Management Task Force process.
Major Milestone(s): Inter-agency and regional data and tool sharing project deliverables, including but not limited to shared use of regional bathymetry to develop marine sediment and habitat maps, habitat classification tool refinement based on regional use, and transfer of management tools.

VII. Fiscal and Technical Needs

A. Fiscal Needs: Additional funding is being provided as in-kind staff and contract support from other agencies, and additional resources may be sought from outside funding sources.

B. Technical Needs: Partnerships with NOAA OCM and other NOAA offices have been invaluable in previous efforts and MCP/DMR welcomes/invites continued technical involvement from NOAA.

VIII. Projects of Special Merit (Optional)

– Regional or inter-agency development of marine and coastal habitat classification refinement based on Gulf of Maine specific conditions

Wetlands Strategies

Wetlands Strategy 1: Implement the CoastWise Approach through Trainings and Municipal Support Materials

I. Issue Area(s)

The proposed strategy or implementation activities will support the following high-priority enhancement areas *(check all that apply)*:

- ☐ Aquaculture
- ☐ Energy and Government Facility Siting
- ☒ Coastal Hazards
- ☐ Ocean/Great Lakes Resources
- ☐ Special Area Management Planning
- ☒ Cumulative and Secondary Impacts
- ☒ Wetlands
- ☐ Marine Debris
- ☐ Public Access

II. Strategy Description

A. The proposed strategy will lead to, or implement, the following types of program changes *(check all that apply):*

☐ A change to coastal zone boundaries;

☒ **New or revised authorities, including statutes, regulations, enforceable policies, administrative decisions, executive orders, and memoranda of agreement/understanding;**

☐ New or revised local coastal programs and implementing ordinances;

☒ **New or revised coastal land acquisition, management, and restoration programs**;

☐ New or revised special area management plans (SAMP) or plans for areas of particular concern (APC) including enforceable policies and other necessary implementation mechanisms or criteria and procedures for designating and managing APCs; and,

☒ **New or revised guidelines, procedures, and policy documents which are formally adopted by a state or territory and provide specific interpretations of enforceable CZM program policies to applicants, local government, and other agencies that will result in meaningful improvements in coastal resource management.**

B. ***Strategy Goal:***

MCP and its partners will work with existing (and identify new) partners to implement Phase II of the CoastWise Approach for tidal crossing restoration to deliver materials and hands-on trainings (developed during Phase I 2018-2020) geared toward engaging municipal road managers and/or contractors and professionals that frequently work with municipal clients.

C. Describe the proposed strategy and how the strategy will lead to and/or implement the program changes selected above:

Responsible and informed tidal road crossing design requires integration of multiple considerations, including public safety, ecology, and climate resilience. Yet a comprehensive and readily-applied set of best practices for planning, designing, and building tidal road crossings has remained lacking. In response, the Maine Coastal Program and its partners have worked together over the past two years to develop an innovative program: the CoastWise Approach for tidal road crossings. CoastWise synthesizes and will encourage best practices for planning, design, and construction of ecologically-supportive tidal crossings that are safe, climate-resilient, and cost-effective. CoastWise is innovative

in its balanced approach to restoration and support of adjacent marsh ecosystems, as well as factors influencing the local community's well-being over the long-term.

During this 5-year period, Maine Coastal Program and its partners will implement the outreach and training phase of CoastWise, including coordination and refinement of training modules, materials, and field workshops. The target audience includes municipalities, other road managers, engineers, and restoration practitioners. Outreach will primarily be delivered during community sessions that will involve day-long events for road managers and other interested parties. Content will focus on the impact of crossings on tidal ecosystems, crossing design best practices to improve resiliency to both these habitats as well as coastal community infrastructure, cost-effectiveness scenarios, and data collection methods, and engineering modeling, and participatory identification of design objectives related to key considerations linked to safety, ecological support, and climate resilience outcomes. Trainings will also include field workshops for users representing a range of technical abilities, including engineers, restoration practitioners, and/or road owners and their staff. Initial concepts for trainings include introduction to case studies and sites involving different crossing design characteristics, interpreting signs of impaired habitat, and recommended data collection methods.

Coastwise as originally scoped, will be a BMP/guidance approach, rather than a regulatory or incentive-based program. Recommendations presented by the Maine Climate Council to the Maine Legislature in January 2021, could potentially include suggested improvements in regulatory and non-regulatory and incentive-based approaches to tidal culvert restoration.

III. Needs and Gaps Addressed

Through training road managers, engineers, and municipal planners in the best practices for restoring tidal crossings and providing guidance documents on these practices, more tidal crossings will be improved to allow tidal flow. This directly addresses the three Stressors identified during this assessment:

- Development & Land Use Change in Wetlands and Wetland Buffers that impact tidal flow and marsh migration corridors – by improving tidal flow at crossings and thus allowing for marsh migration;
- Sea Level Rise - by allowing current marshes to adequately keep pace with sea level rise by allowing for the full flow of sediment to marshes upstream of crossings; and,
- Changes in freshwater input and groundwater flows due to historical hydrological alteration & channelization and recent development – by providing information in trainings about these legacy effects, how they can be assessed at marsh sites, and how they may be addressed as part of tidal crossings projects.

Further, this strategy addresses Emerging Issues identified in the assessment including sea level rise and marsh migration and Blue Carbon. Blue Carbon refers to carbon that is sequestered by coastal ecosystems like salt marshes, seaweeds, and seagrass beds. The Maine Climate Council's Coastal and Marine Working Group has recently developed a Blue Carbon Optimization Strategy that specifically calls for improving the quality of existing tidal marshes and improving marsh migration pathways through the CoastWise Approach. The Strategy describes the vastly reduced potential of salt marshes to sequester carbon when their salinity is reduced below a certain threshold, specifically citing the impact of restrictive road, dam, and other marsh crossings as leading to restricted and impaired marsh ecosystems.

IV. Benefits to Coastal Management

Coastal marshes and streams need the full ebb and flow of the tides to remain healthy enough to provide benefits important to public well-being, healthy ecosystems, and species movement. At over 900 locations in Maine (over 90% of all tidal crossings), tidal flow is hindered and sometimes completely blocked by man-made structures like culverts, bridges and dams. These tidal restrictions are most often caused by road crossings often traditionally designed in a way that does not consider the need for marsh health and stream connectivity. Commonly, road crossings are undersized and perched above the marsh creek channel so they cannot adequately accommodate present or projected tidal flows and block the movements of fish and wildlife through the crossing for some or all of the tidal cycle. Tidal restrictions change the physical, chemical, and biological characteristics of a marsh. Depending on the degree of tidal restriction, impacts can include rapid, complete tidal marsh loss, reduced tidal sedimentation (preventing marshes to keep pace with sea level rise), and upstream methane and greenhouse gas emissions. With increasing rainfall and sea level rise, these traditional gray infrastructure crossings are also at greater risk of damage or failure since many have not been designed to withstand these changing conditions. This strategy will benefit coastal management by:

- Utilizing the work of a diverse group of partners that have developed best practices for tidal road crossing design
- Through direct outreach and engagement, implementing the practices to mediate or remove tidal restrictions while providing safe, low-maintenance, climate-resilient crossings
- Widely distributing information and directly training local and regional practitioners, engineers, and planners on practices that are standardized (yet adaptive), efficient, climate-tuned, and cost-effective
- Providing outreach and education to state and municipal officials on how to incorporate this information into decision-making, comprehensive plans, and management of coastal resources at the state and local level.
- This strategy, over-multiple years, will provide important information about the costs of the Coastwise approach as compared to historically used restoration practices.

V. Likelihood of Success

There is a high likelihood of attaining the strategy goal and program change. This strategy builds on a successful partnership of over 25 state and federal agencies, academic institutions, non-governmental organizations, and representatives from municipalities. Through the support of a NOAA Coastal Management Fellow during 2018-2020, the Maine Coastal Program has developed a solid and supported series of guidelines and project checklists to use for CoastWise trainings and tidal crossing restoration projects. This strategy directly follows that work and is the next step in implementing the CoastWise Approach.

There is an ever-increasing awareness on the part of the State and coastal municipalities for the importance of protecting both coastal marshes and vulnerable infrastructure to sea level rise, as evidenced by the work of Maine Climate Council. In addition to the Blue Carbon Strategy referenced above, strategies from other workings groups reporting to the Council reference the need to provide training and support to municipalities and infrastructure planners regarding tidal crossings. This CZM strategy directly addresses those needs.

Previous and current work undertaken by the Maine Coastal Program has shown the benefit of education and outreach at multiple levels based on best available science. This project will use that same method to achieve the program change proposed by this strategy. MCP has a long and

successful history of working with partners from a wide variety of constituencies; this strategy will employ that approach.

VI. Strategy Work Plan

Strategy Goal:
Coordination and implementation of CoastWise trainings and targeted community engagement sessions, including development and delivery of user-friendly outreach materials including online and print media, one-on-one engagement with community leaders and road owners, and advancement of local tidal demonstration projects using the CoastWise Approach.
Total Years: 5

Year(s): 1
Description of activities: Pilot training modules will have been created and initial trainings will have been held as part of Phase I. During this Phase II, we will refine the content and style of workshops and online outreach documents based on feedback from the initial round of trainings. These will provide outreach and direct engagement as short reference tools during trainings and for broadly sharing the CoastWise Approach principles and tools with a wider audience.
Major Milestone(s): Materials utilized in the first round of trainings and outreach will be revised as needed to be tailored to user's needs.

Year(s): 1-5
Description of activities: Outreach will primarily be delivered during full-day training sessions and field workshops. Content will focus on the impact of crossings on tidal ecosystems, crossing design best practices to improve resiliency to habitats and coastal infrastructure, cost-effectiveness scenarios, data collection methods, engineering modeling, and participatory identification of design objectives linked to safety, ecological support, and climate resilience outcomes. Outreach will also be targeted individually to road managers, design professionals, and restoration practitioners through individual engagement and at conferences such as the Maine Municipal Association's Annual Conference, Maine Stormwater Conference, and Northeastern Transportation and Wildlife Conference. Additionally, we will expand these trainings to include field workshops that focus on specific components of tidal crossing assessment, including rapid marsh health assessment. To jumpstart on-the-ground projects and local capacity building, we'll use training sessions to identify candidate projects in communities within the project area that may be used as demonstration projects.
Major Milestone(s): Full-day training sessions and field workshops will be refined during Year 1 and will continue through Year 5. Demonstration projects will occur based on opportunity, however, as of June 2020 three projects that will use the Coastwise Approach are currently being evaluated for construction.

VII. Fiscal and Technical Needs

A. Fiscal Needs:

CZMA Section 309 funding may be insufficient to fully fund this strategy work plan, however there are over 25 partners advancing the CoastWise Approach that have dedicated in-kind and cash match funding to the development of this effort and are supportive of continuing this support over the implementation of the Approach. Maine Outdoor Heritage Fund is a possible source of state

funding and working draft strategies in the Maine Climate Council's working groups support funding for the implementation of CoastWise and tidal crossing projects.

B. Technical Needs:

The CoastWise Project is led by the Maine Coastal Program and guided by a Steering Committee that includes representative from: Maine Coastal Program, Casco Bay Estuary Partnership, NOAA Office for Coastal Management, USFW Gulf of Maine Office, Wells National Estuarine Research Reserve, Maine Coast Heritage Trust, and The Nature Conservancy. This Project convenes a partnership of 46 project participants representing 27 organizations from municipal, state, federal, and non-government sectors who have all contributed to the development of the innovative CoastWise Approach. The implementation and coordination of outreach for CoastWise will require a continuation of contracted support through Maine Coastal Program and through partner organizations.

VIII. Projects of Special Merit (Optional)

Potential projects include:

- Demonstration tidal crossing projects to evaluate, design, or restore tidal flow
- Evaluation of the cost/benefit of Coastwise methods vs. others
- Identification of additional non-regulatory and regulatory approaches to tidal crossing restoration through evaluation of existing statutes, rules and programs, and design and presentation of new approaches to policymakers.

Wetlands Strategy 2: Data Collection, Modeling and Monitoring to Inform and Document Changing Marsh Conditions and Potential for Marsh Migration

I. Issue Area(s)

The proposed strategy or implementation activities will support the following high-priority enhancement areas *(check all that apply)*:

- ☐ Aquaculture
- ☐ Energy and Government Facility Siting
- ☒ Coastal Hazards
- ☐ Ocean/Great Lakes Resources
- ☐ Special Area Management Planning
- ☒ Cumulative and Secondary Impacts
- ☒ Wetlands
- ☐ Marine Debris
- ☐ Public Access

II. Strategy Description

A. The proposed strategy will lead to, or implement, the following types of program changes *(check all that apply):*

☐ A change to coastal zone boundaries;

☒ New or revised authorities, including statutes, regulations, enforceable policies, administrative decisions, executive orders, and memoranda of agreement/understanding;

☒ New or revised local coastal programs and implementing ordinances;

☒ New or revised coastal land acquisition, management, and restoration programs;

☐ New or revised special area management plans (SAMP) or plans for areas of particular concern (APC) including enforceable policies and other necessary implementation mechanisms or criteria and procedures for designating and managing APCs; and,

☒ New or revised guidelines, procedures, and policy documents which are formally adopted by a state or territory and provide specific interpretations of enforceable CZM program policies to applicants, local government, and other agencies that will result in meaningful improvements in coastal resource management.

B. Strategy Goal:

MCP and its partners will increase the State's capacity to monitor changes in tidal marshes through mapping and field data collection and assess how those changes might affect Maine's marshes' ability to keep pace with sea level rise. MCP and its partners will adopt methods to gather on-the-ground information about the degree to which tidal restrictions are impairing marsh ecosystem health and aquatic passage, including information specific to tidal crossings as well as marsh health. In addition to understanding the passive impacts of sea level rise, this will include work to determine the current amount of marsh acreage impaired and possibly emitting greenhouse gases because of impaired tidal flow and marsh subsidence, and the potential Blue Carbon potential (greenhouse gas reduction) of restoring tidal flow at these sites. These objectives will build upon and continue MCP's sentinel site work and Tidal Restriction Atlas.

C. Describe the proposed strategy and how the strategy will lead to and/or implement the program changes selected above:

It is necessary to understand and document how tidal marshes in Maine are responding to sea level rise in order to plan for and protect future marsh habitat areas. Some of the key components of this strategy will address the questions of whether current marsh habitat will keep pace with sea level rise, where marsh migration pathways are based on recent sea level rise scenarios, whether

marsh migration is actually occurring or likely to occur, the degree to which restrictive tidal crossings are impairing marsh habitat and its ecosystem services (including carbon sequestration potential, and the specific scale of the problem that tidal restrictions are causing statewide based on field collected data.

Coastal Blue Carbon is a term that refers locally to the carbon that is sequestered by salt marshes and other coastal vegetation. These ecosystems are an order of magnitude more efficient at burying carbon per unit area than forests, yet when they are degraded, flooded with fresh water, or drained, they can become sources of carbon dioxide and other greenhouse gases (GHGs), including methane. Blue carbon management projects reduce GHG emissions and provide quantifiable and invaluable climate mitigation benefits through conservation, restoration, and creation of coastal tidal marsh ecosystems. These activities would additively ensure protection or restoration of important ecosystem functions that benefit coastal commercial use, landowners, and municipalities. However, the full carbon sequestration value of tidal marshes is dependent on tidal flow. Tidal restrictions change the physical, chemical, and biological characteristics of a marsh. Depending on the degree of tidal restriction, impacts can include rapid, complete tidal marsh loss, reduced tidal sedimentation (preventing marshes to keep pace with sea level rise), and upstream methane and greenhouse gas emissions. Restrictions also impede or block fish passage, yet sea run fish that travel from the ocean to the freshwater as part of their life cycle require these critical connections between habitats along the coast. Restoration and maintenance of these connections are vital to fish migration. Altered conditions can also make marshes more susceptible to non-native, invasive species (e.g. Phragmites) with a resulting cascade of ecological impacts.

By better understanding Maine's potential tidal marsh carbon sequestration potential based on the current habitat, future projected habitat, and ability to address tidal restrictions to allow for the improvement of current tidal marsh habitat and allow future marshes to form, we would be able to a) prioritize and implement conservation to protect critical habitat and critical habitat buffers, including marsh migration spaces, b) identify candidate areas for enhancement, restoration, and cultivation, and c) leverage and mobilize funds to the most appropriate actions.

During this 5-year period, MCP will work with our partners to advance the understanding of Maine's tidal marsh health, carbon sequestration, habitat restoration potential, and projected future marsh habitat, whether it be net growth or net loss. We will do this through field data collection of marsh health assessments (including information on vegetation, water levels, sediment accretion or loss, vegetated to un-vegetated ratios, salinity, and marsh elevations), of tidal restrictions (including field-verified restriction assessments based on existing protocols), and of greenhouse gas emissions and sequestration measurements. We will use this information to model current and future marsh health conditions, state-wide greenhouse gas sequestration, and site-specific restoration needs and potential.

III. Needs and Gaps Addressed

This strategy directly addresses the three Stressors identified during this assessment:

- Development & Land Use Change in Wetlands and Wetland Buffers that impact tidal flow and marsh migration corridors – by documenting the extent to which current marshes and migration areas are impacted by reduced tidal flow at crossings and excess freshwater;
- Sea Level Rise - by documenting and modeling how Maine's marshes are accreting or being lost to sea level rise; and,

- Changes in freshwater input and groundwater flows due to historical hydrological alteration & channelization and recent development – by understanding from actual observations how these legacy effects impact marsh health and Blue Carbon potential, how they can be assessed at marsh sites, and how they may be addressed as part of restoration projects.

Further, this strategy addresses Emerging Issues identified in the assessment including the impact and extent of tidal flow restrictions, sea level rise and marsh migration, anticipated changes in biodiversity in the coastal zone, and Blue Carbon. The Maine Climate Council's Coastal and Marine Working Group has recently developed a Blue Carbon Optimization Strategy that specifically calls for increasing Maine's monitoring capacity, stating that "current monitoring systems including imagery acquisition and mapping are not sufficient to comprehensively and accurately assess blue carbon stocks and sequestration potential; either currently or into the future as tracking of mitigation successes is necessary." This CZM strategy will work hand-in-hand with this State strategy to document current and future marsh health, carbon sequestration, and restoration potential.

IV. Benefits to Coastal Management

Coastal marshes are a critical component of the coastal ecosystem and provide benefits to both the natural and built systems. This strategy intends to better understand the health of, and the stressors impairing Maine's marshes in order to avoid and minimize (net) coastal marsh loss where possible and thus maintain ecosystem services. This strategy will increase understanding of how marsh systems are likely to change as a result of sea level rise, assess what functions, and at-risk species and habitats may be lost, and provide us with an opportunity to implement strategies that support the ability of the marshes to migrate where possible. While some marshes will not be able to migrate due to local topographic conditions and existing armoring of the marsh edge due to adjacent land development, and are likely to be drowned by sea level rise, there are places where the topography and soil characteristics are likely to support the landward movement of existing coastal marshes and transition of fresh water marshes to coastal marshes. With a more detailed understanding of existing and future conditions, we will be able to develop more realistic and successful strategies to support coastal marsh migration and potential development. This strategy will benefit coastal management by:

- Documenting the scale and degree to which the state's tidal marshes are impaired by human causes (e.g. tidal restrictions) and sea level rise;
- Improving assessment tools to measure impacts to tidal marsh functions, values, and ecosystem services;
- Improving marsh conservation and restoration techniques in support of no net loss of wetland functions and values; and
- Improve Maine's understanding of the science related to understanding the changes that will occur or what adaptation strategies are needed.

V. Likelihood of Success

There is a high likelihood of attaining the strategy goal and program change. This strategy builds on the successful development of 1) a statewide salt marsh monitoring effort by MCP during 2017-2020, which installed marsh elevation tables at 11 marshes spanning the coast, 2) a desktop tidal restriction atlas completed by MCP with the support of a NOAA Coastal Management Fellow, and 3) a partnership of state, federal, and non-governmental organization scientists and restoration

practitioners who have identified creating rapid marsh health assessments as a necessary component to marsh restoration projects.

As stated above, the Maine Climate Council's Coastal and Marine Working Group have identified monitoring and modeling of the state's tidal marsh condition, tidal flow restoration potential, and future marsh migration scenarios as key to protecting and improving Maine's Blue Carbon stocks. Previous and current work undertaken by MCP has shown the benefit of basing management and policy development at multiple levels on best available science. MCP has a long and successful history of working with partners from a wide variety of constituencies; this strategy will employ that approach.

VI. Strategy Work Plan

Strategy Goal: MCP and its partners will adopt methods to gather on-the-ground information about the degree to which tidal restrictions are impairing marsh ecosystem health and aquatic passage, including information specific to tidal crossings as well as marsh health.
Total Years: 5

Year(s): FY2021-2023
Description of activities: MCP and our partners will review recently developed field protocols for assessing tidal restrictions, such as the NH Tidal Crossings Assessment Protocol and the North Atlantic Aquatic Connectivity Collaborative (NAACC) Aquatic Passability Scoring Systems for Tidal Stream Crossings, to adopt a field protocol for assessing tidal flow restriction at the locations identified in the desktop- developed Tidal Restriction Atlas. Because of the large geography of the Maine coast compared to other New England states which have recently completed tidal restriction data collection, we anticipate that protocols will need to be slightly revised to include more desktop assessment when possible (e.g. using aerial images to assess presence of scour). In other cases, Maine partners have expressed the need to collect additional desktop and field information, for example a thorough desktop assessment of surrounding low-lying development.
Major Milestone(s): Adopted field protocol for assessing tidal restrictions in Year 1, field tested and revised in Year 2.

Year(s): FY2023-2025
Description of activities: MCP and its partners will employ the field protocol for assessing tidal restrictions and revise the Maine Tidal Restriction Atlas to include this information. Because of Maine's long coastline and number of tidal crossings (over 1000), and based on time estimates for employing the New Hampshire Tidal Restriction protocol for 140 crossings (2 years) it is anticipated that we will not collect field information on all of Maine's crossings during this period, but will employ the protocol in distinct geographies and build partnerships to continue data collection after this period.
Major Milestone(s): Field data collected for a portion of Maine's tidal crossings, and included in the Atlas and made available online

Strategy Goal: Understand marsh health, stressors, and anticipated changes through mapping, modeling and field data collection
Total Years: 5

Year(s): FY2021
Description of activities: MCP will convene state and regional partners to discuss current marsh monitoring programs, recent analysis assessing regional data trends, and refined and expanded monitoring efforts that will better address questions about the impact of sea level rise, success of tidal restoration, and potential for marsh migration.
Major Milestone(s): Develop updated monitoring methods and locations. Partnerships developed with at least one interested municipality and land trust in representative regions to look at potential tidal marsh restoration projects, marsh migration impacts and possibilities.

Year(s): FY2023-2025
Description of activities: MCP and its partners will increase the State's capacity to monitor changes in tidal marshes through mapping and field data collection and assess how those changes might affect Maine's marshes ability to keep pace with sea level rise.
Major Milestone(s): Develop updated State Tidal Marshes Characterization; available online, through scientific reports, and targeted outreach and education materials. At least one demonstration project completed for a tidal flow restoration project, marsh migration study, or other marsh restoration effort.

Strategy Goal: MCP and our partners will work to determine the current amount of marsh acreage impaired and possibly emitting greenhouse gases because of impaired tidal flow and marsh subsidence, and the potential Blue Carbon potential (greenhouse gas reduction) of restoring tidal flow at these sites.
Total Years: 5

Year(s): FY2021-2024
Description of activities: Through in-situ measurements at sentinel sites and marshes representing healthy and impaired conditions (including those where tidal flow is restricted by crossings), measure carbon sequestration and methane emission rates, and model these findings to represent a statewide estimate of marsh Blue Carbon potential. Target at least one site for pre- and post-tidal flow restoration monitoring. Present this information to the Maine Climate Council, relevant management and policy agencies, land trusts, and others for targeted restoration and conservation planning.
Major Milestone(s): Estimates of Maine tidal marsh carbon sequestration potential under current conditions and projected marsh migration scenarios, with estimates showing difference between tidal restricted and restored marshes.

Year(s): 5
Description of activities: Present this information to the Maine Climate Council, relevant management and policy agencies, land trusts, and others for targeted restoration and conservation planning.
Major Milestone(s): Draft, review and publish information about findings; work with relevant parties to inform programs and policies

VII. Fiscal and Technical Needs

Fiscal Needs: CZMA Section 309 funding may be insufficient to fully fund this strategy work plan, however we are actively working with partners that are interested in implementing these strategies through in-kind and cash match funding. Maine Outdoor Heritage Fund is a possible

source of state funding and working draft strategies in the Maine Climate Council's working groups support funding for the implementation of these strategies.

A. Technical Needs: MCP will develop an advisory team including networked partners and external partner organizations. The advisory team and MCP staff will be supplemented with contractors as needed. MCP will work with the Maine Natural Areas Program, the Wells NERR and academic partners from the University of Maine and Bates College to monitor sediment accretion rates, greenhouse sequestration and emissions, water levels, and other in-situ measurements described above. MCP will contract for wetland functional assessments.

Projects of Special Merit (Optional)

- Collection of marsh and crossing information at tidal crossings
- Developing a method to rapidly document marsh health conditions at tidal restriction sites for restoration projects
- Measuring Blue Carbon potential in Maine's tidal marshes based on in-situ measurements and modeling

Maine Coastal Program
Summary of Public Comments
2021-2025 CZMA Section 309 Assessment and Strategy

Background

The Maine Coastal Program (MCP) completed its *DRAFT CZMA Section 309 Assessment and Strategy - 2021-2025 (A&S)* in summer 2020. The A&S, on track to receive NOAA approval in late fall 2020, will help inform MCP's efforts over this next five-year period. The A&S is ambitious and includes a menu of efforts that will likely far exceed both federal NOAA funding and other funds that might be available to MCP. We hope the document lays out work that will draw interest from additional partners and collaborators.

MCP solicited public feedback on the A&S (remotely during the Covid-19 pandemic) through a survey in which respondents were asked about their level of support for the identified MCP priority areas of Coastal Hazards, Ocean Resources and Wetlands, and the program's proposed strategies to address them. See Appendix B for the survey instrument.

The survey was posted on the Department of Marine Resources/MCP website during mid-July through mid-August 2020. In addition, an invitation to answer the survey was distributed to a very large audience of 7,847 via an MCP distribution list (coastal towns, coastal land trusts, participants in MCP's volunteer programs, teachers, and non-governmental organizations). Due to an oversight, the survey was reopened in September 2020 to allow coastal Regional Planning Organizations to respond. A total of 117 responses were received.

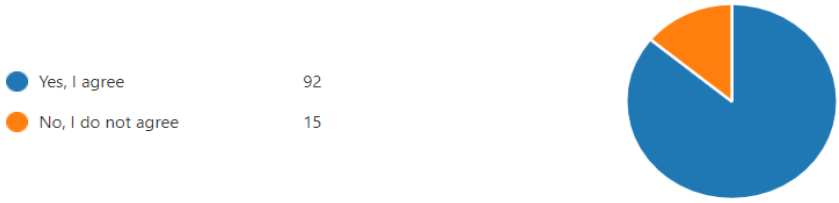
Summary of Survey Results

The summary on the following pages is organized by our three MCP priority areas (Coastal Hazards, Ocean Management and Wetlands). The pie charts depict the number of respondents that agreed or disagreed with these priorities and corresponding strategies.

A summary of survey comments is provided on the following pages, and MCP's response to the comments is included under each issue area. MCP staff did not make any changes to the A&S document based on the public feedback we received. All comments will be helpful as we consider how to more specifically implement this work.

Coastal Hazards

Do you agree Coastal Hazards should be a priority for MCP for the years 2021-2025?



Summary of Comments

Land use Regulation

- All new projects by anyone near coastline need to plan for sea level rise; development must not be allowed in the near-shore zone
- Support the protection of coastal archaeological sites, and other cultural features
- Proactively determine flood protection standards for future housing and incorporate sea level rise
- State and Federal government should stay out town and private individual business

Nature-based Solutions

- Natural dune systems and maritime forests can adequately absorb storm surge. Coastal dune erosion mitigation efforts are needed to preserve our sand beaches, and maritime forests must be protected, prioritized, and replenished.
- Identify opportunities to develop demonstration projects for living shorelines or other nature-based solutions. Engage community-based organizations to assist in identifying opportunities.

Technical Assistance

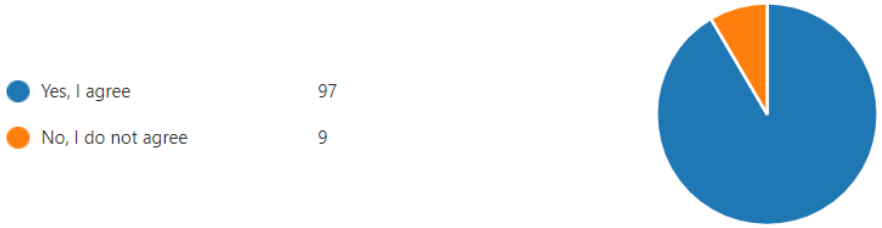
- MCP can help develop supportive frameworks and information, but it also should play some role in connecting this information to local communities. Towns (particularly rural ones) may need more support than just information tools to be able to evaluate, plan, and implement projects to address their coastal hazard challenges. Does MCP evaluate completed projects and MCP program components to make sure the long-term outcomes are achieved?
- Is there also any remediation work that can be done besides the policy, education, and information development?

MCP Response:
Maine's Climate Action Plan is due to the Maine Legislature in December 2020. Following that, the Legislature may consider the establishment of sea-level rise scenarios and call for a review of state statutes in light of sea-level rise, storm surge and flooding. This work would involve stakeholder engagement and a transparent process.

MCP recognizes that hands-on municipal technical assistance is critical and current efforts are under-resourced. There is also a critical lack of funding for on-the-ground restoration and adaptation construction projects; MCP financial resources are insufficient to fund construction projects. The Governor Mills' Office of Policy Innovation and the Future is currently examining how to improve municipal and regional technical assistance. The evaluation of MCP-supported projects against desired outcomes is an excellent idea that we will pursue.

Ocean Resources

Do you agree Ocean Resources should be a priority for MCP for the years 2021-2025?



Summary of Comments

Offshore Windpower

- Commenters voiced their opposition to offshore windpower, citing concerns such as feasibility, limited design life, potential for debris, habitat impacts, privatizing the ocean, and use of taxpayer funds. Others noted that offshore windpower should be a number one priority for the state of Maine, given supply chain and manufacturing opportunities and ability to reach carbon reduction goals.
- A Maine stakeholder committee or task force is needed to ensure that proposals address our state's energy needs and provide economic gain for Maine people as well as address tradeoffs and environmental concerns.
- Knowing where fish/invertebrates are and where they are being fished now, as well as projecting these conditions to the future over the life span of a windpower project, is essential for addressing this issue. It would be helpful to know how the Coastal Program will partner with the Bureau of Marine Science or other organizations to incorporate living marine resource and fishery assessments (and projections)

<u>MCP response:</u> Governor Mills announced the Maine Offshore Wind Initiative in 2020 to advance deepwater floating platform technology in federal waters off of Maine and Maine is also part of the Gulf of Maine BOEM regional Task Force to plan regionally for offshore windpower. The administration is thoroughly committed to a transparent and effective process to ensure that windpower development is responsibly sited with the robust involvement of harvesters and other stakeholders.

Aquaculture

- Aquaculture must be planned to reduce ecosystem impact through approaches like Integrated Multi-Trophic Aquaculture to reduce pollution from fish waste and improve efficiency and product quality.

- Aquaculture and wild capture fisheries should be thought of as a "seafood system" and efforts should focus on the components of the value chain that support the long-term needs for successful seafood economy. Link to the Alliance for Maine's Marine Economy and to the SEAMaine/Island Institute.

MCP Response: Thank you for these suggestions. ME DMR participates in both SEAMaine and the Alliance.

Observations and Monitoring

- New infrastructure that will be installed in Gulf of Maine (GOM) waters should be required to maintain monitoring equipment like that on oceanographic buoys to provide fairly high spatial and temporal resolution of processes in the GOM.
- Natural gas fields (shallow methane deposits) should be better mapped – potential safety issues.
- All of these issues require a robust data framework to store and share this information with stakeholders, developers, fishermen, etc.

MCP Response: Thank you for these suggestions. The comment about methane deposits has been forwarded to the Maine Geological Survey.

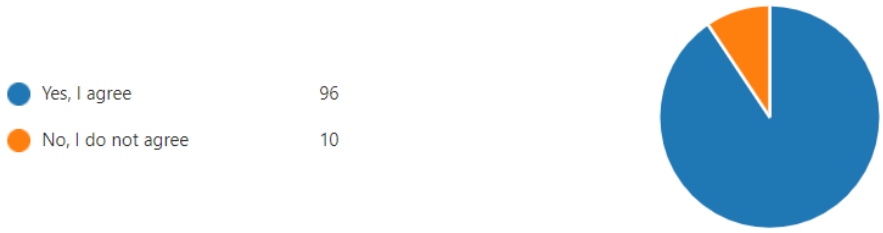
General

- This is all good; but it sounds a lot like ocean zoning.
- Enhancing collaborative efforts with coastal communities should be part of this priority, especially in regard to environmental change over time and to protect current uses.

MCP Response: The strategies proposed by MCP under the Ocean Resources priority are not intended to result in ocean zoning. We acknowledge that coastal communities are a critical audience for information about environmental change (both current and forecasted), and are key players as ocean habitats and ocean users are challenged by such change.

Wetlands

Do you agree Wetlands should be a priority for the MCP for the years 2021-2025?



Summary of Comments

Concerns

- Restoration using larger tidal culverts will add to coastal flooding upland and possibly diminish and/or erode wetlands

MCP Response: Tidal culvert restoration projects are complex and include typically include thorough feasibility and alternative analyses, including consideration of impacts on adjacent lands.

Data Needs

- Show the economic and ecological losses when wetlands and buffers are degraded
- Need statewide projections of how salt marsh and sav/eelgrass bed acreage would change with sea level rise at multiple time scales under current configurations AND compared to implementation of measures to adapt to the threat of sea level rise.
- Monitoring should include sediment accumulation rates and document changes in adjacent freshwater wetlands

MCP response: These are great suggestions. We are *currently monitoring sediment accumulation at representative sites along the coast and documenting changes and agree that other suggestions represent data gaps that should be addressed.*

Regulatory

- Measures should be taken to prevent further development of lands adjacent to marshes.

- Controls on herbicide and pesticide use adjacent to wetlands are important to protect marine and wildlife habitat.

MCP response: Local governments can currently regulate/increase wetlands buffers and control herbicide and pesticide use under municipal home rule authorities, going above and beyond current state requirements. Recommendations have been made to the Maine Climate Council to examine state land use laws in light of the need for climate adaptation.

Non-Regulatory

- Work collaboratively with other organizations to identify and restore degraded areas and protect areas through acquisitions, easements, etc.
- Restoration of eelgrass should be a priority where historical beds are known. Eelgrass is a vital part of our coastal ecosystem and provides a breeding and protection area for many species.
- Rototill the compacted flats, and use lime to buffer acidification

MCP response: DMR leads the state's Stream Connectivity Work group and MCP leads a tidal restoration effort called Coastwise. Both of these efforts foster collaboration to inventory, assess, design and implement restoration projects. MCP itself does not purchase easements or land due to limited funds. Our efforts help position towns and NGOs to compete successfully or raise new funds for conservation.

Inventory, monitoring, development of management measures for eelgrass is likely to be included in Maine's Climate Plan in currently under-resourced.

General

- For all strategies in the Wetlands section, ensure that water-dependent businesses continue to exist/expand/ diversify.
- Monitoring, survey and evaluation are important but MORE important is have action plans developed to immediately act on findings with fast track action plan for violations
- Trained citizen scientists can work effectively at the local level on impacts of roads, culverts and run-off.

MCP Response: Agree.

Blue Carbon

- Very important opportunity for Maine to mitigate carbon emissions.
- RE: macroalgae, there are two issues here. One is monitoring of wild harvest and the second is support for seaweed aquaculture. Both are important for carbon sequestration, and both

will remove nitrogen from the coastal waters when the product is harvested for whatever purpose it is used.

- What framework/database/regulatory structure will estimate of carbon sequestration inform or add to?

<u>MCP Response:</u> The MCP Wetland Strategy elements related to Blue Carbon aim to advance the science and understand the management implications of Blue Carbon. As of fall 2020, there is no regulatory structure in Maine for blue carbon and no carbon tracking system to capture sequestration from natural systems. Recommendations for advancing Blue Carbon in Maine were delivered to the Maine Climate Council by its Coastal and Marine Working Group in June 2020 and MCP participates in state and regional Blue Carbon working groups.

Maine Coastal Program Priorities Survey

DEADLINE- Responses must be submitted by August 14, 2020, 2 PM.

BACKGROUND - Every five years, Maine Coastal Program at the Department of Marine Resources prepares a self-assessment as a part of the National Oceanic and Atmospheric Administration's (NOAA) Coastal Zone Management Enhancement Program under the provisions of Section 309 of the Coastal Zone Management Act of 1972, as amended. This self-assessment is used to determine priorities and develop strategies to be undertaken by MCP (provided that future funding, capacity and partnerships become available).

REQUIREMENTS - NOAA requires a cursory self-assessment of nine national interest areas, followed by a more in-depth characterization of higher priority issues, and development of five-year strategies for areas of highest priority. In 2019 and 2020, MCP developed Phase I high-level assessments of each of the nine areas below, and more in-depth, Phase II assessments for three areas (Coastal Hazards, Ocean Resources and Wetlands) and proposed strategies in these same three areas.

NATIONAL INTEREST ISSUES

Aquaculture
Coastal Hazards
Cumulative and Secondary Impacts of Development
Energy and Government Siting
Marine Debris
Ocean Resources
Public Access
Special Area Management Planning
Wetlands

MAINE'S ASSESSMENT 2021-2025
For each national issue area, MCP assessed: 1) existing management status, 2) needs and gaps, 3) effectiveness of work over the previous five-year period, and 4) opportunities for future work. After a cursory assessment, the MCP completed more in-depth assessments in the chosen priority areas of Wetlands, Coastal Hazards and Ocean Resources.

It is important to note the difference between issue areas that are considered as priorities for Section 309 funding, and issues of priority importance to Maine, but not suitable for this type of funding. For example, marine debris and public access to the coast are issues of major importance to Maine, but not for the Section 309 program at this time. In comparison, improving the resiliency of Maine's coastal communities in light of climate change and work to minimize conflicts in use of ocean resources fit better for 309 funding over the next five years

and advances both the coastal mitigation and adaptation goals of the Maine Climate Council and the recommendations of its Coastal and Marine Working Group.

ADDITIONAL RESOURCES -
NOAA's Coastal Zone Enhancement Program: https://coast.noaa.gov/czm/enhancement/
MCP's Draft Assessment and Strategy Document: https://www.maine.gov/dmr/mcp/index.htm
More information about the Maine Coastal Program: https://www.maine.gov/dmr/mcp/index.htm
MCP's last Section 309 Five Year Plans (2016-2020):
https://www.maine.gov/dmr/mcp/index.htm

Please spend 1/2 hour to provide your opinion and input about MCP's identified priorities and course of action. Survey results will be taken into consideration in MCP's final plan (anticipated to be reviewed by NOAA in Fall 2020). If you are interested in how your comments have been considered, please include your email address later in the survey (OPTIONAL) and we will send you our responses.

Your information

1.Name (optional)

2.Affiliation (optional)

3.Email Address (optional)

Wetlands

Nearly 20,000 acres of tidal wetlands are scattered along Maine’s coast. Spanning the entire coast, tidal marshes support a diverse range of highly valued goods and services to local communities including storm surge reduction, floodwater attenuation, maintenance of fish and wildlife, local fisheries production, pollutant filtering, and carbon sequestration. These important ecosystems are threatened by sea level rise, coastal development, and structures such as undersized culverts that restrict natural tidal flow. Over the next five years, MCP will, (provided that sufficient funds, partnerships and capacity are available): 1) Implement the CoastWise approach through trainings and technical support for municipalities and road owners. Coastwise is an initiative focusing on undersized and malfunctioning culverts on tidal road crossings and best management practices to improve both habitat and infrastructure resiliency. 2) Monitor changes in tidal marshes through mapping and field data collection in order to assess how changes might affect Maine’s marshes ability to keep pace with sea level rise. 3) MCP will advance coastal carbon sequestration in Maine through support of research, monitoring and modelling of coastal blue carbon resources (tidal marshes, eelgrass and macroalgae). 4) Assist with development of regulatory and non-regulatory techniques including incentives for conservation, restoration and improved management.

4.Do you agree Wetlands should be a priority for the years 2021-2025?

- Yes, I agree
- No, I do not agree

5.Please include any comments relevant to this approach in the box below.

Coastal Hazards

A series of coastal storms in March 2018 (three storms during the month) and January 2019 (2nd highest observed water level since 1912 in Portland) resulted in extensive coastal flooding and beach, dune, and bluff erosion in Maine's coastal municipalities. In addition, monitoring of sea levels around the state indicate that sea levels continue to rise at or slightly above global averages. To date, over 60 coastal communities have been engaged with MCP or its partners in hazard adaptation planning and implementation Over the next five years, MCP, (in partnership with Maine Geological Survey (MGS), other state agencies, the Maine Climate Council and stakeholders) will: 1) Address identified deficiencies with existing regulations and policy, develop incentives, develop supporting mapping projects an informational products for local, regional and state decision makers. 2) Help develop statewide policy, plans and a regulatory framework on sea level rise to the year 2120 to be used in the next Maine Climate Action Plan in 2024-25. 3) Develop informational materials to assist local and state decision-makers.

6.Do you agree Coastal Hazards should be a priority for the years 2021-2025?

- Yes, I agree
- No, I do not agree

7.Please include any comments relevant to this approach in the box below.

Ocean Resources

Given the potential for new types of commercial development in the Gulf of Maine, it is critical for Maine to increase its collection of data on marine habitats and other parameters. The Gulf of Maine is seeing rapid environmental change, and robust data is crucial to provide a benchmark for a means of comparison to future conditions and to inform fisherman, other ocean users, and federal, state and local decisionmakers. Competition for ocean space has proved to be an issue in recent years, as evidenced by offshore windpower development proposals in southern New England waters. Currently, Governor Mills Ocean Windpower Initiative is underway and MCP's focus on data collection and attention to reduction of user conflicts will assist in implementation of the initiative and inform deliberations at the US Bureau of Ocean Energy Management (BOEM) Gulf of Maine Task Force on Ocean Windpower. Over the next five years, MCP will, if resources, capacity and partnerships are in place: 1) Characterize ocean habitats and document changing ocean and coastal conditions. 2) Inform future development and siting of new ocean development in shared ocean

space, specifically offshore wind and aquaculture. 3) Enhance collaborative efforts across state governments and with federal partners to address cross-boundary issues that impact Gulf of Maine and its user community.

8.Do you agree Ocean Resources should be a priority for the years 2021-2025?

- Yes, I agree
- No, I do not agree

9.Please include any comments relevant to this approach in the box below.

IN THE MATTER. OF
SAMOROCK LLC
Rockland, Knox County
SAMOSET YACHT CLUB
L-14246-4E-I-N)
DENIAL

SITE LOCATION OF DEVELOPMENT
MODIFICATION
NATURAL RESOURCES PROTECTION ACT
WATER QUALITY CERTIFICATION
FINDINGS OF FACT & ORDER

Pursuant to the provisions of 38 M.R.S.A. Sections 480-A and Section 401 of the Federal Water Pollution Control Act, the Department of Environmental Protection has considered the application of SAMOROCK LLC, with the supportive data, agency review comments, and other related materials on file and FINDS THE FOLLOWING FACTS

PROJECT DESCRIPTION:
A. Application: The applicant proposes to construct an 860-foot, 40- slip yacht club marina. A concrete abutment is proposed to anchor a permanent 12-foot by 430-foot long timber pier supported by nine granite crib-style piles. A 50-foot long aluminum ramp will connect the permanent pier to an additional l0-foot by 380-foot long series of floats. Ten fingers are proposed off the main run along with a l0-foot by 300-foot long section attached to the end as a 'T'. Also attached to the main run is a 8 foot by 135-foot long run with three fingers. Five, three-pile dolphins along with 26 permanent piles are proposed to hold the floats in place. Ten moorings and a boat house are also proposed as part of. this application, but the size and location of the boat house is currently unknown to the Department. The project site is located in the Town of Rockland.

B. Site Description: The site is located at the end of Samoset Road in the Town of Rockland. The proposed project site is between the Rockland Breakwater and the Mary Reed Memorial Park. The site is currently used as a public oeach area acc~ssed through a public park (Mary Reed Memorial Park), with a footpath that leads across the beach to the Rockland Breakwater.

2. WATER QUALITY CONSIDERATIONS: The Department and National Marine Fisheries Service (NMFS) have review the proposed project and find that the creation of the 860 foot yacht club will potentially impact water quality as a result of di.charge from boat sanitary and fuel tanks. Projects for marinas with a capacity to provide any combination of slip space or mooring for 18 or more vessels that exceed 24 feet in length are required, by 38 M.R.S.A. § 423-B, to include plans for a sanitary purnp-out

station. **The applicant's proposal does not include plans tor such a pump-out facility. Therefore, the Department finds that the proposed project may result in the degradation of water quality.**

DRAFT

3 HABITAT CONSIDERATIONS:
The Department's Division of Environmental Assessment (DEA), the Department of Marine Resources (DMR), and the National Marine Fisheries Service (NMFS) have reviewed the project and have commented that the proposed project will impact the marine habitat from several aspects. DEA and DMR comment that the proposed project will result in some displacement of lobster fishing activity and that characteristics of the habitat impacted are typical for juvenile and young lobster habitat.

The Department has also received documents prepared by **local lobster fisherman stating that the subtidal project area provides significant opportunities for lobster fishing.** Lobster fishermen state that the area is a prime inshore lobster fishing ground that is safe from storms and boating activities. Lobsters are abundant in the area because of crevices in the breakwater, kelp beds and eelgrass beds. NMFS has stated that eelgrass beds are considered Special Aquatic Sites under the Clean Water Act 404(b) (l) guidelines. DMR has indicated generally that impacts to eelgrass habitat can result through prop turbulence or through continued species disturbance from turbulence. **Therefore, the Department finds that the proposed project will result in unreasonable harm to marine fisheries and habitat through potential impacts to eelgrass beds and lobster habitats adjacent to the breakwater.**

DRAFT

4. WETLAND CONSIDERATIONS: Approximately 1,300 square feet of intertidal and subtidal habitat will be impacted by nine granite crib pier supports which are proposed. Approximately 16,190 square feet of subtidal and intertidal area will be impacted due to shading. Additional impacts will occur from the 26 permanent subtidal piles proposed to hold the marina floats in place.

The Wetland Protection Rules, Chapter 310, require that compensation be provided for impacts to coastal wetlands exceeding 500 square feet. The proposed fill in the mud/cobble beach habitat will eliminate epifauna and infauna. To mitigate for the 1,300 equare feet impacted by crib and pile installation, tee applicant has suggested that the exposed surfaces of the granite blocks themselves and the attachment area they provide for rockweed and crustaceans, create habitat and therefore that can be considered compensation for the wetland fill. The Wetland protection Rules state that 'compensation ls the off-setting of a lost wetland function with a function of equal or greater value." 38 M.R.S.A. §480-Z further states that "compensation must include the restoration, enhancement. creation or preservation of wetlands that have functions or

values similar to ths wetlands impacted by the ac.ivity." Impacting coastal wetlands through proposed fill does not constitute compensation by this definition. **The Department finds that the applicant's proposal for wetland compensation does not meet the requirements of Chapter 310, section 5(C).**

5. EXISTING USES AND SCENIC AND AESTHETICS

The Natural Resources Protection Act requires that an appplicant demonstrate that the **"activity will not unreasonably interfere with existing scenic, aesthetic, recreational or navigational use."**

A. EXISTING USES: Although the beach area where the pier would be anchored is owned by the applicant, the public has had historical access and use of the nearshore and intertidal areas for an extensive period of time. Existing uses at the site include recreational access, tourism, navigation, and commercial fisheries. The Marie H. Reed Memorial Park is also located just to the west of the project site. This public park contains several benches and lawn area and constitutes the sole public access point to the breakwater. Just to the east of the project site is the century old breakwater, a public landmark. The seaward end of the breakwater houses one of just a few functional lighthouses. The current access to the breakwater is a footpath that leads from the Memorial Park through the nearshore area adjacent to the beach.

The marine area inside the breakwater is currently used as **a safe place for boats and schooners to moor during storms.** The Department received many letters from captains of schooners, indicating that the deepwater area toward Jameson Point is a critical mooring field that was placed there for the depth of water. so that schooners would not encroach on fishing activities, or the breakwater.

The area directly adjacent to the breakwater is a significant area in the harbor for lobster fisherman to set their traps. This area currently provides a typical habitat type for juvenile and young lobsters. The Department received documents prepared by local lobstermen as well as a petition opposing the proposed pier with 39 signatures of Rockland lobsterrnen with their lobstering license numbers. Letters from the lobstermen state that the area is a prime inshore lobster fishing ground that is safe from storms and boating activities. Lobsters are abundant in the area because of crevices in the breakwater, kelp beds and eelgrass beds. The construction of this pier would displace a significant amount of lobstering. Th**e Department finds that placement of permanent sections of the pier, dolphins and float pilings will interfere with lobster fishing activity as it currently exists.**

B. SCENIC & AESTHETICS. Upon the Department's request, the applicant submitted a scenic ~& aesthetic visual impact report, to demonstrate how the marina would be viewed from five different vistas: the Marie Reed Memorial Park, the public beach (at the base of the proposed marina}, the lighthouse at the end of the breakwater, the harbor area (off Jameson Point), and outside of the breakwater cominq into the harbor.

After reviewing these submittals, the Department has determined that all scenic vistas examined will be adversely affected through construction of the proposed 860 foot pier and ancillary shore development. The most drastic scenic impact will occur to views from the Marie Reed Memorial Park, which serves as the primary access point for the public to proceed to the Rockland breakwater. The proposed pier will become the primary structure visible from this vantage point, obstructing views of the historic breaKwater and harbor area.

Residents of the Rockland area have also submitted a visual impact report that demonstrated how important the breakwater is to the State of Maine and the City of Rockland. The public comments contend that the proposed project would unreasonably interfere with the scenic beauty of a relatively unspoiled area. They argue that the breakwater has aesthetic and recreational value to the citizens of Maine beyond the functions it was designed to serve one century ago. The Department concurs that the Memorial park, beach, and breakwater are components of the existing scenic and aesthetic uses of the Rockland harbor.

The Department finds that the proposed project will result in an unreasonable interference with existing scenic, aesthetic, and recreational uses of the area.

BASED on the above findings of fact and subject to the conditions listed below, the Department makes the following conclusions:

A. The proposed activity will unreasonably interfere with existing scenic. aesthtic, recreational, or navigational uses.

B. The proposed activity will not cause unreasonable erosion of soil or sediment.

C. The proposed activity will not unreasonably inhibit the natural transfer of soil from the terrestrial to the marine or freshwater environment.

D. The proposed activity will unreasonably harm any significant wildlife habitat, freshwater wetland plant habitat, threatened or endangered plant habitat. aquatic habitat, travel corridor. freshwater, estuarine. or marine fisheries or other aquatic life.

E. The proposed activity will not unreasonably interfere with the natural flow of any surface or subsurface waters.

F. The proposed activity will not violate any state water quality law including those governing the classifications of the State's waters.

G. The proposed activity will not unreasonably cause or increase the flooding of the alteration area or adjacent properties.

H. The proposed activity is not on or adjacent to a sand dune.

I The proposed activity is not on an outstanding river segment as noted in Title 38 M.R.S-A. Section 48D-P.

THEREFORE, the Department **DENIES** the above noted application of SAMOROCK LLC to construct an 860-foot yacht club marina in the Town of Rockland:

DONE AND DATED AT AUGUSTA, MAINE, THIS_____DAY OF _____ 2001

DEPARTMENT OF ENVIRONMENTAL PROTECTION

By: _____

MARTHA G. KIRKPATRICK, COMMISSIONER

PLEASE NOTE THE ATTACHED SHEET FOR GUIDANCE: ON APPEAL PROCEDURES.

Maine DEP's April 13, 2007 Denial of Samorock LLC's application to build a resort pier in a scenic lobster ground next to the Rockland Breakwater in Rockland Maine Background, details here

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Transcribed copy

STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION
STATE HOUSE STATION 17 AUGUSTA, MAINE 04333

DEPARTMENT ORDER
IN THE MATTER OF
SAMOROCK, LLC
Rockland, Knox County
PIER, RAMP & FLOAT
L-14246-87-R-N
L-14246-4C-S-M

SITE LOCATION OF DEVELOPMENT LAW
NATURAL RESOURCES PROTECTION
COASTAL WETLAND
WATER QUALITY CERTIFICATION
MINOR REVISION

DENIAL

FINDINGS OF FACT AND ORDER Pursuant to the provisions of 38 M.R.S.A. Sections 481 et seq., Sections 480-A et seq. and Section 401 of the Federal Water Pollution Control Act, the Department of Environmental Protection has considered the application of SAMOROCK, LLC with the supportive data, agency review comments, public comments, and other related materials on file and FINDS THE FOLLOWING FACTS:

1. PROJECT DESCRIPTION:

A. History of Project: In Department Order #L-14246-87-A-N, dated October 14, 1987, the Department approved the development of a hotel resort, 111 attached single-family dwelling units, time share units and an 18-hole golf course. Since 1987 there have been several modifications and amendments to the original Department licensing decision.

B. Summary: The applicant proposes to construct a private 12-foot wide by 550-foot long, pile supported pier with a seasonal 50-foot ramp and a 140-foot float in and adjacent to a coastal wetland to provide shared recreational boating access for residents and guests of a new 45-unit condominium development approved in Department Order #L-14246- 87-0-A. The total maximum length of the pier, ramp and floats at high tide will be approximately 740 feet. The floats will be able to accommodate three to four boats at a time for on-loading and off-loading of passengers. No boats will be

permanently berthed at the dock or float. The project site is located on Warrenton Street in the City of Rockland.

C. Current Use of Site: The site of the proposed project is currently occupied by the Samoset Resort, a hotel resort with residential condominiums, time share units, and an 18-hole golf course. The general public is allowed to cross the applicant's property near the site of the proposed pier to access the Rockland harbor breakwater. Access is obtained through Marie H. Reed Park.

WETLANDS AND WATERBODIES PROTECTION RULES:

The Natural Resources Protection Act (NRPA) defines coastal wetlands as "all tidal and subtidal lands, including all areas below any identifiable debris line left by tidal action; all areas with vegetation present that is tolerant of salt water and occurs primarily in a salt water or estuarine habitat; and any swamp, marsh, bog, beach, flat or other contiguous lowland which is subject to tidal action during the maximum spring tide level..." 38 M.R.S.A §§480-B(2). The construction of the proposed pier, ramp and float would alter a portion of the coastal wetland and it therefore would require a permit under the NRPA and the Wetlands and Waterbodies Protection Rules, Chapter 310 (Wetland Protection Rules). The Wetland Protection Rules interpret and elaborate on the criteria for obtaining a permit. The rules guide the Department in its determination of whether a project's impacts on the various protected functions and values of the wetland would be unreasonable.

Approximately 38 square feet of coastal wetland would be eliminated by this proposed project and approximately 9,600 square feet of the coastal wetland would be indirectly altered through shading to construct the proposed pier, ramp and float.

Coastal wetlands, such as the intertidal zone and the waters of Penobscot Bay, are wetlands of special significance as defined in Chapter 310 (4), and thus receive extra protection under the rules. For projects proposed to be located in wetlands of special significance, a practicable alternative is deemed to exist unless the project is within one of the categories of potentially acceptable projects listed in the rule. One such category is "water dependent uses". A dock by its nature is a water dependent use and, therefore, the rules allow an applicant to submit evidence to demonstrate that no practicable alternative exists.

A proposed project may be found to be unreasonable if it would cause a loss in wetland area, functions and values and there is a practicable alternative to the project that would be less damaging to the environment. An applicant must provide an analysis of alternatives in order to demonstrate that a practicable alternative does not exist.

Wetland functions are defined in Chapter 310 (3) (J) as: "The roles wetlands serve which are of value to society or the environment including, but not limited to, scenic and aesthetic use,... fisheries, wetland plant habitat, aquatic habitat and wildlife habitat."

The Department's Wetlands and Water bodies Protection Rules, Chapter 310, require that the applicant meet the following standards:

A. AVOIDANCE: The department may find that projects impacts on the coastal wetland are unreasonable if there is a practicable alternative to the project that would be less damaging to the environment. Each application for a coastal wetland alteration permit must provide an analysis of alternatives in order to demonstrate that a practicable alternative does not exist.

The applicant submitted an alternative analysis for the proposed project completed by Pinkham & Greer Consulting Engineers, Inc., and dated December, 2005,

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with a last revision date of March 7, 2007. The Samoset Resort includes over 1 mile of shoreline with the Town of Rockport and the City of Rockland. Most of the shoreline, however, is outside of the protection of the Rockland breakwater. The applicant considered the following alternatives to the proposed pier, ramp and float, and makes the following arguments that each is not practicable:

1) Placing a new pier, ramp and float adjacent to the Flume Cottage, which is on the section of shoreline outside the breakwater. This site, however, is very exposed to the east and would not provide a safe environment for both people and vessels of all sizes. Any location outside of the protection of the breakwater would be undesirable for the same reason. The section of shoreline within Rockland Harbor and inside the protection of the breakwater is the most desirable location for a pier. The breakwater is intended to provide protection for people and vessels so it naturally provides a safe location for the pier. The harbor contains various marine uses and the shoreline is developed with docks, piers, and other commercial and residential structures. There is also a mooring area defined by the City of Rockland off the end of the proposed pier.

2) The continued use of the Samoset's existing dock attached to the Rockland breakwater. This small ramp and float could not accommodate the increased use and larger boats that would be associated with the new 45-unit condominium development. The float is small and is connected to land via the breakwater. The surface of the breakwater is extremely uneven and presents a significant pedestrian hazard, especially at night. This pedestrian access is not viable for residents and quests that have difficulty walking. In addition, there is no ability to operate a small utility vehicle on the breakwater, which makes shuttling people and their gear difficult and there is no place for dinghy storage on the breakwater. Dinghies would have to be stored on land and

without the ability to operate a small vehicle, these boats would have to be carried a significant distance. Further, the breakwater was intended to protect marine structures, not support them. Enlarging the small existing dock and ramp would directly impact the historic structure.

3) Using the existing public and private facilities already present within the Rockland anchorage. There are currently four other public and private marina facilities within Rockland Harbor. Two of these facilities have slips and all four rent moorings. Based on inquires to several of the marina operators, seasonal boat slips and mooring rentals are limited and are often fully rented by late winter. These marinas also offer slip and mooring rentals on a transient basis, but this space is also limited and is typically offered on a first come, first served basis. Dinghy storage and parking are available, though similarly limited at these facilities. The existing facilities in Rockland Harbor are currently operating near capacity. The additional use that the owners of the Samoset condominiums would bring would likely overburden the existing marina facilities. In addition, using these facilities would necessitate travel

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back and forth between the Samorock property and the marinas, adding traffic to local roads and significantly impairing the purpose and value of Samorock's project.

According to the applicant the purpose of the proposed pier is to provide recreational boating access to the ocean for the residents and guests of the new ' 45-unit condominium development approved by the Department in Department Order #L-14246-87-0-A. While the applicant investigated other pier locations within its property boundary and considered the use of existing public and private facilities within Rockland Harbor; it failed to offer convincing evidence that the use of these existing public and private facilities would present an undue burden on the condominium owners.

Evidence in the record from the Rockland Harbormaster document that there is capacity within the City of Rockland anchorage for more than 40 additional moorings some of which are located in the vicinity of the existing ramp and float located on the breakwater and the proposed Samoset pier. All additional moorings within the Rockland anchorage can be serviced off the existing public facilities within Rockland Harbor. Additionally, the public facilities within Rockland Harbor are accessible by visitors to the area on a temporary basis. These facilities are all located within approximately 2 miles of the proposed pier location.

After reviewing the evidence in the record and viewing the project site, the Department finds that there is at least one practicable alternative to the project that would be less damaging to the environment. In particular, the applicant could use the existing marina

facilities within Rockland Harbor as well as their existing ramp and float located on the breakwater. The applicant could provide a shuttle service to the marina facilities within Rockland Harbor and a harbor shuttle to transport residents and guests of the Samoset Resort to and from their boats located on a mooring within the established mooring area in Rockland Harbor. The shuttle service would eliminate the concern regarding excess congestion on town infrastructure and the limited availability of dinghy space at the existing facilities. While a permanent pier would be more convenient, it would not eliminate the need for the applicant to use a mooring system for any use other than transient service. Therefore the use of existing marina facilities with a shuttle service as described above would represent a less damaging practical alternative to the proposed pier, ramp and float.

B. MINIMIZATION: The amount of coastal wetland to be altered must be kept to the minimum amount necessary for meeting the overall purpose of the project. The pier design has gone through several revisions. A proposal originally submitted to DEP in 2001 was for a marina with berthing for 40 yachts. The pier was to be supported by granite blocks and was to have numerous floats. This proposal was subsequently withdrawn. The present design has been substantially modified from the original. This proposal is for a pile supported pier with a temporary berthing capacity of only three to four boats. The pier design was changed from a granite crib construction to the proposed pile supported structure

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in order to reduce the amount of lost intertidal and sub-tidal habitat. The original design also included the construction of a dock house at the edge of the shoreline. The dock house has been moved to beyond 75 feet from the tidal area to further minimize impacts to the coastal wetland.

C. COMPENSATION: In accordance with Chapter 310 (5)(C), neither a functional assessment nor compensation is required for coastal wetland alterations totaling less than 500 square feet of direct impact. The Department did not require that the applicant perform a functional and value assessment of the wetland and or provide compensation for the proposed impacts to the wetlands in this application.

The Department finds that water access for boats does not have to be located on an individual development site or property for it to be practicable. The construction and use of the proposed pier at this location would result in a permanent loss of coastal wetland area and would have additional adverse impacts on the functions and values of the wetland. As a result the State's water bodies would be compromised. Given that the construction of the proposed pier, ramp and float would result in a permanent loss of wetland area, as well as additional impacts to the wetland; and that the applicant has

access to the water through existing marina facilities within close proximity to the development site, the Department finds that the applicant has not adequately demonstrated avoidance of impacts to the coastal wetland.

In determining if the project would result in an unreasonable impact to the coastal wetland, the Department must consider whether the impact is necessary. If there are alternatives, the Department may weigh the impact and the availability of the alternative and find an unnecessary impact to the coastal wetland to be unreasonable. In this case, the Department has found that the applicant has a practicable alternative that would meet the project purpose and not result in new construction in the coastal wetland.

3. WILDLIFE AND FISHERIES & HABITAT CONSIDERATIONS: The Maine Department of Inland Fisheries & Wildlife (IF&W) reviewed the proposed project and stated that the proposed location of the pier, ramp and float is within a mapped high and moderate value waterfowl and wading bird habitat (CWWH 27673-High Value). High and moderate value waterfowl and wading bird habitats are significant wildlife habitats as defined by the Chapter 315, Significant Wildlife Habitat Rules. The habitat directly within the area of the proposed pier is composed of aquatic bed, glacial erratics covered with rockweed, and mudflat and the point of origin of the pier has been previously armored with rip rap.

An IF&W biologist visited the project site on June 27, 2006. IF&W commented that the applicant has modified the original proposal by scaling down the size of the proposed pier. IF&W stated that the construction of a pier, ramp and float system at this location will result in a loss of habitat functions and values. However, IF&W views that loss of habitat functions and values as not having an unreasonable impact to wildlife habitat.

The Maine Department of Marine Resources (DMR) reviewed the proposed project. In its comments, DMR stated that the inter-tidal area within the area of the proposed pier varies from sand/gravel to mud partially covered with rockweed covered cobble. This area currently provides a typical habitat type for juvenile and young lobsters. Lobsters are abundant in the area because of crevices in the breakwater, kelp beds and eelgrass beds. The proposed pier location is within 200 feet of the Rockland Harbor breakwater and approximately 15 lobster trap buoys were observed within the area of the proposed project. DMR commented that some loss of habitat functions and values may occur through displacement of the traditional lobster fishing area. However, DMR concluded that the proposal for a pier at this location would not have an unreasonable adverse impact on marine habitat.

The applicant modified the original design of the proposed pier by converting the structure from a crib supported pier to a pile supported pier in order to minimize the

amount of intertidal habitat directly affected by the proposed project. However, the applicant has not met the burden of proof to demonstrate that a less damaging alternative is not practicable (see Section 2 above). Although the applicant argues that, to achieve the project purpose, access to the water must be on the immediate grounds of the Samoset Resort, public and private marinas with extra capacity exist in close proximity. The Department finds that water access does not have to be located on the development premises for it to be practicable. Given that the construction of the proposed pier would result in a loss of habitat functions and value; and that the applicant has boating access to the water through its already existing structure and could have access through facilities within the Rockland anchorage, the Department finds that the applicant has not adequately demonstrated avoidance of impacts to marine wildlife and fisheries habitat.

In determining if the project would result in an unreasonable impact to habitat, the Department must consider whether the impact is necessary. The Department may find an unnecessary impact to habitat to be unreasonable. In this case, the Department finds that the applicant has a practicable alternative that would meet the project purpose and not result in new construction in or over habitat for marine and other aquatic life. Therefore, the impacts of this project on aquatic life and habitat are unnecessary and unreasonable. The Department finds that the proposed project would result in an unreasonable adverse impact to marine wildlife and fisheries habitat.

4. EXISTING SCENIC, AESTHETIC, RECREATIONAL OR NAVIGATIONAL USES: Each applicant must demonstrate that its proposed project does not unreasonably interfere with existing scenic, aesthetic, recreational and navigational uses of the coastal wetland. To guide applicants and assist the Department in its analysis of potential impacts to scenic and aesthetic uses, the Board of Environmental Protection has adopted Chapter 315, Assessing and Mitigating Impacts to Scenic and Aesthetic Uses, which interprets and elaborates on this criterion of the NRPA. In accordance with Chapter 315, the applicant submitted a description of the property and the proposed project, a scenic and aesthetic visual impact report, and a copy of the Department's Visual Evaluation Field Survey Checklist as Appendix A to the application. In its visual impact report, the

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applicant depicted how the pier would be viewed from five different vistas: the Marie H. Reed Memorial Park, the public beach/harbor (at the base of the proposed pier), the lighthouse at the end of the breakwater, the harbor area (off Jameson Point), and outside of the breakwater coming into the harbor. The visual impact report was last modified on March 1, 2007.

The proposed pier would be located in Rockland Harbor, which is a public natural resource visited by the general public, in part, for the use, observation, enjoyment and

appreciation of its natural and cultural visual qualities. The site of the proposed pier and the surrounding area is currently used for recreational access to the Rockland breakwater, general recreation, including swimming, recreational boating, and commercial lobster fishing.

The Rockland harbor breakwater is a century old breakwater and a public and historical landmark listed on the National Register of Historic Places. The current access to the breakwater is a footpath that leads from the Marie H. Reed Memorial Park through the near shore area adjacent to the beach. The area inside the breakwater is currently used as a safe place for boats and schooners to moor during storms. In addition, the sub-tidal area directly adjacent to the breakwater is utilized by lobster fisherman to set their traps.

The Maine Historic Preservation Commission reviewed the proposed project in accordance with § 106 of the National Historic Preservation Act, as amended. The Maine Historic Preservation Commission stated that, based on the design of the pier, as indicated by plans dated 7/20/06, and further described in the Pierce Atwood letter dated August 21, 2006 and accompanying visual simulations, the proposed pier will have not effect the eligibility of the Rockland breakwater or any other identified historic properties to appear on the National Register of Historic Places. MHPC stated that their review policy does not allow for comment on any portion of the project other than its affect on the eligibility criteria of the identified historic structures.

Residents of the Rockland area submitted comments stating that the breakwater is very important to the State of Maine and the City of Rockland. In their comments, several area residents commented that the construction of the proposed pier would unreasonably interfere with their enjoyment of the scenic beauty of the Rockland breakwater, and such enjoyment by the many tourists and visitors to this area. They argue that the breakwater has aesthetic and recreational value to the citizens of Maine beyond the functions it was designed to serve one century ago. Information submitted by the residents' document that the Rockland breakwater attracts thousands of visitors to the Rockland area each year. The visitors view the Rockland harbor and the Rockland breakwater from Marie H. Reed Park and the associated pathway from the park to the breakwater. The residents state that the construction of a pier, ramp and float at this location would significantly obstruct the view of Rockland Harbor and the Rockland breakwater and severely impact the enjoyment of this valuable scenic resource. In addition, members of the boating public stated that their scenic and aesthetic enjoyment of the coastal wetland would be adversely affected by the construction of the proposed pier, ramp and float. The scenic and aesthetic enjoyment of the resource by people walking on the breakwater would also be impacted although to a lesser degree. In addition, some boaters stated that the

proposed pier, ramp and float would result in a loss of a safe harbor area for large schooners to moor temporarily during storms. In its review comments, the DMR also commented that the displacement or loss of some mooring area would result through the construction of the proposed pier.

Department staff visited the project site on February 2, 2007. After reviewing the applicant's proposal and supporting evidence, agency comments and other comments received from the public, the Department has determined that two of the scenic vistas examined will be significantly adversely affected though construction of the proposed 740-foot pier, ramp and float. The scenic impact will occur to views from the Marie H. Reed Memorial Park, which serves as the primary access point for the public to the Rockland breakwater and the harbor/beach area at the base of the proposed pier.

The applicant has submitted a copy of a Quit Claim Deed, documenting that the City of Rockland transferred ownership of Marie H. Reed Park to Samorock, LLC on September 10, 1973. Although the beach area where the pier abutment would be anchored is owned by the applicant, the public has had historical access and use of the near shore and intertidal areas since prior to 1973. Marie H. Reed Park contains a lawn area with several benches and constitutes the sole land access point for the general public to the Rockland breakwater. The applicant contends that Marie H. Reed Park is not a scenic resource or public lands visited by the general public for the use, observation, enjoyment, and appreciation of natural or cultural visual qualities, as described by Chapter 315 of the Department's rules. Under Chapter Rules, the Department considers a scenic resource as the typical point from which an activity in, on, over, or adjacent to a protected natural resource is viewed.

The list of scenic resources includes, but is not limited to, the Rockland Breakwater Light, the Atlantic Ocean, and locations of national, State, or local scenic significance. A scenic resource visited by a large number of people who come from across the country or state is generally considered to have national or statewide significance. A scenic resource visited primarily by people of local origin is generally of local significance. While the Department recognizes that Marie H. Reed Park is now owned by the applicant, the general public has enjoyed unlimited access to this area for many years. The park has historically been the primary land access point for the general public to view Rockland Harbor and the Rockland breakwater. The Department finds that Marie H. Reed Park is a scenic resource that has both national and local significance and, as a result, is a scenic resource pursuant to Chapter 315 Rules.

It is the responsibility of the applicant to demonstrate that the proposed design does not unreasonably interfere with existing scenic and aesthetic uses, and thereby diminish the public enjoyment and appreciation of the qualities of a scenic resource, and that any impacts have been minimized. The proposed pier, ramp and floats will become a significant structure visible from swimmers, and boaters on the ocean near the shore between the breakwater and the proposed pier, from Marie H. Reed Park and from the

beach/harbor area at the base of the pier structure. The Department's determination of impact is based on the following visual elements of the landscape: landscape compatibility, scale contrast, and spatial dominance. In consideration of these criteria the Department finds that the applicant has failed to demonstrate that the proposed pier, ramp and float will not dominate the landscape from the public viewpoint at both Marie H.

Reed Park and the beach/harbor area at the base of the proposed pier structure. For the users of the coastal wetland, such as people walking along the intertidal area, and boaters, the pier would be a significant visual intrusion, traversing the entire width of the intertidal area. While persons walking the intertidal area would be able to pass beneath the dock, the dock would dominate the landscape and partially obstruct and/or fragment the view along the intertidal area towards the Rockland breakwater and across Rockland Harbor, significantly detracting from the visual and aesthetic quality of the resource and thereby interfering with this use of the coastal wetland. Additionally, the proposed pier, ramp and float will displace some traditional fishing area resulting in an impact on this traditional use and navigation within this portion of Rockland Harbor.

In determining whether the project would result in an unreasonable interference with scenic aesthetic, recreational or navigational uses, the Department must consider whether the impact to those uses is necessary. The Department may find an unnecessary impact to scenic aesthetic, recreational or navigational uses to be unreasonable. In this case, the Department finds that the applicant has a practicable alternative that would meet the project purpose and not result in new construction that would adversely impact existing scenic, aesthetic, recreational or navigational uses (see section 2 above). Therefore, the Department finds that the impacts of this project on scenic, aesthetic, recreational and navigational uses are unreasonable.

5. SOIL EROSION: Based on the proposed methods of construction as outlined in the application, the Department finds that the activity will not cause unreasonable erosion of soil or sediment nor unreasonably inhibit the natural transfer of soil from the terrestrial to the marine environment.

6. WATER QUALITY CONSIDERATIONS: The applicant proposes to use lumber treated with chromated copper arsenate (CCA) to construct the pier. To protect water quality, all CCA treated lumber must be cured on dry land in a manner that exposes all surfaces to the air for 21 days prior to the start of construction. Provided the CCA treated lumber is cured as described above, the Department finds that the proposed project will not violate any state water quality law. The Department does not anticipate that the proposed project will violate any state water quality law, including those governing the

classification of the State's waters.

7. OTHER CONSIDERATIONS:

The Department did not identify any other issues involving, the natural transfer of soil, natural flow of water, water quality, or flooding.

BASED on the above findings of fact, and subject to the conditions listed below, the Department makes the following conclusions pursuant to 38 M.R.S.A. Sections 480-A et seq. and Section 401 of the Federal Water Pollution Control Act:

A. The proposed activity would unreasonably interfere with existing scenic, aesthetic, recreational, and navigational uses.

B. The proposed activity would not cause unreasonable erosion of soil or sediment.

C. The proposed activity would not unreasonably inhibit the natural transfer of soil from the terrestrial to the marine or freshwater environment.

D. The proposed activity would unreasonably harm a significant wildlife habitat.

E. The proposed activity would not unreasonably harm a freshwater wetland plant habitat, threatened or endangered plant habitat, aquatic or adjacent upland habitat, travel corridor, freshwater, estuarine, or marine fisheries or other aquatic life.

F. The proposed activity would not unreasonably interfere with the natural flow of any surface or subsurface waters.

G. The proposed activity would not violate any state water quality law including those governing the classifications of the State's waters.

H. The proposed activity would not unreasonably cause or increase the flooding of the alteration area or adjacent properties.

I. The proposed activity would not be on or adjacent to a sand dune.

THEREFORE, the Department DENIES the above noted application of Samorock LLC. to construct a pier, ramp and float, and all applicable standards and regulations:

DONE AND DATED AT AUGUSTA, MAINE, THIS 13TH DAY OF APRIL, 2007

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: DAVID P. LITTELL, COMMISSIONER

PLEASE NOTE THE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

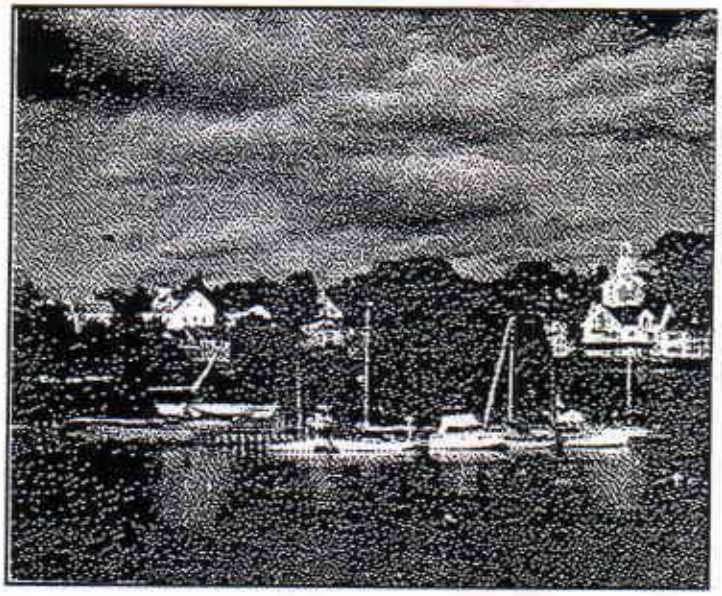
Date of initial receipt of application: 12/23/2005

Date of application acceptance: 01/13/2006

Date filed with Board of Environmental Protection April 17, 2007

JC/ATS/L14246-87-R-M/L14246-4C-S-N

WEST PENOBSCOT BAY



Ash Island
Crockett Point
Crescent Beach
Owls Head Village
Owls Head
Ingraham Hill
Rockland
Jameson Point
Clam Cove
Rockport Harbor
Rockport Golf Course
Camden Harbor
Camden Hills State Park

Sub-Region Evaluation Form

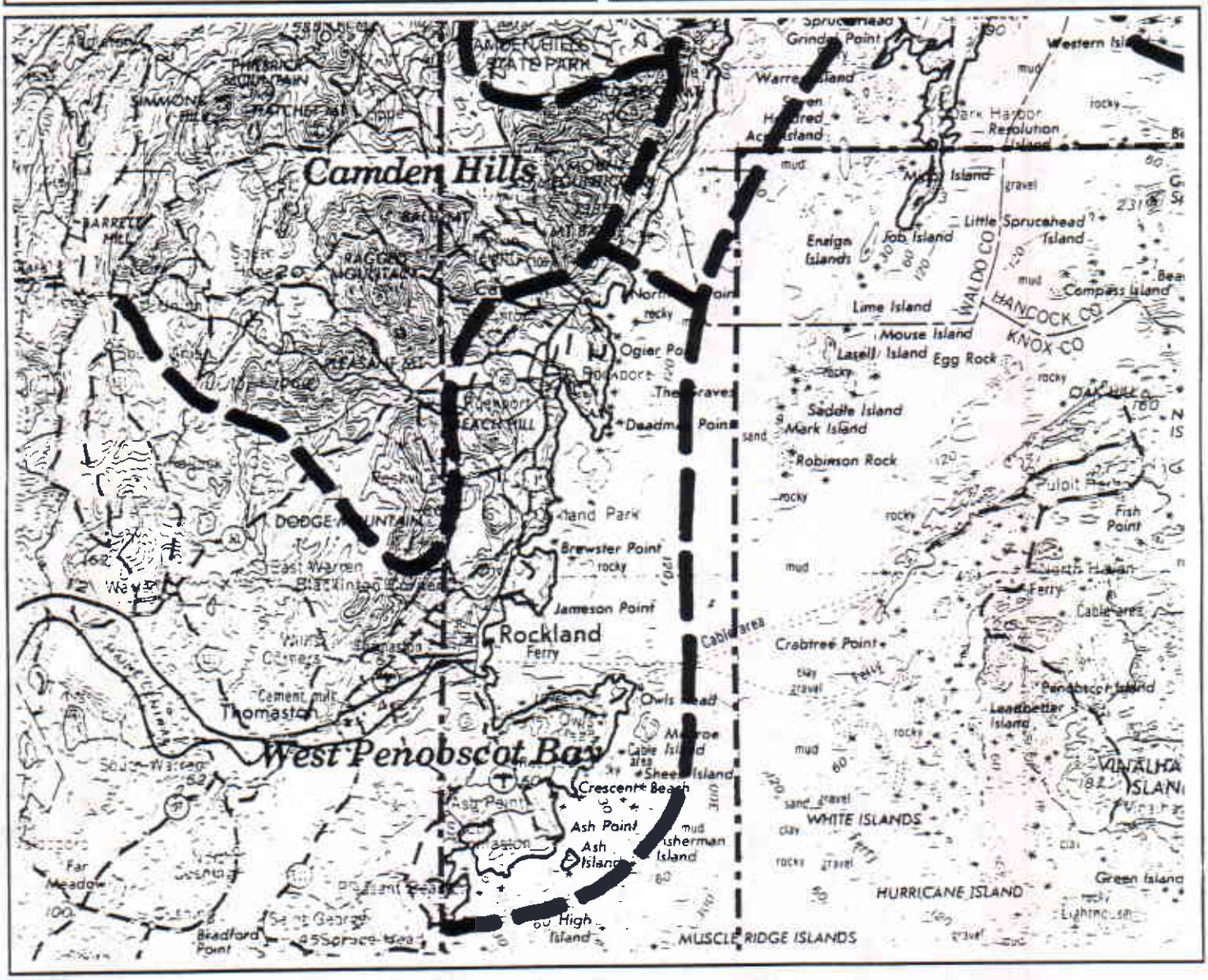
Sub-Region **West Penobscot Bay** Towns **Owl's Head/Rockland/Rockport/Camden** County **Knox**
1989 Coastal Scenic Inventory Maine State Planning Office

Sub-Region Description

West Penobscot Bay is characterized by a highly configured shoreline and many broad, semi-enclosed harbors, e.g. Rockland, Rockport, and Camden. The southwestern portion of Penobscot Bay has few islands immediately offshore, allowing the views to extend for 3-5 miles out to Vinalhaven. The proximity to Route One makes this subregion one of the most highly visible and easily accessible areas of the Bay. Public access opportunities are present throughout much of the subregion in the form of state parks, community parks, and walkways within the harbors. The harbors, lighthouses, points, and villages, are highly vivid images that are well known throughout the state.

Scenic Areas

Ash Island (002-01)
Crockett Point (003-01)
Crescent Beach (004-01)
Owls Head Village (005-01)
Owls Head (006-01)
Ingraham Hill (007-01)
Rockland (008-01)
Jameson Point (009-01)
Clam Cove (001-02)
Rockport Harbor (005-02)
Rockport Golf Course (006-02)
Camden Harbor (008-02)
Camden Hills State Park (009-02)



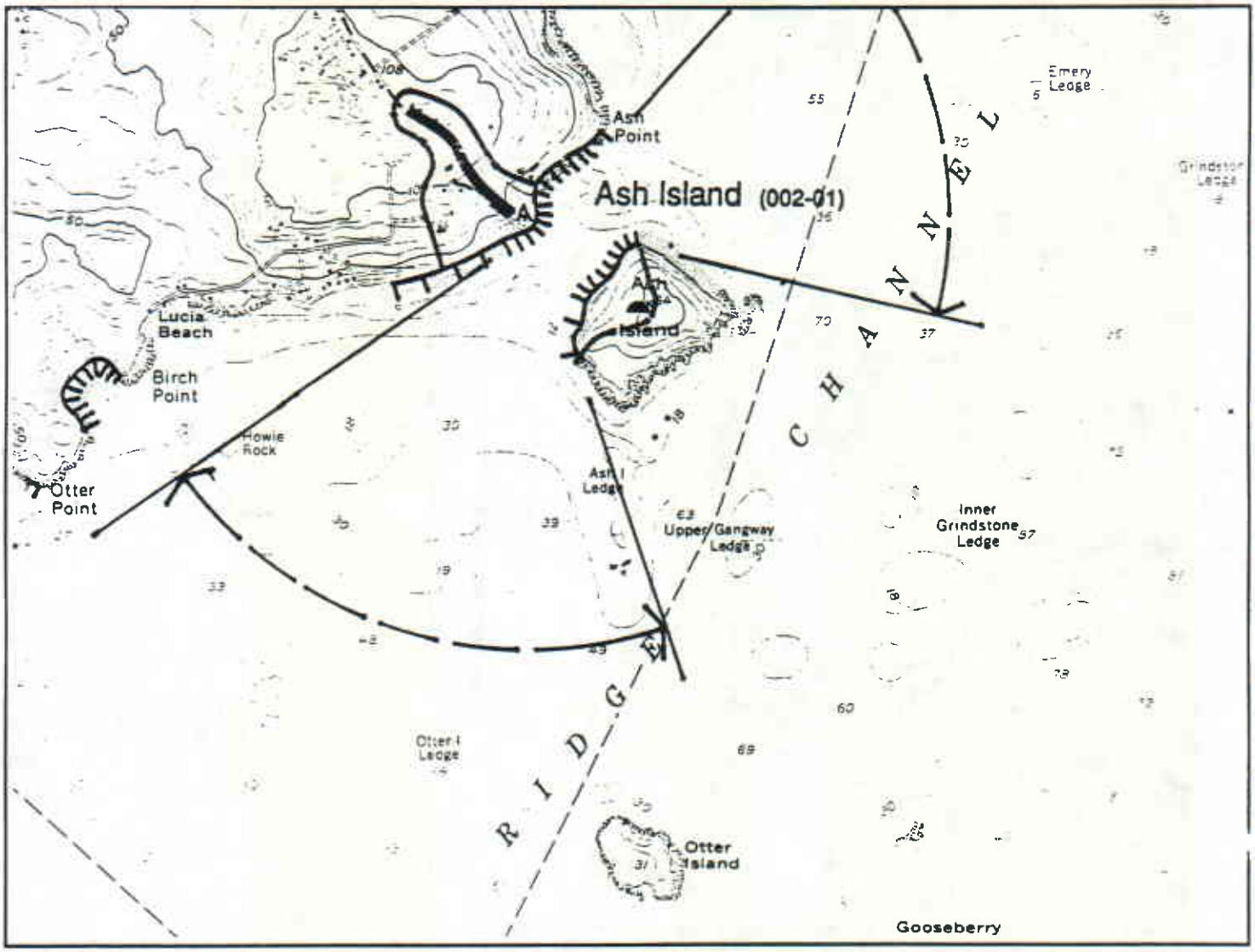
Scenic Area Evaluation Form

Scenic Area **Ash Island** Code **002-01** Town(s) **Owls Head** County **Knox**
1989 Coastal Scenic Inventory — Maine State Planning Office

SI	S	IP	Special Interest/Score/Indicators Present
			1.Landform Topography____Slope____
			2.Open Land
	6	X	3.Shoreline Configuration
X	9	X	4.Scenic Features (Ash Island/Beach)
X	27		5.Scenic Quality of Water
			Duration of View 9
			Type of Water 12
			Quality of Horizon 6
	42	3	**Desktop Subtotal**
	9		6.Landscape Character
			Land Use 3
			Roadside Characteristics 3
			Settlement Characteristics 3
	6		7.Vegetation
X	9		8.Composition & Effect
	66		**Total Score**
3			**Special Interest**

Viewshed Description Natural area with fairly recent residential development, public access to coarse stone beach . Neighborhood streets run perpendicular to the water providing views and access. Foreground includes residential structures and associated manicured landscape, beach, and spruce forest. Midground includes narrows and Ash Island. Background views are to open ocean and distant Muscle Ridge Islands. Well kept landscape in relatively private neighborhood with spectacular open ocean views.

Viewshed Management Recommendations Provide continued, limited public access while protecting semi-private character of neighborhood. Maintain forest cover on the ridgeline of Ash Island.



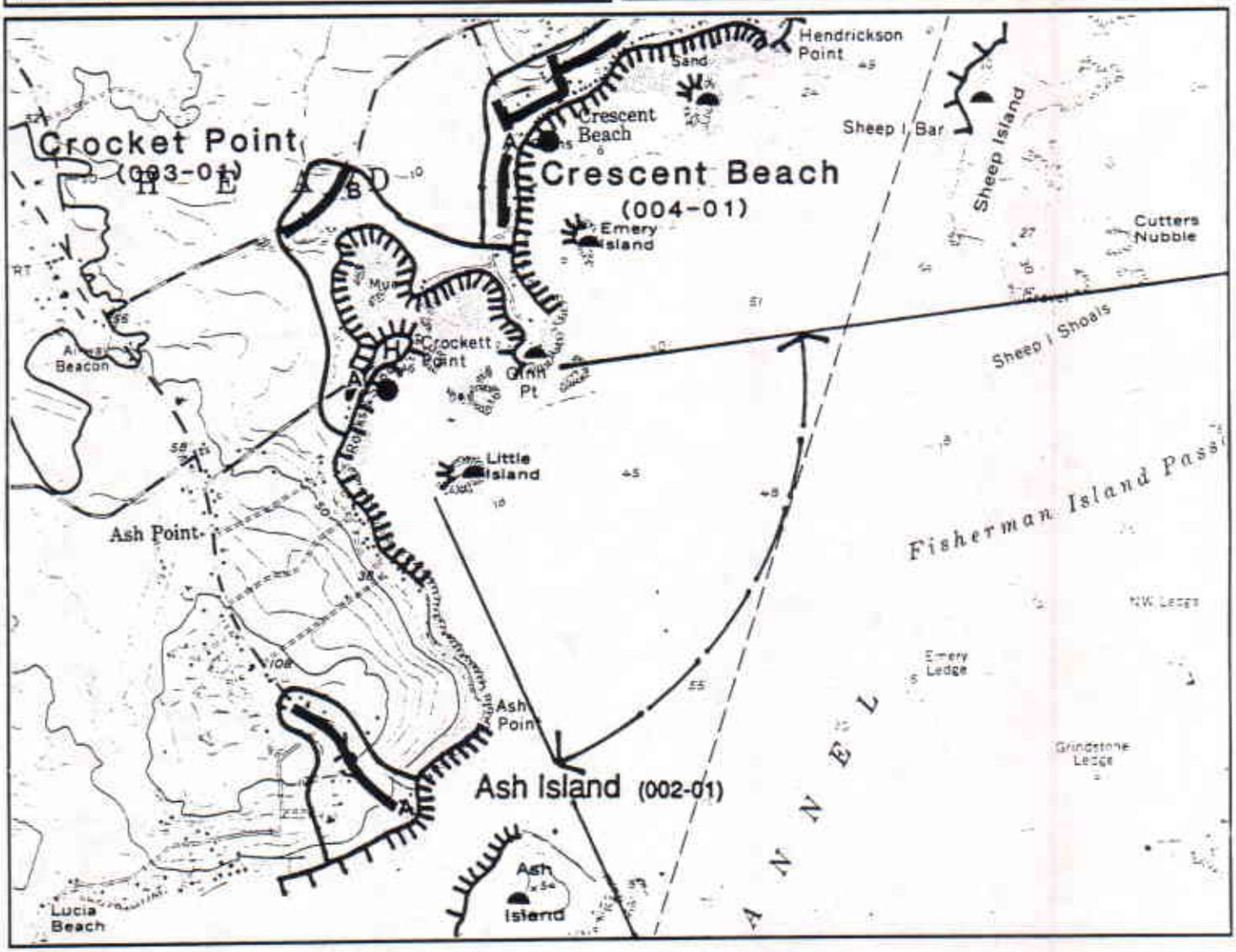
Scenic Area Evaluation Form

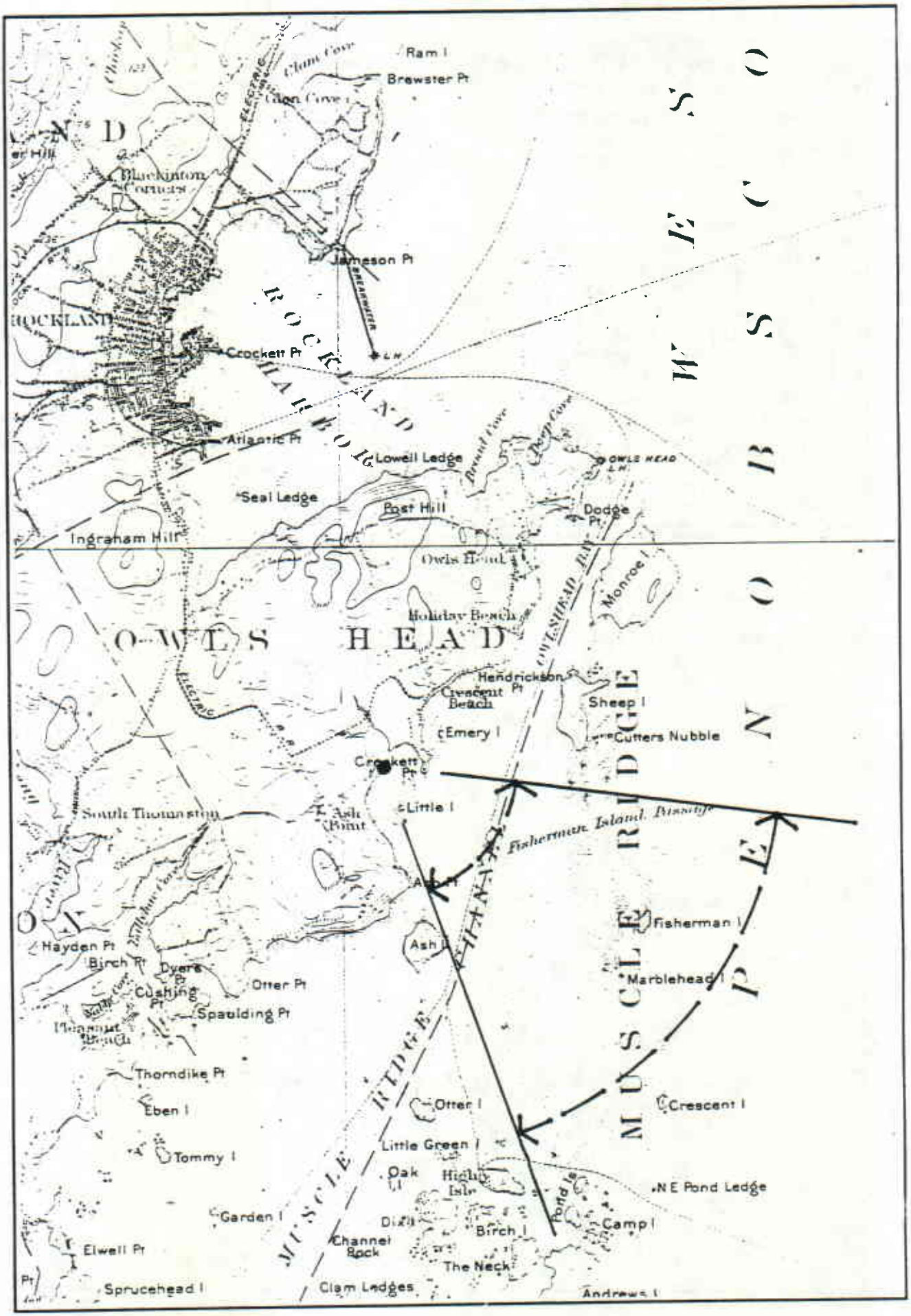
Scenic Area **Crockett Point** Code **003-01** Town(s) **Owls Head** County **Knox**
1989 Coastal Scenic Inventory — Maine State Planning Office

SI	S	IP	Special Interest/Score/Indicators Present
			1.Landform Topography____Slope____
			2.Open Land
	6	X	3.Shoreline Configuration
X	9	X	4.Scenic Features (Beach/Islands)
X	27		5.Scenic Quality of Water
			Duration of View 9
			Type of Water 12
			Quality of Horizon 6
	42	3	**Desktop Subtotal**
	14		6.Landscape Character
			Land Use 7
			Roadside Characteristics 1
			Settlement Characteristics 6
	9		7.Vegetation
	9		8.Composition & Effect
	74		**Total Score**
2			**Special Interest**

Viewshed Description Natural area with substantial residential development. Area includes salt marsh, historic and recent architecture, stone beach, and small mooring area. A one lane access road and a town road provide views and access to the beach and parking. Foreground elements include structures, salt marsh, parking, stone beach, the opposite shoreline and the waters of Fisherman Island Passage. Midground elements include small islands and the waters of Fisherman Island Passage with background views to open ocean with Muscle Ridge Islands on the horizon. The general landscape condition is fair to very good.

Viewshed Management Recommendations Define parking at the beach area.




Ram I
Brewster Pt
Clam Cove
Jameson Pt
BREAKWATER
ROCKLAND HARBOR
ROCKLAND
Crockett Pt
Blackington Corners
Atlantic Pt
Lowell Ledge
Broad Cove
Deep Cove
OWLS HEAD L.H.
Seal Ledge
Post Hill
Dodge Pt
Ingraham Hill
Owls Head
OWLS HEAD
Holiday Beach
Monroe I
OWLSHEAD BAY
Hendrickson Pt
Crescent Beach
Sheep I
Emery I
Cutters Nubble
Crockett Pt
South Thomaston
Ash Point
Little I
Fisherman Island Passage
Ash I
Fisherman I
Hayden Pt
Birch Pt
Dyers Pt
Cushing Pt
Otter Pt
Spaulding Pt
Marblehead I
Thorndike Pt
Eben I
Tommy I
Otter I
Crescent I
Little Green I
Oak I
High Isle
NE Pond Ledge
Garden I
Pond I
Camp I
Birch I
Channel Rock
The Neck
Elwell Pt
Spruce Head I
Clam Ledges
Andrews I
MUSCLE RIDGE CHANNEL
MUSCLE RIDGE

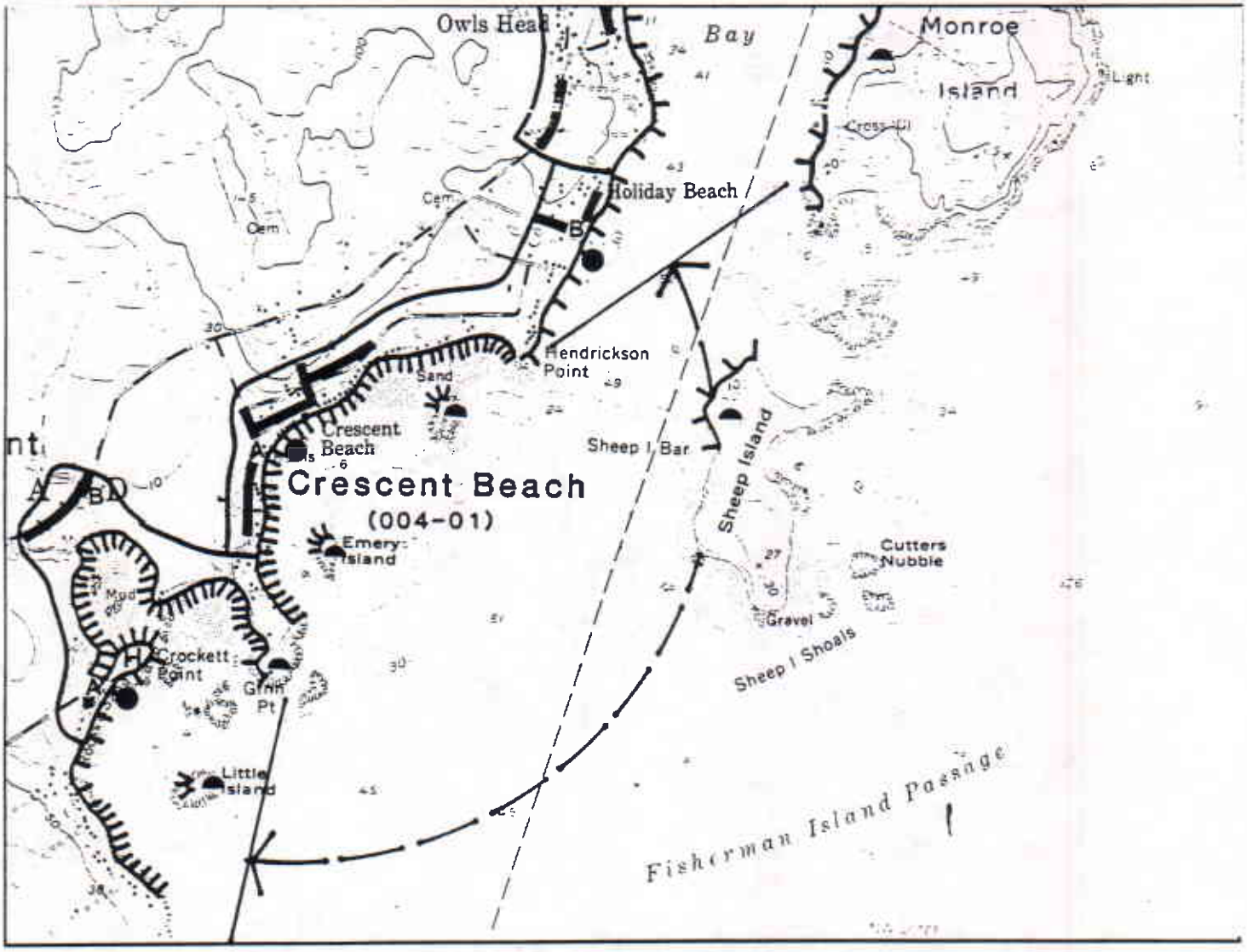
Scenic Area Evaluation Form

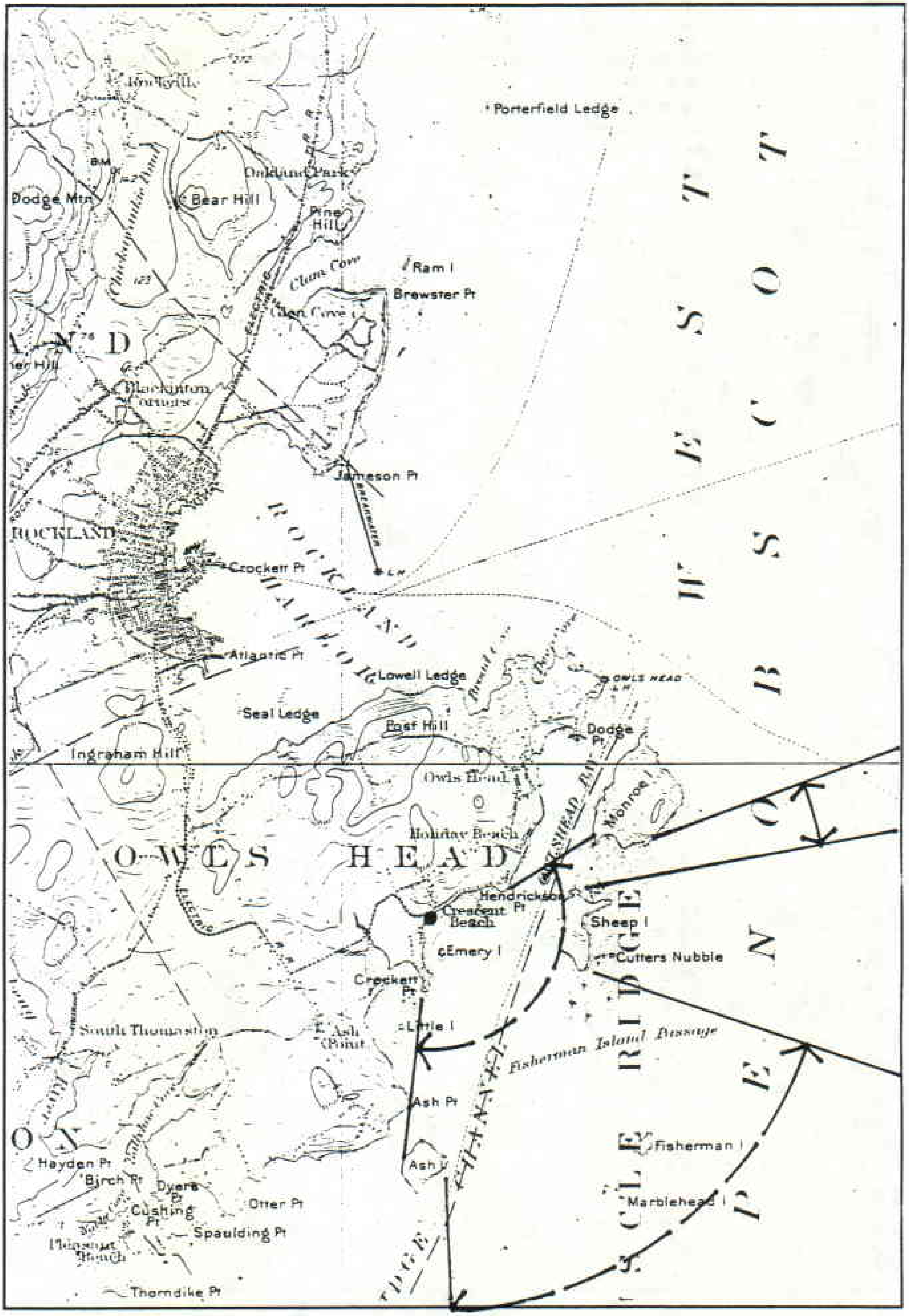
Scenic Area **Crescent Beach** Code **004-01** Town(s) **Owls Head** County **Knox**
1989 Coastal Scenic Inventory — Maine State Planning Office

SI	S	IP	Special Interest/Score/Indicators Present
			1.Landform Topography____Slope____
			2.Open Land
	6	X	3.Shoreline Configuration
X	9	X	4.Scenic Features (Islands, harbor, beach)
	27	■	5.Scenic Quality of Water
			Duration of View 7
			Type of Water 9
			Quality of Horizon 6
	39	3	**Desktop Subtotal**
	14	■	6.Landscape Character
		■	Land Use 5
		■	Roadside Characteristics 3
		■	Settlement Characteristics 6
	6	■	7.Vegetation
	9	■	8.Composition & Effect
■	68		**Total Score**
1	■	■	**Special Interest**

Viewshed Description Seaside cottage community on long stretch of stone beach. Local roads run parallel and perpendicular to the shore with two roads ending at the beach. Foreground is comprised of structures, lawns, stone beach, moorings, and small islands. Midground includes Sheep Island and the waters of Fisherman Island Passage. Background views are to the open ocean with the Muscle Shoals Islands on the horizon. General condition of the landscape is good to very good with a consistent architectural theme unifying the area.

Viewshed Management Recommendations Improve and define beach access parking.




Rockville
Porterfield Ledge
Oakland Park
Dodge Mtn
Bear Hill
Pine Hill
Chickawaukie Pond
Clam Cove
Ram I
Brewster Pt
Glen Cove
Blackinton Corners
Jameson Pt
ROCKLAND
Crockett Pt
ROCKLAND HARBOR
Atlantic Pt
Lowell Ledge
Seal Ledge
Post Hill
Dodge Pt
Ingraham Hill
Owls Head
Monroe I
Holiday Beach
OWLS HEAD
Hendrickson Pt
Crescent Beach
Sheep I
Emery I
Cutters Nubble
Crockett Pt
South Thomaston
Ash Point
Little I
Fisherman Island Passage
Ash Pt
Ash I
Fisherman I
Hayden Pt
Birch Pt
Dyers Pt
Cushing Pt
Otter Pt
Marblehead I
Spaulding Pt
Pleasant Beach
Thorndike Pt
WEST PENOBSCOT
MUSCLE RIDGE

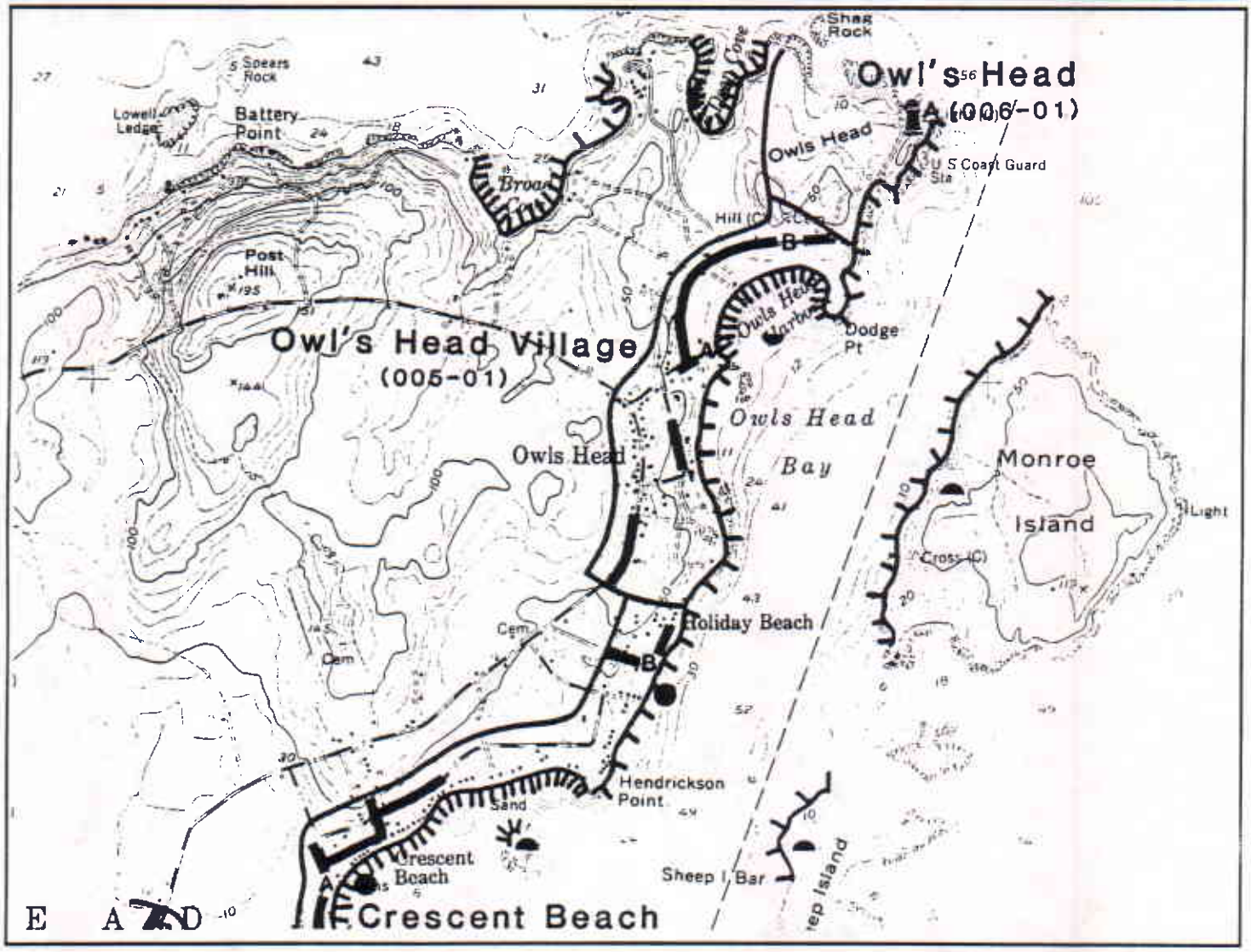
Scenic Area Evaluation Form

Scenic Area **Owls Head Village** Code **005-01** Town(s) **Owls Head** County **Knox**
1989 Coastal Scenic Inventory — Maine State Planning Office

SI	S	IP	Special Interest/Score/Indicators Present
			1.Landform Topography____Slope____
	3	X	2.Open Land
	6	X	3.Shoreline Configuration
	9	X	4.Scenic Features
	27		5.Scenic Quality of Water
			Duration of View 9
			Type of Water 12
			Quality of Horizon 6
	45	4	**Desktop Subtotal**
	11		6.Landscape Character
			Land Use 7
			Roadside Characteristics 1
			Settlement Characteristics 3
	3		7.Vegetation
	9		8.Composition & Effect
	68		**Total Score**
			Special Interest

Viewshed Description Small scaled coastal village in a relatively flat landscape, oriented toward the waters of Owls Head Bay. Long open vistas to the water and Monroe Island, immediately offshore, dominate the view from most of the village. Extensive fields reach to the waters edge. A well ordered settlement with a variety of lands uses, knit together by a balance of open spaces, vistas, local roads, and compatible building types.

Viewshed Management Recommendations Maintain the open fields through a combination of protective covenants and ordinances that encourage open space preservation. Protect westerly side of Monroe Island that is within viewshed of village.



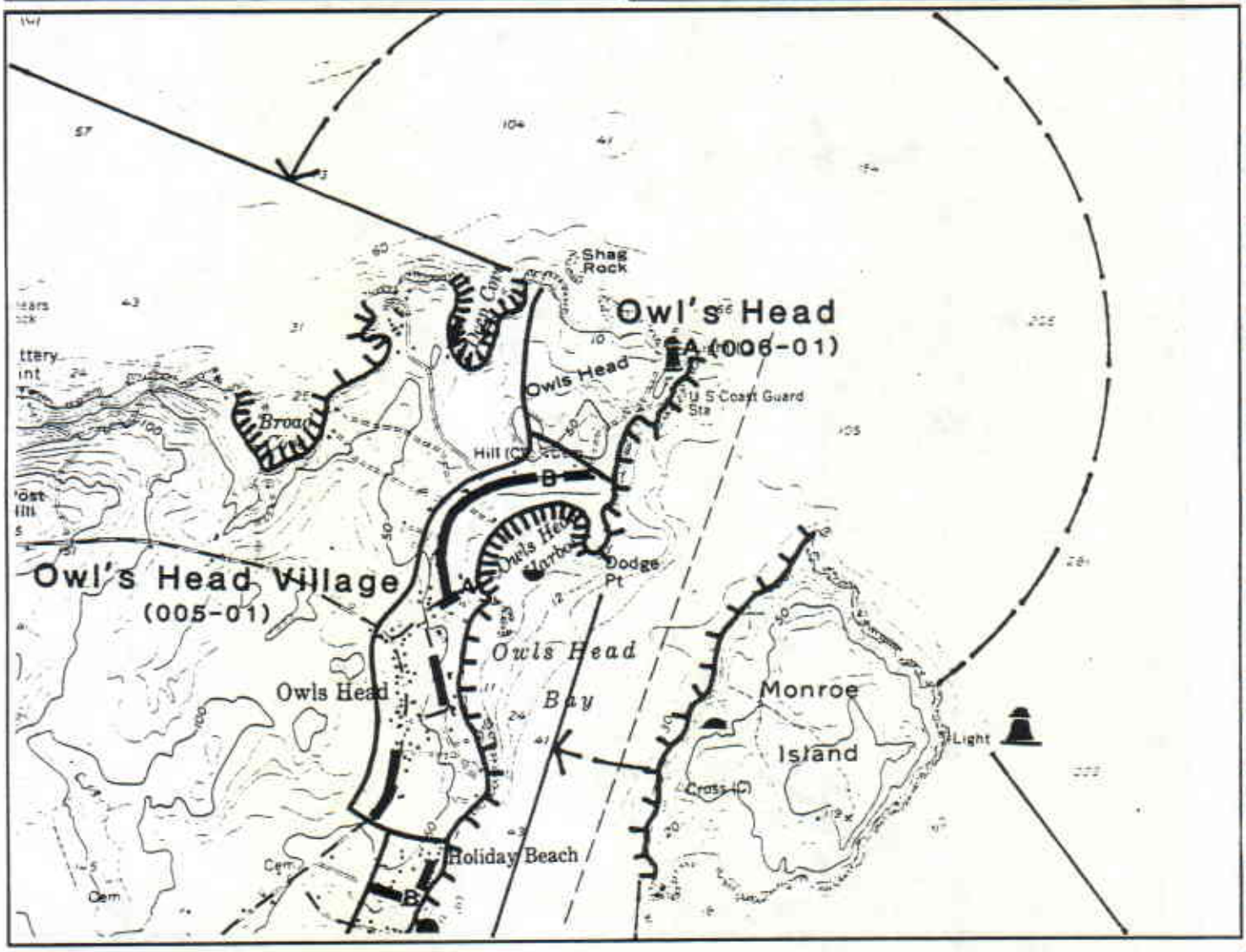
Scenic Area Evaluation Form

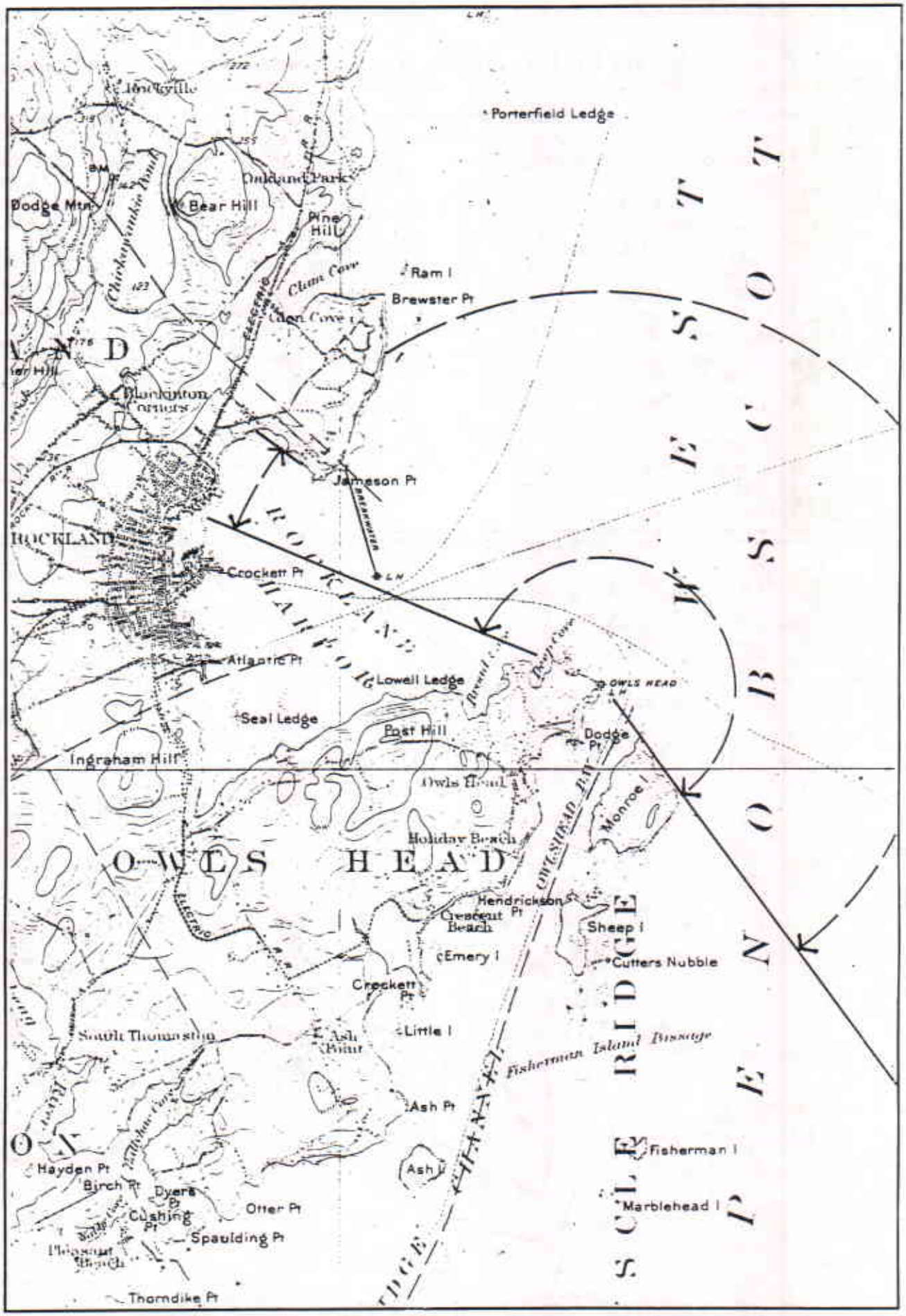
Scenic Area **Owls Head** Code **006-01** Town(s) **Owls Head** County **Knox**
1989 Coastal Scenic Inventory — Maine State Planning Office

SI	S	IP	Special Interest/Score/Indicators Present
	3	X	1.Landform Topography____Slope 3
			2.Open Land
	3	X	3.Shoreline Configuration
	9	X	4.Scenic Features
X	27		5.Scenic Quality of Water
			Duration of View 9
			Type of Water 12
			Quality of Horizon 6
	42	3	**Desktop Subtotal**
X	22		6.Landscape Character
			Land Use 7
			Roadside Characteristics 6
			Settlement Characteristics 9
	9		7.Vegetation
X	9		8.Composition & Effect
	82		**Total Score**
3			**Special Interest**

Viewshed Description A highly diverse, rich landscape, featuring a bold, rocky coastline with steep topography, a sand beach, and a variety of viewing opportunities. A narrow tree lined road terminates at the Owls Head Light, a well kept, popular lookout point. High levels of contrast between open fields and dense evergreen forest; developed landscape and the open ocean; pounding surf and a pounded shoreline. The view extends westerly to Vinalhaven and North Haven. One of the most vivid and memorable landscapes in Penobscot Bay.

Viewshed Management Recommendations Continued high level of maintenance along public access routes to the light. Protective covenants within the viewshed. Strict limitations on development activities to minimize visual impacts on the point.




Porterfield Ledge
Bear Hill
Pine Hill
Ram I
Brewster Pt
Jameson Pt
Crockett Pt
Atlantic Pt
Lowell Ledge
Seal Ledge
Post Hill
Dodge Pt
Ingraham Hill
Owls Head
Holiday Beach
Hendrickson Pt
Crescent Beach
Sheep I
Emery I
Cutters Nubble
Crockett Pt
Little I
South Thomaston
Ash Point
Ash Pt
Fisherman I
Ash I
Marblehead I
Hayden Pt
Birch Pt
Dyers Pt
Cushing Pt
Otter Pt
Spaulding Pt
Thorndike Pt
ROCKLAND
OWLS HEAD
PENOBSCOT BAY
OWLSHEAD BAY
Fisherman Island Passage

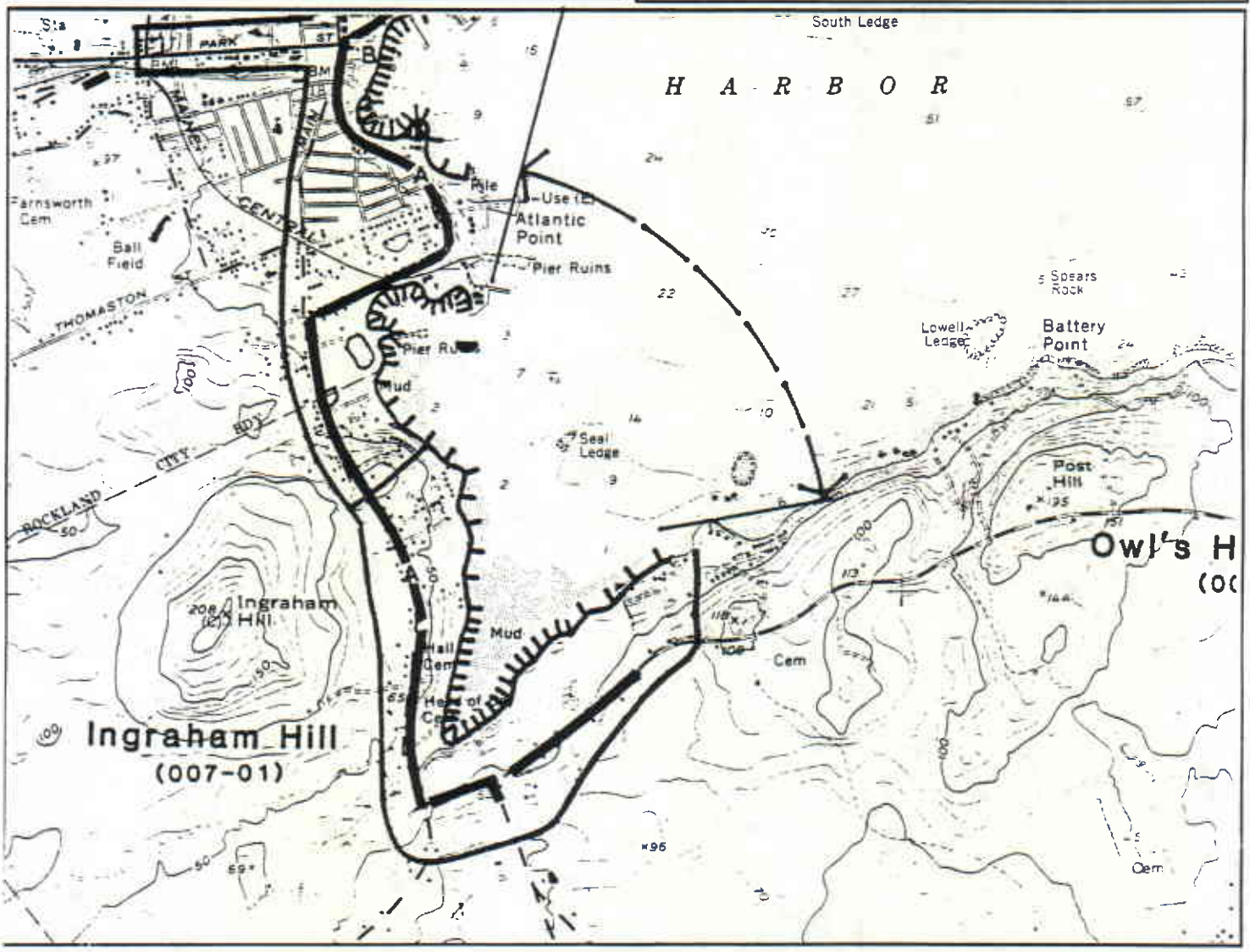
Scenic Area Evaluation Form

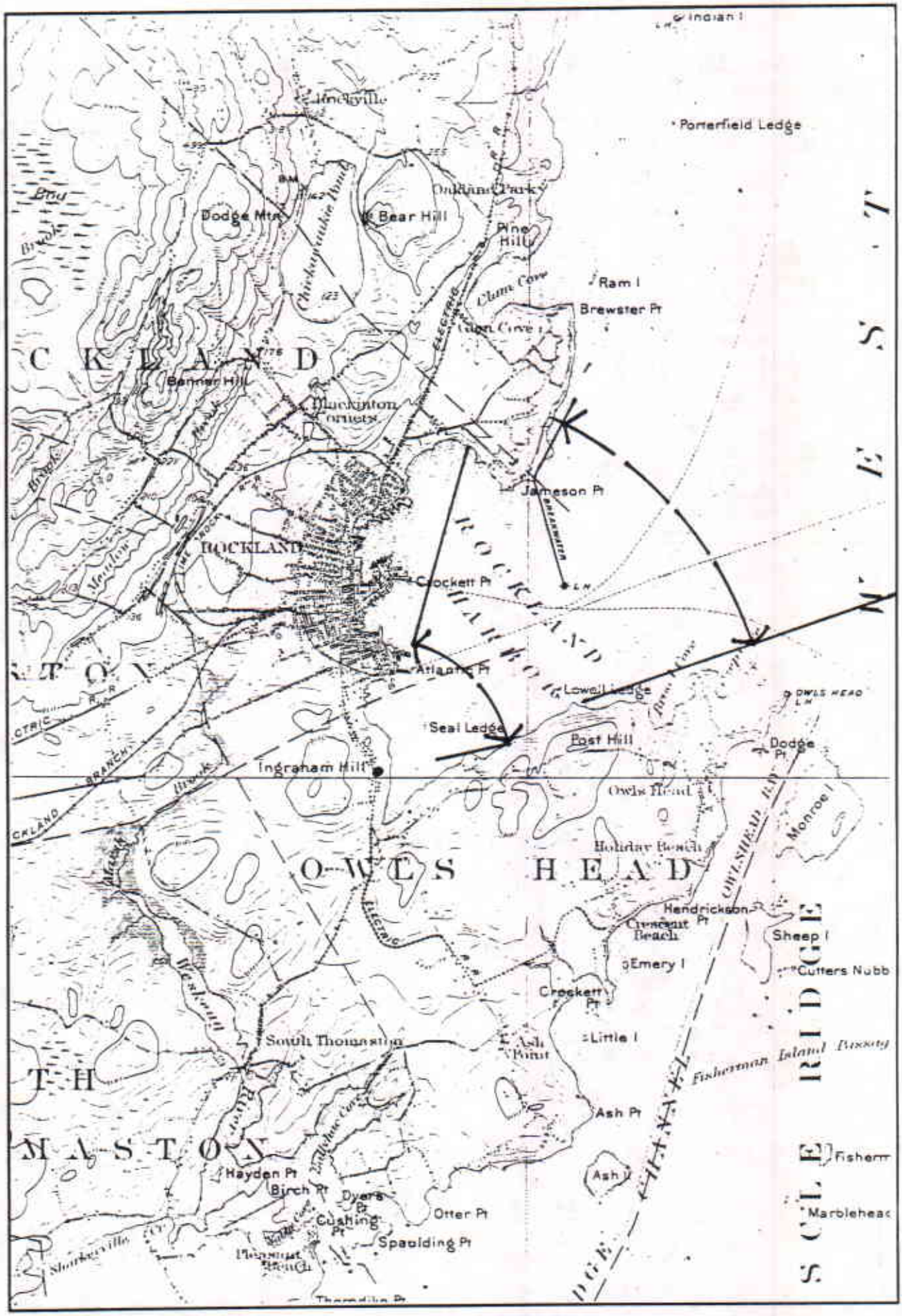
Scenic Area **Ingraham Hill** Code **007-01** Town(s) **Owls Head** County **Knox**
1989 Coastal Scenic Inventory — Maine State Planning Office

SI	S	IP	Special Interest/Score/Indicators Present
			1.Landform Topography____Slope____
	4	X	2.Open Land
	6	X	3.Shoreline Configuration
	6	X	4.Scenic Features
	27		5.Scenic Quality of Water
			Duration of View 6
			Type of Water 12
			Quality of Horizon 9
	43	4	**Desktop Subtotal**
	9		6.Landscape Character
			Land Use 5
			Roadside Characteristics 1
			Settlement Characteristics 3
	3		7.Vegetation
	3		8.Composition & Effect
	58		**Total Score**
			Special Interest

Viewshed Description Rural area with substantial residential and limited commercial development. Mix of recent and historic architecture. Filtered views of the water are seen between structures and vegetation from the State highway. Foreground elements include meadows, manicured landscape, structures, overgrown fields, and the waters of Rockland Harbor. Midground includes the waters of Rockland Harbor, the opposite shoreline, and lighthouse/breakwater. Background views are to the waters of Penobscot Bay with distant islands and hills on the horizon. The general landscape condition is fair to good. Several recent structures and landscape elements screen views.

Viewshed Management Recommendations
Continued maintenance.




Indian I
Pomerfield Ledge
Dodge Mtn
Bear Hill
Pine Hill
Ram I
Brewster Pt
Banner Hill
Jameson Pt
ROCKLAND
Crockett Pt
Atlantic Pt
Lowell Ledge
Seal Ledge
Post Hill
Dodge Pt
Ingraham Hill
Owls Head
Holiday Beach
OWLS HEAD
Monroe I
Hendrickson Pt
Crescent Beach
Sheep I
Emery I
Cutters Nubb
Crockett Pt
Little I
South Thomaston
Ash Point
Fisherman Island Passage
Ash Pt
THOMASTON
Hayden Pt
Birch Pt
Dyers Pt
Cushing Pt
Otter Pt
Spaulding Pt
Marblehead

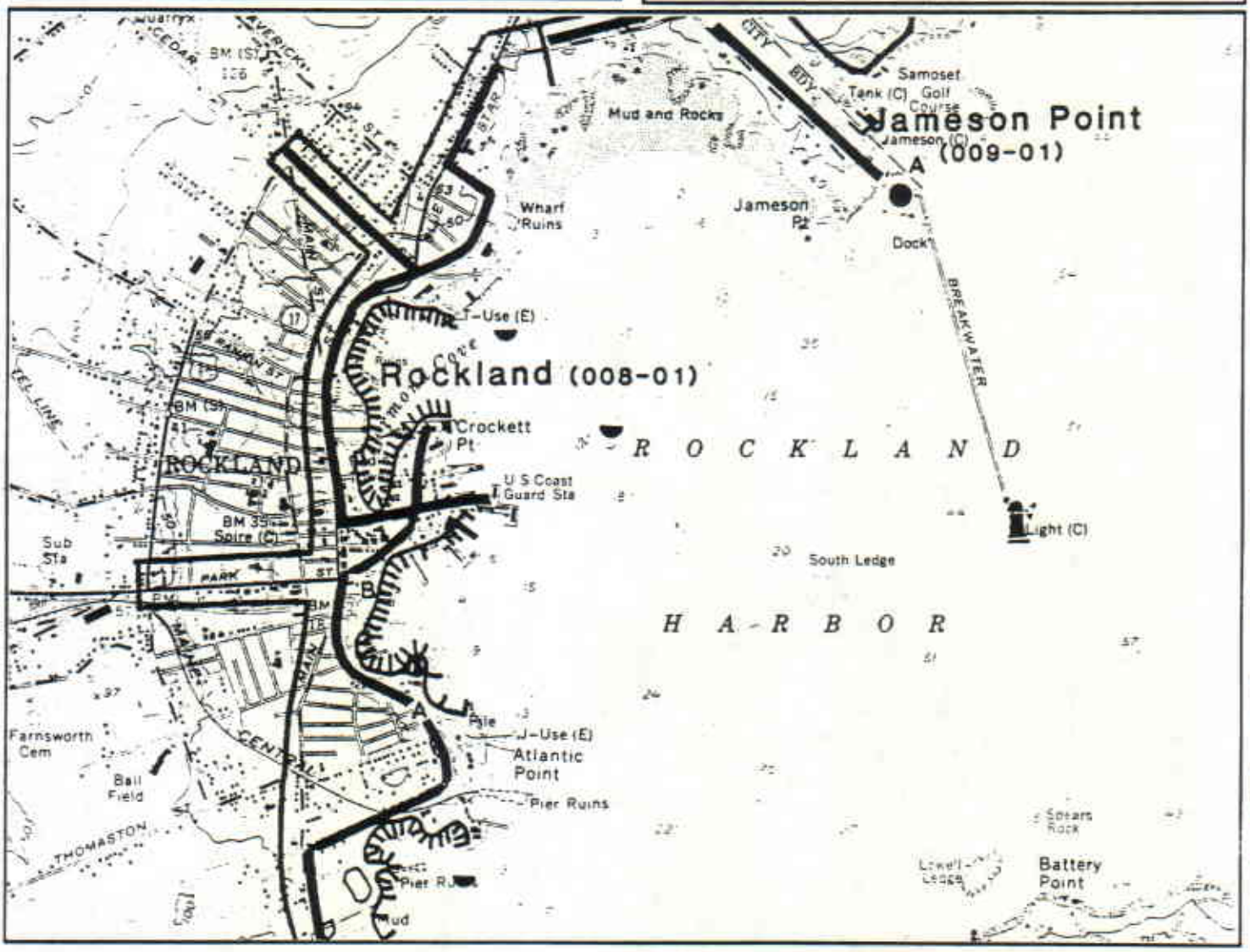
Scenic Area Evaluation Form

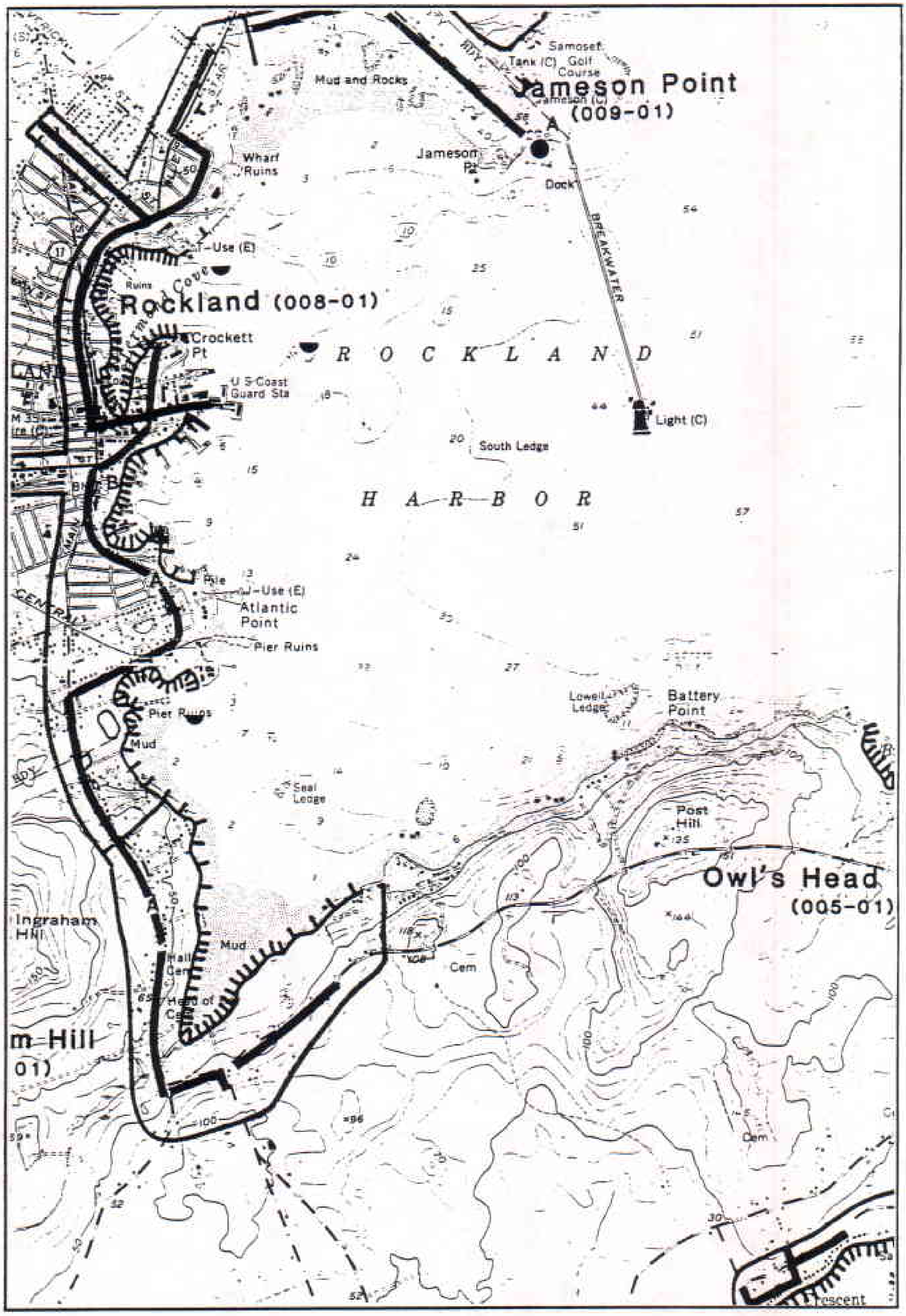
Scenic Area **Rockland** Code **008-01** Town(s) **Rockland** County **Knox**
1989 Coastal Scenic Inventory — Maine State Planning Office

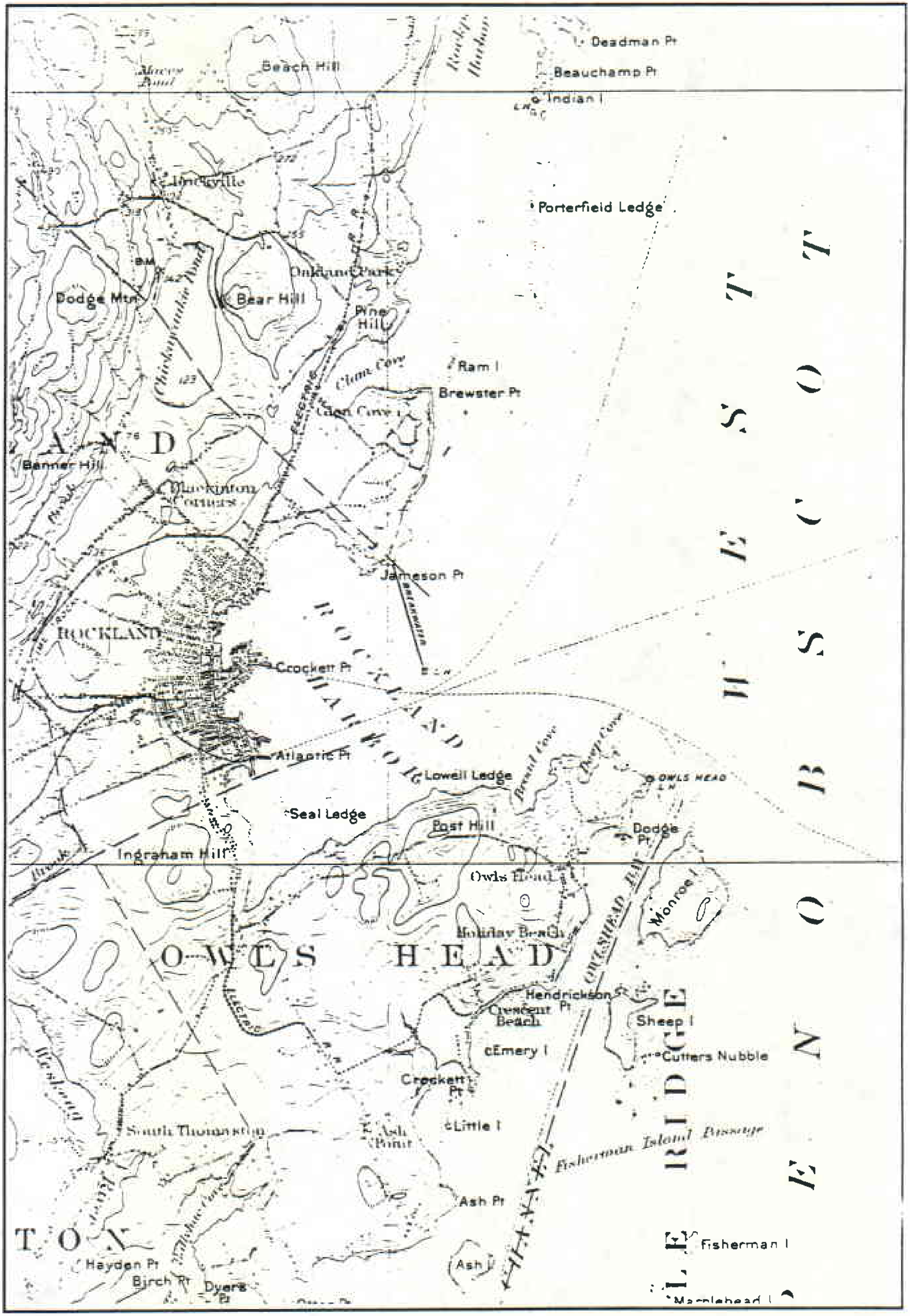
SI	S	IP	Special Interest/Score/Indicators Present
			1.Landform Topography____Slope____
			2.Open Land
	6	X	3.Shoreline Configuration
X	9	X	4.Scenic Features
	27		5.Scenic Quality of Water
			Duration of View 9
			Type of Water 12
			Quality of Horizon 6
	42	3	**Desktop Subtotal**
	9		6.Landscape Character
			Land Use 5
			Roadside Characteristics 1
			Settlement Characteristics 3
	3		7.Vegetation
	6		8.Composition & Effect
	60		**Total Score**
1			**Special Interest**

Viewshed Description A hard-working fishing harbor that accommodates a wide range of commercial, residential, and open space uses. Waterfront parks provide direct contact with the various activities in the harbor. The foreground include parks, parking lots, structures, wharfs, mooring areas, and the waters of Rockland Harbor. The more distant views include Rockland Harbor and Penobscot Bay, the breakwater, two lighthouses, mooring area, and the opposite shoreline. The overall landscape condition is fair to good. The waterfront has a cluttered appearance, typical of Maine's larger commercial ports.

Viewshed Management Recommendations
Develop performance standards for the eventual development/redevelopment of waterfront parcels, focussing on maintenance of visual access to waterfront areas and bulk and space requirements.




Samoset
Tank (C) Golf
Course
Jameson Point
(009-01)
Mud and Rocks
Wharf
Ruins
Jameson
Pt
Dock
BREAKWATER
T-Use (E)
Rockland (008-01)
Crockett
Pt
U S Coast
Guard Sta
R O C K L A N D
Light (C)
South Ledge
H A R B O R
Pile
J-Use (E)
Atlantic
Point
Pier Ruins
Lowell
Ledge
Battery
Point
Pier Ruins
Mud
Seal
Ledge
Post
Hill
Owl's Head
(005-01)
Ingraham
Hill
Mud
Cem
Head of
m-Hill
01)
Cem
Crescent


Deadman Pt
Beauchamp Pt
Beach Hill
Indian I
Porterfield Ledge
Dodge Mtn
Bear Hill
Oakland Park
Pine Hill
Ram I
Clam Cove
Brewster Pt
Banner Hill
Jameson Pt
ROCKLAND
Crockett Pt
ROCKLAND HARBOR
Atlantic Pt
Lowell Ledge
Seal Ledge
Post Hill
Dodge Pt
Ingraham Hill
Owls Head
Monroe I
Holiday Beach
OWLS HEAD
Hendrickson Pt
Crescent Beach
Sheep I
Emery I
Cutters Nubble
Crockett Pt
Little I
South Thomaston
Ash Point
Fisherman Island Passage
Ash Pt
Ash I
Fisherman I
Hayden Pt
Birch Pt
Dyers Pt
PENOBSCOT
WEST
RIDGE

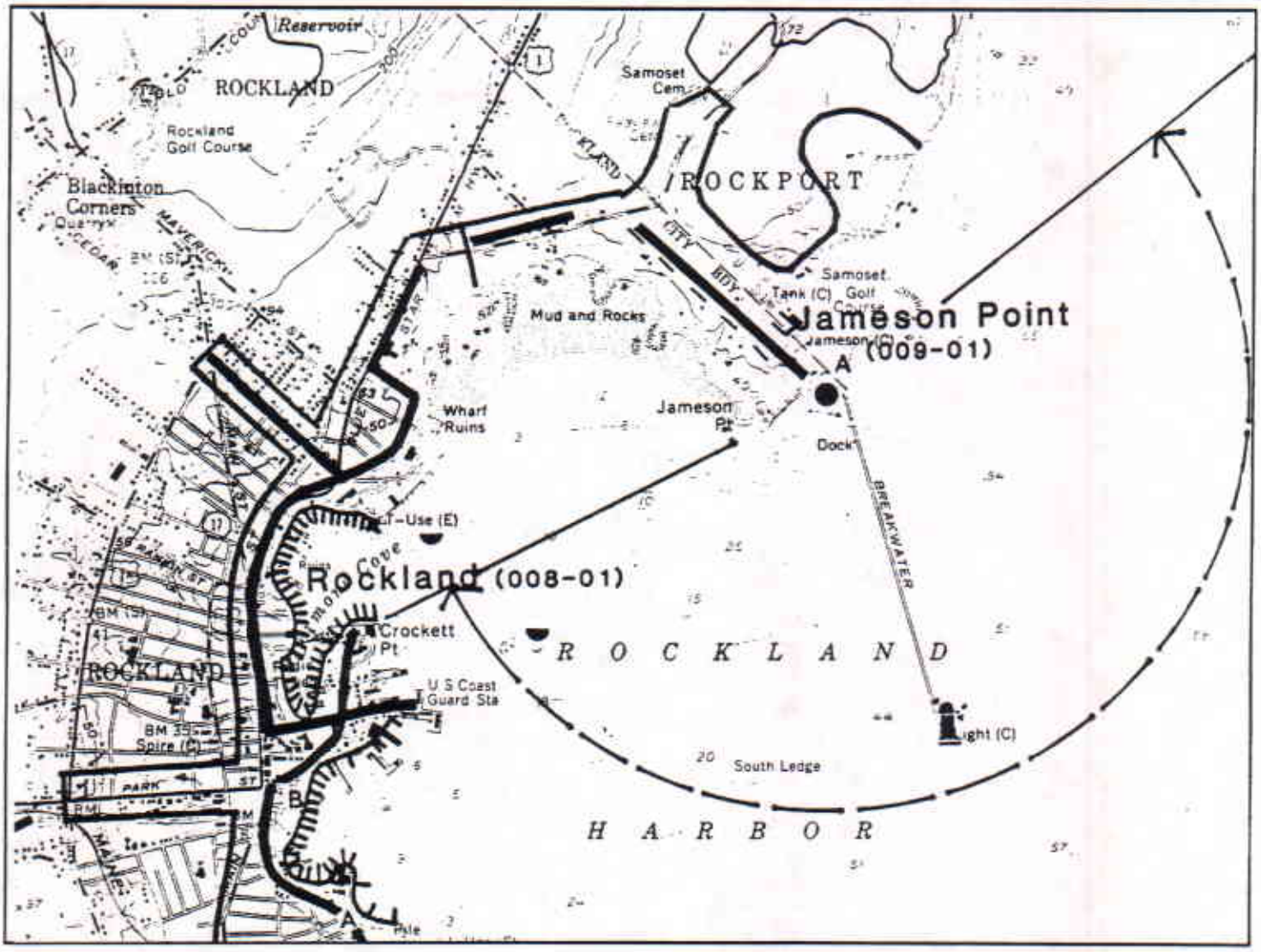
Scenic Area Evaluation Form

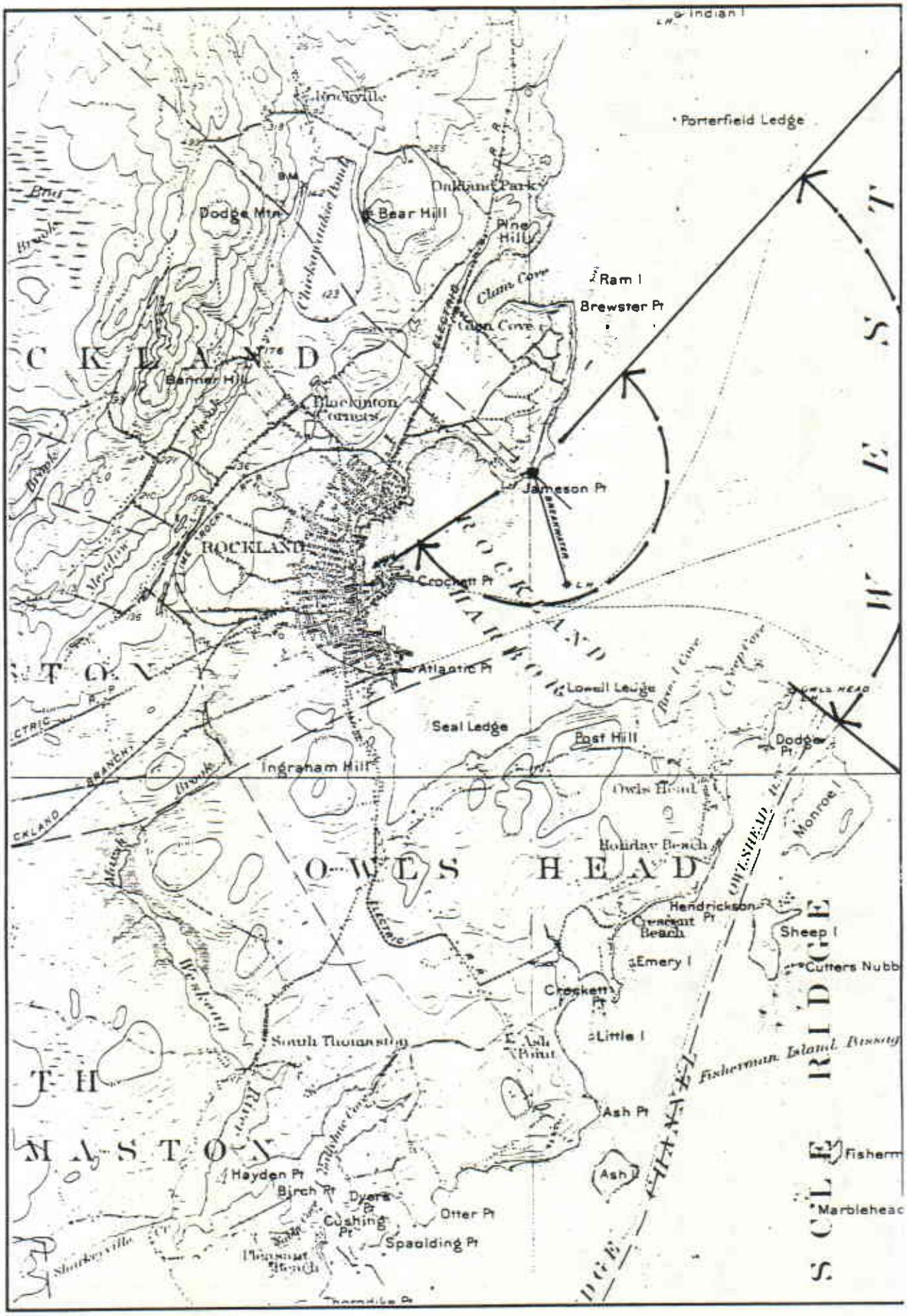
Scenic Area **Jameson Point** Code **009-01** Town(s) **Rockland/Rockport** County **Knox**
1989 Coastal Scenic Inventory — Maine State Planning Office

SI	S	IP	Special Interest/Score/Indicators Present
			1.Landform Topography____Slope____
			2.Open Land
	6	X	3.Shoreline Configuration
X	9	X	4.Scenic Features (Breakwall/Lighthouse)
X	27		5.Scenic Quality of Water
			Duration of View 9
			Type of Water 12
			Quality of Horizon 6
	42	3	**Desktop Subtotal**
	14		6.Landscape Character
			Land Use 7
			Roadside Characteristics 1
			Settlement Characteristics 6
	6		7.Vegetation
X	9		8.Composition & Effect
	71		**Total Score**
3			**Special Interest**

Viewshed Description A residential edge to the City of Rockland. A granite breakwater reaches out into Rockland Harbor and terminates at a well-known lighthouse. The local streets provide filtered views between residential structures and vegetation and ends at a parking lot which provides pedestrian access to the breakwater. Foreground elements include golf course, Samoset resort, residences, parking, mature oak, granite and stone beach shore, breakwater, lighthouse, and Rockland Harbor. Midground includes Rockland Harbor and Penobscot Bay, Rockland skyline and harbor, Owl's Head Lighthouse, and mature spruce on the opposite shoreline. Background views are to Penobscot Bay, distant islands on the horizon, and spruce-covered hilltops. General landscape condition is very good.

Viewshed Management Recommendations Define breakwater parking and walkway to breakwater.




Indian I
Porterfield Ledge
Dodge Mtn
Bear Hill
Pine Hill
Ram I
Brewster Pt
Clam Cove
Banner Hill
Jameson Pt
ROCKLAND
Crockett Pt
Atlantic Pt
Lowell Ledge
Seal Ledge
Post Hill
Dodge Pt
Ingraham Hill
Owls Head
Holiday Beach
Hendrickson Pt
Crescent Beach
Sheep I
Emery I
Cutters Nubb
Crockett Pt
Little I
South Thomaston
Ash Pt
Fisherman Island
Hayden Pt
Birch Pt
Dyers Pt
Cushing Pt
Otter Pt
Spaulding Pt
Ash I
Marblehead

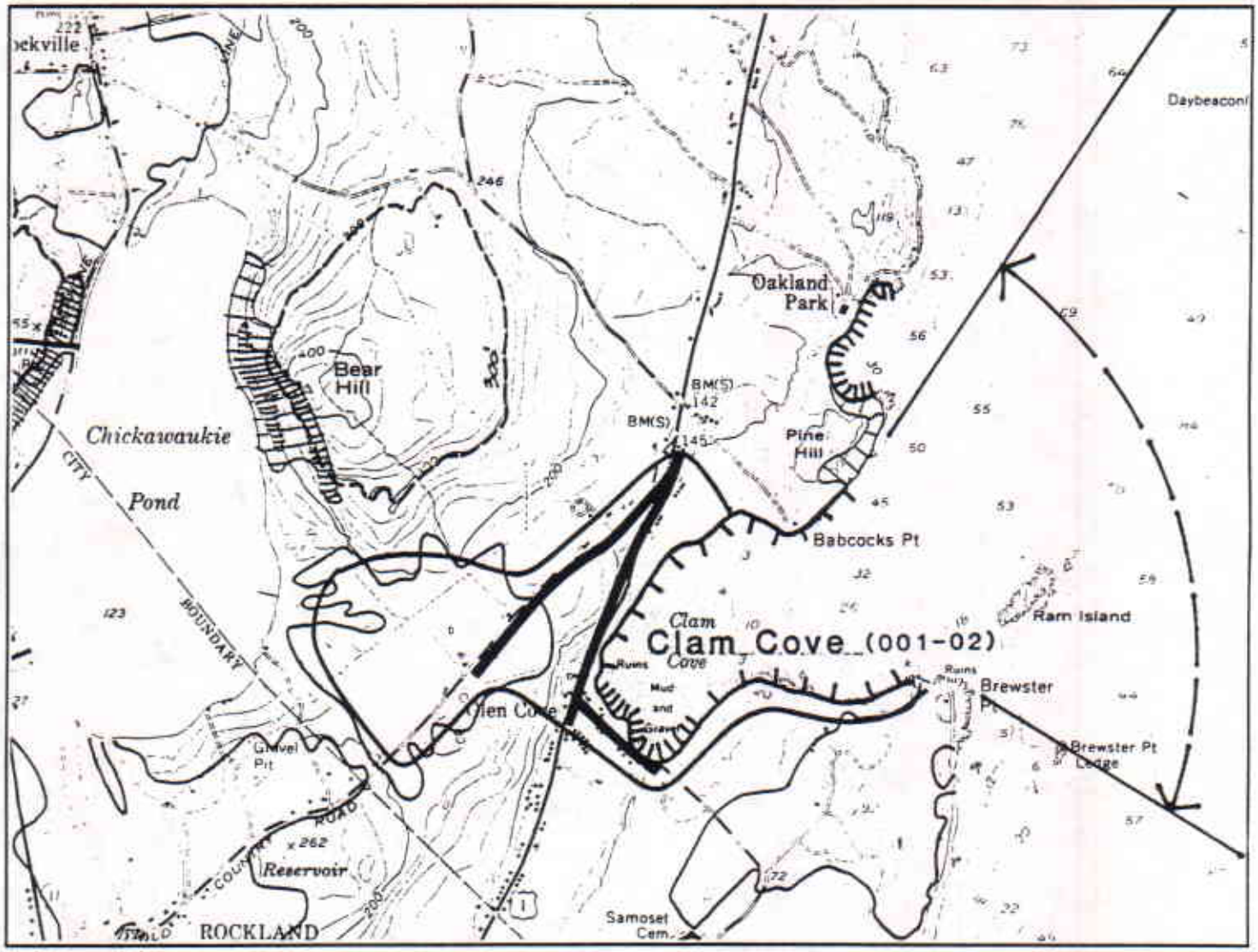
Scenic Area Evaluation Form

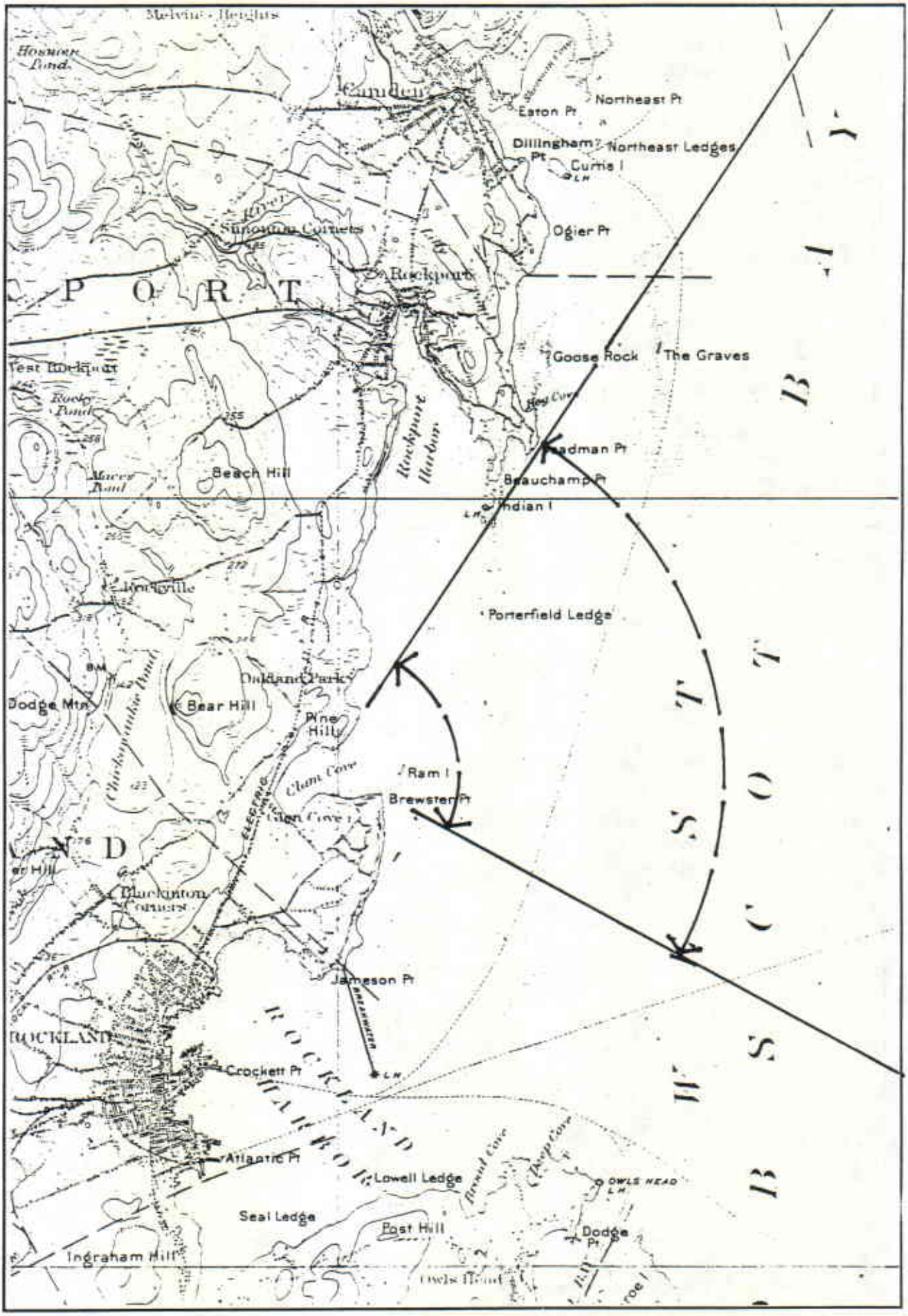
Scenic Area **Clam Cove** Code **001-02** Town(s) **Rockport** County **Knox**
1989 Coastal Scenic Inventory — Maine State Planning Office

SI	S	IP	Special Interest/Score/Indicators Present
			1.Landform Topography____Slope____
	3	X	2.Open Land
	6	X	3.Shoreline Configuration
			4.Scenic Features
	27		5.Scenic Quality of Water
			Duration of View_9__
			Type of Water_12_
			Quality of Horizon_6__
	36	3	**Desktop Subtotal**
	16		6.Landscape Character
			Land Use__7__
			Roadside Characteristics_3__
			Settlement Characteristics_6__
	6		7.Vegetation
	6		8.Composition & Effect
	64		**Total Score**
			Special Interest

Viewshed Description Natural area focussing on a small cove. A Route One rest area is located on the northerly shoreline. Town roads and Route One have a variety of level and dominant views of water. Foreground elements include residential and commercial structures in the village of Glen Cove, lawns, rest area parking and landscaping, Clam Cove, and the opposite shoreline. Midground includes wooded hilltop on the opposite shore and Penobscot Bay. Background views are to Penobscot Bay with Vinalhaven on the horizon. The general landscape condition ranges from fair to very good.

Viewshed Management Recommendations Define pull-offs high on hillside / Clean and maintain 2nd growth on Route One bank




Camden
Northeast Pt
Eaton Pt
Dillingham Pt
Northeast Ledges
Curtis I
Ogier Pt
Rockport
Goose Rock
The Graves
Beach Hill
Rockport Harbor
Meadman Pt
Beauchamp Pt
Indian I
Porterfield Ledge
Oakland Park
Dodge Mtn
Bear Hill
Pine Hill
Clam Cove
Ram I
Brewster Pt
Blackington
Jameson Pt
ROCKLAND
Crockett Pt
Atlantic Pt
Lowell Ledge
OWLS HEAD
Seal Ledge
Post Hill
Dodge Pt
Ingraham Hill
Owls Head
PENOBSCOT BAY
ROCKLAND HARBOR

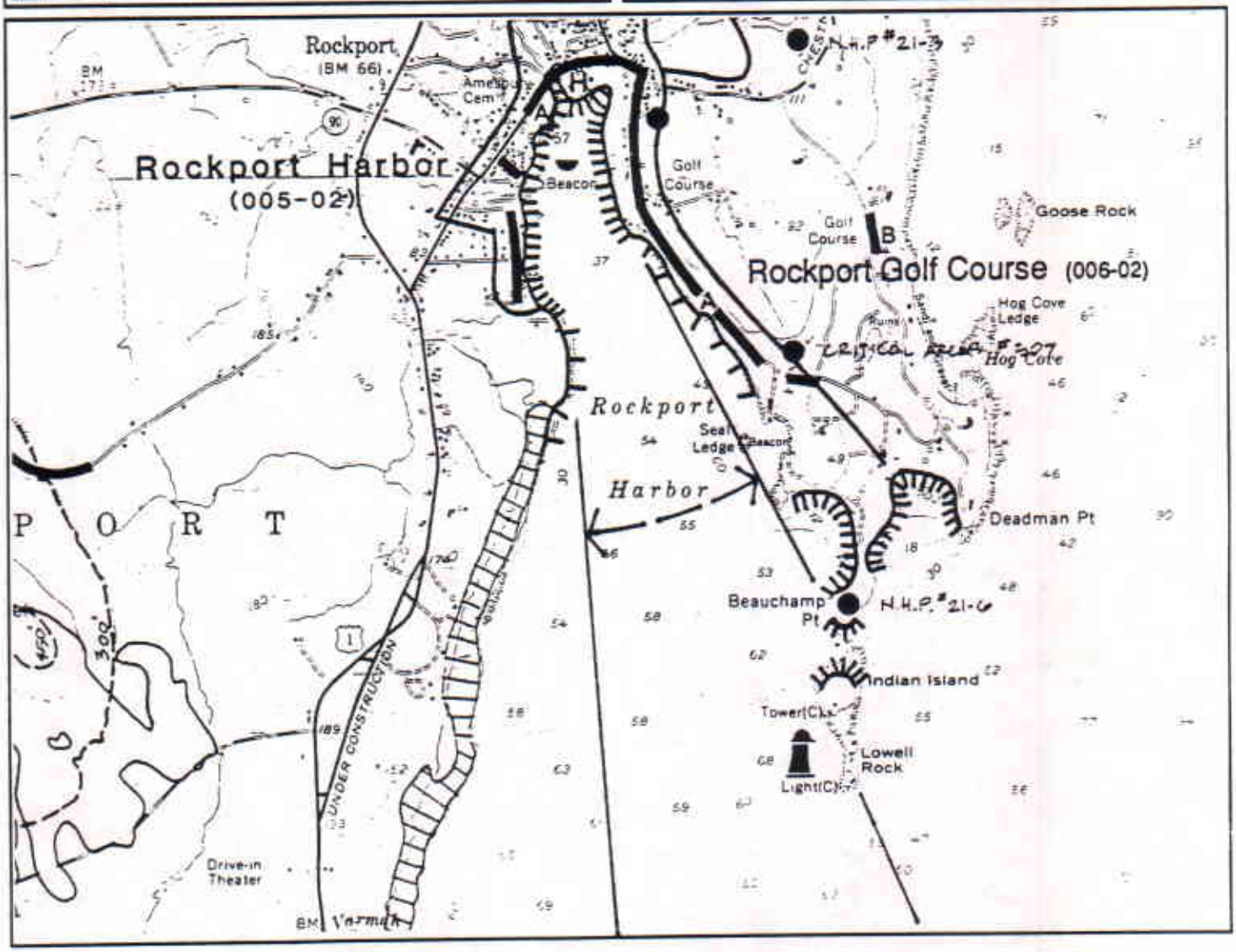
Scenic Area Evaluation Form

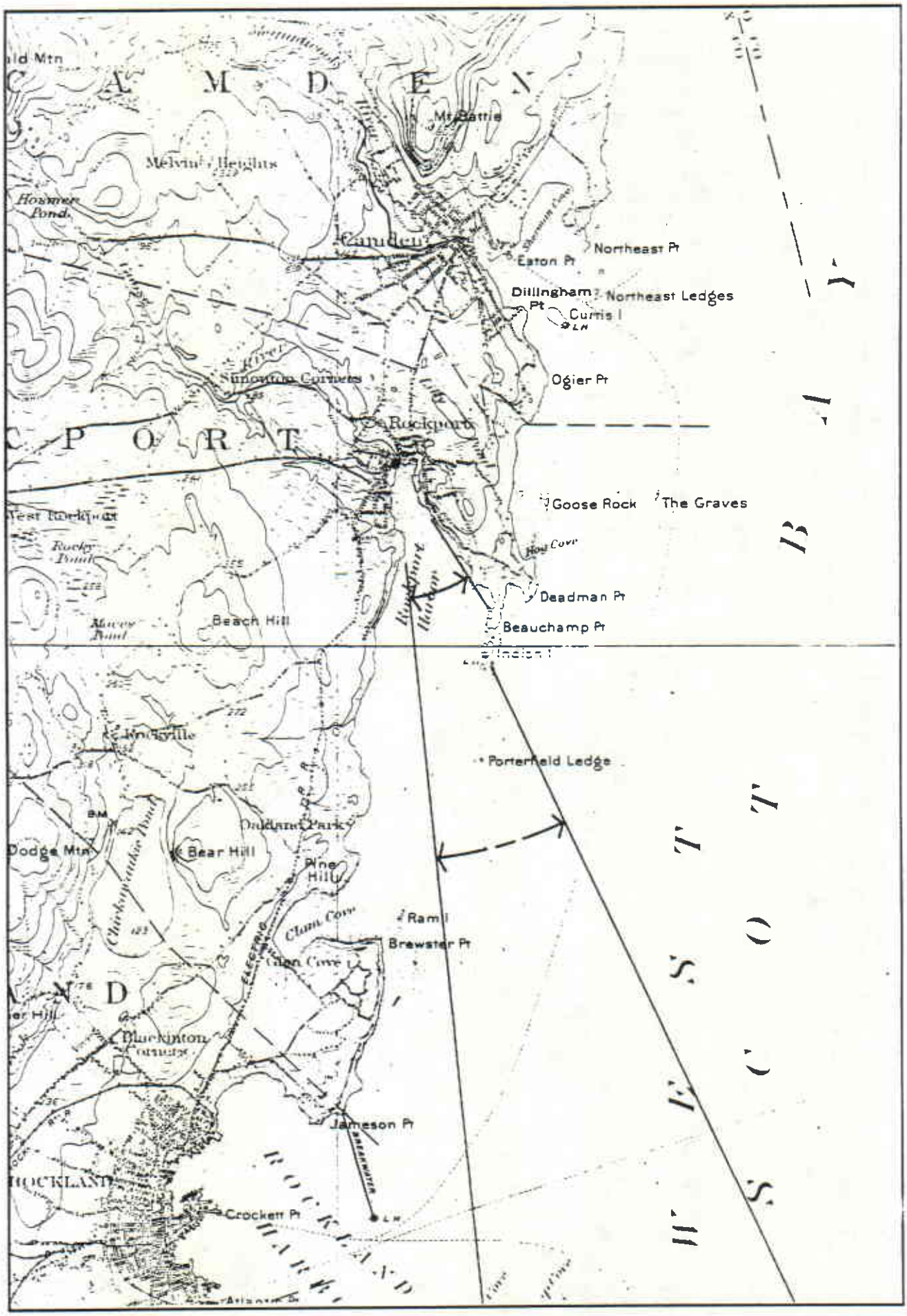
Scenic Area **Rockport Harbor** Code **005-02** Town(s) **Rockport** County **Knox**
1989 Coastal Scenic Inventory — Maine State Planning Office

SI	S	IP	Special Interest/Score/Indicators Present
	2		1.Landform Topography____Slope 2
			2.Open Land
	6	X	3.Shoreline Configuration
	9	X	4.Scenic Features (Mooring Area)
	27		5.Scenic Quality of Water
			Duration of View 9
			Type of Water 9
			Quality of Horizon 9
	44		**Desktop Subtotal**
X	19		6.Landscape Character
			Land Use 7
			Roadside Characteristics 3
			Settlement Characteristics 9
	6		7.Vegetation
X	9		8.Composition & Effect
	78		**Total Score**
2			**Special Interest**

Viewshed Description One of Maine's most visually cohesive villages, with a strong orientation to its deep, well defined harbor. Steeply sloping streets lead to a waterfront park, a rather extensive mooring area for pleasure craft and commercial boats, and an historic lime kiln. The density of development decreases with distance from the village center, terminating in a small lighthouse at the mouth of the harbor. A highly memorable, unified landscape.

Viewshed Management Recommendations Strict performance standards for new construction and redevelopment activities within the viewshed of the harbor. Conservation easements to protect the edges and the skyline.




Mt Battie
Melvin Heights
Hosmer Pond
Camden
Northeast Pt
Eaton Pt
Dillingham Pt
Northeast Ledges
Curtis I
Ogier Pt
Rockport
Goose Rock
The Graves
Deadman Pt
Beauchamp Pt
Beach Hill
Porterfield Ledge
Dodge Mtn
Bear Hill
Pine Hill
Ram I
Brewster Pt
Jameson Pt
Crockett Pt

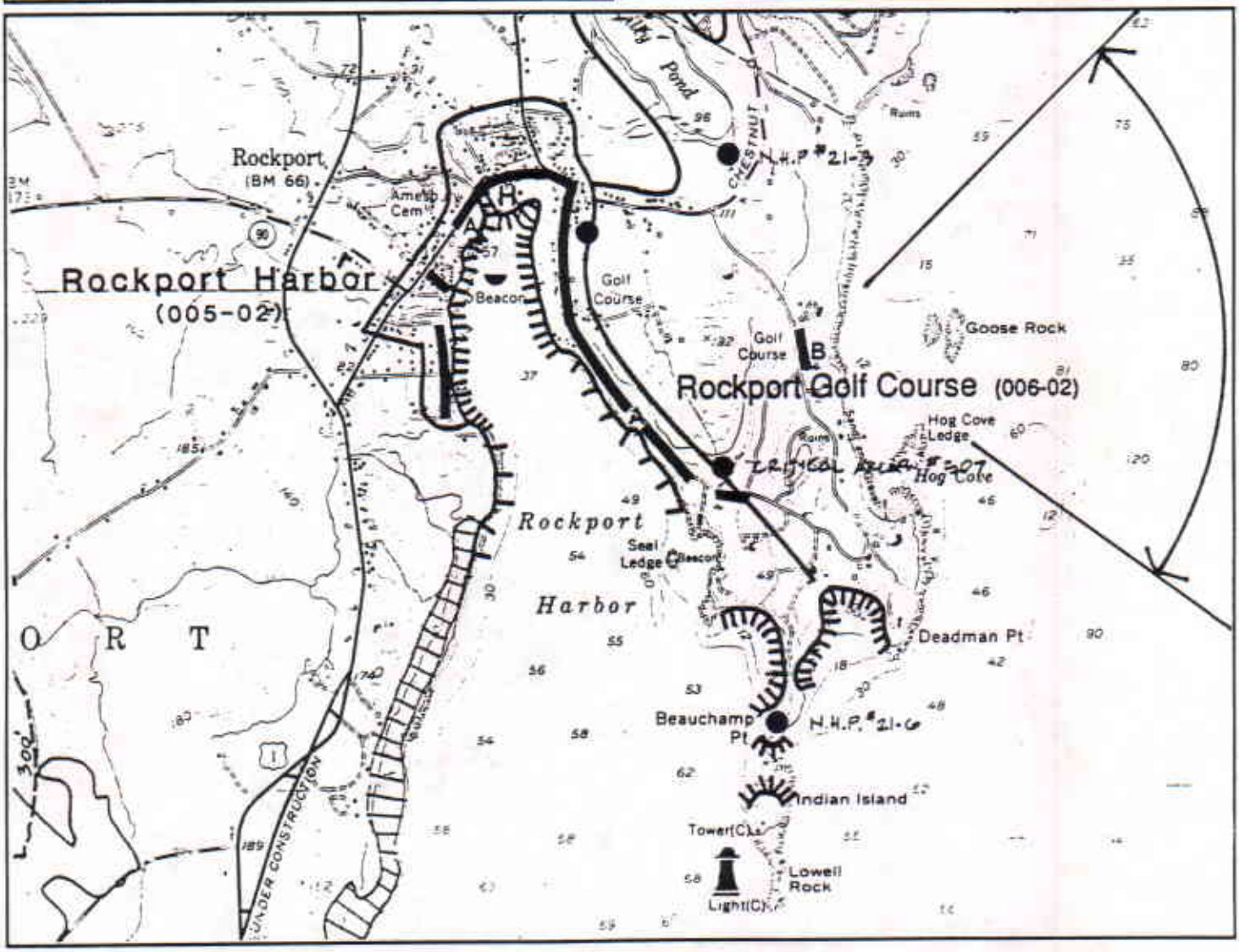
Scenic Area Evaluation Form

Scenic Area **Rockport Golf Course** Code **006-02** Town(s) **Rockport** County **Knox**
1989 Coastal Scenic Inventory — Maine State Planning Office

SI	S	IP	Special Interest/Score/Indicators Present
			1.Landform Topography____Slope____
			2.Open Land
			3.Shoreline Configuration
			4.Scenic Features
	15		5.Scenic Quality of Water
			Duration of View 3
			Type of Water 9
			Quality of Horizon 3
	15		**Desktop Subtotal**
X	19		6.Landscape Character
			Land Use 7
			Roadside Characteristics 6
			Settlement Characteristics 6
X	9		7.Vegetation
	9		8.Composition & Effect
	52		**Total Score**
2			**Special Interest**

Viewshed Description Combination of rural and natural landscape with local road winding through mature spruce forests, along pasture land, and through the waterfront golf course. Views are filtered through spruce forest to open waters with short open views to Penobscot Bay. Foreground ranges from well manicured golf course, to natural spruce forest and Penobscot Bay. Midground consists of Penobscot Bay with a background of open water and Vinalhaven Island on the horizon. The general condition of the landscape is very good to pristine. Local scenic attractions include a farm with Belted Galloways and the view across Lilly Pond to Mount Battie.

Viewshed Management Recommendations Maintain character of road system. Open or maintain filtered views to water. Provide pull-offs for motorists. Conservation easements to protect open space.



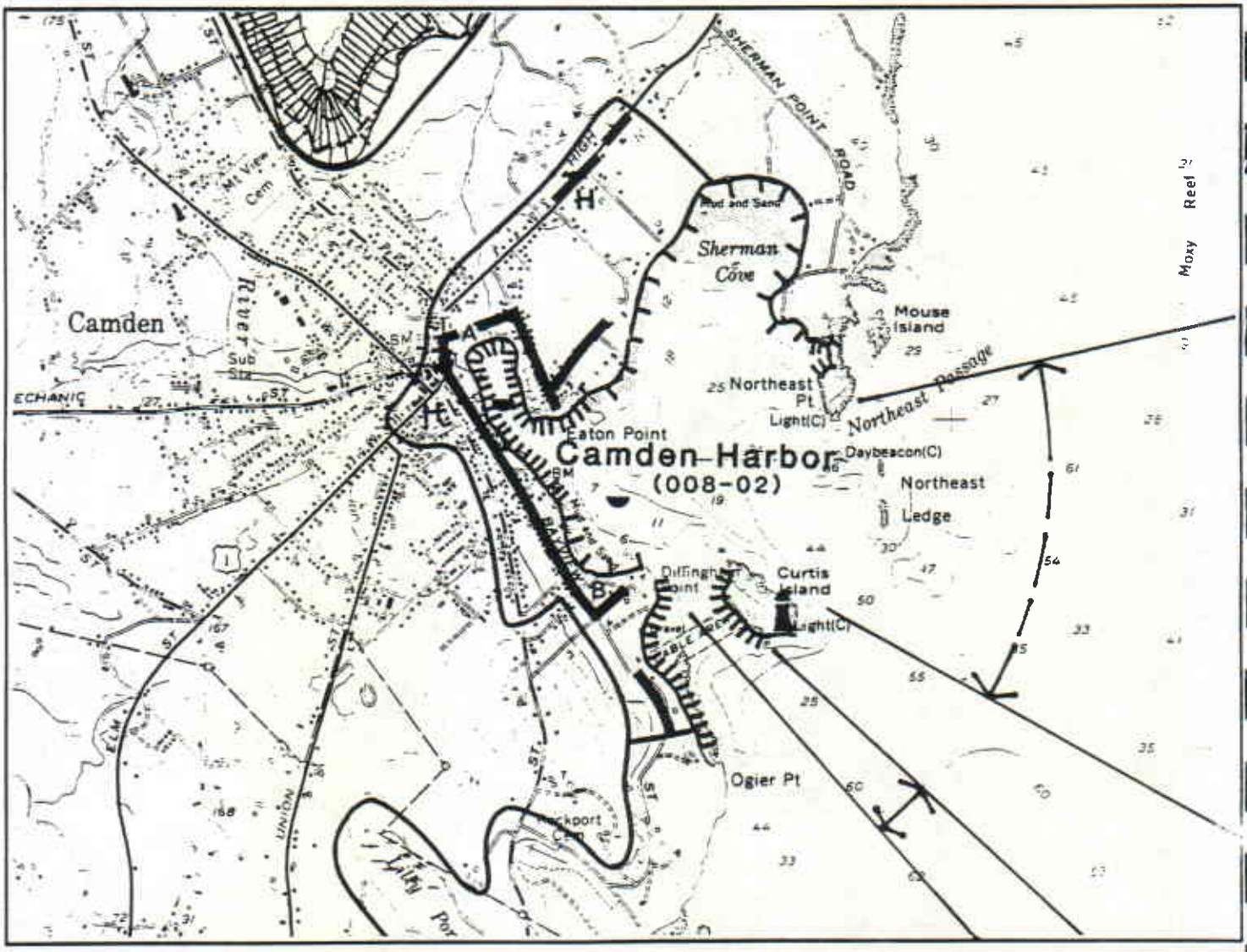
Scenic Area Evaluation Form

Scenic Area **Camden Harbor** Code **008-02** Town(s) **Camden** County **Knox**
1989 Coastal Scenic Inventory — Maine State Planning Office

SI	S	IP	Special Interest/Score/Indicators Present
			1.Landform Topography____Slope____
			2.Open Land
	6	X	3.Shoreline Configuration
X	9	X	4.Scenic Features
	30		5.Scenic Quality of Water
			Duration of View 9
			Type of Water 12
			Quality of Horizon 9
	45	3	**Desktop Subtotal**
X	17		6.Landscape Character
			Land Use 7
			Roadside Characteristics 3
			Settlement Characteristics 9
	6		7.Vegetation
X	9		8.Composition & Effect
	79		**Total Score**
3			**Special Interest**

Viewshed Description Historic harbor yillage with strong orientation to its waterfront. Large tourist population and active pleasure craft harbor including the summer home of a charter schooner fleet. Waterfront parks provide sustained open views and access to the harbor. Foreground includes the parkland, well-kept structures, commercial and pleasure boats, wharves, mooring area, and the opposite shoreline. Midground elements include opposite shoreline, mooring area, Penobscot Bay, and small islands. Background views are the waters of Penobscot Bay with Vinalhaven on the horizon. The general condition is excellent.

Viewshed Management Recommendations Strict performance standards for new construction and renovation that considers the scale and diversity of the waterfront and preservation of visual/physical access.



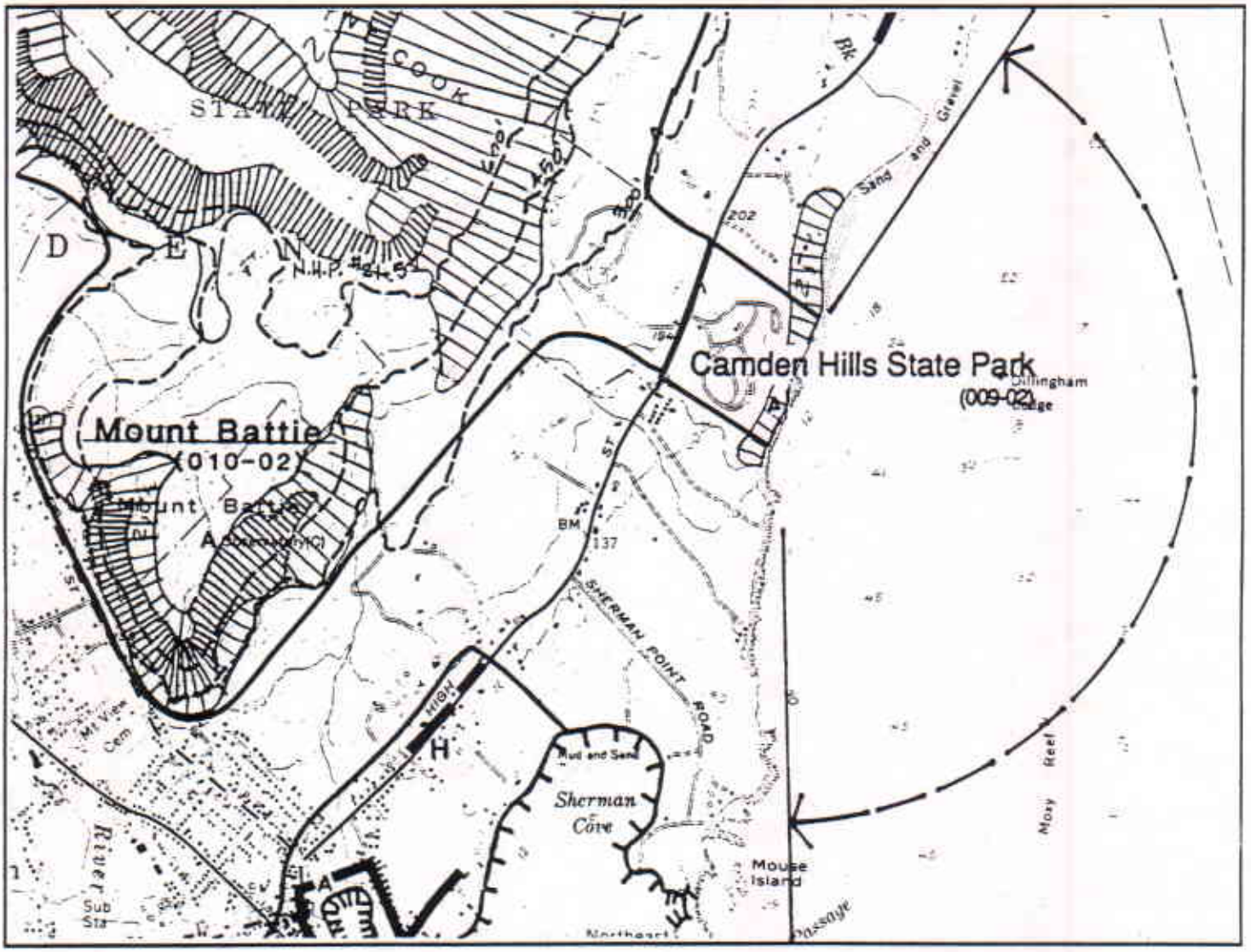
Scenic Area Evaluation Form

Scenic Area **Camden Hills State Park** Code **009-02** Town(s) **Camden** County **Knox**
1989 Coastal Scenic Inventory — Maine State Planning Office

SU	S	IP	Special Interest/Score/Indicators Present
			1.Landform Topography____Slope____
			2.Open Land
			3.Shoreline Configuration
			4.Scenic Features
	21		5.Scenic Quality of Water
			Duration of View 9
			Type of Water 9
			Quality of Horizon 3
	21	1	**Desktop Subtotal**
X	19		6.Landscape Character
			Land Use 7
			Roadside Characteristics 6
			Settlement Characteristics 6
X	9		7.Vegetation
	9		8.Composition & Effect
	58		**Total Score**
2			**Special Interest**

Viewshed Description The east side of Camden Hills State Park features picnicking and camping facilities on Penobscot Bay. A one-lane access road winds down from Route One to the facilities near the water. The foreground view includes picnic areas, mature spruce, rocky cliffs at waters edge, and the shoreline of Penobscot Bay. The midground and background views are directed to Penobscot Bay with Islesboro and Vinalhaven on the horizon. Very well-maintained parkland.

Viewshed Management Recommendations Continued high level of maintenance. Interpretive signage to orient visitors in the landscape.



Scenic Assessment Handbook

State Planning Office

Maine Coastal Program

Scenic Assessment Handbook

State Planning Office

Maine Coastal Program

Prepared for the State Planning Office by

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October 2008

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Forward

Over the past several decades the topic of visual resources has come to the forefront in the land use arena, not just in Maine but across the United States in general. People are becoming much more aware of their surroundings, and how they influence the quality of life that we all enjoy.

The rapid expansion of commercial and residential areas, usually at the outskirts of the historic town centers, has caused significant change to the rural landscape. The Brookings study commissioned by GrowSmart Maine discusses the importance of visual resources to the overall economic health of the state:

"The state's sprawling development patterns … are undermining the state's alluring brand, so important to its current and future economy. Crucial to this brand is the integrity of Maine's distinctive towns and villages and the stunning natural areas that lie between them. Unfortunately, far-flung, often-haphazard residential development is more and more blurring those crisp scenes as it impinges on forests, fields, and waterfronts all around the state." (Brookings Institution Metropolitan Policy Program, 2006).

In the broadest sense, visual resources are the visible features that make up the landscape – the landforms, the vegetation, the water bodies, and the cultural patterns that we are familiar with. Visual resources define our sense of place, where we work, live, and recreate.

This Handbook is a 'how-to' guide for using the State Planning Office's scenic inventory methodology to identify, evaluate, and document scenic resources and to identify scenic viewpoints of state or national significance for purposes of Title 35-A MRSA* Ch. 34-A (Wind Power Law). It is designed to supplement the Maine Department of Economic and Community Development's initial handbook *How to Conduct an Inventory of Scenic Areas* (Dominie, 1990) that was part of the Maine Shore Access Public Access Series.

The methodology is based upon and comparable to the *Method for Coastal Scenic Landscape Assessment with Field Results for Kittery to Scarborough and Cape Elizabeth to South Thomaston* (Dominie, et al., 1987), *Scenic Inventory Mainland Sites of Penobscot Bay* (DeWan and Naetzker, 1990), and *Scenic Inventory: Islesboro, Vinalhaven, North Haven and Associated Offshore Islands* (DeWan, June 1992).

Many (often ambiguous) terms are used to describe the way we perceive our surroundings: 'rural character,' 'sense of place,' 'open space,' 'undeveloped,' and 'wilderness,' just to name a few. This type of terminology can be very problematic when

Camden Harbor

evaluating management options, unless there is general agreement about definitions and expectations.

While the scenic inventory process described in this Handbook may seem complicated and highly methodological at first, there is a logic behind it that should quickly become apparent. This can be a very enjoyable, highly interactive process, involving a great many members of the community with differing perspectives. If it does nothing else, preparation of a scenic inventory makes people discuss the physical world around them and how the landscape has evolved and continues to change over time.

In the 1990 handbook referenced above, Ms. Dominie notes: "Please realize that the whole process comes across worse on paper that it is in practice. As Anne Leslie who inventoried Wiscasset's visual resources has said, 'with companionship and enthusiasm, the job is an interesting one and provokes lots of thoughtful conversation.'"

While this is NOT a handbook to help communities protect scenic resources, identification of what is significant is an essential first step. People who are doing the field work should keep in mind the relative fragility of these resources and record thoughts about their preservation.

Littlejohn Island, Yarmouth

* Note: The Handbook may be used for this wind power law-related purpose upon the State Planning Office's final adoption of rules pursuant to Title 35-A, MRS Section 3457.

Contents

1. Introduction

Purpose

This handbook is designed to be used by people across Maine – mostly volunteers with land trusts and comprehensive planning committees – who are conducting inventories of scenic resources in their town or region. The underlying methodology was developed in the early 90's by Holly Dominie and others at the State Planning Office who recognized a need for an approach that was consistent, relatively simple, and straightforward.

This handbook should give policy-makers and citizens a set of tools to achieve a higher level of precision to identify and evaluate scenic resources – using descriptive language, illustrative maps, and characteristic photographs.

The handbook also provides background and guidance about using the results of the inventory in the context of 1) comprehensive planning and land use regulation, 2) land conservation planning, 3) setting priorities for land acquisition, 4) maintaining community scenic character when considering impacts of development or tracking cumulative impacts over time, and 5) identifying scenic viewpoints of state or national significance for purposes of Title 35-A MRSA Ch. 34-A (Wind Power Law).

Penobscot Bay

By definition, scenic resources are public areas, features, and sites that are recognized, visited, and enjoyed by the general public for their inherent visual qualities. With this understanding, the methodology is limited to scenic resources viewable from public places (e.g., roads, parks, scenic turnouts, coastal waterbodies, great ponds, public hiking trails, etc.). There are a multitude of scenic resources in Maine that are only visible from private lands or structures. However, the State has historically limited its consideration of scenic areas and visual impacts to places to which the public has access.

The methodology was developed to evaluate scenic resources in coastal locations. However, it should be applicable to inland areas as well, since it is based upon an assessment of landforms, vegetation, water bodies, and cultural patterns that define the visible landscape throughout Maine.

Background

Origins of Methodology. In the late 1980's the State Planning Office (SPO), under the Critical Areas Program (CAP), first began a systematic approach to identify scenic resources along the Maine Coast. Like several other states and federal agencies following the passage of the National Environmental Policy Act of 1969, Maine had become increasingly aware of the value and fragility of its scenic resources. The Legislature had directed the SPO to conduct inventories of areas of botanical, zoological, geological, and scenic significance as part of compiling the Register of Critical Areas.

Out of these early efforts came several broad-scale scenic assessments of public landscapes in the following regions:

- Kittery to South Thomaston (by Holly Dominie, et al).
- Mt. Desert Island and Acadia National Park (by Bruce Jacobson, Holly Dominie, and Annette Naegel).
- Mainland sites of Penobscot Bay (by Terrence J. DeWan & Associates and Don Naetzker).
- Islesboro, Vinalhaven, North Haven, and Associated Offshore Islands (by Terrence J. DeWan & Associates).

The assessment methodology, as initially devised by Holly Dominie and refined by TJD&A, involves a multi-step process involving both office and field evaluation. Since the State has such variety in its landforms, waterbodies, and other physical characteristics, regional parameters have to be determined to help account for the difference between common, noteworthy, and distinctive landscapes.

Fort Knox with Bucksport in the background

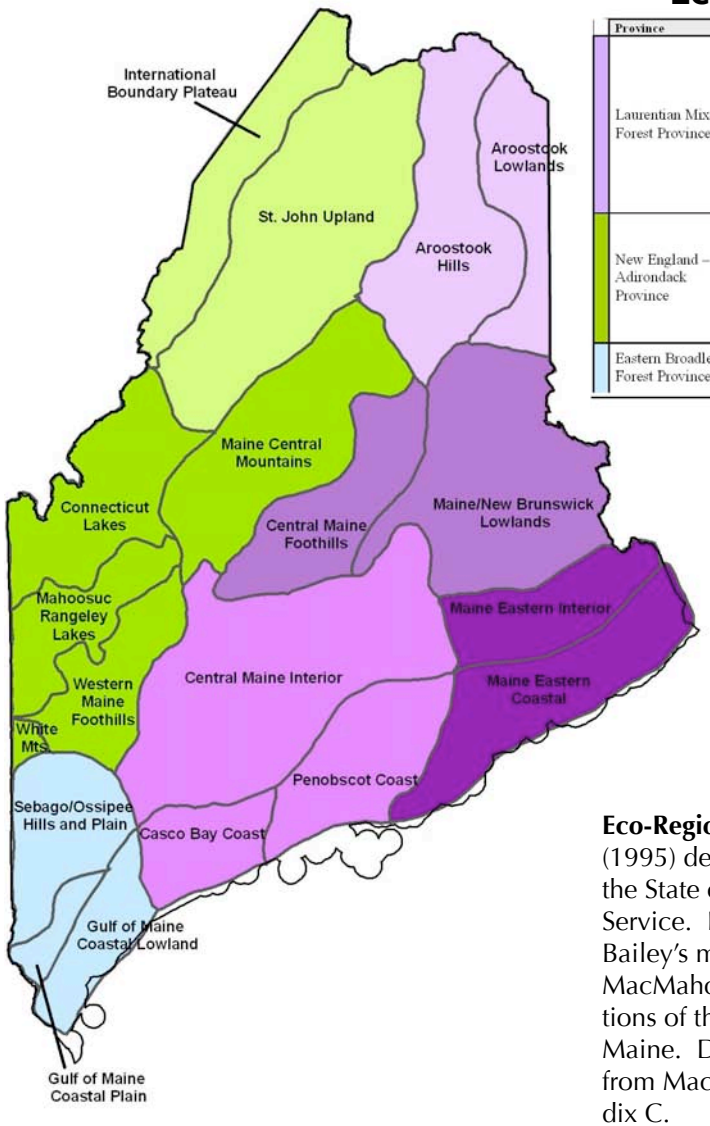
2. Regions of Maine

Levels of evaluation

The process of identifying scenic areas starts by looking at Maine as a series of distinct visual units, ranging from the entire coast to individual sites. This hierarchical approach recognizes the physical context of the land under investigation and makes the evaluator aware of how the scenic area relates to a larger whole. It is useful to consider the concept of 'nesting,' where scenic areas 'nest' inside of 'landscape units,' which 'nest' inside of 'regions.' In more complex landscapes it may be useful to consider 'sub-districts' as a fourth scale of evaluation. Finally, as part of this process, the evaluation looks at scenic viewpoints, those individual locations that provide a visual 'snapshot' or view of the scenic area.

- **Major Scenic Regions.** Robert Bailey, US Forest Service, developed an eco-regional map of Maine that divides the state into different biophysical subregions defined by landform, climate, vegetation, and soils (Bailey 1995). This map has been adopted by many agencies and non-profits, including SPO, Inland Fisheries and Wildlife, and Maine Audubon. In 2006, the State Planning Office adapted a coastal classification scheme (Tanner, Perfect, and Kelley, 2006) which defined four major subregions of the coast (shown on page 5).

Eco-regions of Maine



Province	Section	Section Name	Subsection Name
Laurentian Mixed Forest Province	A	Aroostook Hills and Lowlands	Aroostook Hills
			Aroostook Lowlands
	B	Central Foothills & Eastern Lowlands	Central Maine Foothills
			Maine/New Brunswick Lowlands
	C	Downeast	Maine Eastern Interior
			Maine Eastern Coastal
	D	Casco Bay & Penobscot Bay Coast & Central Interior	Central Maine Interior
			Penobscot Bay Coast
			Casco Bay Coast
New England – Adirondack Province	A'	Boundary Plateau & St. John Uplands	International Boundary Plateau
			St. John Upland
	A	Central & Western Mountains	Maine Central Mountains
			White Mountains
			Mahoosuc Rangely Lakes
			Connecticut Lakes
			Western Maine Foothills
Eastern Broadleaf Forest Province	A	Southern Maine	Gulf of Maine Coastal Plain
			Gulf of Maine Coastal Lowland
			Sebago/Ossipee Hills and Plain

Eco-Regions of Maine. Robert Bailey (1995) developed the eco-regional map of the State of Maine for the USDA Forest Service. Keys et al. (1995) subdivided Bailey's map into 19 subsections. Janet MacMahon (1990) developed descriptions of the major biophysical regions of Maine. Descriptions of the Maine Coast from MacMahon are presented in Appendix C.

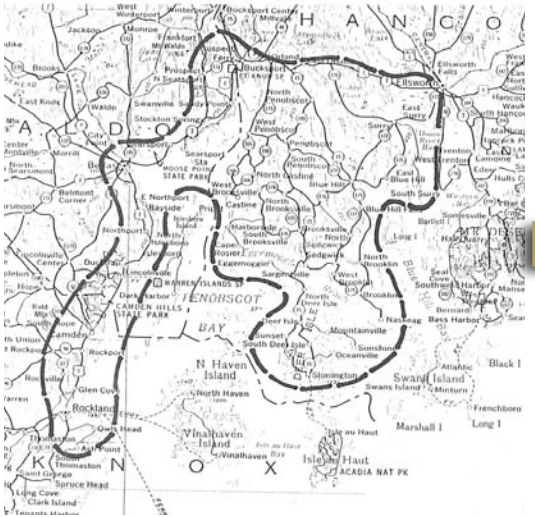
Maine Natural Areas Program 2008

- **Landscape Districts**. Within each Scenic Region the landscape can be further defined by watersheds or other natural boundaries. They are usually recognizable by the public as unique places, often with their own name. The *Scenic Inventory of Penobscot Bay* (right), for example, examined a very geographically distinct and recognizable district within the Island-Bay Coast Region.

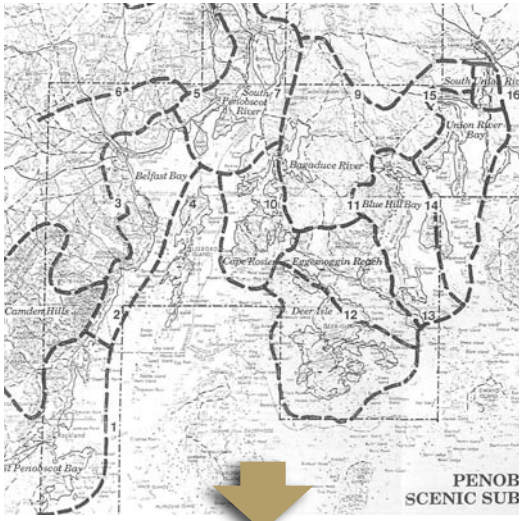
- **Landscape Sub-districts**. In larger landscape districts, it may be very useful to consider smaller 'sub-districts' of relatively homogenous physical and visual characteristics. *The Scenic Inventory of Penobscot Bay*, for example, divided the Bay into eleven subdistricts.

- **Scenic Areas:** These are the smallest divisions in the landscape. They are usually areas of similar physical character and often enclosed by landforms or vegetation or characterized by similar land uses or development patterns. In simple terms these are the outdoor 'rooms' that have a more human scale. In evaluating linear landscapes (such as coastlines or road corridors) the observer will notice the edges that signal the end of one place unit and the beginning of the next. They are not defined by political boundaries.

- **Scenic Viewpoints:** Most scenic areas have at least one viewpoint that allows the public to see most of the scenic resources within it. (See Ch. 8.)



Penobscot Bay Scenic Inventory Study Area covered an area from Owls Head to Ellsworth and Bucksport to Deer Isle.



Eleven Sub-Districts were identified, based upon common physical attributes: landform, shoreline configuration, and settle patterns.

Weir Cove is identified as a scenic area, noted for its juxtaposed views of open water (Penobscot Bay and Weir Cove) and mountains (Weir Cove Mountain); a highly configured harbor, open fields, small homes looking out to islands.

Cape Rosier, one of the 11 Sub-Districts, is characterized by highly configured shoreline, many small semi-enclosed bays and coves, distinctive villages, and abundance of mooring areas, and numerous islands.

Size of scenic areas

In 1981, the Commonwealth of Massachusetts updated the *Massachusetts Landscape Inventory* as a tool for long-range conservation planning. Rather than concentrate on the seemingly countless number of scenic features and historic resources that comprise the Commonwealth, the *Inventory* evaluated the larger landscape and identified scenic areas of at least one square mile with consistently high visual quality. The study divided the State into three categories of scenic quality: Distinctive (4% of the total land area); Noteworthy (5% of the total land area); and Common (the remaining 91%). Massachusetts determined that a minimum area of one square mile (640 acres) was needed to constitute a scenic area.

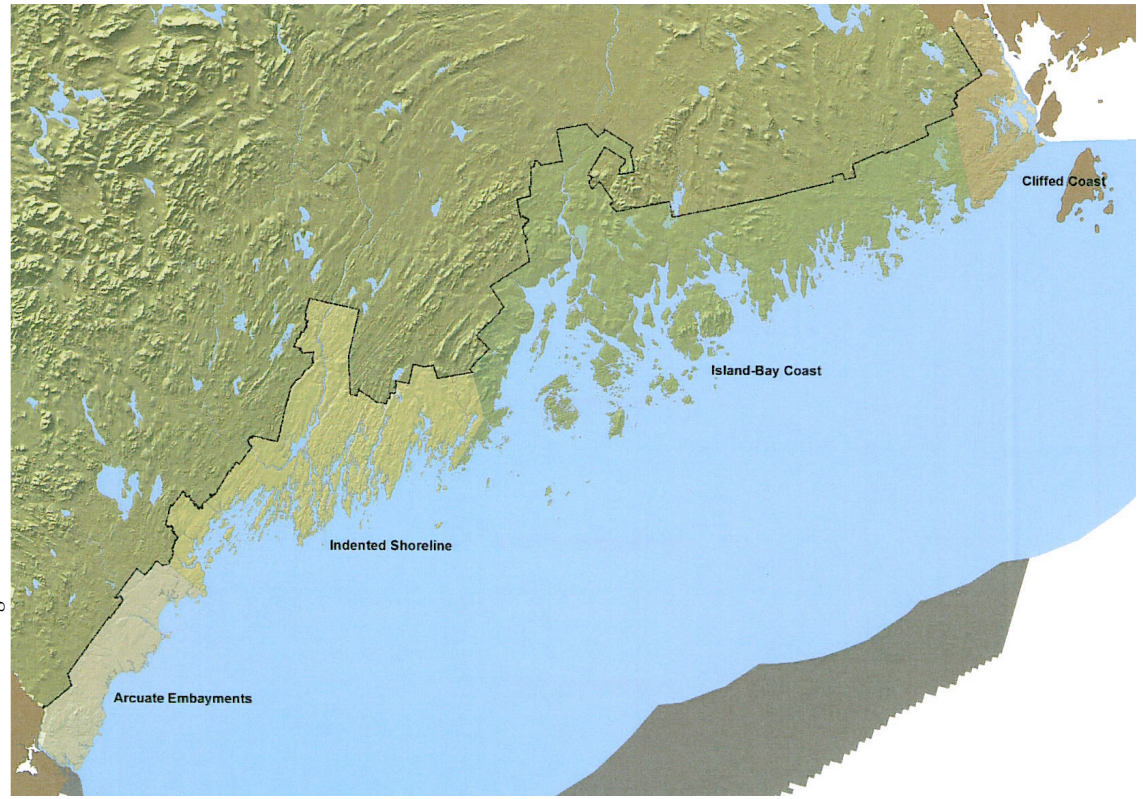
Rhode Island's *Landscape Inventory* started at a minimum size of 20 acres, due to the finer texture of the landscape and the relative size of the state.

The work that has been done to date in Maine has recognized scenic areas as small as several dozen acres. However, these tend to be relatively isolated and of local significance.

Maine's coastal regions

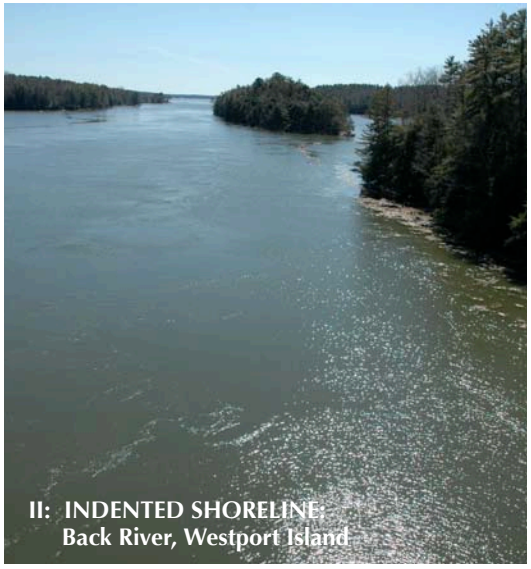
For planning and assessment purposes, the State Planning Office has divided the coast of Maine into four major regions, as illustrated on the map below. These four regions are defined by common physiographic characteristics (geology, landform, water bodies, vegetation, and settlement patterns). Representative photographs from each of these areas are found on the following page.

I: Southern Beaches and Headlands (Arcuate Embayments): the southern beaches and estuaries that define the characteristic landscape of southern Maine. The area from the Maine/NH border to Cape Elizabeth is one of the most densely populated, rapidly growing parts of the State. There is relatively little elevation, with certain notable exceptions, such as Mount Agamenticus. Extensive estuarine systems, coastal wetlands, and barrier beaches are common along the coastline. Islands are generally rare.



Maine State Planning Office

I: SOUTHERN BEACHES AND HEADLANDS
Scarborough Beach

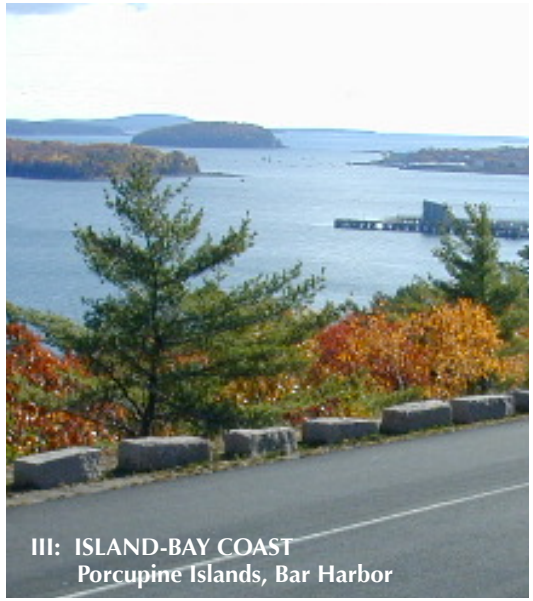


II: INDENTED SHORELINE:
Back River, Westport Island

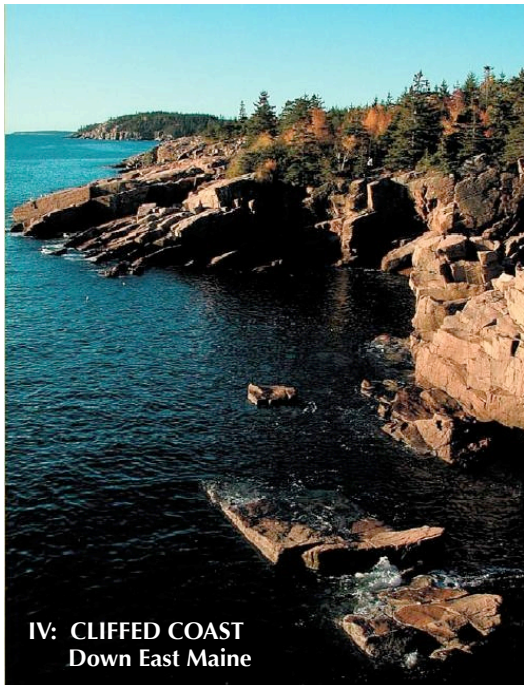
II: Indented Shoreline: the mid-coast regions, with its rocky linear peninsulas and deep bays, extending into the great tidal rivers. This area extends from Cape Elizabeth to Port Clyde and includes Portland, Casco Bay, and Muscongus Bay. The shoreline is highly configured, with deeply indented shorelines and numerous coves and islands. The land abutting the shoreline consists of rolling hills and steep-sided peninsulas. The area is noted for its abundance of rivers: the Kennebec, Androscoggin, Presumpscot, Royal, Sheepscot, Damariscotta, and St. George.

III: Island-Bay Coast: the region from Penobscot Bay to Machias Bay. This highly scenic part of the coast is characterized by well-defined bays, an indented shoreline, numerous granitic islands, and island archipelagos. Significant elevation changes in parts of the area created memorable juxtapositions of water and landform (Acadia National Park, Camden Hills, Mount Blue). Major river systems and their estuaries (Penobscot, Machias, Narraguagus) dominate parts of the landscape.

IV: Cliffed Coast: the bold rocky headlands and bluffs of DownEast Maine. The easternmost part of the coast extends from Cutler to the Cobscook Bay on the New Brunswick border. The area is characterized by numerous cliffs and escarpments, a moderately indented shoreline, with no major rivers or islands.



III: ISLAND-BAY COAST
Porcupine Islands, Bar Harbor



IV: CLIFFED COAST
Down East Maine

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3. Methodology

Approach

The Maine State Planning Office's scenic assessment methodology is based upon a professional approach that relies upon the judgment of individuals trained to evaluate factors that define scenic quality. The selected rating criteria have been demonstrated to be important through research based upon public perception studies of what constitutes a scenic landscape. (See Appendix B, Research.)

Groups and professionals performing scenic inventories using the methodology described in this publication should, as part of the inventory process, solicit opinions from the community-at-large. This input will help to verify the relative importance of various indicators, account for local sentiment, and gain public trust in the approach.

Indicators

The methodology is based on an evaluation of eight indicators of scenic quality:

- **Landform**: the three-dimensional aspect of the landscape
- **Open Land**: non-vegetated land that allows unobstructed or filtered views into the landscape
- **Shoreline Configuration**: the amount of irregularity and complexity in the shoreline.
- **Scenic Features**: specific points of interest, such as islands, bridges, beaches, and lighthouses.
- **Water Views**: the duration of view, type of water, and position of the observer.
- **Landscape Character**: land use (both positive and negative), roadside characteristics, and settlement features.
- **Vegetation**: quality of the vegetation patterns as they pertain to the visible landscape.
- **Landscape Composition**: the overall integrity of the landscape.

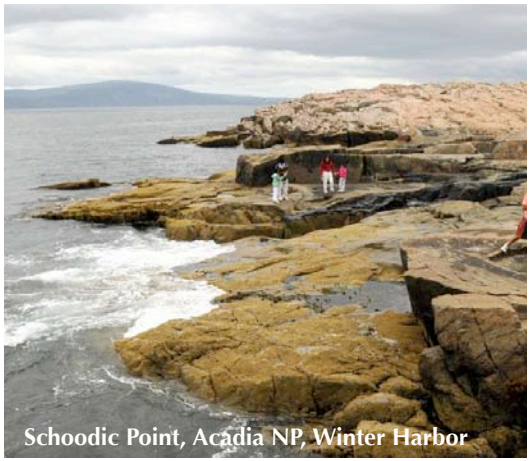
Scenic areas are places where these indicators occur in groups or in close proximity with one another. The first five indicators are evaluated in an office setting by interpreting topographic maps and other sources of information and then field checking the results. The remaining three indicators are assessed through field observation.

The relative importance of indicators will vary from region to region with changes in topography, shoreline configuration, development patterns, open space, and other variables.

Scenic indicator ratings

Each of the eight Scenic Indicators is assigned a value corresponding to its relative importance to the evaluation of scenic quality. The maximum rating that any one scenic area can achieve is 100 points, based upon the following:

1. Landform	9 Points
2. Open Land	6 Points
3. Shoreline Configuration	6 Points
4. Scenic Features	9 Points
5. Water Views	30 Points
6. Landscape Character	22 Points
7. Vegetation	9 Points
8. Landscape Composition	9 Points
Total	**100 Points**



Schoodic Point, Acadia NP, Winter Harbor

Overview of methodology

The following is a brief overview of the steps involved in compiling a scenic inventory. Detailed instructions on how to use the methodology are presented in Chapters 4 through 8.

Public input and involvement are key components throughout the process. See Chapter 4 for information on involving the public. The State Planning Office may be able to assist if questions arise during the process.

1. Map Analysis. USGS maps and other data sources are analyzed in the office to lay the groundwork for field evaluation. Five scenic indicators are evaluated in this step: landform, open land, shoreline configuration, scenic features, and water views. Results are compiled and tabulated on the Scenic Evaluation Form.

Groupings of indicators for preliminary scenic areas are identified and boundaries drawn in preparation for field work.

2. Field Evaluation. Field visits are made to public viewpoints within each of the potential scenic areas to evaluate: landscape character, vegetation, and landscape composition.

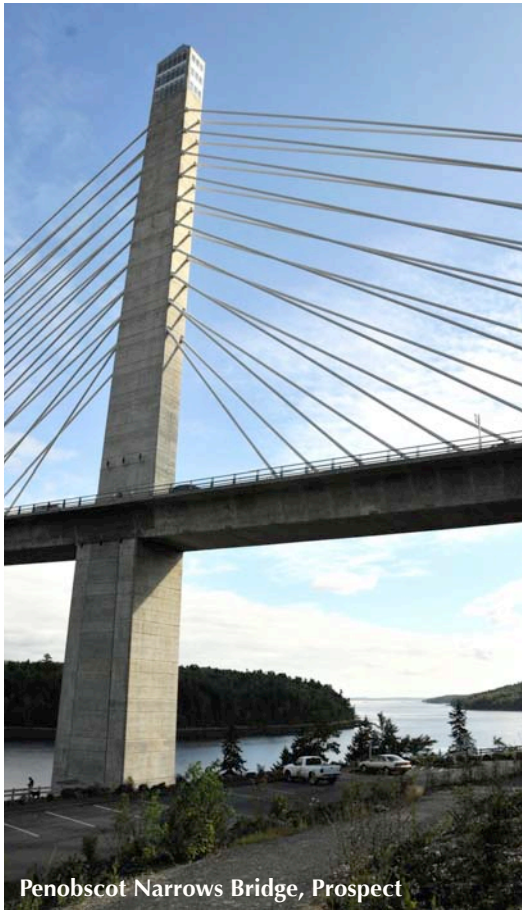
Photographs are taken from a variety of public viewpoints under different daylight and weather conditions. Extensive notes are taken to record data on existing conditions, land use, and management issues. Maps are created to show public viewpoints, the geographic boundaries of the scenic area, and scenic features within it.

3. Ranking and Significance. Ratings for each preliminary scenic area are compiled to determine if they are of local, regional, statewide, or national significance. Areas with at least 70 points may be considered of state or national significance. Further evaluation is performed to determine if these highly-ranked areas meet the standards for visual accessibility and use and public recognition.

4. Scenic Viewpoints. Determine scenic viewpoints that give the public views that are characteristic of the scenic area.

Scenic viewpoints

A discrete part of the process is the identification and evaluation of scenic viewpoints. Under the Wind Power law (Title 35-A MRSA Chapter 34-A) scenic viewpoints are recognized as discrete locations which can account for an area's designation as a scenic resource of state or national significance. See Chapter 8 for further information on the assessment and rating of viewpoints.



Penobscot Narrows Bridge, Prospect

4. Preparation

Introduction

Office evaluation involves collecting data from existing sources: maps, state and regional agencies, historic inventories, local Comprehensive Plans, previous scenic assessments, and other published sources. In addition, there are also an increasing number of web-based resources for mapping, data display, and analysis that should be considered during this phase.

Scenic inventories should be done in an organized, systematic fashion, keeping in mind both the ultimate audience and the use of the information. This chapter introduces a variety of tools and techniques to consider when making the decision to hire a professional or rely upon community volunteers.

Public involvement

The earlier scenic inventories were based upon a professional approach that relied on input from State Planning Office's internal advisory committees and the staff of the Critical Areas Program. While this may have been adequate at the time, future evaluations should seek broader input from the public at large.

There are many opportunities to involve the general public in this process, both interested community members as well as the general public:

- Setting and evaluating criteria to define what constitutes distinctive, noteworthy, or common landscapes. This should be done at a regional or sub-regional level to assure a level of consistency for all the assessments within that region. Public participation can be in the form of regional meetings and/or visual preference surveys involving a broad cross-section of the population.

- Participating in the map analysis of the study area as well as the field investigations. This will involve a group of individuals who have either been trained in

Moose Cove. Trescott TWP.

Land for Maine's Future Program

the State Planning Office methodology or are familiar with it through this handbook. It is highly recommended that people involved in the inventory go through a training program to familiarize themselves with the methodology. (Contact the State Planning Office for resource material and a list of personnel qualified to offer instruction in the methodology.)

- Acting as an advisory committee to oversee the study, provide guidance, convene public meetings, review the results of the inventory and the evaluation of significance.

St. Croix River, Robbinston

Define the study area

The study area for a scenic inventory can be a single municipality, a group of communities or unorganized territories that share a common resource, a watershed, or some other defined geographic area. Most inventories tend to follow established political boundaries.

Scenic areas, like watersheds or wildlife habitats, are not defined or limited by artificial lines drawn on a map. Significant viewsheds often include land in two or more communities, especially when the view extends well into the background viewing distance (more than 4-5 miles).

One alternative to using political boundaries is to define the outer limits of the study area by ridge lines. The tops of these hills and mountains often form large outdoor 'rooms' which may later be identified as scenic areas spanning more than a single community.

As part of the preparation process, contact all the communities that abut or are included in the study area to inform them of the inventory. This would be an opportune time to solicit information on scenic resources (such as water bodies, mountain valleys, and coves) that could straddle common boundaries.

Professionals v. volunteers

This handbook is primarily designed for community groups or land trusts that want to perform their own scenic inventory. However, some may find for a variety of reasons that they would rather entrust the process to a trained professional. There are many factors to consider in making this decision.

There are several advantages of the professional approach:

- Experience in performing scenic assessments and recording observations.
- Knowledge of the methodology as it applies to the study area.
- Objectivity in evaluating relative values and assigning scores.
- Working knowledge of land use issues and management strategies to preserve scenic areas.
- Contacts with state agencies and other data sources.
- Ability to produce high quality maps, reports, and other information.

Likewise, there are many advantages of using local observers, or a combination of professionals and volunteers:

- Working knowledge of scenic areas, access points, gateways, historic sites, and other physical features that may be easily overlooked.

- Experience with culturally significant areas (*places of the heart*) that may have considerable emotional meaning to the local population.
- Understanding of local land use policies, ordinances, and land conservation efforts.
- Minimal costs to achieve a base level understanding of scenic resources.

Starting out

Scenic inventories require a team approach to organize, collect and analyze data, do field work, write observations and recommendations, create maps, and develop a final report. The evaluation team should be composed of individuals who a) possess a variety of writing, observation, and photography skills, b) are representative of the various parts of the community or land trust area, c) have a good grasp of the natural and cultural patterns of the region, d) are able to bring a sense of objectivity to the assignment.

Before starting the mapping and analysis process, it is important to have a big-picture concept of the study area and a general sense of the topography, land features, water features, land use patterns, and vegetation. This is best done by driving the area, talking with local residents, reading town histories, and reviewing local comprehensive plans and other studies about the area.

Introduction to mapping

By their very nature, visual inventories must compile layers of qualitative and quantitative data, analyze the significance and characteristics of that data, and display the results in a manner that is usable by the intended audience. Target audiences are often lay people unaccustomed to visualizing three-dimensional data (landforms) with two-dimensional products (i.e., maps).

Mapping can be developed in a variety of ways, depending upon the team's ability, timeframe, and resources. The final products can be displayed on United States Geologic Survey (USGS) topographic maps or can be produced with Geographic Information Systems (GIS) software.

The initial scenic inventories sponsored by the State Planning Office in the 80's and 90's relied upon USGS 7.5 minute topographic maps. Graphics were prepared with a series of hand-drawn symbols on acetate overlays. While this technique may seem crude by comparison to today's sophisticated computer-based system, the results were easily understood diagrams that served the needs of the project.

Whichever method is used for graphic analysis and display, there are several points to keep in mind:

- ***Symbols*** used for maps should be clearly understood and consistent throughout the study.

- **A *legend*** should be developed and added to all maps to facilitate map reading.

- ***Scale consistency***. Where possible, the maps generated should be the same scale to facilitate public understanding.

- **A *north arrow*** should be included on all maps. All maps should be oriented with north at the top of the map.

Basic mapping techniques

The following section discusses the various mapping and data display options available to communities and land trusts as they start the scenic inventory process.

USGS Topographic Maps

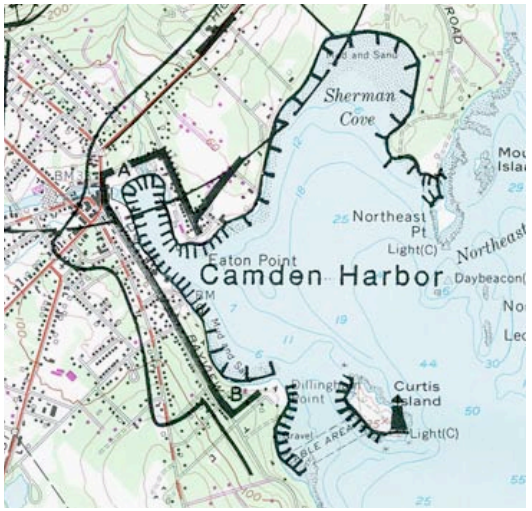
USGS maps of Maine provide a useful way of looking at physical features (e.g., landform and water bodies) and cultural patterns (e.g., roads, structures, and clearings). Keep in mind that most of the maps are at least two decades old and can give a false impression of current natural/cultural features. However, USGS maps may be the best and least expensive source of information and may be perfectly adequate, especially in areas that have not had significant development pressure over the past two decades.

Historic USGS Maps

In looking at a community's cultural patterns, it may be instructive to review USGS maps from the past century and compare them with current maps. The Government Information Department at the University of New Hampshire Library has an extensive on-line collection of historic USGS maps of New England. The Maine quadrangles are typically 1930's and 1950's vintage, but some date to the late 1800's. The maps on the following page illustrates the type of information available from the UNH collection, focussing on Westport Island and the site of the former Maine Yankee nuclear power plant in Wiscasset. For information go to: www.docs.unh.edu/nhtopos/nhtopos.htm.

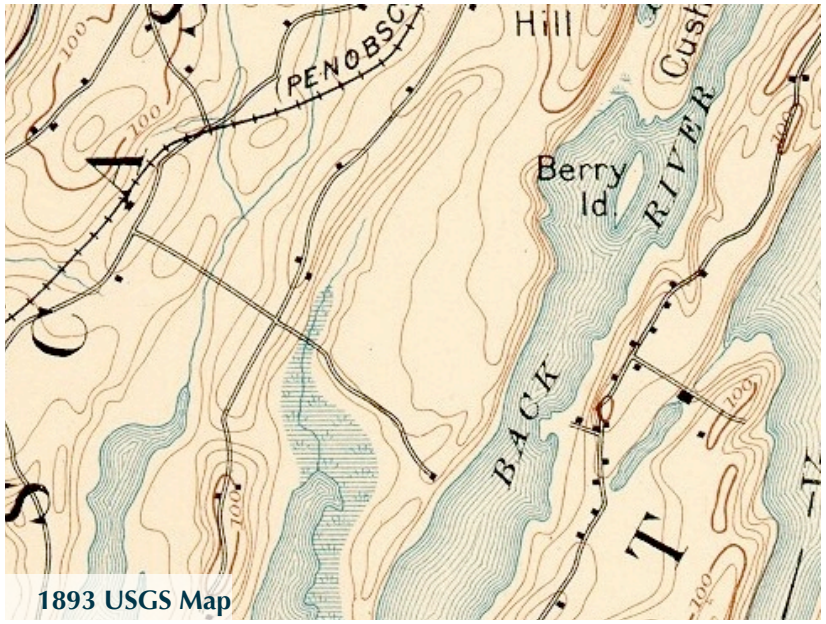
Acetate Overlays

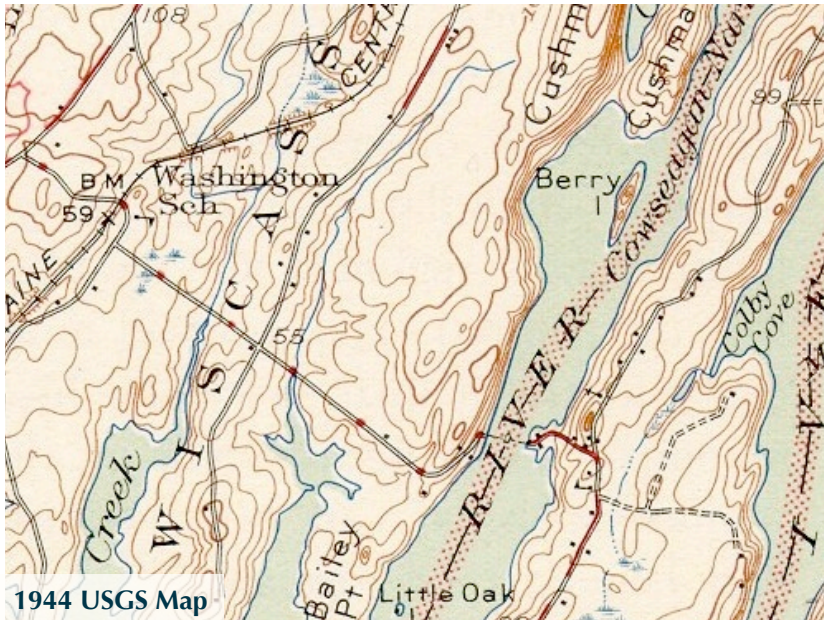
This technique of using permanent markers to draw on sheets of acetate is especially suitable for relatively small survey areas and inventories where participants have a good working knowledge of the landscape. It can be a simple way of producing maps to identify potential scenic areas with a minimum of expense and technical expertise. By using multiple layers of acetate fit onto a common base map, different people can be working on the project at the same time. When the various data layers are combined, concentrations of scenic indicators become immediately apparent.

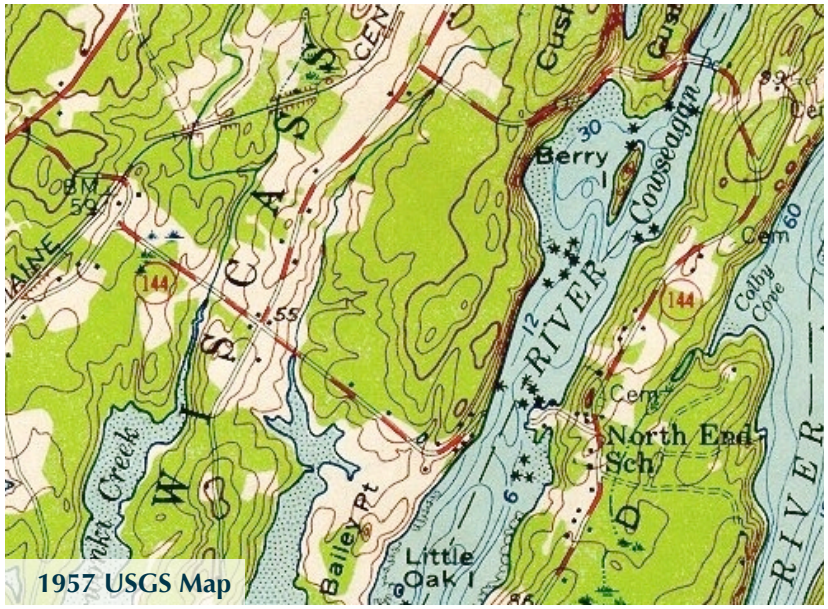


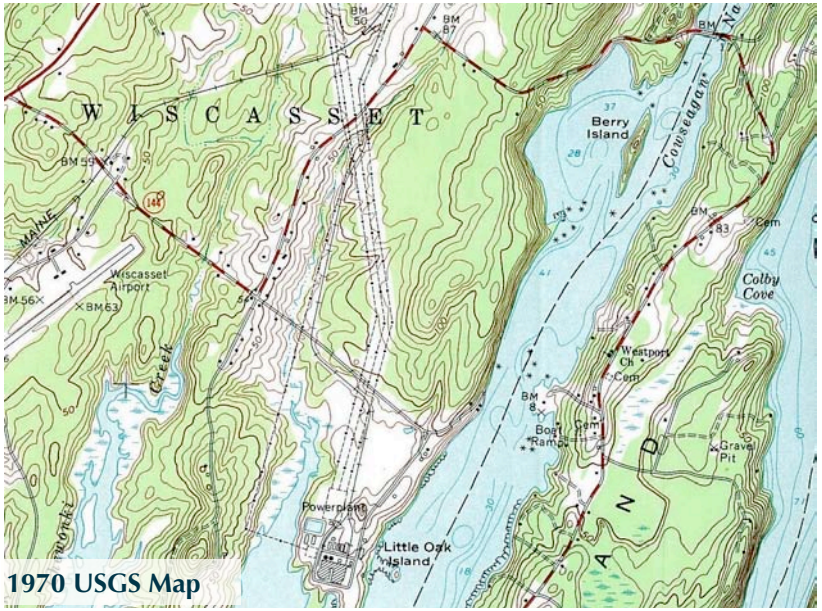
Acetate Overlays were used to prepare the maps for the Penobscot Bay Scenic inventory.

However, there are several disadvantages of using acetate overlays. The working product is not particularly permanent, i.e., the inks used to draw on acetate can be erased, smudged, or damaged by certain solvents. Large study areas may require a considerable number of overlays, creating the need for proper storage. Mapping will require a high level quality control, especially when there are multiple people involved. Once the acetates are completed, they will have to be scanned and imported









Credit: Maptech, Inc. Online Historic Map Collection

into a graphics program to add notes, labels, scale, etc. if they are to be published in a report format.

Photoshop

Starting with a digital copy of a USGS map (either scanned, purchased from a vendor, or downloaded from a CD collection), it is a relatively easy task to import it into Photoshop (or Elements, the less full-featured version of Photoshop). Different layers can be created and manipulated, working with copies of the base map. The opacity of data layers can be adjusted to examine the interaction of various scenic indicators.

When the office analysis is completed, JPEG's can be created from the Photoshop file for field checking and for later use in public presentations and reports. In particularly complex areas, it may be very useful to enlarge the base information to facilitate field work.

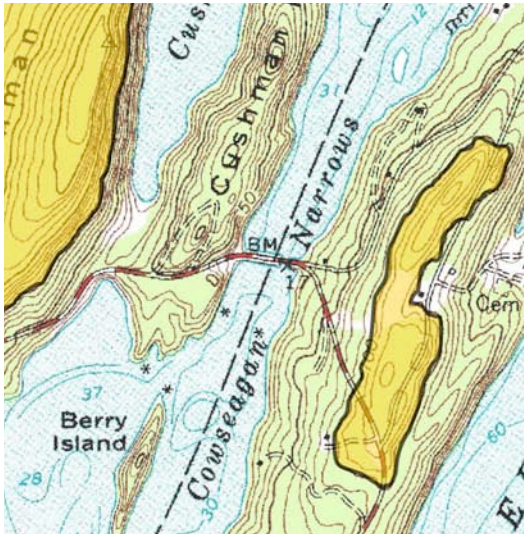
PowerPoint / Keynote

Most people are familiar with Microsoft's PowerPoint or Apple's Keynote for presentations. This software can also be used in a number of ways for scenic inventories:

- ***Graphic Displays.*** Starting with a base map (either a scanned paper copy or a digital original), progressive slides can be assembled with different layers of information (e.g., steep slopes, elevation, and vegetation). Presentations using 'builds' can be very effective to illustrate the relationships between cultural and natural features.

- ***Annotation***. These programs allow symbols (for viewpoints, historic sites, or other features), variable-width lines (for fields, view corridors, or the limits of scenic areas), and notes to be added to maps and photographs for clarity and visual interest.

- ***Incorporate Photographs***. Site photographs (or other scanned images) can be easily incorporated as a layer onto a map to illustrate scenic features.



PowerPoint can be used to create highly effective graphics for scenic inventories. In this elevation study, the fill is set to 30% in Format AutoShape to allow contour information to remain visible.

- ***Photosimulations.*** Through a simple cut and paste process (using the Polygonal Lasso Selection in the Formatting Palette) elements can be added to photographs to illustrate how change could affect scenic quality. Likewise, discordant elements in the landscape can be removed by copying a piece of natural landscape and pasting it over the unwanted part of the scene. While the final product will not be as polished as those produced in Photoshop, this is a relatively quick way to illustrate the effect of change in the landscape.

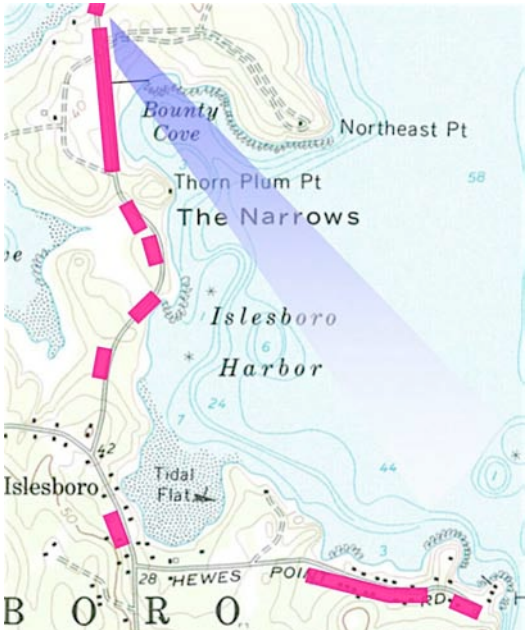
- ***Tables*** can also be created in these programs that can be useful in summarizing data and observations.

Once the graphics are finalized, the images can be used in a number of ways:

- ***Slide shows***. This is the most common way to use the images. Analysis slides can be particularly effective if the data is shown as a series of 'builds', starting with a base map or photo, and adding subsequent layers of data, ending with a composite image.

- ***Printed documents.*** Slides can be printed to create illustrated flyers or booklets about the scenic inventory.

- ***Exported JPEG's.*** Individual pages can be exported as JPEGs into page layout software (such as InDesign) or word processing programs.



Powerpoint was used to create this exhibit illustrating periodic viewpoints and view direction.

- ***Posters***. With attention to the target resolution and the graphic components of the images, slides can be printed on large-format printers to create posters suitable for public presentations and displays.

- ***Other***. Slide shows created in PowerPoint or Keynote can be converted to PDF documents, QuickTime movies, or saved as web pages, making them highly suitable for publication on websites and for transmitting via electronic media.

GIS mapping

Geographic Information Systems (GIS) is a computer system that allows the user to store, display, and analyze a wide variety of spatial data. GIS tools facilitate the display of various data sources and reveal patterns that may not be obvious in other formats, such as spreadsheets or charts. Many of Maine's larger communities have GIS software and use it extensively for planning and other purposes.

Any scenic inventory created by or for SPO for purposes of the Wind Power law (see 35-A MRSA §3451(9)(H)(2)) must use GIS or a comparable electronic technology.

GIS for Scenic Assessment

There are many advantages to using GIS in scenic assessments. Most importantly, data layers can be combined in many combinations to look for and analyze patterns. Once the data is loaded into the computer, GIS allows users to create a variety of maps in both the office evaluation and final analysis. GIS is most suitable for scenic assessments over a larger region because of its ability to analyze large data sets that would be impractical to review by eye or hand. Another advantage of using GIS is the availability of base data from the Maine Office of GIS.

Disadvantages of using GIS tend to center around technological capacity issues and lack of detailed local data. GIS requires knowledge of sophisticated digital tools. While this bar has been lowered dramatically in the past few years – and will continue to become easier for land trusts and other local groups to use – users must have some software and knowledge of where to find relevant data. Due to the complexity of most GIS software, it is generally difficult for the untrained person to add accurate, locally collected data to the system.

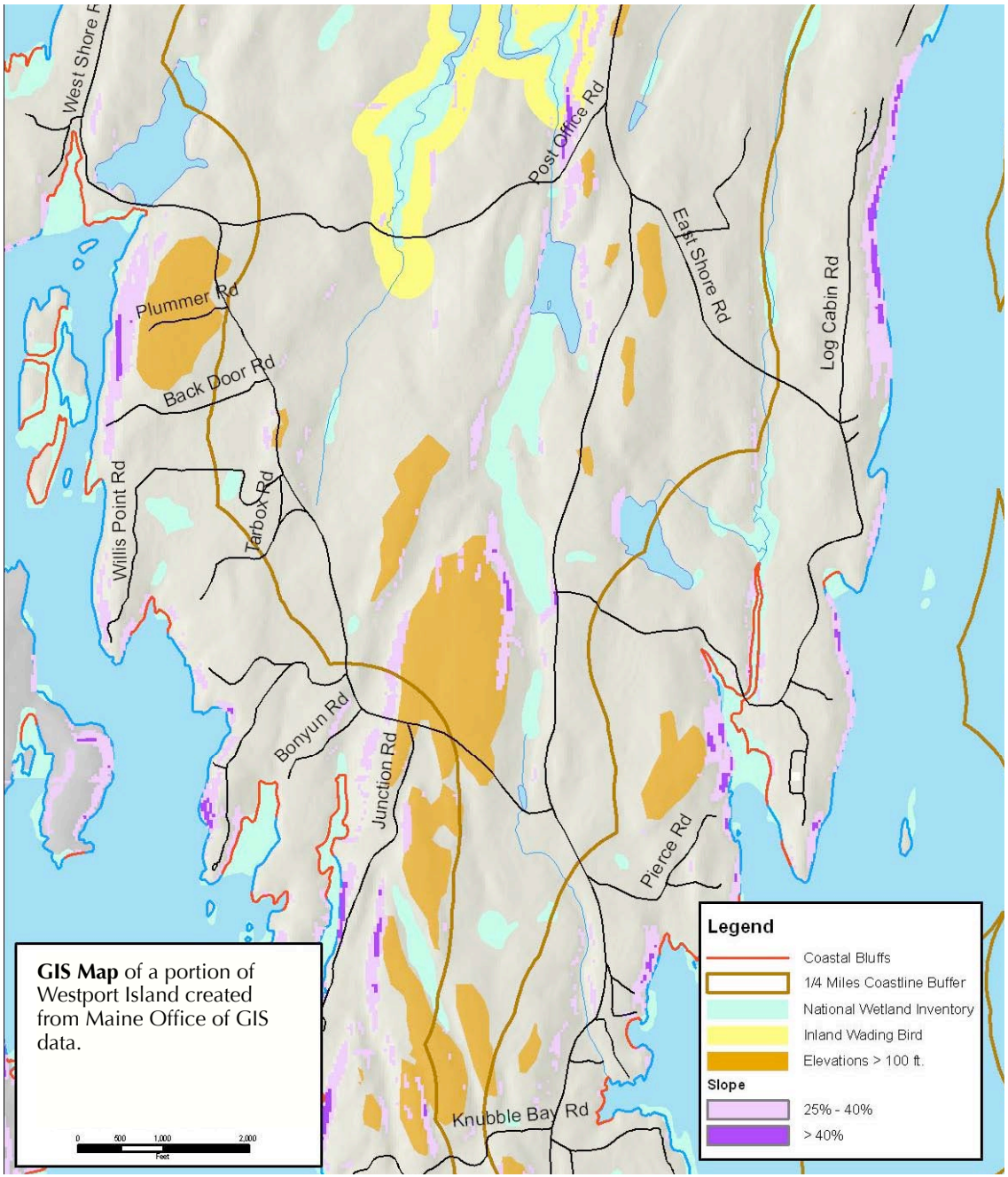
Using GIS

Creating maps in GIS and analyzing data should follow a well-defined process to produce the best results in a timely fashion:

- ***Gather and download data.*** Collect available information from the state data resources (see below) and the town(s) that will be covered in the study area. This will generally take from 1-6 hours, depending on the number and locations of data layers being used.

- ***Organize data in software.*** Bring the data into the selected software and symbolize for clarity and usefulness. Data may also be clipped to town boundaries or it may be desirable to merge multiple data sets together. This step will generally take from 1-3 hours.

- ***Develop and print maps.*** Develop a standard set of maps to show various data layers in useful combinations. Add labels, legend, north arrow, scale and



GIS Map of a portion of Westport Island created from Maine Office of GIS data.

other data (such as digital photographs). This will generally take 1-2 hours to set up base mapping and 2-8 hours to label and print, depending on the size of the area and the complexity of the data.

- ***Analysis***. There are a variety of further analyses that can be done to enhance the scenic assessment, using data layers from existing sources. These include slopes analysis, hillshade, shoreline variation, and view sheds. This process could take anywhere from 1 to 20 or more hours, depending on the complexity of the analysis and the skill of the operator.

- ***New data layers from field information.*** Not all of the available software allows users to enter new data collected in the field. If it is technically possible, data (including site photos) can be entered into the GIS for further use, either by itself or in combination with other data layers. This step may take anywhere from 1 to 10 or more hours depending on the complexity of the analysis.

Pros/Cons of GIS Consultants

GIS mapping and analysis can be done by outside consultants, experienced citizens, or a combination of the two. There are advantages and disadvantages to each approach. The main advantage of hiring consultants is their expertise with software and data. Also, it may assist an overburdened committee by allowing them to focus on

collecting local data rather than spending significant time developing the GIS.

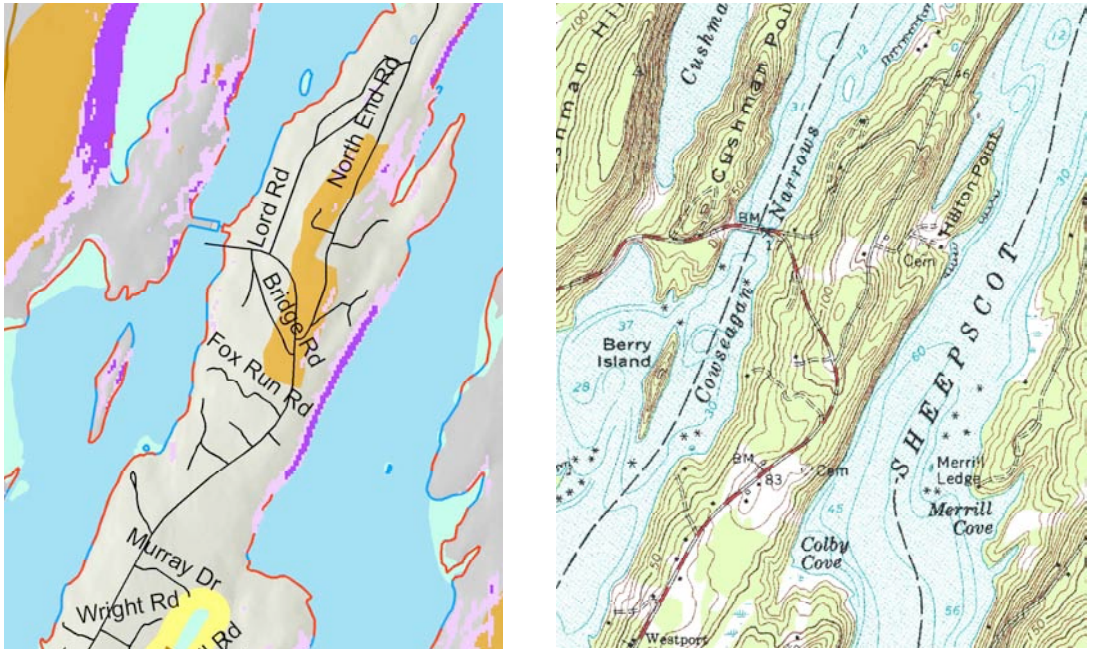
While there are significant cost and data management advantages of doing everything in house, it can place a time constraint on volunteers developing the data. A combination of consulting and volunteer time may allow the group to focus on the most important tasks, and provide some training and volunteer experience in new areas of GIS, while still allowing control over the cost and timeline.

Results

Results can be displayed by creating a layer identifying key scenic resources. Even if GIS is not used during the rest of the process, it would be very useful to have the final assessment created digitally so that it could be incorporated with other data sets during decision making. Maps displaying base data, field evaluation and final results can be printed in a variety of sizes, exported to Powerpoint, or as PDF files.

Data Availability

There are many data layers available from the Maine Office of GIS. These data can be downloaded from the following site: http://apollo.ogis.state.me.us/catalog/catalog.asp Layers that may be most useful to scenic inventories include:



GIS Map Analysis of a portion of Westport Island (l) compared to USGS map of same area (r).

Vector (Line Based) Data Layers

- *Contours* provide topographic information from USGS 7.5' quad sheets.
- *National Wetland Inventory* (NWI) provides polygons and Cowardin classification system of wetlands as an attribute.
- *E911 Roads* is used to show road locations and road names.
- *HYD24* contains ponds, rivers, coastline, and streams.
- *Coastal_Bluff_Hazards* identifies bluff areas along the coastline.
- *METWP24* provides Maine town boundaries.

Raster (Grid) Data Layers. Land cover, USGS quads, and orthophotos can all be used as backgrounds for various maps with any combination of vector data. The MEDEM10 data needs to be further analyzed to create useful data.

- *MECLD*. Land cover data created in 2004 from Landsat and SPOT imagery.
- *MEDEM10*. 10 meter Digital Elevation Model. This can be used to create slope, aspect, and other derived data sets with additional software.
- *DRGCLIP*. These are images of the USGS Quads with all the text and border data

clipped. The images can be put together in GIS software to create a single seamless map of the study area.

- *Ortho Photo Layers*. (ortho_1f, ortho_2f, ortho_ff, ortho_hf.) This aerial photography is available from 2001-2006, depending on the location.

GIS Software

There is a wide variety of GIS Software available, both in the marketplace and as free downloads.

- ArcExplorer (free download from www.esri.com)
- ArcReader (free but needs data prepared through other software)
- ArcView (provides more functionality, but will require some familiarity)
- DeLorme XMap (www.delorme.com)
- MapInfo (www.mapinfo.com)
- GoogleEarth Pro http://earth.google.com/earth_pro.html
- Other open source and proprietary software packages

GIS Resources

The State has a number of GIS consulting resources that may be available to communities and land trusts that may not have local capabilities. GIS Service Centers for Coastal Land Trusts are funded through the Maine Coast Protection Initiative (http://www.protectcoastalmaine.org). These centers were created to provide low cost GIS services and training to land trusts in their service areas. The current centers are Sheepscot Valley Conservation Association, Wells National Estuarine Research Reserve, University of Maine Machias, and US Fish and Wildlife Service. Other sources of GIS services are regional planning agencies and local consultants.

Internet resources

The last few years have seen a remarkable number of new products that can be an invaluable asset to communities and land trusts. These tools should make the office evaluation process considerably easier (and more enjoyable), especially for lay participants.

Google Earth provides a continuous photograph of the entire world superimposed on a three-dimensional model. By a simple set of mouse-based commands, the user can

Digital aerial photograph of Wolfes Neck, Freeport

Google Earth Pro image of same area.

Google Earth Pro

tilt the image to see the landforms in three dimensions, then 'fly' through the landscape from any altitude. The interface allows the user to fly to a location by simply typing in an address. Multiple data layers include roads, water bodies, parks, cemeteries, schools, and other points of interest.

Not all of Maine is currently covered by Google's high-resolution photography. Much of Downeast Maine, for example, is represented by older, grainy photographs which provide only basic information about landforms and settlement patterns. In some instances the photographs may not be properly stitched together, resulting in what appears to be seismic shifts in the ground plane. The photographs are also not dated, so it is impossible to tell how current the images are. Users must keep in mind that 3-D views are created with 2-D information, so there is no 'height' to trees, buildings, or other structures.

GoogleEarth Pro is a professional version of GoogleEarth that provides a greater array of tools (e.g., a distance mapper), more output options, and greater clarity in mapping resolution. It is available on a subscription basis from Google.

GoogleEarth Pro allows the user to create polygons (two-dimensional shapes) representing the boundaries of designated scenic areas onto the base photograph. The shapes can then be superimposed onto GoogleEarth Pro to create a three-dimensional view of the scenic area that can be rotated and examined in detail from an infinite number of viewpoints.

Google allows the use of their images on websites, blogs, or in Word documents as long as the copyright and Google logo is preserved. If there is a question, Google has an on-line process to obtain rights clearance.

Google SketchUp allows three-dimensional images to be added to the data in the form of models created in **SketchUp** or obtained from the Google image library. This can be a very useful tool in preparing preliminary visual impact assessments of large-scale developments such as cell towers, wind energy facilities, or tall buildings.

Microsoft's Live Search Maps (http://maps.live.com) is an internet search engine that combines satellite photographs and more traditional maps. A recent addition is Bird's-eye imagery, which provides 45-degree views of the landscape with very high-resolution photographs (six inches per pixel). Where this feature is available (it does not cover all of Maine as of 2008) the photographs allow the user to look at the landscape from four separate aerial viewpoints (north, south, east, and west) as if hovering overhead in a helicopter. Images can be enlarged with a zoom tool that enable the user to locate and study significant buildings, large trees, bridges, open spaces, and other elements of the landscape. This site also allows the user to toggle between road maps and aerial photographs.

Microsoft's Live Search provides high resolution aerial photographs from four different viewpoints.

Microsoft Live Search

5. Map Analysis

The map analysis will evaluate five separate (though very much interrelated) scenic indicators:

- **Landform**: the three-dimensional aspect of the landscape.
- **Open Land**: non-vegetated land that allows more distant views into the landscape.
- **Shoreline Configuration**: irregularity and complexity in the shoreline.
- **Scenic Features**: focal points such as islands, bridges, beaches, lighthouses.
- **Water Views**: the duration of view, type of water, and observer position.

The result of this process will be a preliminary map that will form the basis for the field evaluation discussed in Chapter 6. Examples of different mapping techniques are provided throughout this handbook and are discussed in Chapter 4.

Regional indicators

The first step in the process is to set values for certain scenic indicators – Elevation, Slope, and Open Land – that recognize regional differences. This will determine at what point a feature becomes important enough to be considered scenic.

Since distinctiveness is a relative term, this exercise evaluates what constitutes a *common* landscape, when it is *noteworthy*, and when it is truly *distinctive*. Points are assigned to the indicators when they meet a certain pre-determined quantifiable threshold. For example, a sampling of hilltops along the coastline of Penobscot Bay (Island-Bay Coast) showed that the average height is 290′. Distinctive landforms are generally in excess of 600′ above sea level. Mountains and hills in this category include Mt. Battie (740′), Mt. Megunticook (1,204/1,385′), and Blue Hill (920′).

The following of regional indicators (below) is based upon the earlier work for the State Planning Office by Dominie (1987) and DeWan and Naetzker (1990). These values should be considered as starting points in determining relative values in the Map Analysis step. Adjustments may have to be made to account for regional variations based upon field observations.

Evaluation Form

The evaluation form (shown on the following page and provided full-size in Appen-

	ELEVATION	SLOPE	OPEN LAND
SOUTHERN BEACHES	100′–200′ 1 pt. 200′–400′ 3 pts. >400′ 6 pts.	20% – 40% 2 pts. >40% 3 pts.	25–50 ac / filtered view 3 pts. >50 ac / filtered view 4 pts. 25–50 ac / unobstructed 5 pts. >50 ac / unobstructed 6 pts.
INDENTED SHORELINE	100′–200′ 1 pt. 200′–400′ 3 pts. >400′ 6 pts.	27% – 40% 2 pts. >40% 3 pts.	25–50 ac / filtered view 3 pts. >50 ac / filtered view 4 pts. 25–50 ac / unobstructed 5 pts. >50 ac / unobstructed 6 pts.
ISLAND-BAY COAST	300′–450′ 1 pt. 450′–600′ 3 pts. >600′ 6 pts.	25% – 40% 2 pts. >40% 3 pts.	50–100 ac / filtered view 3 pts. >100 ac / filtered view 4 pts. 50–100 ac / unobstructed 5 pts. >100 ac / unobstructed 6 pts.
CLIFFED COAST	100′–150′ 1 pt. 150′–200′ 3 pts. >200′ 6 pts.	25% – 40% 2 pts. >40% 3 pts.	50–100 ac / filtered view 3 pts. >100 ac / filtered view 4 pts. 50–100 ac / unobstructed 5 pts. >100 ac / unobstructed 6 pts.

dix F) will be used to record numerical ratings and other information about potential scenic areas. After the initial office mapping is done, look for clusters of scenic indicators – views, openings, notable landforms, configured shorelines – that may indicate possible scenic areas. (See page 4 for the description of what constitutes a scenic area.) To qualify for field evaluation there should be at least two indicators within 1/4 mile. The actual number of indicators should be set after the initial map analysis is done and the scope and number of indicators is apparent.

Begin a Scenic Inventory Evaluation Form for each potential scenic area identified by the map analysis. This will be a two-part process: the first is done 'in the office on the desktop', the second part is done in the field.

SI: Special Interest. Note areas or points of particular scenic or cultural interest. During the field work phase, record observations and photograph the indicators to document how they influence the character of the landscape.

SC: **Scoring**. Assign a score for each of the indicators, based upon the office and field evaluation (see following chapters). If working in a group, use an average score for each of the 8 indicators.

IP: Indicator Present. Mark this box if a scenic indicator may be present (as determined from the office/desktop phase). Enter the total number on the **Indicators Present** line. As noted above, the presence of cluster of indicators is used in determining potential scenic areas.

SCENIC INVENTORY EVALUATION FORM

Location _____ **Date** ____

SI	SC	IP	INDICATORS	COMMENTS
■	■	■	1. Landform	
			Elevation	
			Slope	
			2. Open Land	
			3. Shoreline Configuration	
			4. Scenic Features	
■	■	■	5. Scenic Quality of Water	
			Duration of View	
			Type of Water	
			Quality of Horizon	
■	■		**Indicators Present**	
■		■	**DESKTOP SUBTOTAL**	
■	■	■	6. Landscape Character	
		■	Land Use	
		■	Roadside Characteristics	
		■	Settlement Characteristics	
		■	7. Vegetation	
		■	8. Composition & Effect	
■		■	**FIELD EVALUATION**	
■		■	**TOTAL SCORE**	

SI: Special Interest
SC: Scoring
IP: Indicators Present

Comments_____

DESKTOP SUBTOTAL. Tally the scores for each of the five indicators (some may not have any points) and record it on the DESKTOP SUBTOTAL line. These results can be used to establish a preliminary ranking of potential scenic areas within the study area.

FIELD EVALUATION. In a similar manner, total the scores from the field work and record it on the FIELD EVALUATION line.

TOTAL SCORE. Finally, add the Desktop Subtotal and the Field Evaluation scores and enter the sum on the TOTAL SCORE line. This number will be the basis for determining the relative significance of each of the scenic areas within the study area.

COMMENTS. Record comments on the form during the office evaluation and the field work. Be as specific as possible about what is visible, what has changed (from map or air photo data), and what contributes or detracts from the scene. Also record any adjustments that the group felt was necessary between the initial point assigned from the office work versus the number give for field observations.

Be sure to record the time of the field visit and the numbers of the photographs from each of the viewpoints visited.

1. Landform

Landform, along with water bodies, vegetation, and cultural modification, is one of the basic ways of understanding and describing the landscape. There are two aspects of landform to be evaluated: **elevation** (height above a certain base level) and **slope** (the angle of the ground relative to a horizontal line). In general, as the elevation and/or slope becomes more pronounced (and thus creating more contrast and dynamic lines in the landscape), the scenic value of the landscape will increase.

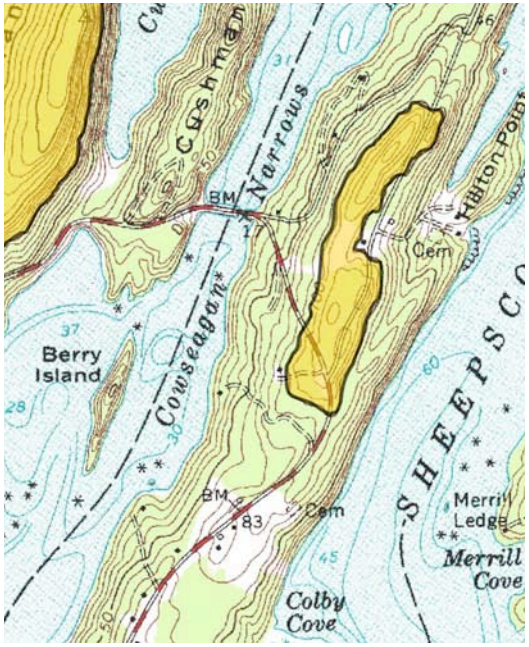
Evaluation

Elevation

This initial step will determine the location and extent of the significant physical features in the landscape: ridge tops, prominent hills, and mountains.

- Locate the highest points of land in the study area by evaluating USGS topographic maps or by using a GIS system to identify elevation ranges.

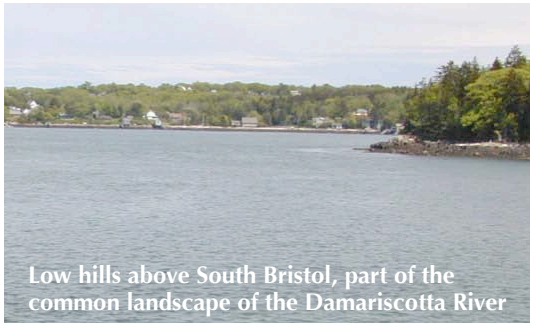
- Following the parameters for the region, determine which landforms (if any) are 1) *distinctive*: i.e., named hills or mountains dramatically rising about the surrounding landscape; 2) *noteworthy*: i.e., usually named features that add visual interest to the surrounding landscape; or 3) *common* and lacking particular scenic influence.



Elevation Analysis can be done by hand (using acetate overlays, PowerPoint, or Photoshop) or by GIS (see example on page 18).

- The regional parameters will set a numeric value for distinctive features (e.g., above elevation 600). Find that contour on the map and highlight it, and fill the area in with a contrasting color (see example, above).

- The parameters will also set a range of elevations for noteworthy landforms (e.g., between elevation 450 and 600). Find the lowest elevation in the range, outline it, and fill in the area so it stands out on the map. Select a color that complements the one selected for distinctive landforms.



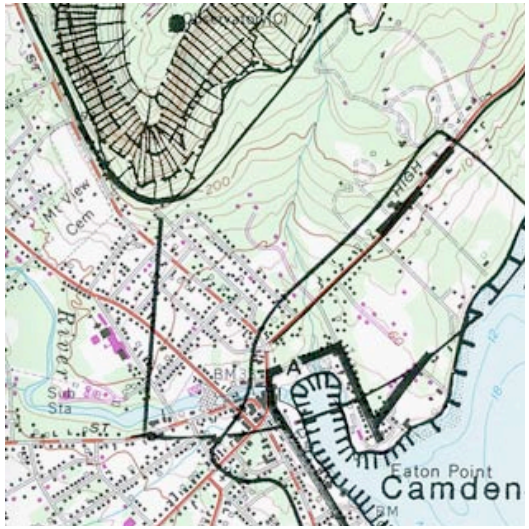
Low hills above South Bristol, part of the common landscape of the Damariscotta River

Ridgetop on Westport Island from Rt. 144 Bridge, as seen on map to left

Ducktrap Mountain (el. 715) in Lincolnville, a distinctive peak in western Penobscot Bay

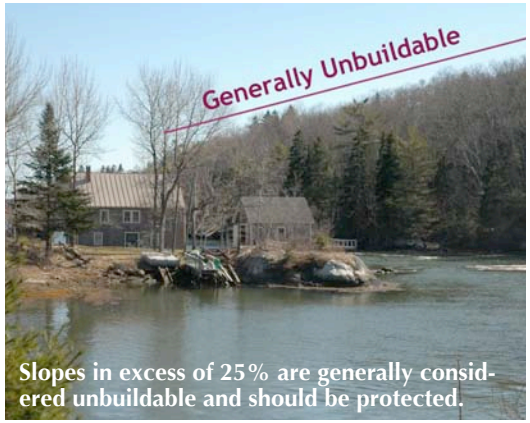
Slopes

This step will determine where the land is steep (slopes >25%) or very steep (slopes >40%). A 25% slope rises 25 feet for every 100 feet of horizontal distance. Slopes in these categories are considered unbuildable in many municipalities since they tend to be highly erodible and difficult to access and stabilize. Steep slopes are also recognized for their visual sensitivity, since the diagonal lines that they create when meeting the sky is dynamic and tend to draw the eye.



Steep hillsides above Camden have slopes in the 25-40% range (wider spaced lines) and greater than 40% (closely spaced lines)

USGS topographic maps are used to evaluate the degree of slope. The slope is steepest where the contour lines are spaced close together. Like elevation, slopes can be determined either by hand or by computer using GIS technology.

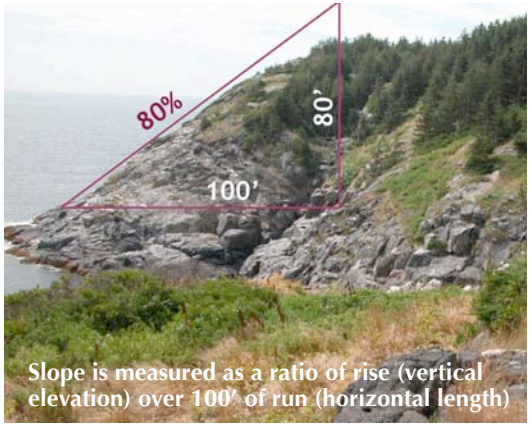


Slopes in excess of 25% are generally considered unbuildable and should be protected.

- Determine areas where the slope exceeds 25% (steep). This can be done by hand using the key at the bottom right of the Scenic Inventory Template (found in Appendix E). Position the right edge of the template on one bold (100') contour. If the next bold contour falls between the 25% and 40% lines, the slope at that point is within that range. Find the point where the slope is 25% and mark it on the map. Continue in this manner to determine the extent of slopes within this range.

- In a similar manner, use the template to determine where slopes are greater than 40% (very steep).

- Connect the marks that define the edge of the two slope categories with a heavy line. Concentrate on continuous areas of steep slope which are at least one acre in size (approximately 208' x 208').



Slope is measured as a ratio of rise (vertical elevation) over 100' of run (horizontal length)

- Fill in the resultant shapes with lines running perpendicular to the contours: farther apart for 25-40% slopes, and relatively close together for slopes >40%. See the example from the Camden Hills on left.

SCORING
See chart on p. 20

Elevation

300' – 450'	1 Point
450' – 600'	3 Points
Over 600'	6 Points

Slope

25% – 40%	2 Points
> 40%	3 Points

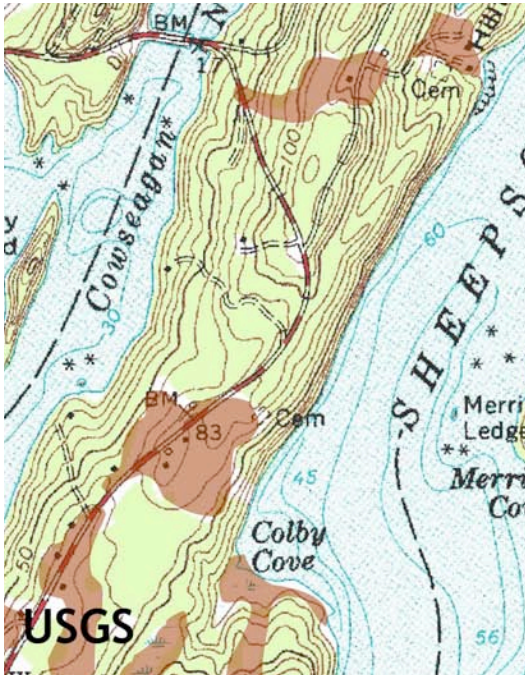
2. Open land

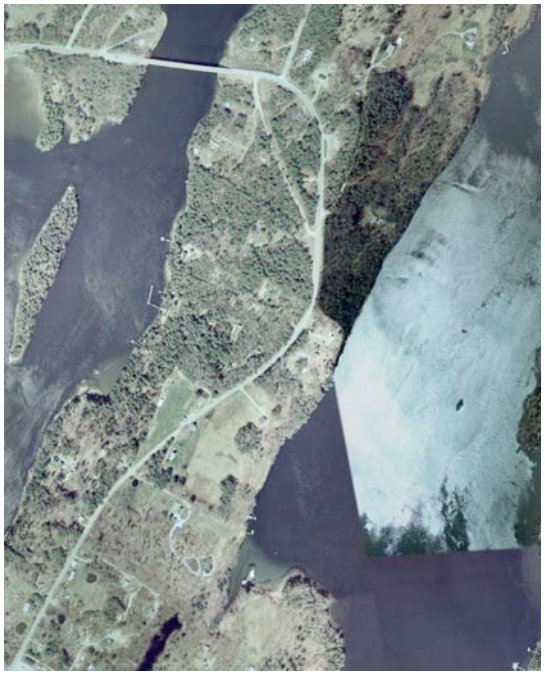
Open (non-forested) land can be found in many forms: cultivated hayfields, pastures, abandoned farmland, open water wetlands, play fields, etc. Land use diversity – especially involving agricultural and natural conditions – is an important predictor of scenic preference. Open space in Maine's mostly forested landscape can add variety, complexity, and visual interest. Openings along the coast frequently provide visual access to the water or other scenic features in the landscape.

Keep in mind that much of Maine's coastline was denuded a century ago as forests were harvested for shipbuilding, construction materials, agriculture, and fuel. The relatively rare open views of today were often commonplace in the mid 1800's.

The relative size of open land will vary from town to town and region to region. As noted above, the scoring table may be adjusted to account for regional differences. If adjustments are made, the reasons for them should be documented as part of the scenic inventory process.

Open field looking into Bounty Cove, Islesboro





Air Photo: Google Maps

Comparison between USGS (l) and recent air photo. Many USGS maps are 25-40 years old, and land use patterns have changed, often dramatically, over the past decades.

Evaluation

Make a preliminary determination of where open land exists within the study area, its relative size, and its degree of openness.

- Locate open areas based upon USGS mapping. These will show up as white patches against the green background. Since these maps are generally several decades old, the information will have to be verified during the field work. Mark the candidate areas on the map for further evaluation.

- Visit each of the candidate areas using GoogleEarth and/or Maps.live.com for more current views. These digital tools should also be used to look for recent development activity, trees, or other obstructions that may block views to the water or other scenic features.

- Determine the approximate acreage of the open land. (One acre is 43, 560 square feet, or approximately 208' x 208'; see the Scenic Inventory Template for a five-acre square.) Area can be calculated by a number of methods: measuring and then multiplying the length by the width; overlaying the five-acre measurement from the Template; using the area calculation tool in GoogleEarth Pro; measuring the area of the polygon that represents the open space in GIS; or using a planimeter, a mechanical or electronic device that measures the area of irregular shapes.

- Record the area on the map along with the approximate boundaries.

SCORING
See chart on p. 20

Open land

1 - 5 acres w/ filtered view	3 Points
> 5 acres w/ filtered view	4 Points
1 - 5 acres w/ unobstructed view	5 Points
> 5 acres w/ unobstructed view	6 Points

Wolfes Neck Farm, Freeport

Large fields (> 5 acres) with filtered views to Casco Bay, Wolfes Neck, Freeport

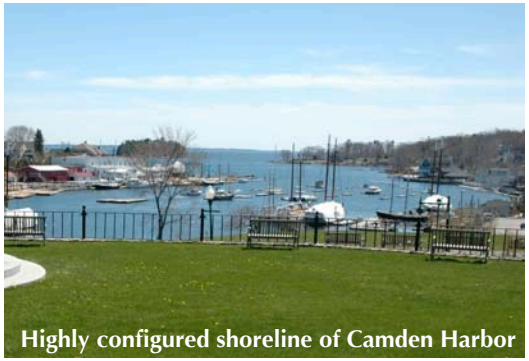
Elevated view toward Eggemoggin Reach over large blueberry barren. Caterpillar Mountain, Sedgwick

3. Shoreline configuration

Configuration refers to the amount of complexity or irregularity in the shoreline. Shorelines with coves, points, islands, bays, peninsulas, and other features are considered more highly configured (and therefore more scenic) than those with straight, uncomplicated shorelines. The perception of space, or degree of enclosure, is greater in a highly configured shoreline.

Evaluation

Determine where opposing shorelines (e.g., the space between the mainland and an island or the opposite sides of a cove) are between 0 to 1/4 mile apart (highly configured), or between 1/4 to 1/2 mile apart (moderately configured). Do this either by measuring with an engineer's scale or by using the Scenic Inventory Template included in Appendix E and illustrated on the following page..



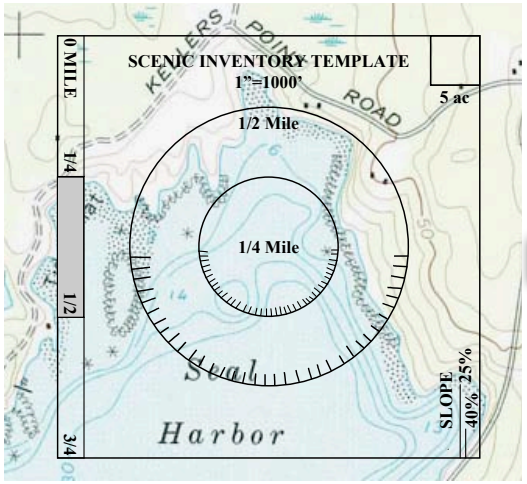
Highly configured shoreline of Camden Harbor

Configured shorelines of Littlejohn Island (foreground) and Cornfield Point on Cousins Island, Yarmouth

- The inner circle has a diameter of 1/4 miles at a scale of 1" = 2000', which will be suitable for a 7.5 minute USGS map. If the circle does not fit into the space between opposing shorelines, then the distance is less than 1/4 mile (and the shoreline is highly configured). Where this condition occurs, mark the map with a series of short, closely spaced lines, perpendicular to the shoreline.

- Use both circles (the larger one has a diameter of 1/2 mile) to determine where the opposing shorelines are between 1/4 and 1/2 mile apart (moderately configured). Where this condition occurs, mark the map with a series of longer, less closely spaced lines perpendicular to the shore.

See following page for examples and photographs of both highly configured and moderately configured shorelines.



Use the **Scenic Inventory Template** to determine where shorelines are highly configured (opposite shoreline within 1/4 mile) or moderately configured (between 1/4 and 1/2 mile).

SCORING

Shoreline configuration

Configured w/in 1/2 mile	3 Points
Configured w/in 1/4 mile	6 Points

Highly configured shoreline of Crow Cove, Islesboro. See map above.

Moderately configured shoreline of Seal Harbor, Islesboro. See map above.

4. Scenic features

Maine is well known for its iconic images of lighthouses, islands, beaches, bridges, cliffs, working harbors, villages, and historic sites. Memorable scenic features, both natural and cultural, can have a positive influence on the perception of scenic quality.

Scenic features may be **focal points** (e.g., church steeples or individual islands), **linear elements** (e.g., sand beaches or a rocky shoreline), or extensive **areas** of interest (e.g., historic districts). A single scenic feature alone may not be enough to designate an area as scenic. The inventory will be looking for groupings of scenic indicators derived from both the office and field evaluation.

Portland Head Light, Cape Elizabeth

Cribstone Bridge, Bailey Island, Harpswell

Evaluation

The work in this section will involve contact with local and state agencies and data sources to determine the type, number, and relative location of scenic features.

- Contact state resource agencies for information on properties or sites within the study area: The **Land for Maine Futures Board** (land purchased or protected by LMFB funding); **Maine Historic Preservation Commission** (historic structures, places, and districts); **Maine Bureau of Parks and Lands** (State parks, trails, and other outdoor recreation areas); **Maine Department of Inland Fisheries and Wildlife**, regional offices (wildlife viewing areas, state game preserves and wildlife management areas); **Maine Department of Transportation** (Scenic Byways, picnic areas, and roadside rest areas); and **Maine Natural Areas Program** (registered Critical Areas within public domain).

- Research published data sources such as: **DeLorme Maine Atlas and Gazetteer** (for parks and recreation areas, hiking trails, historic forts, lighthouses, historic sites, nature preserves, sand beaches, scenic waterfalls, and unique natural areas); **Maine Rivers Study** (scenic river segments, available through State Planning Office); **Maine Lakes Study** (scenic lakes within the organized townships, available through Maine Department of Environmental Protection).

- Contact local resources such as **Municipal Planner, Parks and Recreation Director, and Code Enforcement Officer** (natural/scenic inventories for Comprehensive Plans; scenic roads; significant viewpoints); **Conservation Commissions** (trail plans, unique natural areas, wildlife viewing areas, etc.); **Historic Societies** (historic cemeteries, structures, and places).

- "Visit" each of the scenic features in GoogleEarth and/or Maps.live.com to get a better sense of their location, prominence, and surrounding land use.

- Note the location of the scenic features on the map, using symbols that represent the type of feature.

- Determine where the feature(s) is relative to the potential scenic area. If the feature is within the area or within 1/2 mile, it is within the **Foreground**; if it is between 1/2 mile and 4 miles it is considered part of the **Midground**; if it is greater than four miles, it is part of the **Background**.

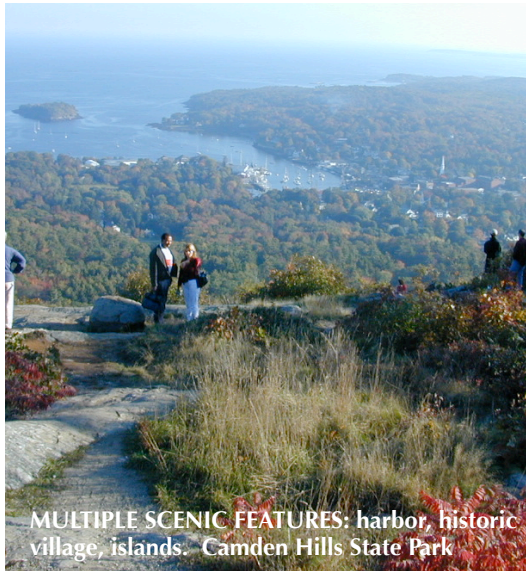
The final determination of significance will be made during the field evaluation, which will consider surrounding land use, the integrity and condition of the feature, and its prominence in the landscape.

SCORING

Scenic features

Significant Feature in Background (> 4 miles)	1 Points
Significant Feature in Midground (1/2 – 4 miles)	3 Points
More than 1 feature with at least one in midground	6 Points
Multiple Features in Foreground (within 1/2 mile)	9 Points

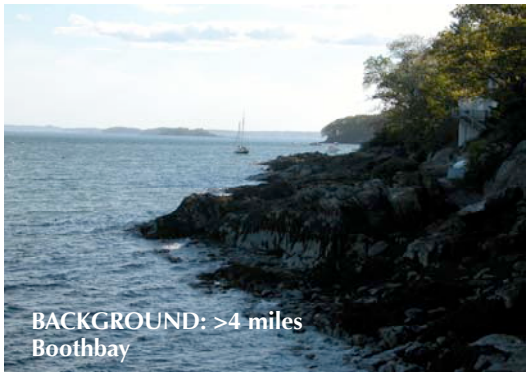
Symbols are used to denote Scenic Features: harbor, islands, lighthouse.



MULTIPLE SCENIC FEATURES: harbor, historic village, islands. Camden Hills State Park

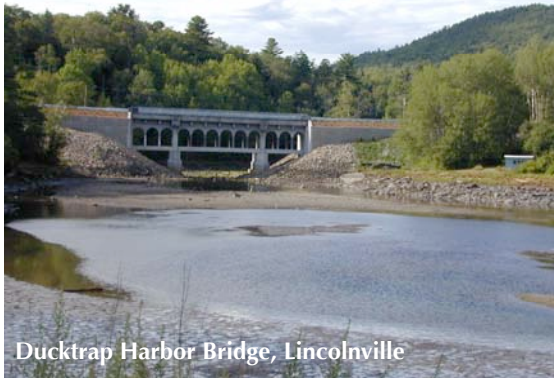
FOREGROUD: w/in 1/2 miles
Pemaquid Point Light, Bristol

MIDGROUND: 1/2 TO 4 miles
Vinalhaven Harbor



BACKGROUND: >4 miles
Boothbay

POINTS OF INTEREST



Ducktrap Harbor Bridge, Lincolnville

LINES

Popham Beach State Park, Phippsburg

AREAS

Rockport Harbor

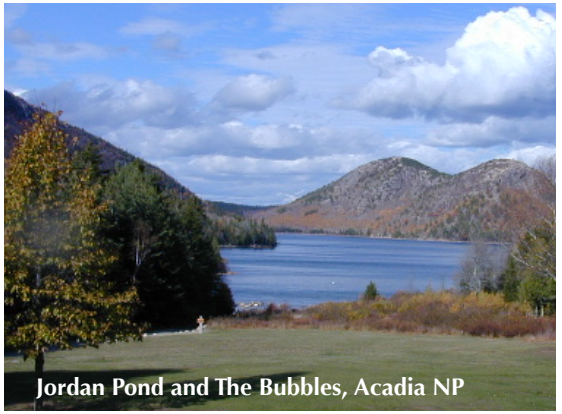
Grindel Point Lighthouse, Islesboro

Rocky shoreline, The Reach, Vinalhaven

Historic Main Street, Rockland

Curtis Island, Camden Harbor

Seawall, Rackliff Island, St. George



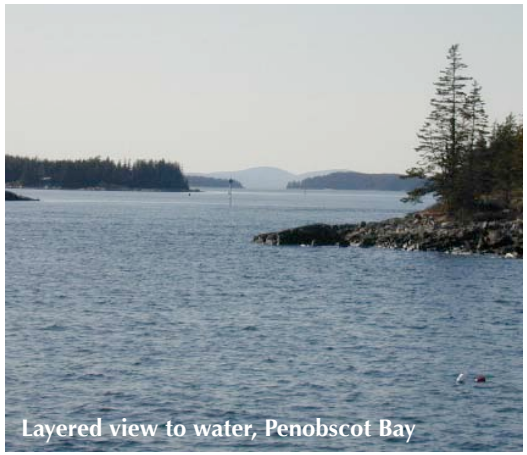
Jordan Pond and The Bubbles, Acadia NP

5. Views to water

The presence of waterbodies, *especially when combined with significant landforms*, can be a powerful predictor of scenic preference. Scenic areas often include the opportunity to see a long distance into the water from public viewpoints on the land from elevated vantage points. Large waterbodies have higher value than smaller ones because more people see them.

Evaluation

The work in this final section of the office evaluation looks at three parameters: the duration of the view; the type of waterbody that is seen; and the quality of the horizon. The initial evaluation is based upon an assessment of road-side openings as determined from USGS topographic maps and internet resources. Final verification of the quality and complexity of the views will take place during the field evaluation.



Layered view to water, Penobscot Bay

Duration of View

The length of time an observer will be able to see the water is influenced by many factors: travel speed, road condition and alignment, adjacent development, roadside vegetation, and pull-offs.

View Inventory: Intermittent views toward Islesboro Harbor

- From the mapping of Open Land, determine where it may be possible to view scenic resources (primarily water and mountains) from public viewpoints. While these will be primarily public roads, also look for views from public parks, trails, and other areas that the public has access to. Measure the length of the view and record it on the map.

- Note locations where the observer is in a 'superior' position (i.e., looking down on the landscape from a relatively high vantage point, such as the crest of a hill or an overlook). An elevated but relatively short view may be just as significant as a longer view closer to the water.

Short view (<.2 mile). Orrs Island, Harpswell

- Use GoogleEarth and/or Maps.live.com to verify that the viewpoints are still open.

- Show the potential viewpoint(s) on the map with a heavy line and view arrows, to be verified and adjusted during the field evaluation.

Lengthy view, Shore Path, Bar Harbor

Type of Water

Note the type of water that is in the view: small ponds, tidal marshes, coves, lakes, Atlantic Ocean. Generally the more variety there is in the view toward the water, the greater the scenic quality.

- Determine if the waterbody is seen as an isolated feature in the landscape, or if it is part of a more complex series of waterbodies (e.g., a bay with an associated salt marsh or tidal cove).

Small mill pond and Belfast Bay, Belfast

Large water body (Atlantic Ocean), Acadia NP

Small tidal channel, Brunswick

Complex view of small coves, islands, and Penobscot Bay

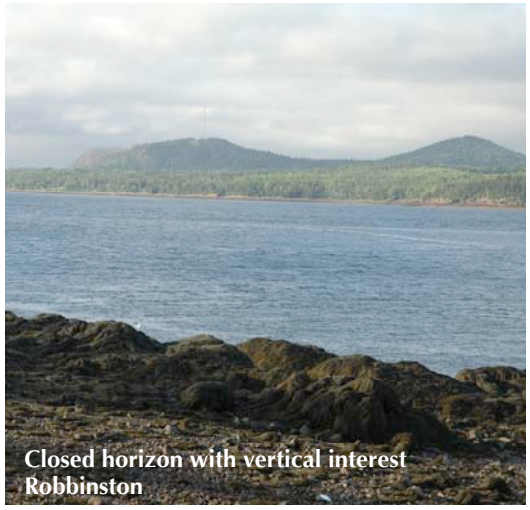
Quality of the Horizon

The view out to the water can be open, with no intervening land masses, or it can be enclosed or partially enclosed. Likewise, the scene can be framed by or include land masses with considerable vertical relief that contrast with horizontal plane of the water. In general, the areas that have views with both open and closed horizons and substantial hills or mountains will have the greatest scenic value.

- Note the location(s) where the best views of the water and interesting land masses are likely to occur. Evaluate the potential quality of the horizon with the USGS topographic map, looking for land masses that may partially block the view as well as significant topographic features that will add interest to the view.

- 'Fly' over the location in GoogleEarth to verify the quality of the view. Keep in mind that the computerized view will not show the three-dimensional aspect of trees or buildings that could screen the view.

Closed horizon with little vertical interest. East Boothbay looking toward South Bristol



Closed horizon with vertical interest Robbinston

Open and closed horizon with vertical interest. Popham Beach State Park, Phippsburg

SCORING

Duration of View

Less than 2/10 mile	3 Points
2/10 to 1/2 mile or numerous short views	6 Points
Greater than 1/2 mile or short but elevated views	9 Points

Type of Water

Small water body (< 1/4 mile closure)	6 Points
Large water body	9 Points
Large water body with marsh, pond, cove	12 Points

Quality of Horizon

Open/closed horizon with little vertical interest	3 Points
Comb. of open and closed horizon with little vertical interest or closed horizon with vertical interest	6 Points
Combination of open/closed horizon w/vertical interest	9 Points

6. Field Evaluation

Once the office evaluation is complete, the next step is to get out and explore the landscape. While the office evaluation resulted in quantifiable data, the field evaluation relies on more qualified observations. There are several objectives to this critical step in the evaluation process:

- Field-verify and fine-tune the results of the office evaluation.
- Experience the three-dimensional aspect of scenic areas and determine their physical boundaries.
- Note current land use activities and development pressures.
- Record (with narrative and photographs) the physical characteristics that define the scenic areas.
- Locate public viewpoints that provide an opportunity to see the scenic area.
- Identify options for potential management strategies to maintain the inherent scenic quality of the areas.

Participants

Field evaluation teams should have at least two members: a driver/photographer and a recorder/navigator. Ideally there should be a third person to share in the responsibility – and the pleasure – of the fieldwork.

If the area to be inventoried is relatively large and local citizens are involved, different sections of the study area can be assigned to multiple teams. This is especially true if the inventory process attracts a large number of enthusiastic volunteers.

Preparation

Allow at least a day for preparation: gathering maps from the office evaluation, downloading images from GoogleEarth, setting the route, preparing cameras, looking at tide tables, understanding the sun angle at various times of the day, etc.

While it may be tempting to make a complete day of it, fieldwork can be very taxing on the eyes and the brain. After a certain length of time, some observers may experience visual overload that could diminish the group's objectivity. There are a number of things that should be done to prepare for the field work:

- Consider how the sun will affect observations over the course of the day and plan the itinerary accordingly. Try to visit east-facing areas in the morning, west-facing areas in the afternoon.

- Look at local tide tables before heading out to areas that include coastal waters. Since the presence of water bodies is a strong indicator of scenic quality, the absence of tidal water (and the presence of mudflats) may influence how the area is evaluated. Ideally, the team should visit these areas at various points in the tidal cycle and record observations at high, mid, and low tide.

- Compile a binder for data gathering during the fieldwork. This should include a) an index map showing the entire study area for navigational purposes and context, b) a USGS or other map showing the location of the scenic indicators and potential boundary of the scenic areas, and c) the Scenic Inventory Evaluation Form (Appendix F). Maps used for fieldwork can be in draft form, since the data may change (e.g., location and extent of views, boundaries of scenic areas) once the site is visited.

- Prepare the camera for an intense day of shooting. Digital cameras are ideal for fieldwork, since the images can be used in a multitude of ways. Bring along a backup camera, extra storage devices, and extra batteries. Charge camera batteries the night before and make sure there is adequate storage capacity. See Site Photography, Appendix D for further guidance on site photography.


Pemaquid Point Light, Bristol

Field Observations

- Once the team is at the designated area, allow adequate time to drive it from all directions to verify the office data (e.g., landforms, open land, shoreline configuration, and water views) and get a general sense of its physical boundaries. Verify that the scenic features are still present and how they influence the character of the scene. Spend at least 20-30 minutes evaluating an area, and upwards of an hour or more if the site is particularly large or complex.

- While views from the main roads are very important, do not overlook the smaller public roads, public lands (parks, conservation land open to the public, school grounds, and hiking trails) and other opportunities in public areas. Prior to setting out, prepare a context map that locates all the potential viewpoints and roads to be covered during the fieldwork.

- Avoid trespassing onto private property. Stick to publicly accessible locations such as municipal roads, parks, and public waterfronts. The only exception should be private lands with public access easements.

- A GPS (Global Positioning System) unit can be very helpful in fieldwork, navigating throughout the day, and recording the location of photographs and other data. If GPS is used, at least one member of the team should understand its function and operation BEFORE setting out. Prior to embarking, establish a protocol for naming/numbering waypoints and photographs. Plan a dry run well in advance to work out any bugs.

- Once the team feels that it has a good sense of the area's features and has reviewed the preliminary findings of the office evaluation, go over the three sets of field variables: landscape character, vegetation, and landscape composition. Discuss personal observations and try to come to a consensus for the number of points to be awarded in each of the categories. Be methodical in the approach, applying the criteria evenly to each scenic area. If there are serious disagreements among team members, use an average score that all feel comfortable with. Ideally, a second field team would also visit each area as a check.

- Keep an accurate record of all photographs, GPS points, time of day, and other information.

- In addition to looking for scenic indicators and understanding their value, the fieldwork should determine the boundaries of the scenic area. As noted earlier, scenic areas should be thought of as large outdoor 'rooms', defined by topography, vegetation, and structures. The office evaluation will make a preliminary determination of the boundaries of this space, but the fieldwork will be necessary to check its accuracy.

- Some scenic areas may require visits at special times during the day or year to record their transitory nature. These may include places such as sheltered harbors when lobster boats are coming or going, old orchards that are frequented by deer or wild turkeys, or waterfalls that are only full in springtime.

- Take at least one break to allow the team to replenish their energy and discuss the experience thus far. Try to limit the fieldwork to 4-5 hours maximum.

6. Landscape character

Evaluate the effect of land use, roadside characteristics, and settlement patterns on the character of the landscape. The examples given for each category are not meant to be exhaustive; there will undoubtedly be additional elements, both positive and negative, that will influence the perception of the landscape.

Record both positive and negative influences. Award the number of points that the group decides after considered discussion. *Deduct points if there are serious discordant elements present*.

Prominent steeple, Route 1, Stockton Springs

Evaluation

Determine if the landscape is characterized by the following:

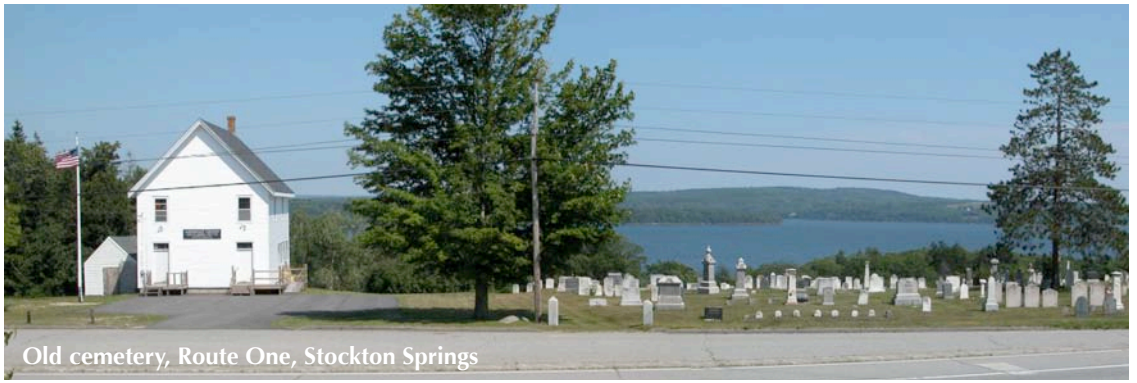
A. Positive Land Use

- Agricultural fields / farmsteads
- Moorings / harbors
- Beaches
- Villages /Vernacular architecture
- Old cemeteries
- Village skyline in midground
- Mature forestland

Small harbor, Indian Creek, Vinalhaven

Sand beach, Sears Island, Searsport

Aldermere Farm, Rockport



Old cemetery, Route One, Stockton Springs

Discordant Land Use

- Clearcuts / extensive slash
- Exposed mining operations
- Utility corridors
- Incompatible comm./industrial uses

Transmission corridor, Wiscasset

Historic Fort Knox with paper mill on Penobscot River, Prospect and Bucksport

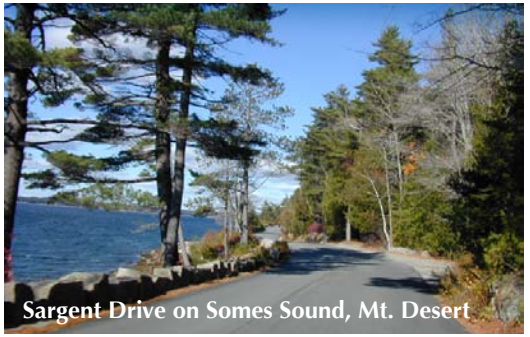
SCORING

Effects of land use on scenic quality

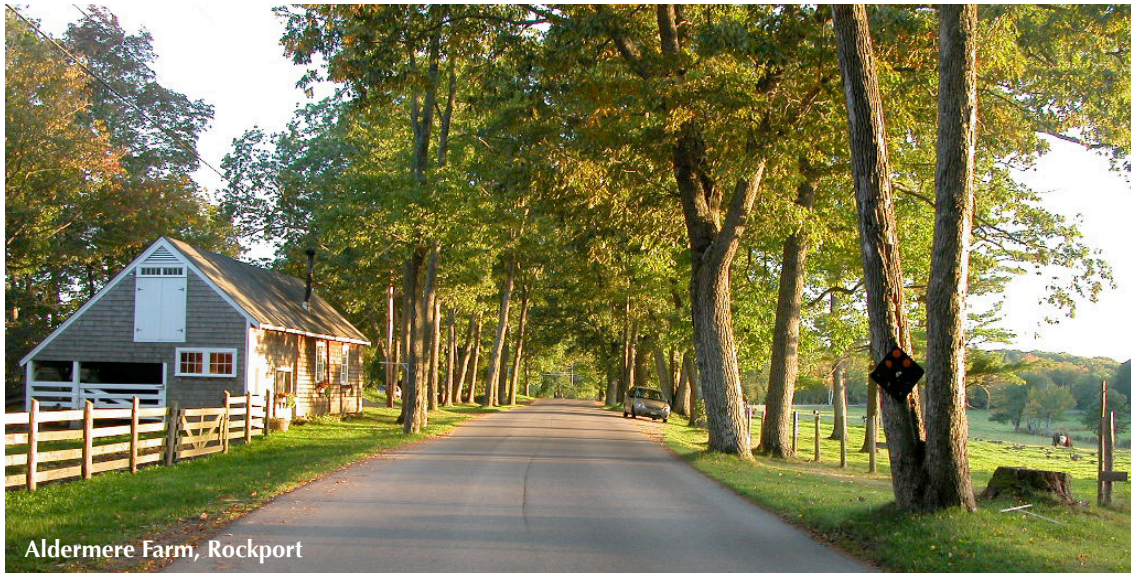
No Effect	0 Points
Minimally Positive	3 Points
Positive	5 Points
Strongly Positive	7 Points

B. Positive Roadside Characteristics

- Tree canopy
- Mature trees lining the road
- Road conforming to contours
- Gentle horizontal curves
- Streets scaled to the pedestrian
- Urban plantings

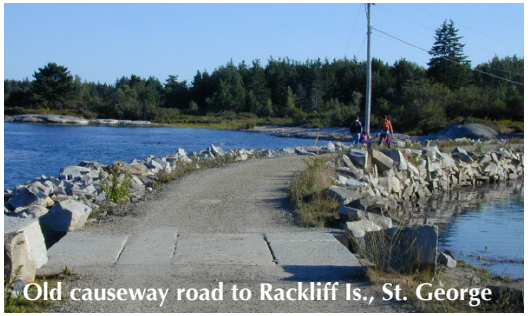


Sargent Drive on Somes Sound, Mt. Desert



Aldermere Farm, Rockport

Street trees, Bar Harbor



Old causeway road to Rackliff Is., St. George

Discordant Roadside Characteristics

- Excessive cuts or fill
- Long straight stretches
- Overhead utility lines
- Advertising signs/roadside clutter
- Guardrails in disrepair


Long straight road, Westport Island

Proliferation of signs and overhead wires, Rt. 1

SCORING

Effects of roadside characteristics on scenic quality

No Effect	0 Points
Minimally Positive	1 Points
Positive	3 Points
Strongly Positive	6 Points

C. Positive Settlement Features

- Distinct village gateways
- Prominent community buildings
- Buildings w/ harmonious massing/ height
- Preserved vernacular architecture
- Historic districts
- Significant bridges
- Parkland
- Prominent statues, bandstands
- Tree lined streets
- Stone walls


Portland waterfront


Restored historic district, Rockland


Monhegan Island waterfront


Library profiled against Mt. Battie, Camden


Gateway into Wiscasset, Sheepscot River


Lane Island, Vinalhaven

Discordant Settlement Characteristics

- Strip development
- Dilapidated structures
- Incompatible architecture
- Obtrusive signage
- Pollution
- Structures blocking view corridors
- Automobile-related intrusions

Strip development, Ellsworth


Lobstermen's memorial, Bailey Is., Harpswell


Motel on the water


Chicken house partially blocking view


Stone retaining wall, Rackliff Island, St. George

Auto-oriented signage

SCORING

Effects of settlement characteristics on scenic quality

No Effect	0 Points
Minimally Positive	3 Points
Positive	6 Points
Strongly Positive	9 Points

7. Vegetation

The trees, fields, and forests in the landscape can have a positive effect on scenic quality. Like waterbodies, vegetation changes throughout the year, adding another temporal factor to the scenic inventory process.

Evaluation

Assess the quality of the vegetation and its effect on scenic character. Determine if the vegetation exhibits any of the following characteristics:

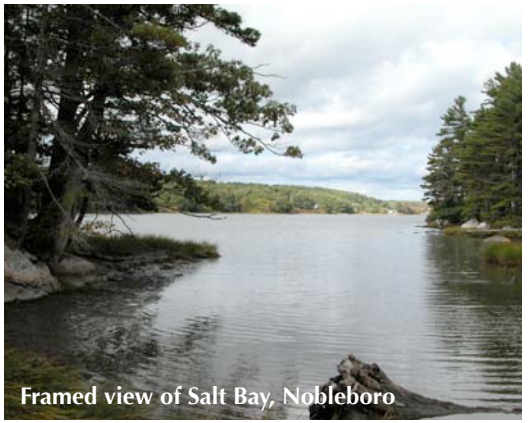
Positive effects

- Park-like landscapes
- Well-defined agricultural patterns
- Distinct edges between field and forest
- Mature woodlands
- Stands of specimen trees
- Orchards
- Views framed by trees
- Mixture of types of vegetation

Spruce-covered island, Penobscot Bay

Varied textures, tidal marsh, Cumberland

Park-like oak grove, Broad Cove, Yarmouth



Framed view of Salt Bay, Nobleboro


Evergreen edge of scenic area, Islesboro

Negative Effects

- Obvious clear cuts, piles of slash
- Overgrown fields
- Blowdowns
- Woodlands overrun by invasive species
- Lack of shoreline buffers


Clearcut to water


Framed View of Penobscot Bay, Islesboro


Lack of shoreline buffer


Orchard, Rte. 144, Westport Island


Blowdown, construction site

SCORING

Effects of Vegetation on scenic quality

No Effect	0 Points
Minimally Positive	3 Points
Positive	6 Points
Strongly Positive	9 Points

8. Composition & Effect

This is perhaps the most subjective part of the process, where the team evaluates the overall integrity and composition of the area under consideration. Record notes on both the positive and negative features that contribute to or detract from the scenic quality of the area. Compile a photographic record of the area from various public vantage points (See Site Photography in Appendix D).

Assess the vulnerability of the scenic area to change (development, loss of view corridors, roadway 'improvements', etc.). Discuss options for land management for the scenic area which can be incorporated into the final report.

Finally, in driving and walking the scenic area, note its physical boundaries. These can be ridge lines, vegetation, curves in the road, or other features which help define the area as a large outdoor 'room'. Note the boundaries on the field map for further study back in the office.

Evaluation

Evaluate the composition and effect of the landscape by studying the whole scene and discussing the following characteristics:

High Diversity: Is there a great deal of variety in the color, forms, textures, and lines that compose the landscape? Does the landscape still maintain a sense of order and unity within this diversity? *Camden Harbor exhibits a high degree of diversity in its varied colors, forms, lines and textures. This scenic area is noted for its contrasts: intensively developed waterfront in a largely natural setting; horizontal plane of the water against the rolling backdrop of the Camden Hills; exemplary parks and open spaces in dense suburban setting.*

Mystery/Surprise: Does the composition of the landscape draw the eye in? Is there a sense that there is a lot more to be seen from typical vantage points? Does the team feel an urge to explore what happens around a bend in the road or on the back side of an island? Are there vistas or turns in the road which open up unexpectedly? Will the landscape be markedly different in other seasons or tidal conditions? *A sense of mystery is created in these Penobscot Bay islands by the interplay of shadow and light and the layered landscape.*

Naturalness: Does the area seem to be relatively untouched by man-made features? How well do the cultural elements that are present fit into the landscape? *While Popham Beach is one of Maine's most heavily used beaches, it still retains a sense of naturalness by using the extensive dune system to separate the beach from visitor facilities and parking. The few visible cultural elements are understated, well weathered, and appropriate for the beach.*

Spectacular Imagery: Are the forms, patterns, and elements that compose the landscape memorable? Are there places or landmarks present which are considered icons for the region? *This small footbridge in Somesville has been captured by countless artists and photographers drawn by its simple yet dramatic form and wooded setting.*

Historic Integrity: If there are historic elements present (e.g., structures, stone walls, or cemeteries) are they well preserved and relatively intact? *The Cribstone Bridge in Harpswell is one of Maine's icons, a testimony to Yankee ingenuity, and a true marriage of form and function.*

Pastoral Qualities: In agricultural settings, is the scene simple, serene, and relatively free of extraneous cultural influences (such as highways, transmission lines, or commercial development)? *Aldermere Farm, owned and managed by Maine Coast Heritage Trust in Rockport, is known throughout midcoast Maine for its pastoral setting and Belted Galloway cattle.*

Cohesiveness: Are the visible elements in the landscape related to each other in terms of scale, form, color, and pattern? Does any one element dominate, to the detriment of the scene? *Carvers Harbor in Vinalhaven is a classic working waterfront, comprised of a varied mixture of commercial and residential structures. The focus is on the waterfront; no one cultural element stands out or dominates the scene.*

Permanence: Does the landscape feel timeless, solid, and unchanging? *The granite outcrops that define much of Penobscot Bay have a solid, ageless quality.*

SCORING

Landscape composition

Minimally Positive	3 Points
Positive	6 Points
Strongly Positive	9 Points

7. Ranking and Significance

Introduction

Inventories of scenic resources are done for a variety of reasons and uses, including:

- Comprehensive planning at the municipal level.
- Strategic regional and statewide land conservation efforts (e.g., local land trusts, Land for Maine's Future program).
- Alignment studies for highways and utility corridors.
- Internal Revenue Service requirements for conservation easements.
- Siting studies for wind energy facilities in accordance with the Wind Power law.

The outcome of the inventories help decision-makers at many levels in determining which lands to protect, how to prioritize scarce resources, whether to take action when a property comes on the market, whether to grant a tax abatement, or where to best locate infrastructure to avoid visual impact.

Definitions of Significance

In at least two instances the Maine Legislature has recognized the importance of a ranking system to determine the relative scenic significance of certain areas. Both pieces of legislation have definitions to guide the process of making a distinction between resources of local, state or national significance.

In approving DEP's Scenic Impact Rules under the Natural Resources Protection Act (Chapter 315 Assessing and Mitigating Impacts to Existing Scenic and Aesthetic Uses) the Legislature endorsed the policy that a scenic resource visited by *large numbers* who *come from across the country or state* with the *purpose of enjoying their visual quality* is generally considered to have national or statewide significance. A scenic resource visited primarily by people of local origin is generally of local significance. (Chapter 315, 2003) *(emphasis added)*.

More recently, the Governor's Task Force on Wind Power Development laid the groundwork for the Maine Wind Power Development Act (PL 2007 c.661). This legislation recognizes the inherent value in scenic resources of statewide or national significance and focuses attention on the public value that the state places on the continued use and enjoyment of these resources.


Schoodic Point, Acadia National Park

See Appendix A for the full text of the Wind Power Law's definition of scenic resources of state or national significance contained in 35-A MRSA § 3451.

As noted earlier, there have been a number of inventories of Maine landscapes that identified significant visual resources using established methodologies. See the publication list in Appendix H, References.

Ranking: Local, Regional, or Statewide / National Significance

The State Planning Office's methodology provides an objective way to evaluate and score scenic areas, and then rank them in a geo-regional setting. Taking the next step to use the inventory for a specific purpose may require further evaluation and analysis to establish levels of significance (e.g., local, regional, statewide, or national) to assist in the prioritization process.

Adding the points from both the office and field evaluations will produce a numeric

score (with a maximum of 100 points) to be used in determining scenic significance within a designated region.

Local Significance. Areas that score in the 30's and 40's are generally of local (i.e., town-wide) significance. While theses areas may help define the community's characteristic landscape, they are unlikely to attract visitors from outside the immediate locale for their scenic value alone.

Regional Significance. Areas that achieve scores in the 50's and 60's may be considered of regional (i.e., greater than local) value, but usually are not considered of state-wide significance for their scenic character alone. Individual sites with scores in the upper range may warrant further consideration.

Statewide or National Significance. Places that achieve scores of 70 or greater have scenery that may be considered of statewide or national significance. These tend to be areas with exemplary combinations of landform, water bodies, vegetation, and cultural characteristics.

In other instances, such as local comprehensive planning, the scores should be considered as one factor in judging significance. Additional criteria are discussed below.

In the case of a scenic inventory prepared by or for State Planning Office under rules adopted pursuant to Title 35-A MRSA § 3457, a *scenic area* that achieves a score of 70 or more shall be considered of state or national significance for the purpose of identifying *scenic viewpoints* within coastal areas that are ranked as having statewide or nationally significant scenic qualities as defined by Title 35-A MRS § 3451(9)(H). Chapter 8 discusses how scenic viewpoints are identified and evaluated as part of the inventory process.


Scenic area of local significance


Scenic area of regional significance


Scenic area of state or national significance

Additional Criteria and Considerations

Two additional criteria can be useful in some instances to make a determination of the relative importance of scenic areas: 1) Visual Accessibility and Use, and 2) Public Recognition.

Visual Accessibility and Use

The first test determines how visually accessible the area is and its relative use by the general public. A rating of high, medium, or low is assigned, based upon the criteria discussed below. By definition, all lands that are identified as scenic areas are either on public land, are open to the public, or are visible from public viewpoints.

At the 'high' end of the spectrum are scenic areas that are fully or mostly visible from major public vantage points, e.g., on or adjacent to main highways; historic districts and village centers; major hiking trails with established, well-marked trailheads. Water bodies are easily accessed through boat


Scenic area with high visual access

launches, harbors, or marinas open to the public. The public is typically present in relatively high numbers and enjoy good visual, if not physical, access.

Scenic areas that are considered 'low' for public accessibility and use may be located on unimproved roads or other passable roads (see *Maine Atlas and Gazetteer*), hiking trails that are very remote and/or receive little use, water bodies that have no public


Scenic area with low visual access

access. While these areas may have memorable visual characteristics (i.e., highly scenic), they may not be considered of statewide or national significance since the general public is usually unaware of them. Increased visitorship to these often-fragile areas could very well have a negative effect on the very qualities that local people find so attractive.

Public Recognition

The **second test** determines whether the public generally recognized the area for its scenic qualities. Scenic areas that are generally recognized by the public have 'high' public recognition; those that are little known or unknown outside the local community are considered 'low'. There are many ways to determine the level of public recognition. There should be a preponderance of evidence that demonstrates that the public is well aware of the area and recognizes its scenic value.

Surveys. Visual preference surveys conducted at public meetings during the course of scenic inventories can be a reliable way to identify the most significant landscapes within a given region.

Comprehensive Plans. Many communities have conducted scenic inventories as part of their comprehensive planning process. The results may vary widely, from informal surveys of viewpoints conducted by a limited number of people familiar with the community to professionally assisted inventories that follow a rigorous methodology to identify scenic areas.

Official Recognition. This category includes land that has been recognized at the state or national level for its scenic value: State and National Parks, Appalachian National Scenic Trail (Appalachian Trail), properties listed on the National Register of Historic Places, Scenic Byways (Maine and Federal), lands that have been recognized and protected by the Land for Maine's Future Program for their scenic qualities.

Arts and Literature. Maine's remarkable landscape has inspired artists, poets, writers, photographers, and other creative individuals for the past two centuries. Winslow Homer, Rockwell Kent, Henry David Thoreau, Andrew and Jamie Wyeth, Thomas Church, Eliot and Fairfield Porter, and countless others have created masterworks

Penobscot Narrow Bridge, from Prospect overlook

that celebrate significant places in Maine. Contacts with local libraries, historic societies, museums, and other cultural institutions can provide information on inspirational settings of recognized value.

Olson House, Cushing

Publications. Most bookstores in Maine carry a wide assortment of guidebooks and other publications that list places of recognized scenic quality. The *Maine Atlas and Gazetteer*, for example, describes and locates parks, recreation areas, hiking trails, unique natural areas, scenic waterfalls, lighthouses, and historic forts throughout the state. While many of these places are not necessarily known for their scenic qualities, the lists provide a good starting point for collecting sites that are publicly recognized. The other caveat in using these types of publications is that not all the sites are on public lands or in locations where the public has ready access.

Statewide or National Significance

Where an additional level of prioritization is deemed appropriate, scenic areas that have achieved a score of 70 or greater can be tested for Visual Accessibility & Use and Public Recognition, as noted above. Those areas that have both medium to high public recognition and medium to high visual accessibility and use may be considered scenic areas of statewide or national significance. (See chart below.)

VISUAL ACCESSIBILITY & USE

PUBLIC RECOGNITION	High	Med	Low
High			
Med			
Low			

8. Scenic Viewpoints

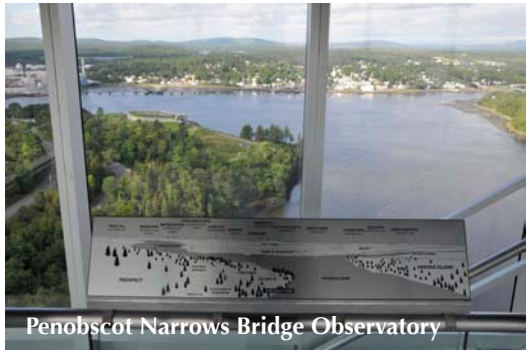
Scenic viewpoints – the places that allow the viewer to get a visual 'snapshot' of the scenic area of state or national significance – are noted as part of the scenic inventory process. Scenic *areas* tend to be rather extensive, ranging from several dozen acres to hundreds or even thousands of acres in size. Viewpoints, on the other hand, are usually discrete places, often less than an acre in size, that allow the public to see most or all of the scenic resources within the scenic area.

The chart on the following page is provided to help identify viewpoints of state or national significance, for purposes of the Maine Wind Power Law. The chart is based upon *A Proposed Method for Coastal Scenic Landscape Assessment* (Dominie 1987). The values should be adjusted to account for regional variations in landform, shoreline configuration, and cultural features, as discussed on p. 20.


Bar Harbor overlook

The methodology evaluates a number of characteristics of each viewpoint:

Viewer Elevation Above Water: A measure of the relative grade change between the observer and the waterfront below.


Penobscot Narrows Bridge Observatory

Discordant Elements: The absence of power-lines, inharmonious commercial development, clear-cuts, and other physical changes which affect the perception of the place.

Viewing Distance: The distance that the observer sees into the landscape, corresponding to the concept of Foreground, Midground, and Background viewing distances.

Distance to Water: The relative distance that the observer is to the visible portion of the waterbody in the landscape.

Viewing Angle: The horizontal angle of the landscape visible from the viewpoint. The most memorable viewpoints are panoramas from 180º to 360º.

Water Characteristics: The type and relative complexity of waterbodies visible from the viewpoint.

Visual Interest: The presence or absence of hills or mountains; the amount of shoreline configuration; and the number of scenic features visible from the viewpoints.

The results of this evaluation are recorded and tabulated for each viewpoint. The Viewpoint Scoring chart on the following page provides an initial determination of

page provides a determination of significance.

A viewpoint in the coastal area that: a) is located within a scenic area of statewide or national significance (score of 70 or more points, See Chp. 7); and b) is deemed "distinctive" or "highly distinctive" shall be considered a scenic view point for purposes of Title 35-A MRS, Section 3451(9)(H)(2).

VIEWPOINT SCORING

Common: 1-10 points
Noteworthy: 11-21 points
Distinctive: 22-35 points
Highly Distinctive: >36 points

	Common	Noteworthy	Distinctive: of Statewide significance	Distinctive: Greater than statewide interest
Viewer Elevation above water	**1 point** 0 to 50 feet	**2 points** 50 to 200 feet	**4 points** 200 to 400 feet	**6 points** >400 feet
Discordant Elements	**1 point** Several within foreground Others may be visible in mid- and background	**2 points** Discordant elements visible but not dominant	**4 points** None within foreground Those in midground or background not dominant	**6 points** None within foreground Those in midground or background not dominant
Viewing Distance	**1 point** Views limited to foreground (within 1/2 mile)	**2 points** Up to 2 miles	**4 points** Up to 4 miles	**6 points** Greater than 4 miles
Distance to Water	**1 point** > 4 miles away	**2 points** 1/2 to 4 miles away	**4 points** Less than 1/2 mile away	**6 points** Less than 1/4 mile away
Viewing Angle	**1 point** Up to 45º	**2 points** 45º to 90º	**4 points** 90º to 120º	**6 points** More than 180º
Water Characteristics	**1 point** Small freshwater body, or only wetlands Little visual diversity	**3 points** Moderate waterbody of fresh or salt water Horizon open or closed No associated wetlands	**5 points** Large waterbody of fresh or salt water Horizon open or closed Associated wetland	**7 points** Large waterbody, with associated wetlands Combination of open and closed horizons
Visual Interest	**1 point** No landforms >200' in view Shoreline linear or low configuration One or no scenic features visible	**3 points** Landforms >200' in midground or background Shoreline exhibits moderate configuration One scenic feature in midground	**5 points** Significant landforms (>400') are visible, but not dominant Shoreline moderate to highly configured Two scenic features within midground	**7 points** Significant landforms (>400') dominant part of view) Shoreline highly configured At least 3 scenic features in midground

Appendices

A. Legislative and Other Initiatives

B. Research

C. Biophysical Regions of the Maine Coast

D. Site Photography

E. Site Inventory Template

F. Site Evaluation Form

G. Glossary of Terms

H. References

A. LEGISLATIVE AND OTHER INITIATIVES

Since the mid-1990's the State Planning Office has not conducted further scenic inventories. However, Maine's scenic resources – on both land and the water – are encountering ever-increasing pressure from residential development, energy proposals (e.g., LNG terminals, wind power facilities, tidal and wave energy projects), shoreline stabilization projects, aquaculture, and other landscape-scale developments. Local governments as well as state and federal agencies are struggling to keep up with the scale and scope of projects that have the potential to create dramatic changes to the local and regional landscape.

Based upon a review of the inventories that have been completed to date, the basic methodology developed by Dominie et al. is still very workable. However, there are opportunities to make improvements, especially as legislative bodies are making more widespread use of the inventories and better mapping and analysis tools are becoming available.

A number of legislative initiatives and local actions in the past two decades have been considered in updating the original methodology. These are described more fully below.

Municipal Comprehensive Planning

The Growth Management Act was established by the Legislature in 1988 to "*promote and protect the health, safety and welfare of the citizens of the State.*" In doing so, the Legislature found that it is in the best interests of the State to "*protect the state's other critical natural resources, including without limitation, wetlands, wildlife and fisheries habitat, sand dunes, shorelands, **scenic vistas**, and unique natural areas.*" (Emphasis added.) MRSA Title 30-A, §4312.3F.

Over the past two decades, more than 250 Maine communities have completed or updated their comprehensive plans. From a scenic inventory standpoint, the results have been somewhat mixed. A few towns have gone to great lengths to inventory and map their scenic and cultural resources. However, on the other hand, many have simply listed places that the comprehensive planning committee considered to be of local significance.

The Comprehensive Planning and Land Use Regulation Act requires that each municipality's Comprehensive Plan must include an inventory and analysis of *Significant or critical natural resources, such as wetlands, wildlife and fisheries habitats, significant plant habitats, coastal islands, sand dunes, **scenic areas**, shorelands, heritage coastal and unique natural areas.* (Emphasis added.) MRSA Title 30-A, §4326.1.C.

In response to concerns expressed at the local level about the effectiveness of the comprehensive planning process, the State Planning Office issued An Evaluation of the Growth Management Act and Its Implementation in response to Resolve 2004, Chapter 73 Joint Standing Committee on Natural Resources 122nd Legislature. One of the key recommendations of this study is to "provide towns and regional agencies with better tools, data, and assistance."

This document should be seen as a positive response to the Chapter 73 resolve by providing current tools to municipalities to be used in their comprehensive planning process.

Natural Resources Protection Act

When the Maine Legislature passed the Natural Resources Protection Act (NRPA) in 1987 they found that:

"the State's rivers and streams, great ponds, fragile mountain areas, freshwater wetlands, significant wildlife habitat, coastal wetlands and coastal sand dune systems are resources of state significance. These resources have great scenic beauty and unique characteristics, unsurpassed recreational, cultural, historical, and environmental value of present and future benefit to the citizens of the State.

The Legislature further finds and declares that there is a need to facilitate research, develop management programs and establish sound environmental standards that will prevent the degradation of and encourage the enhancement of these resources. It is the intention of the Legislature that existing programs related to Maine's rivers and streams, great ponds, fragile mountain areas, freshwater wetlands, significant wildlife habitat, coastal wetlands and sand dunes systems continue and that the Department of Environmental Protection provide coordination and vigorous leadership to develop programs to achieve the purposes of this article. The well-being of the citizens of this State requires the development and maintenance of an efficient system of administering this article to minimize delays and difficulties in evaluating alterations of these resource areas.

The Legislature further finds and declares that the cumulative effect of frequent minor alterations and occasional major alterations of these resources poses a substantial threat to the environment and economy of the State and its quality of life." (Emphasis added.) MRSA Title 38. §480-A.

The Legislature's recognition of the scenic beauty of these protected natural resources through statute underscores their appreciation of the inherent visual quality of our state and its value to the general population.

NRPA, Chapter 315

Chapter 315 of the NRPA, Assessing and Mitigating Impacts to Existing Scenic and Aesthetic Uses, provides the Maine Department of Environmental Protection (MaineDEP) with a set of rules to evaluate impacts to existing scenic and aesthetic uses from certain activities on, over, or adjacent to designated scenic resources. Scenic Resources are defined as *Public natural resources or public lands visited by the general public, in part for the use, observation, enjoyment, and appreciation of natural or cultural visual qualities.* The statute provides the following list of scenic resources that includes, but is not limited to, locations of national, State, or local scenic significance.

A. *National Natural Landmarks and other outstanding natural and cultural features (e.g., Orono Bog, Meddybemps Heath);*

B. *State or National Wildlife Refuges, Sanctuaries, or Preserves and State Game Refuges (e.g., Rachael Carson Salt Pond Preserve in Bristol, Petit Manan National Wildlife Refuge, the Wells National Estuarine Research Reserve);*

C. *A State or federally designated trail (e.g., the Appalachian Trail, East Coast Greenway);*

D. *A property on or eligible for inclusion in the National Register of Historic Places pursuant to the National Historic Preservation Act of 1966, as amended (e.g., the Rockland Breakwater Light, Fort Knox);*

E. *National or State Parks (e.g., Acadia National Park, Sebago Lakes State Park);*

F. *Public natural resources or public lands visited by the general public, in part for the use, observation, enjoyment and appreciation of natural or cultural visual qualities.(e.g., great ponds, the Atlantic Ocean).*

Scenic resources visited by large numbers of people who come from across the country or state is generally considered to have **national or statewide significance**. A scenic resource visited primarily by people of local origin is generally of **local significance**. Unvisited places either have no designated significance or are "no trespass" places.

As communities complete their own scenic inventories, Chapter 315 could provide them with a workable tool to evaluate possible visual impacts from development activities. Since the Scenic Rules went into effect in 2003, they have been used to evaluate transmission lines, docks, energy facilities, and other development proposals adjacent to scenic resources.

Local Option Property Tax Reimbursement

In November 1999, Maine voters approved enabling legislation (Sec. 1. 30-A MRSA 5730) authorizing local option property tax reimbursements for historic and scenic preservation. This law allows a municipality to *"reimburse taxpayers for a portion of taxes paid on real property if the property owner agrees to maintain the property in accordance with criteria that are adopted by ordinance by the governing legislative body of the municipality and that provide for maintaining the historic integrity of important structures or providing a scenic view. The Maine Historic Preservation Commission (MHPC) shall provide guidance, if requested by a municipality, in implementing this section."* MRSA Title 30-A. §5730.

MHPC has prepared a Guidelines for Municipalities that outlines four basic steps that municipalities may choose to follow in implementing this law. The second step, Adopt Implementing Ordinance, provides municipalities with criteria, based upon their comprehensive plan, for designating historic structures and scenic views and for maintaining the historic integrity of important structures or providing a scenic view. The Guidelines recognizes the State Planning Office as the agency to go to for guidance in identifying areas with scenic value and anticipates that communities will have a process to designate such areas.

Scenic View - A property is qualified for inclusion under this section if, at the time the municipality reimburses the owner for a portion of taxes, one of the following apply:

- *It is an area identified by the State Planning Office as having scenic value.*
- *It is a locally designated view or view corridor from a public place.*
- *It is a locally designated natural or cultural feature in an identified view corridor (i.e., churches, lighthouses, fields, mountains, islands, etc.).*
- *It is a locally designated part of a municipality that contributes to the character of the town (i.e., village square, historic sites, etc.).*

The Guidelines offers the following definition of *Scenic View: Scenic resources of a community are the attributes that give it identity and make it an appealing place to live. They may be specific, extraordinary views, or they may be vistas of segments of the community.*

Wind Power Law

The Governor's Task Force on Wind Power Development was charged with developing an approach to the siting and development of wind energy facilities that responded to our growing energy needs while not compromising the resources that make Maine the special place that it is.

The Task Force recommended an approach that would reward well-sited projects with an expedited review. This approach would require a visual impact assessment (designed specifically for wind energy projects) when turbines would be visible from scenic resources of state or national significance. The Task Force recommendations were adopted by the Legislature and became the basis for 35-A MRSA Chapter 34-A: *An Act to Implement Recommendations of the Governor's Task Force on Wind Power Development.*

The Act defines "Scenic resource of state or national significance" as an area or place owned by the public or to which the public has a legal right of access that is:

A. A national natural landmark, federally designated wilderness area or other comparable outstanding natural and cultural feature, such as the Orono Bog or Meddybemps Heath;

B. A property listed on the National Register of Historic Places pursuant to the National Historic Preservation Act of 1966, as amended, including, but not limited to, the Rockland Breakwater Light and Fort Knox;

C. A national or state park;

D. A great pond that is:

(1) One of the 66 great ponds located in the State's organized area identified as having outstanding or significant scenic quality in the "Maine's Finest Lakes" study published by the Executive Department, State Planning Office in October 1989; or

(2) One of the 280 great ponds in the State's unorganized or deorganized areas designated as outstanding or significant from a scenic perspective in the "Maine Wildlands Lakes Assessment" published by the Maine Land Use Regulation Commission in June 1987;

E. A segment of a scenic river or stream identified as having unique or outstanding scenic attributes listed in Appendix G of the "Maine Rivers Study" published by the Department of Conservation in 1982;

F. A scenic viewpoint located on state public reserved land or on a trail that is used exclusively for pedestrian use, such as the Appalachian Trail, that the Department of

Conservation designates by rule adopted in accordance with section 3457

G. A scenic turnout constructed by the Department of Transportation pursuant to Title 23, section 954 on a public road that has been designated by the Commissioner of Transportation pursuant to Title 23, section 4206, subsection 1, paragraph G as a scenic highway; or

H. Scenic viewpoints located in the coastal area, as defined by Title 38, section 1802, subsection 1, that are ranked as having state or national significance in terms of scenic quality in:

(1) One of the scenic inventories prepared for and published by the Executive Department, State Planning Office: "Method for Coastal Scenic Landscape Assessment with Field Results for Kittery to Scarborough and Cape Elizabeth to South Thomaston," Dominie, et al., October 1987; "Scenic Inventory Mainland Sites of Penobscot Bay," Dewan and Associates, et al., August 1990; or "Scenic Inventory: Islesboro, Vinalhaven, North Haven and Associated Offshore Islands," Dewan and Associates, June 1992; or

(2) A scenic inventory developed by or prepared for the Executive Department, State Planning Office in accordance with section 3457.

Internal Revenue Service Tax Code: Section 170(h)

The Internal Revenue Service (IRS) in Section 170(h) of the tax code allows landowners to take a tax deduction when they sell their land for less than market value or donate a perpetual conservation easement on it, "exclusively for conservation purposes." In developing the qualification and restrictions for easements, the IRS recognized the importance of scenic inventories. The following section is taken from the IRS Code (emphasis added).

The donation of a qualified real property interest to preserve open space (including farmland and forest land) will meet the conservation purposes test if such preservation is:

(A) Pursuant to a clearly delineated Federal, state, or local governmental conservation policy and will yield a significant public benefit, or

(B) For the scenic enjoyment of the general public and will yield a significant public benefit.

Scenic Enjoyment. Preservation of land may be for the scenic enjoyment of the general public if development of the property would impair the scenic character of the local rural or urban landscape or would interfere with a scenic panorama that can be enjoyed from a park, nature preserve, road, waterbody, trail, or historic structure or land area, and such area or transportation way is open to, or utilized by, the public. ``Scenic enjoyment'' will be evaluated by considering all pertinent facts and circumstances germane to the contribution. Among the factors to be considered are:

(1) The compatibility of the land use with other land in the vicinity;

(2) The degree of contrast and variety provided by the visual scene;

(3) The openness of the land (which would be a more significant factor in an urban or densely populated setting or in a heavily wooded area);

(4) Relief from urban closeness;

(5) The harmonious variety of shapes and textures;

(6) The degree to which the land use maintains the scale and character of the urban landscape to preserve open space, visual enjoyment, and sunlight for the surrounding area;

(7) *The consistency of the proposed scenic view with a methodical state scenic identification program, such as a state landscape inventory*; and

(8) *The consistency of the proposed scenic view with a regional or local landscape inventory made pursuant to a sufficiently rigorous review process*, especially if the donation is endorsed by an appropriate state or local governmental agency.

Visual (rather than physical) access to or across the property by the general public is required, although the entire property need not be visible to the public for a donation to qualify. However, the public benefit from the donation may be insufficient to qualify for a deduction if only a small portion of the property is visible to the public.

Significant Public Benefit. All contributions made for the preservation of open space must yield a significant public benefit. Among the factors to be considered are:

(1) The uniqueness of the property to the area;

(2) The intensity of land development in the vicinity of the property (both existing development and foreseeable trends of development);

(3) The consistency of the proposed open space use with public programs (whether Federal, state or local) for conservation in the region, including programs for outdoor recreation, irrigation or water supply protection, water quality maintenance or enhancement, flood prevention and control, erosion control, shoreline protection, and protection of land areas included in, or related to, a government approved master plan or land management area;

(4) The consistency of the proposed open space use with existing private conservation programs in the area, as evidenced by other land, protected by easement or fee ownership by organizations referred to in Section 1.170A-14(c)(1), in close proximity to the property;

(5) The likelihood that development of the property would lead to or contribute to degradation of the scenic, natural, or historic character of the area;

(6) The opportunity for the general public to use the property or to appreciate its scenic values;

(7) The importance of the property in preserving a local or regional landscape or resource that attracts tourism or commerce to the area;

(8) The likelihood that the donee will acquire equally desirable and valuable substitute property or property rights;

(9) The cost to the donee of enforcing the terms of the conservation restriction;

(10) The population density in the area of the property; and

(11) The consistency of the proposed open space use with a legislatively mandated program identifying particular parcels of land for future protection.

Critical Areas Program

The CAP was a voluntary program in the 1970's and 1980's whereby a landowner could register property with the State if it contained features of botanical, zoological, or geological interest. The scenic inventory process was initiated to include areas of scenic significance in the program. However, the Critical Areas Program no longer exists. Many of its functions and data collections were taken over by the Maine Natural Areas Program.

The Critical Areas Program published the results of these studies through their Planning Reports series. Photographic records were archived by the State Planning Office.

Maine Coast Protection Initiative

The Maine Coastal Program of the State Planning Office received a grant from the Maine Coast Protection Initiative to review and update the methodology that had been developed in the late 1980's/early 1990's to identify, inventory, evaluate, and prioritize scenic resources along the Maine Coast. The updated methodology forms the basis for this handbook, which is designed to provide guidance for future scenic inventories in Maine.

A significant outcome of this work is an analytical approach to prioritizing scenic resources for land conservation purposes. This project is seen as an important compo-

nent in a larger effort to support land conservation efforts along the Maine Coast.

Maine Land Trust Network

Maine has one of the strongest Land Trust movements in the country. In 1995, Maine Coast Heritage Trust established the Maine Land Trust Network (MLTN) to provide communications and coordination to the State's land trusts. The Network is a source of technical information on land conservation techniques, providing knowledge of the latest standards and practices among land trust managers and conservation professionals. It is anticipated that land trusts throughout Maine will use this document as they set conservation priorities for future decades.

Local Initiatives

Over the past two decades Maine citizens have shown an increasing awareness and appreciation of visual quality. Planning Boards, comprehensive planning committees, and individual citizens are recognizing the need to have accurate, defensible data to help make decisions that may affect the scenic resources of their communities.

- **Visual Impact Assessments** and **Site Plan Review Ordinances**. Some local Site Plan Review ordinances require visual impact assessments in certain cases (e.g., cellular communications towers) to demonstrate how development proposals could affect the visible landscape.

- **Design standards**. Many communities have enacted design standards for new development that recognize the uniqueness of their particular setting. See *Prioritizing Local Scenic Resources - Community Based Performance Standards*, available at the SPO website: www.maine.gov/spo/landuse/docs/publications.htm

- **Conservation subdivision ordinances** are becoming more common as towns are looking for ways to protect their scenic and other natural resources.

- **Photosimulations** and other visualization techniques are being routinely requested by Planning Boards to demonstrate how development proposals are being designed to address visual quality concerns and potential loss of community character.

B. RESEARCH

The field of visual assessment has matured considerably over the past several decades. There has been a substantial amount of research into the way people perceive their visual surroundings and what people perceive to be scenic in the American landscape.

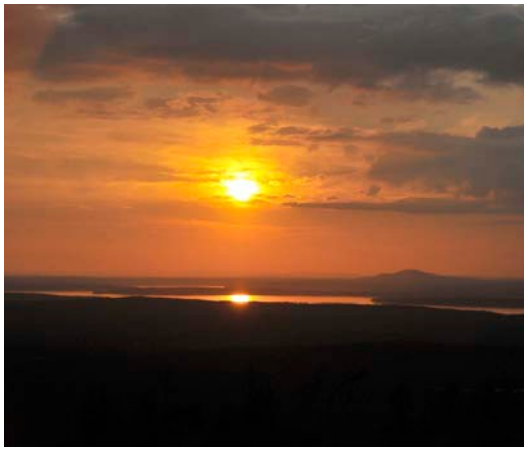
Holly Dominie identified eight indicators of scenic quality, based upon extensive research, that became part of the original State Planning Office methodology (Dominie, 1987):

1. Landform. Some aspect of landform is nearly always a major factor in expert-based scenic assessments. Past measures have included landform variety (USDA Forest Service, 1974), landform type (Linton, 1968), steep topography (Lewis, 1963), and others. These studies have assumed that as relief or slope increases, the scenic value of a place will also increase. This assumption has generally been validated in public preference tests. Zube et al. (1974) found that along with land-use diversity and naturalism, relative relief was an important predictor of scenic preference. This finding has also been supported in research by Miller (1984), Pitt (1976), Pearce & Walters (1983), and others.

2. Open Land. Open land is defined here as existing or abandoned agricultural land or wetland. Open land was inventoried for the scenic assessment for a number of reasons. Land use diversity, especially agricultural and natural land uses, has been shown to be an important predictor of scenic preference (Zube, 1973). Open space in a landscape which is mostly forested, as in Maine, adds visual variety, complexity, and interest. In general, variety, complexity, or diversity are all accepted and frequently used indicators in scenic assessments (Litton, 1982; US Forest Service, 1974; Barringer, 1982), and have withstood the scrutiny of empirical testing (e.g. Kaplan, Kaplan & Wendt, 1972; Miller, 1984; McCarthy, 1979). Open areas in the Maine coastal landscape also take on special significance in that they frequently provide visual access to the water.

3. Shoreline Configuration. Configuration refers to the amount of irregularity in the shoreline. Shorelines with coves, points, islands, promontories, bays, peninsulas, and other features are considered more configured than those with straight, uncomplicated shorelines. Shoreline landscape assessments nearly always include some measure of shoreline configuration as an indicator of scenic value (Harper et al. 1978; Mann, 1975). There is little direct support for this measure in the research, but there is considerable evidence of a broader nature. As mentioned previously, complexity is a widely accepted determinant of preference; configuration increases complexity. Another aspect underlying shoreline configuration is that of enclosure. Those areas showing high configuration tend to give the perceiver a stronger feeling of being enclosed by the landscape. This landscape characteristic has been shown to be related to scenic preference (Ward, 1977; Pearce & Waters, 1983; Gobster, 1986).

4. Special Scenic Features. Special scenic features are natural or cultural features which, by their mere presence, have a positive influence on people's perception of scenic quality. Examples include beaches, lighthouses, harbors, and historic sites (Pemaquid, 1986; Sterling, 1935), historic forts (Maine Atlas, 1985), working harbors (Acheson, 1978; DOT 1978 & 1986, Merril, 1986 pers. comm.), historic wrecked schooners (Maine Atlas, 1985); Maine Geological



Survey, 1986). Expert-based scenic shoreland assessment often includes cultural and natural features of this type in their checklists criteria (Harper et al. 1978; Lewis, 1963). There is evidence that cultural features hold symbolic meaning for society and influence public perceptions of the visual quality of an area (Anderson, 1981). There is also considerable evidence that shows beaches are a highly preferred type of shoreland scenery. In Zube & McLaughlin's Virgin Island Study (1978) sand beaches ranked highest over 15 coastal types. Studies by Palmer (1978) in Massachusetts and Banerjee and Bollub (1976) in California agree.

5. Views of Water from Major Roads. The presence of water can be a powerful predictor of scenic preference (Kaplan, 1977; Litton et al. 1971). Some researchers have shown that view quality can depend on specific characteristics of the view in relation to the observer. Litton (1972) suggests that two of these characteristics include the position of the observer in relation to the focus of a view, and the distance one can see in a view. "Superior" views, views in which the observer is looking down upon the landscape, and views that one can see for a long distance, often have higher scenic value that those that are blocked or partially enclosed. Federal land management agencies have developed methods for visual resource evaluation rating to how long a view lasts and the size of the resource seen. They contend that lands which more people see for long periods of time and during periods of recreational activity are more aesthetically important that those which few people see or are seen for only short periods of time. Lands with the highest sensitivity include areas seen from major roads for long duration. By this same rationale, large water bodies have higher value than smaller ones because more people see them (USDA Forest Service, 1974).

6. Land Use. Land uses encompass the changes people make to the landscape. Perception studies conducted under the auspices of the USDA Soil Conservation Service for towns in Massachusetts (Dominie, 1976; Palmer, 1978; and USDA SCS, 1978) identify many cultural modifications of the environment that either detract or contribute to scenic quality. Pastoral, symbolic features, and traditional uses, are positive components while landscape scars and obtrusive structures are detractors, for instance. Land use compatibility, the degree to which development is visually unified with its setting, also has a positive influence on perceptions (Nassauer, 1978). Overall condition is a measure of how well the landscape is cared for.

7. Vegetation. Visually interesting or functional vegetation is frequently included in visual assessments. The presence of vegetation used for screening and softening the built environment has been documented as a positive influence on perceptions (Palmer, 1978). Other research has shown that forest and field edges, agricultural patterns, and manicured landscapes are also positive predictors of scenic quality (Zube, Pitt, and Anderson, 1974).

8. Landscape Composition and Effect. The overall effect of the landscape is important as well. The better the coherence and ease with which a landscape and its parts are understood (Kaplan R., 1975), the higher the mystery (Kaplan, R., 1975) and land use diversity (Zube, 1973), and the greater the degree of naturalism (Zube, 1973; Kaplan et al. 1972), the more scenic an area is likely to be perceived. Roads that change elevation are also considered more scenic (Palmer, 1978).

C. BIOPHYSICAL REGIONS OF THE MAINE COAST

The following is taken from McMahon, J.S. *The biophysical regions of Maine: Patterns in the landscape and vegetation.* M.S. Thesis. University of Maine, Orono, Maine. 1990. See the Eco-Regions map of Maine on page 3 for a location of each of the four regions.

SOUTH COASTAL REGION

Physiography

The South Coastal Region parallels the Gulf of Maine in a 20 mile wide band that extends from Kittery to Cape Elizabeth. The physiography of this region is markedly different from points east. The Atlantic coastal plain, which is broad and clearly defined in states to the south, reaches its eastern extent near Portland. As a result, the South Coastal Region is characterized by a relatively smooth coastline of large headlands, broad arcuate bays, and sand beaches. The terrain is relatively flat with elevations rarely rising above 100′. Higher elevations occur on a pluton located near the headwaters of the York River and Goose Rocks Stream. Mount Agamenticus, which reaches an elevation of 691′, is the highest point in the region. Bedrock is composed primarily of low-grade metasedimentary

rock that has been intruded by three large plutons composed of granite or syenite.

Climate

The climate of the South Coastal Region is the mildest in Maine. The number of heating days (3900) is greater, the frost-free period (160-170 days) is longer, and mean maximum July temperature, 83° F, is wamer than elsewhere in the state. Winters are also relatively mild with a mean minimum January temperature of 14° F and an average annual snowfall of 55″, which is less than all the other regions and less than half the state average. Although mean annual precipitation (45″) is about average for the state, warm summer temperatures result in a relatively small moisture surplus (<1.2″). This region also experiences less than half the fog of the East Coastal Region.

Surficial Geology and Soils

Along the immediate coast, soils are generally deep sands (where beaches occur) or shallow sandy loams that are well to excessively drained. Coarse loams, very shallow Abram soils occur on hill tops; coarse, somewhat excessively drained, shallow Lyman soils occur on midslopes; and deeper (20″-40″), well-drained Tunbridge soils can be found on lower slopes. Inland, deeper sandy soils derived from glaciofluvial material are typical. The most extensive coarse-grained glaciomarine deposits in the state occur in the central portion of the South Coastal Region and along its western margin. Deep, excessively drained sandy-gravelly Colton soils and sandy Adam soils are common in this area, especially in the vicinity of the Kennebunk Plains, a glaciomarine delta. Poorly drained Naumburg soils and scattered organic deposits have developed in the region's many kettles and depressions.

The southwestern portion of this region and the Southwest Interior contain the only soils with mesic temperature regime (an average annual soil temperature of >45° F and <60° F) in the state.

Vegetation and Flora

The vegetation of the South Coastal Region resembles that of the Atlantic Coastal Plain. Ecosystems that reach their northern exten-

sions here include sandplain grasslands and oak-hickory forests. This is the only part of the state where *Quercus alba* and *Carya ocata* occur in large stands. The largest coastal pitch pine communities in Maine occur on excessively well-drained, nutrient-poor sandy soils in Scarborough, Kennebunk, and Wells. Small stands of pitch pine-scrub oak and the state's most extensive salt marshes are also located in this region.

Subarctic maritime species that reach southern limits in the South Coastal Region include *Empetrum nigrum, Hudsonia ericoides,* and *Mertensia maritima.* In addition, the distribution of several coastal species associated with sand beaches extends along the mid and southern coasts, including *Artemesia caudata, Euphorbia polygonifolia,* and *Hudsonia tomentosa.* An ecosystem that is believed to reach its southern limit here is the raised bog.

MIDCOAST REGION

Physiography

The Midcoast Region extends from Cape Elizabeth to Pemquid Point and inland approximately 20 miles from the Gulf of Maine. It is a landscape of flat to gently rolling terrain with elevations ranging from sea level to 200' and averaging 100'. From Sheepscot Bay to Bailey Island, where bedrock is frequently exposed or covered by

thin drift, low but more rugged topography is typical.

This portion of the coast, which is characterized by long narrow peninsula and islands, is a classic example of a drowned coastline. The northeast-southwest trending valleys and ridges reflect the strike of the underlying bedrock. Most of the region is underlain by highly metamorphosed sandstones and pelites. Long ridges are typically the crests of sharply folded layers of bedrock, while softer sediments that accumulated in concave portions (synclines) have been eroded into long valleys. Granitic plutons are small and widely scattered. Outcrops of metavolcanic rocks occur north and inland of Casco Bay.

Climate

The temperature regime of the Midcoast Region resembles that of the Penobscot Bay Region. Mean maximum July temperature is 79° F, with a slight decrease in temperature from west to east. The mean minimum January temperature of 13° F is slightly warmer than that of the two regions to the east, while annual precipitation (45") is noticeably less. Average annual snowfall (74") is higher here than in other coastal regions. The average number of heating degree days (3500) is substantially higher than in the East Coastal Region.

Surficial Geology and Soils

Headlands and ridges are typically covered with shallow (10-20") somewhat excessively drained Lyman fine-sandy loams and very shallow Abram sandy loams. Well-drained, coarse loamy Tunbridge soils generally occur on midslopes where till is derived from schists and gneiss. Finer grained, moderately well-drained Buxton soils occur over glaciomarine deposits at middle elevations. Deep, often highly-dissected glaciomarine clays and silts are common in low-lying areas.

Vegetation and Flora

The vegetation of the Midcoast region reflects the moderating influence of the Gulf of Maine. Summer temperatures are cooler and seasonal rainfall higher than inland regions and fog is a frequent occurrence. The southernmost extent of the coastal spruce-fir forest, which occurs in Harp-

swell, can be attributed to this. This ecosystem type is limited to a few small but representative stands. Another vegetation type that is well-developed along this portion of the coast is the coastal pitch pine community. *Pinus rigida,* and a common associate *Corema conradii,* grow on sand dunes and bedrock outcrops in the coastal zone. Both moderate winter temperatures and thin and excessively well-drained soils are thought to contribute to this ecosystem's presence here.

Woody species that reach their northern limits along this portion of the coast include *Hudsonia tomentosa, Lonicera dioica, Nyssa sylvatica, Quercus coccinea, Rhus copallina, Sassafras albidum, Smilax rotundifolia,* and *Toxicodendron vernix.* Woody species richness averages 191 species, the highest in the state.

PENOBSCOT BAY REGION

Physiography

The Penobscot Bay Region, which is bounded by Pemaquid Point to the west and Brooklin to the east, includes the shorelines and islands of Penobscot and Muscongus Bays and extends approximately 20 miles inland from the Gulf of Maine. The terrain is knobby, with frequent bedrock outcrops and several small mountains. Average elevation is 200'. Topographic highs, which occur at the tops of the granitic plutons and form the Camden Hills and the Blue Hill Peninsula, include Mt. Megunticook (1385') and Blue Hill (934'). The bedrock of Penobscot Bay east shore and the Muscongus Bay area is predominately granite and the west shore of Penobscot Bay and Pemaquid Point are composed of metamorphosed pelites and sandstones. Metavolcanic rocks are restricted to the Cape Rosier area.

Climate

In most respects, the climate is intermediate between that of the East Coastal and Midcoast Regions. Although there is a distinct maritime influence, with high annual precipitation and frequent fog, higher summer temperatures result in a lower moisture surplus than in the East Coastal Region. Mean maximum temperature in July is 77° F , which is approximately 4° F warmer than the East Coastal Region and slightly cooler than the midcoast. Mean minimum temperature in January is 11° F, approximately 2° cooler than the East Coastal Region. Although average annual precipitation (49") is higher than in any other region, average annual snowfall (63") is less than that of the East and Midcoast Regions. This region also has a shorter growing season (140 days) than abutting coastal regions.

Surficial Geology and Soils

East of Penobscot Bay, higher elevations are generally covered with thin drift which provides the parent material for shallow, coarse loamy Lyman soils. West of Penobscot Bay, upland areas are dominated by deep (>60"), coarse loamy Lyman soils. West of Penobscot Bay, upland areas are dominated by deep (>60"), coarse loamy Tunbridge and deep, coarse loamy Dixfield soils. Lyman soils, which tend to be somewhat excessively drained, generally occur on ridge tops, while well and moderately well-drained Tunbridge and Dixfield soils occur on ridge slopes. Coarse-grained, but poorly drained Colonel and Brayton soils are characteristic of lower ridges and toe slopes. Valleys and lowlands throughout the region are filled with deep, poorly drained glaciomarine clays and silts.

Vegetation and Flora

The Penobscot Bay Region supports vegetation that is transistional between the coastal spruce-fir ecosystems of the east and a forest dominated by *Pinus strobus* and *Quercus rubra* to the southwest. Species of northern affinity, such as the distinctive subartic maritime flora of the East Coastal Region are present only on offshore islands here. The coastal spruce-fir forest is no longer continuous; it occurs in small stands on islands and exposed headlands. Twenty woody species that reach their northern limits in Maine or New Brunswick reach a coastal limit in the eastern portion of the Penobscot Bay Region. These include *Acer saccharinum, Alnus serrulata, Aralia racemosa, Carpinus caroliniana, Carya ovata, Castanea dentata, Ceanothus americanus, Chamaecyparis thyoides, Fraxinus pennsylvanica, Juniperus virginiana, Platanus occidentalis, Quercus macrocarpa, Quercus alba, Salix coactilis, Salix nigra, Salix planifolia, Viburnum lentago, Vitis labrusca, Vitis novae-angliae,* and *Vitis riparia.* Most of these species are characteristic of warm temperate regions. This represents the highest concentration of northern range limits along the coast. Along with the southwestern portion of the East Coastal Region, this portion of the Penobscot Bay Region marks the eastern end of the transition zone.

EAST COASTAL REGION

Physiography

The East Coastal Region parallels the Gulf of Maine in a 20 mile wide band that extends from Mount Desert Island and Isle au Haut east to Passamaquoddy Bay (in the vicinity of Perry). The region is characterized by low ridges surrounded by poorly drained, relatively flat terrain. Elevations are generally less than 100′ with the exceptions of mountains of Mount Desert Island and the Tunk Lake area, which rise to elevations of 1000′ or more. Topographic highs occur on plutons of coarse-grained granitic rocks, while the more easily eroded finer-grained intrusive and metamorphic rocks from Roque Bluffs to East Quoddy Head have been worn to lower elevations. Bedrock is predominately igneous, except for outcrops of metavolcanic rocks near Columbia Falls and in the Cobscook Bay area. Most of the headlands and islands between

Isle au Haut and Jonesport are composed of biotite or muscovite granite. Gabbro, diorite, volcanic rhyolite, and basalt become abundant to the east.

Climate

The climate of the East Coastal Region is strongly moderated by the Gulf of Maine. The combination of land breezes in the summer and northeasters in the winter creates a climate characterized by cool summers, high annual precipitation, frequent summer fog, and a relatively high moisture surplus. Mean minimum January temperatures are the warmest in the state, ranging from 15° F in Eastport to 14° F in Bar Harbor. The mean maximum July temperature in Eastport (63° F) is lower than any weather station record in the state except St. Francis, which is located 180 miles to the north, and the Oquossoc and Cupsuptic stations, which are located at elevations of more than 1600′. Average annual precipitation ranges from 44″ to 50″. Unlike other regions of the state, more precipitation occurs in the winter than in the summer. While the entire Maine coast experiences fog during the summer months, the East Coastal Region is shrouded by fog for twice as many hours as western Penobscot Bay and south.

Surficial Geology and Soils

On ridge tops, at high elevations, and on outer peninsulas, soils are generally poorly developed, acidic (due to the poor buffering capacity of the parent material), coarse-textured, and shallow. These areas are dominated by coarse-loamy Lyman soils and sandy-skeletal Schoodic soils, both of which tend to be excessively drained and less than 20" in depth. Most low lying areas of the region, which were inundated by sea water as the glaciers receded, are covered with deep marine clays and glaciolacustrine deposits. On the slopes of ridges formed by deposits of glacial till, deep, moderately well drained, loamy soils of the Dixfield series are typical. The eastern edge of the Pineo Ridge delta, which is comprised of coarse-grained glaciomarine sediments, crosses the region's western boundary.

Vegetation and Flora

Two ecosystem types that are particularly well developed in the East Coastal Region are coastal spruce-fir forests and coastal raised peatlands. East of Penobscot Bay, most forests contain a substantial percentage of spruce and fir. This coastal spruce-fir ecosystem has been attributed to the cool growing season, ample moisture supply, and fog-laden winds that characterize the region's climate. *Picea rubens* and *Abies balsamea* are community dominants. *Betula papyrigera, Acer rubrum,* and *Picea glauca* are also common. A second ecosystem type that is confined to the coastal zone along the Bay of Fundy is the coastal plateau peatland. These peatlands, which generally occur within 5 miles of open ocean, reach their southern limit in North America on Mount Desert Island. Their development is related to a low ratio of evapotranspiration to precipitation. Cool temperatures and frequent fog reduce evaporation resulting in a relatively high annual moisture surplus, creating favorable conditions for *Sphagnum* growth.

In addition to these ecosystems, a number of plant species reach range limits in the vicinity of Mount Desert Island. Subarctic maritime species that reach southern limits in coastal headland communities or in coastal raised peatlands include: *Aster foliaceus, Iris hookeri, Lomatogonium rotatum, Montia lamprosperma, Primula mustassinica, Rubus chamaemorus,* and *Sedum rosea.* In addition, *Empetrum nigrum,* a subarctic species that occurs on headlands as far south as the Cumberland County coast, is abundant in this region.

The southwestern end of the East Coast Region marks the eastern extent of the transition zone. Thirteen woody species reaching limits in Frenchman Bay, Mount Desert Island, or Schoodic Point include *Clethra alnifolia, Cornus florida, Cornus foemina ssp. racemosa, Decodon verticillatus, Juglans cinerea, Kalmia latifolia, Pinus rigida, Prunus maritima, Quercus bicolor, Quercus ilicifolia, Quercus velutina, Rhododendron viscosum,* and *Rubus odoratus.*

D. SITE PHOTOGRAPHY

A photographic record is a key component of the assessment process. High quality images should supplement the narrative to show what makes the landscape memorable. Photographs can be a useful way of recording observations in the field when time is somewhat restricted.

Digital Records

While one or two key images may be used in the final report, the inventory process may collect dozens or even hundreds of images of each scenic area as part of the documentation process. These digital files should be considered benchmarks that will be useful in later years as you study how the landscape changes in response to natural and cultural forces. These records will also be useful to demonstrate why particular areas are considered important by the community in response to development proposals that may affect scenic areas.

Cameras

As noted earlier, a digital camera is strongly recommended over a film camera for fieldwork. The camera does not have to be a professional quality, but it should have the following features: a) at least 5 mega pixels to ensure high quality output; b) variable focal lengths (zoom to wide angle) with a setting that is equivalent to a 50 mm film camera; and c) a large clear LCD screen so you can review the results of your work in the field.

Digital Camera Settings

The digital camera should be set for the highest resolution (most cameras will offer a basic, normal, and high quality range)

Cape Jellison, Stockton Springs

and either medium or large image size. Use the large setting if you intend to enlarge the images for posters or publications. If you do not anticipate this type of use, it may be sufficient to use the medium setting to keep the image size at a reasonable level. Keep the ISO rating low (200) to eliminate background 'noise'.

Focal Length

For most shots set the focal length to produce 50mm film equivalent photographs. Check your owner's manual for instructions on how to do it. On many of the newer cameras the focal length is set to 35 mm, which produces a 'normal' view. The ideal is to produce a photograph that captures a 38.6º angle of view, which is equivalent to what the human eye sees.

Panoramic Views

Many scenic areas cover a relatively sizable percentage of the field of view, requiring a panoramic photograph to adequately illustrate the quality of the landscape. There are two approaches to creating wide angle photographs: a) shoot with the camera set to 28mm (or whatever the lowest focal length is on your camera), or b) take a series of 'normal' images (50mm film equivalent) and merge them together in Photoshop or a similar software. If image storage is not an issue (i.e., if you have a large capacity storage card) you may want to do both. A single wide-angle photograph will be somewhat distorted when compared to the merged image, but there is a considerable saving in time.


Orrs Island, Harpswell

Tripod

The use of a tripod is recommended for the most significant photographs to assure that the camera is a) level and b) not moving when the shutter is depressed. You may want to use a small carpenter's level to make sure that the camera is shooting horizontally. This will become important if you want to later merge the photographs to create panoramic images or develop photo-simulations to illustrate potential changes in the landscape. A tripod may not be as important when shooting context shots.

Scenic Areas

Consider scenic areas as large outdoor "rooms", defined by ground planes (water bodies, fields, roadways), walls (vertical elements such as trees or rock outcrops), ceilings (usually the sky, but it may be trees or man-made elements), and furnishings

(the visible signs of man's presence in the landscape). In photographing scenic areas, it will be important to capture both the whole room as well as those elements that define the room.

Viewpoints

The photographic inventory should include both characteristic views (the views typically found within the scenic area) as well as focal points (notable points of interest within the landscape). Ideally the photo-coverage should be able to demonstrate the effect of seasonal changes on visibility: a) visible throughout the year, b) partially visible throughout the year, c) not visible during the summer, or d) partially visible during leaf-off season. You may have to go back out during the winter to demonstrate what effect leaf coverage has on viewing conditions.

Viewpoint Location

It may be important to be able to go back to the photo locations at a later date, so each image should be located by GPS. The coordinates should be kept in a data file and later transferred onto a base map. If you do not have access to GPS equipment, note the location of the photograph relative to known objects (e.g., 53 feet south of utility pole 352-15).

Composition

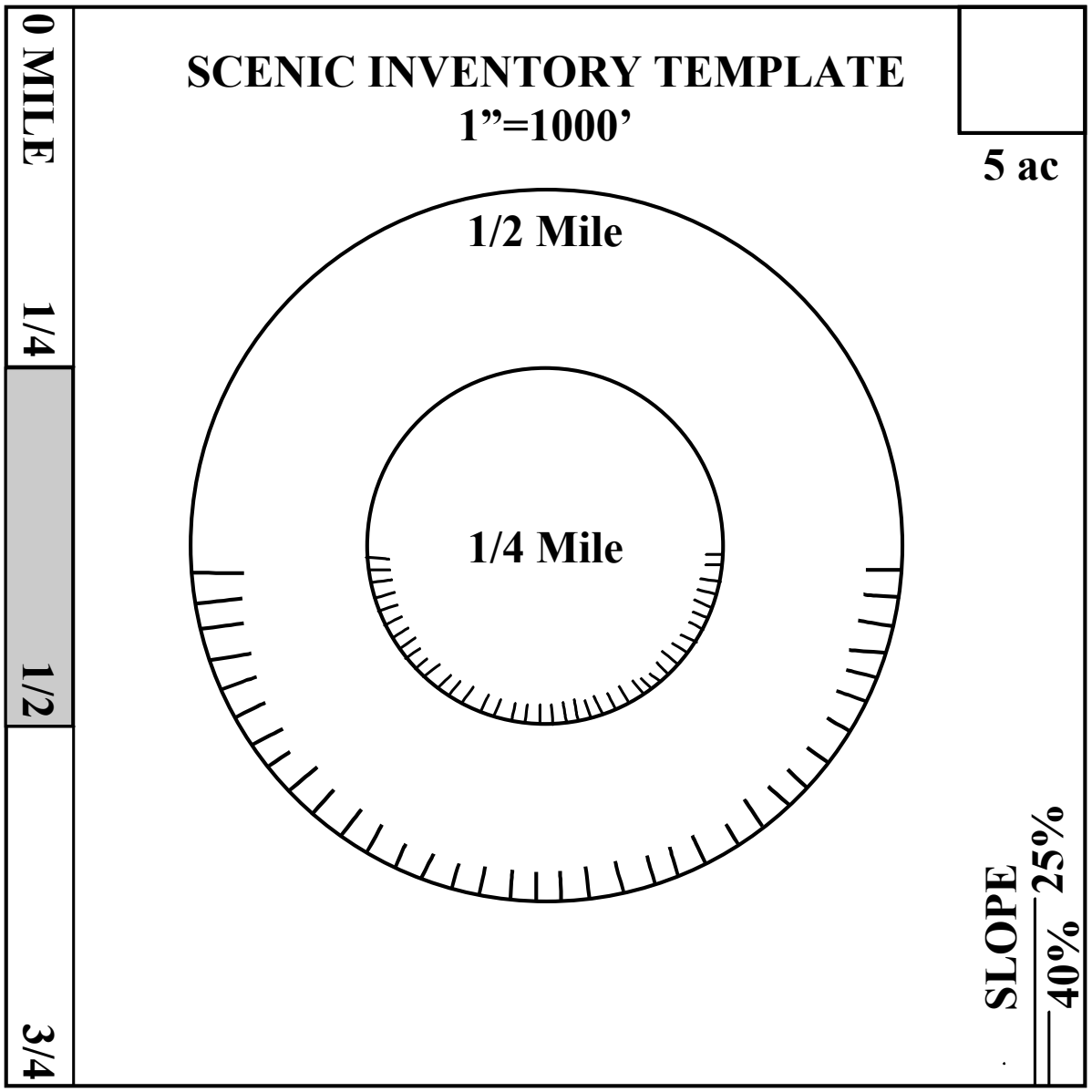
Avoid foreground clutter. While it is tempting to show flowers or guardrails in the immediate foreground, too much detail in the immediate foreground can be distracting and detract from the objectivity of the review.

Context

Take photographs of surrounding land uses to document the context of the scenic area. These should be typical views showing homes, commercial and institutional buildings, industrial development, roadways, parking areas, etc., especially if they are oriented toward the view or contribute to the sense of cohesiveness. In addition to recording the positive aspects of the landscape, photograph elements that may be considered scenic detractors, such as transmission lines, structures that block views, and junkyards. If possible, include people in the photographs who are engaged in typical activities (hiking, picnicking, dog-walking) to show how the community uses the scenic area.

Points of Interest

Significant cultural resources (e.g., historic structures, cemeteries, cultural landscapes of note) that add richness and variety to scenic areas should be well documented as part of the inventory. Photographs should show both the resource itself as well as how it influences the surrounding landscape. For example, in addition to a head-on photo of an historic church, the inventory should illustrate its prominence as a landmark in the community from a variety of viewpoints. As another example, if stone walls or old trees are important parts of a rural landscape, the photographs should show how they define the edge of the road or frame distant views.



E. SITE INVENTORY TEMPLATE

The Site Inventory Template has been designed to assist in the office evaluation of Slope, Open Land, and Shoreline Configuration. See individual sections for specific instruction for use.

To use for office evaluations, copy template at full scale onto an 8.5" x 11" sheet of acetate (transparent plastic).

SCENIC INVENTORY EVALUATION FORM

Location _____ **Date** _____

SI	SC	IP	INDICATORS	COMMENTS
			1. Landform	
			Elevation	
			Slope	
			2. Open Land	
			3. Shoreline Configuration	
			4. Scenic Features	
			5. Scenic Quality of Water	
			Duration of View	
			Type of Water	
			Quality of Horizon	
			Indicators Present	
			DESKTOP SUBTOTAL	
			6. Landscape Character	
			Land Use	
			Roadside Characteristics	
			Settlement Characteristics	
			7. Vegetation	
			8. Composition & Effect	
			FIELD EVALUATION	
			TOTAL SCORE	

SI: Special Interest
SC: Scoring
IP: Indicators Present

Comments_____
_____
_____

G. GLOSSARY OF TERMS

Visual impact assessments and scenic inventories are relatively recent developments in natural resource analysis. Several federal agencies have instituted Visual Resource Management (VRM) systems, utilizing their own procedures and terminology, many of which have applicability to Maine.

Over the past two decades a vocabulary has evolved which has been used to describe the landscape and to evaluate changes to it. Many of the concepts developed by the federal agencies have relevance to the Inventory of the Penobscot Bay Islands.

The vocabulary's origin and use vary. Some are common terms employed in the usual way. In other cases, technical meanings have been applied to very specific functions. Terminology has also been drawn from specialized areas like aesthetics and human physiology.

ADVERSE VISUAL IMPACT. The negative effect of a regulated activity on the visual quality of a landscape.

AESTHETICS: The science or philosophy concerned with the quality of sensory experience; the use here is limited to visual experience.

ANGLE OF OBSERVATION: The vertical angle between a viewer's line of sight and the slope being viewed. The visual magnitude of a slope or object being viewed increases as the angle of observation approaches 90 degrees.

ASPECT: The side of a surface of a landscape element facing a given direction. Visual impacts decrease as the viewer aspect, or lateral viewing angle, increases and as the aspect of the main surface of a landscape element is oblique to the viewer.

ATMOSPHERIC PERSPECTIVE: The effect of distance from the viewer on the color and distinctness of objects. Typically, as distance increases, objects become bluer, grayer, lighter, less contrasting and less distinct.

CHARACTER TYPE: A relatively large area of land that has common distinguishing visual characteristics of landform, rock formations, water forms, and vegetative patterns.

CHARACTERISTIC LANDSCAPE: The naturally and culturally established landscape in a region. It is described visually by the basic vegetative patterns, landforms, rock formations, water forms, and structures which are repeated throughout the area.

COGNITIVE FACTORS: The largely quantifiable characteristics of visual impact assessment: the number and location of viewers; distances, angles, duration, and conditions of viewing; the characteristic landscape types; and the size, character, and location of the proposed changes. In addition to these, visual assessment involves compositional and connotative factors.

COLOR: The portion of the electromagnetic spectrum visible to the human eye which causes activity in the retina of the eye and its associated nerve systems, enabling one to distinguish between identical objects. Color consists of the three components of saturation, hue and brightness.

COMPOSITIONAL: The arrangement of the component parts of a landscape. Component parts are objects or activities usually described in terms of color, texture, line, form, dominance, and scale.

CONNOTATIONAL FACTORS: Observers' mental connections, or associations between a viewed landscape and sensations, perceptions, ideas, feelings, or memories. Associative values also cause nuclear cooling towers, for example, to receive extreme negative visual ratings despite their handsome, hyperbolic shapes. Together with cognitive and compositional factors these form the basis for visual assessment.

CONE OF VISION: The horizontal and vertical angle of the landscape that is visible from a viewpoint. Constrictions to the viewer's eye may include buildings, street trees, forest edges, or foreground landforms. Travel speed and the design of the automobile are additional constrictions to the viewer's eye.

CONFIGURATION: The amount of irregularity and/or enclosure in the shoreline. Shorelines with coves, points, bays, islands, and other features are considered highly configured, and are usually thought to be highly scenic.

CONGRUITY: The conformity of one landscape element to its surroundings. The opposite of contrast.

CONTRAST: The way in which an introduced element may be compared to determine differences. Contrast is measured in terms of form, line, color, texture, dominance, or scale.

DISTANCE ZONES: Horizontal divisions of the landscape being viewed.

- **Foreground** - The visible landscape within one quarter mile from the observer. At this range textures and gross details are easily discernible. Trees, for example, may be appreciated for their individual characteristics. In some visual evaluation systems this distance can fluctuate from one quarter to one half a mile from the observer.

- **Midground** - Extends from the edge of the foreground to 4± miles from the observer. Texture is normally characterized by the masses of trees in stands of uniform tree cover.

- **Background** - Extends from the midground to infinity.

DOMINANCE: The extent to which an object is noticeable when compared to the surrounding context. An object(s) may be:

- **Dominant** - The element is visually prominent and occupies a visually sensitive position within a landscape, usually at an upper elevation. A dominant object will greatly influence the visual perception of the landscape from a particular viewpoint.

- **Co-Dominant** - Two or more elements have relatively equal visual importance in the landscape.

- **Subordinate** - The object is visually inferior to the rest of the landscape as a result of its relative size, brightness, distance, color, or mass.

DURATION: Relative measure of the time available to experience a view. The actual elapsed time will be a function of many factors: mode of transportation, speed of movement, obstacles in the foreground, intention of the viewer, amount of clearing between viewer and view, and opportunities for pull-offs along a road.

- **Short Views** - Fleeting glimpses of relatively short duration, from 1 to 3 seconds.

- **Medium View**s - Visible for a moderate amount of time, from 3 to 10 seconds.

- **Long Views** - Visible for extended periods of time, greater than 10 seconds.

FORM: The mass or shape of an object or combination of objects which appear unified: the physical structure of an object(s).

HUE: The name of a color, such as yellow-green or red, and one of color's three components.

LANDFORM: The dominant topographic features of the landscape, described in terms of slope and repetitive natural forms.

LANDSCAPE: The surface features of an area including landform, water, vegetation, cultural features and all other objects and aspects of natural and human origin.

LANDSCAPE QUALITY: Relative level of visual diversity or landscape character. Features such as Landform, Vegetation, Water, and Cultural Features are compared singularly or in combination with those commonly found in the study area. Landscapes can be classified into variety classes to indicate the degree of variety present:

- **Class A: Distinctive** - Areas where vegetation patterns, landforms, water bodies, rock formations, cultural patterns, or combinations of these elements are of unusual or outstanding visual quality, and are generally considered to be of state-wide or national significance. Examples might include Mount Katahdin, Camden Harbor, or the Loop Road at Acadia National Park.

- **Class B: Noteworthy** - A combination of landscape elements that is above the average for the characteristic landscape, but not outstanding relative to national or state-wide measures. Examples might include Wolfes Neck Woods State Park, Rangeley Lake, or Rockland Harbor.

- **Class C: Common** - The characteristic landscape of an area.

- **Class D**: **Below Average** - Little or no visual variety with the landscape. Characterized by monotonous patterns of tree growth, little topographic relief, and the lack of water bodies.

- **Class E: Disturbed** - Landscapes that have been severely altered by natural or man-made forces that result in an alteration or degradation of visual quality. Disturbed landscapes may be either temporary, semi-permanent, or permanent in nature. Examples might include a forest scarred by a forest fire, tailings from a mining operation, or a highly visible quarry on an island.

LINE: Anything that is arranged in a row or sequence. The path, real or imagined, that the eye follows when perceiving abrupt differences in form, color, or texture, or when objects are aligned in a one-dimensional sequence. Line is usually evident as the edge of shapes or masses in the landscape.

MITIGATION: Any action taken or not taken to avoid, minimize, rectify, reduce, or eliminate actual or potential adverse environmental impact, including adverse visual impact. Actions may include:

- **Avoidance** - Not taking a certain action

- **Design** - Measures taken during the siting or design of a facility to minimize contrasts in form, line, color, texture, or scale with the surrounding landscape.

- **Screening** - Installation or preservation of physical visual barriers to minimize views of a proposed activity.

- **Minimization** - Limiting the magnitude, duration, or time of an activity.

- **Rectification** - Restoration, repair, or rehabilitation of an affected environment.

- **Management -** Reducing or eliminating an impact through preservation and maintenance operations during the life of a project.

- **Compensation** - Replacement of affected resources or provision of substitutes.

SCALE: The proportional size relationship between an introduced object(s) relative to the surrounding landscape. Severe contrasts result from the introduction of major objects significantly larger than their surroundings. Viewing angle can affect the perception of scale. Scale can be described in terms of:

- **Absolute Scale** - A measurement of height or width

- **Relative Scale -** The apparent size relationship between the object and its surroundings.

SCENERY: The general appearance of a place; the features seen in the landscape.

SCENIC AREA: An area which exhibits a high degree of variety, harmony, and contrast among the basic visual elements, resulting in a place with greater than normal visual quality.

SCENIC HIGHWAY: A section of state-assisted highway that has been noted by the Maine Department of Transportation for its scenic quality.

SCENIC RESOURCE: Public natural resources or public lands visited by the general public, in part for the use, observation, enjoyment, and appreciation of natural or cultural visual qualities. The attributes, characteristics, and features of the landscape of a scenic resource provide varying responses from, and varying degrees of benefits to, humans.

SIGHTLINE: The unobstructed line of sight between an observer and an object.

TEXTURE: The aggregation of small forms or color mixtures into a continuous surface pattern, resulting in a surface's mottling, graininess, or smoothness. These smaller parts do not appear as discrete objects in the landscape.

VALUE: The sensation that one color appears to be lighter or darker than another. Value is one element in determining the relative contrast or congruity between landscape elements.

VIEW: That portion of the landscape that is seen from a particular vantage point.

VIEWER ELEVATION: The position of the viewer relative to the scene being viewed.

- **Viewer Inferior** - Viewer is below that portion of a scene with the greatest visual interest.
- **Viewer Normal** - Viewer looks straight ahead to see the majority of the view; the most common relationship between viewer and scenery.
- **Viewer Superior** - Viewer is elevated above the scene observed, usually looking down to the rear portions of the foreground. This position tends to increase the importance of landscape elements observed because of the viewer's usual tendency to look slightly downward and more of the view is obstacle-free.

VIEWER EXPECTATION: An estimate of people's concern for visual quality in the environment.

VIEWERS: People who see the landscape at present, or who are likely to see a project in the future.

VIEWPOINT: The actual point from which a viewer sees the landscape or a proposed alteration.

VIEWSHED: All the surface areas visible from a particular viewpoint or a proposed activity; also, the surface area(s) within which a critical object or viewpoint is seen. The viewshed may include the total visible activity area from a single observer position or the total visible activity area from multiple observers' positions.

VISUAL ACCESS: The degree to which a landscape element can be seen from a particular viewpoint. The loss of visual access to a scenic resource could be considered an adverse visual impact.

VISUAL CHARACTER: The overall impression of a landscape created by the order of the patterns composing it: the visual elements of these patterns are the form, line, color, and texture of the landscape's components. Their interrelationships can be described in terms of dominance, scale, diversity, and continuity.

VISUAL IMPACT: The degree of scenic quality change that results from a land use activity. Negative visual impacts affect en-

vironmental quality, either by limiting visual access to scenic resources or by disrupting the harmony, diversity or character of natural landscape elements.

VISUAL QUALITY. The essential attributes of the landscape that when viewed elicit overall benefits to individuals and, therefore, to society in general. The quality of the resource and the significance of the resource are usually, but not always, correlated.

VISUAL RESOURCES: The features that make up the visible landscape.

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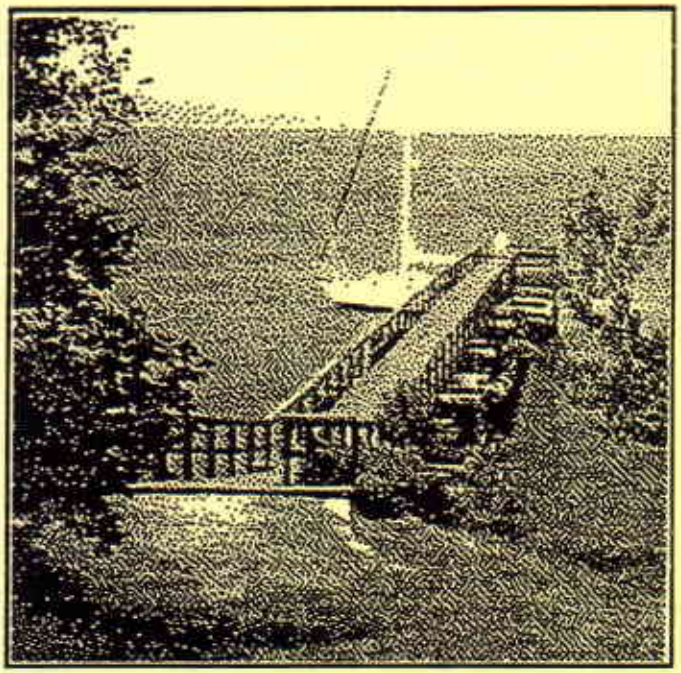
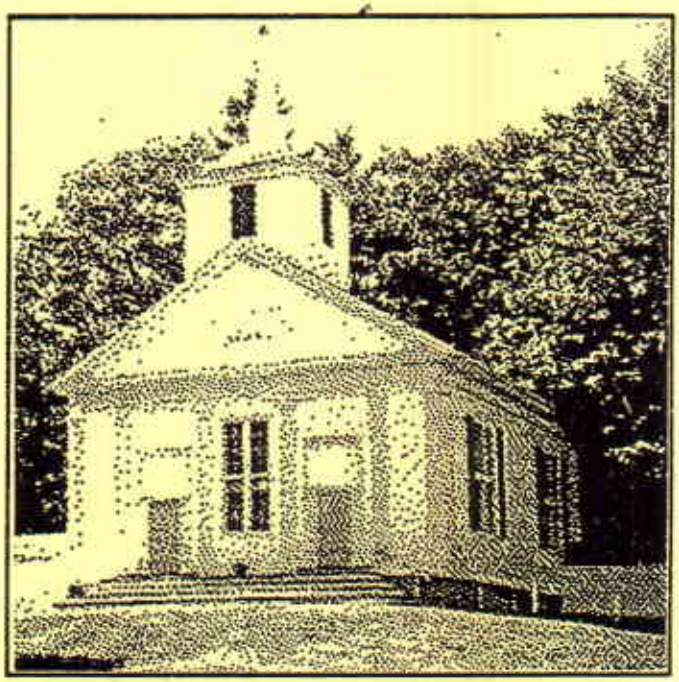
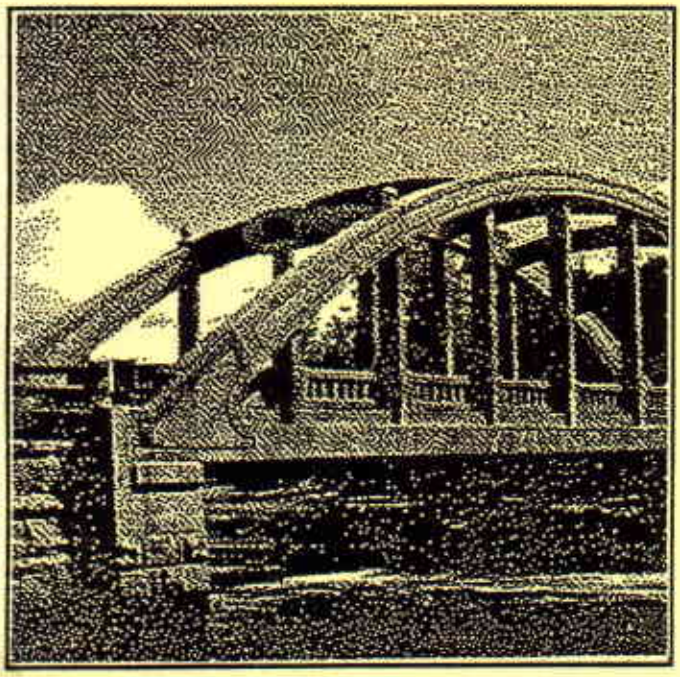
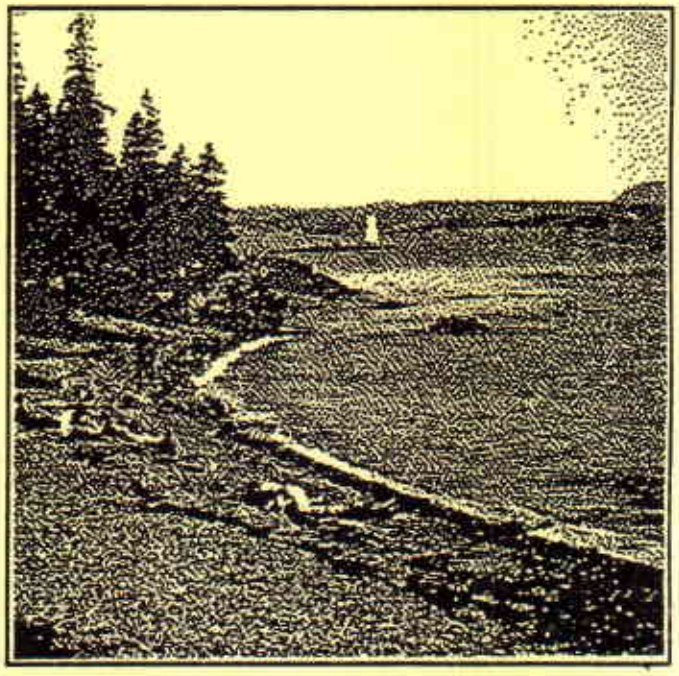
SCENIC INVENTORY
MAINLAND SITES OF PENOBSCOT BAY

CRITICAL AREAS PROGRAM OF THE MAINE STATE PLANNING OFFICE









AUGUST 1990

TERRENCE J. DEWAN & ASSOCIATES, Yarmouth, Maine
BRISTOL DESIGN AND PLANNING, Canandaigua, New York

On June 15, 1990 the Maine Association of Planners presented the Critical Areas Program an **Award 1990**, for the Scenic Inventory Mainland Sites of Penobscot Bay, in Recognition for Outstanding Contribution to the Planning Field.

SCENIC INVENTORY
MAINLAND SITES OF PENOBSCOT BAY

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A Report Prepared for the
Maine Critical Areas Program
State Planning Office
184 State Street
State House Station 38
Augusta, Maine 04333

Planning Report No. 90

August, 1990

TABLE OF CONTENTS

LIST OF TABLES AND FIGURES

ABSTRACT

Penobscot Bay is a powerful place of tremendous variety in its waterbodies, landforms, vegetation patterns, and cultural development. The characteristic landscape includes open expanses of water and small tidal marshes, rounded islands and wooded mountains, cottage communities and bustling cities. While the Region is unified by the presence of Penobscot Bay, it is in reality a vast assemblage of startling contrasts and well defined places.

This study documents significant scenic areas as viewed from public roads and other public access points along the coastline, from Owl's Head to Ellsworth, including Deer Isle. The methodology used is derived from A Proposed Method for Coastal Scenic Landscape Assessment, by Holly Dominie and Mary Droege, 1987. The method that has been developed is a "professional" approach to scenic assessment, rather than a "public" approach. Eight scenic indicators were used to evaluate the significance of scenic areas within the study area.

During the course of the desktop evaluation over two hundred potential scenic areas were identified, based upon a review of landform, open land, shoreline configuration, special scenic features, and views to water. Following a series of field visits, which looked at landscape character, vegetation, and landscape composition, the list was winnowed down to 92 sites which are described in the report. The areas of highest scenic character are clearly of state-wide significance.

Thirty-three sites are recommended to be evaluated for inclusion on the Critical Areas Register. An additional group of 46 places, of moderate to high scenic quality, warrant additional field investigation and verification before being considered for Critical Area status. Thirteen additional sites of generally local significance are also described. The relatively small number of sites with less scenic quality is more a reflection of the initial filtering process than the aesthetic characteristics of the Penobscot Bay.

The concept of Scenic Sub-Regions was developed as a way of describing the visual and physiographic diversity of Penobscot Bay. A Scenic Sub-Region is a recognizable visual unit defined by relatively homogeneous landscape characteristics, including landform, shoreline configuration, and settlement patterns. Each of the eleven Sub-Regions have between 2 and 21 Scenic Areas that have been identified. The Deer Isle Sub-Region has the greatest concentration of scenic areas within the study area.

In addition to describing and mapping each site, the report includes management recommendations where appropriate to guide local and state officials with specific actions to preserve or improve the visual environment.

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We are grateful to a number of people who have contributed their time and expertise on this project.

Hank Tyler, Dick Kelly, and Jim Bernard of the State Planning Office for their foresight in establishing this program and perseverance in its continuation.

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Terry DeWan
Don Naetzker

Yarmouth, Maine
August, 1990

INTRODUCTION

INTRODUCTION

Maine, along with many other states and Federal Agencies, has become increasingly aware of the value and the fragility of its scenic resources. The Maine Legislature has directed the State Planning Office to conduct inventories identifying botanical, zoological, geological, and scenic areas in Maine of statewide significance as part of the process of compiling the Register of Critical Areas (Title 5 Sections 3310 - 3314). During the past few years the State Planning Office has conducted or administered scenic inventories of southern coastal Maine (Dominie et al, 1987), scenic lakes in the unorganized towns (Jones, 1986), and scenic lakes in the organized towns (Lortie, 1989).

In 1978 Paul Adamus, writing in The Natural Regions of Maine, described the Coast of Maine as being comprised of five physiographic, relatively homogeneous natural regions. Region III, The Greater Penobscot Bay, is one of those areas, delineated by the bounds of Penobscot Bay, and extending from Muscongus Bay to Frenchmans Bay (Adamus, 1978). Figure 1 illustrates the Coast, showing the five physiographic regions.

In 1989 the State Planning Office contracted with Terrence J. DeWan & Associates, Yarmouth, Maine, in conjunction with Don Naetzker of Bristol Design and Planning, Canandaigua, New York, to prepare a Scenic Inventory of Mainland Sites of Penobscot Bay, including Deer Isle. The purpose of this study was to document significant scenic areas as viewed from public roads and other public access points along the coastline. Emphasis was placed on identifying viewsheds from land to water, rather than from water to land. Figure 2 illustrates the limits of the study area. A companion study, concentrating on Islesboro, North Haven, and Vinalhaven, is being conducted during the summer of 1990.

The information gathered as part of this inventory will be available for a number of agencies and interest groups, among which are:

- The Critical Areas Program of the State Planning Office
- The Department of Environment Protection
- The Land for Maine's Future Board
- The Maine Department of Transportation
- Local town officials
- Local Planning Boards
- Local Comprehensive Planning Committees
- The Maine Coast Heritage Trust and Nature Conservancy
- Local land trusts

Further discussion regarding the use of this information is found in the Recommendations section.

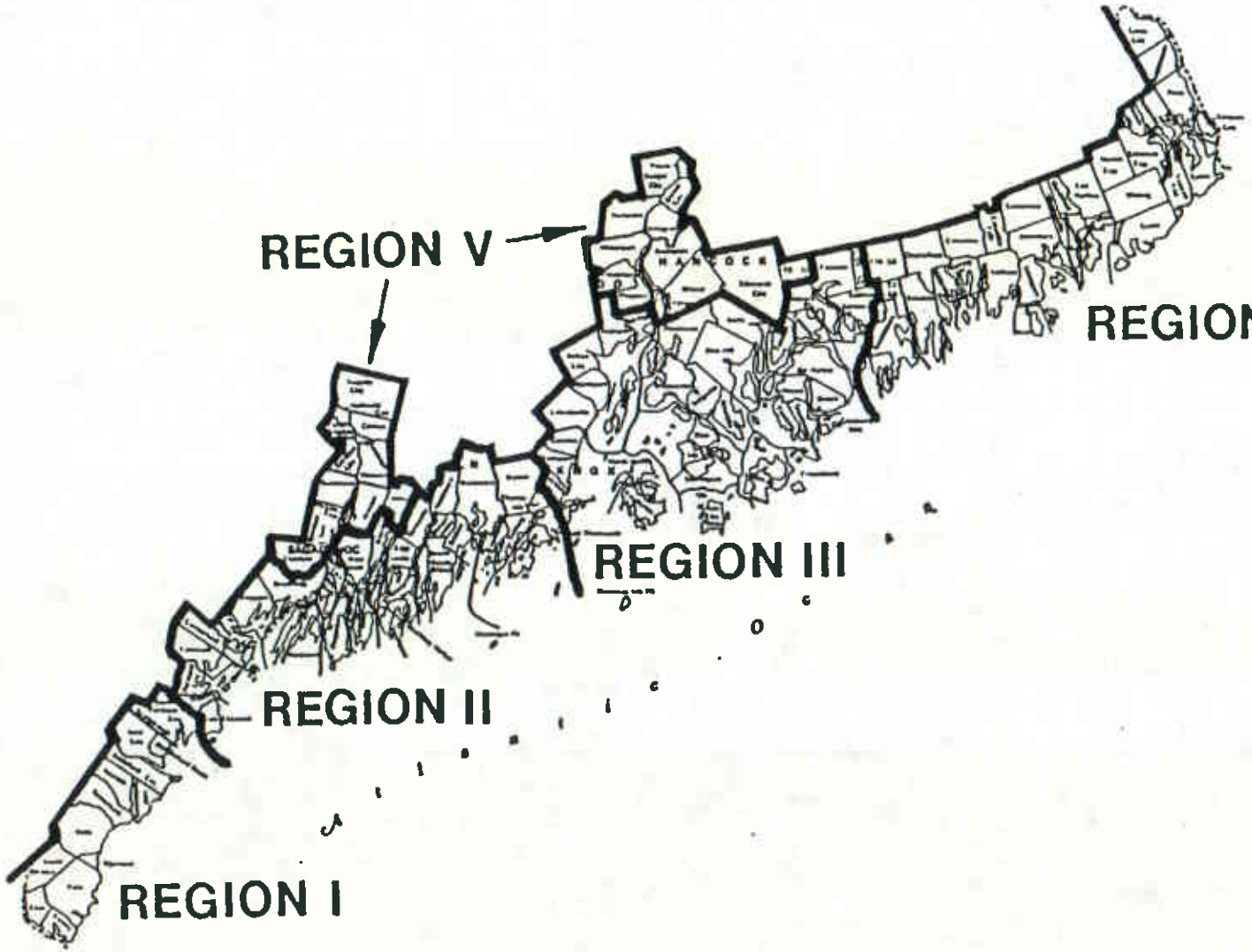


FIGURE 1

THE MAINE COAST
PHYSIOGRAPHIC REGIONS

Source: The Natural Regions of Maine, by Paul Adamus, 1978

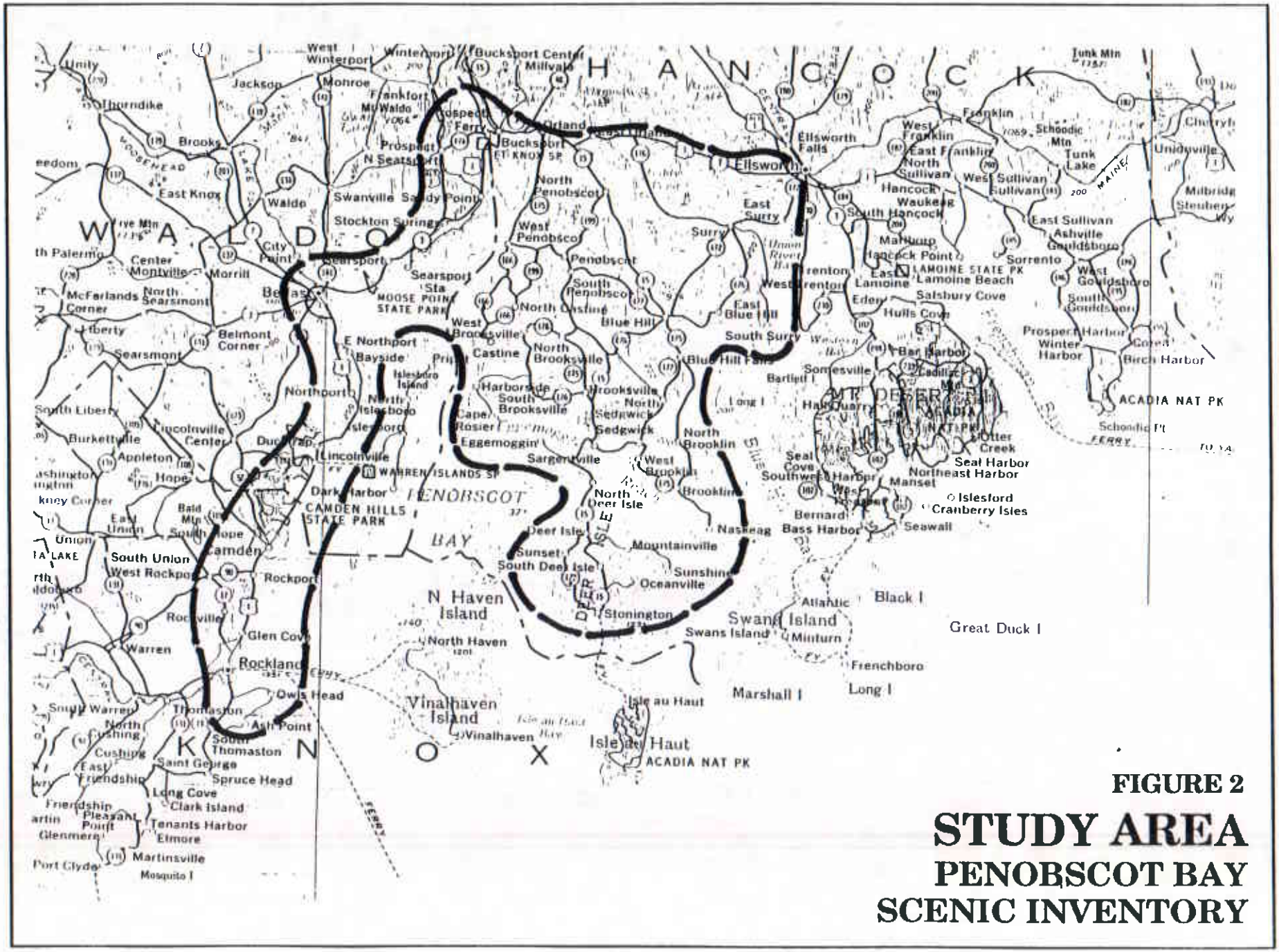
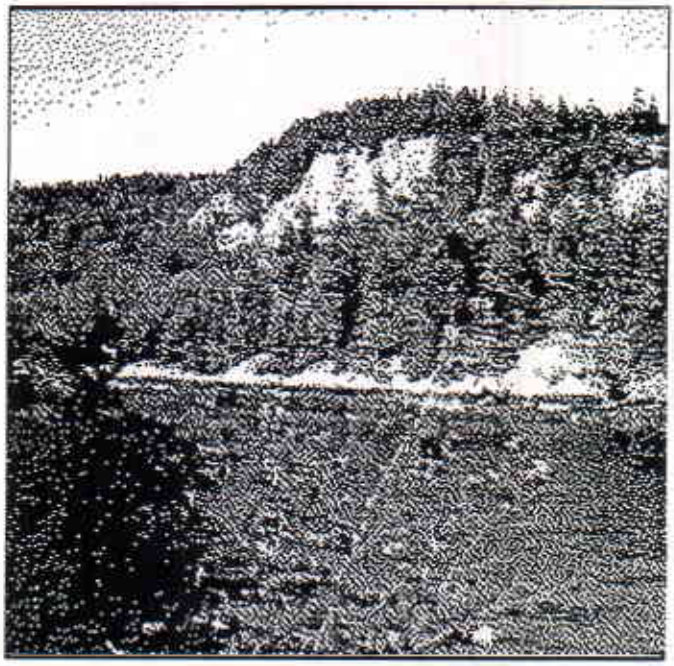


FIGURE 2

STUDY AREA
PENOBSCOT BAY SCENIC INVENTORY

METHODS



METHODS

The methodology used in the Penobscot Bay Scenic Inventory was derived from A Proposed Method for Coastal Scenic Landscape Assessment, by Holly Dominie and Mary Droege, 1987. During the course of the study the assumptions that were made for the earlier work were evaluated and changes made where necessary to suit the specific conditions of Penobscot Bay. The majority of the text in this section is adopted from Dominie et al.

Physiographic Regions

The approach used in this study recognizes that visual character varies by physiography (USDA Forest Service, 1974). In coastal Maine five physiographic regions have been identified (Adamus, 1978):

Region I: Southern beaches and estuaries
Region II: Mid-Coast Maine, with its linear peninsulas and bays
Region III: Penobscot Bay, characterized by numerous granitic islands
Region IV: Downeast Maine, with its rocky headlands and bluffs
Region V: Rolling headlands and forested regions along the great tidal rivers and adjacent to the coast.

These Regions are shown on Figure 1.

Adamus describes Region III as the Greater Penobscot Bay Subregion, one of the five component parts of the Coastal Region of Maine. It is primarily bounded by Penobscot Bay, but actually extends from Muscongus Bay to Frenchmans Bay. The rocky islands are more numerous here than elsewhere on the coast. The majority of the islands are rather rounded and dome-like. The Camden Hills, the mountains of Mount Desert Island, and the Blue Hill region are actually part of the Uplands Region. The average elevation and relative relief are greater than for other coastal subregions. The shoreline of Penobscot Bay is described as moderately indented, except in the western portion of the bay, between Rockland and Belfast, where the coast is relatively straight.

Much of the coastal bedrock has been deeply eroded by streams and glacial ice. Sand beaches are scarce throughout the region. Outwash plains are not as extensive as in the coastal areas to the southwest. Distinctive eskers occur near Blue Hill and Lamoine. Kame terraces are found near Brooksville.

More ponds and freshwater wetlands are present in this region of the coast than the areas to the southwest, particularly in the Blue Hill peninsula. Salt marsh acreage is small and limited by the topography of the Penobscot River estuary. Spruce-fir forests occur over much of the islands and immediate coastal areas. Inland the forests are characteristically transition hardwoods-hemlock-white pine. This is particularly true along the western shore of Penobscot Bay.

Land use tends to be more rural than in the southern coastal areas. Many overgrown agricultural fields extend to the water, affording periodic views from the public roads. Seasonal homes are common throughout the Bay, taking advantage of the highly diverse landscape and views of the water. A strong fishing industry still exists in the larger towns, villages, and seaports. Tourism, centered around the Camden/Rockport area, is a mainstay of the local economy.

Summary of Method

The method developed by Dominie and modified for this report is a "professional approach" rather than a "public approach". This means that it relies upon "expert" judgement in the selection of factors chosen to indicate scenic quality. Public methods rely upon public involvement in making judgements about scenic quality. The rating criteria for this approach, however, have been selected because they have been demonstrated to be important through research based upon public perception studies of what constitutes a scenic landscape.

Eight indicators of scenic quality form the basis of the rating scheme. Where these indicators occur in close proximity with one another or in clumps the area is considered to be of high scenic quality. The indicators evaluated include: landform, open land, shoreline configuration, special scenic features, views of water, land use, vegetation, and overall landscape composition and effect. The first five indicators were evaluated by examining data from existing USGS maps and other sources of mapped information; the remaining three indicators were assessed through observation in the field.

The basis steps of the procedure are outlined below:

Step I - Determine Scenic Indicators: A sample analysis of topographic information, slopes, open spaces, shoreline configuration, scenic features, and water view indicators was performed for a sample evaluation of the Rockland-Camden area. Results and products of these test sites were evaluated with the Critical Areas Program staff. Adjustments were made to the indicators to set minimum standards for the mainland sites of Penobscot Bay.

Step II - Office Rating of Scenic Indicators: Landform, open land, shoreline configuration, special scenic features, and views of water were rated in the office. Results were recorded on Preliminary Scenic Area Evaluation Forms. Preliminary Scenic Areas - locations having more than two scenic indicators present and other areas which the consultant felt deserved field investigation - were reviewed with the Critical Areas Program staff.

Step III - Field Evaluation of Preliminary Sites: Each Preliminary Scenic Area was field evaluated during the summer of 1989 to rate land use, vegetation, and overall composition and effect. Viewshed management and additional comments were recorded for inclusion on the Scenic Area

Evaluation Form. Photographic documentation in 35 mm slide form was made using a 50 mm lens. Boundaries of each scenic area were drafted on USGS maps of the area. Mapping was developed to show the extent of the views, the number of viewpoints within each area, and the approximate viewing angle.

Step IV - Classification: The office and field ratings were combined and the scenic areas classified into groups that may be of local, statewide, and national significance.

Rationale for Selecting Indicators

The field of visual assessment has matured considerably over the past two decades. There is now substantial information about what people perceive to be scenic in the American landscape. Since only one perception study has been conducted for Maine (for Acadia National Park by the National Park Service) we must infer from studies of other landscapes what is scenic along the Maine coast. The eight indicators were selected for this study for the following reasons:

1. **Landform** - Some aspect of landform is nearly always a major factor in expert-based scenic assessments. Past measures have included landform variety (USDA Forest Service, 1974), landform type (Linton, 1968), steep topography (Lewis, 1963), and others. These studies have assumed that as relief or slope increases, the scenic value of a place will also increase. This assumption has generally been validated in public preference tests. Zube et. al. (1974) found that along with land-use diversity and naturalism, relative relief was an important predictor of scenic preference. This finding has also been supported in research by Miller (1984), Pitt (1976), Pearce & Walters (1983), and others.

2. **Open Land** - Open land in defined here as existing or abandoned agricultural land or wetland. Open land was inventoried for the scenic assessment for a number of reasons. Land use diversity, especially agricultural and natural land uses, has been shown to be an important predictor of scenic preference (Zube, 1973). Open space in a landscape which is mostly forested, as is Maine, adds visual variety, complexity, and interest In general, variety, complexity, or diversity are all accepted and frequently use indicators in scenic assessments (Litton, 1982; US Forest Service, 1974; Barringer, 1982), and have withstood the scrutiny of empirical testing (e.g. Kaplan, Kaplan & Wendt, 1972; Miller, 1984; McCarthy, 1979). Open areas in the Maine coastal landscape also take on special significance in that they frequently provide visual access to the water.

3. **Shoreline Configuration** - Configuration refers to the amount of irregularity in the shoreline. Shorelines with coves, points, islands, promontories, bays, peninsulas, and other features are considered more configured than those with straight, uncomplicated shorelines. Shoreline

landscape assessments nearly always include some measure of shoreline configuration as an indicator of scenic value (Harper et. al. 1978; Mann, 1975). There is little direct support for this measure in the research, but there is considerable evidence of a broader nature. As mentioned previously, complexity is a widely accepted determinant of preference; configuration increases complexity. Another aspect underlying shoreline configuration is that of enclosure. Those areas showing high configuration tend to give the perceiver a stronger feeling of being enclosed by the landscape. This landscape characteristic has been shown to be related to scenic preference (Ward, 1977; Pearce & Waters, 1983; Gobster, 1986).

4. **Special Scenic Features** - Special scenic features are natural or cultural features which, by their mere presence, have a positive influence on people's perception of scenic quality. Examples include beaches, lighthouses, harbors, and historic sites (Pemaquid, 1986; Sterling, 1935), historic forts (Maine Atlas, 1985), working harbors (Acheson, 1978; DOT 1978 & 1986, Merril, 1986 pers. comm.), historic wrecked schooners (Maine Atlas, 1985), and beaches (Duffy, pers. comm. 1986; Maine Geological Survey, 1986). Expert-based scenic shoreland assessment often include cultural and natural features of this type in their checklists criteria (Harper et. al. 1978; Lewis, 1963). There is evidence that cultural features hold symbolic meaning for society and influence public perceptions of the visual quality of an area (Anderson, 1981). There is also considerable evidence that shows beaches are a highly preferred type of shoreland scenery. In Zube & McLaughlin's Virgin Island Study (1978) sand beaches ranked highest over 15 coastal types. Studies by Palmer (1978) in Massachusetts and Banerjee and Bollub (1976) in California agree.

5. **Views of Water from Major Roads** - It is generally accepted that the presence of water can be a powerful predictor of scenic preference (Kaplan, 1977; Litton et. al. 1971). Some researchers have shown that view quality can depend on specific characteristics of the view in relation to the observer. Litton (1972) suggest that two of these characteristics include the position of the observer in relation to the focus of a view, and the distance one can see in a view. "Superior" views, views in which the observer is looking down upon the landscape, and views that one can see for a long distance, often have higher scenic value that those that are blocked or partially enclosed. Federal land management agencies have developed methods for visual resource evaluation rating to how long a view lasts and the size of the resource seen. They contend that lands which more people see for long periods of time and during periods of recreational activity are more aesthetically important that those which few people see or are seen for only short periods of time. Lands with the highest sensitivity include areas seen from major roads for long duration. By this same rationale, large water bodies have higher value than smaller ones because more people see them (USDA Forest Service, 1974).

6. **Land Use** - Land uses encompass the changes people make to the landscape. Perception studies conducted under the auspices of the USDA Soil Conservation Service for towns in Massachusetts (Dominie, 1976; Palmer, 1978; and USDA SCS, 1978) identify many cultural modifications of the environment that either detract or contribute to scenic quality. Pastoral, symbolic features, and traditional uses, are positive components while landscape scars and obtrusive structures are detractors, for instance. Land use compatibility, the degree to which development is visually unified with its setting, also has a positive influence on perceptions (Nassauer, 1978). Overall condition is a measure of how well the landscape is cared for.

7. **Vegetation** - Visually interesting or functional vegetation is frequently included in visual assessments. The presence of vegetation used for screening and softening the built environment has been documented as a positive influence on perceptions (Palmer, 1978). Other research has shown that forest and field edges, agricultural patterns, and manicured landscapes are also positive predictors of scenic quality (Zube, Pitt, and Anderson, 1974).

8. **Landscape Composition and Effect** - The overall effect of the landscape is important as well. The better the coherence and ease with which a landscape and its parts are understood (Kaplan R., 1975), the higher the mystery (Kaplan, R., 1975) and land use diversity (Zube, 1973), and the greater the degree of naturalism (Zube, 1973; Kaplan et. al. 1972), the more scenic an area is likely to be perceived. Roads that change elevation are also considered more scenic (Palmer, 1978).

Scenic Indicator Ratings

The eight Scenic Indicators were assigned a value corresponding to its relative importance in the scenic rating. A total of 100 points was allocated to rate each Scenic Area. The 100 points were apportioned among the indicators according to their relative importance. The following outlines the indicators that were used, their relative values, and provisions for determining scores for each indicator.

1. Landform	9 Points
2. Open Land	6 Points
3. Shoreline Configuration	6 Points
4. Special Scenic Features	9 Points
5. Views to Water	30 Points
6. Landscape Character	22 Points
7. Vegetation	9 Points
8. Landscape Composition	9 Points
Total	**100 Points**

1. **Landform**: A sampling of ridgetops, heights of land, and hilltops along the coastal region of Penobscot Bay yielded an average height of 290'. The heights sampled ranged in elevation between 100' and 1385'. Hills and mountains of special interest included Mt. Waldo (1064'), Bald Rocky Mountain (1100'), Mt. Battie (740'), Mt. Megunticook (1204'/1385'), and Blue Hill (920').

   Points were awarded to landforms having the following elevations:

300'-449'	1 Point
450'-599'	3 Points
Over 600'	6 Points

   A sampling of slopes along the coastal region demonstrated a range of between 4% and 55% with a significant average of 19%. Slopes occurring in the foreground were accounted for in Section 5 dealing with the individual components of Views to Water. Slopes occurring in the midground and background provide visual interest at the higher end of this range.

   Points were awarded to significant slopes having the following gradients:

25%-39%	2 Point
Over 40%	3 Points

2. **Open Spaces:** A sampling of open spaces was taken based on USGS quad sheet information in order to qualify sizes of significant parcels. Open areas ranged in size from 15 to 2500 acres with a significant average of 43 +/- acres. Four primary types of open space exist in the upland environment of Penobscot Bay: agricultural fields (both active and abandoned), wetlands, blueberry barrens, and village/developed land. Depending upon the type of open space it can be assumed that some will provide unobstructed views to the water (open wetlands, blueberry barrens, and fields) while others will provide only filtered views (overgrown fields, villages, and developed areas).

   Points were awarded for open space according to the following:

50-100 acres w/ filtered view	3 Point
More than 100 acres w/ filtered view	4 Points
50-100 acres w/ unobstructed view	5 Points
More than 100 acres w/ unobstructed view	6 Points

3. **Shoreline Configuration**: Configuration refers to the amount of irregularity that exists within the shoreline. The measurement of configuration considers the distance to the nearest shoreline. Areas with deep coves, peninsulas, and near-shore islands are usually more complex and highly configured, and consequently of greater scenic character. Related to configuration is the perception of enclosure. Most of the highly

configured landscapes gave a feeling of at least partial enclosure, which is often related to scenic preference (Dominie, et al).

Points for Shoreline Configuration were awarded according to the following measurements:

Configured w/in 1/2 mile	3 Points
Configured w/in 1/4 mile	6 Points

4. **Scenic Features**: Scenic features (e.g. cliffs, sand beaches, islands, bridges, lighthouses, historic forts, harbors, moorings) were evaluated based upon the type and number of features, as well as the location of the feature within the view. Foreground and midground features score higher than background features. Points for Scenic Features were awarded according to the following schedule:

Sig. Feature in Background (> 3 miles)	1 Points
Sig. Feature in Midground (1/4 -3 miles)	3 Points
More than one feature with at least one in Midground	6 Points
Multiple Features in Foreground	9 Points

5. **Views to Water**: Views to the waters of Penobscot Bay from major roads, other public ways, and public lands were rated according to the duration of view, the type of water, and the viewer to water relationship. The measurement of duration was derived from USGS 7.5 topographic maps of the study area and is the length of open land between the viewer and the scenic area, measured along the public road. The duration will also be influenced by the travel speed, condition of road, the intent of the viewer, and opportunities to pull off the road.

Points were awarded in each area according to the following schedule:

A. Duration of View

Less than 2/10 mile	3 Point
2/10 to 1/2 mile or numerous short views	6 Points
Greater than 1/2 mile	9 Points

B. Type of Water (Assumed High Water)

Small fresh or saltwater (< 1/4 mile closure)	6 Point
Large body of fresh or saltwater	9 Points
Large saltwater body w/ associated salt marsh,pond, or cove	12 Points

C. **Quality of Horizon**

Completely open or completely closed horizon with little vertical interest	3 Points
Combination of open and closed horizons with little vertical interest or completely closed horizon with vertical interest	6 Points
Combination of open and closed horizons with vertical interest	9 Points

6. **Landscape Character**: An inventory of the following positive and negative landscape characteristics was compiled during the field investigation. This information was used to evaluate the effect that land use, roadside characteristics, and settlement characteristics has on scenic quality.

A. **Land Use** (Positive)

1. Agricultural
2. Vernacular Architecture
3. Old Cemetery
4. Distant Village Skyline or Edge
5. Mooring/Harbor Area
6. Mature Forest
7. Other

Land Use (Negative)

1. Lumbering/Clearcut/Extensive Slash
2. Exposed Mining Operations
3. Utility Corridor
4. Incompatible Commercial or Industrial
5. Other

Points were awarded based upon effect on Scenic Quality:

Minimally Positive	3 Points
Positive	5 Points
Strongly Positive	7 Points

B. **Roadside Characteristics** (Positive)

1. Tree Canopy
2. Lined with Sugar Maples or other mature trees
3. Conforming to Contours
4. Gentle Curves and Rolls
5. Street Scale
6. Urban Plantings
7. Other

Roadside Characteristics (Negative)

1. Angular Road Cut or Fill
2. Long, Straight, Flat Stretch
3. Other

Points awarded based upon effect on Scenic Quality:

Minimally Positive	1 Point
Positive	3 Points
Strongly Positive	6 Points

C. **Settlement Characteristics** (Positive)

1. Distinct Village Gateways
2. Prominent Community Buildings and Parks
3. Harmonious Building Masses and Heights
4. Vernacular or Harmonious Architecture
5. Historic District
6. Statue, Fountain, Bandstand
7. Tree Lined Street
8. Stone Walls
9. Other

Settlement Characteristics (Negative)

1. Strip Development
2. Dilapidated Structure
3. Incompatible Architecture
4. Obtrusive Signage
5. Pollution
6. Structures Blocking Views
7. Automobile Intrusions (Traffic, Sales, Junkyards)
8. Other

Points awarded based upon effect on Scenic Quality

Minimally Positive	3 Points
Positive	6 Points
Strongly Positive	9 Points

7. **Vegetation**: The quality of the vegetation and its contribution to the visual environment were assessed using the following criteria to evaluate the effect on scenic character: no effect, minimal positive effect, positive effect, or strong positive effect.

Vegetation (Positive)

1. Park Like
2. Agricultural Patterns
3. Field and Forest Edge
4. Woodland Maturity
5. Framing Qualities
6. Vegetation Mix, Contrast, and Type
7. Other

Vegetation (Negative)

1. Clearcut/Slash
2. Screening View
3. Overgrown Field
4. Other

Points were awarded according to the following effects on scenic quality:

Minimally Positive	3 Points
Positive	6 Points
Strongly Positive	9 Points

8. **Composition and Effect**: The overall integrity of an area was evaluated to determine its effect on visual quality. The following components of the landscape were included in this evaluation.

Landscape Composition Components

1. High Diversity
2. Mystery/Surprise
3. Degree of Naturalness
4. Distinct Separation of Land Uses
5. Spectacular Imagery
6. Historic Integrity
7. Pastoral Qualities
8. Cohesiveness
9. Permanence
10. Other

Points were awarded based upon the positive effect of landscape composition according to the following schedule:

Minimally Positive	3 Points
Positive	6 Points
Strongly Positive	9 Points

Limitations of the Method

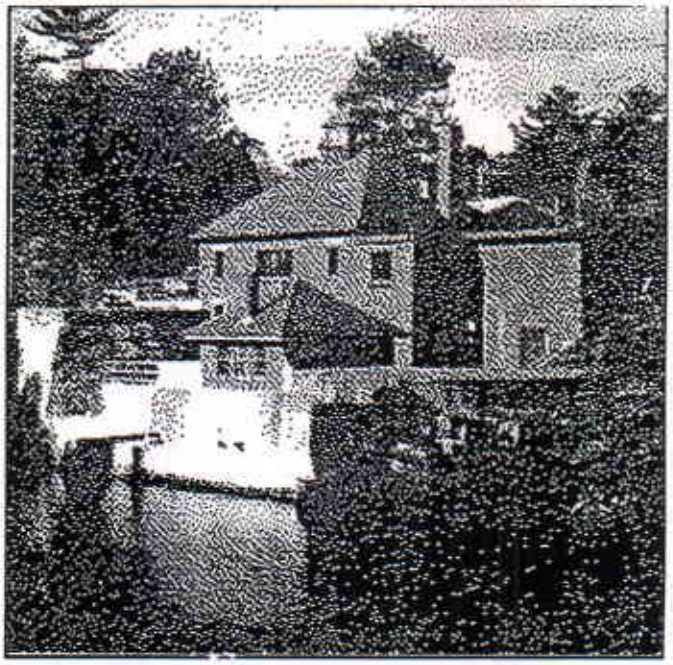
A few limitations of the method exist which should be noted. As mentioned earlier, the method is based upon scenic indicators selected by resource professionals. There is evidence in the literature that such "expert" approaches are not always as reliable as those studies where public perceptions about the landscape in question are examined. Given additional resources it would be advisable to confirm the results from this study with a public perception study.

Dominie noted a potential bias in favor of the natural over the built landscape. Only those areas that rise to the top during the office analysis are field checked. They are considered to have "potential" for scenic distinction based upon indicators which, with the exception of special features and open land, relate to the natural characteristics of the landscape. Consequently, she felt that there may be areas, particularly villages, that are scenic by virtue of their architectural characteristics and development patterns, but go unidentified by this assessment method. A review of the results of the Penobscot Bay study, however, seems to disprove any bias toward settled areas. The villages and settlements in the bay are disproportionately represented among the highest rated landscapes. This is the result of the character of the underlying land (primarily deep, well configured harbors, often sheltered by islands) as well as the orderly pattern of development that characterize these places.

Dominie also notes a limitation in the earlier work which examined views from major public roads, often omitting spectacular views from little travelled, but still public byways. In general, Penobscot Bay does not have the major roadway infrastructure that is common in Regions I and II. Many of the evaluations were performed on secondary roads, which require more attention to the road than to the scenery.

The field reconnaissance is also biased in favor of views from the land, rather that what can be seen from the water. In theory all the views from Penobscot Bay are "public" and should be included in the assessment as funding becomes available.

RESULTS AND ANALYSIS



ANALYSIS

Findings

The object of the study was to identify those places within Penobscot Bay - seen from public roads, byways, and places - which exhibit greater than normal visual quality and which may be eligible for inclusion in the Critical Areas Program of the Maine State Planning Office. Following a series of office and field evaluations, a list of 92 sites was compiled for further evaluation. The areas which were evaluated included the mainland of Penobscot Bay, from Owl's Head to Ellsworth, including Deer Isle. The methodology used is based upon earlier assessments performed by Holly Dominie and Mary Droege of the State Planning Office for the southern portion of the coast. A complete discussion of the methods used is contained in the Methods section of this report.

The assessment has concentrated on identifying places, i.e. scenic areas. These areas can be compared to large outdoor rooms, defined by a ground plane (e.g. coves, marshes, beaches), walls (e.g. rocky headlands, offshore islands, the configured shoreline topped by tall evergreens), and an overhead plane (usually the sky). Within this "room" might be items of unusual interest - a lighthouse, historic fort, a group of islands - that draw the eye and give the scene an added measure of visual interest.

The maps for each of the scenic areas have attempted to define the limits of these places. Usually they are defined by the ridgeline of the surrounding hills or the crest of an island. The scale of these places vary considerably. Some of the scenic areas cover only a few acres, while others extend throughout an entire waterfront village. In all cases there is at least least one point which allows a view into the scene.

The majority of the landscape of Penobscot Bay is remarkably intact, given the development pressure that has taken its toll on so much of the southern Maine coastline. With only a handful of exceptions, the Bay and its settlements are free from overly intrusive signs of civilization. The cultural elements that do punctuate the landscape - the bridges, roads, villages, and homes - have either been designed with a sensitivity to the natural beauty of the surroundings, or they have been done so long ago that the land has healed itself.

Penobscot Bay is still very much a region of distinct villages and settlements, each with its own personality, scale, and sense of place. The villages have remained distinct entities, marked by gateways and landmarks. Except for sections of Route One, the phenomenon of unchecked growth and suburban sprawl has not invaded the Bay.

It is very revealing to examine the historic photographs of the Maine coast, to see the denuded landscapes and bald islands that were the norm of the previous century. Visual access to the water was commonplace. As time passes and our managment of the coastal environment changes, the old fields are reverting back to spruce, fir, and pine. The panoramas are gone, except where efforts have been taken to mow the fields or keep the blueberry barrens open. As efforts are made to preserve components of the landscape, management decisions will have to address the often conflicting issues of visual access to the water and preservation of the habitats created by existing vegetation.

Ranking

The scenic areas have been numerically scored to assist the Critical Areas Program in evaluating sites which may be of State (or National) significance. In making a determination of significance the user must keep in mind that the scores are not an absolute value. Rather, the scores should be used as one component to identify their relative importance, compared to other sites within Penobscot Bay.

The areas that scored in the 30's and 40's are generally of local (i.e. neighborhood or town-wide) significance, relative to the other areas within Penobscot Bay.

The areas with scores in the 50's and 60's are clearly of high scenic quality, but may not warrant the designation of Critical Area. Each site within this range, however, should be evaluated on an individual basis for a final determination.

The places that scored in the 70's and 80's are clearly of State-wide significance, and some may even be of national importance. Images of these places have received national prominence through the artistic talents of many of our country's photographers and painters, such as Eliot and Fairfield Porter. To many people places like Camden and Rockport, Mount Battie, and the quiet harbors on Deer Isle embody the soul of Maine and deserve the recognition of the Critical Areas Program.

Once the assessment for the entire coastline has been completed the Critical Areas Program should evaluate all the sites which have been deemed to be of State-wide significance to determine which, if any, are of national importance. As was noted earlier, the final determinations of both state and national significance would benefit from public input into the evaluation process.

Sub-Regions

Penobscot Bay cannot be evaluated without an appreciation of the complexity of the landscape. The Bay is known for its open expanses of water and small tidal marshes, rounded islands and wooded mountains, cottage communities and bustling cities. While the Region is unified by the presence of Penobscot Bay, it is in reality a vast panorama of startling contrasts and well defined places. The concept of Scenic Sub-Regions was developed in recognition of the diversity of Penobscot Bay and to enable us to examine it as a series of recognizable visual units, based upon common physical attributes, including landform, shoreline configuration, and settlement patterns. Eleven Sub-Regions have been identified.

Categories of Scenic Areas within Penobscot Bay

The Scenic Areas included in the inventory have been sorted into classifications according to landscape type or significant natural or cultural features. The scenic diversity within Penobscot Bay is one of its chief natural attributes, as the listings indicate. The scale of the visible landscape runs from majestic panoramas atop Mt. Battie and Blue Hill, to small coves and tidal marshes on Deer Isle.

For each entry on the listing the following information is given:

CODE SC PLACE TOWN

The first number in the CODE is the reference number for the individual Scenic Area. When the initial desktop evaluation was completed, the candidate sites were all assigned numbers. When the field investigation was completed, many of the first round sites were dropped from further consideration. As a result the numbering for the sites in the report is not consecutive.

The second number refers to the USGS topographic map. The following is a listing of the 7.5 minute topographic maps used in this study and their reference code:

01 ROCKLAND
02 CAMDEN
03 LINCOLNVILLE
04 ISLESBORO
05 SEARSPORT
06 BELFAST
07 CASTINE
08 BUCKSPORT
09 PENOBSCOT
10 CAPE ROSIER

11 SARGENTVILLE
12 DEER ISLE
13 STINSON NECK
14 BROOKLIN
15 BLUE HILL
16 NEWBURY NECK
17 ELLSWORTH

SC refers to the total scenic evaluation SCore as derived from the data sheets for each site. The PLACE refers to the name used to describe each of the sites, usually referring a natural feature present within the area. The TOWN indicates the municipality where the scenic area occurs. In cases where the area extends beyond more than one municipality, the town with the greater proportion of the scenic area is used.

The following is a listing of the classification tables contained within this section:

- Table 1 SCENIC AREAS SORTED BY SCORE
- Table 2 SCENIC AREAS SORTED BY TOWN
- Table 3 VIEWS OF A MAJOR ISLAND
- Table 4 VIEWS THAT CONTAIN MANY ISLANDS
- Table 5 VIEWS OF ISLANDS
- Table 6 VIEWS OF RIVERS OR REACHES
- Table 7 HILLTOP WATER VIEWS
- Table 8 HILLTOP OPEN VIEWS
- Table 9 COASTAL VILLAGES
- Table 10 SETTLEMENTS
- Table 11 VILLAGES AND SETTLEMENTS
- Table 12 OPEN WATER VIEWS
- Table 13 SEMI-ENCLOSED WATER VIEWS
- Table 14 ENCLOSED WATER VIEWS
- Table 15 POINTS
- Table 16 INDUSTRIAL LANDSCAPES
- Table 17 INTERMITTENT VIEWS
- Table 18 BRIDGES
- Table 19 REVERSING FALLS
- Table 20 LIGHTHOUSES
- Table 21 BEACHES
- Table 22 MOORINGS

TABLE 1: SCENIC AREAS SORTED BY SCORE

CODE	SC	PLACE	TOWN
002-14	31	Bridges Point	Brooklin
004-16	36	Surry	Surry
004-05	38	Searsport Road (Rt. 1)	Searsport
010-08	39	Leaches Point	Orland
008-05	40	Mack Point	Searsport
007-12	42	Crockett Cove	Stonington
005-09	45	Johnson Point	Penobscot
015-12	47	Long Cove	Deer Isle
006-07	47	West Penobscot	Penobscot
003-06	48	Park Hill	Belfast
004-14	48	Herrick Head	Brooklin
001-09	48	Battle Island	Penobscot
006-05	49	Moose Point State Park	Searsport
013-12	50	South Deer Isle	Deer Isle
013-14	50	North Sedgwick	Sedgwick
003-12	51	Western Cove	Deer Isle
002-07	51	Cape Jellison Farm	Stockton Springs
009-11	52	Blastow Cove	Deer Isle
006-02	52	Rockport Golf Course	Rockport
006-09	53	Bagaduce Falls	Penobscot
009-05	53	Sears Island Causeway	Searsport
001-07	53	Mill Cove	Stockton Springs
014-12	53	Hatch Cove	Stonington
006-08	54	Bucksport Harbor	Bucksport
012-12	54	Buckmaster Neck	Stonington
007-07	55	Hatch Cove	Castine
001-17	55	Ellsworth City	Ellsworth
004-09	57	Penobscot Village	Penobscot
005-16	57	Contention Cove	Surry
009-02	58	Camden Hills St. Park	Camden
007-01	58	Ingraham Hill	Owls Head
012-11	59	Tinken Ledges	Deer Isle
004-12	59	Pressey Cove	Deer Isle
009-12	59	Moose Island	Stonington
008-01	60	Rockland	Rockland
001-08	60	Sandy Point	Stockton Springs
004-11	61	Sargentville	Sedgwick
016-07	62	West Brooksville	Brooksville
007-05	62	Searsport Village	Searsport
002-08	63	Mt. Tuck	Stockton Springs
001-05	64	Bayside	Northport
001-02	64	Clam Cove (Glen Cove)	Rockport

TABLE 1: SCENIC AREAS SORTED BY SCORE (cont'd)

001-06	65	Belfast City	Belfast
010-10	65	Horseshoe Cove	Brooksville
004-06	65	Fort Knox St. Hist. Site	Prospect
005-13	66	East Side Cove	Deer Isle
002-01	66	Ash Island	Owls Head
012-14	66	Sedgwick Ridge	Sedgwick
001-10	67	Smith Cove	Penobscot
001-14	67	Sedgwick	Sedgwick
008-12	67	West Stonington	Stonington
011-11	68	Deer Isle Causeway	Deer Isle
002-12	68	Deer Isle Village	Deer Isle
002-03	68	Lincolnville Beach	Lincolnville
004-01	68	Crescent Beach	Owls Head
005-01	68	Owls Head Village	Owls Head
007-11	68	Sargent Hill	Sedgwick
004-07	68	Fort Point St. Park	Stockton Springs
001-11	69	South Brooksville	Brooksville
014-14	70	Allen Point	Blue Hill
007-10	70	Orr Cove	Brooksville
005-11	70	Deer Isle Bridge	Sedgwick
001-16	70	Morgan Bay	Surry
003-14	71	Haven	Brooklin
005-10	71	Goose Falls	Brooksville
009-01	71	Jameson Point	Rockport
010-12	71	Stonington Village	Stonington
002-15	73	Blue Hill Falls	Blue Hill
006-15	73	East Blue Hill	Blue Hill
008-11	73	Eggemoggin	Deer Isle
006-14	74	Flye Point	Brooklin
003-01	74	Crocket Point	Owls Head
003-15	75	Parker Point	Blue Hill
006-10	75	Harborside	Brooksville
009-10	76	Weir Cove	Brooksville
010-11	76	Weeds Point	Deer Isle
007-13	76	Oak Point	Deer Isle
004-15	77	Blue Hill Village	Blue Hill
002-11	77	Caterpillar Mountain	Sedgwick
002-16	77	Newbury Neck	Surry
005-02	78	Rockport Harbor	Rockport
008-10	79	Bakeman Beach	Brooksville
008-02	79	Camden Harbor	Camden
009-07	79	Wadsworth Cove	Castine
006-12	79	Mill Pond	Deer Isle

TABLE 1: SCENIC AREAS SORTED BY SCORE (cont'd)

008-13	80	Naskeag	Brooklin
017-12	81	Mountainville	Deer Isle
005-15	82	Blue Hill	Blue Hill
011-07	82	Castine Village	Castine
006-01	82	Owls Head	Owls Head
004-10	84	Indian Bar Point	Brooksville
010-02	88	Mount Battie (CHStPk)	Camden

TABLE 2: SCENIC AREAS SORTED BY TOWN

The following is a listing of all the Scenic Areas within the Penobscot Bay mainland study area, arranged by score for each of the municipalities.

CODE	SC	PLACE	TOWN
003-06	48	Park Hill	Belfast
001-06	65	Belfast City	Belfast
014-14	70	Allen Point	Blue Hill
002-15	73	Blue Hill Falls	Blue Hill
006-15	73	East Blue Hill	Blue Hill
003-15	75	Parker Point	Blue Hill
004-15	77	Blue Hill Village	Blue Hill
005-15	82	Blue Hill	Blue Hill
002-14	31	Bridges Point	Brooklin
004-14	48	Herrick Head	Brooklin
003-14	71	Haven	Brooklin
006-14	74	Flye Point	Brooklin
008-13	80	Naskeag	Brooklin
016-07	62	West Brooksville	Brooksville
010-10	65	Horseshoe Cove	Brooksville
001-11	69	South Brooksville	Brooksville
007-10	70	Orr Cove	Brooksville
005-10	71	Goose Falls	Brooksville
006-10	75	Harborside	Brooksville
009-10	76	Weir Cove	Brooksville
008-10	79	Bakeman Beach	Brooksville
004-10	84	Indian Bar Point	Brooksville
006-08	54	Bucksport Harbor	Bucksport
009-02	58	Camden Hills St. Park	Camden
008-02	79	Camden Harbor	Camden
010-02	88	Mount Battie (CHStPk)	Camden
007-07	55	Hatch Cove	Castine
009-07	79	Wadsworth Cove	Castine
011-07	82	Castine Village	Castine
015-12	47	Long Cove	Deer Isle
013-12	50	South Deer Isle	Deer Isle
003-12	51	Western Cove	Deer Isle
009-11	52	Blastow Cove	Deer Isle
012-11	59	Tinken Ledges	Deer Isle
004-12	59	Pressey Cove	Deer Isle

TABLE 2: SCENIC AREAS SORTED BY TOWN (cont'd)

005-13	66	East Side Cove	Deer Isle
011-11	68	Deer Isle Causeway	Deer Isle
002-12	68	Deer Isle Village	Deer Isle
008-11	73	Eggemoggin	Deer Isle
010-11	76	Weeds Point	Deer Isle
007-13	76	Oak Point	Deer Isle
006-12	79	Mill Pond	Deer Isle
017-12	81	Mountainville	Deer Isle
001-17	55	Ellsworth City	Ellsworth
002-03	68	Lincolnville Beach	Lincolnville
001-05	64	Bayside	Northport
010-08	39	Leaches Point	Orland
007-01	58	Ingraham Hill	Owls Head
002-01	66	Ash Island	Owls Head
004-01	68	Crescent Beach	Owls Head
005-01	68	Owls Head Village	Owls Head
003-01	74	Crocket Point	Owls Head
006-01	82	Owls Head	Owls Head
005-09	45	Johnson Point	Penobscot
006-07	47	West Penobscot	Penobscot
001-09	48	Battle Island	Penobscot
006-09	53	Bagaduce Falls	Penobscot
004-09	57	Penobscot Village	Penobscot
001-10	67	Smith Cove	Penobscot
004-06	65	Fort Knox St. Hist. Site	Prospect
008-01	60	Rockland	Rockland
006-02	52	Rockport Golf Course	Rockport
001-02	64	Clam Cove (Glen Cove)	Rockport
009-01	71	Jameson Point	Rockport
005-02	78	Rockport Harbor	Rockport
004-05	38	Searsport Road (Rt. 1)	Searsport
008-05	40	Mack Point	Searsport
006-05	49	Moose Point St. Park	Searsport
009-05	53	Sears Island Causeway	Searsport
007-05	62	Searsport Village	Searsport
013-14	50	North Sedgwick	Sedgwick
004-11	61	Sargentville	Sedgwick

TABLE 2: SCENIC AREAS SORTED BY TOWN (cont'd)

012-14	66	Sedgwick Ridge	Sedgwick
001-14	67	Sedgwick	Sedgwick
007-11	68	Sargent Hill	Sedgwick
005-11	70	Deer Isle Bridge	Sedgwick
002-11	77	Caterpillar Mountain	Sedgwick
002-07	51	Cape Jellison Farm	Stockton Springs
001-07	53	Mill Cove	Stockton Springs
001-08	60	Sandy Point	Stockton Springs
002-08	63	Mt. Tuck	Stockton Springs
004-07	68	Fort Point St. Park	Stockton Springs
007-12	42	Crockett Cove	Stonington
014-12	53	Hatch Cove	Stonington
012-12	54	Buckmaster Neck	Stonington
009-12	59	Moose Island	Stonington
008-12	67	West Stonington	Stonington
010-12	71	Stonington Village	Stonington
004-16	36	Surry	Surry
005-16	57	Contention Cove	Surry
001-16	70	Morgan Bay	Surry
002-16	77	Newbury Neck	Surry

TABLE 3: VIEWS OF A MAJOR ISLAND

The following is a list of places within the Penobscot Bay mainland where the primary focus of the view is a single large island, usually within the foreground or midground viewing range.

CODE	SC	PLACE	TOWN
009-11	52	Blastow Cove	Deer Isle
014-12	53	Hatch Cove	Stonington
002-01	66	Ash Island	Owls Head
011-11	68	Deer Isle Causeway	Deer Isle
004-01	68	Crescent Beach	Owls Head
005-01	68	Owls Head Village	Owls Head
001-11	69	South Brooksville	Brooksville
003-14	71	Haven	Brooklin
008-11	73	Eggemoggin	Deer Isle

TABLE 4: PRIMARY VIEW CONTAINS MANY ISLANDS

The following is a list of places within the Penobscot Bay mainland where the primary focus of the view are groupings of islands, primarily smaller ones within the foreground or midground viewing range.

CODE	SC	PLACE	TOWN
003-12	51	Western Cove	Deer Isle
004-12	59	Pressey Cove	Deer Isle
009-12	59	Moose Island	Stonington
005-13	66	East Side Cove	Deer Isle
005-10	71	Goose Falls	Brooksville
010-12	71	Stonington Village	Stonington
002-15	73	Blue Hill Falls	Blue Hill
006-14	74	Flye Point	Brooklin
009-10	76	Weir Cove	Brooksville
010-11	76	Weeds Point	Deer Isle
007-13	76	Oak Point	Deer Isle
006-12	79	Mill Pond	Deer Isle
008-13	80	Naskeag	Brooklin
017-12	81	Mountainville	Deer Isle
011-07	82	Castine Village	Castine
004-10	84	Indian Bar Point	Brooksville

TABLE 5: VIEWS OF MANY ISLANDS

The following is a list of places within the Penobscot Bay mainland where the view from the mainland contains many islands, both large and isolated, and small and scattered.

CODE	SC	PLACE	TOWN
003-12	51	Western Cove	Deer Isle
009-11	52	Blastow Cove	Deer Isle
014-12	53	Hatch Cove	Stonington
004-12	59	Pressey Cove	Deer Isle
009-12	59	Moose Island	Stonington
005-13	66	East Side Cove	Deer Isle
002-01	66	Ash Island	Owls Head
011-11	68	Deer Isle Causeway	Deer Isle
004-01	68	Crescent Beach	Owls Head
005-01	68	Owls Head Village	Owls Head
001-11	69	South Brooksville	Brooksville
003-14	71	Haven	Brooklin
005-10	71	Goose Falls	Brooksville
010-12	71	Stonington Village	Stonington
002-15	73	Blue Hill Falls	Blue Hill
008-11	73	Eggemoggin	Deer Isle
006-14	74	Flye Point	Brooklin
009-10	76	Weir Cove	Brooksville
010-11	76	Weeds Point	Deer Isle
007-13	76	Oak Point	Deer Isle
006-12	79	Mill Pond	Deer Isle
008-13	80	Naskeag	Brooklin
017-12	81	Mountainville	Deer Isle
011-07	82	Castine Village	Castine
004-10	84	Indian Bar Point	Brooksville

TABLE 6: RIVERS AND REACHES

The following is a listing of the places within the Penobscot Bay mainland study area where the primary water view is to a large river or reach. Most of these locations have relatively close opposite shorelines that are parallel to the viewing area.

CODE	SC	PLACE	TOWN
010-08	39	Leaches Point	Orland
005-09	45	Johnson Point	Penobscot
006-07	47	West Penobscot	Penobscot
001-09	48	Battle Island	Penobscot
006-09	53	Bagaduce Falls	Penobscot
012-11	59	Tinken Ledges	Deer Isle
001-08	60	Sandy Point	Stockton Springs
004-11	61	Sargentville	Sedgwick
016-07	62	West Brooksville	Brooksville
002-08	63	Mt. Tuck	Stockton Springs
004-06	65	Fort Knox St. Hist. Site	Prospect
011-11	68	Deer Isle Causeway	Deer Isle
004-07	68	Fort Point St. Park	Stockton Springs
005-11	70	Deer Isle Bridge	Sedgwick
003-14	71	Haven	Brooklin

TABLE 7: WATER VIEWS FROM HILLTOPS

The following is a listing of viewpoints from hilltops within the Penobscot Bay region where the viewer has a panorama of the Bay and the landscape surrounding it. The major focus of these viewpoints is the water view. This category of scenic areas needs further field investigation to ensure its completeness.

CODE	SC	PLACE	TOWN
002-08	63	Mt. Tuck	Stockton Springs
004-06	65	Fort Knox St. Hist. Site	Prospect
002-11	77	Caterpillar Mountain	Sedgwick
005-15	82	Blue Hill	Blue Hill
010-02	88	Mount Battie (CHStPk)	Camden

TABLE 8: OPEN VIEWS FROM HILLTOPS

The following is a listing of viewpoints from hilltops where the viewer has a panorama of the landscape within the Penobscot Bay region. The primary focus of these areas is the landscape; views of the Bay may be present but are clearly in the background. This category of scenic areas needs further field investigation to ensure its completeness.

CODE	SC	PLACE	TOWN
003-06	48	Park Hill	Belfast
012-14	66	Sedgwick Ridge	Sedgwick
007-11	68	Sargent Hill	Sedgwick

TABLE 9: COASTAL VILLAGES

The following is a listing of the major cities and towns within the Penobscot Bay mainland study area. Most of these municipalities have well defined waterfronts and a physical orientation to the Bay.

CODE	SC	PLACE	TOWN
013-14	50	North Sedgwick	Sedgwick
006-08	54	Bucksport Harbor	Bucksport
004-09	57	Penobscot Village	Penobscot
008-01	60	Rockland	Rockland
004-11	61	Sargentville	Sedgwick
007-05	62	Searsport Village	Searsport
001-06	65	Belfast City	Belfast
001-14	67	Sedgwick	Sedgwick
008-12	67	West Stonington	Stonington
002-12	68	Deer Isle Village	Deer Isle
002-03	68	Lincolnville Beach	Lincolnville
005-01	68	Owls Head Village	Owls Head
001-11	69	South Brooksville	Brooksville
010-12	71	Stonington Village	Stonington
004-15	77	Blue Hill Village	Blue Hill
005-02	78	Rockport Harbor	Rockport
008-02	79	Camden Harbor	Camden
011-07	82	Castine Village	Castine

TABLE 10: SETTLEMENTS

The following is a listing of the various settlements and cottage communities within the Penobscot Bay mainland study area. Settlements are smaller villages within a town, usually marked by a crossroad, a few commercial establishments, a church, and a handful of homes. Cottage communities are small scaled summer resorts, usually with a strong orientation to the Bay.

CODE	SC	PLACE	TOWN
013-12	50	South Deer Isle	Deer Isle
001-08	60	Sandy Point	Stockton Springs
001-05	64	Bayside	Northport
001-02	64	Clam Cove (Glen Cove)	Rockport
005-13	66	East Side Cove	Deer Isle
004-01	68	Crescent Beach	Owls Head
003-14	71	Haven	Brooklin
006-15	73	East Blue Hill	Blue Hill
008-11	73	Eggemoggin	Deer Isle
006-10	75	Harborside	Brooksville
006-12	79	Mill Pond	Deer Isle
008-13	80	Naskeag	Brooklin

TABLE 11: VILLAGES AND SETTLEMENTS

The following is a listing of the all the major cities,towns, cottage communities, and settlements within the Penobscot Bay mainland study area.

CODE	SC	PLACE	TOWN
013-12	50	South Deer Isle	Deer Isle
013-14	50	North Sedgwick	Sedgwick
006-08	54	Bucksport Harbor	Bucksport
004-09	57	Penobscot Village	Penobscot
008-01	60	Rockland	Rockland
001-08	60	Sandy Point	Stockton Springs
004-11	61	Sargentville	Sedgwick
007-05	62	Searsport Village	Searsport
001-05	64	Bayside	Northport
001-02	64	Clam Cove (Glen Cove)	Rockport
001-06	65	Belfast City	Belfast
005-13	66	East Side Cove	Deer Isle
001-14	67	Sedgwick	Sedgwick
008-12	67	West Stonington	Stonington
002-12	68	Deer Isle Village	Deer Isle
002-03	68	Lincolnville Beach	Lincolnville
004-01	68	Crescent Beach	Owls Head
005-01	68	Owls Head Village	Owls Head
001-11	69	South Brooksville	Brooksville
003-14	71	Haven	Brooklin
010-12	71	Stonington Village	Stonington
006-15	73	East Blue Hill	Blue Hill
008-11	73	Eggemoggin	Deer Isle
006-10	75	Harborside	Brooksville
004-15	77	Blue Hill Village	Blue Hill
005-02	78	Rockport Harbor	Rockport
008-02	79	Camden Harbor	Camden
006-12	79	Mill Pond	Deer Isle
008-13	80	Naskeag	Brooklin
011-07	82	Castine Village	Castine

TABLE 12: OPEN WATER VIEWS

The following is a listing of the places within the Penobscot Bay mainland study area where the view is to open ocean, or to islands that are within the background viewing range (greater than three miles).

CODE	SC	PLACE	TOWN
002-14	31	Bridges Point	Brooklin
006-05	49	Moose Point St. Park	Searsport
006-02	52	Rockport Golf Course	Rockport
009-02	58	Camden Hills St. Park	Camden
001-05	64	Bayside	Northport
002-03	68	Lincolnville Beach	Lincolnville
007-10	70	Orr Cove	Brooksville
009-01	71	Jameson Point	Rockport
006-10	75	Harborside	Brooksville
008-10	79	Bakeman Beach	Brooksville
006-01	82	Owls Head	Owls Head

TABLE 13: SEMI-ENCLOSED WATER

The following is a listing of the places within the Penobscot Bay mainland study area where the landforms, as seen from the primary public viewing location, seem to enclose a portion of the view. The areas with the higher scores are usually an indication of greater shoreline configuration.

CODE	SC	PLACE	TOWN
004-16	36	Surry	Surry
008-05	40	Mack Point	Searsport
007-12	42	Crockett Cove	Stonington
015-12	47	Long Cove	Deer Isle
004-14	48	Herrick Head	Brooklin
013-12	50	South Deer Isle	Deer Isle
003-12	51	Western Cove	Deer Isle
009-11	52	Blastow Cove	Deer Isle
009-05	53	Sears Island Causeway	Searsport
014-12	53	Hatch Cove	Stonington
001-17	55	Ellsworth City	Ellsworth
005-16	57	Contention Cove	Surry
007-01	58	Ingraham Hill	Owls Head
004-12	59	Pressey Cove	Deer Isle
009-12	59	Moose Island	Stonington
008-01	60	Rockland	Rockland
007-05	62	Searsport Village	Searsport
001-02	64	Clam Cove (Glen Cove)	Rockport
010-10	65	Horseshoe Cove	Brooksville
005-13	66	East Side Cove	Deer Isle
001-10	67	Smith Cove	Penobscot
008-12	67	West Stonington	Stonington
011-11	68	Deer Isle Causeway	Deer Isle
002-12	68	Deer Isle Village	Deer Isle
004-01	68	Crescent Beach	Owls Head
005-01	68	Owls Head Village	Owls Head
004-07	68	Fort Point St. Park	Stockton Springs
001-11	69	South Brooksville	Brooksville
005-11	70	Deer Isle Bridge	Sedgwick
001-16	70	Morgan Bay	Surry
005-10	71	Goose Falls	Brooksville
006-15	73	East Blue Hill	Blue Hill
003-01	74	Crocket Point	Owls Head
009-10	76	Weir Cove	Brooksville
007-13	76	Oak Point	Deer Isle
005-02	78	Rockport Harbor	Rockport
008-10	79	Bakeman Beach	Brooksville
008-02	79	Camden Harbor	Camden
009-07	79	Wadsworth Cove	Castine
008-13	80	Naskeag	Brooklin

TABLE 13: SEMI-ENCLOSED WATER (cont'd)

017-12	81	Mountainville	Deer Isle
011-07	82	Castine Village	Castine
004-10	84	Indian Bar Point	Brooksville

TABLE 14: ENCLOSED WATER VIEWS

The following is a listing of the places within the Penobscot Bay mainland study area where the landforms, as seen from the primary public viewing location, appear to enclose the body of water. The majority of these sites are relatively small in scale.

CODE	SC	PLACE	TOWN
013-14	50	North Sedgwick	Sedgwick
002-07	51	Cape Jellison Farm	Stockton Springs
001-07	53	Mill Cove	Stockton Springs
012-12	54	Buckmaster Neck	Stonington
007-07	55	Hatch Cove	Castine
004-09	57	Penobscot Village	Penobscot
002-12	68	Deer Isle Village	Deer Isle
014-14	70	Allen Point	Blue Hill
005-10	71	Goose Falls	Brooksville
003-15	75	Parker Point	Blue Hill
004-15	77	Blue Hill Village	Blue Hill
006-12	79	Mill Pond	Deer Isle
004-10	84	Indian Bar Point	Brooksville

TABLE 15: POINTS

The following is a listing of the places found within the Penobscot Bay mainland study area where the landform terminates in a point, usually jutting out into the Bay or a river. These points are visually significant because they often allow the observer to have a panoramic view of the water that greater than 180 degrees.

CODE	SC	PLACE	TOWN
004-07	68	Fort Point St. Park	Stockton Springs
009-01	71	Jameson Point	Rockport
008-11	73	Eggemoggin	Deer Isle
006-14	74	Flye Point	Brooklin
003-15	75	Parker Point	Blue Hill
010-11	76	Weeds Point	Deer Isle
007-13	76	Oak Point	Deer Isle
006-01	82	Owls Head	Owls Head

TABLE 16: INDUSTRIAL LANDSCAPES

The following is a listing of the places within the Penobscot Bay mainland study area where the view is primarily of working waterfronts.

CODE	SC	PLACE	TOWN
008-05	40	Mack Point	Searsport
006-08	54	Bucksport Harbor	Bucksport
008-01	60	Rockland	Rockland

TABLE 17: INTERMITTENT VIEWS

The following is a listing of the places within the Penobscot Bay mainland study area where views to the water occur over a protracted distance along a highway or other viewing location. However, the views are usually broken by tree cover or buildings, so the observer does not get the sense of a panoramic setting.

CODE	SC	PLACE	TOWN
004-05	38	Searsport Road (Rt. 1)	Searsport
010-08	39	Leaches Point	Orland
005-09	45	Johnson Point	Penobscot
006-07	47	West Penobscot	Penobscot
001-09	48	Battle Island	Penobscot
002-07	51	Cape Jellison Farm	Stockton Springs
004-11	61	Sargentville	Sedgwick
002-16	77	Newbury Neck	Surry
017-12	81	Mountainville	Deer Isle

TABLE 18: BRIDGES

The following is a listing of the significant bridges within the Penobscot Bay mainland study area. In several locations, e.g. the Deer Isle Bridge over Eggemoggin Reach, the design of the bridge contributes to the visual quality of the area.

CODE	SC	PLACE	TOWN
004-05	38	Searsport Road (Rt. 1)	Searsport
009-05	53	Sears Island Causeway	Searsport
002-08	63	Mt. Tuck	Stockton Springs
005-11	70	Deer Isle Bridge	Sedgwick
002-15	73	Blue Hill Falls	Blue Hill

TABLE 19: REVERSING FALLS

The following is a listing of the places within the Penobscot Bay mainland study area where reversing falls are within or near the public right of way and are easily seen by the public.

CODE	SC	PLACE	TOWN
006-09	53	Bagaduce Falls	Penobscot
005-10	71	Goose Falls	Brooksville
002-15	73	Blue Hill Falls	Blue Hill

TABLE 20: LIGHTHOUSES

The following is a listing of the lighthouses found within the Penobscot Bay mainland study area.

CODE	SC	PLACE	TOWN
004-07	68	Fort Point St. Park	Stockton Springs
009-01	71	Jameson Point	Rockport
008-11	73	Eggemoggin	Deer Isle
005-02	78	Rockport Harbor	Rockport
008-02	79	Camden Harbor	Camden
011-07	82	Castine Village	Castine
006-01	82	Owls Head	Owls Head

TABLE 21: BEACHES

The following is a listing of the beaches found within the Penobscot Bay mainland study area. While many of the beaches are suitable for swimming, several are coarser in texture and offer limited swimming opportunities. This listing does not differentiate between public beaches, private beaches that the public has rights to, and private beaches.

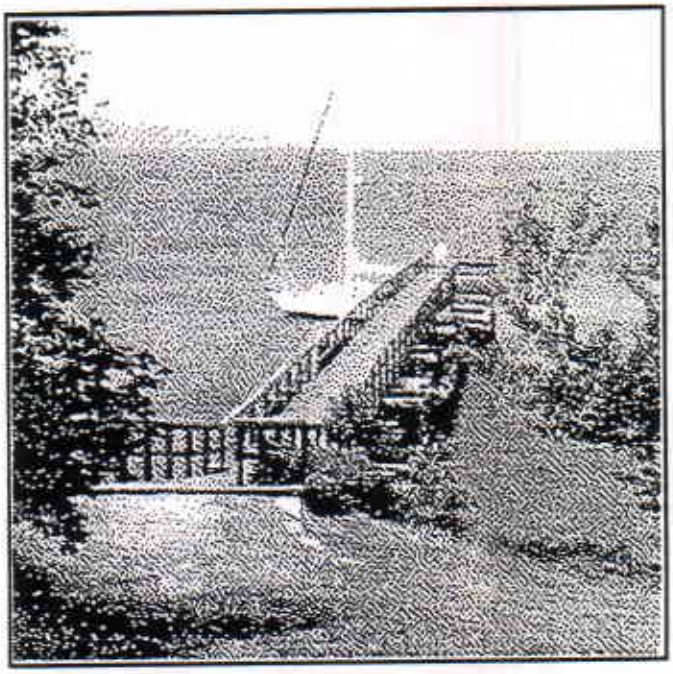
CODE	SC	PLACE	TOWN
009-11	52	Blastow Cove	Deer Isle
001-07	53	Mill Cove	Stockton Springs
005-16	57	Contention Cove	Surry
001-08	60	Sandy Point	Stockton Springs
007-05	62	Searsport Village	Searsport
002-01	66	Ash Island	Owls Head
002-03	68	Lincolnville Beach	Lincolnville
004-01	68	Crescent Beach	Owls Head
014-14	70	Allen Point	Blue Hill
007-10	70	Orr Cove	Brooksville
009-01	71	Jameson Point	Rockport
002-15	73	Blue Hill Falls	Blue Hill
008-11	73	Eggemoggin	Deer Isle
003-01	74	Crocket Point	Owls Head
003-15	75	Parker Point	Blue Hill
006-10	75	Harborside	Brooksville
007-13	76	Oak Point	Deer Isle
002-16	77	Newbury Neck	Surry
008-10	79	Bakeman Beach	Brooksville
009-07	79	Wadsworth Cove	Castine
006-12	79	Mill Pond	Deer Isle
008-13	80	Naskeag	Brooklin
017-12	81	Mountainville	Deer Isle
004-10	84	Indian Bar Point	Brooksville

TABLE 22: MOORINGS

The following is a listing of the places within the Penobscot Bay mainland study area where boats are moored, at least throughout the summer.

CODE	SC	PLACE	TOWN
002-14	31	Bridges Point	Brooklin
003-12	51	Western Cove	Deer Isle
006-08	54	Bucksport Harbor	Bucksport
001-17	55	Ellsworth City	Ellsworth
005-16	57	Contention Cove	Surry
007-01	58	Ingraham Hill	Owls Head
009-12	59	Moose Island	Stonington
008-01	60	Rockland	Rockland
007-05	62	Searsport Village	Searsport
001-06	65	Belfast City	Belfast
005-13	66	East Side Cove	Deer Isle
001-14	67	Sedgwick	Sedgwick
008-12	67	West Stonington	Stonington
002-12	68	Deer Isle Village	Deer Isle
002-03	68	Lincolnville Beach	Lincolnville
005-01	68	Owls Head Village	Owls Head
001-11	69	South Brooksville	Brooksville
010-12	71	Stonington Village	Stonington
006-15	73	East Blue Hill	Blue Hill
003-15	75	Parker Point	Blue Hill
009-10	76	Weir Cove	Brooksville
007-13	76	Oak Point	Deer Isle
004-15	77	Blue Hill Village	Blue Hill
002-16	77	Newbury Neck	Surry
005-02	78	Rockport Harbor	Rockport
008-02	79	Camden Harbor	Camden
006-12	79	Mill Pond	Deer Isle
008-13	80	Naskeag	Brooklin
004-10	84	Indian Bar Point	Brooksville

RECOMMENDATIONS



RECOMMENDATIONS

1. A list of scenic areas has been developed, based upon a scenic evaluation of the mainland sites of Penobscot Bay.

The object of the study was to identify those places within Bay which exhibit greater than normal visual quality. During the course of the evaluation approximately two hundred potential scenic areas were identified based upon a review of existing map data, using the criteria of landform, open land, shoreline configuration, special scenic features, and views to water. Following a series of field visits, which looked at landscape character, vegetation, and landscape composition, the list was narrowed down to the 92 sites which are described in the report. As a result of this process each of the sites was assigned a score, based upon a maximum of 100 points. The scores are considered a starting point in making a determination of relative importance for the Critical Areas Program.

2. Approximately one third of the site that were evaluated should be considered for inclusion in the Critical Areas Program, based upon their scenic quality.

Sites that scored in excess of 70 points are of statewide significance and should be considered for inclusion on the roster of Critical Areas As a result of this process each of the sites was assigned a score, based upon a maximum of 100 points. The scores are considered a starting point in making a determination of relative importance for the Critical Areas Program. The areas that scored the highest (33 received a score greater than 70) are clearly of state-wide significance, or greater. Images of these places have received national prominence through the talents of artists, painters, writers, and publishers. For many people these places represent a distillation of the best of Maine's landscape.

3. Additional field investigation is recommended for the second grouping of sites to determine if they warrant inclusion in the Critical Areas Program.

The second grouping of places are of high scenic quality, but may not warrant the designation of a Critical Area. Each of the sites (46 received a score between 50 and 69) should be evaluated on an individual basis for a final determination.

4. Additional field investigation is recommended to identify all sites of local significance.

The areas that scored in the lowest range (13 received a score between 30 and 49) are generally of local significance, relative to other areas within Penobscot Bay. The rather small number of sites is more a reflection of the initial filtering process than the aesthetic characteristics of the bay. Perhaps as many as one hundred or more additional sites could be

identified, using the methodology in this report, that have significance at a local level. In the long term it would be short-sighted on the part of local communities and the state to take steps to protect only those sites which rose to the top of the list, while allowing adjacent areas to become degraded. While Penobscot Bay is a rugged place, able to withstand the strongest forces of nature, it is also a place of great fragility. The places between the points of interest and scenic areas must be considered as an integral part of a highly scenic coastline.

5. The landscape of Penobscot Bay should be examined as a series of Scenic Sub-Regions, each with their own physiographic characteristics.

Penobscot Bay cannot be evaluated without an appreciation of the complexity of the landscape. The Bay is known for its open expanses of water and small tidal marshes, rounded islands and wooded mountains, cottage communities and bustling cities. While the Region is unified by the presence of Penobscot Bay, it is in reality a vast panorama of startling contrasts and well defined places. The concept of Scenic Sub-Regions was developed in recognition of the diversity of the landforms and waterbodies of Penobscot Bay. This concept enables it to be examined as a series of recognizable visual units, based upon common physical attributes, including landform, shoreline configuration, and settlement patterns. Eleven Sub-Regions have been identified and are mapped and described in detail in this report.

6. Management strategies for preservation of scenic character are recommended for all scenic areas identified.

In addition to describing and mapping each site, the report includes management recommendations where appropriate to guide local and state officials with specific actions to preserve or improve the visual environment. A number of site-specific recommendations are offered: additional parking, vegetation management to preserve open views, and provisions for public access. They also start to address policy issues that can have a long-term influence on the preservation of scenic quality: incorporation of visual standards into the review process for subdivisions and other development projects; recommendations for conservation easements for particularly vulnerable parts of a viewshed; a call for sensitivity on the part of DOT and others responsible for repair and replacement of the public infrastructure.

7. The inland areas surrounding Penobscot Bay need further assessment to characterize their visual qualities.

This study concentrated on those sites along the coastline which have direct views of Penobscot Bay and its many inlets and coves. The Penobscot Bay region is a composite of many types of landscapes, some spectacular, some mundane. While the views to the water represent the most vivid images of the region, a thorough understanding of Penobscot Bay demands a

comprehensive evaluation. Additional data needs to be gathered on the inland sites, the views from the hilltops, the wetlands and marshes, and the rivers and streams, to establish a base of information to use in the next generation. This data, along with the results of this study, should be incorporated into the State's Geographic Information System and made available to all interested parties.

8. The information contained in this report should be widely disseminated and used in both local and state-wide planning, design, and decision making.

The information gathered as part of this inventory, as well as subsequent visual assessments in Maine, should be available for a number of agencies and interest groups, among which are:

- The Critical Areas Program of the State Planning Office.
- The Maine Department of Environmental Protection, in evaluating the need for a Visual Impact Analysis for applications for Site Location of Development Permits. See Site Location of Development Law (38 MRSA Sec. 481 et. seq.) Chapter 375.14 No Unreasonable Effect on Scenic Character.
- The Land for Maine's Future Board, in evaluating parcels of land that may be nominated for purchase and setting priorities for acquisition.
- The Maine Department of Transportation, in designating Scenic Highways, rest areas, and scenic turnouts, and making improvements to MeDOT infrastructure.
- Local town officials, in evaluating the Viewshed Management Recommendations for specific actions to increase public access, both physical and visual.
- Local Planning Boards, in evaluating subdivisions and other development proposals that may have an impact on identified scenic areas.
- Local Comprehensive Planning Committees, in developing resource maps of their communities to show areas of visual sensitivity and ultimately coming up with long term plans for growth and rural areas.
- The Maine Coast Heritage Trust and Nature Conservancy, in formulating plans for acquisition and evaluating parcels of land.
- Local land trusts, in setting conservation priorities along the Maine Coast.

SCENIC SUB-REGIONS
SCENIC AREAS

SCENIC SUB-REGIONS AND SCENIC AREAS

Penobscot Bay is a powerful place of tremendous variety in its waterbodies, landforms, vegetation patterns, and cultural development. To ask a dozen people to describe the scenery would generate as many different responses. The landscape that makes up the bay can be appreciated on a number of levels. To a year-round resident the daily patterns of sunlight, storms, fog, and tides are ever-present reminders of the forces that have shaped the landscape. To the summer tourist the small villages and snug harbors offer a calm change of scenery that can refresh and renew the spirit. To the scenic evaluator the bay is a diverse assortment of highly configured shorelines, heights of land, and spruce covered islands. The landscape is vivid, largely intact, and highly unified.

The goal of this scenic inventory is to identify the major public scenic areas within Penobscot Bay. In examining the Bay it is useful to keep in mind the continuum between scenic regions and scenic elements that exist on the coast.

Scenic Regions: The section on Methods describes how Maine has been divided into a series of Regions, based upon The Natural Regions of Maine. (Adamus, 1978). Greater Penobscot Bay is Region III, characterized by the waters of the Bay, its numerous granitic islands and spruce covered shoreline.

Scenic Sub-Regions: Penobscot Bay cannot be evaluated without an appreciation of the complexity of the landscape. The Bay is known for its open expanses of water and small tidal marshes, rounded islands and wooded mountains, cottage communities and bustling cities. While the Region is unified by the presence of Penobscot Bay, it is in reality a vast panorama of startling contrasts and well defined places. The concept of Scenic Sub-Regions was developed in recognition of the diversity of Penobscot Bay. This concept allows it to be examined as a series of recognizable visual units, based upon common physical attributes, including landform, shoreline configuration, and settlement patterns. Eleven Sub-Regions have been identified:

West Penobscot Bay
Camden Hills
Belfast Bay
South Penobscot River
Bagaduce River
Cape Rosier
Deer Isle
Eggemoggin Reach
Blue Hill Bay
Union River Bay
South Union River

The inventory of scenic areas is organized by Sub-Regions. The introduction to each sub-region contains a location map and description of its physical characteristics.

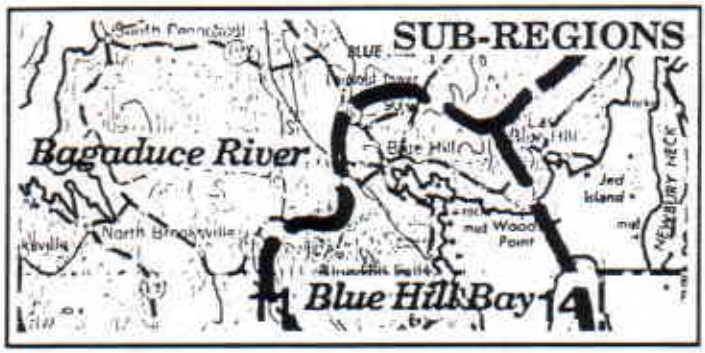
Scenic Areas: A Scenic Area is a place which exhibits a high degree of variety, harmony, and contrast among the basic visual elements, resulting in greater than normal visual quality. During the course of the desktop evaluation several hundred potential scenic areas were identified, based upon a review of landform, open land, shoreline configuration, special scenic features, and views to water. Following a series of field visits, which looked at landscape character, vegetation, and landscape composition, the list was winnowed down to the 92 sites which are described in the report. As a result of this process each of the sites was assigned a score, based upon a maximum of 100 points. The scores are considered a starting point in making a determination of relative importance for the Critical Areas Program. The areas that scored the highest (33 received a score greater than 70) are clearly of state-wide significance. A more detailed description of the recommendations can be found in the Results and Analysis chapter.

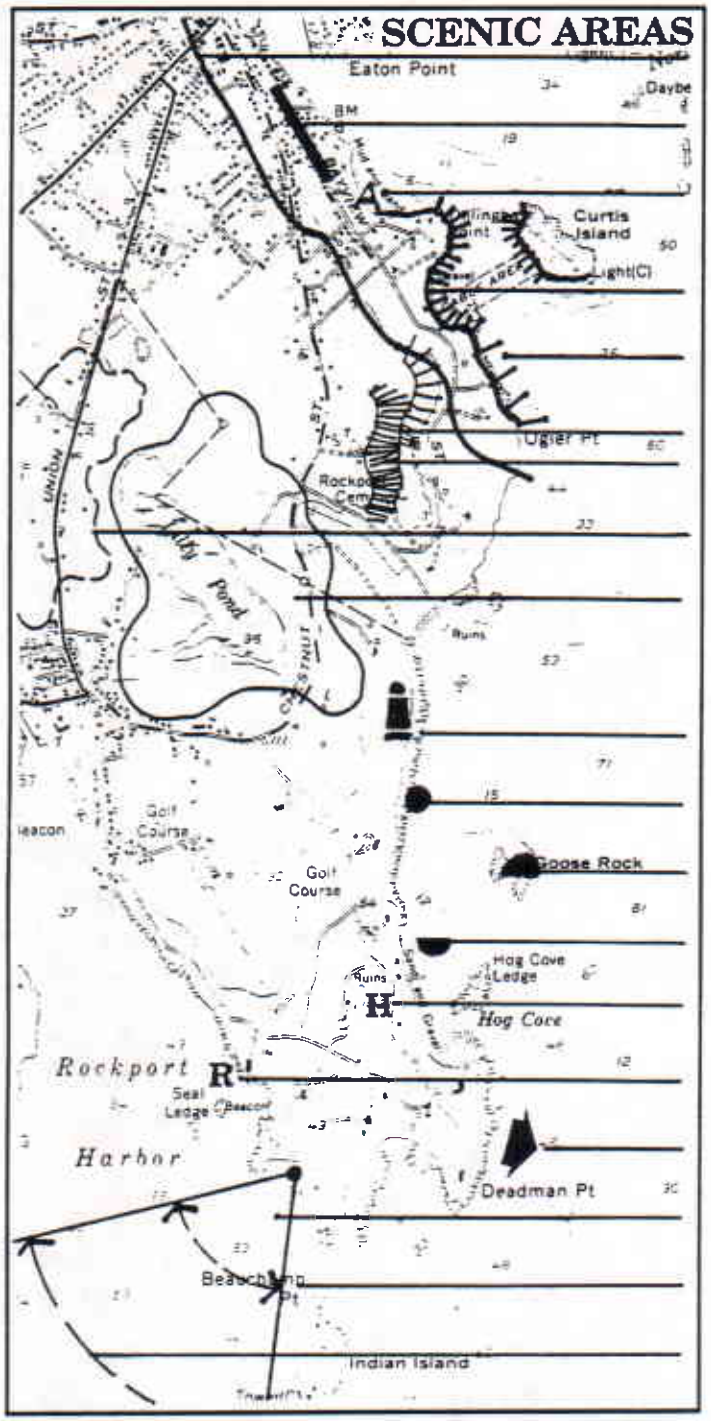
The concept of Distance Zones is important in examining scenery within an area. Foreground is the visible landscape within one quarter mile from the observer. At this range textures and gross details are easily discernible. Midground extends from the foreground to 3 miles from the observer. Textures, in the form of tree masses, islands, or flat expanses of water, combine in harmonious patterns to create scenes with vividness and unity. The elements in the midground range are often the most important in creating a scene of great visual interest. Background extends from the midground to infinity.

Scenic Sub-Areas: are the homogeneous layers of the landscape: the tidal marsh, the spruce woods at the edge of the bay, the collection of cottages, the sand beach. Their similarities strengthen their visual presence, while their individual differences enrich the texture of the landscape. These are the individual components that make up scenery as we understand it.

Scenic Element: The smallest unit of the landscape. Isolated features, such as the individual stone on a beach, the wildflower above a tidepool, or a solitary old cape hanging on to the edge of the cliff, create memorable images by themselves.

FIGURE 3 KEY TO MAPS





Sub-region Boundary

Location of Scenic Area

Topographic Map

Scenic Area Boundary

View from Public Road

Viewpoint

Shoreline Configuration
1/4 mile
1/2 mile

Slopes **> 25%**
> 40%

Elevation over 300'

Open Space > 50 Acres

Scenic Features

Lighthouse

Beach

Island

Mooring

Historic

Reversing Falls

Intermittent View

Angle of View

One Mile Radius

Three Mile Radius

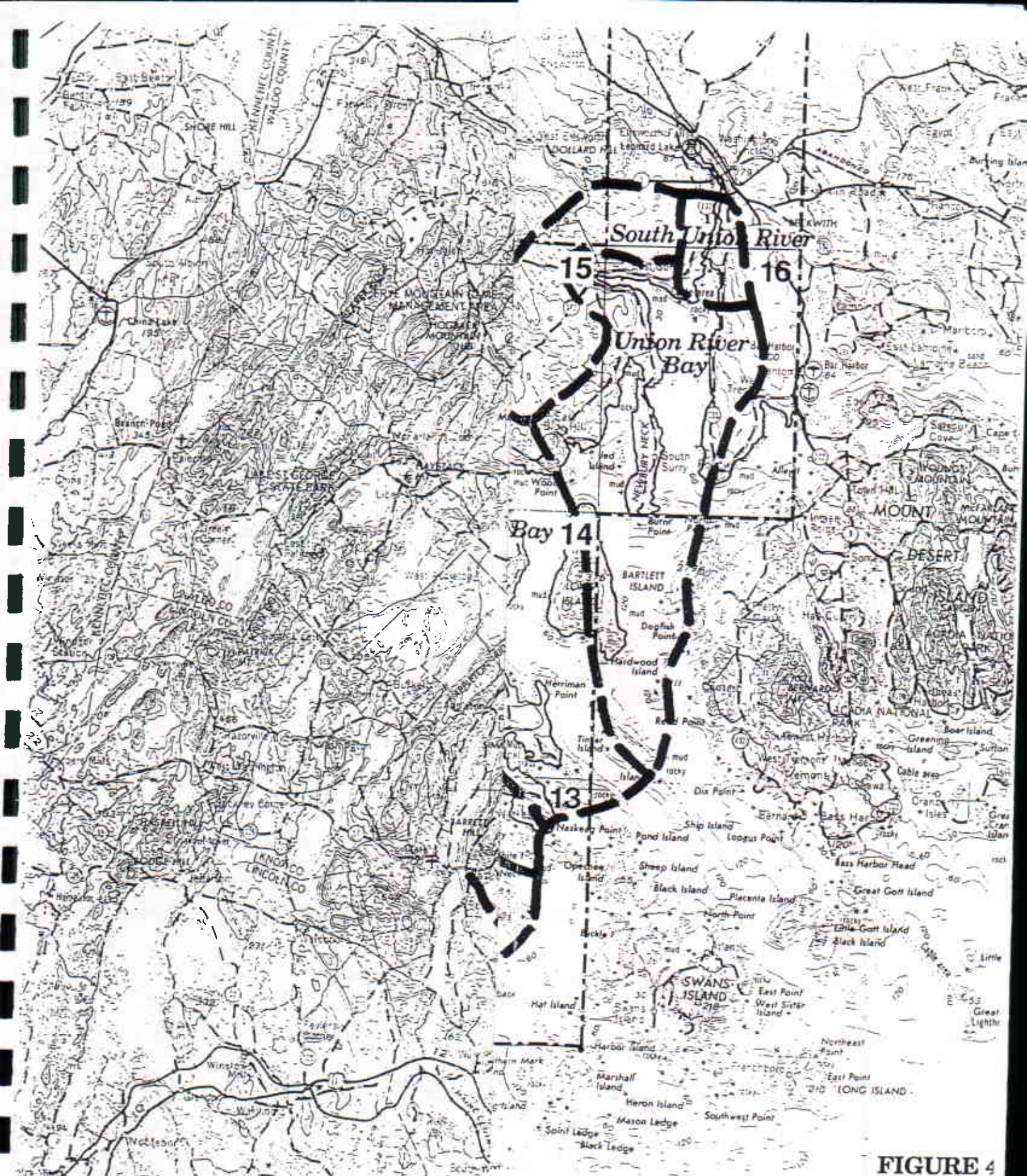
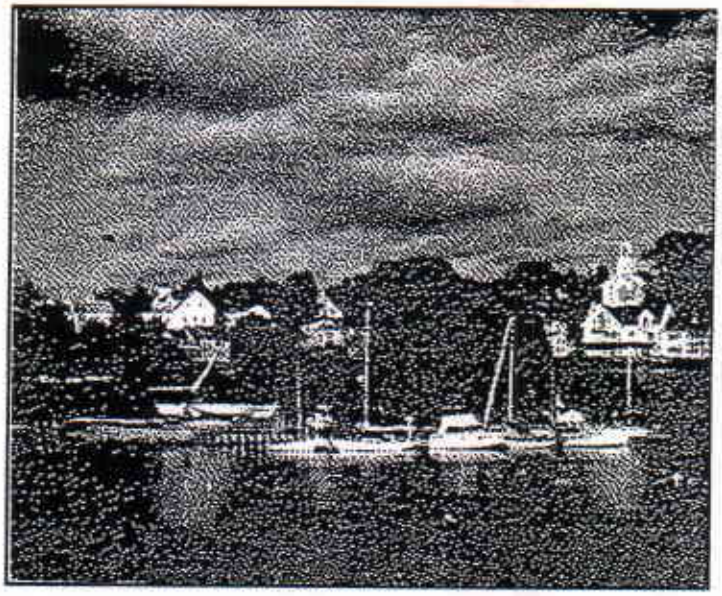


FIGURE 4

PENOBSCOT BAY SCENIC SUB-REGIONS

WEST PENOBSCOT BAY



Ash Island
Crockett Point
Crescent Beach
Owls Head Village
Owls Head
Ingraham Hill
Rockland
Jameson Point
Clam Cove
Rockport Harbor
Rockport Golf Course
Camden Harbor
Camden Hills State Park

Sub-Region Evaluation Form

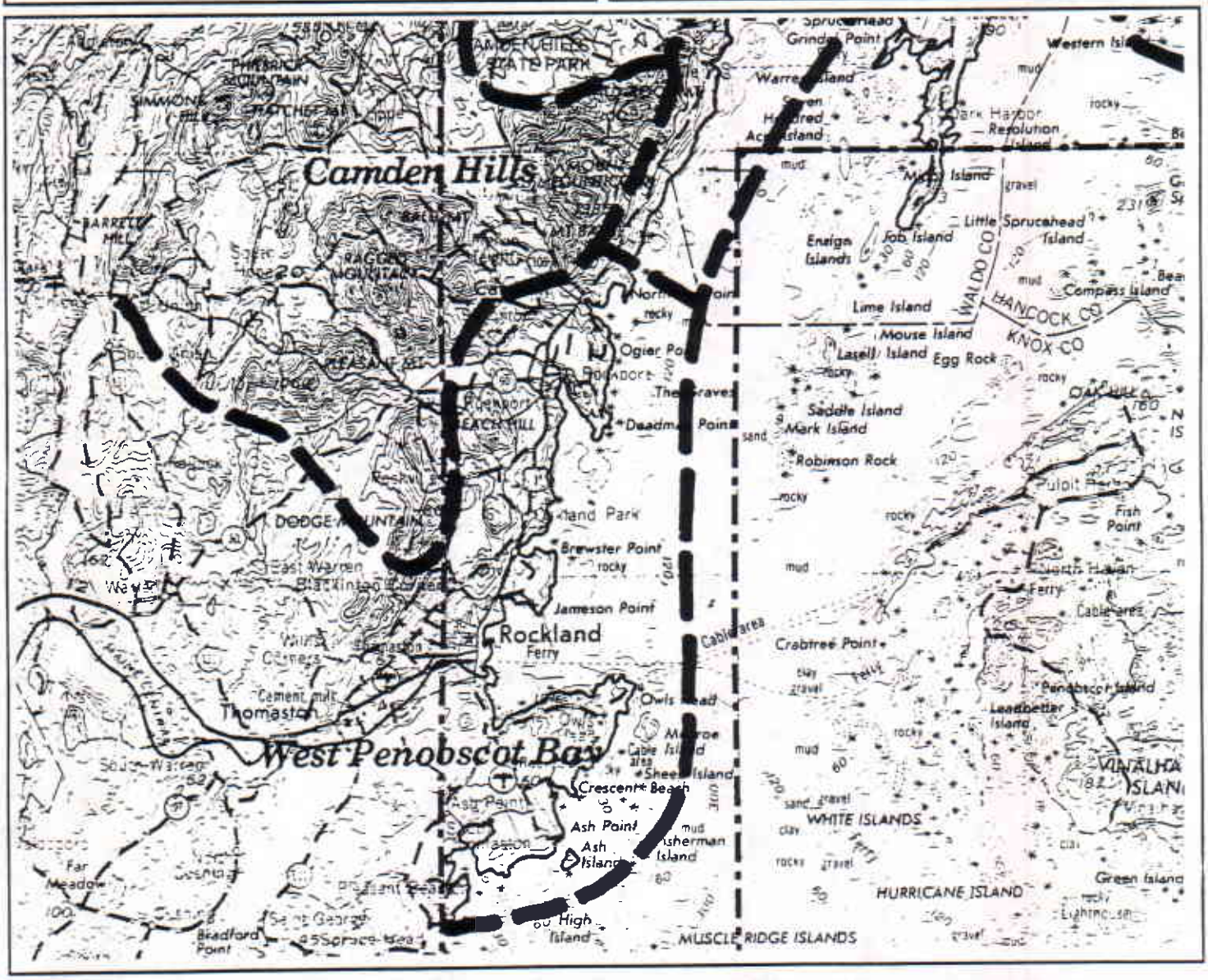
Sub-Region **West Penobscot Bay** Towns **Owl's Head/Rockland/Rockport/Camden** County **Knox**
1989 Coastal Scenic Inventory Maine State Planning Office

Sub-Region Description

West Penobscot Bay is characterized by a highly configured shoreline and many broad, semi-enclosed harbors, e.g. Rockland, Rockport, and Camden. The southwestern portion of Penobscot Bay has few islands immediately offshore, allowing the views to extend for 3-5 miles out to Vinalhaven. The proximity to Route One makes this subregion one of the most highly visible and easily accessible areas of the Bay. Public access opportunities are present throughout much of the subregion in the form of state parks, community parks, and walkways within the harbors. The harbors, lighthouses, points, and villages, are highly vivid images that are well known throughout the state.

Scenic Areas

Ash Island (002-01)
Crockett Point (003-01)
Crescent Beach (004-01)
Owls Head Village (005-01)
Owls Head (006-01)
Ingraham Hill (007-01)
Rockland (008-01)
Jameson Point (009-01)
Clam Cove (001-02)
Rockport Harbor (005-02)
Rockport Golf Course (006-02)
Camden Harbor (008-02)
Camden Hills State Park (009-02)



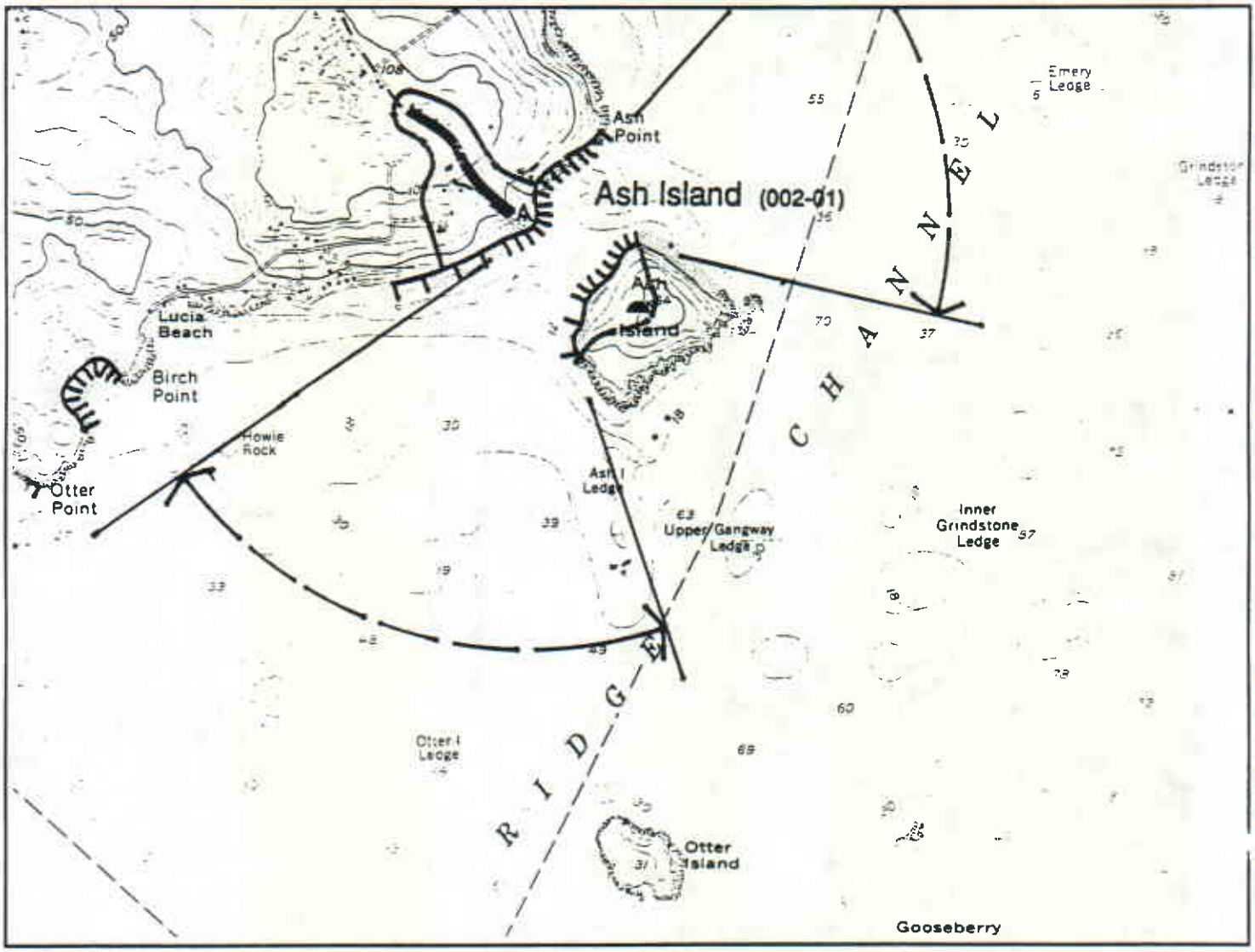
Scenic Area Evaluation Form

Scenic Area **Ash Island** Code **002-01** Town(s) **Owls Head** County **Knox**
1989 Coastal Scenic Inventory — Maine State Planning Office

SI	S	IP	Special Interest/Score/Indicators Present
			1.Landform Topography____Slope____
			2.Open Land
	6	X	3.Shoreline Configuration
X	9	X	4.Scenic Features (Ash Island/Beach)
X	27		5.Scenic Quality of Water
			Duration of View 9
			Type of Water 12
			Quality of Horizon 6
	42	3	**Desktop Subtotal**
	9		6.Landscape Character
			Land Use 3
			Roadside Characteristics 3
			Settlement Characteristics 3
	6		7.Vegetation
X	9		8.Composition & Effect
	66		**Total Score**
3			**Special Interest**

Viewshed Description Natural area with fairly recent residential development, public access to coarse stone beach . Neighborhood streets run perpendicular to the water providing views and access. Foreground includes residential structures and associated manicured landscape, beach, and spruce forest. Midground includes narrows and Ash Island. Background views are to open ocean and distant Muscle Ridge Islands. Well kept landscape in relatively private neighborhood with spectacular open ocean views.

Viewshed Management Recommendations Provide continued, limited public access while protecting semi-private character of neighborhood. Maintain forest cover on the ridgeline of Ash Island.



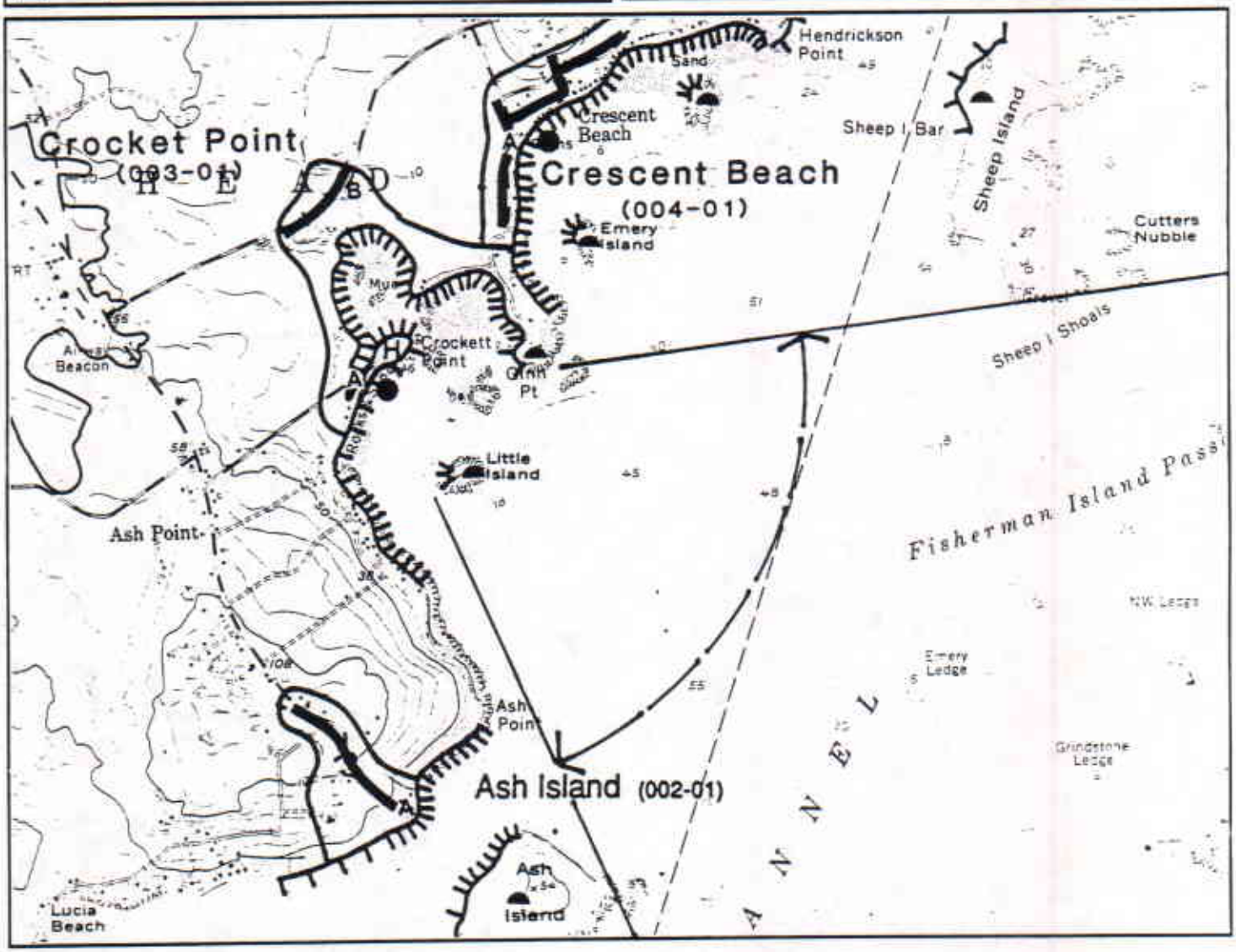
Scenic Area Evaluation Form

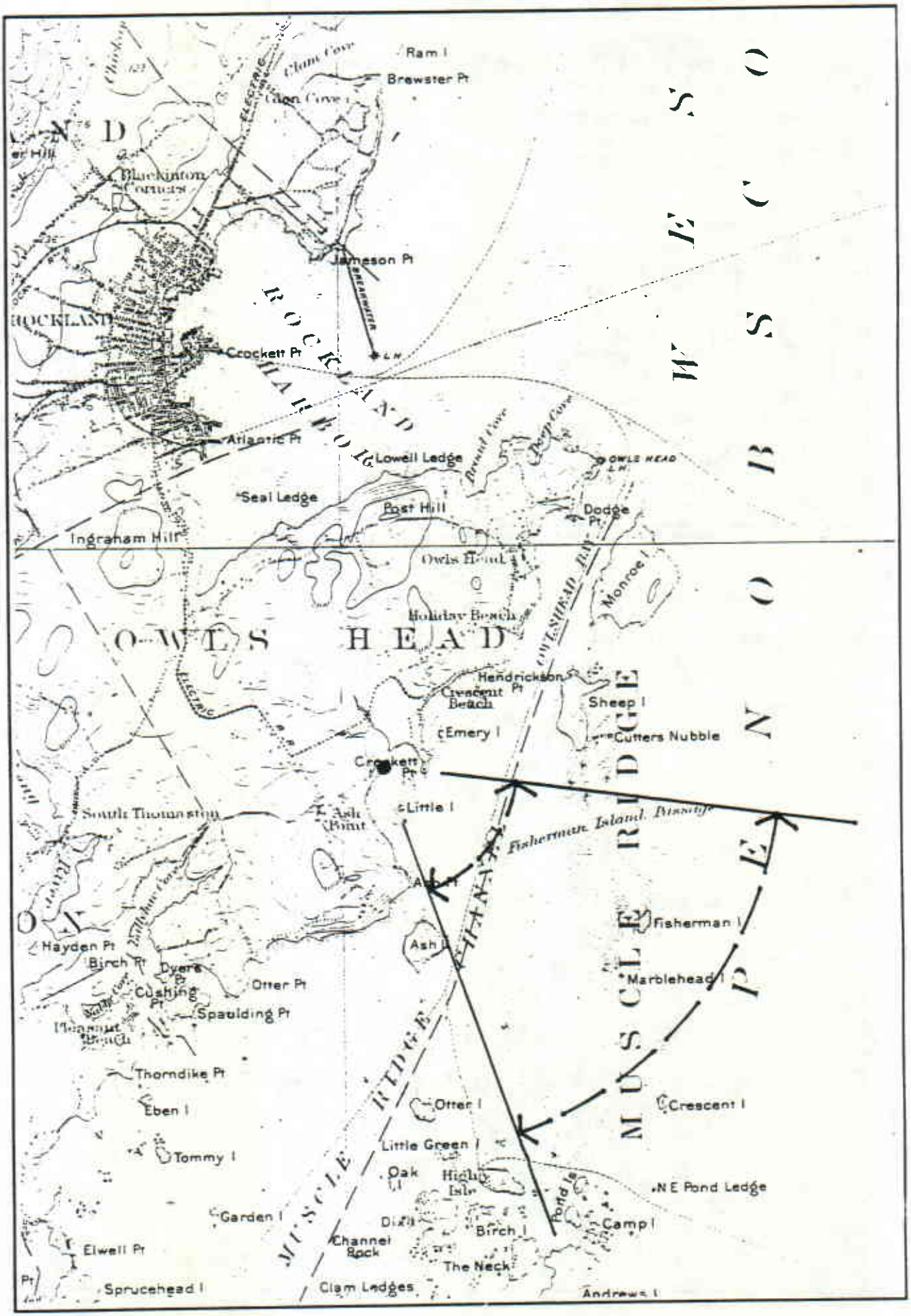
Scenic Area **Crockett Point** Code **003-01** Town(s) **Owls Head** County **Knox**
1989 Coastal Scenic Inventory — Maine State Planning Office

SI	S	IP	Special Interest/Score/Indicators Present
			1.Landform Topography____Slope____
			2.Open Land
	6	X	3.Shoreline Configuration
X	9	X	4.Scenic Features (Beach/Islands)
X	27		5.Scenic Quality of Water
			Duration of View 9
			Type of Water 12
			Quality of Horizon 6
	42	3	**Desktop Subtotal**
	14		6.Landscape Character
			Land Use 7
			Roadside Characteristics 1
			Settlement Characteristics 6
	9		7.Vegetation
	9		8.Composition & Effect
	74		**Total Score**
2			**Special Interest**

Viewshed Description Natural area with substantial residential development. Area includes salt marsh, historic and recent architecture, stone beach, and small mooring area. A one lane access road and a town road provide views and access to the beach and parking. Foreground elements include structures, salt marsh, parking, stone beach, the opposite shoreline and the waters of Fisherman Island Passage. Midground elements include small islands and the waters of Fisherman Island Passage with background views to open ocean with Muscle Ridge Islands on the horizon. The general landscape condition is fair to very good.

Viewshed Management Recommendations Define parking at the beach area.




Ram I
Brewster Pt
Clam Cove
Jameson Pt
BREAKWATER
ROCKLAND HARBOR
ROCKLAND
Crockett Pt
Blackington Corners
Atlantic Pt
Lowell Ledge
Broad Cove
Deep Cove
OWLS HEAD L.H.
Seal Ledge
Post Hill
Dodge Pt
Ingraham Hill
Owls Head
OWLS HEAD
Holiday Beach
Monroe I
OWLSHEAD BAY
Hendrickson Pt
Crescent Beach
Sheep I
Emery I
Cutters Nubble
Crockett Pt
South Thomaston
Ash Point
Little I
Fisherman Island Passage
Ash I
Fisherman I
Hayden Pt
Birch Pt
Dyers Pt
Cushing Pt
Otter Pt
Spaulding Pt
Marblehead I
Thorndike Pt
Eben I
Tommy I
Otter I
Crescent I
Little Green I
Oak I
High Isle
NE Pond Ledge
Garden I
Pond I
Camp I
Birch I
Channel Rock
The Neck
Elwell Pt
Spruce Head I
Clam Ledges
Andrews I
MUSCLE RIDGE CHANNEL
MUSCLE RIDGE

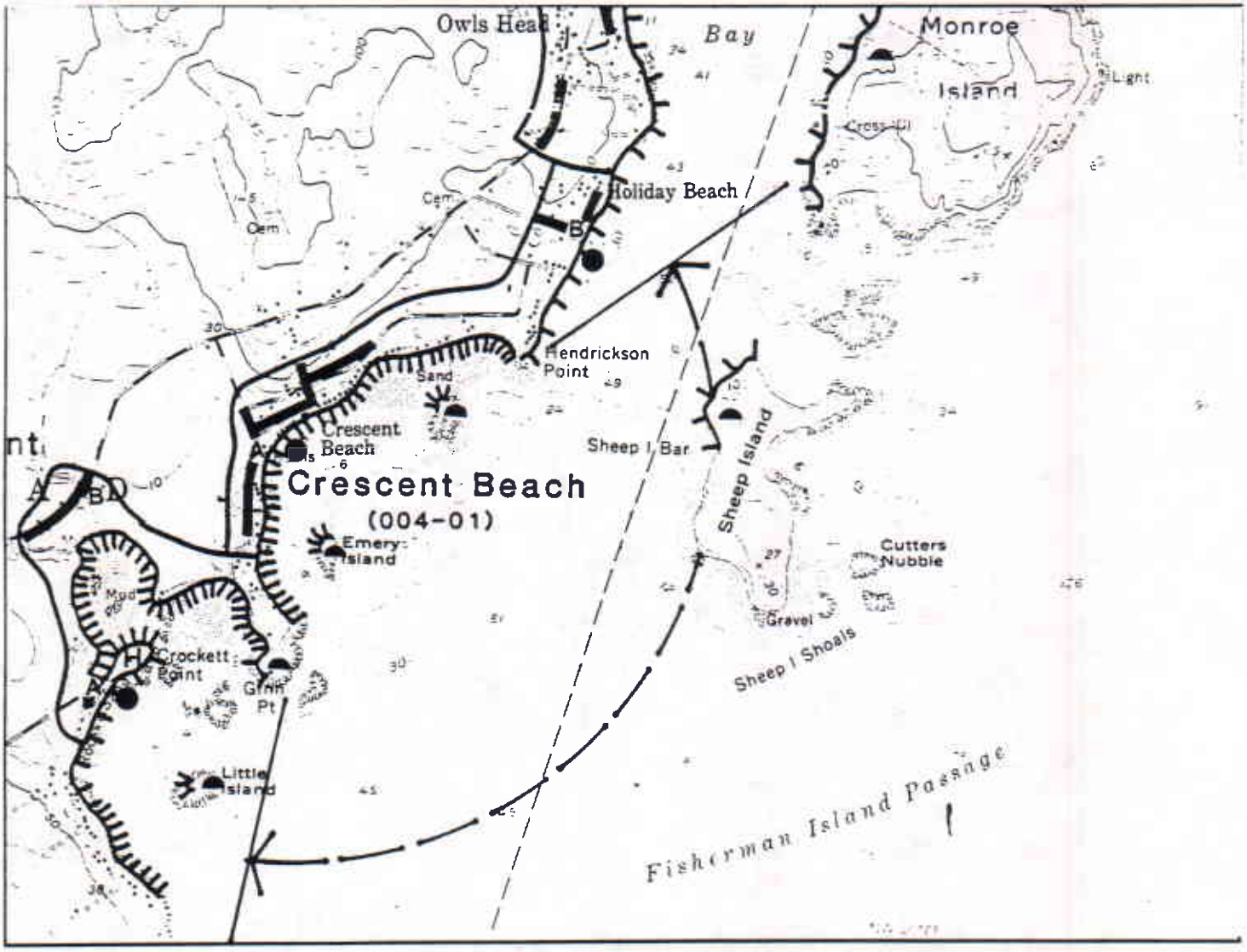
Scenic Area Evaluation Form

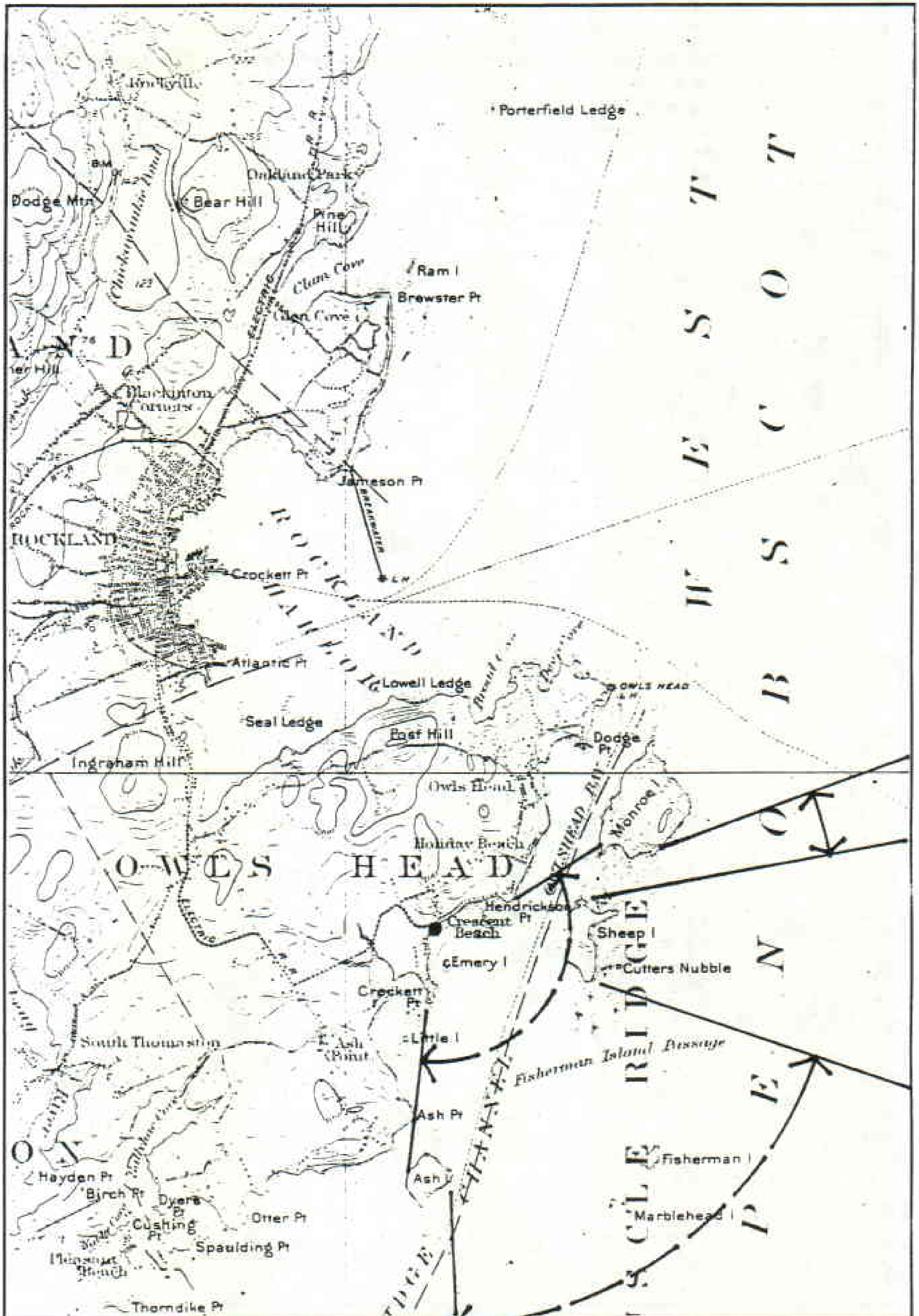
Scenic Area **Crescent Beach** Code **004-01** Town(s) **Owls Head** County **Knox**
1989 Coastal Scenic Inventory — Maine State Planning Office

SI	S	IP	Special Interest/Score/Indicators Present
			1.Landform Topography____Slope____
			2.Open Land
	6	X	3.Shoreline Configuration
X	9	X	4.Scenic Features (Islands, harbor, beach)
	27	■	5.Scenic Quality of Water
			Duration of View 7
			Type of Water 9
			Quality of Horizon 6
	39	3	**Desktop Subtotal**
	14	■	6.Landscape Character
		■	Land Use 5
		■	Roadside Characteristics 3
		■	Settlement Characteristics 6
	6	■	7.Vegetation
	9	■	8.Composition & Effect
■	68		**Total Score**
1	■	■	**Special Interest**

Viewshed Description Seaside cottage community on long stretch of stone beach. Local roads run parallel and perpendicular to the shore with two roads ending at the beach. Foreground is comprised of structures, lawns, stone beach, moorings, and small islands. Midground includes Sheep Island and the waters of Fisherman Island Passage. Background views are to the open ocean with the Muscle Shoals Islands on the horizon. General condition of the landscape is good to very good with a consistent architectural theme unifying the area.

Viewshed Management Recommendations Improve and define beach access parking.




Porterfield Ledge
Rockville
Oakland Park
Dodge Mtn
Bear Hill
Pine Hill
Clam Cove
Ram I
Brewster Pt
Glen Cove
Blackinton Corners
Jameson Pt
ROCKLAND
Crockett Pt
ROCKLAND HARBOR
Atlantic Pt
Lowell Ledge
Seal Ledge
Owls Head
Post Hill
Dodge Pt
Ingraham Hill
Monroe I
Holiday Beach
OWLS HEAD
Hendrickson Pt
Crescent Beach
Sheep I
Emery I
Cutters Nubble
Crockett Pt
Little I
South Thomaston
Ash Point
Fisherman Island Passage
Ash Pt
Ash I
Fisherman I
Hayden Pt
Birch Pt
Dyers Pt
Cushing Pt
Otter Pt
Marblehead I
Spaulding Pt
Pleasant Beach
Thorndike Pt
WEST PENOBSCOT BAY

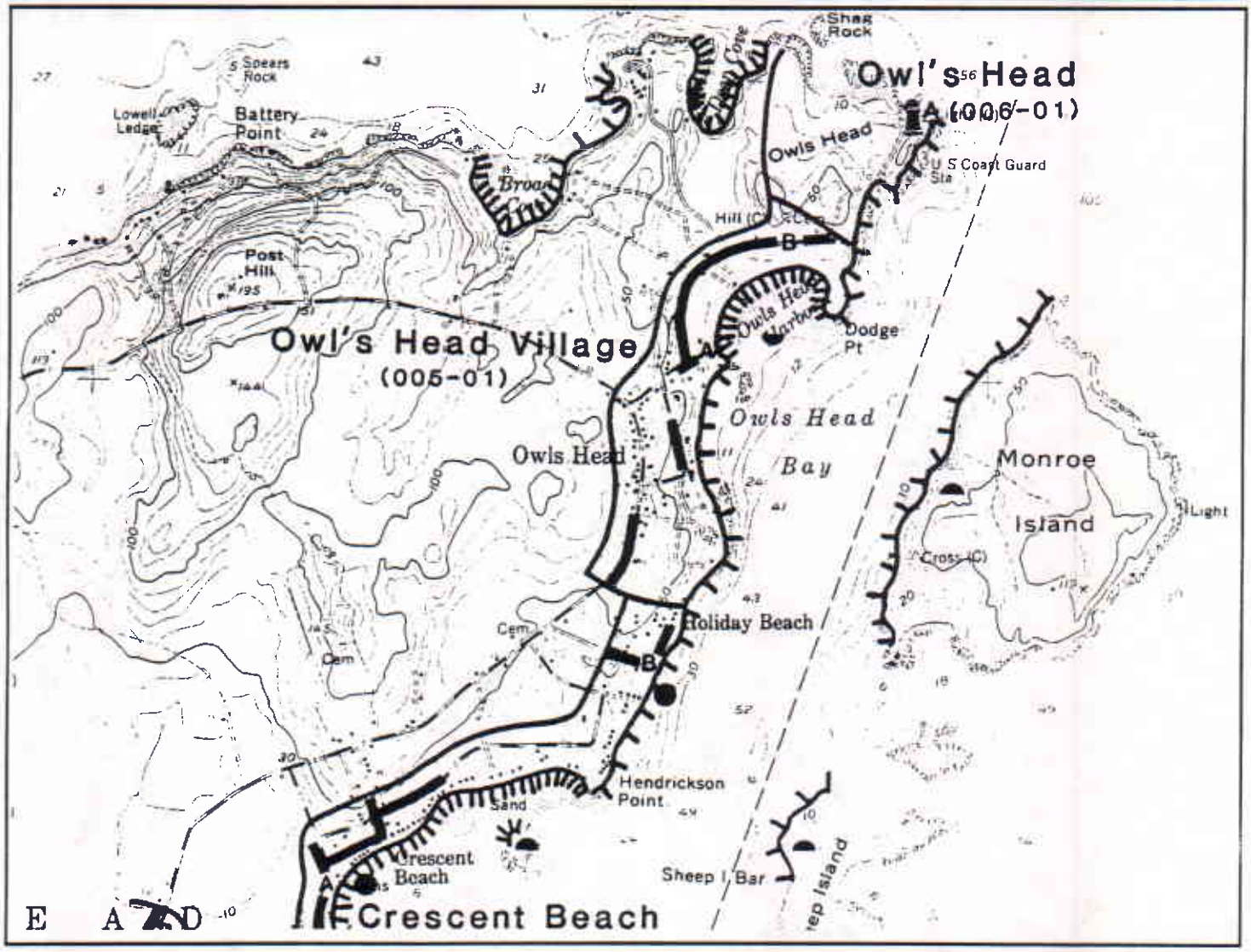
Scenic Area Evaluation Form

Scenic Area **Owls Head Village** Code **005-01** Town(s) **Owls Head** County **Knox**
1989 Coastal Scenic Inventory — Maine State Planning Office

SI	S	IP	Special Interest/Score/Indicators Present
			1.Landform Topography____Slope____
	3	X	2.Open Land
	6	X	3.Shoreline Configuration
	9	X	4.Scenic Features
	27		5.Scenic Quality of Water
			Duration of View 9
			Type of Water 12
			Quality of Horizon 6
	45	4	**Desktop Subtotal**
	11		6.Landscape Character
			Land Use 7
			Roadside Characteristics 1
			Settlement Characteristics 3
	3		7.Vegetation
	9		8.Composition & Effect
	68		**Total Score**
			Special Interest

Viewshed Description Small scaled coastal village in a relatively flat landscape, oriented toward the waters of Owls Head Bay. Long open vistas to the water and Monroe Island, immediately offshore, dominate the view from most of the village. Extensive fields reach to the waters edge. A well ordered settlement with a variety of lands uses, knit together by a balance of open spaces, vistas, local roads, and compatible building types.

Viewshed Management Recommendations Maintain the open fields through a combination of protective covenants and ordinances that encourage open space preservation. Protect westerly side of Monroe Island that is within viewshed of village.



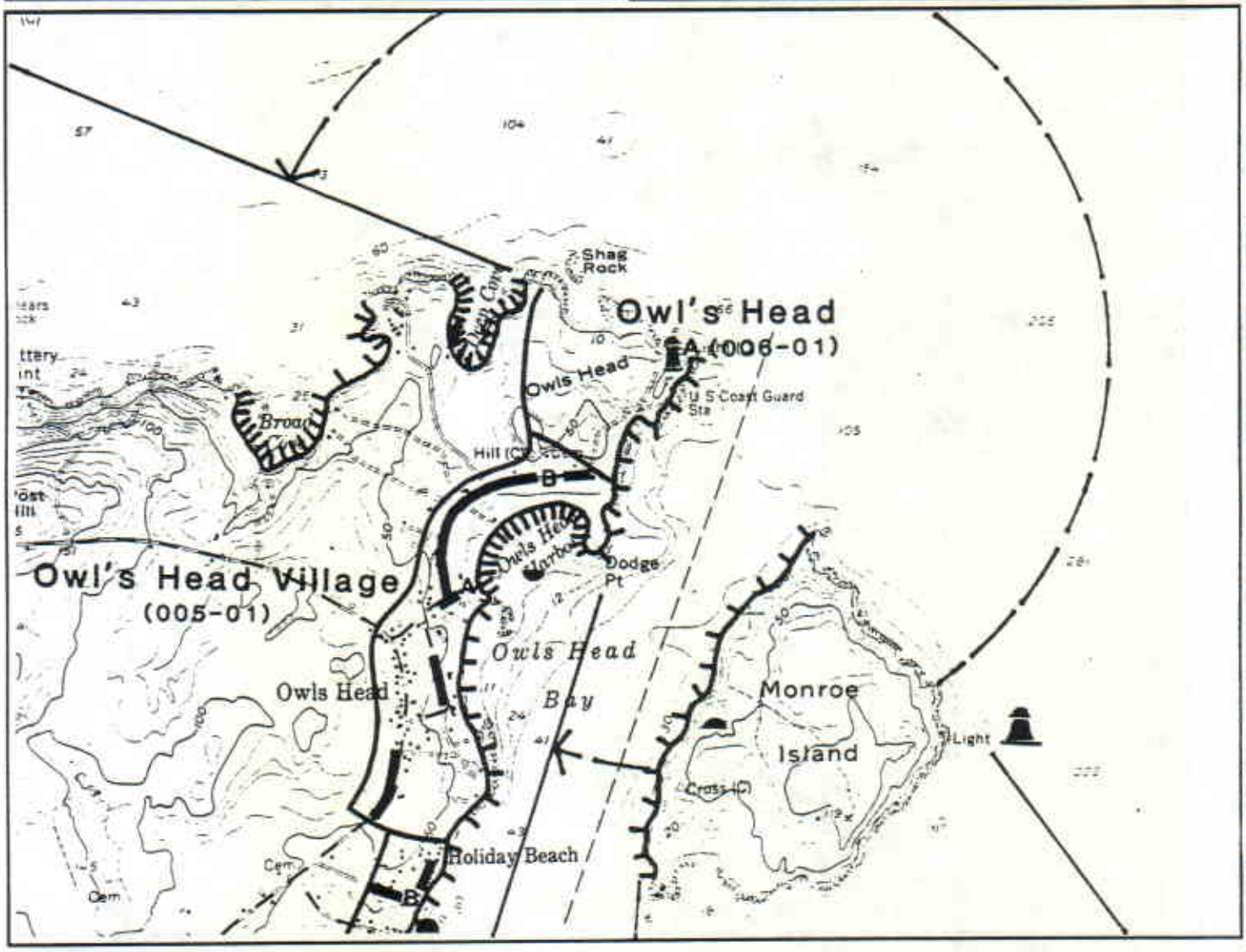
Scenic Area Evaluation Form

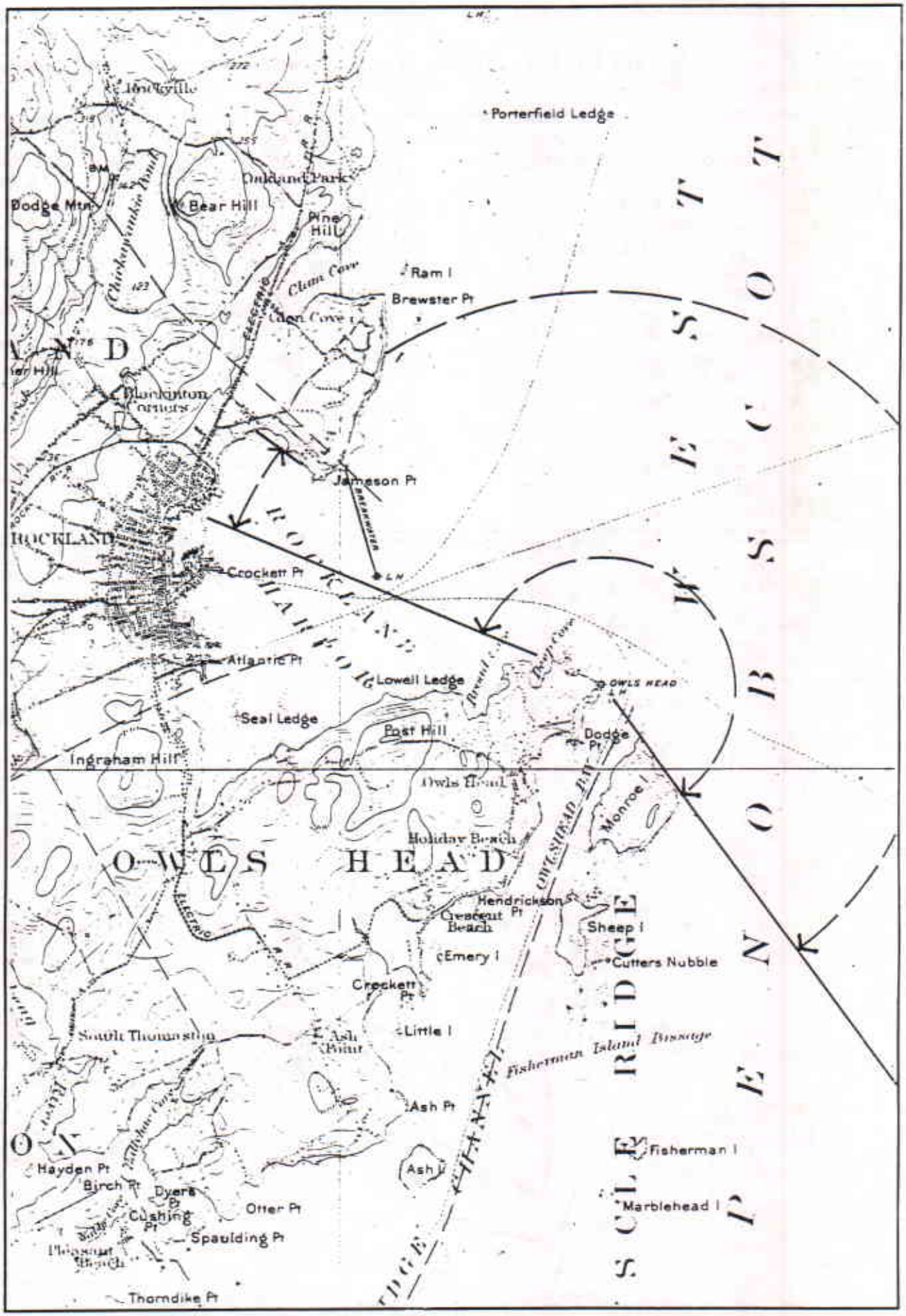
Scenic Area **Owls Head** Code **006-01** Town(s) **Owls Head** County **Knox**
1989 Coastal Scenic Inventory — Maine State Planning Office

SI	S	IP	Special Interest/Score/Indicators Present
	3	X	1.Landform Topography____Slope 3
			2.Open Land
	3	X	3.Shoreline Configuration
	9	X	4.Scenic Features
X	27		5.Scenic Quality of Water
			Duration of View 9
			Type of Water 12
			Quality of Horizon 6
	42	3	**Desktop Subtotal**
X	22		6.Landscape Character
			Land Use 7
			Roadside Characteristics 6
			Settlement Characteristics 9
	9		7.Vegetation
X	9		8.Composition & Effect
	82		**Total Score**
3			**Special Interest**

Viewshed Description A highly diverse, rich landscape, featuring a bold, rocky coastline with steep topography, a sand beach, and a variety of viewing opportunities. A narrow tree lined road terminates at the Owls Head Light, a well kept, popular lookout point. High levels of contrast between open fields and dense evergreen forest; developed landscape and the open ocean; pounding surf and a pounded shoreline. The view extends westerly to Vinalhaven and North Haven. One of the most vivid and memorable landscapes in Penobscot Bay.

Viewshed Management Recommendations Continued high level of maintenance along public access routes to the light. Protective covenants within the viewshed. Strict limitations on development activities to minimize visual impacts on the point.




Porterfield Ledge
Bear Hill
Pine Hill
Ram I
Brewster Pt
Jameson Pt
Crockett Pt
Atlantic Pt
Lowell Ledge
Seal Ledge
Post Hill
Dodge Pt
Ingraham Hill
Owls Head
Holiday Beach
Hendrickson Pt
Crescent Beach
Sheep I
Emery I
Cutters Nubble
Crockett Pt
Little I
South Thomaston
Ash Point
Ash Pt
Fisherman I
Ash I
Marblehead I
Hayden Pt
Birch Pt
Dyers Pt
Cushing Pt
Otter Pt
Spaulding Pt
Thorndike Pt
ROCKLAND
OWLS HEAD
PENOBSCOT BAY
OWLSHEAD BAY
Fisherman Island Passage

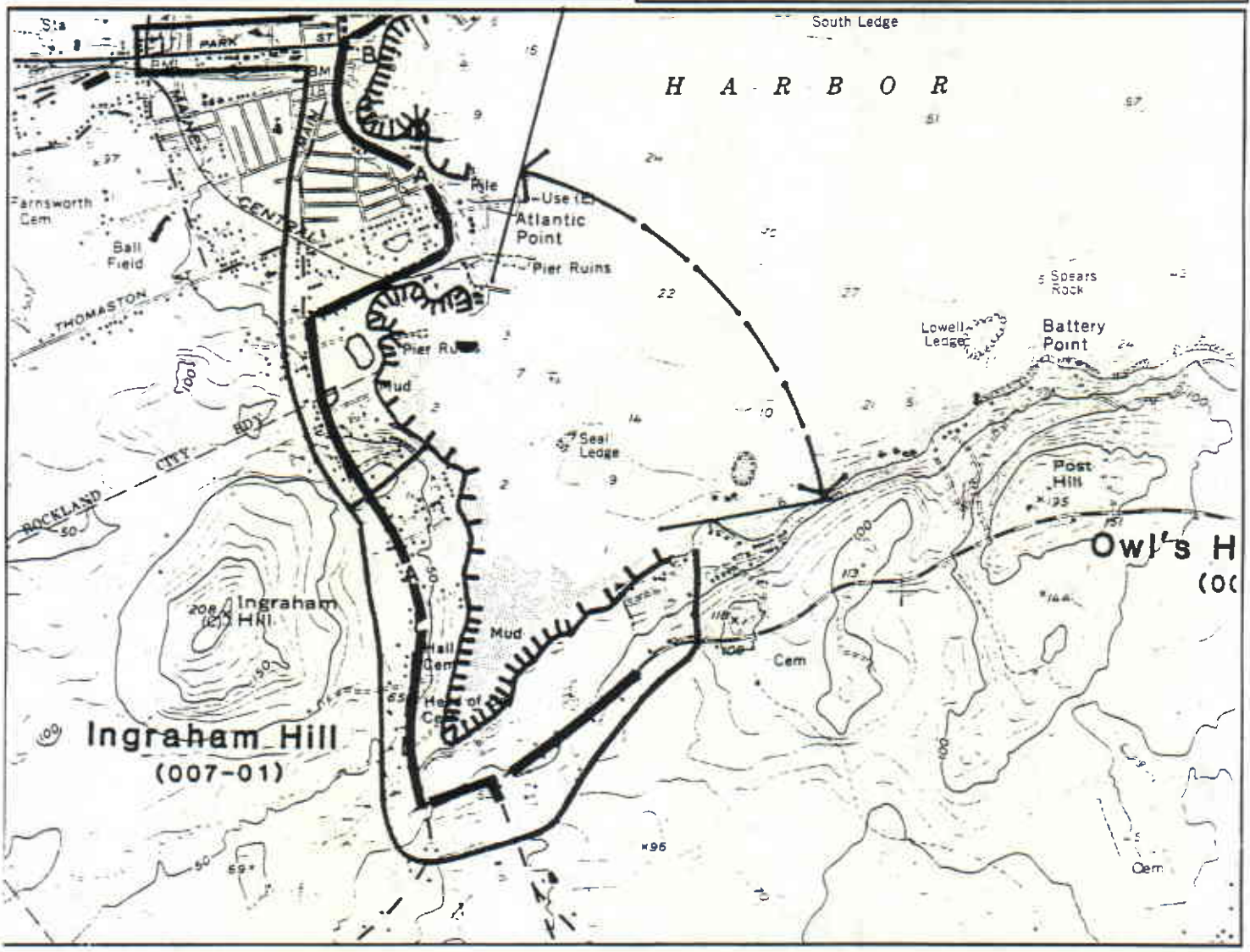
Scenic Area Evaluation Form

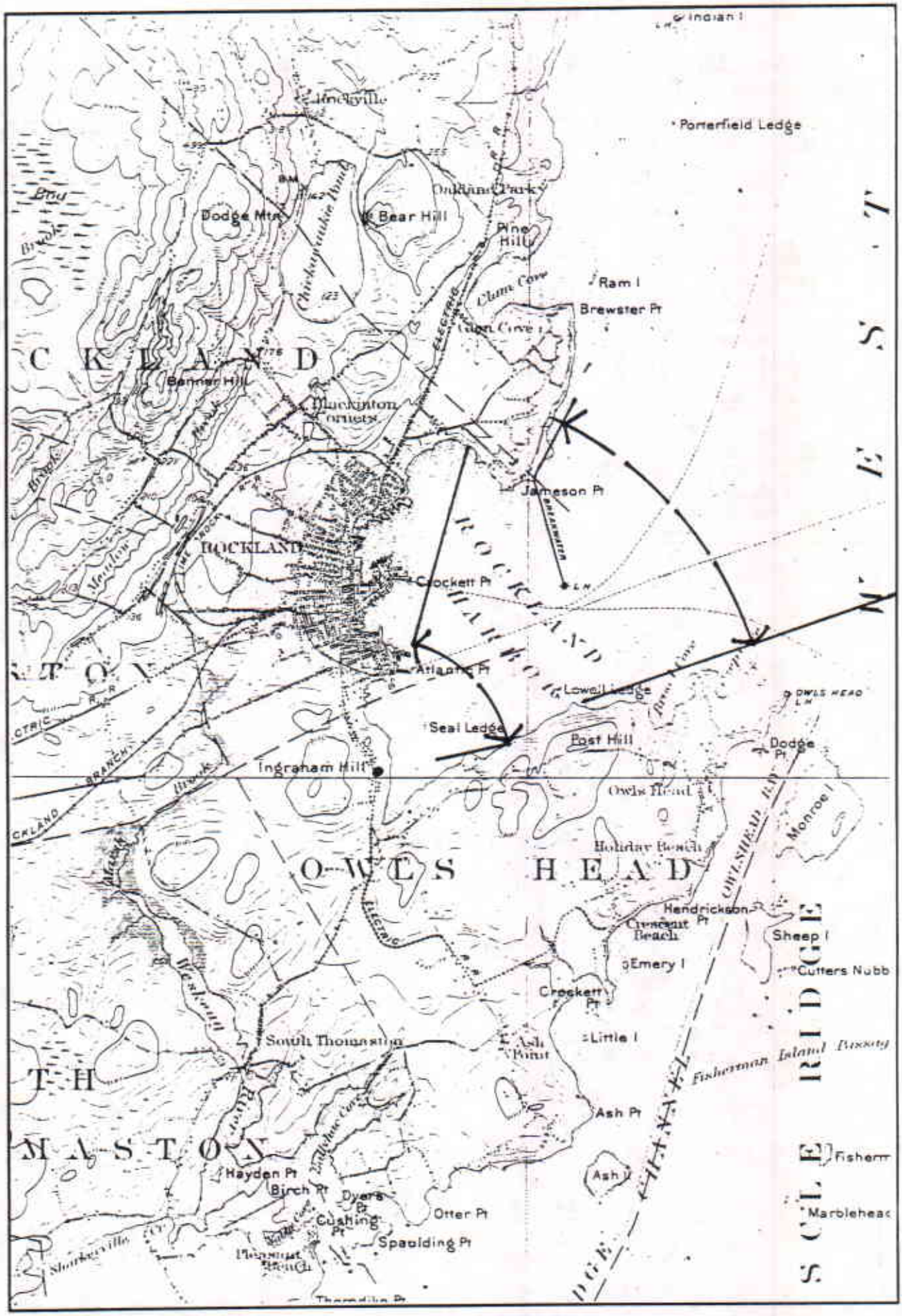
Scenic Area **Ingraham Hill** Code **007-01** Town(s) **Owls Head** County **Knox**
1989 Coastal Scenic Inventory — Maine State Planning Office

SI	S	IP	Special Interest/Score/Indicators Present
			1.Landform Topography____Slope____
	4	X	2.Open Land
	6	X	3.Shoreline Configuration
	6	X	4.Scenic Features
	27		5.Scenic Quality of Water
			Duration of View 6
			Type of Water 12
			Quality of Horizon 9
	43	4	**Desktop Subtotal**
	9		6.Landscape Character
			Land Use 5
			Roadside Characteristics 1
			Settlement Characteristics 3
	3		7.Vegetation
	3		8.Composition & Effect
	58		**Total Score**
			Special Interest

Viewshed Description Rural area with substantial residential and limited commercial development. Mix of recent and historic architecture. Filtered views of the water are seen between structures and vegetation from the State highway. Foreground elements include meadows, manicured landscape, structures, overgrown fields, and the waters of Rockland Harbor. Midground includes the waters of Rockland Harbor, the opposite shoreline, and lighthouse/breakwater. Background views are to the waters of Penobscot Bay with distant islands and hills on the horizon. The general landscape condition is fair to good. Several recent structures and landscape elements screen views.

Viewshed Management Recommendations
Continued maintenance.




Indian I
Pomerfield Ledge
Dodge Mtn
Bear Hill
Pine Hill
Ram I
Brewster Pt
Banner Hill
Jameson Pt
ROCKLAND
Crockett Pt
Atlantic Pt
Lowell Ledge
Seal Ledge
Post Hill
Dodge Pt
Ingraham Hill
Owls Head
Holiday Beach
OWLS HEAD
Monroe I
Hendrickson Pt
Crescent Beach
Sheep I
Emery I
Cutters Nubb
Crockett Pt
Little I
South Thomaston
Ash Point
Fisherman Island Passage
Ash Pt
THOMASTON
Hayden Pt
Birch Pt
Dyers Pt
Cushing Pt
Otter Pt
Spaulding Pt
Marblehead

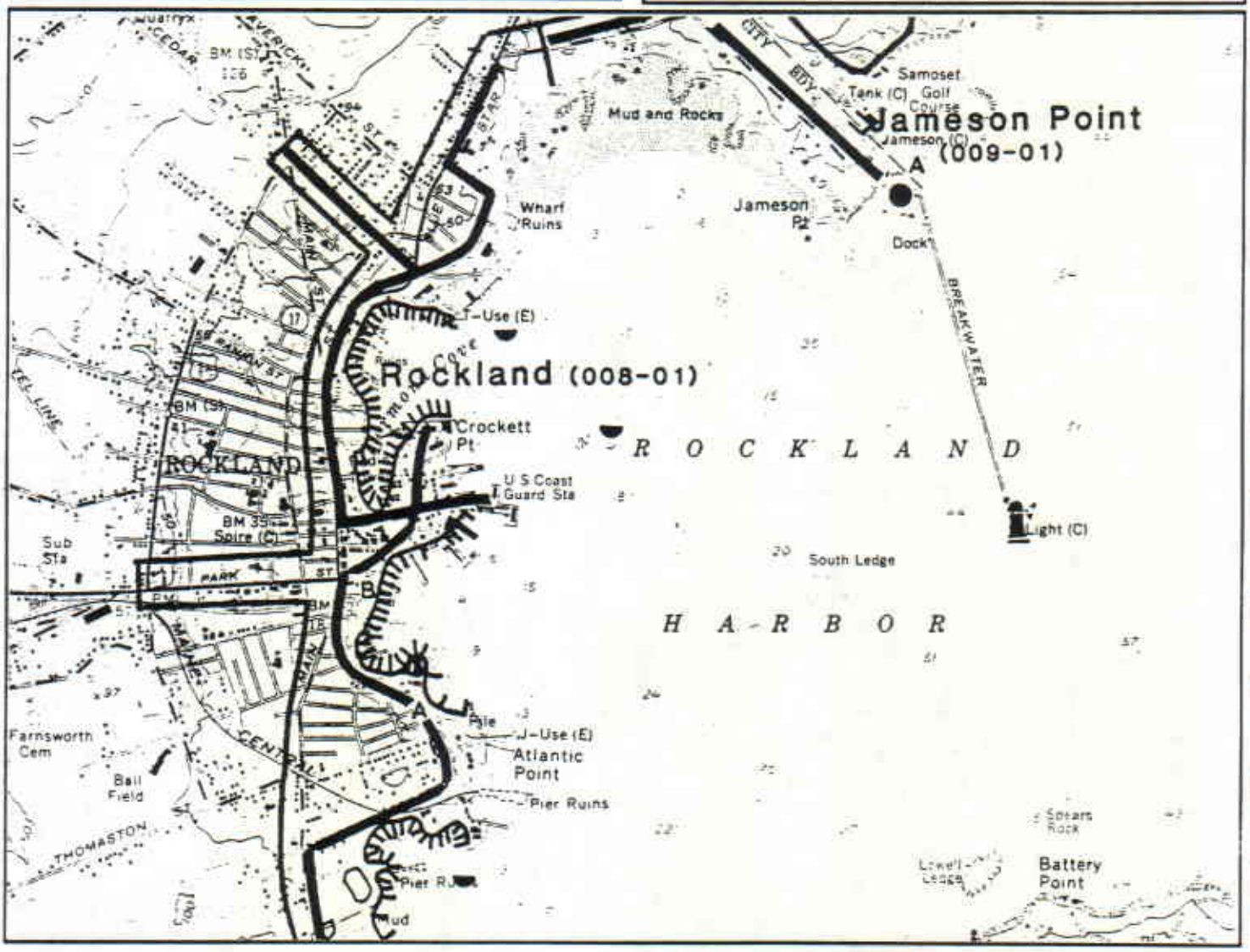
Scenic Area Evaluation Form

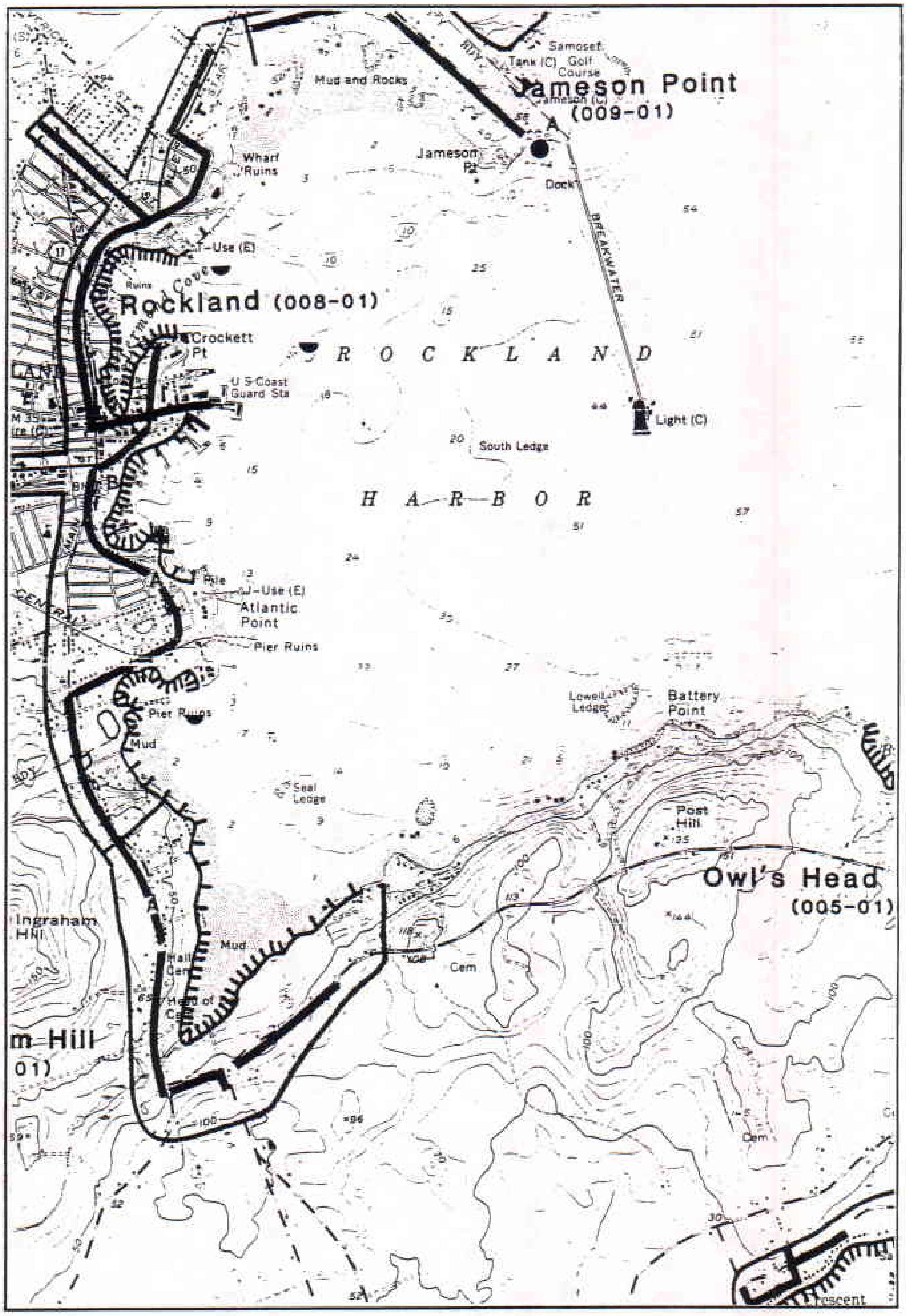
Scenic Area **Rockland** Code **008-01** Town(s) **Rockland** County **Knox**
1989 Coastal Scenic Inventory — Maine State Planning Office

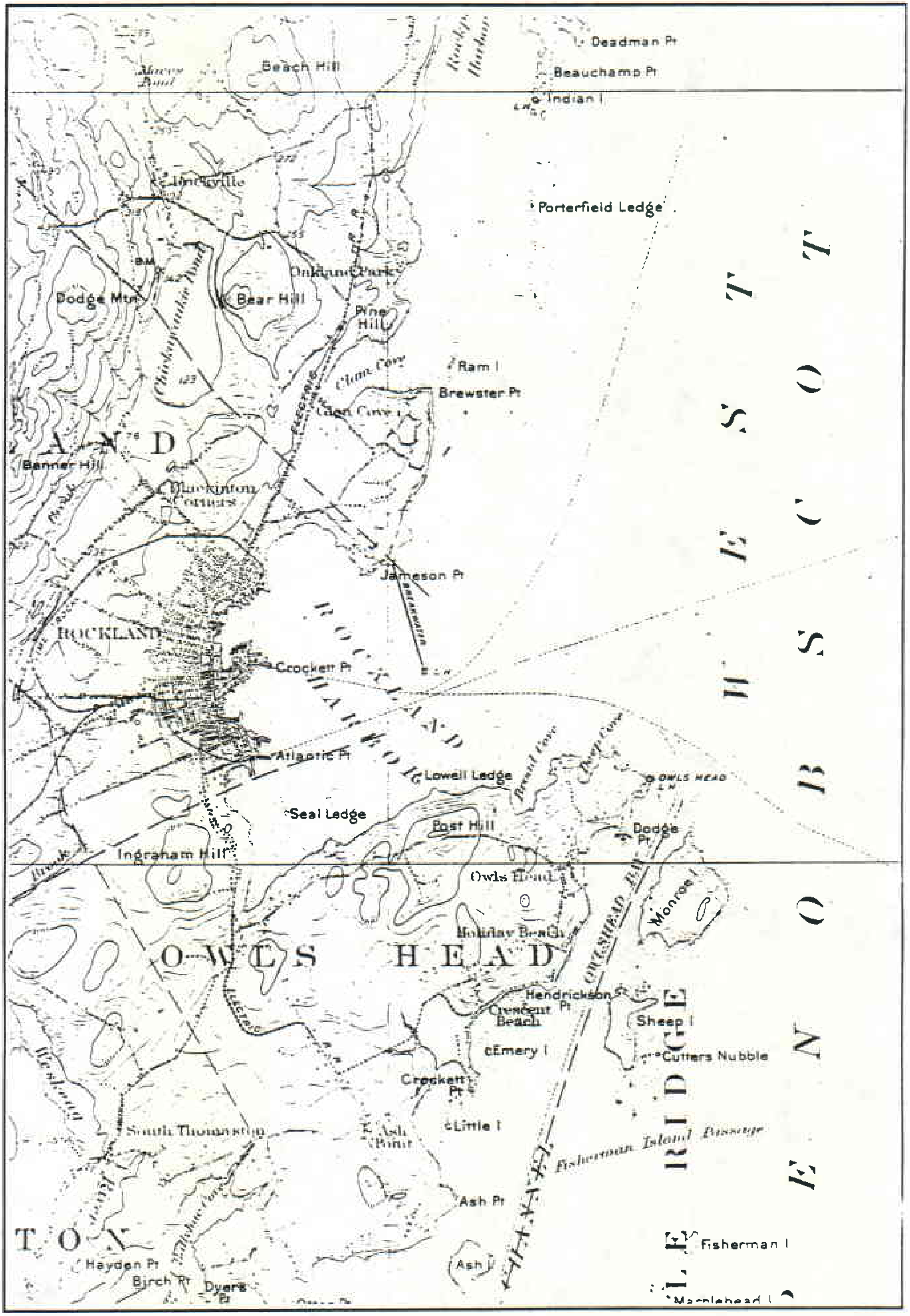
SI	S	IP	Special Interest/Score/Indicators Present
			1.Landform Topography____Slope____
			2.Open Land
	6	X	3.Shoreline Configuration
X	9	X	4.Scenic Features
	27		5.Scenic Quality of Water
			Duration of View 9
			Type of Water 12
			Quality of Horizon 6
	42	3	**Desktop Subtotal**
	9		6.Landscape Character
			Land Use 5
			Roadside Characteristics 1
			Settlement Characteristics 3
	3		7.Vegetation
	6		8.Composition & Effect
	60		**Total Score**
1			**Special Interest**

Viewshed Description A hard-working fishing harbor that accommodates a wide range of commercial, residential, and open space uses. Waterfront parks provide direct contact with the various activities in the harbor. The foreground include parks, parking lots, structures, wharfs, mooring areas, and the waters of Rockland Harbor. The more distant views include Rockland Harbor and Penobscot Bay, the breakwater, two lighthouses, mooring area, and the opposite shoreline. The overall landscape condition is fair to good. The waterfront has a cluttered appearance, typical of Maine's larger commercial ports.

Viewshed Management Recommendations
Develop performance standards for the eventual development/redevelopment of waterfront parcels, focussing on maintenance of visual access to waterfront areas and bulk and space requirements.




Samoset
Tank (C) Golf Course
Jameson Point
(009-01)
Mud and Rocks
Wharf Ruins
Jameson Pt
Dock
BREAKWATER
T-Use (E)
Ruins
Rockland (008-01)
Crockett Pt
R O C K L A N D
U S Coast Guard Sta
Light (C)
South Ledge
H A R B O R
Pile
J-Use (E)
Atlantic Point
Pier Ruins
Lowell Ledge
Battery Point
Pier Ruins
Mud
Seal Ledge
Post Hill
Owl's Head
(005-01)
Ingraham Hill
Mud
Cem
Head of
Cem
Crescent



Deadman Pt
Beauchamp Pt
Indian I
Beach Hill
Porterfield Ledge
Dodge Mtn
Bear Hill
Oakland Park
Pine Hill
Ram I
Brewster Pt
Clam Cove
Banner Hill
Blackinton Corners
Jameson Pt
ROCKLAND
Crockett Pt
ROCKLAND HARBOR
Atlantic Pt
Lowell Ledge
Seal Ledge
Post Hill
Dodge Pt
Ingraham Hill
Owls Head
Monroe I
Holiday Beach
OWLS HEAD
Hendrickson Pt
Crescent Beach
Sheep I
Emery I
Cutters Nubble
Crockett Pt
South Thomaston
Ash Point
Little I
Fisherman Island Passage
Ash Pt
Fisherman I
Ash I
Hayden Pt
Birch Pt
Dyers Pt
PENOBSCOT

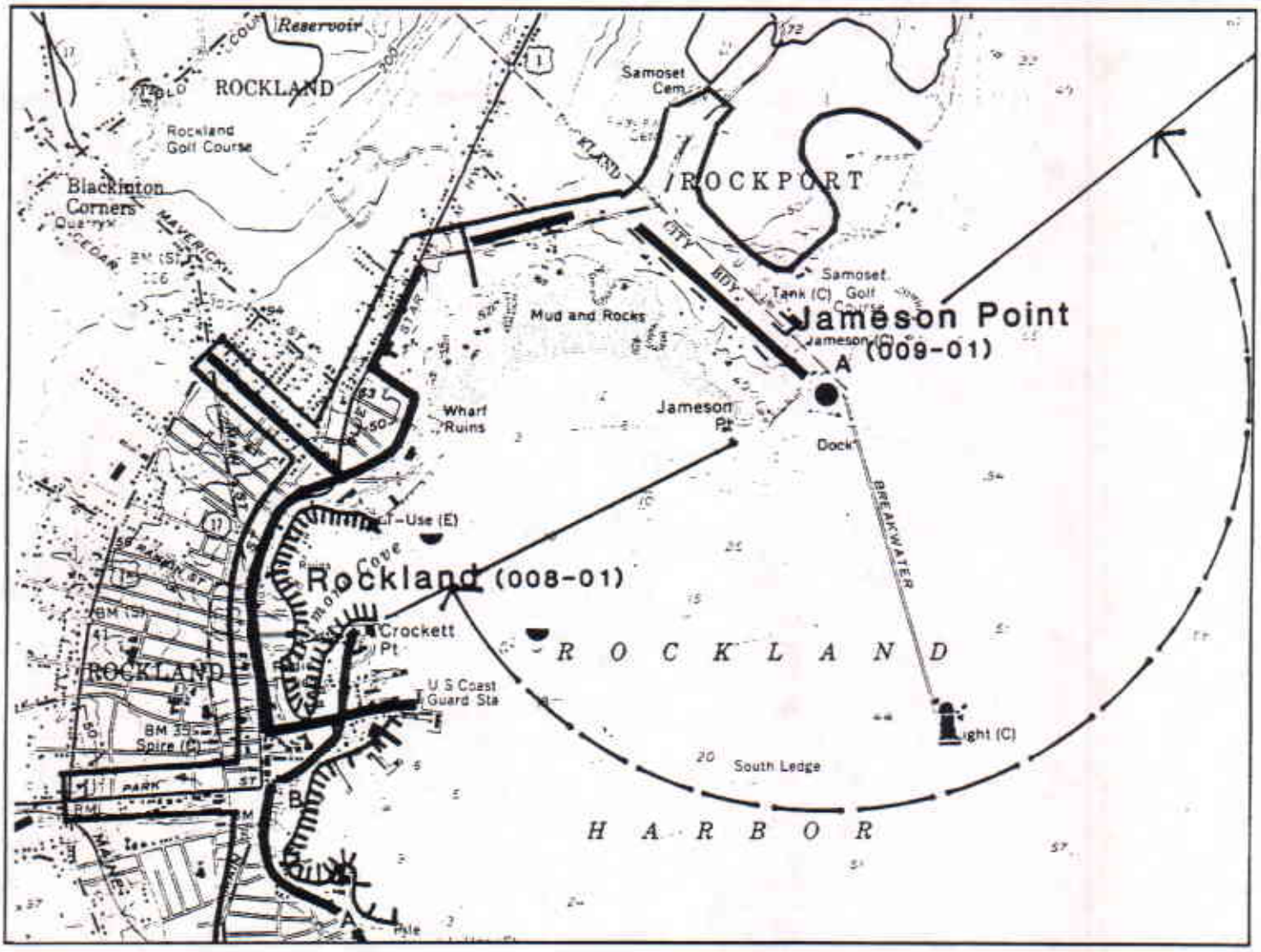
Scenic Area Evaluation Form

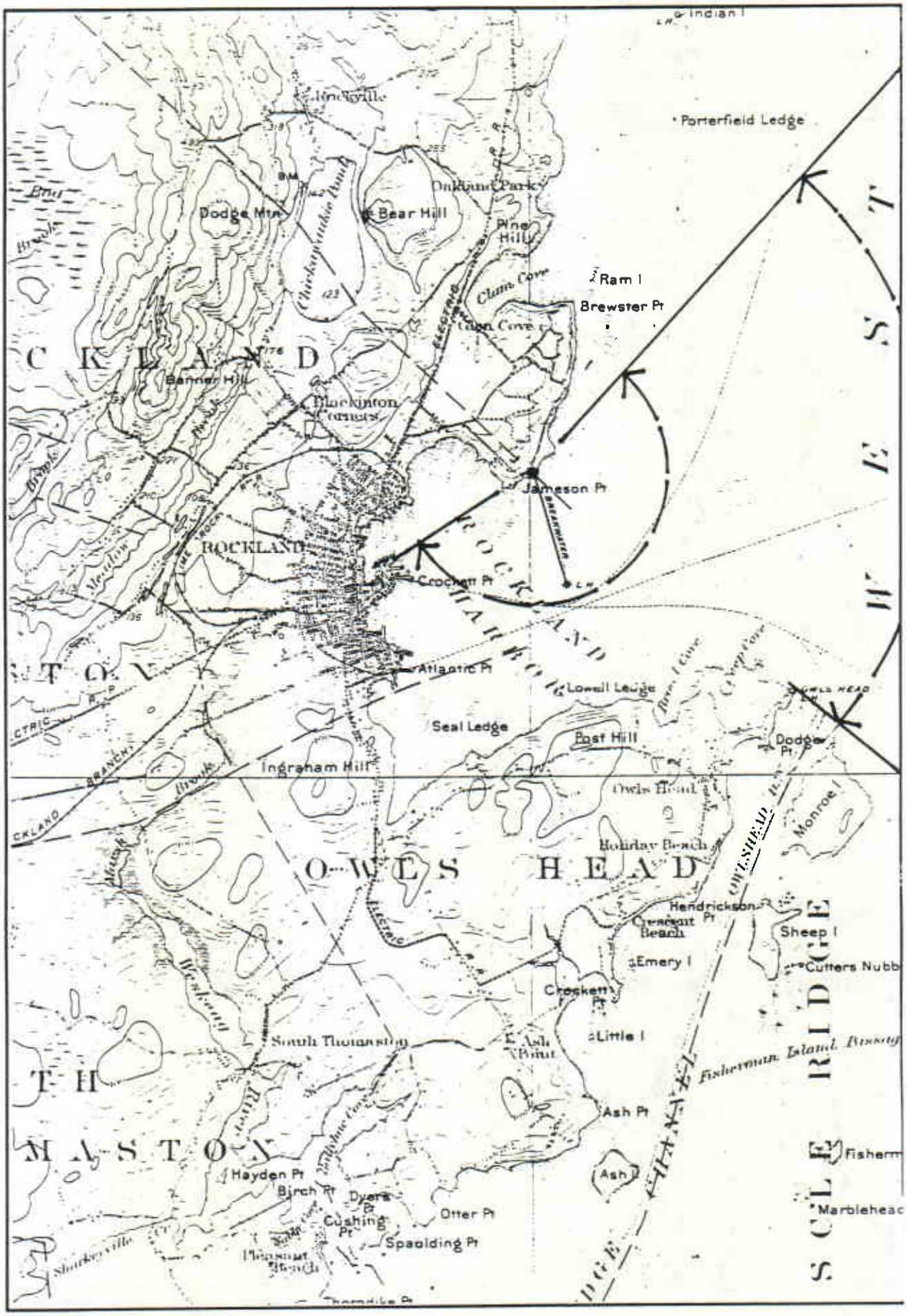
Scenic Area **Jameson Point** Code **009-01** Town(s) **Rockland/Rockport** County **Knox**
1989 Coastal Scenic Inventory — Maine State Planning Office

SI	S	IP	Special Interest/Score/Indicators Present
			1.Landform Topography____Slope____
			2.Open Land
	6	X	3.Shoreline Configuration
X	9	X	4.Scenic Features (Breakwall/Lighthouse)
X	27		5.Scenic Quality of Water
			Duration of View 9
			Type of Water 12
			Quality of Horizon 6
	42	3	**Desktop Subtotal**
	14		6.Landscape Character
			Land Use 7
			Roadside Characteristics 1
			Settlement Characteristics 6
	6		7.Vegetation
X	9		8.Composition & Effect
	71		**Total Score**
3			**Special Interest**

Viewshed Description A residential edge to the City of Rockland. A granite breakwater reaches out into Rockland Harbor and terminates at a well-known lighthouse. The local streets provide filtered views between residential structures and vegetation and ends at a parking lot which provides pedestrian access to the breakwater. Foreground elements include golf course, Samoset resort, residences, parking, mature oak, granite and stone beach shore, breakwater, lighthouse, and Rockland Harbor. Midground includes Rockland Harbor and Penobscot Bay, Rockland skyline and harbor, Owl's Head Lighthouse, and mature spruce on the opposite shoreline. Background views are to Penobscot Bay, distant islands on the horizon, and spruce-covered hilltops. General landscape condition is very good.

Viewshed Management Recommendations Define breakwater parking and walkway to breakwater.




Indian I
Porterfield Ledge
Dodge Mtn
Bear Hill
Pine Hill
Ram I
Brewster Pt
Clam Cove
Banner Hill
Jameson Pt
ROCKLAND
Crockett Pt
Atlantic Pt
Lowell Ledge
Seal Ledge
Post Hill
Dodge Pt
Ingraham Hill
Owls Head
Holiday Beach
Hendrickson Pt
Crescent Beach
Sheep I
Emery I
Cutters Nubb
Crockett Pt
Little I
South Thomaston
Ash Pt
Fisherman Island
Hayden Pt
Birch Pt
Dyers Pt
Cushing Pt
Otter Pt
Spaulding Pt
Ash I
Marblehead

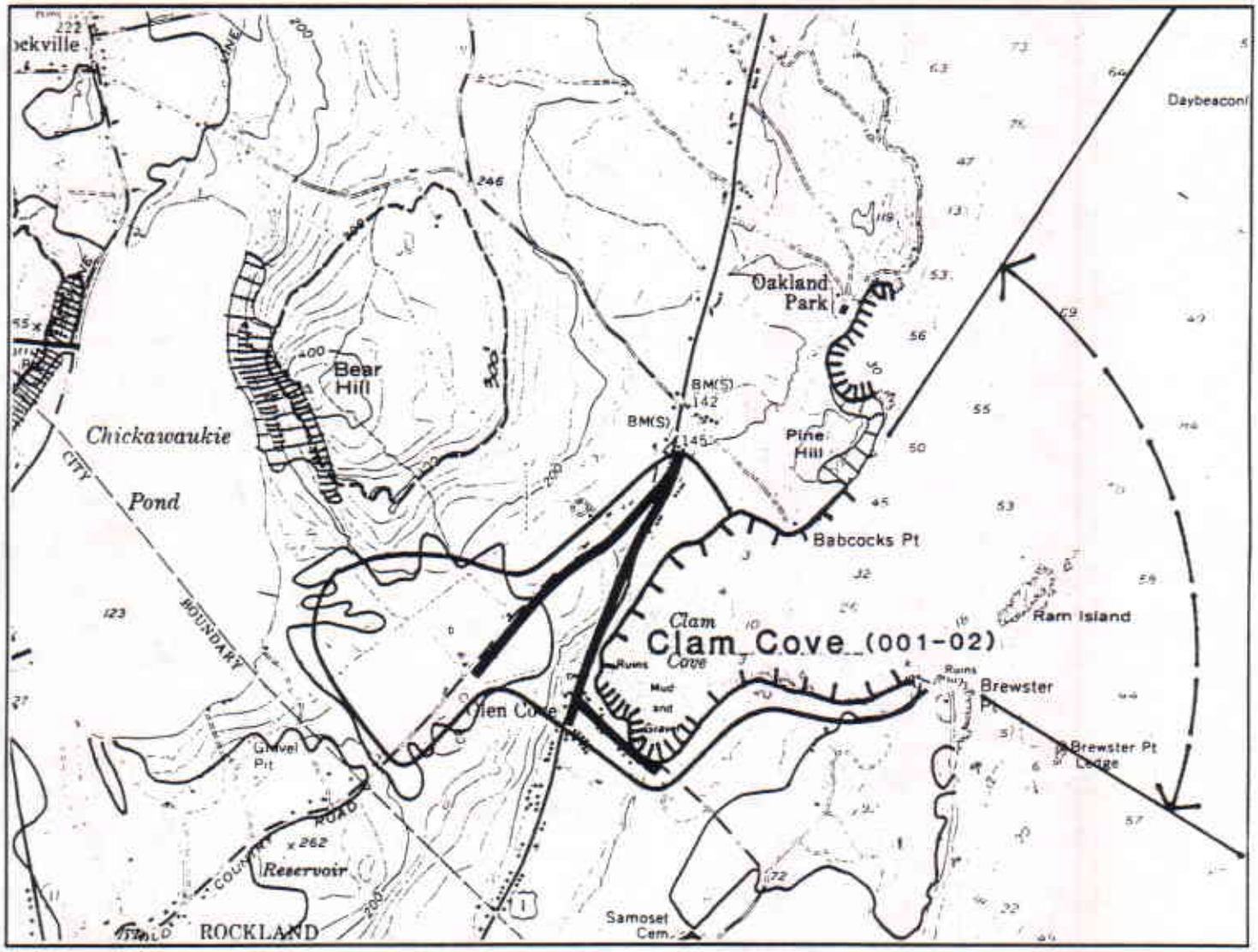
Scenic Area Evaluation Form

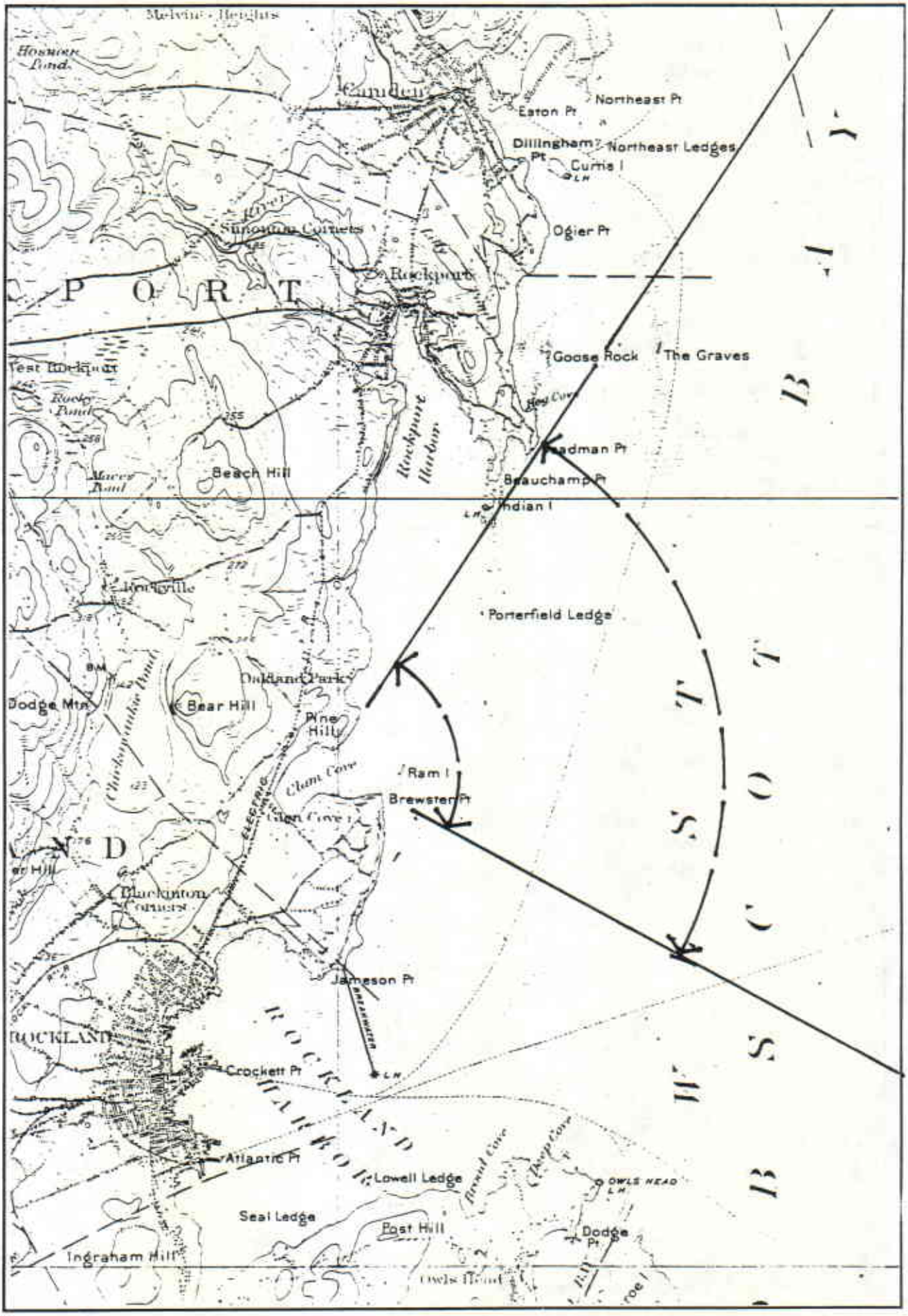
Scenic Area **Clam Cove** Code **001-02** Town(s) **Rockport** County **Knox**
1989 Coastal Scenic Inventory — Maine State Planning Office

SI	S	IP	Special Interest/Score/Indicators Present
			1.Landform Topography____Slope____
	3	X	2.Open Land
	6	X	3.Shoreline Configuration
			4.Scenic Features
	27		5.Scenic Quality of Water
			Duration of View_9__
			Type of Water_12_
			Quality of Horizon_6__
	36	3	**Desktop Subtotal**
	16		6.Landscape Character
			Land Use__7__
			Roadside Characteristics_3__
			Settlement Characteristics_6__
	6		7.Vegetation
	6		8.Composition & Effect
	64		**Total Score**
			Special Interest

Viewshed Description Natural area focussing on a small cove. A Route One rest area is located on the northerly shoreline. Town roads and Route One have a variety of level and dominant views of water. Foreground elements include residential and commercial structures in the village of Glen Cove, lawns, rest area parking and landscaping, Clam Cove, and the opposite shoreline. Midground includes wooded hilltop on the opposite shore and Penobscot Bay. Background views are to Penobscot Bay with Vinalhaven on the horizon. The general landscape condition ranges from fair to very good.

Viewshed Management Recommendations Define pull-offs high on hillside / Clean and maintain 2nd growth on Route One bank




Camden
Northeast Pt
Eaton Pt
Dillingham Pt
Northeast Ledges
Curtis I
Ogier Pt
Rockport
Goose Rock
The Graves
Beach Hill
Rockport Harbor
Meadman Pt
Beauchamp Pt
Indian I
Porterfield Ledge
Oakland Park
Dodge Mtn
Bear Hill
Pine Hill
Clam Cove
Ram I
Brewster Pt
Blackington
Jameson Pt
ROCKLAND
Crockett Pt
Atlantic Pt
Lowell Ledge
OWLS HEAD
Seal Ledge
Post Hill
Dodge Pt
Ingraham Hill
Owls Head
PENOBSCOT BAY
ROCKLAND HARBOR

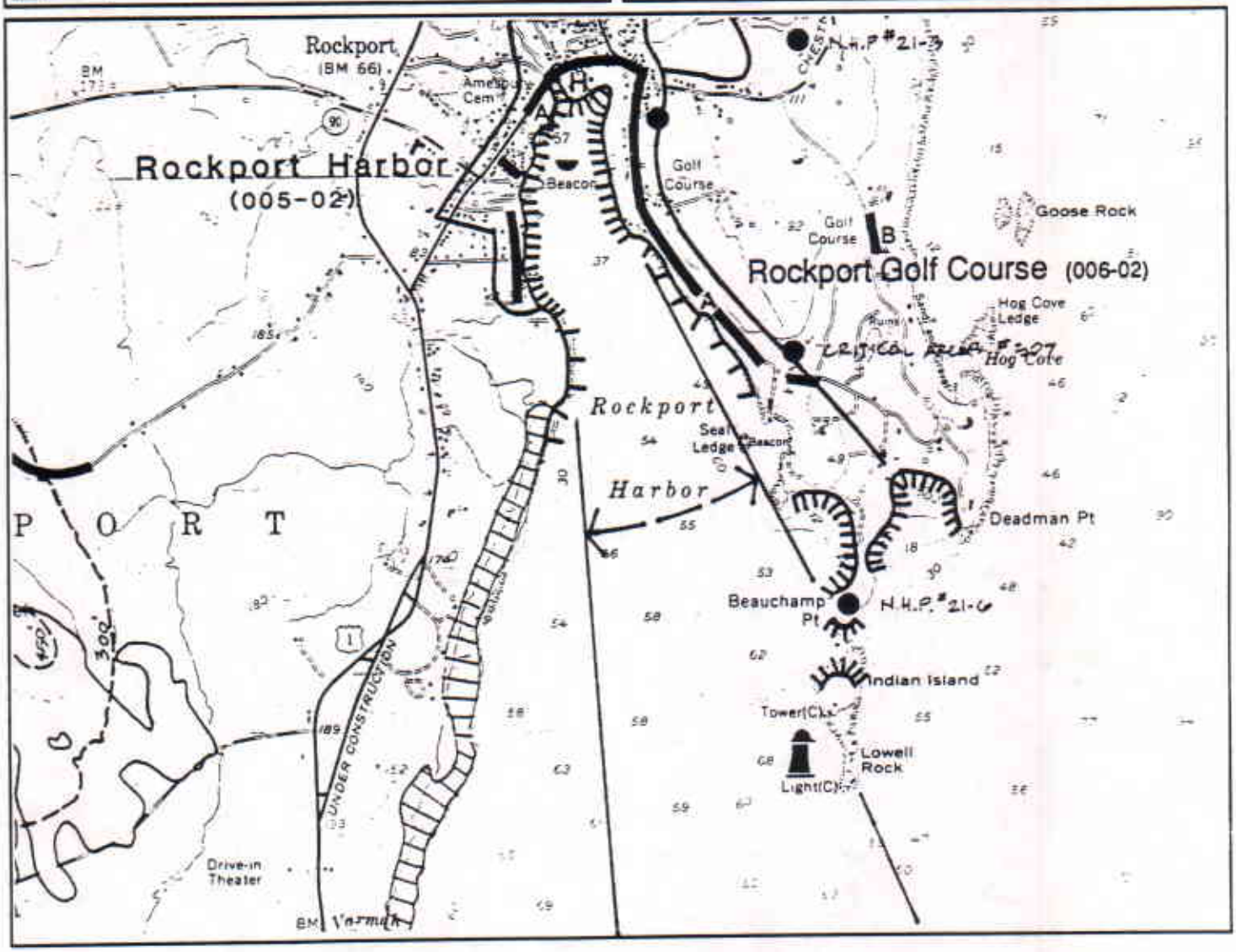
Scenic Area Evaluation Form

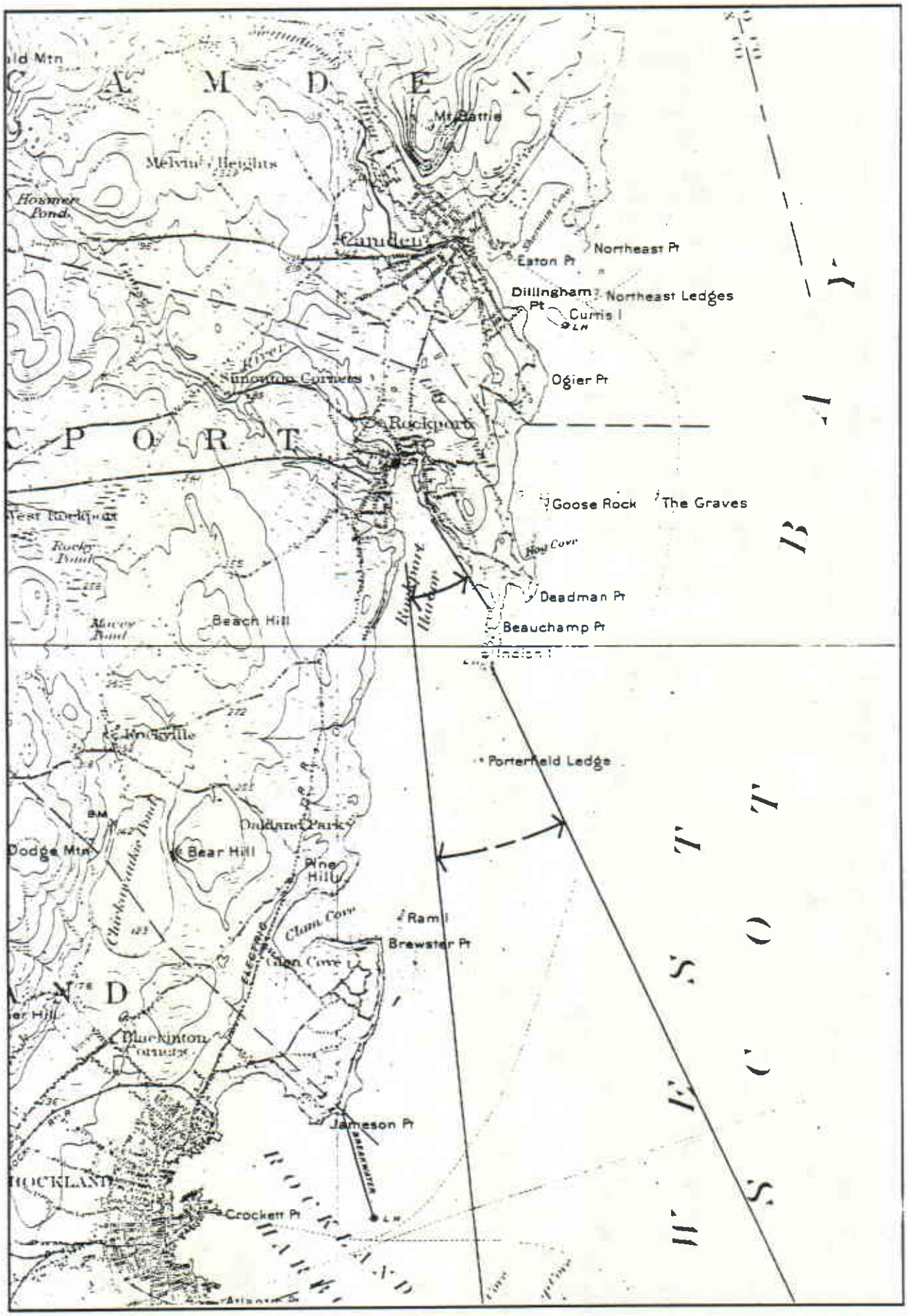
Scenic Area **Rockport Harbor** Code **005-02** Town(s) **Rockport** County **Knox**
1989 Coastal Scenic Inventory — Maine State Planning Office

SI	S	IP	Special Interest/Score/Indicators Present
	2		1.Landform Topography____Slope 2
			2.Open Land
	6	X	3.Shoreline Configuration
	9	X	4.Scenic Features (Mooring Area)
	27		5.Scenic Quality of Water
			Duration of View 9
			Type of Water 9
			Quality of Horizon 9
	44		**Desktop Subtotal**
X	19		6.Landscape Character
			Land Use 7
			Roadside Characteristics 3
			Settlement Characteristics 9
	6		7.Vegetation
X	9		8.Composition & Effect
	78		**Total Score**
2			**Special Interest**

Viewshed Description One of Maine's most visually cohesive villages, with a strong orientation to its deep, well defined harbor. Steeply sloping streets lead to a waterfront park, a rather extensive mooring area for pleasure craft and commercial boats, and an historic lime kiln. The density of development decreases with distance from the village center, terminating in a small lighthouse at the mouth of the harbor. A highly memorable, unified landscape.

Viewshed Management Recommendations Strict performance standards for new construction and redevelopment activities within the viewshed of the harbor. Conservation easements to protect the edges and the skyline.




Mt Battie
Melvin Heights
Hosmer Pond
Camden
Northeast Pt
Eaton Pt
Dillingham Pt
Northeast Ledges
Curtis I
Ogier Pt
Rockport
Goose Rock
The Graves
Deadman Pt
Beauchamp Pt
Beach Hill
Porterfield Ledge
Dodge Mtn
Bear Hill
Pine Hill
Ram I
Brewster Pt
Jameson Pt
Crockett Pt

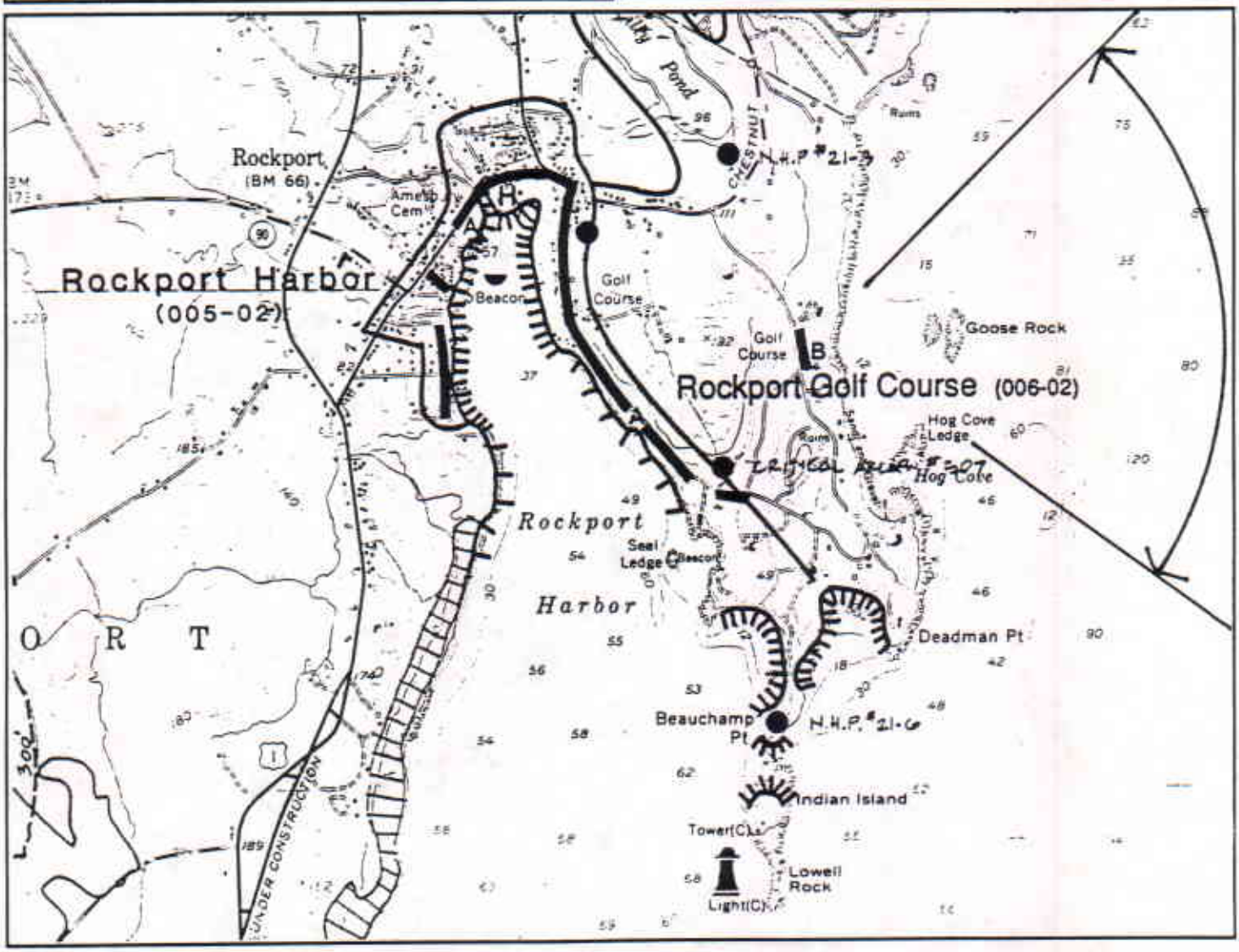
Scenic Area Evaluation Form

Scenic Area **Rockport Golf Course** Code **006-02** Town(s) **Rockport** County **Knox**
1989 Coastal Scenic Inventory — Maine State Planning Office

SI	S	IP	Special Interest/Score/Indicators Present
			1.Landform Topography____Slope____
			2.Open Land
			3.Shoreline Configuration
			4.Scenic Features
	15		5.Scenic Quality of Water
			Duration of View 3
			Type of Water 9
			Quality of Horizon 3
	15		**Desktop Subtotal**
X	19		6.Landscape Character
			Land Use 7
			Roadside Characteristics 6
			Settlement Characteristics 6
X	9		7.Vegetation
	9		8.Composition & Effect
	52		**Total Score**
2			**Special Interest**

Viewshed Description Combination of rural and natural landscape with local road winding through mature spruce forests, along pasture land, and through the waterfront golf course. Views are filtered through spruce forest to open waters with short open views to Penobscot Bay. Foreground ranges from well manicured golf course, to natural spruce forest and Penobscot Bay. Midground consists of Penobscot Bay with a background of open water and Vinalhaven Island on the horizon. The general condition of the landscape is very good to pristine. Local scenic attractions include a farm with Belted Galloways and the view across Lilly Pond to Mount Battie.

Viewshed Management Recommendations Maintain character of road system. Open or maintain filtered views to water. Provide pull-offs for motorists. Conservation easements to protect open space.



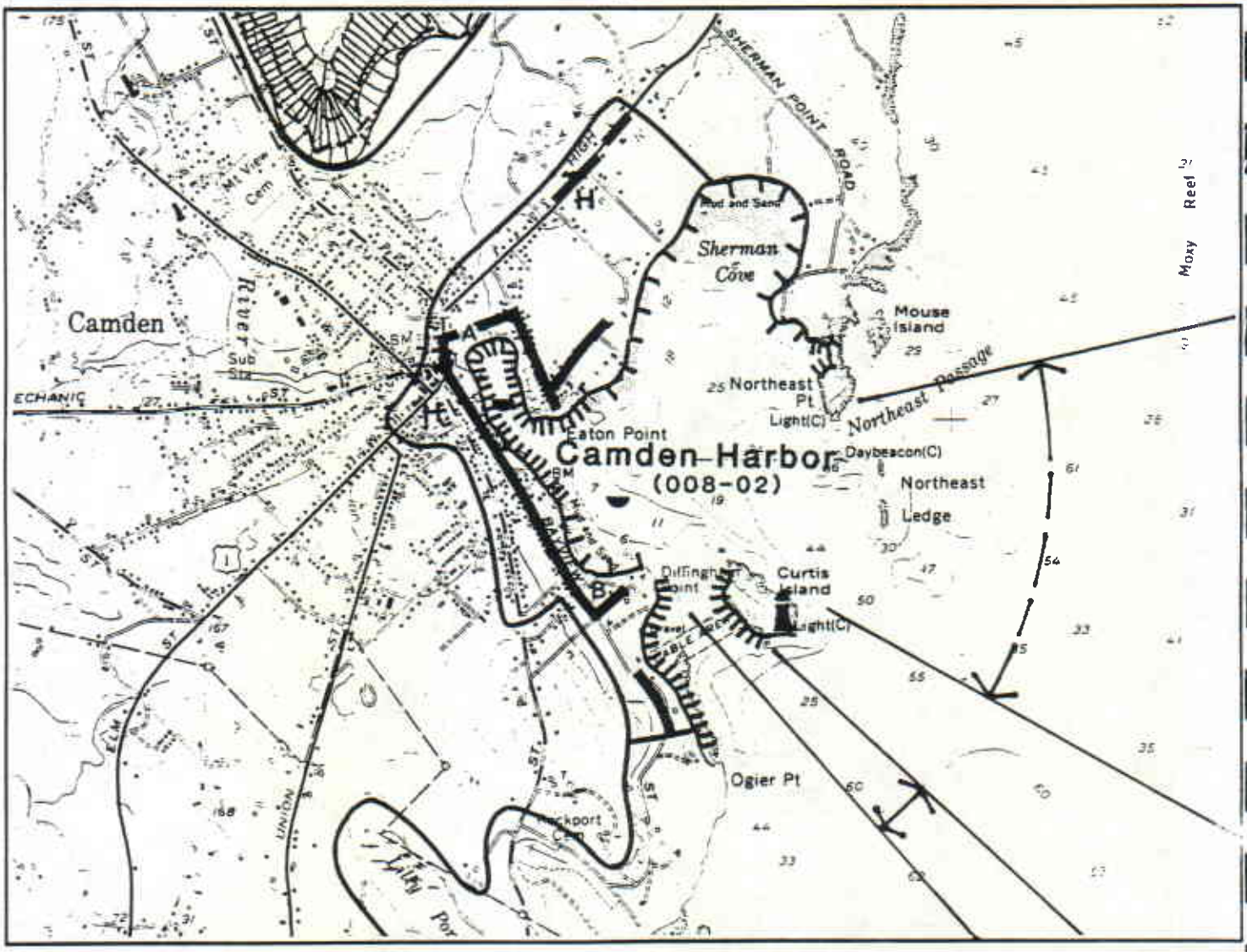
Scenic Area Evaluation Form

Scenic Area **Camden Harbor** Code **008-02** Town(s) **Camden** County **Knox**
1989 Coastal Scenic Inventory — Maine State Planning Office

SI	S	IP	Special Interest/Score/Indicators Present
			1.Landform Topography____Slope____
			2.Open Land
	6	X	3.Shoreline Configuration
X	9	X	4.Scenic Features
	30		5.Scenic Quality of Water
			Duration of View 9
			Type of Water 12
			Quality of Horizon 9
	45	3	**Desktop Subtotal**
X	17		6.Landscape Character
			Land Use 7
			Roadside Characteristics 3
			Settlement Characteristics 9
	6		7.Vegetation
X	9		8.Composition & Effect
	79		**Total Score**
3			**Special Interest**

Viewshed Description Historic harbor yillage with strong orientation to its waterfront. Large tourist population and active pleasure craft harbor including the summer home of a charter schooner fleet. Waterfront parks provide sustained open views and access to the harbor. Foreground includes the parkland, well-kept structures, commercial and pleasure boats, wharves, mooring area, and the opposite shoreline. Midground elements include opposite shoreline, mooring area, Penobscot Bay, and small islands. Background views are the waters of Penobscot Bay with Vinalhaven on the horizon. The general condition is excellent.

Viewshed Management Recommendations Strict performance standards for new construction and renovation that considers the scale and diversity of the waterfront and preservation of visual/physical access.



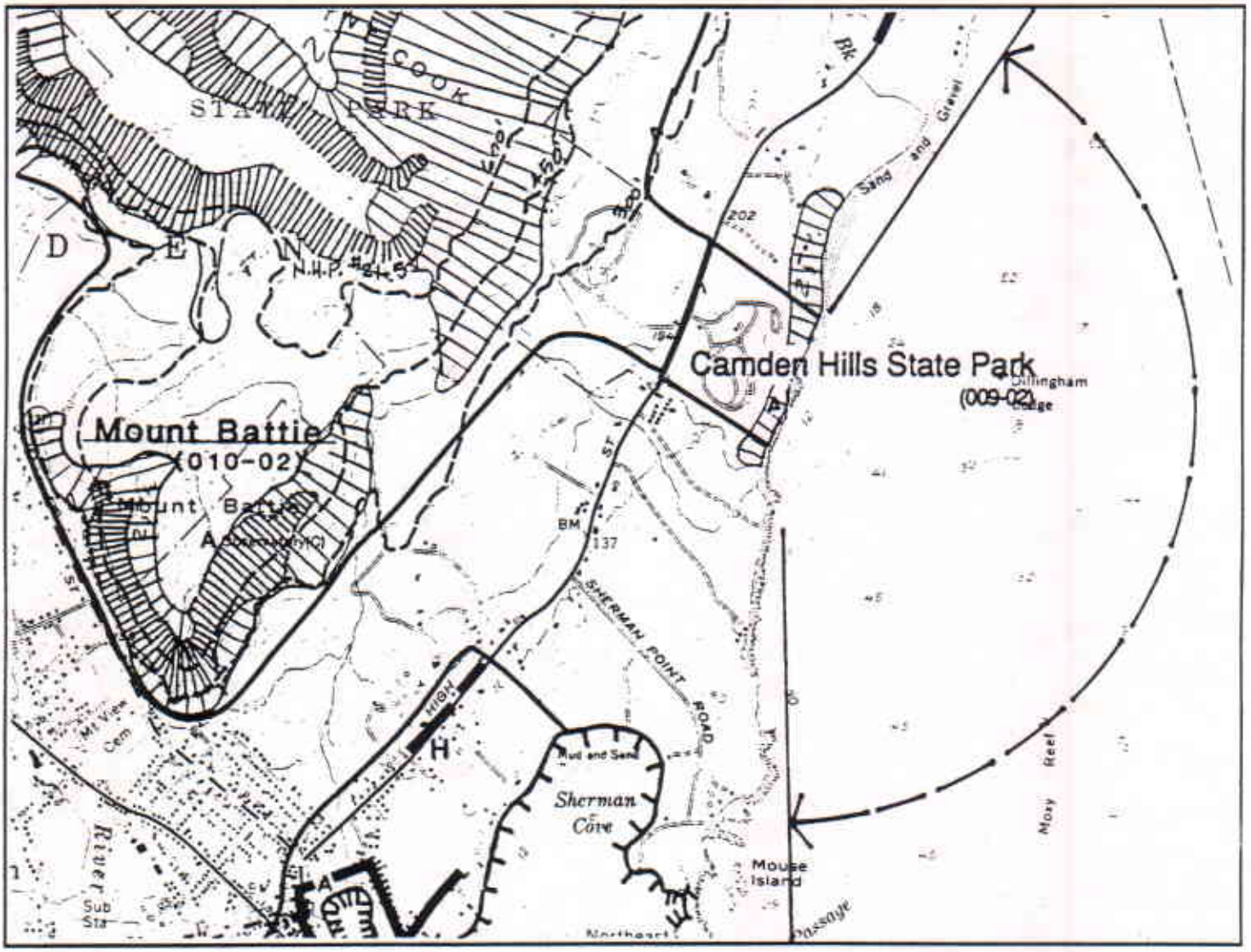
Scenic Area Evaluation Form

Scenic Area **Camden Hills State Park** Code **009-02** Town(s) **Camden** County **Knox**
1989 Coastal Scenic Inventory — Maine State Planning Office

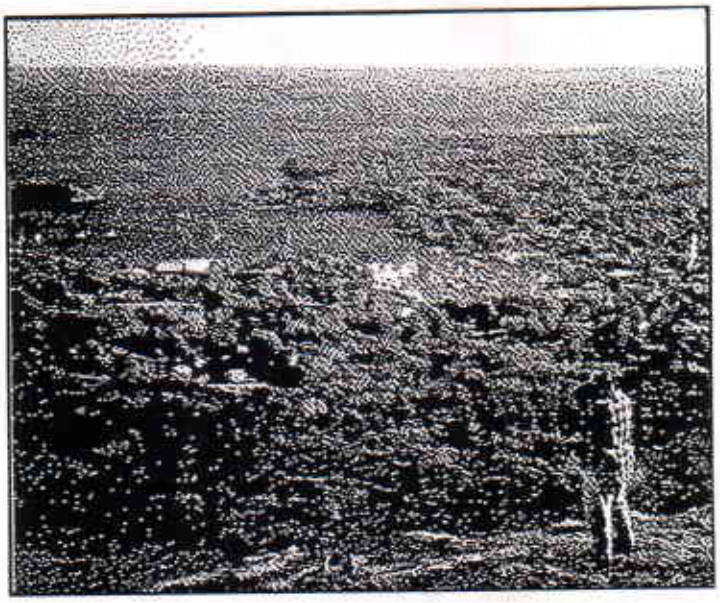
SU	S	IP	Special Interest/Score/Indicators Present
			1.Landform Topography____Slope____
			2.Open Land
			3.Shoreline Configuration
			4.Scenic Features
	21		5.Scenic Quality of Water
			Duration of View 9
			Type of Water 9
			Quality of Horizon 3
	21	1	**Desktop Subtotal**
X	19		6.Landscape Character
			Land Use 7
			Roadside Characteristics 6
			Settlement Characteristics 6
X	9		7.Vegetation
	9		8.Composition & Effect
	58		**Total Score**
2			**Special Interest**

Viewshed Description The east side of Camden Hills State Park features picnicking and camping facilities on Penobscot Bay. A one-lane access road winds down from Route One to the facilities near the water. The foreground view includes picnic areas, mature spruce, rocky cliffs at waters edge, and the shoreline of Penobscot Bay. The midground and background views are directed to Penobscot Bay with Islesboro and Vinalhaven on the horizon. Very well-maintained parkland.

Viewshed Management Recommendations Continued high level of maintenance. Interpretive signage to orient visitors in the landscape.



CAMDEN HILLS



Park Hill
Mt. Battie

Sub-Region Evaluation Form

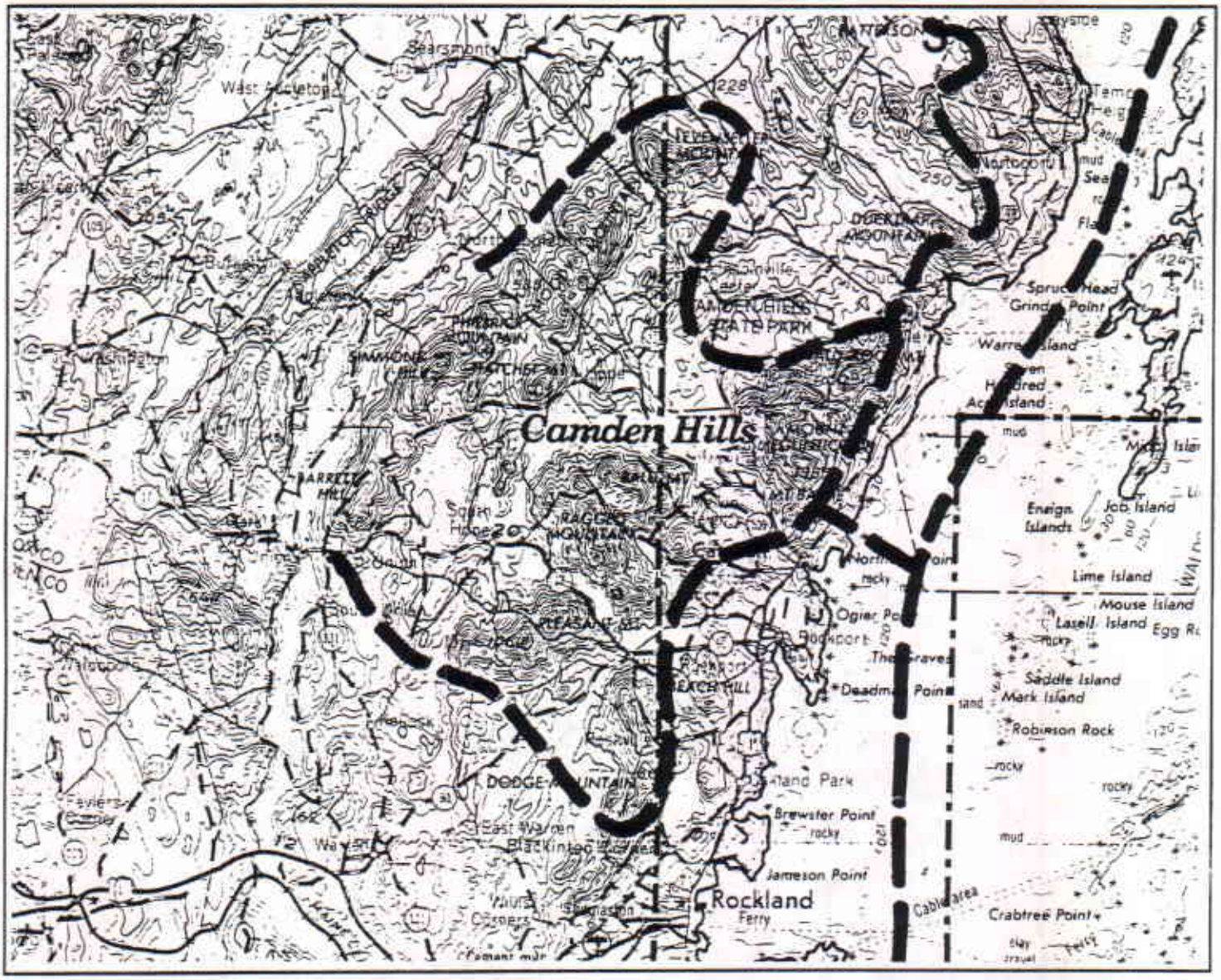
Sub-Region **Camden Hills** Town **Belfast** County **Waldo**
1989 Coastal Scenic Inventory Maine State Planning Office

Sub-Region Description

Camden Hills forms the backdrop for Camden and Rockland Harbor, offering spectacular panoramas across Penobscot Bay. This subregion has the most prominent landforms within the Bay. Mount Megunticook, the highest point in Camden Hills State Park, is 1345 feet. The southern portion of the Camden Hills area is characterized by low rounded hills, often covered with extensive blueberry barrens. Many of these fields are threatened by development pressure as more people are drawn to the outstanding views and unique landscape.

Scenic Area

Mt. Battie (010-02)



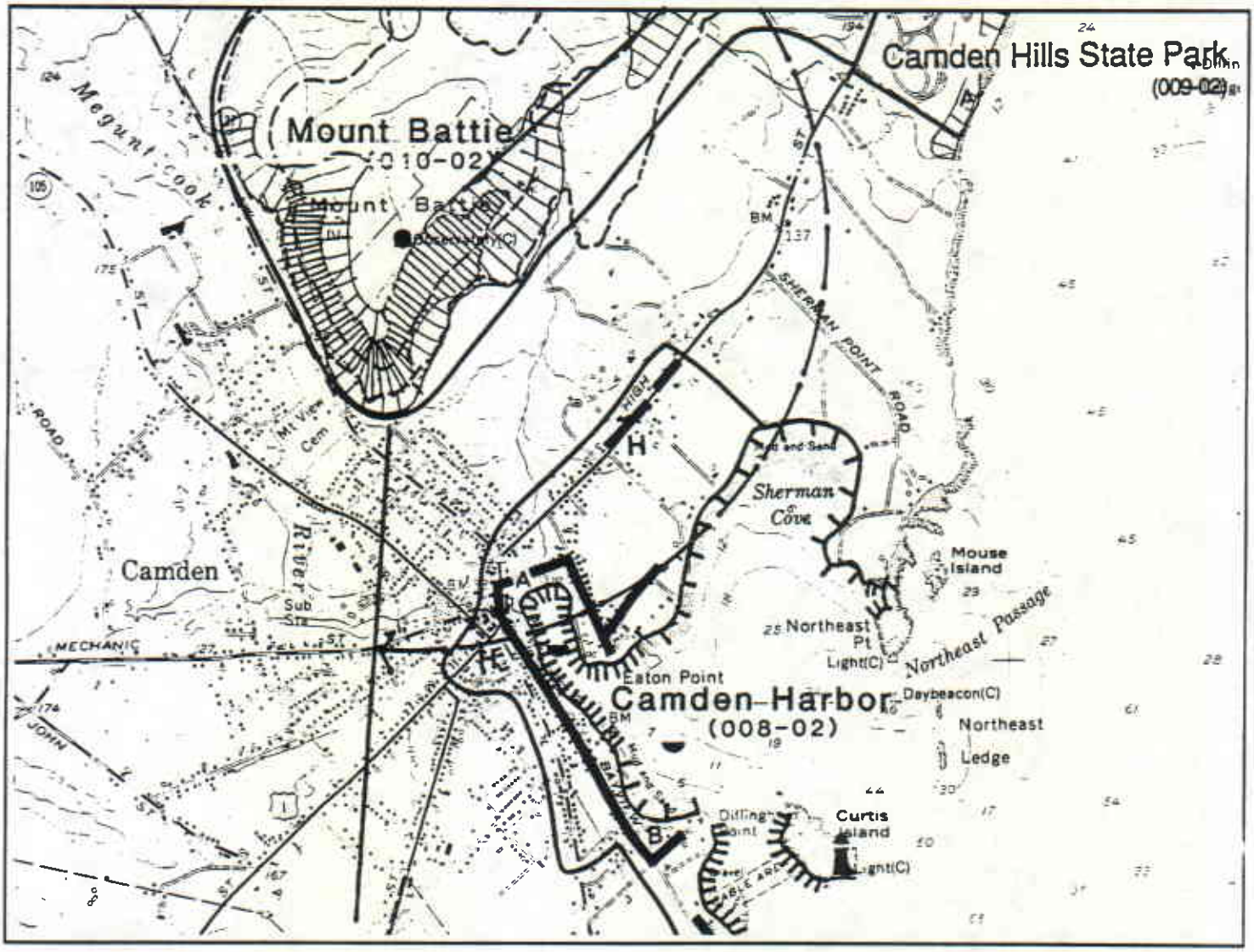
Scenic Area Evaluation Form

Scenic Area **Mount Battie** Code **010-02** Town(s) **Camden** County **Knox**
1989 Coastal Scenic Inventory — Maine State Planning Office

SI	S	IP	Special Interest/Score/Indicators Present
	9	X	1.Landform Topography 6 Slope 3
			2.Open Land
	6	X	3.Shoreline Configuration
	9	X	4.Scenic Features
X	30		5.Scenic Quality of Water
			Duration of View 9
			Type of Water 12
			Quality of Horizon 9
	54	3	**Desktop Subtotal**
X	19		6.Landscape Character
			Land Use 7
			Roadside Characteristics 3
			Settlement Characteristics 9
	6		7.Vegetation
X	9		8.Composition & Effect
	88		**Total Score**
3			**Special Interest**

Viewshed Description The high point of Camden Hills State Park in the Camden Hills overlooking Camden, Rockport, and Penobscot Bay. Motor access to Mount Battie is via a paved park road, winding through mature forest to top and ending at a parking area. Scenic overlook provides an open 180 degree panorama of Camden and the Bay. Foreground includes blueberry field, mature forest, and the parking area. Midground includes the wooded slopes of Mt. Battie, Camden village, and the Bay. Background views are to Penobscot Bay, distant islands, and hills on the horizon. General landscape condition is very good and park-like.

Viewshed Management Recommendations Continued high level of maintenance. Interpretive signage to orient visitors to the islands of Penobscot Bay and other natural landmarks.




Knight Pond
Jackson Hill
Little Harbor
Ducktrap Mtn
Ducktrap Harbor
Spruce Head
PENOBSCOT
Gooseber
Grindel Pt
ISLESBORO FERRY
Lincolnville
Derry Mtn
Warren I
Bald Rock Mtn
WEST PENOBSCOT BAY
WEST
Philbrook Cove
Seven Hundred Acre Island
WALDO CO
KNOX CO
Seven Hundred Acre Island
Mt Megunticook
Middl
Ensign Is
Mt Battie
ISLESB
Northeast Pt
Eaton Pt
Dillingham Pt
Northeast Ledges
Curtis I
Lime I
Lasell I
Ogier Pt
East Goose Rock
Goose I
Goose Rock
The Graves

BELFAST BAY

Lincolnville Beach
Bayside
Searsport Road
Moose Point
Searsport Village
Mack Point
Belfast

Sub-Region Evaluation Form

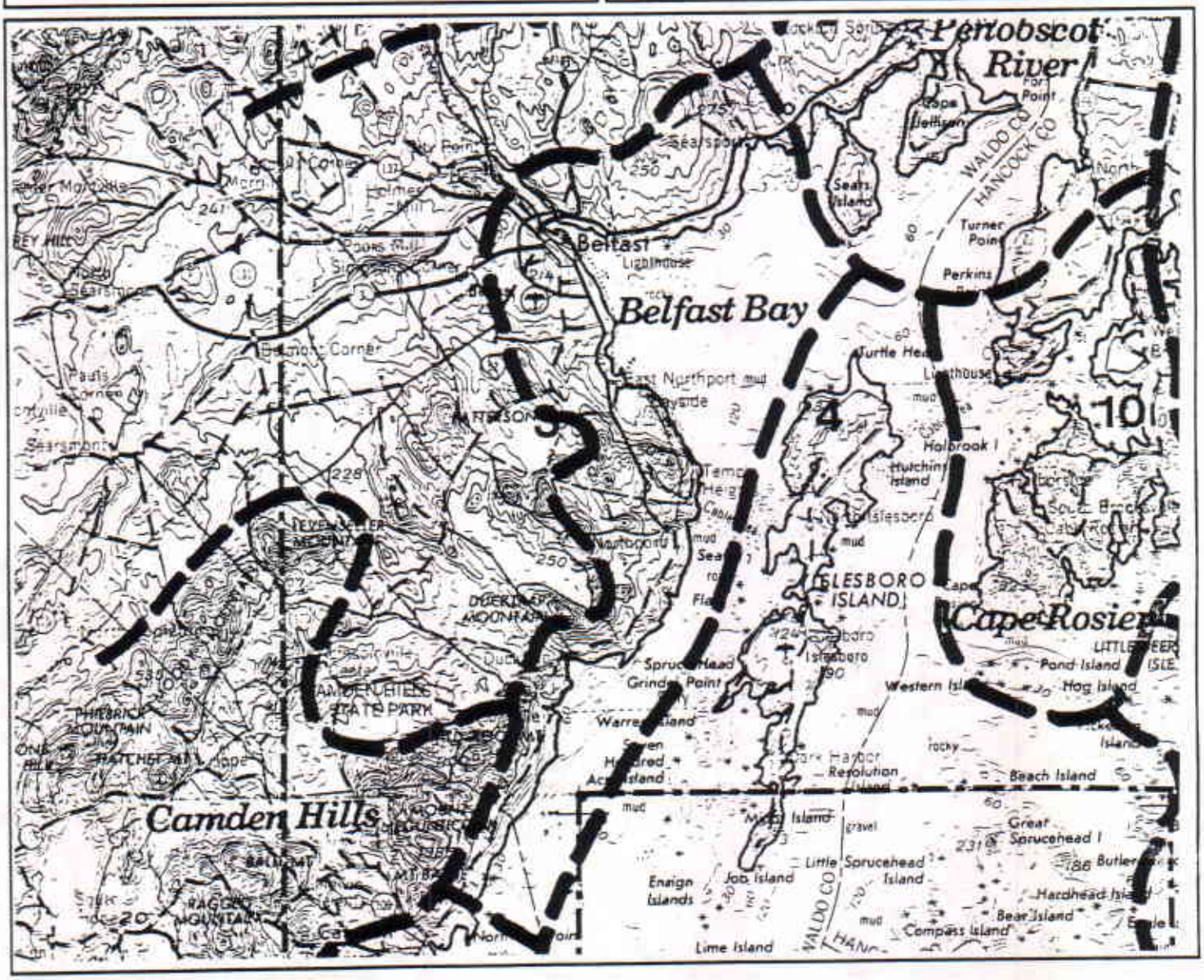
Sub-Region **Belfast Bay** Towns **Lincolnville, Belfast, Searsport, Northport** County **Waldo**
1989 Coastal Scenic Inventory Maine State Planning Office

Sub-Region Description

Belfast Bay is characterized by steep topography descending to a shoreline that is not highly configured. Virtually no offshore islands are present in this portion of Penobscot Bay, allowing an uninterupted view out to Islesboro Island throughout most of the subarea. The public does not have a strong visual relationship with the bay throughout much of the subregion, since Route One, the primary access route, is removed from the water with occasional viewpoints at the villages. The contrasts between the cultural aspects of the Bay give it great diversity and visual interest: cottage communities and a small city; working waterfronts and undeveloped shorelines; major highways and backroads.

Scenic Areas

Lincolnville Beach (002-03)
Bayside (001-05)
Searsport Road (004-05)
Moose Point (006-05)
Searsport Village (007-05)
Mack Point (008-05)
Belfast (001-06)



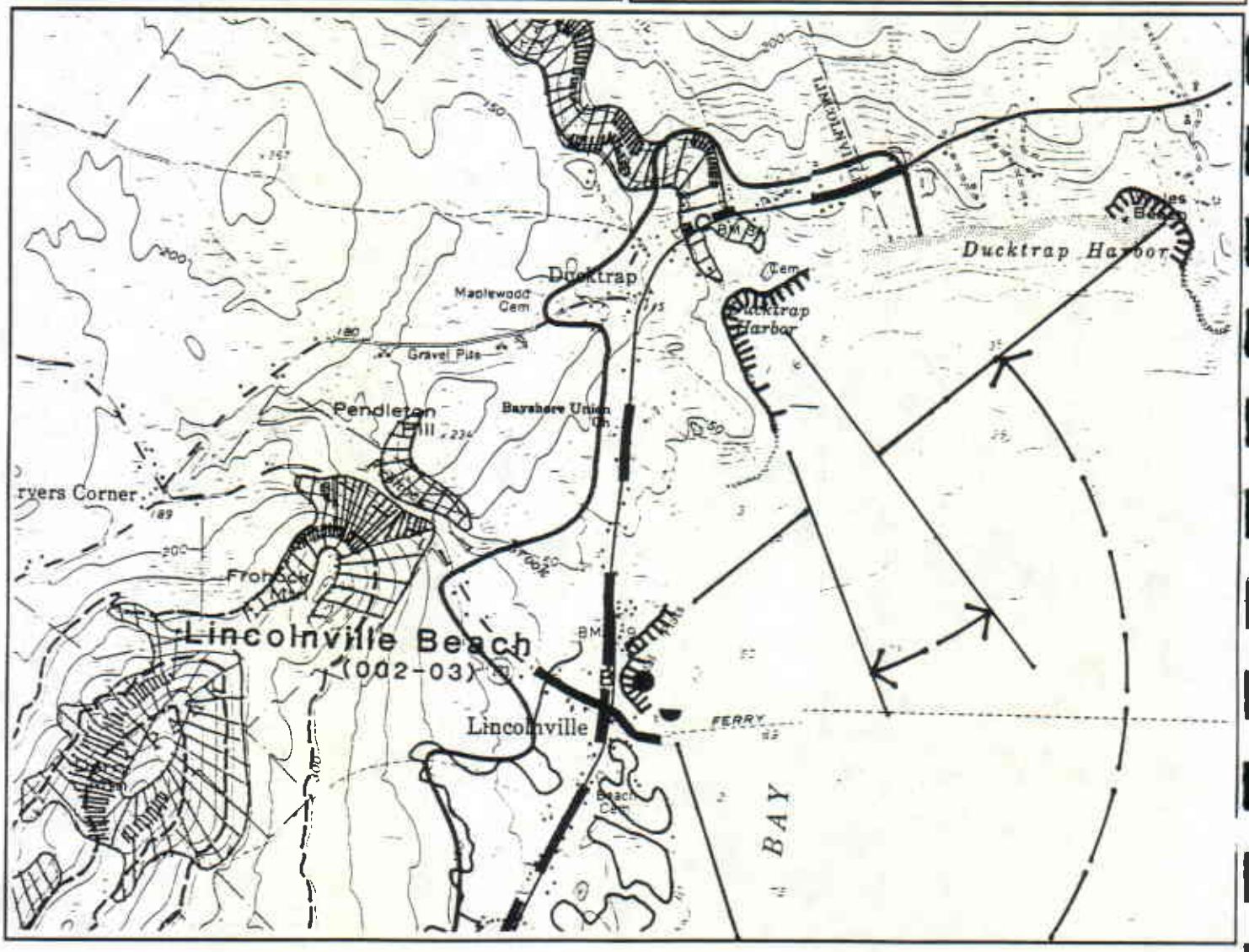
Scenic Area Evaluation Form

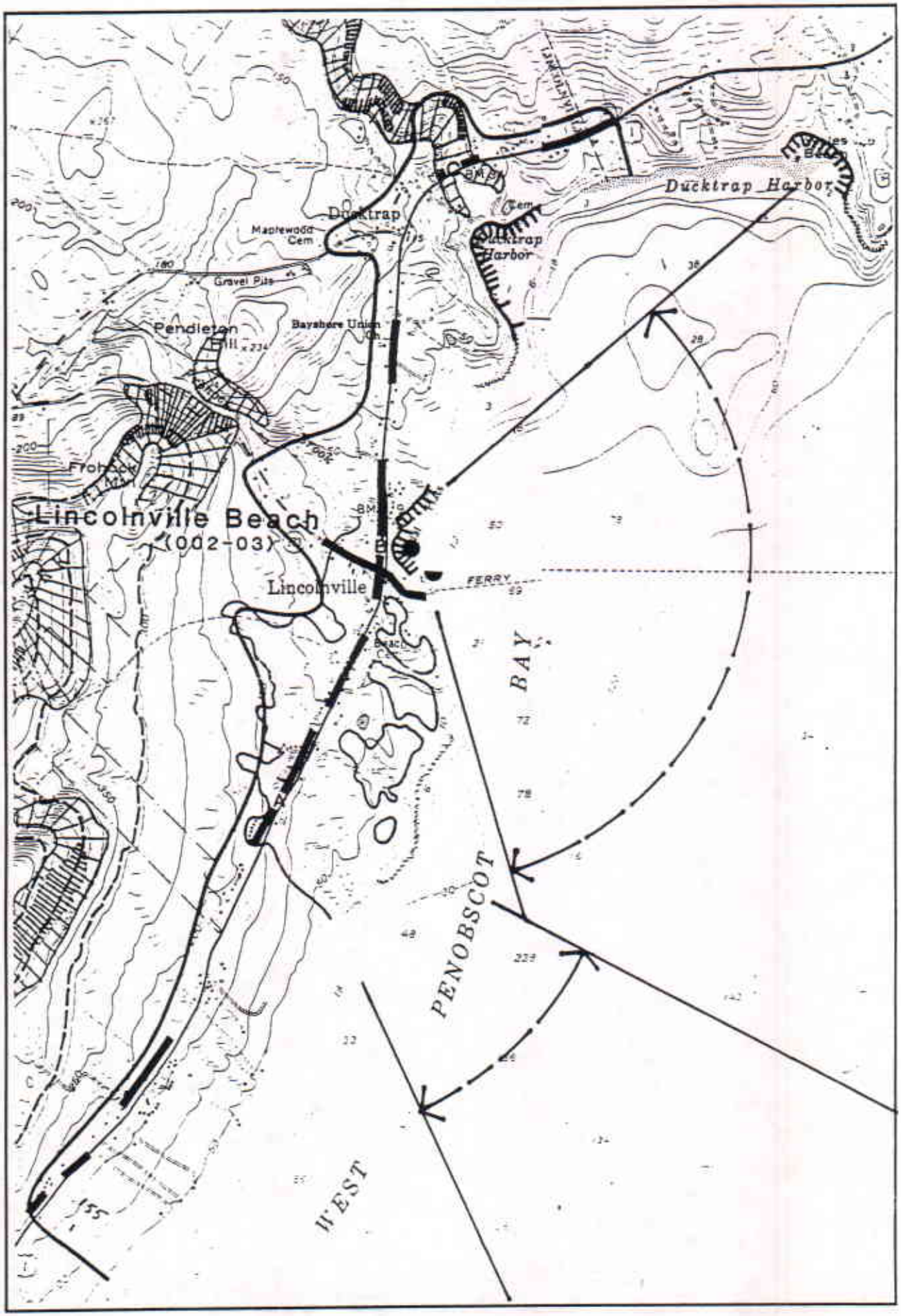
Scenic Area **Lincolnville Beach** Code **002-03** Town(s) **Lincolnville** County **Waldo**
1989 Coastal Scenic Inventory — Maine State Planning Office

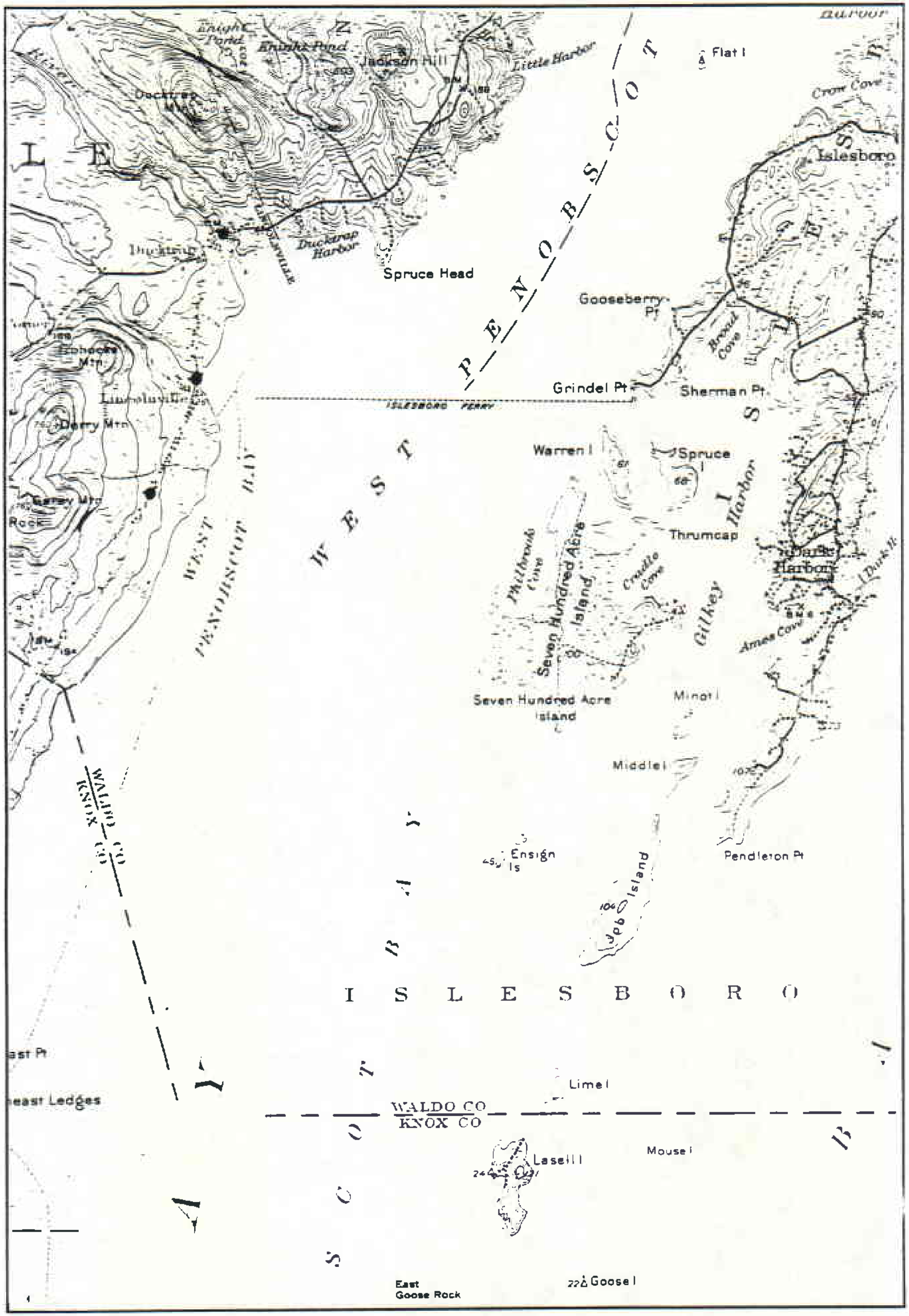
SI	S	IP	Special Interest/Score/Indicators Present
	3	X	1.Landform Topography____Slope 3
	4	X	2.Open Land
	6	X	3.Shoreline Configuration
	9	X	4.Scenic Features
	21		5.Scenic Quality of Water
			Duration of View 9
			Type of Water 9
			Quality of Horizon 3
	43	5	**Desktop Subtotal**
	13		6.Landscape Character
			Land Use 7
			Roadside Characteristics 3
			Settlement Characteristics 3
	6		7.Vegetation
	6		8.Composition & Effect
	68		**Total Score**
			Special Interest

Viewshed Description An area of mixed uses and character: the southern end is rural, the beach is a small commercial and residential center, while the northern end is largely natural. Foreground elements include meadows, stone beach, parking, public launch site, commercial structures, Islesboro ferry, mixed woods, and views to Penobscot Bay and the Ducktrap River. Midground views are primarily to Penobscot Bay. Background views include Penobscot Bay and open water with distant islands and mountains on the horizon. The general landscape condition is fair to very good with a wide variety of elements and views.

Viewshed Management Recommendations Reinforce the village character through reduction in paving and curb cuts, additional landscaping, control over signage, and unified streetscape details. Protect Ducktrap riverfront through conservation easements.




Ducktrap Harbor
Ducktrap
Maplewood Cem
Gravel Pits
Pendleton Hill
Bayshore Union Ch
Cem
Ducktrap Harbor
Lincolnville Beach
(002-03)
Lincolnville
FERRY
BAY
PENOBSCOT
WEST


Knight Pond
Jackson Hill
Little Harbor
Flat I
Crow Cove
Islesboro
Ducktrap Mtn
Ducktrap Harbor
Spruce Head
P E N O B S C O T
Gooseberry Pt
Broad Cove
Grindel Pt
Sherman Pt
ISLESBORO FERRY
Lincolnville
Derry Mtn
Warren I
Spruce I
Thrumcap
WEST PENOBSCOT BAY
W E S T
Philbrook Cove
Seven Hundred Acre Island
Cradle Cove
Gilkey Harbor
Dark Harbor
Ames Cove
Seven Hundred Acre Island
Minot I
Middle I
WALDO CO
KNOX CO
Ensign Is
Job Island
Pendleton Pt
I S L E S B O R O
Lime I
Mouse I
Lasell I
East Goose Rock
Goose I

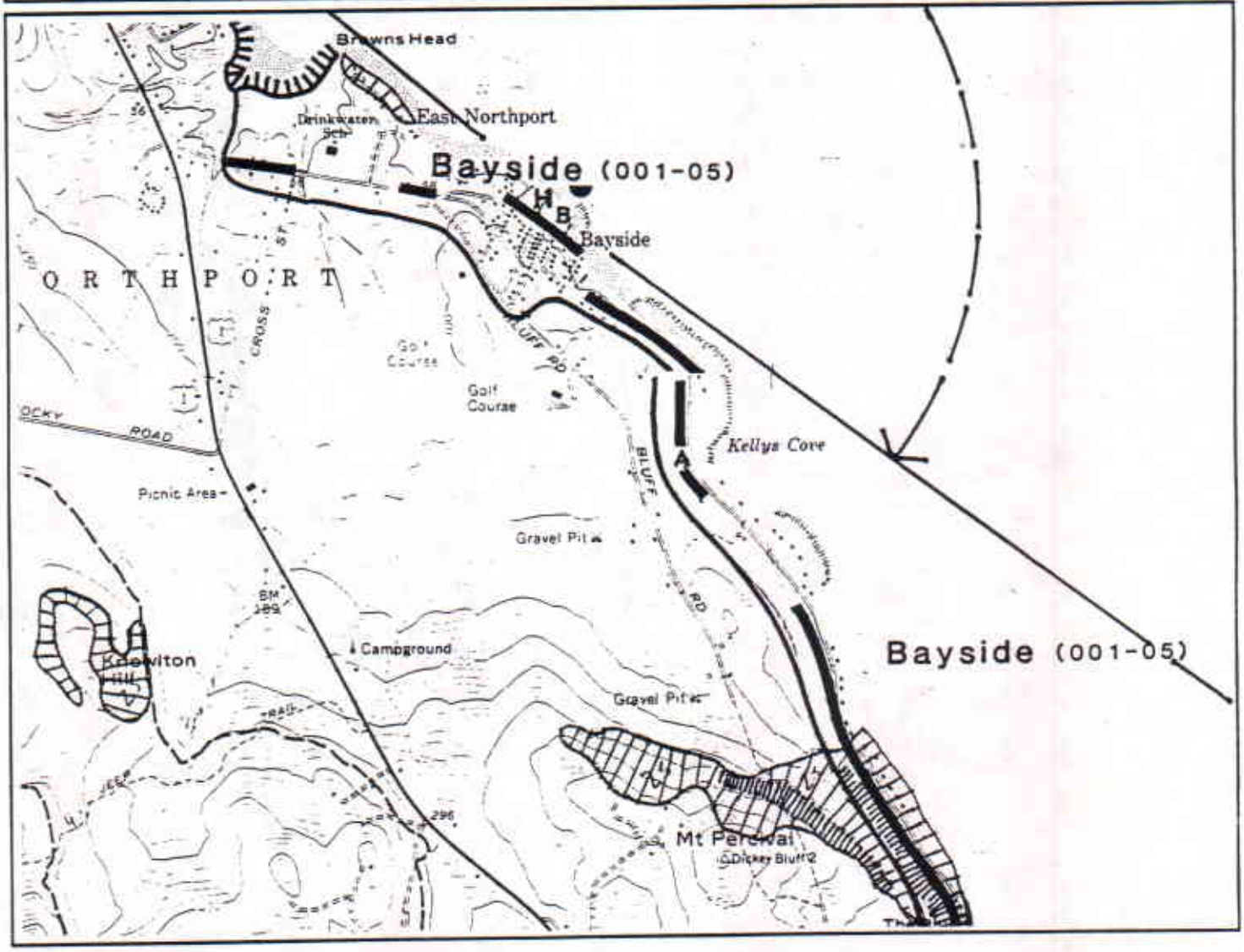
Scenic Area Evaluation Form

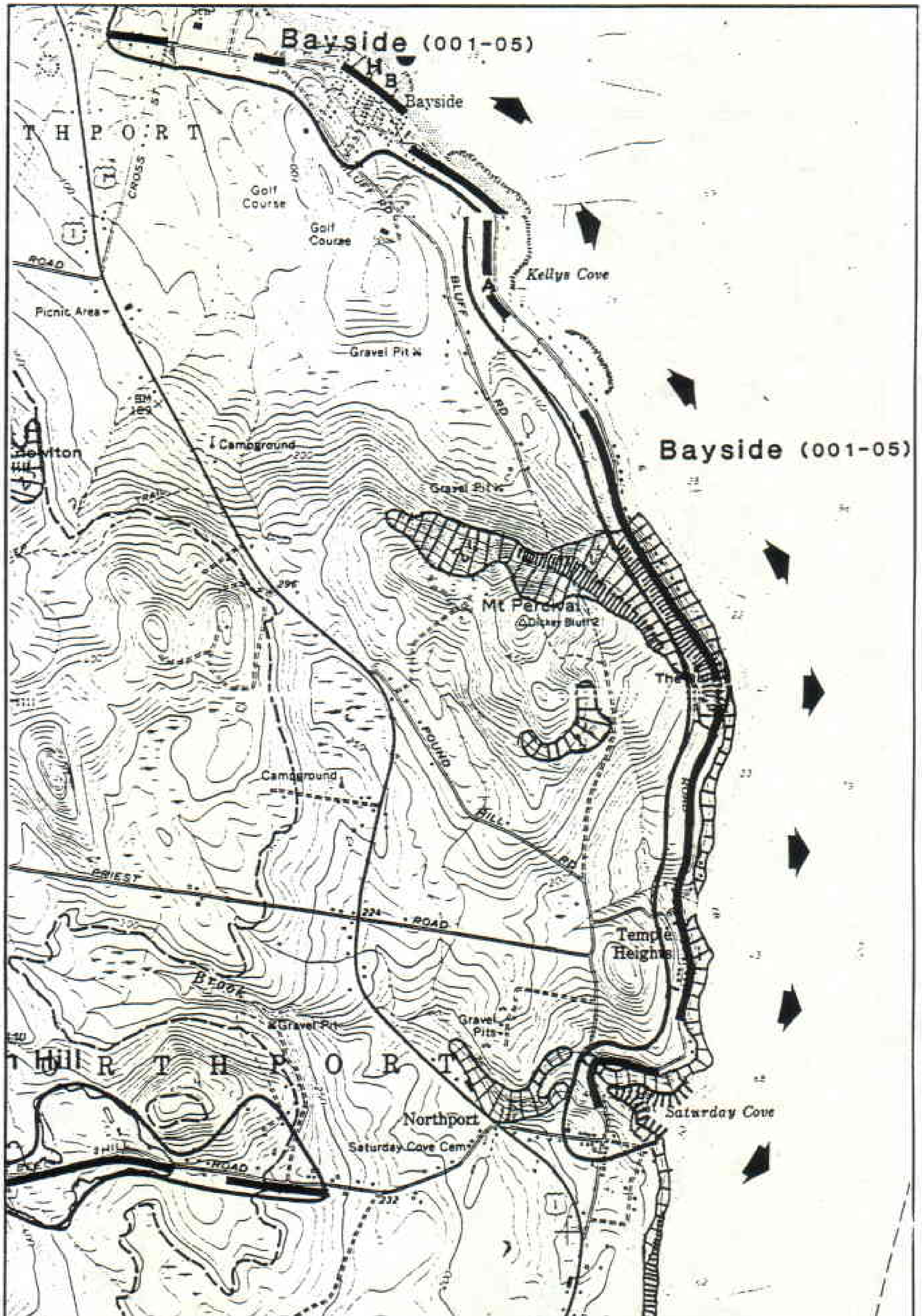
Scenic Area **Bayside** Code **001-05** Town(s) **Northport** County **Waldo**
1989 Coastal Scenic Inventory — Maine State Planning Office

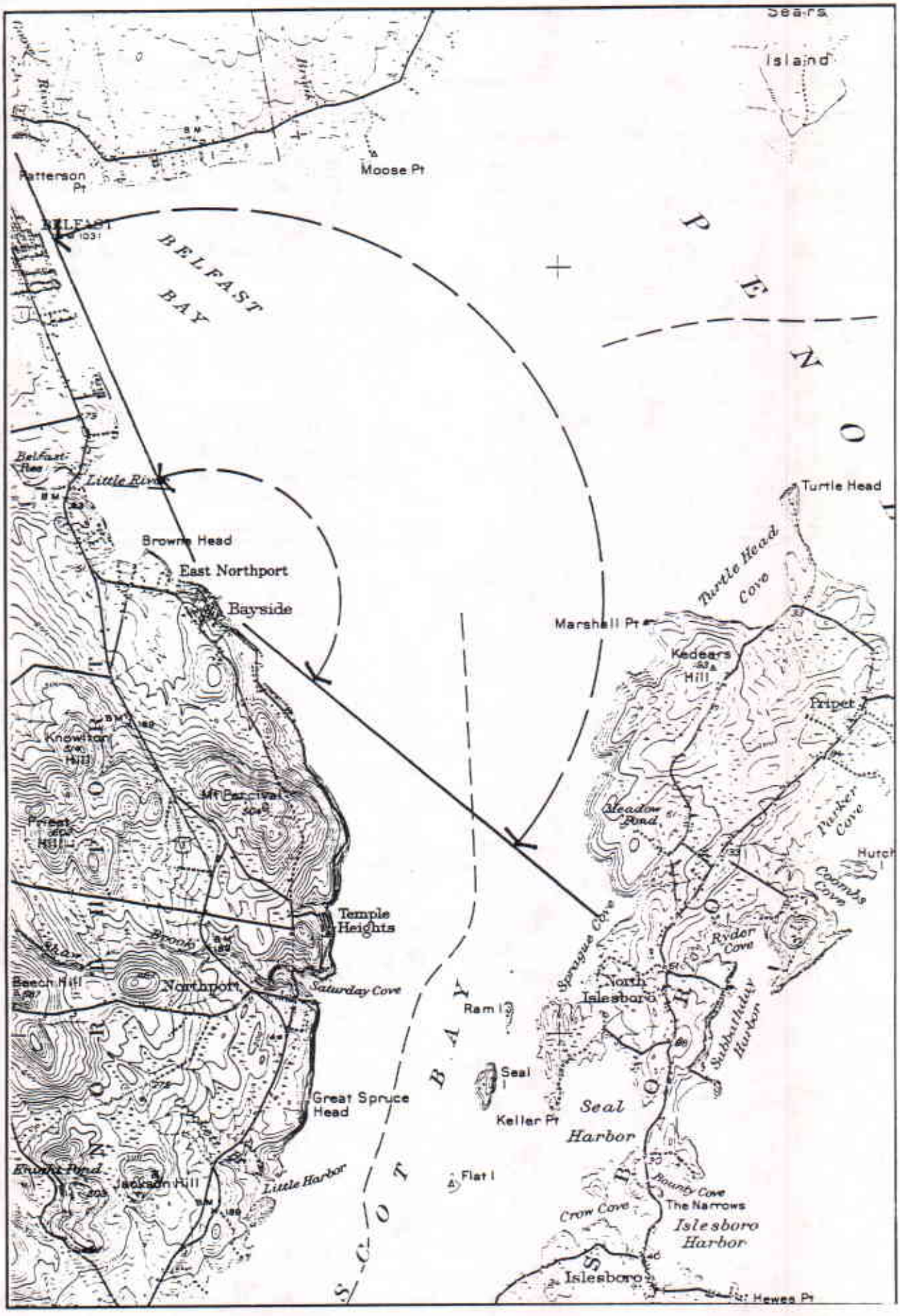
ST	S	IP	Special Interest/Score/Indicators Present
			1.Landform Topography____Slope____
			2.Open Land
			3.Shoreline Configuration
X	9	X	4.Scenic Features (Beach/Mooring Area)
	21		5.Scenic Quality of Water
			Duration of View 9
			Type of Water 9
			Quality of Horizon 3
	30	2	**Desktop Subtotal**
X	19		6.Landscape Character
			Land Use 7
			Roadside Characteristics 3
			Settlement Characteristics 9
	6		7.Vegetation
X	9		8.Composition & Effect
	64		**Total Score**
3			**Special Interest**

Viewshed Description Extensive cottage community of the late 19th and early 20th centuries. Small homes are laid out on a grid pattern with interspersed greens and views to the bay. A large village green overlooking the harbor provides a focal point for the community. The foreground views include highly detailed, well kept cottages, the yacht club, wharf, mooring area, playground, boat launch, beach and parking areas. The view extends out to Penobscot Bay to Islesboro on the horizon. A well-kept, small-scaled community with an architectural integrity and character that should be studied as a model for neighborhood development in Maine.

Viewshed Management Recommendations Strict performance standards for new construction and renovation that considers the scale and diversity of the community and preservation of visual access.




Bayside (001-05)
Bayside
Kellys Cove
Golf Course
Golf Course
Picnic Area
Gravel Pit
Campground
Bayside (001-05)
Gravel Pit
Mt Percival
Dickey Bluff
Campground
Temple Heights
Gravel Pit
Gravel Pits
Northport
Saturday Cove Cem
Saturday Cove
BLUFF RD
POUND HILL RD
PRIEST ROAD
Brook
ROAD


Sears
Island
Moose Pt
Patterson Pt
BELFAST
BELFAST BAY
PENOBSCOT
Little River
Belfast Flee
Browns Head
East Northport
Bayside
Turtle Head
Turtle Head Cove
Marshall Pt
Kedears Hill
Pripet
Knowlton Cove Hill
Mt Percival
Priest Hill
Meadow Pond
Parker Cove
Hutch
Coombs Cove
Temple Heights
Shaw Brook
Ryder Cove
Sprague Cove
Beech Hill
Northport
Saturday Cove
North Islesboro
Ram I
Seal I
Great Spruce Head
Keller Pt
Seal Harbor
Knowlton Pond
Jackson Hill
Little Harbor
Flat I
Bounty Cove
The Narrows
Crow Cove
Islesboro Harbor
Islesboro
Hewes Pt

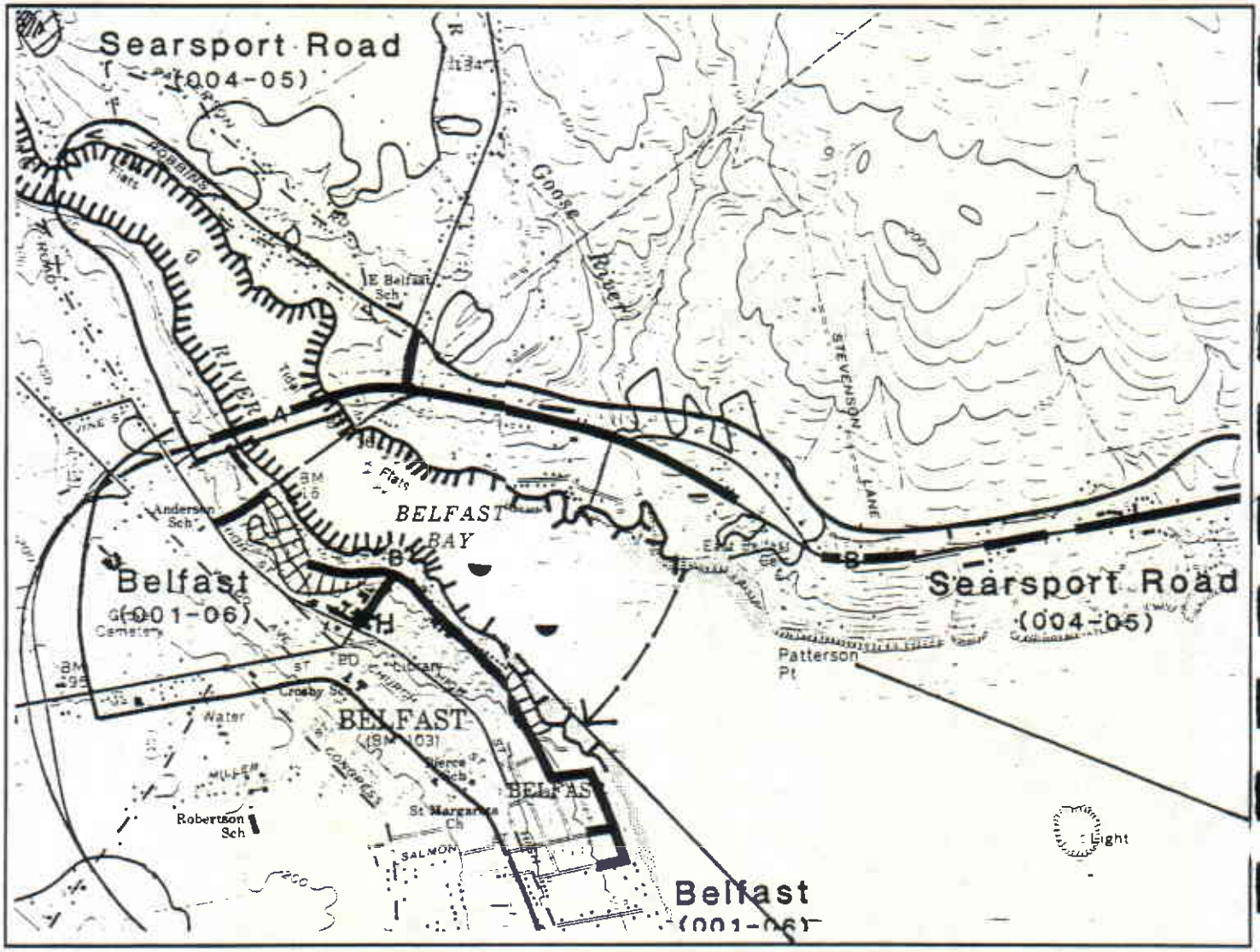
Scenic Area Evaluation Form

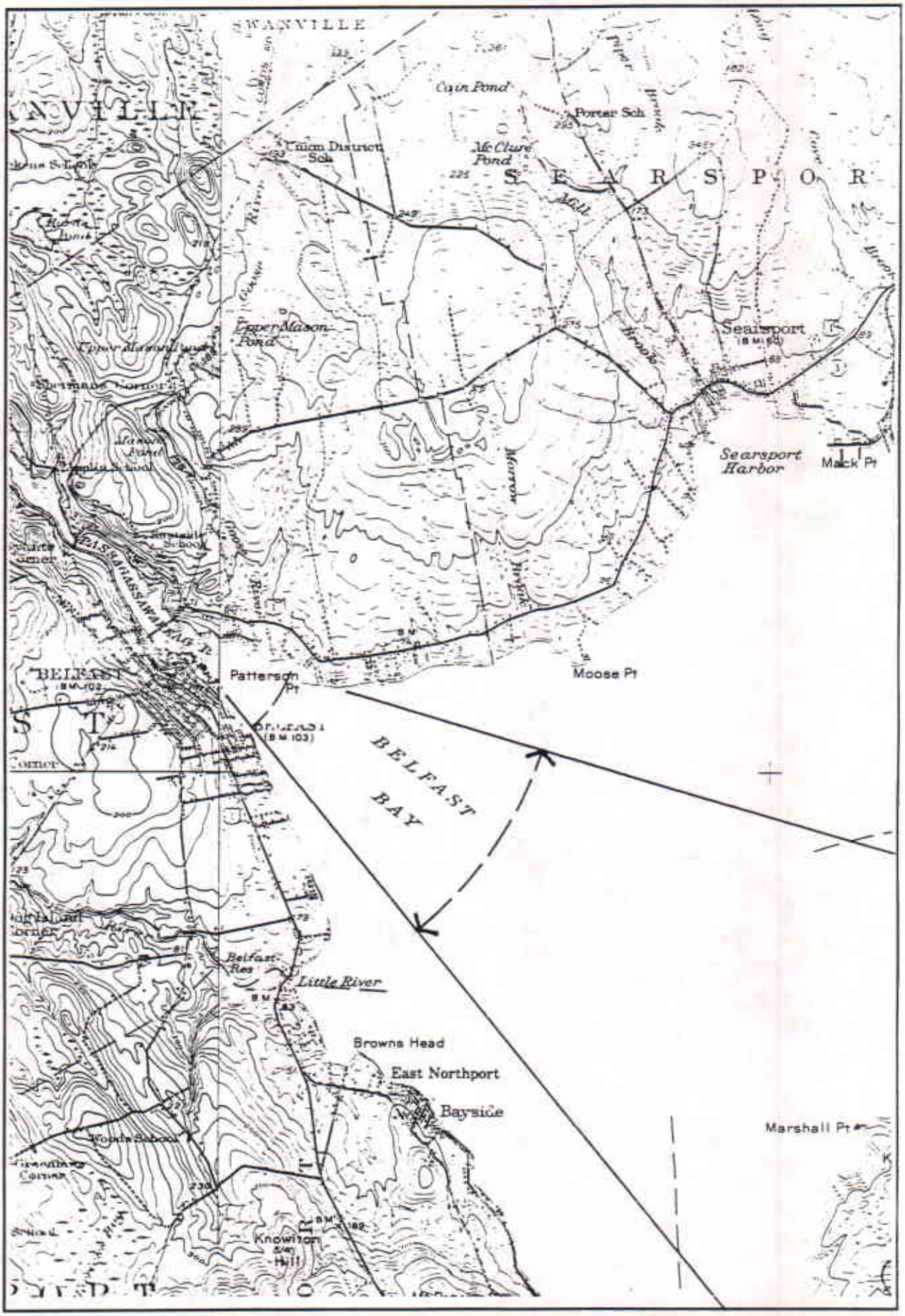
Scenic Area **Searsport Road** Code **004-05** Town(s) **Belfast/Searsport** County **Waldo**
1989 Coastal Scenic Inventory — Maine State Planning Office

ST	S	IP	Special Interest/Score/Indicators Present
			1.Landform Topography____Slope____
	4	X	2.Open Land
			3.Shoreline Configuration
			4.Scenic Features
	21		5.Scenic Quality of Water
			Duration of View 9
			Type of Water 9
			Quality of Horizon 3
	25	2	**Desktop Subtotal**
	7		6.Landscape Character
			Land Use 3
			Roadside Characteristics 1
			Settlement Characteristics 3
	3		7.Vegetation
	3		8.Composition & Effect
	38		**Total Score**
			Special Interest

Viewshed Description Locally significant views of Belfast Harbor, primarily from the Route One bridge. Sustained, open views to the southeast are offset by the intensive strip development along the roadside. One of the few high level views of an urban waterfront in Maine. Grade change is 100 feet above the water level.

Viewshed Management Recommendations Strict site plan review standards to preserve remaining visual access to Belfast Harbor. Avoid blocking view with fences, landscaping, new buildings, signs, etc.




SWANVILLE
Cain Pond
Porter Sch
Union District Sch
McClure Pond
SEARSPORT
Mill
Upper Mason Pond
Searsport
(8 M 95)
Searsport Harbor
Mack Pt
Moose Pt
Patterson Pt
BELFAST
(8 M 103)
BELFAST BAY
Belfast Res
Little River
Browns Head
East Northport
Bayside
Marshall Pt
Knowlton Hill

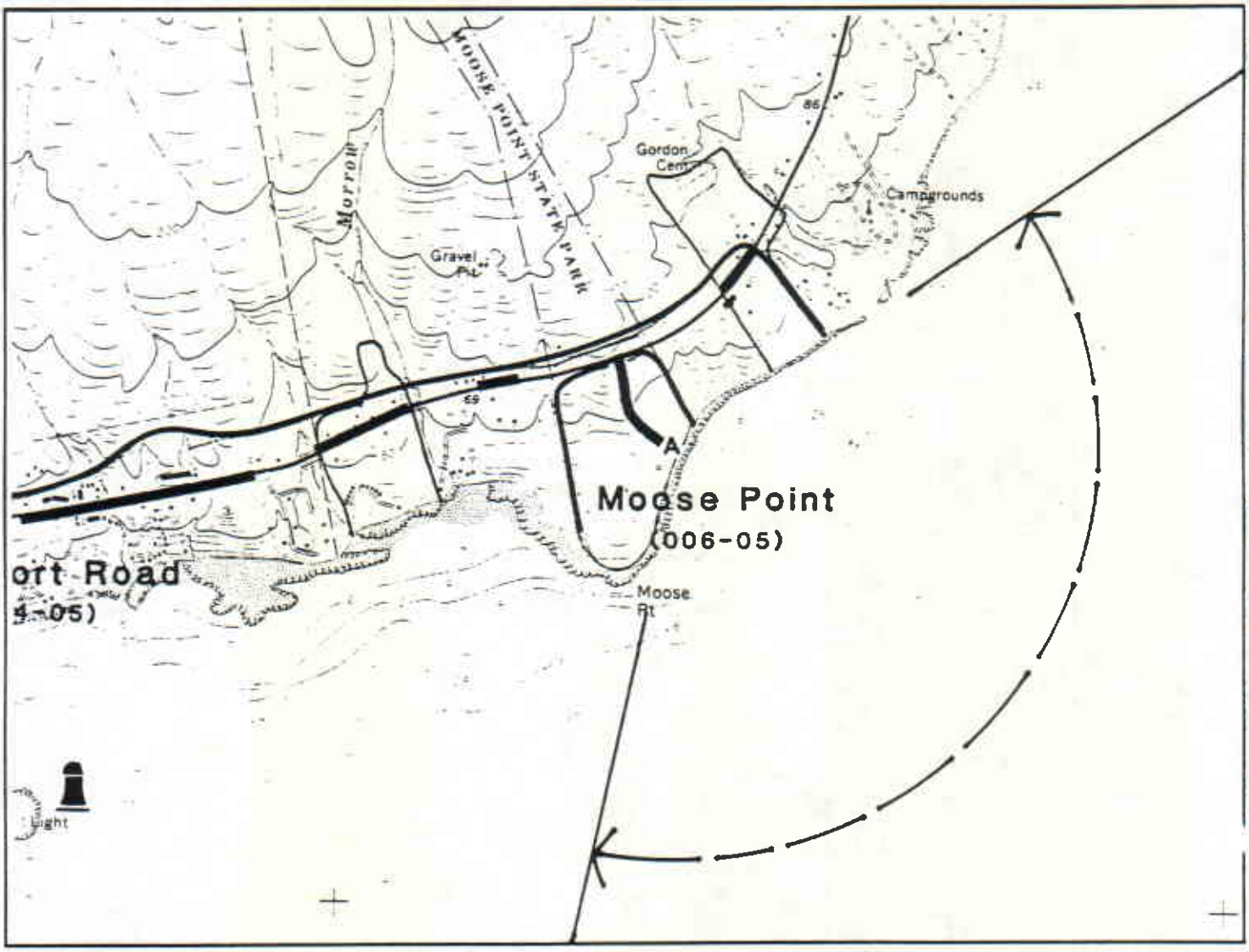
Scenic Area Evaluation Form

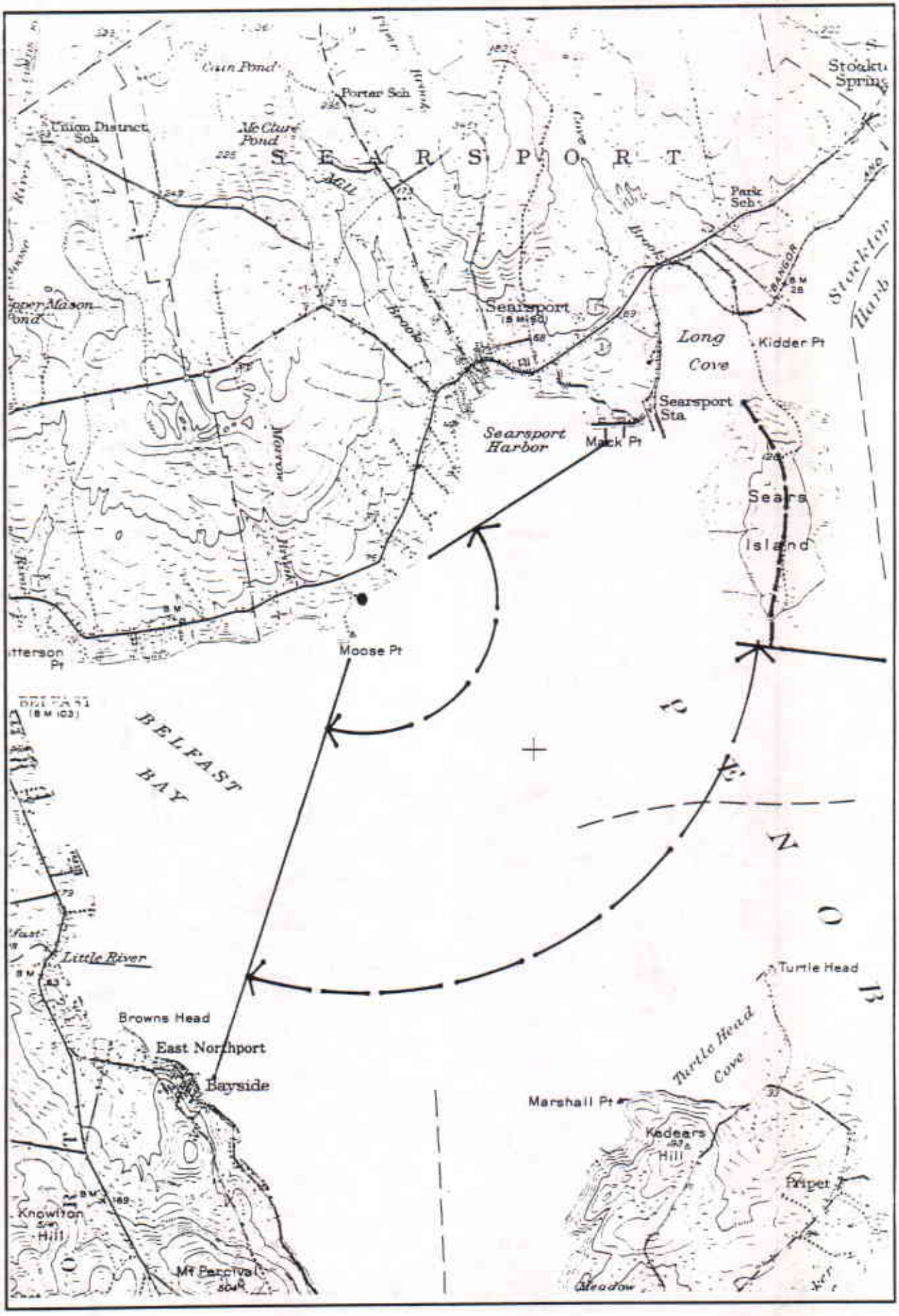
Scenic Area **Moose Point** Code **006-05** Town(s) **Searsport** County **Waldo**
1989 Coastal Scenic Inventory — Maine State Planning Office

SI	S	IP	Special Interest/Score/Indicators Present
			1.Landform Topography____Slope____
			2.Open Land
			3.Shoreline Configuration
			4.Scenic Features
	21		5.Scenic Quality of Water
			Duration of View 9
			Type of Water 9
			Quality of Horizon 3
	21	1	**Desktop Subtotal**
	16		6.Landscape Character
			Land Use 7
			Roadside Characteristics 3
			Settlement Characteristics 6
	6		7.Vegetation
	6		8.Composition & Effect
	49		**Total Score**
			Special Interest

Viewshed Description Moose Point State Park is a low-key, natural area with rolling lawns and a mature pine forest. Park access road provides open views to Penobscot Bay and ends in a parking lot at the waterfront. Foreground elements include lawns, the parking lot, pine forest. and Penobscot Bay. Midground consists of the waters of Penobscot Bay with background views to Islesboro on the horizon. The landscape is well kept and in good overall condition.

Viewshed Management Recommendations
Continued high level of maintenance. Interpretive signage to orient the visitor to Penobscot Bay.




Crain Pond
Porter Sch
Union District Sch
McClure Pond
SEARSPORT
Mill
Park Sch
Stockton Springs
Searsport
Long Cove
Kidder Pt
Searsport Sta
Searsport Harbor
Mack Pt
Sears Island
Moose Pt
BELFAST BAY
PENOBSCOT
Little River
Browns Head
East Northport
Bayside
Knowlton Hill
Mt Percival
Turtle Head
Turtle Head Cove
Marshall Pt
Kedears Hill
Pripet
Meadow

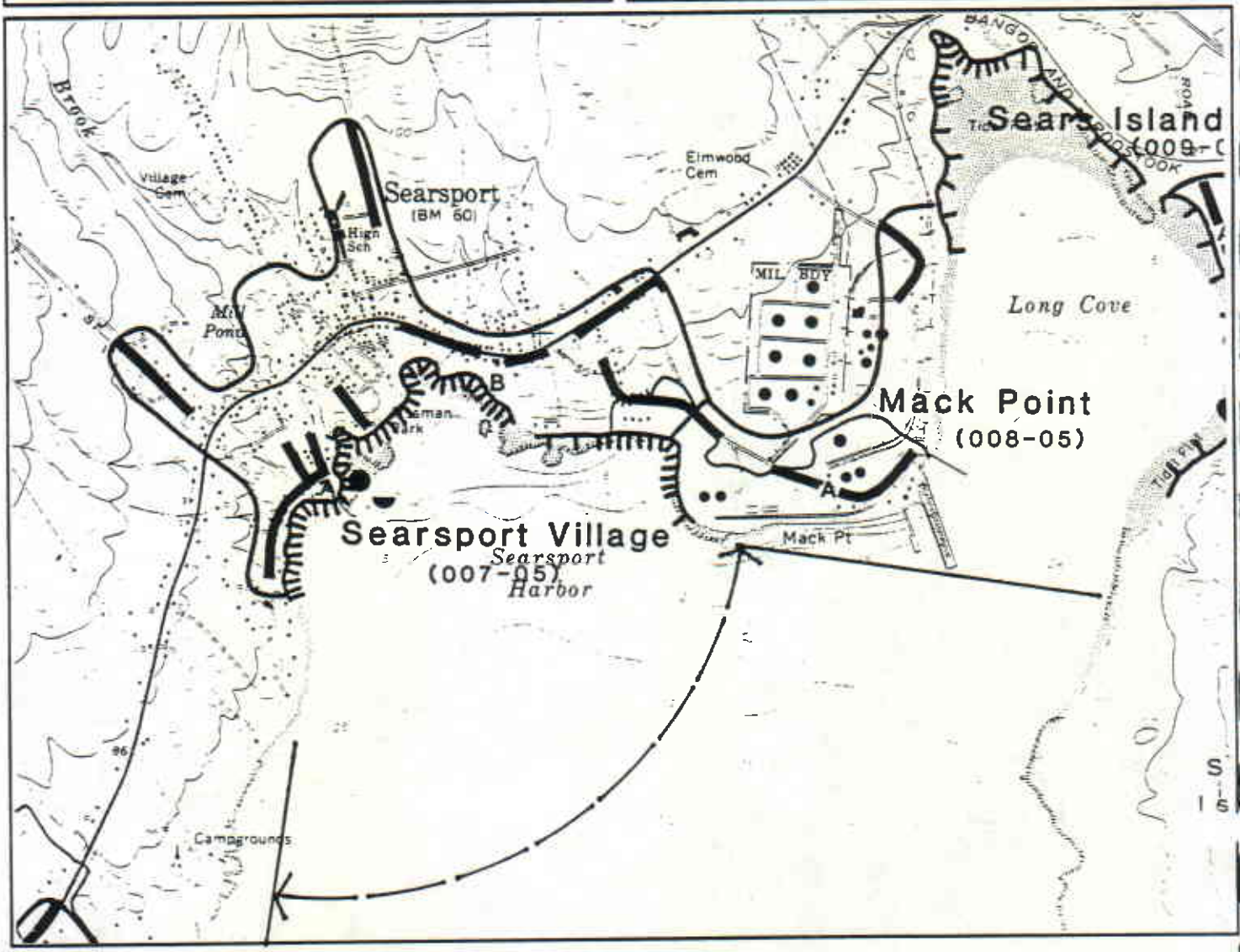
Scenic Area Evaluation Form

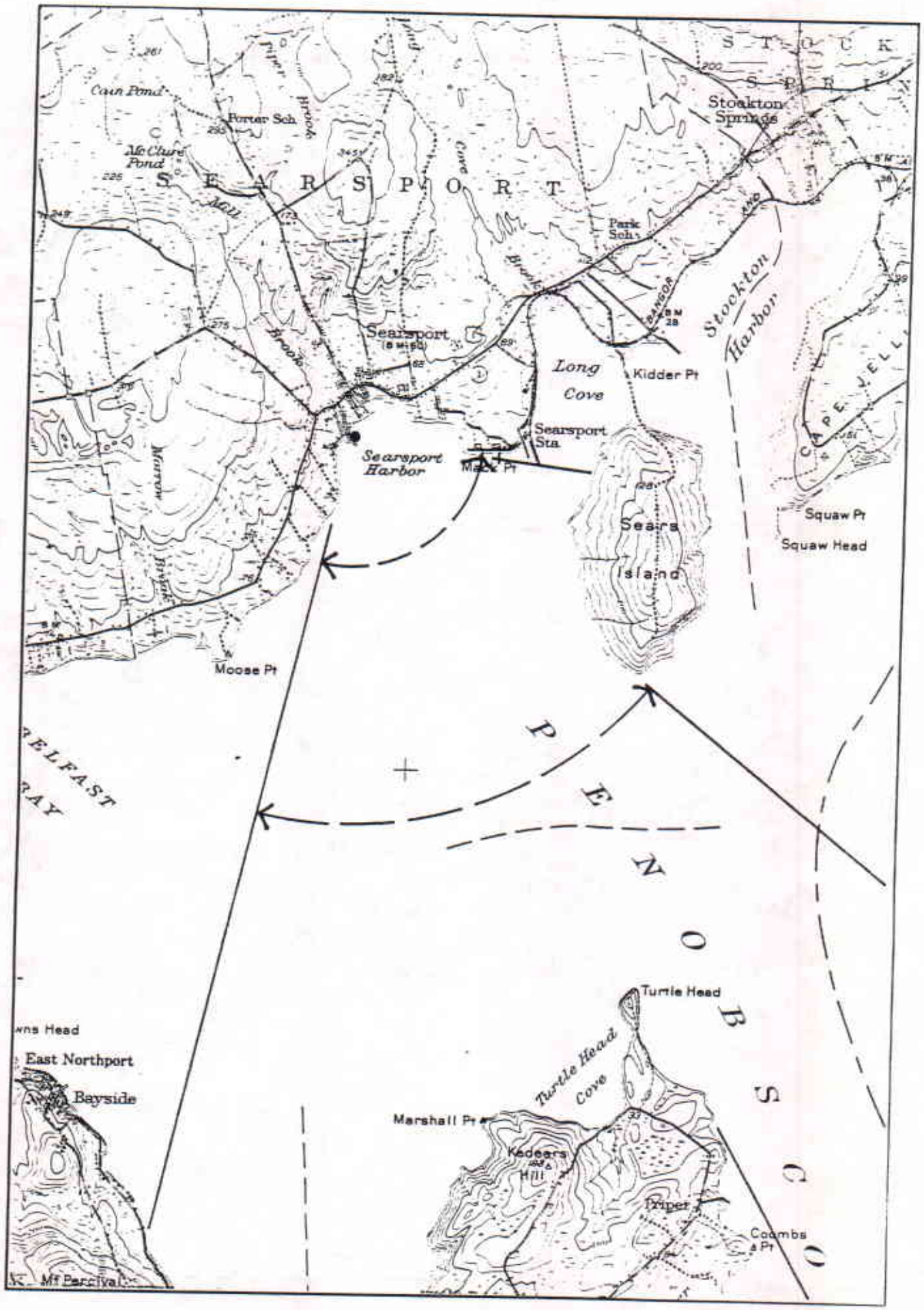
Scenic Area **Searsport Village** Code **007-05** Town(s) **Searsport** County **Waldo**
1989 Coastal Scenic Inventory — Maine State Planning Office

SI	S	IP	Special Interest/Score/Indicators Present
			1.Landform Topography____Slope____
			2.Open Land
	6	X	3.Shoreline Configuration
	9	X	4.Scenic Features
	24		5.Scenic Quality of Water
			Duration of View 9
			Type of Water 12
			Quality of Horizon 3
	39	3	**Desktop Subtotal**
	4		6.Landscape Character
			Land Use 7
			Roadside Chacteristics 1
			Settlement Characteristics 6
	3		7.Vegetation
	6		8.Composition & Effect
	62		**Total Score**
			Special Interest

Viewshed Description A well maintained coastal village with a highly diverse waterfront and historic downtown area. Good waterfront access two blocks from Route One (Main Street). Foreground interest includes the historic homes and commercial area along Main Street, the well defined residential neighborhoods, the waterfront and boat launch. The views from the waterfront extend to Sears Island on the east and Islesboro on the south.

Viewshed Management Recommendations Strict site plan review ordinance to preserve visual access to the waterfront and the fine sense of scale throughout the town.




Cain Pond
Porter Sch
McClure Pond
SEARSPORT
Mill
Brook
Stockton Springs
Park Sch
Bangor
Searsport
Long Cove
Kidder Pt
Searsport Sta
Searsport Harbor
Mack Pt
Stockton Harbor
Cape Jellison
Squaw Pt
Squaw Head
Sears Island
Moose Pt
PENOBSCOT
Turtle Head
Turtle Head Cove
Marshall Pt
Kedeers Hill
Coombs Pt
East Northport
Bayside
Mt Percival

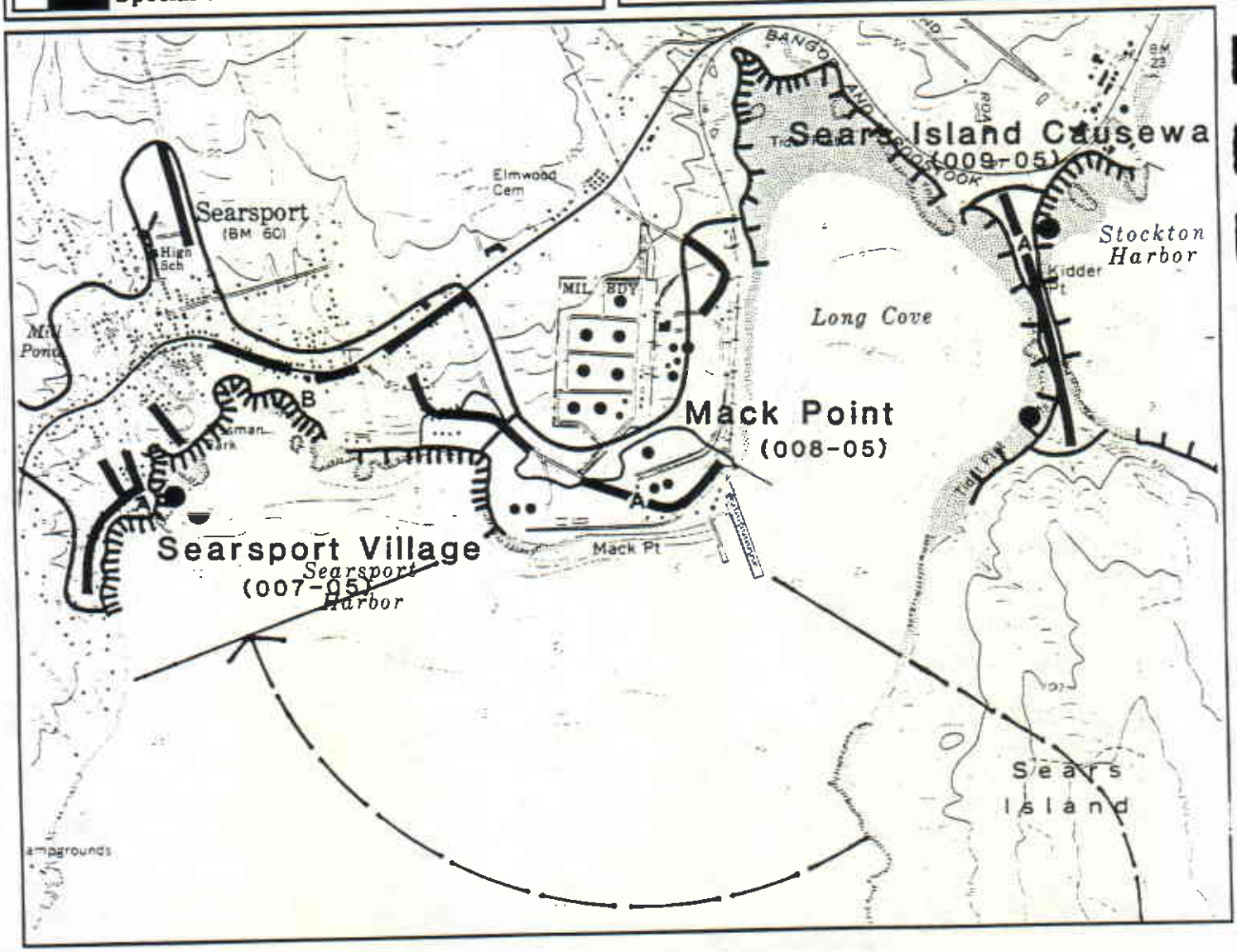
Scenic Area Evaluation Form

Scenic Area **Mack Point** Code **008-05** Town(s) **Searsport** County **Waldo**
1989 Coastal Scenic Inventory
Maine State Planning Office

SI	S	IP	Special Interest/Score/Indicators Present
			1.Landform Topography____Slope____
			2.Open Land
	6	X	3.Shoreline Configuration
			4.Scenic Features
	21	■	5.Scenic Quality of Water
			Duration of View 6
			Type of Water 12
			Quality of Horizon 3
	27	2	**Desktop Subtotal**
	7	■	6.Landscape Character
		■	Land Use 3
		■	Roadside Characteristics 1
		■	Settlement Characteristics 3
	3	■	7.Vegetation
	3	■	8.Composition & Effect
■	40		**Total Score**
	■	■	**Special Interest**

Viewshed Description Extensive industrial landscape comprised of a shipping port and outdoor materials storage. Town road ends at the industrial area and provides views past stored materials to Penobscot Bay. Foreground elements include a meadow, second growth field, industrial material storage, shipping docks, and the waters of Penobscot Bay. Midground includes the bay and Sears Island with background views to the open ocean with Islesboro on the horizon. General landscape condition is poor to good. No screening has been provided for any outdoor activity areas.

Viewshed Management Recommendations Screening of stockpiles. Formal turn-around for non-industrial traffic.



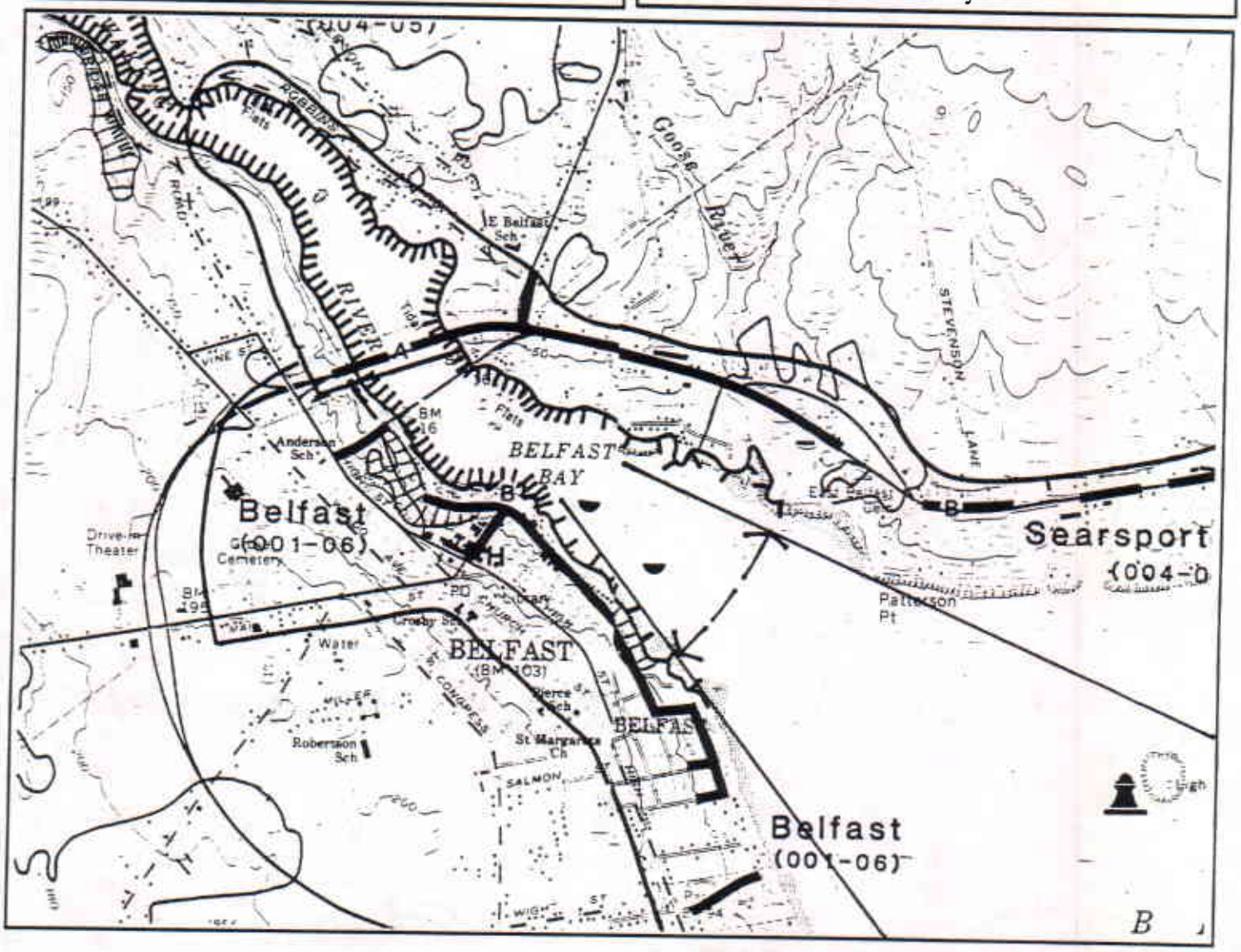
Scenic Area Evaluation Form

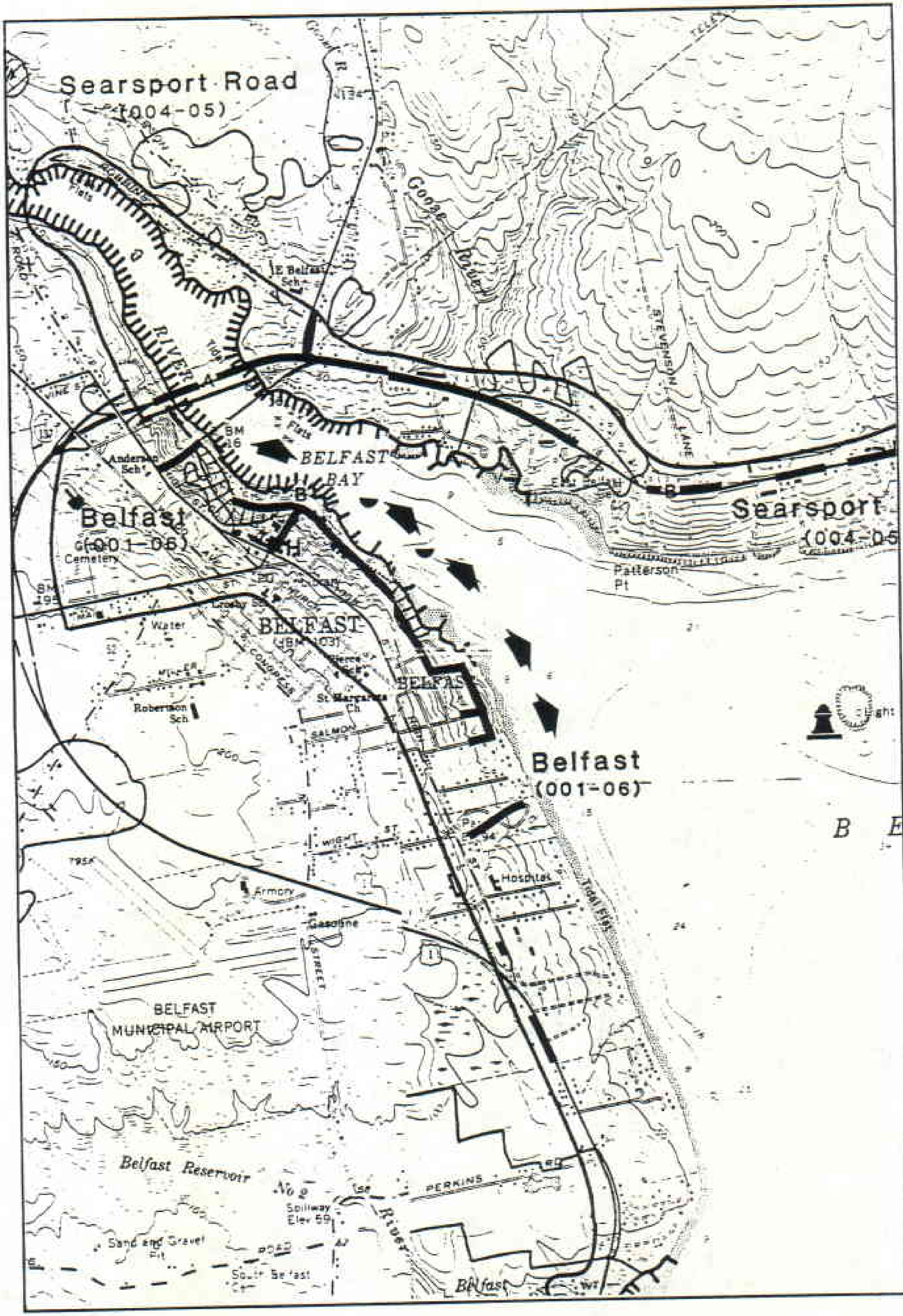
Scenic Area **Belfast City** Code **001-06** Town(s) **Belfast** County **Waldo**
1989 Coastal Scenic Inventory — Maine State Planning Office

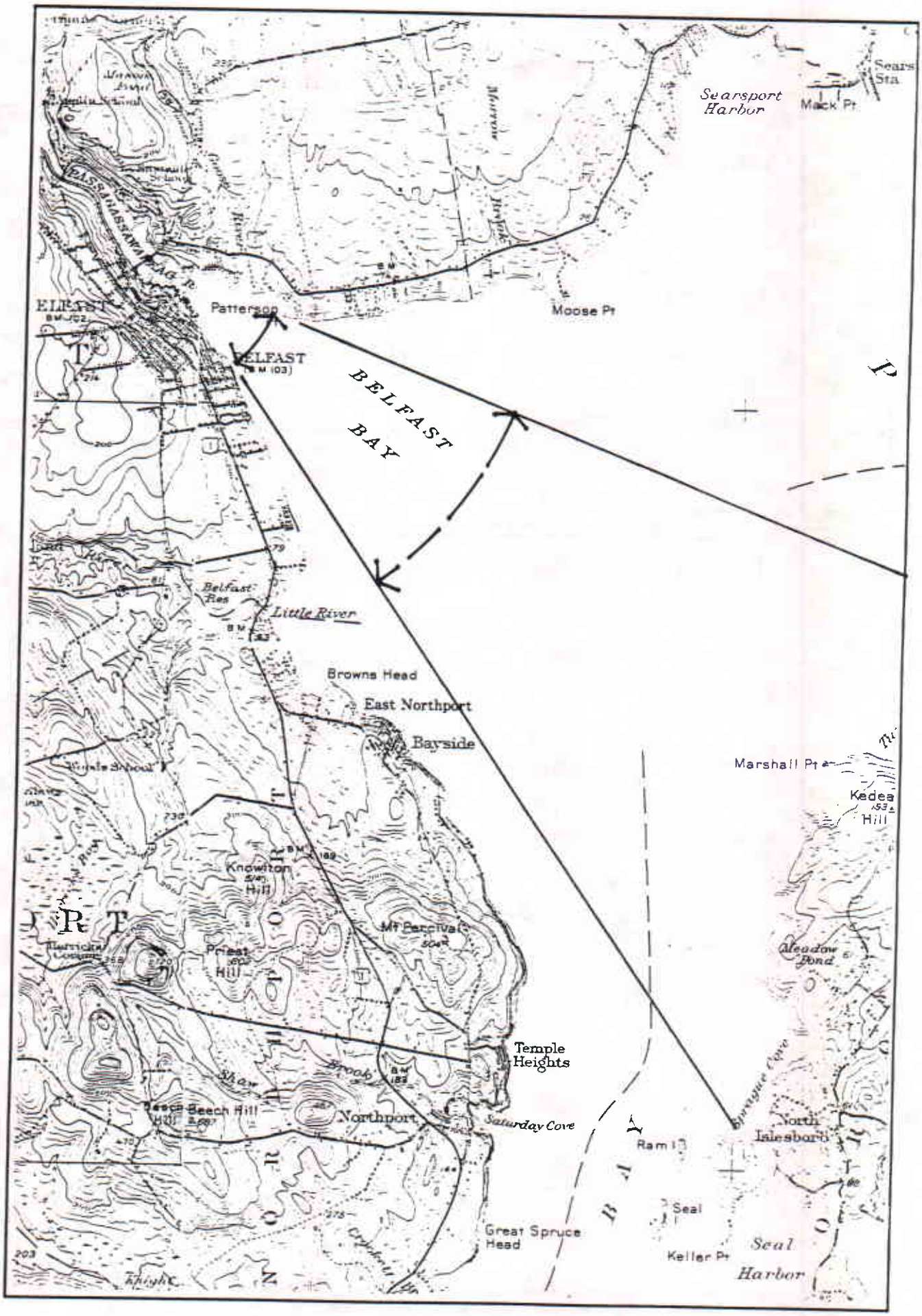
SI	S	IP	Special Interest/Score/Indicators Present
	2	X	1.Landform Topography____Slope 2
			2.Open Land
	6	X	3.Shoreline Configuration
	9	X	4.Scenic Features (Mooring Area)
	27		5.Scenic Quality of Water
			Duration of View 9
			Type of Water 12
			Quality of Horizon 6
	44	4	**Desktop Subtotal**
	12		6.Landscape Character
			Land Use 5
			Roadside Characteristics 1
			Settlement Characteristics 6
	3		7.Vegetation
	6		8.Composition & Effect
	65		**Total Score**
			Special Interest

Viewshed Description Belfast is a small city with a newly renovated downtown and waterfront park. The deep, protected harbor serves both commercial and pleasure craft. Main Street runs perpendicular to the waterfront, ending in an urban park with an adjacent parking lot, affording good access to the water. Foreground views include the park, wharves, historic structures, and mooring area. Midground is made up of bridges, mooring area, the opposite shoreline, and navigational markers. The background view consists of the waters of Penobscot Bay with Islesboro on the horizon.

Viewshed Management Recommendations Continued restoration of waterfront structures. Street tree program. Local ordinances to protect visual access to the water. Performance standards for new structures that respect the character of the city.




Searsport Road
(004-05)
Belfast
(001-06)
BELFAST
BAY
Searsport
(004-05)
Belfast
(001-06)
Patterson
Pt
BELFAST
BELFAST
MUNICIPAL AIRPORT
Belfast Reservoir
Spillway
Elev 59
Sand and Gravel
Pit
Hospital
Armory
Gasoline
Cemetery
Water
E Belfast
Sch
Anderson
Sch
Robertson
Sch
St Margarets
Ch
PERKINS
WIGHT
SALMON
STEVENSON
LANE
Light


Searsport Harbor
Mack Pt
Sears Sta
Moose Pt
Patterson
BELFAST
BELFAST BAY
Belfast Res
Little River
Browns Head
East Northport
Bayside
Marshall Pt
Kedea Hill
Knowlton Hill
Mt Percival
Meadow Pond
Priest Hill
Temple Heights
Beech Hill
Northport
Saturday Cove
Sprague Cove
North Islesboro
Ram I
Seal
Great Spruce Head
Keller Pt
Seal Harbor

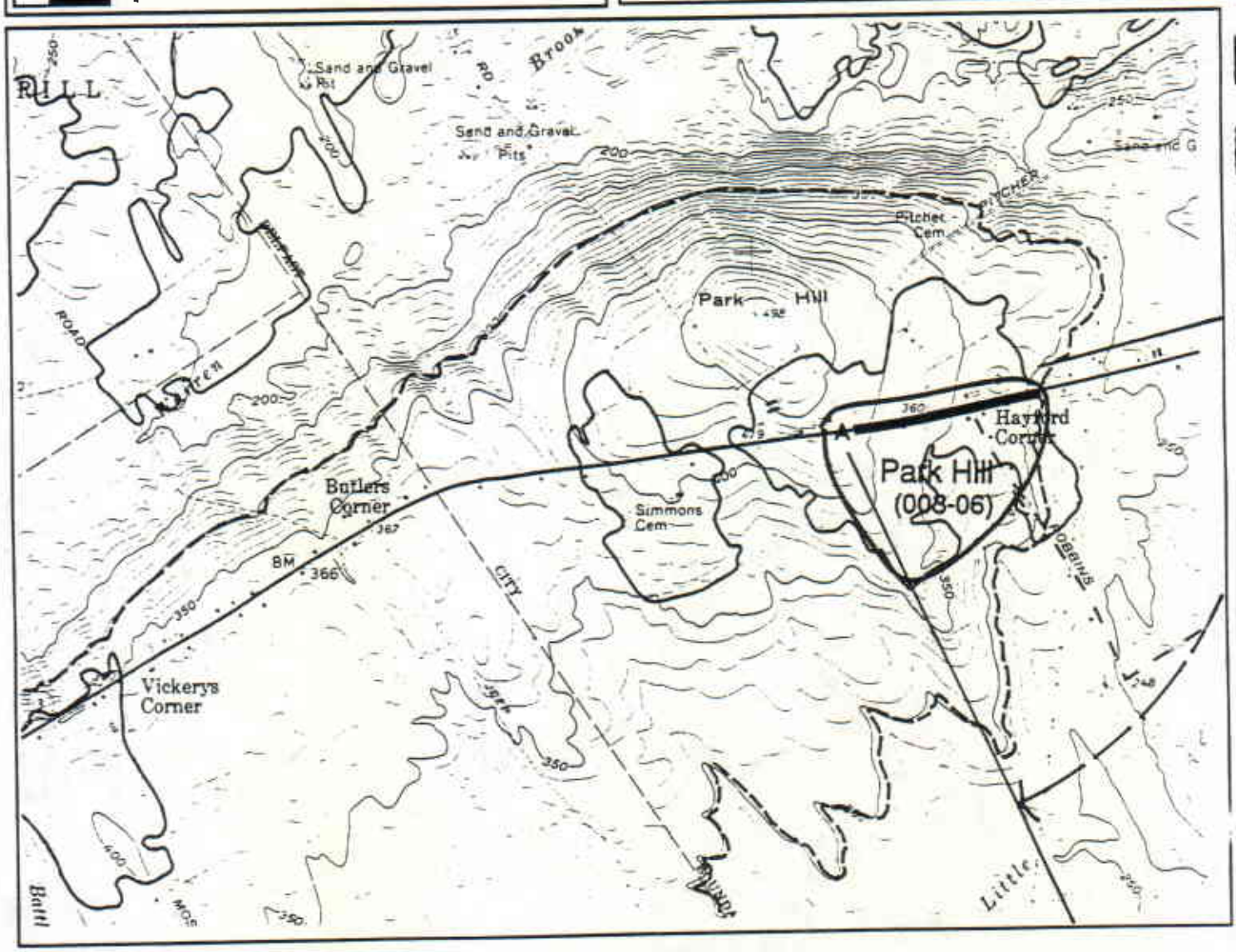
Scenic Area Evaluation Form

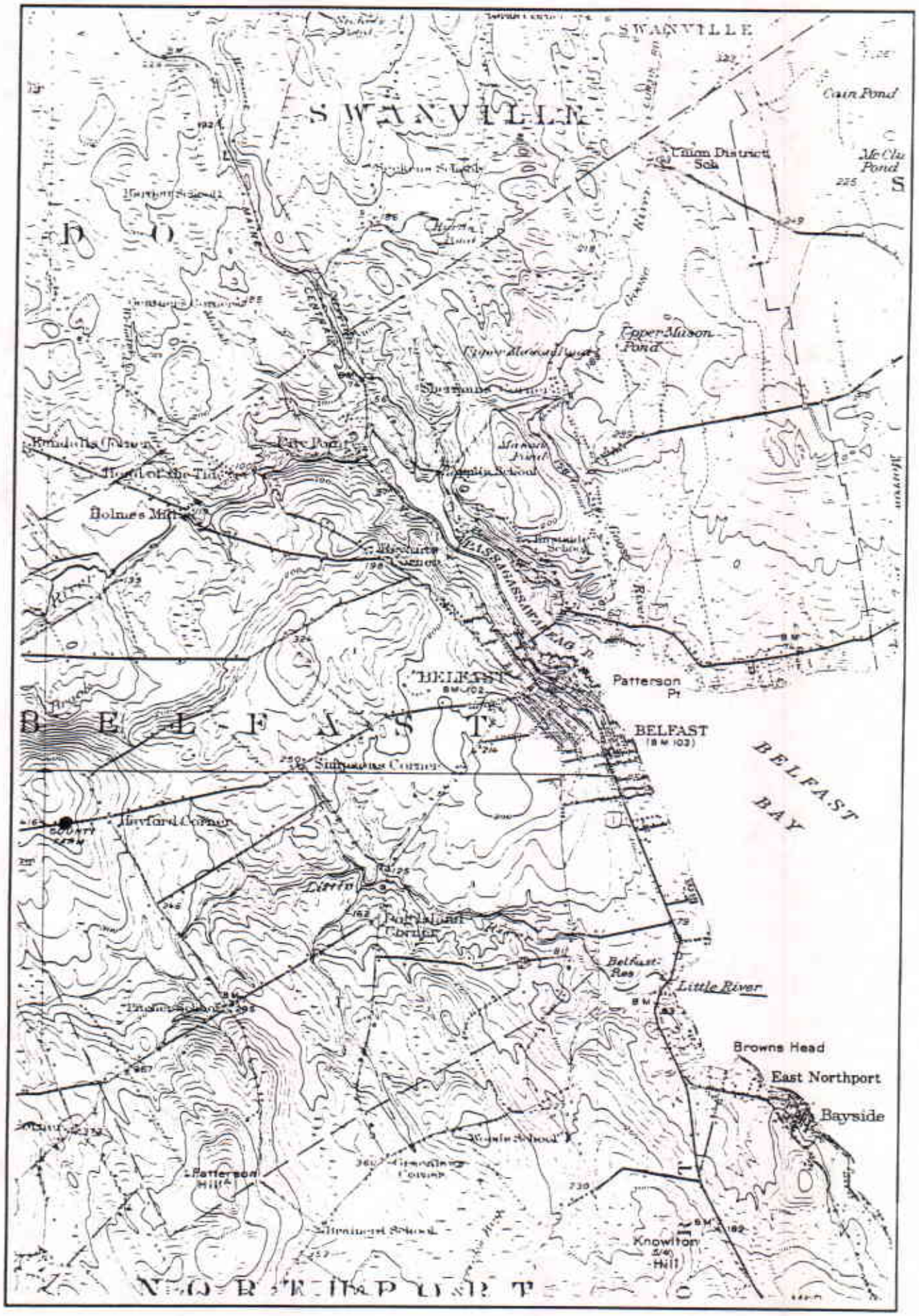
Scenic Area **Park Hill** Code **003-06** Town(s) **Belfast** County **Waldo**
1989 Coastal Scenic Inventory — Maine State Planning Office

SI	S	IP	Special Interest/Score/Indicators Present
	1	X	1.Landform Topography 1 Slope____
	6	X	2.Open Land
			3.Shoreline Configuration
			4.Scenic Features
	18		5.Scenic Quality of Water
			Duration of View 6
			Type of Water 9
			Quality of Horizon 3
	28	3	**Desktop Subtotal**
	11		6.Landscape Character
			Land Use 5
			Roadside Characteristics 3
			Settlement Characteristics 3
	6		7.Vegetation
	6		8.Composition & Effect
	48		**Total Score**
			Special Interest

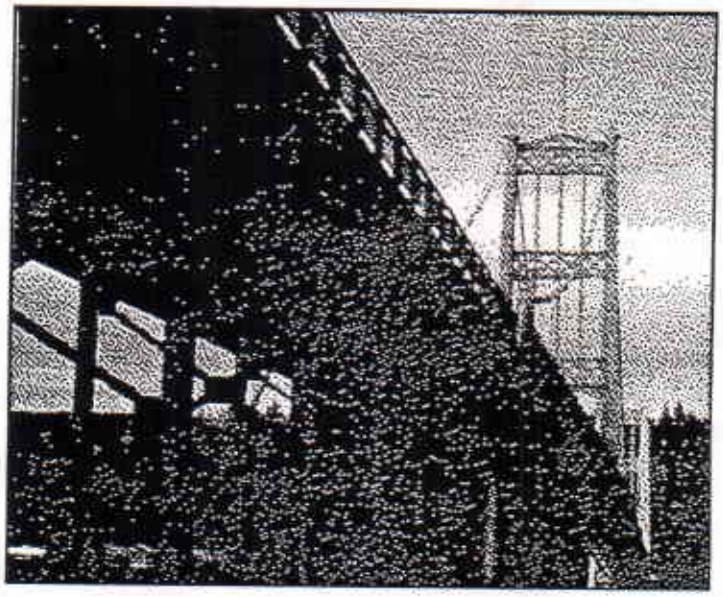
Viewshed Description The first view of the water seen from Route 3. A locally significant overlook.

Viewshed Management Recommendations Protect open fields through site plan review ordinances, open space provisions in the zoning ordinance, encouragement of cluster development, and scenic inventory in the comprehensive plan.




SWANVILLE
Cain Pond
Union District Sch
McClay Pond
Upper Mason Pond
Holmes Mill
BELFAST
Patterson Pt
BELFAST
(B M 103)
BELFAST BAY
Little River
Browns Head
East Northport
Bayside
Patterson Hill
Knowlton Hill

SOUTH PENOBSCOT RIVER



Sears Island Causeway
Mill Cove
Cape Jellison Farm
Fort Point Cove
West Penobscot
Sandy Point
Mt. Tuck
Fort Knox
Bucksport Harbor
Leaches Point

Sub-Region Evaluation Form

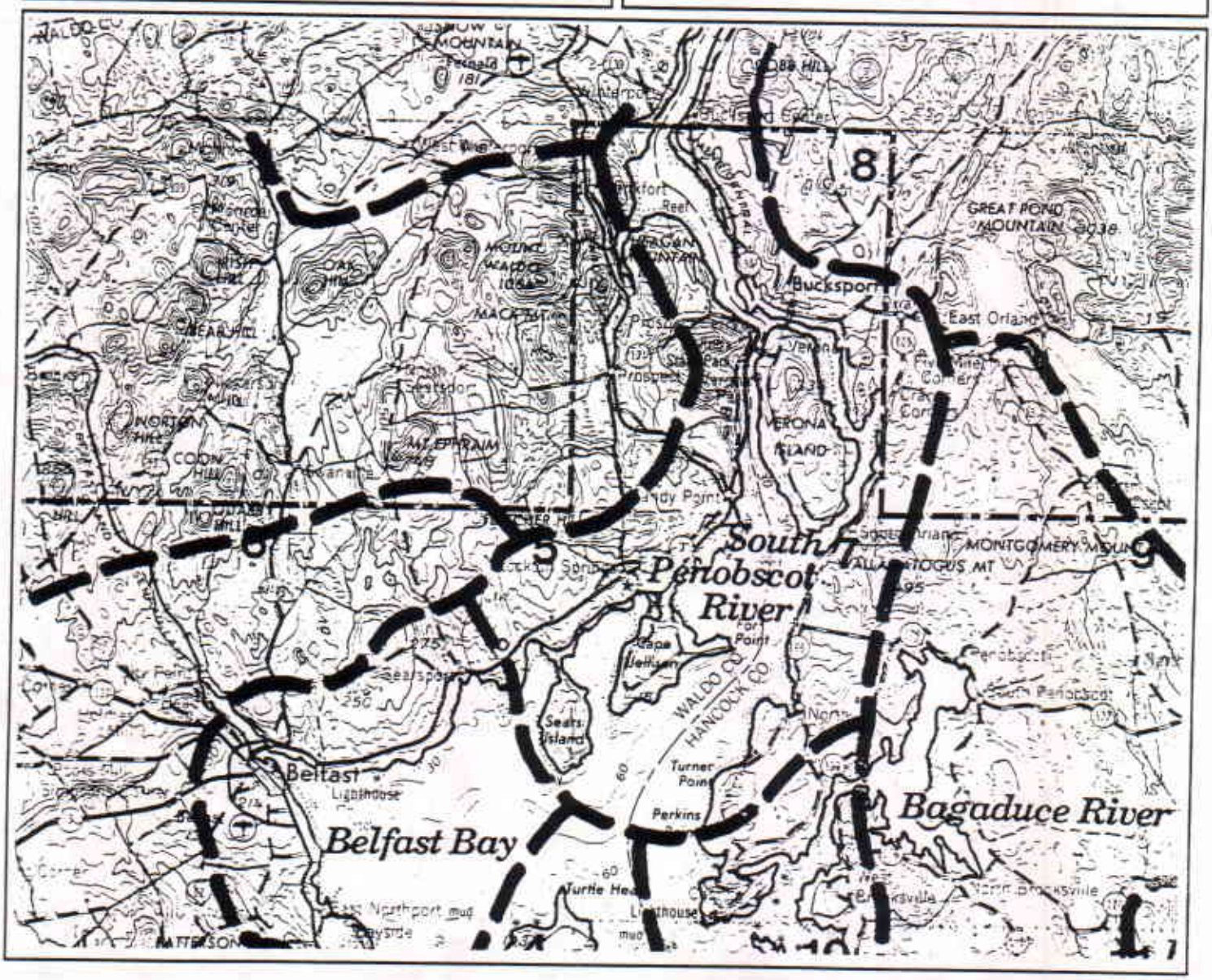
Sub-Region **South Penobscot River** Towns **Searsport, Stockton Springs, Prospect, Bucksport, Verona, Orland, Penobscot**
Counties **Waldo, Hancock**
1989 Coastal Scenic Inventory
Maine State Planning Office

Sub-Region Description

South Penobscot River is place where the Penobscot River meets the Ocean. Large islands and steep river banks define the landscape, and offer an abundance of changing views from a variety of levels. The western and northern sides of the area is highly developed, with small towns, industrial plants, Mack Point, and the proposed Sears Island cargo facility. The opposite shoreline and the islands are quite the opposite, with slower roads, fewer settlements, and fewer dramatic views.

Scenic Areas

Sears Island Causeway (009-05)
Mill Cove (001-07)
Cape Jellison Farm (002-07)
Fort Point Cove (004-07)
West Penobscot (006-07)
Sandy Point (001-08)
Mt. Tuck (002-08)
Fort Knox (004-08)
Bucksport Harbor (006-08)
Leaches Point (010-08)



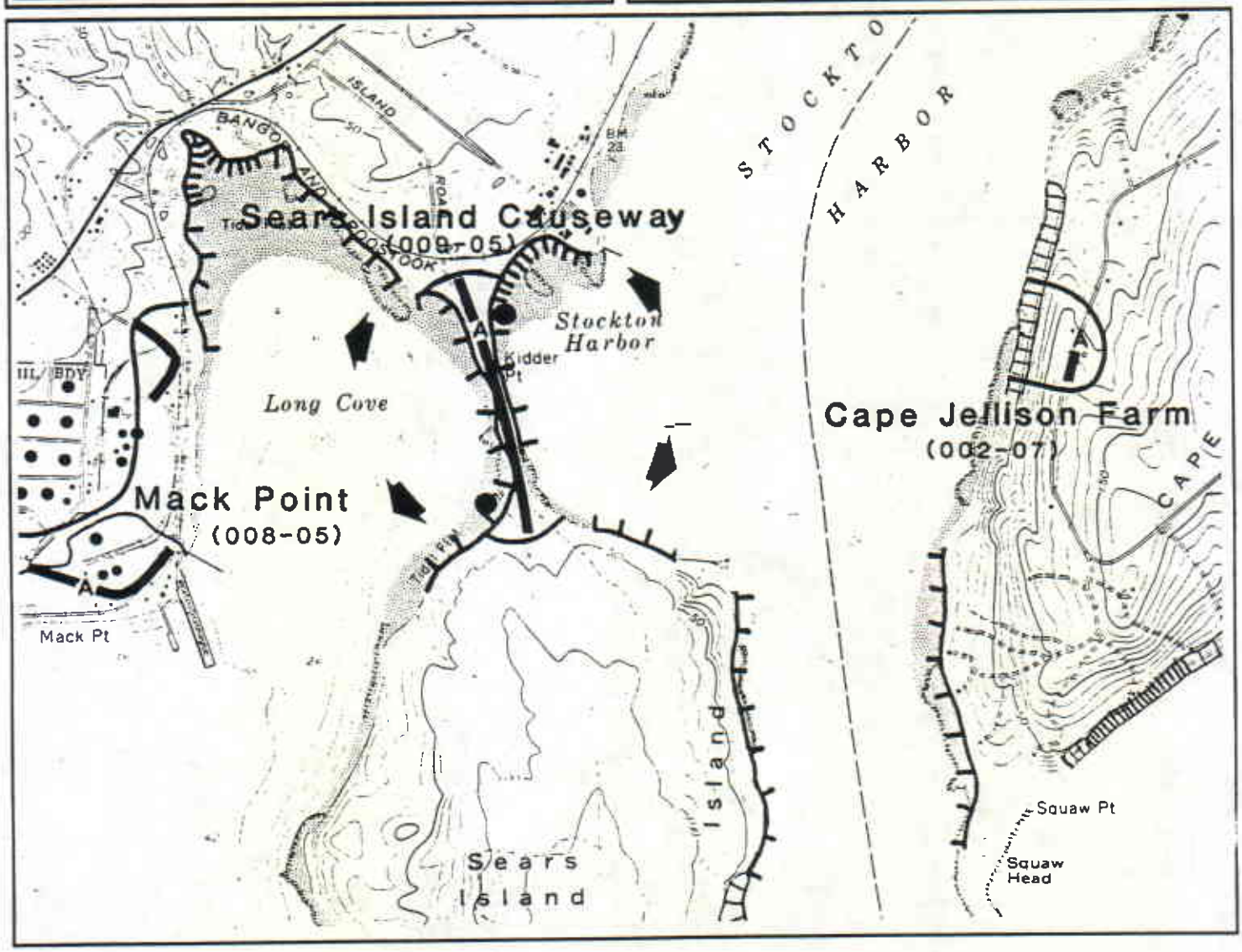
Scenic Area Evaluation Form

Scenic Area **Sears Island Causeway** Code **009-05** Town(s) **Searsport** County **Waldo**
1989 Coastal Scenic Inventory
Maine State Planning Office

SI	S	IP	Special Interest/Score/Indicators Present
			1.Landform Topography____Slope____
			2.Open Land
	6	X	3.Shoreline Configuration
			4.Scenic Features
	27		5.Scenic Quality of Water
			Duration of View 9
			Type of Water 12
			Quality of Horizon 6
	33	2	**Desktop Subtotal**
	11		6.Landscape Character
			Land Use 5
			Roadside Characteristics 3
			Settlement Characteristics 3
	3		7.Vegetation
	6		8.Composition & Effect
	53		**Total Score**
			Special Interest

Viewshed Description A new causeway leading to the site of the proposed Sears Island Cargo Port. Views from the causeway include Mack Point and Stockton Harbor in the midground, and Penobscot Bay in the background. An enclosed landscape with a variety of natural forms and cultural uses.

Viewshed Management Recommendations A vegetation management program should be initiated as part of the operation of the cargo port to preserve vistas to the water and establish a transitional cover type along the edges of roadways.



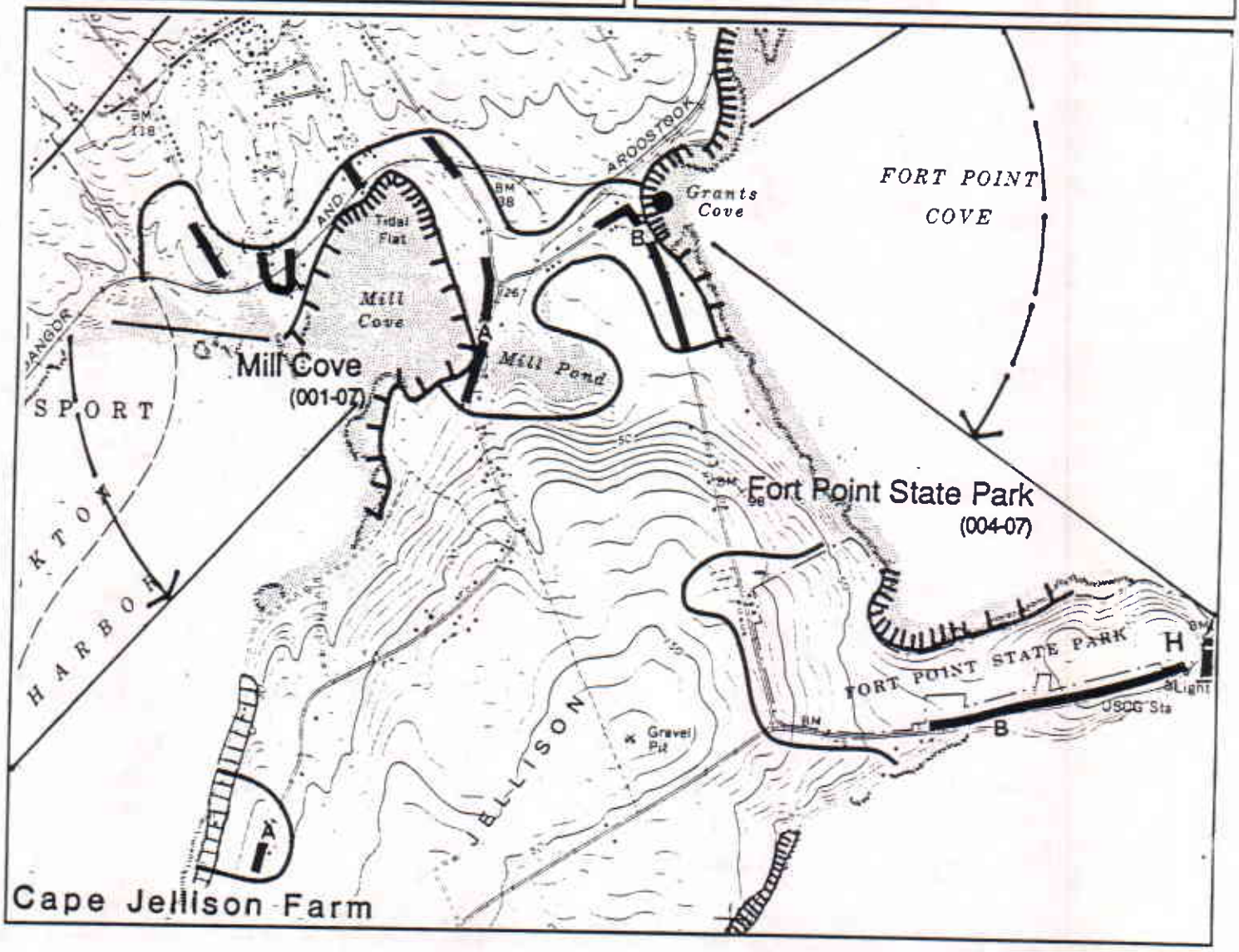
Scenic Area Evaluation Form

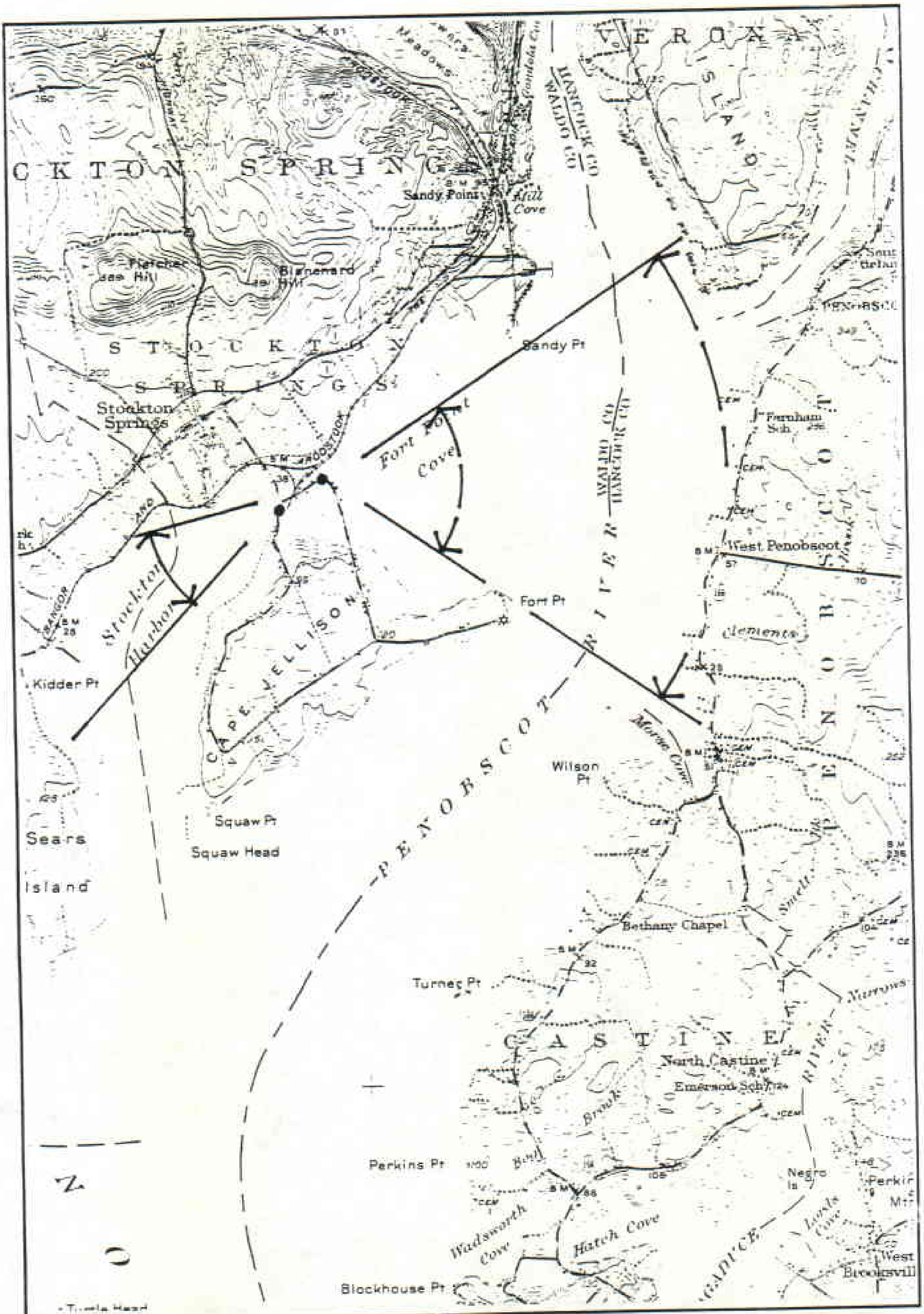
Scenic Area **Mill Cove** Code **001-07** Town(s) **Stockton Springs** County **Waldo**
1989 Coastal Scenic Inventory
Maine State Planning Office

SI	S	IP	Special Interest/Score/Indicators Present
			1.Landform Topography____Slope____
			2.Open Land
X	6	X	3.Shoreline Configuration
			4.Scenic Features
	24		5.Scenic Quality of Water
			Duration of View 6
			Type of Water 12
			Quality of Horizon 6
	30	2	**Desktop Subtotal**
	11		6.Landscape Character
			Land Use 5
			Roadside Characteristics 3
			Settlement Characteristics 3
	6		7.Vegetation
	6		8.Composition & Effect
	53		**Total Score**
1			**Special Interest**

Viewshed Description Foreground view of a salt marsh at the upper end of Stockton Harbor, providing a natural backdrop to residential development outside of the village of Stockton Springs. Village roads parallel the shoreline and provide open views to the marshes and Penobscot Bay. Foreground elements include the marshes, a causeway between Mill Cove and Mill Pond, second growth meadow, recent housing, mud flats, and the waters of Stockton Harbor and Fort Point Cove. Midground views include the steeples on the village churches, the opposite shoreline, Sears Island Causeway, Stockton Harbor, the Penobscot River, and Fort Point Cove. Background views are to Penobscot Bay and spruce-covered hilltops. General landscape condition is good to very good.

Viewshed Management Recommendations Vegetation management along roadside.




VERONA
ISLAND
STOCKTON SPRINGS
Sandy Point
Hill Cove
Fletcher Hill
Blanchard Hill
Sandy Pt
Stockton Springs
Fort Point Cove
HANCOCK CO.
WALDO CO.
Fernham Sch.
West Penobscot
Fort Pt
Stockton Harbor
Clements
CAPE JELLISON
Kidder Pt
Morse Cove
Wilson Pt
Squaw Pt
Squaw Head
Sears Island
PENOBSCOT RIVER
PENOBSCOT
Bethany Chapel
Turner Pt
CASTINE
North Castine
Emerson Sch.
Perkins Pt
Negro Is
Wadsworth Cove
Hatch Cove
Blockhouse Pt
West Brooksvill
Narrows
Smelt
Brook
Turtle Head

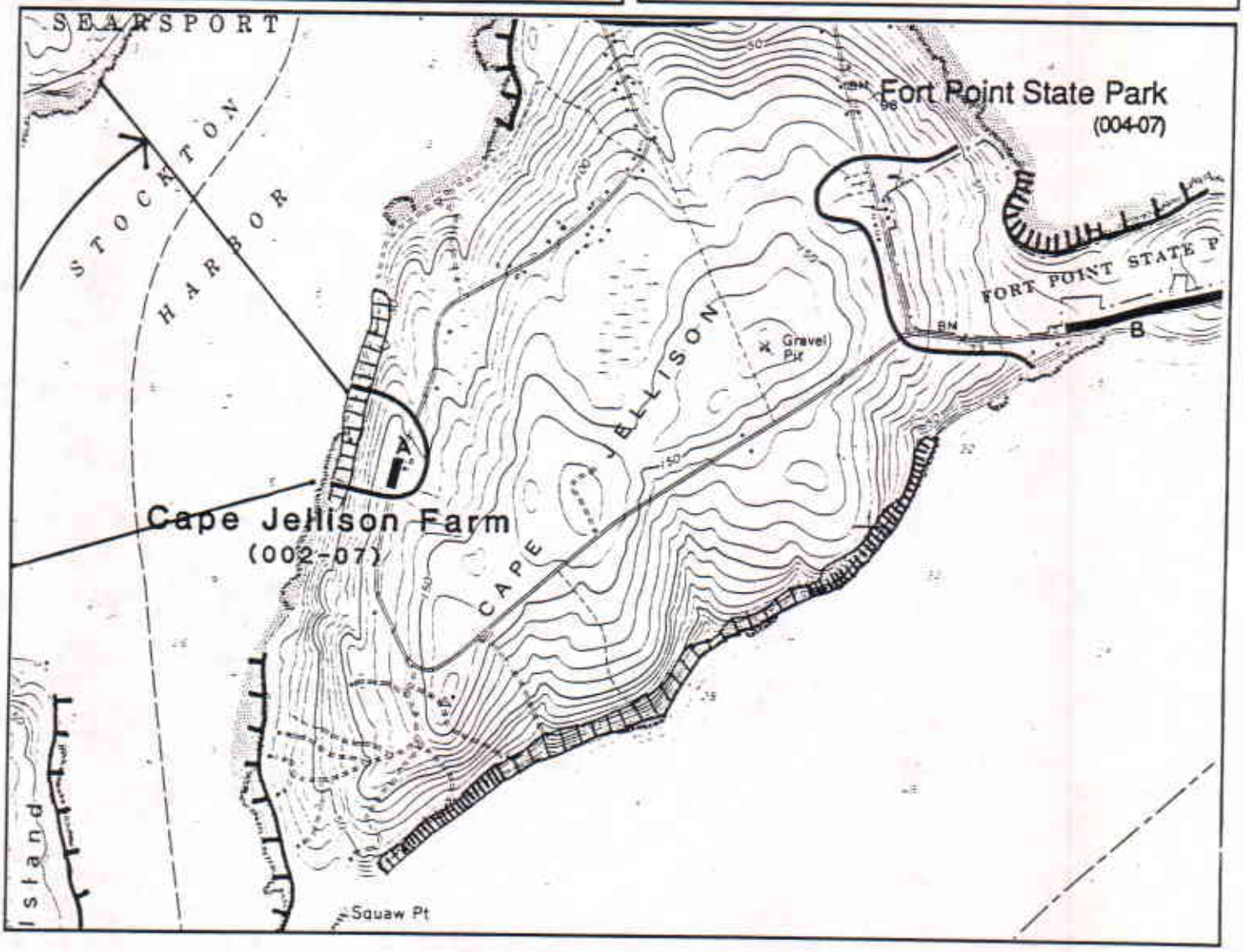
Scenic Area Evaluation Form

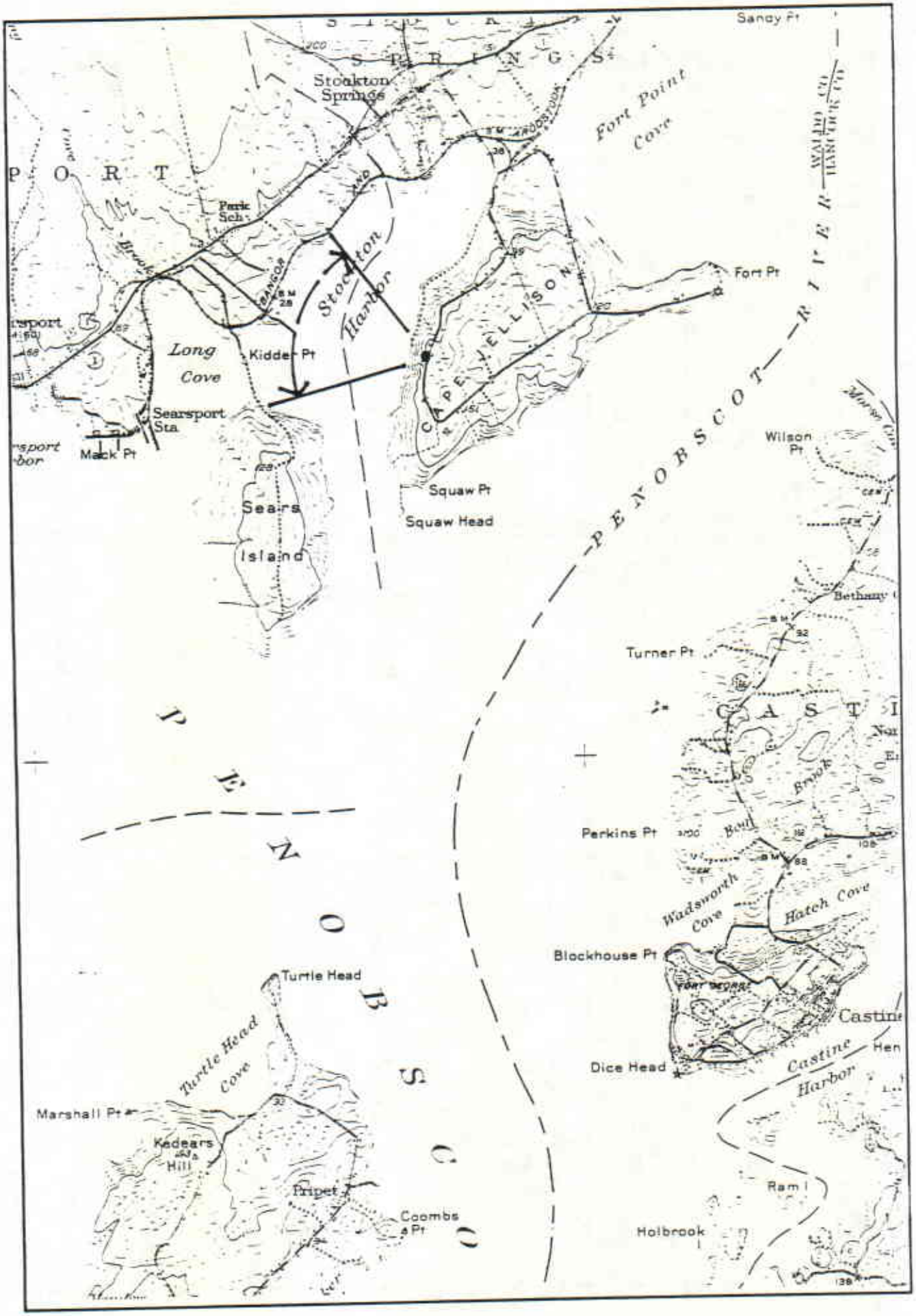
Scenic Area **Cape Jellison Farm** Code **002-07** Town(s) **Stockton Springs** County **Waldo**
1989 Coastal Scenic Inventory
Maine State Planning Office

SI	S	IP	Special Interest/Score/Indicators Present
	2	X	1.Landform Topography____Slope 2
			2.Open Land
			3.Shoreline Configuration
			4.Scenic Features
	15		5.Scenic Quality of Water
			Duration of View 3
			Type of Water 9
			Quality of Horizon 3
	17	2	**Desktop Subtotal**
X	16		6.Landscape Character
			Land Use 7
			Roadside Characteristics 3
			Settlement Characteristics 6
	9		7.Vegetation
	9		8.Composition & Effect
	51		**Total Score**
			Special Interest

Viewshed Description Rural homestead located in a relatively undisturbed setting on Stockton Harbor. Early 19th century cape with barns overlook pasture with open views to water. Town road passes between the cape and the pasture and provides a short but open view to water. Foreground elements include structures, pasture, stone walls, and the waters of Stockton Harbor. Midground includes Stockton Harbor and the opposite shoreline. Background views are to wooded hilltops. The homestead is in very good condition with a very cohesive, yet short, view of the water.

Viewshed Management Recommendations Local land trust should work with owners to secure conservation easement.




Sandy Pt
Stockton Springs
Fort Point Cove
PORT
Park Sch
Stockton Harbor
CAPE ELLISON
Fort Pt
Long Cove
Kidder Pt
Searsport Sta
Mack Pt
Searsport Harbor
Sears Island
Squaw Pt
Squaw Head
PENOBSCOT RIVER
Wilson Pt
Bethany
Turner Pt
CASTINE
Perkins Pt
Wadsworth Cove
Hatch Cove
Blockhouse Pt
Dice Head
Castine Harbor
Ram I
Holbrook
PENOBSCOT BAY
Turtle Head
Turtle Head Cove
Marshall Pt
Kedears Hill
Pripet
Coombs Pt

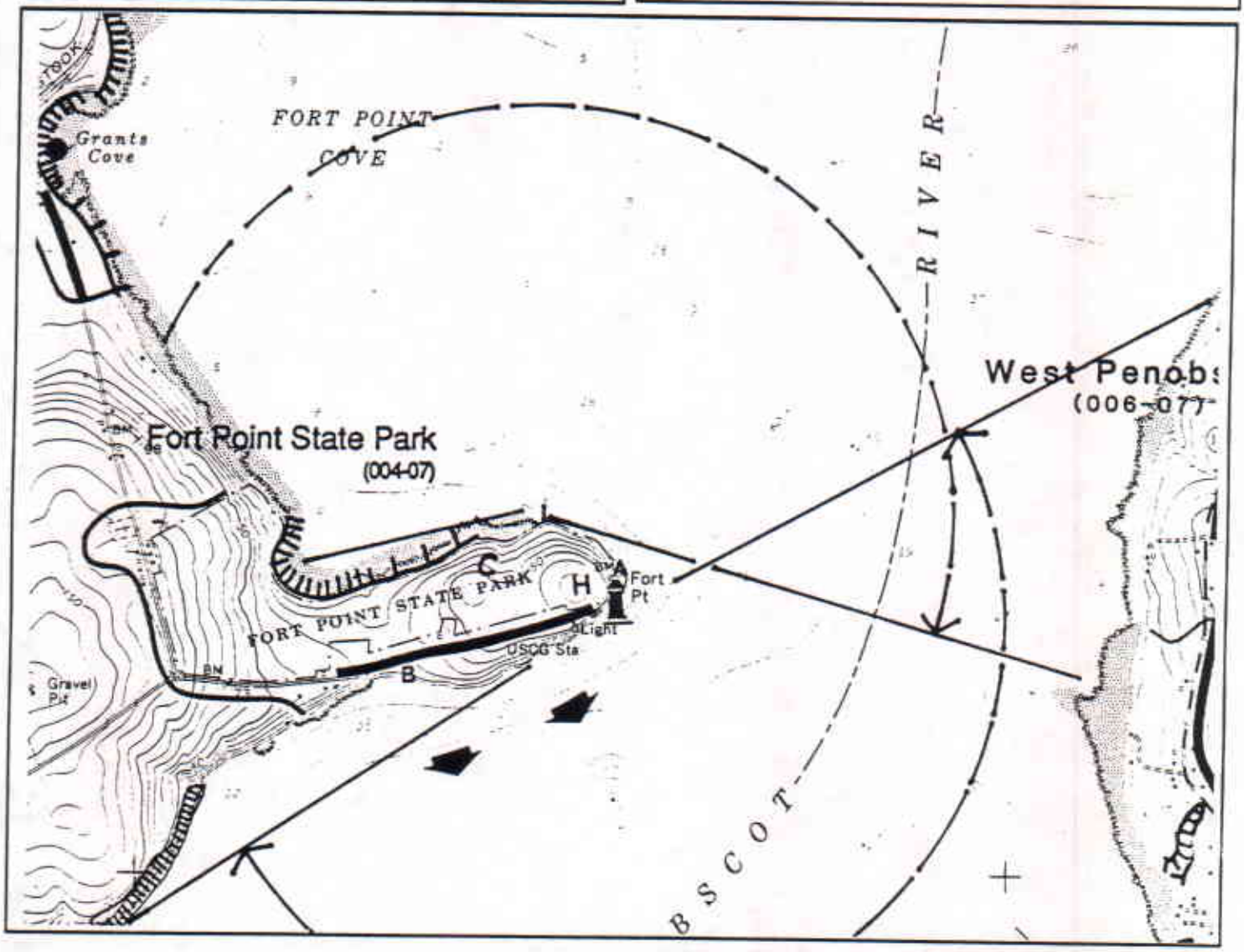
Scenic Area Evaluation Form

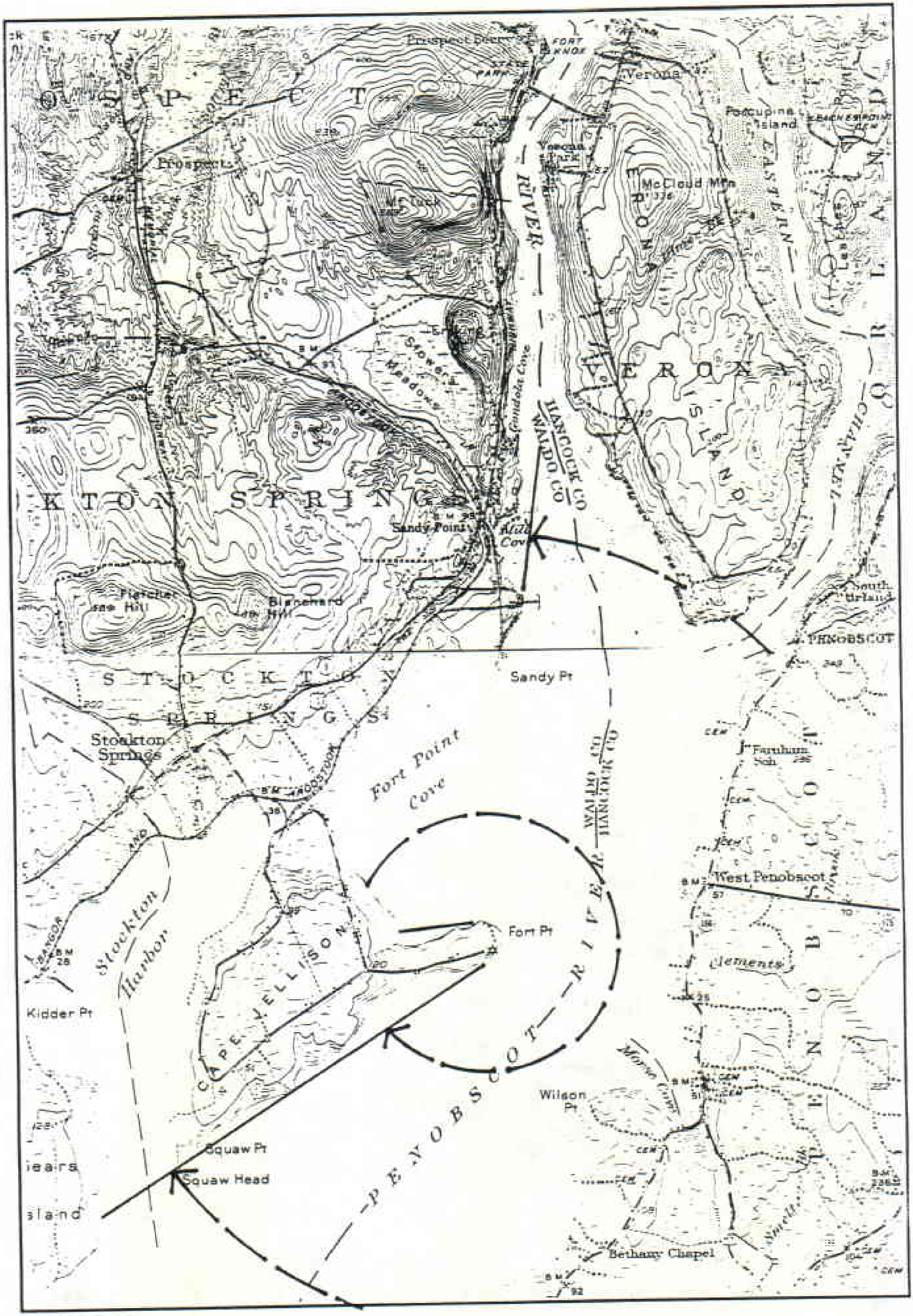
Scenic Area **Fort Point State Park** Code **004-07** Town(s) **Stockton Springs** County **Waldo**
1989 Coastal Scenic Inventory
Maine State Planning Office

ST	S	IP	Special Interest/Score/Indicators Present
	2	X	1.Landform Topography____Slope 2
			2.Open Land
	6	X	3.Shoreline Configuration
X	9	X	4.Scenic Features (Lighthouse/Fort)
	27		5.Scenic Quality of Water
			Duration of View 9
			Type of Water 9
			Quality of Horizon 9
	44	4	**Desktop Subtotal**
	19		6.Landscape Character
			Land Use 7
			Roadside Characteristics 3
			Settlement Characteristics 9
	6		7.Vegetation
	9		8.Composition & Effect
	68		**Total Score**
1			**Special Interest**

Viewshed Description Fort Point State Park consists of two major components: 1) an historic lighthouse, the ruins of an early fort, and the lightkeepers home facing the Penobscot River, and 2) a picnic area and a wharf set in a mature spruce forest overlooking Fort Point Cove. A well-designed access road meanders through the forest to the parking areas. This is a stark, solitary landscape, exhibiting great contrasts in height and form. The lighthouse, a simple, yet dignified little structure, is perched at the edge of a high bank overlooking the river. Views includes the Penobscot River, distant islands on the horizon, and spruce-covered hilltops. General landscape condition ranges from good to very good.

Viewshed Management Recommendations Continued high level of maintenance. Acquisition of conservation and/or view easements within viewshed.




Prospect Ferry
FORT KNOX
STATE PARK
Verona
Porcupine Island
Prospect
McCloud Mtn
Verona Park
RIVER
EASTERN
CHANNEL
VERONA
ISLAND
HANCOCK CO
WALDO CO
Sandy Point
Sandy Pt
Fletcher Hill
Blanchard Hill
STOCKTON SPRINGS
Stockton Springs
Fort Point Cove
South Orland
PENOBSCOT
Farnham Sch
West Penobscot
Fort Pt
Clements
CAPE JELLISON
Stockton Harbor
Kidder Pt
Wilson Pt
Squaw Pt
Squaw Head
PENOBSCOT RIVER
Bethany Chapel

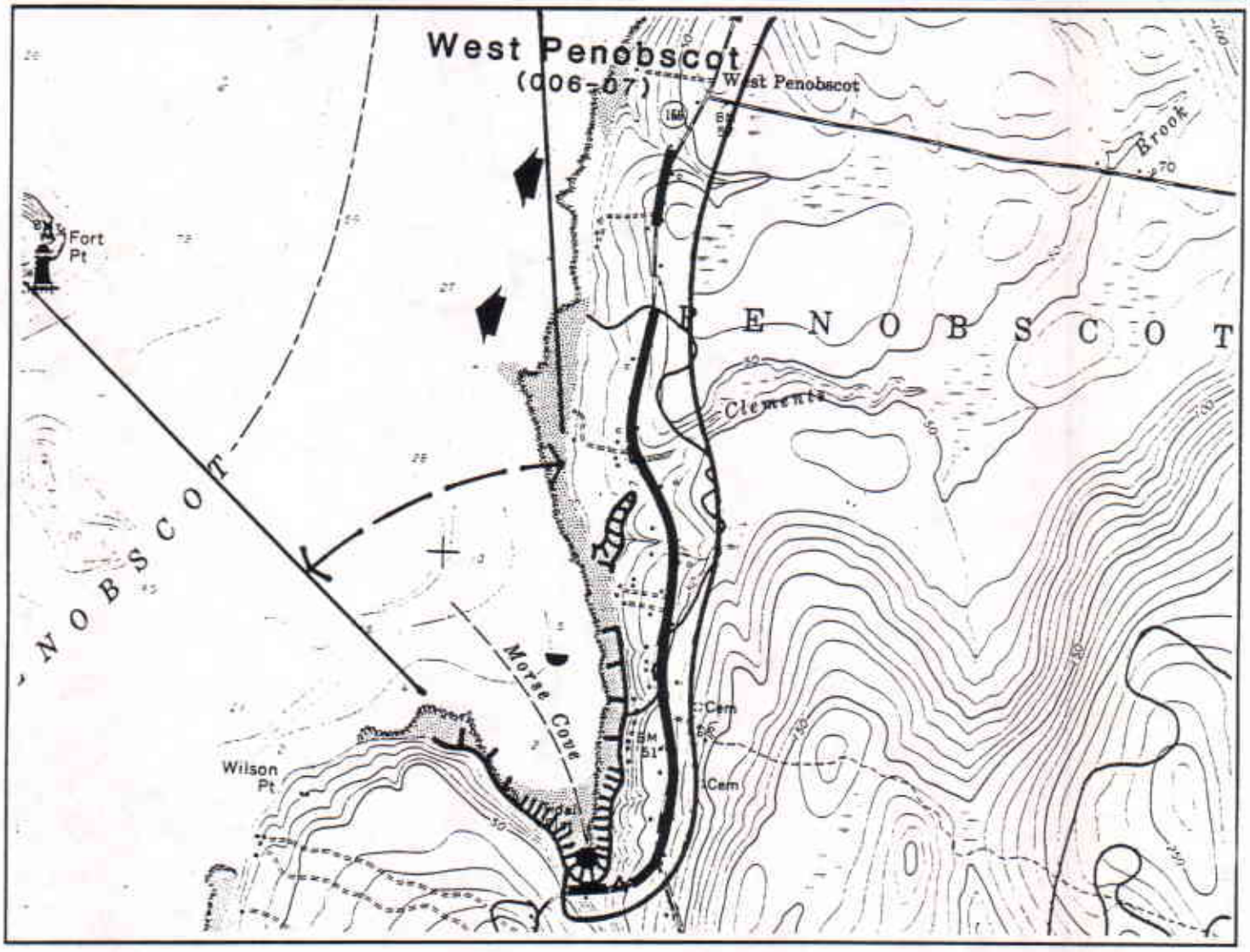
Scenic Area Evaluation Form

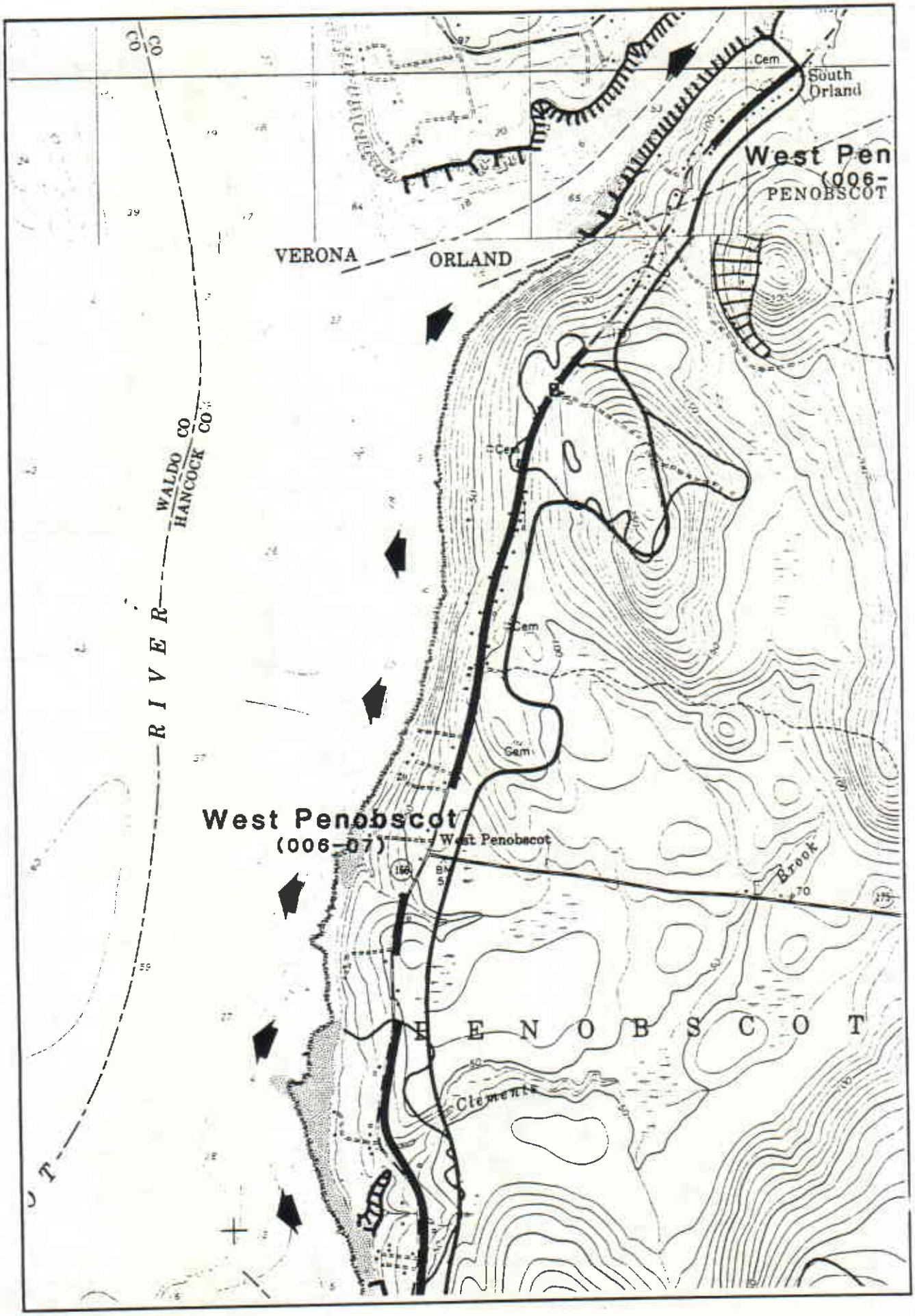
Scenic Area **West Penobscot** Code **006-07** Town(s) **Penobscot** County **Hancock**
1989 Coastal Scenic Inventory — Maine State Planning Office

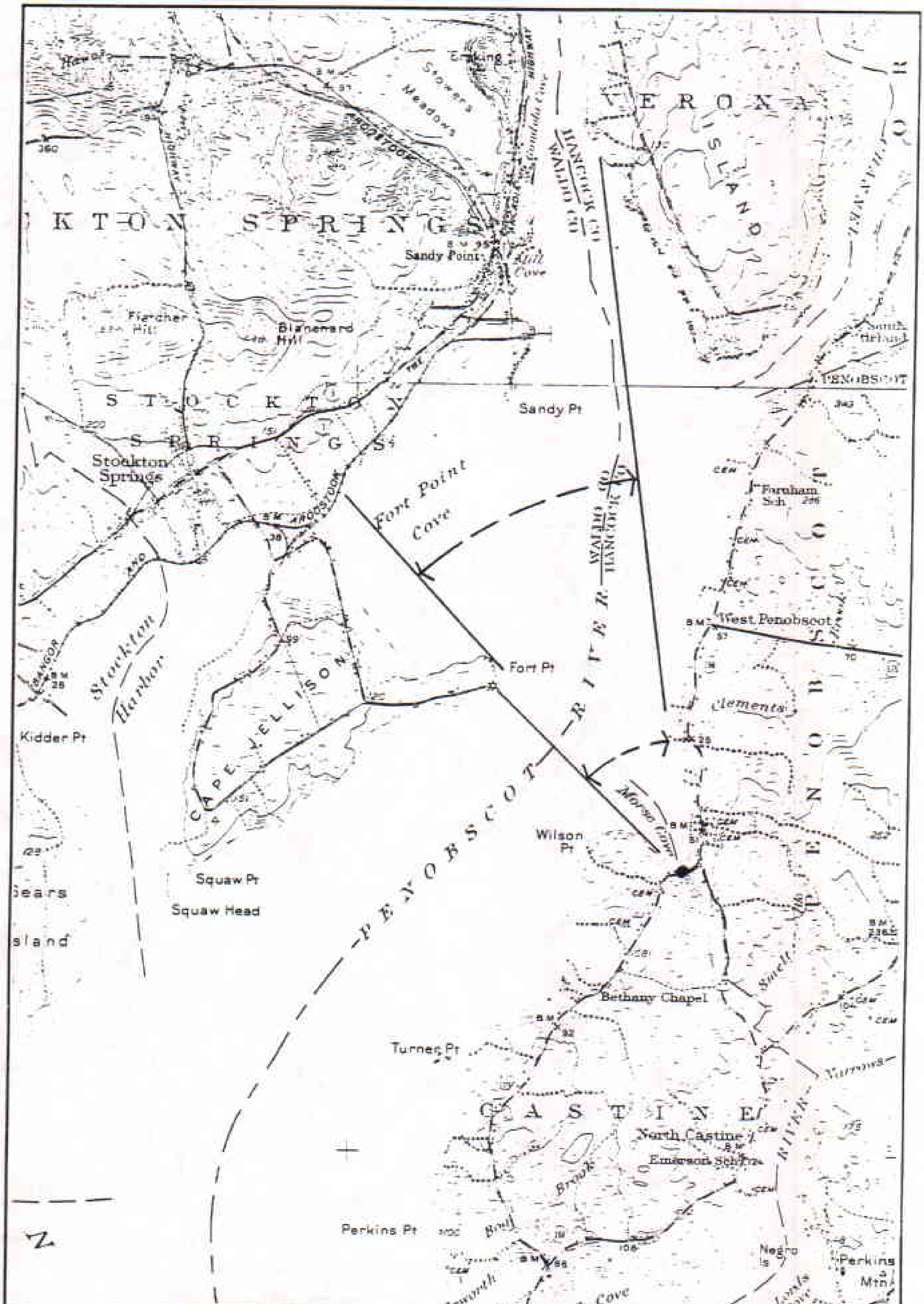
SI	S	IP	Special Interest/Score/Indicators Present
			1.Landform Topography____Slope____
	3	X	2.Open Land
			3.Shoreline Configuration
	6	X	4.Scenic Features
	21		5.Scenic Quality of Water
			Duration of View 9
			Type of Water 9
			Quality of Horizon 3
	30	3	**Desktop Subtotal**
	11		6.Landscape Character
			Land Use 5
			Roadside Characteristics 3
			Settlement Characteristics 3
	3		7.Vegetation
	3		8.Composition & Effect
	47		**Total Score**
			Special Interest

Viewshed Description A series of pastoral intermittent views west to the Penobscot River from Routes 166/175. Foreground consists of well tended farms and open fields that occasionally extend down to the river. The view extends to the west side of the river, the village of Stockton Springs, and Fort Point. A locally significant series of views with a high degree of variety.

Viewshed Management Recommendations Protection of open fields and visual access to the water through zoning ordinance, and subdivision and site plan review.




Cem
South Orland
West Pen
(006-
PENOBSCOT
VERONA
ORLAND
WALDO CO
HANCOCK CO
R I V E R
Cem
Cem
Cem
West Penobscot
(006-07)
West Penobscot
Brook
70
P E N O B S C O T
Clements


STOCKTON SPRINGS
Sandy Point
Mill Cove
Fletcher Hill
Blanchard Hill
Stockton Springs
Sandy Pt
Fort Point Cove
Fort Pt
CAPE JELLISON
Stockton Harbor
Kidder Pt
Squaw Pt
Squaw Head
PENOBSCOT RIVER
WALDO CO
HANCOCK CO
VERONA ISLAND
Farnham Sch
West Penobscot
Clements
Wilson Pt
Morse Cove
Bethany Chapel
Turner Pt
CASTINE
North Castine
Emerson Sch
Perkins Pt
Negro Is
Perkins Mtn
Cove
Stowers Meadows
AROOSTOOK
PENOBSCOT

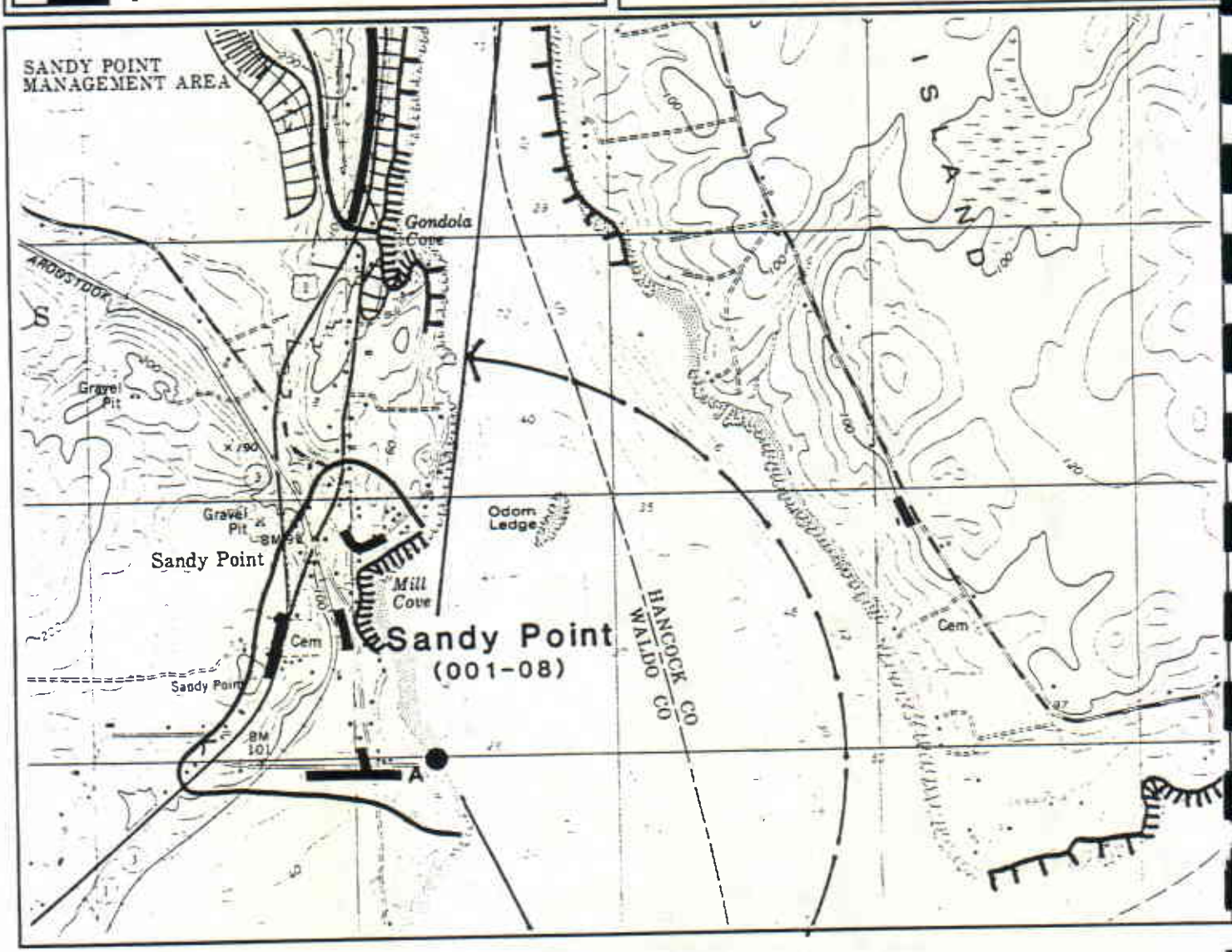
Scenic Area Evaluation Form

Scenic Area **Sandy Point** Code **001-08** Town(s) **Stockton Springs** County **Waldo**
1989 Coastal Scenic Inventory
Maine State Planning Office

SI	S	IP	Special Interest/Score/Indicators Present
			1.Landform Topography____Slope____
			2.Open Land
	6	X	3.Shoreline Configuration
	9	X	4.Scenic Features (Stone Beach)
	27		5.Scenic Quality of Water
			Duration of View 9
			Type of Water 12
			Quality of Horizon 6
	42	3	**Desktop Subtotal**
	9		6.Landscape Character
			Land Use 5
			Roadside Characteristics 1
			Settlement Characteristics 3
	3		7.Vegetation
	6		8.Composition & Effect
	60		**Total Score**
			Special Interest

Viewshed Description Small cottage community on the Penobscot River opposite Verona Island. The river is one mile wide at this point, giving more of an impression of a lake than a river. The landscape is moderately diverse, consisting of well tended homes, salt marshes, a gravel beach, the open river, and the wooded hillside on the opposite shoreline.

Viewshed Management Recommendations Continued high level of maintenance of the individual homes and public right of way.



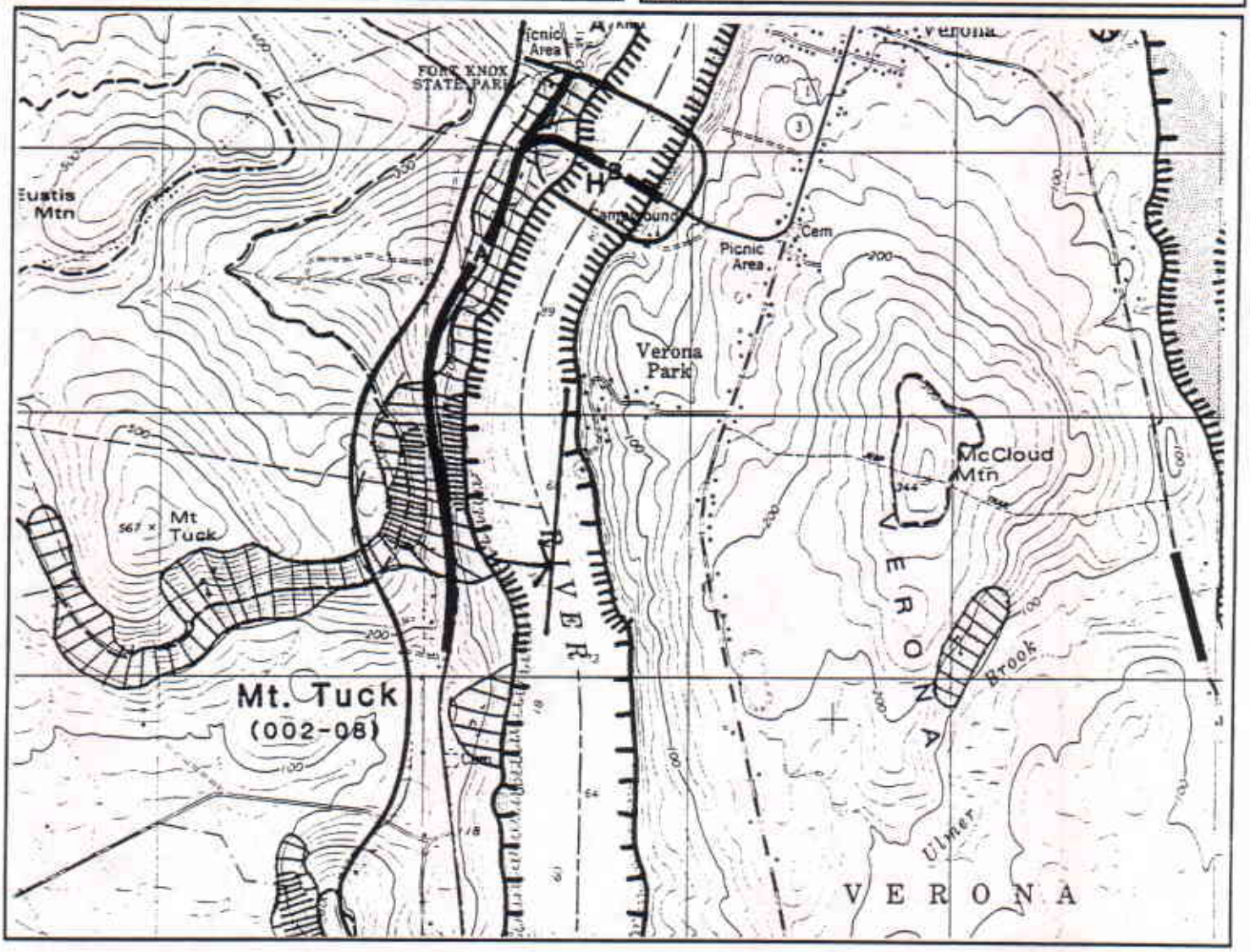
Scenic Area Evaluation Form

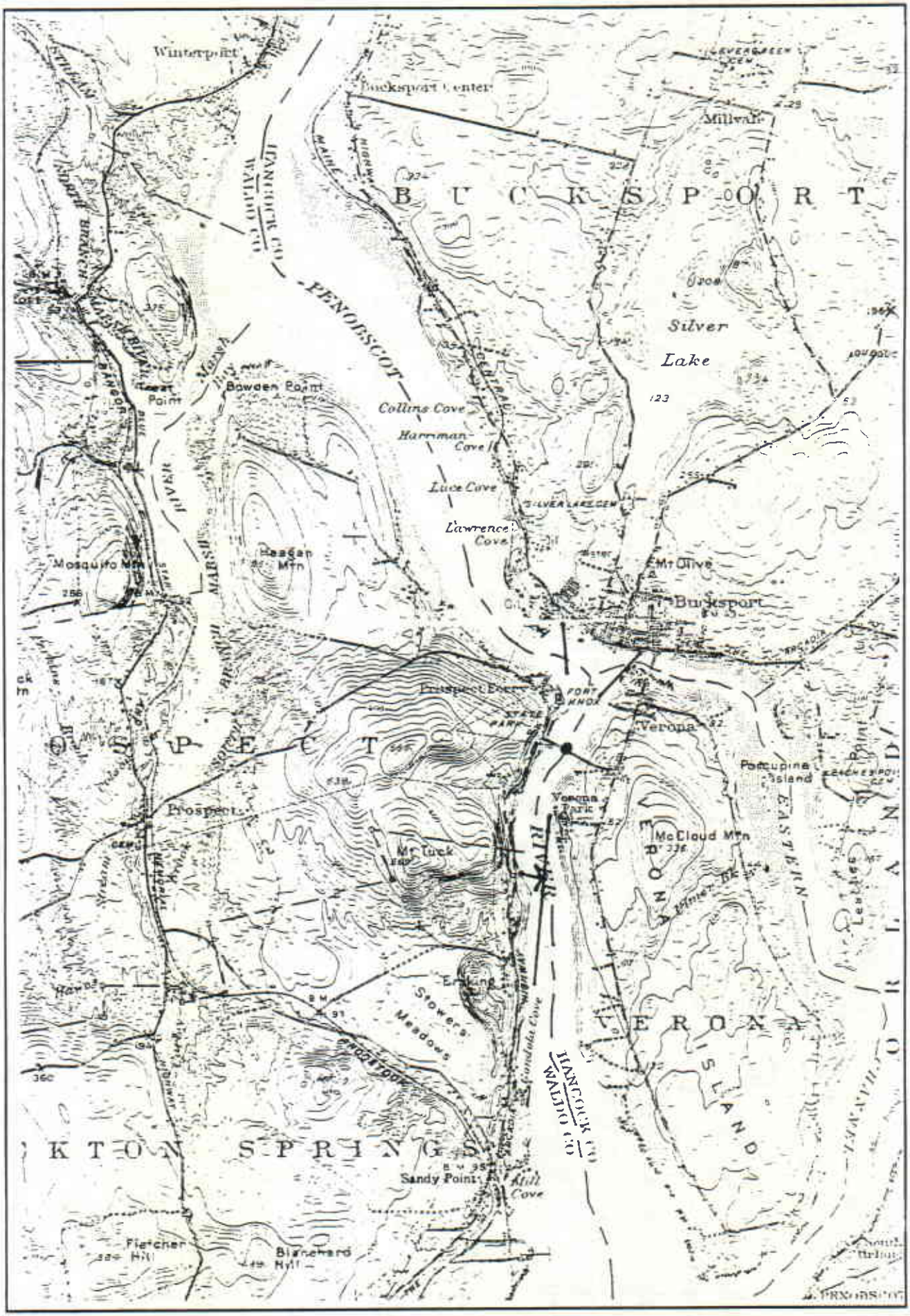
Scenic Area **Mt. Tuck** Code **002-08** Town(s) **Stockton Springs/Prospect** County **Waldo**
1989 Coastal Scenic Inventory — Maine State Planning Office

SI	S	IP	Special Interest/Score/Indicators Present
	4	X	1.Landform Topography 1 Slope 3
			2.Open Land
	6	X	3.Shoreline Configuration
	9	X	4.Scenic Features
	18		5.Scenic Quality of Water
			Duration of View 9
			Type of Water 6
			Quality of Horizon 3
	37	4	**Desktop Subtotal**
	17		6.Landscape Character
			Land Use 5
			Roadside Characteristics 6
			Settlement Characteristics 6
	3		7.Vegetation
	6		8.Composition & Effect
	63		**Total Score**
			Special Interest

Viewshed Description One of Maine's best known scenic overlooks, with a 180 degree view of the Penobscot River, its steep wooded valley, Verona Island, and the Route One suspension bridge. Intermittent views of the valley occur for a mile south of the pull-off, heightening the anticipation of the primary view. The view from the overlook is oriented 1/2 mile to the north toward the bridge, terminating with the village of Bucksport. The general landscape condition is good to excellent.

Viewshed Management Recommendations Continued maintenance. Interpretive material about the construction of the bridge and the natural history of the area would make the overlook much more meaningful.




Winterport
Bucksport Center
Millvale
BUCKSPORT
PENOBSCOT
Silver
Lake
Bowden Point
Collins Cove
Harriman Cove
Luce Cove
Lawrence Cove
Mosquito Mtn
Beagan Mtn
Mt Olive
Bucksport
Prospect Ferry
Verona
Porcupine Island
Prospect
Mt Tuck
McCloud Mtn
EASTERN
Stowers Meadows
Sandy Point
Kill Cove
Fletcher Hill
Blanchard Hill
VERONA ISLAND
HANCOCK CO
WALDO CO

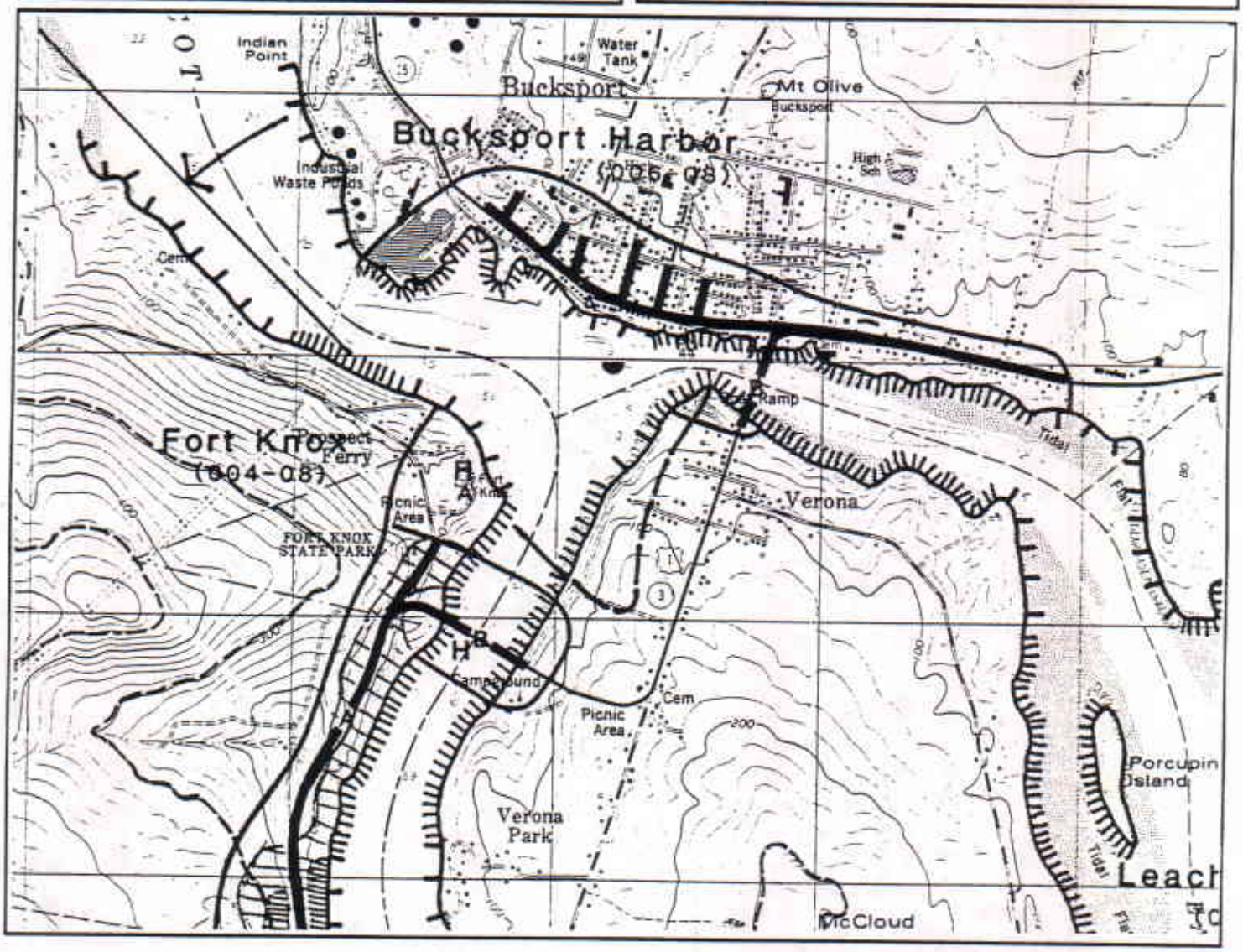
Scenic Area Evaluation Form

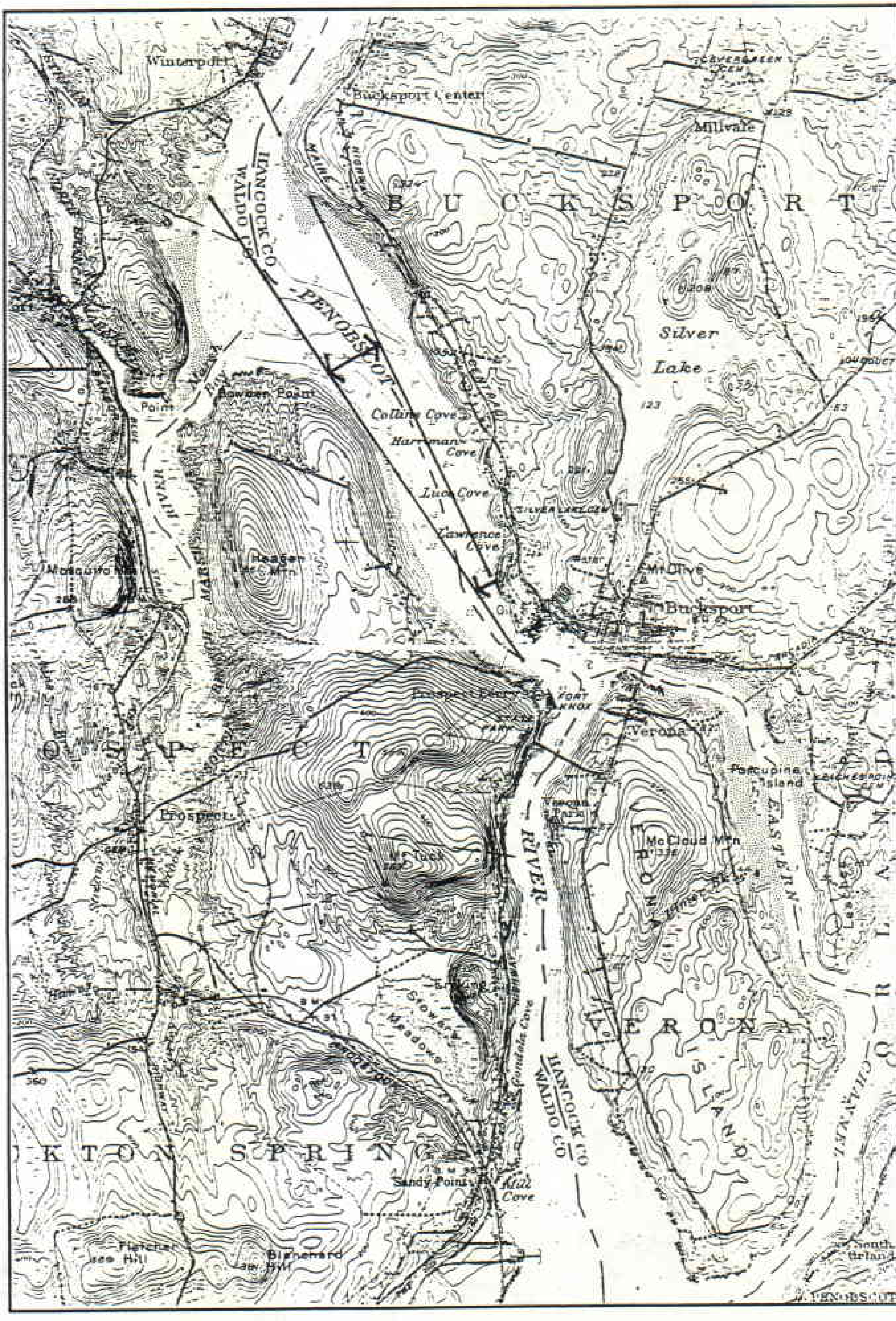
Scenic Area **Fort Knox** Code **004-08** Town(s) **Prospect** County **Waldo**
1989 Coastal Scenic Inventory — Maine State Planning Office

SI	S	IP	Special Interest/Score/Indicators Present
	2	X	1.Landform Topography____Slope 2
			2.Open Land
	6	X	3.Shoreline Configuration
X	9	X	4.Scenic Features (Fort/Mooring Area)
	21		5.Scenic Quality of Water
			Duration of View 9
			Type of Water 6
			Quality of Horizon 6
	36	4	**Desktop Subtotal**
X	14		6.Landscape Character
			Land Use 5
			Roadside Characteristics 3
			Settlement Characteristics 6
	6		7.Vegetation
X	9		8.Composition & Effect
	65		**Total Score**
3			**Special Interest**

Viewshed Description Fort Knox is a State Historic Site situated on a high bluff overlooking Bucksport Harbor. This substantial granite structure provides a 360 degree panorama and a dramatic view of the Penobscot River. Foreground elements include the fort, berms, picnic area, the waters of the Penobscot River and the Verona Island suspension bridge. Midground views include Bucksport's waterfront, mooring area, and the Penobscot River. The Champion International mill dominates the landscape on the opposite shoreline. Background views are to spruce-covered hilltops and mountains. Landscape is well maintained. Visitors experience a vivid sense of permanence.

Viewshed Management Recommendations Continued high level of maintenance of the fort. Work with Champion on screening waterfront activities.




Winterport
Bucksport Center
Millvale
B U C K S P O R T
HANCOCK CO
WALDO CO
PENOBSCOT
Silver
Lake
Bowden Point
Point
Collins Cove
Hartman Cove
Luce Cove
Lawrence Cove
Heagan Mtn
Mt Olive
Bucksport
FORT KNOX
Verona
Porcupine Island
Prospect
Verona Park
McCloud Mtn
Mt Tuck
RIVER
EASTERN
V E R O N A
HANCOCK CO
WALDO CO
Sandy Point
Kidd Cove
Fletcher Hill
Blanchard Hill
PENOBSCOT

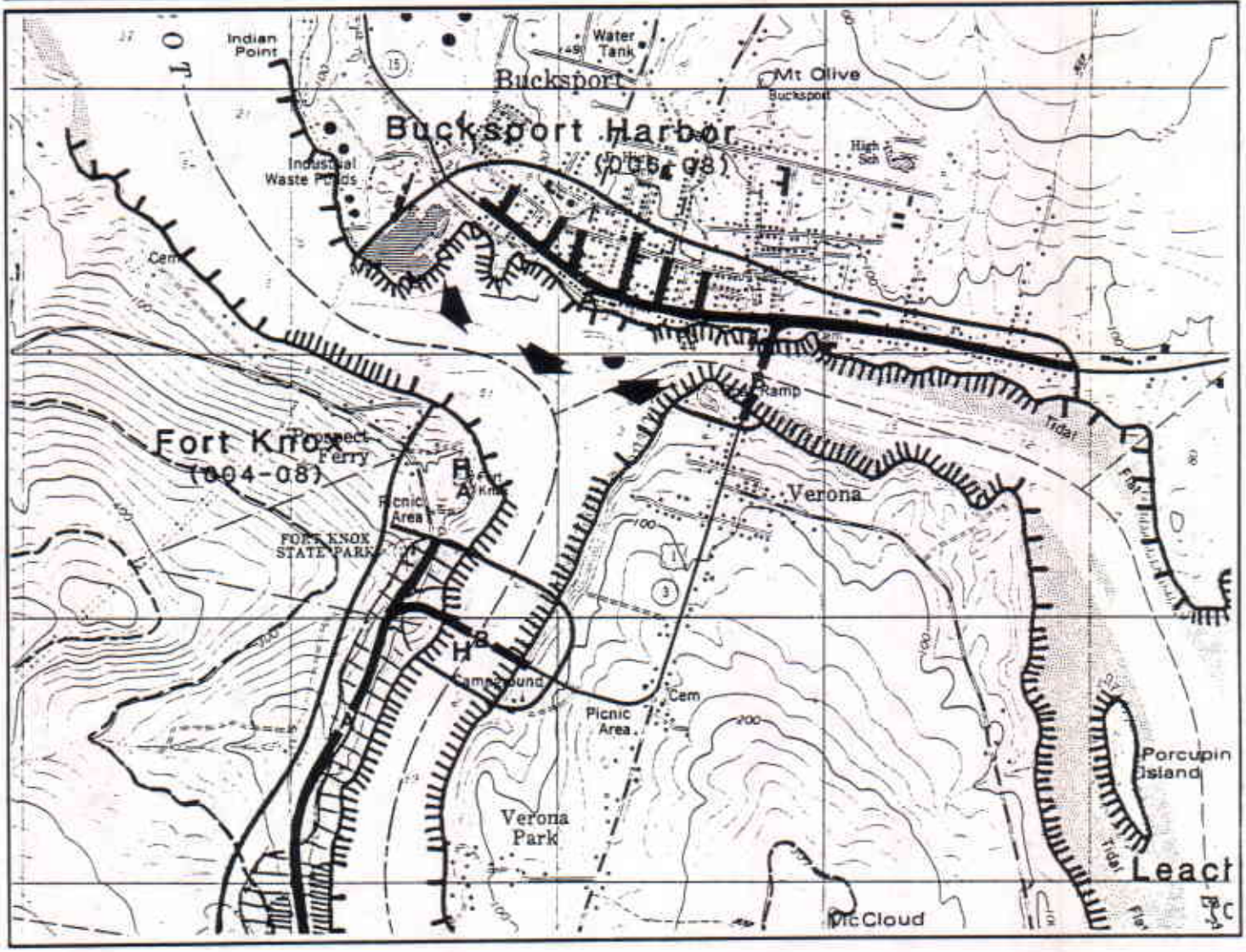
Scenic Area Evaluation Form

Scenic Area **Bucksport Harbor** Code **006-08** Town(s) **Bucksport** County **Hancock**
1989 Coastal Scenic Inventory — Maine State Planning Office

ST	S	IP	Special Interest/Score/Indicators Present
			1.Landform Topography____Slope____
			2.Open Land
	6	X	3.Shoreline Configuration
	9	X	4.Scenic Features
	21		5.Scenic Quality of Water
			Duration of View 9
			Type of Water 6
			Quality of Horizon 6
	33	3	**Desktop Subtotal**
	12		6.Landscape Character
			Land Use 5
			Roadside Characteristics 1
			Settlement Characteristics 6
	3		7.Vegetation
	6		8.Composition & Effect
	54		**Total Score**
			Special Interest

Viewshed Description Medium sized village with an extensive mixed use waterfront along the Penobscot River. The north end is defined by the Champion International paper mill, a sprawling industrial complex that occupies a dominant position in the landscape. The southerly end is bounded by the Route One bridge. Residential and public buildings ascend a hillside overlooking the harbor. Route One and local streets have filtered views to the water. Foreground elements include boat launch, mooring area, village buildings, the River, and parking areas. Midground includes the River, Fort Knox, the bridges, and the forested banks of Prospect and Verona. Condition of area leaves tremendous potential for improvement.

Viewshed Management Recommendations Completion of street improvements and tree plantings. Upgrade of waterfront, considering it another public face.



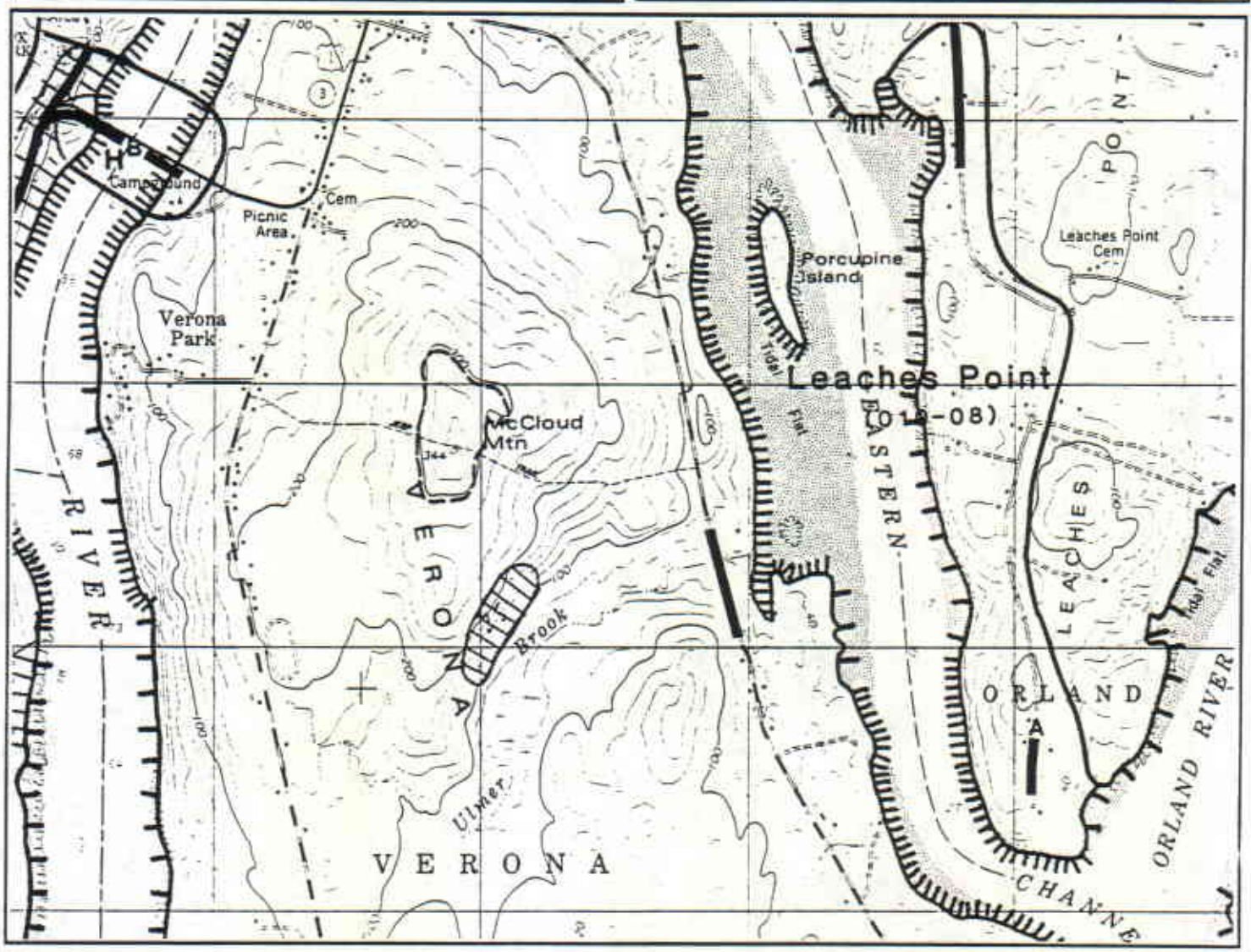
Scenic Area Evaluation Form

Scenic Area **Leaches Point** Code **010-08** Town(s) **Orland** County **Hancock**
1989 Coastal Scenic Inventory — Maine State Planning Office

SI	S	IP	Special Interest/Score/Indicators Present
			1.Landform Topography____Slope____
			2.Open Land
	6	X	3.Shoreline Configuration
			4.Scenic Features
	18		5.Scenic Quality of Water
			Duration of View 6
			Type of Water 9
			Quality of Horizon 3
	24	2	**Desktop Subtotal**
	9		6.Landscape Character
			Land Use 5
			Roadside Characteristics 1
			Settlement Characteristics 3
	3		7.Vegetation
	3		8.Composition & Effect
	39		**Total Score**
			Special Interest

Viewshed Description Natural area with a rural pasture at the end of the road. Mix of contemporary and historic homes. Local roads provide filtered views between structures and vegetation. Foreground elements include spruce and second growth woods, houses, pasture, and the waters of the Eastern Channel of the Penobscot River and the Orland River. Midground includes the Eastern Channel and the Orland River and the spruce-covered shoreline in Verona. The general landscape condition is fair to very good. No sustained views exist.

Viewshed Management Recommendations Work with local land trusts to acquire conservation easements.



CAPE ROSIER

Hatch Cove
Castine Village
Wadsworth Cove
West Brooksville
Battle Island
Smith Cove
Indian Bar Point
Goose Falls
Harborside
Orr Cove
Bakeman Beach
Weir Cove
Horseshoe Cove
South Brooksville

Sub-Region Evaluation Form

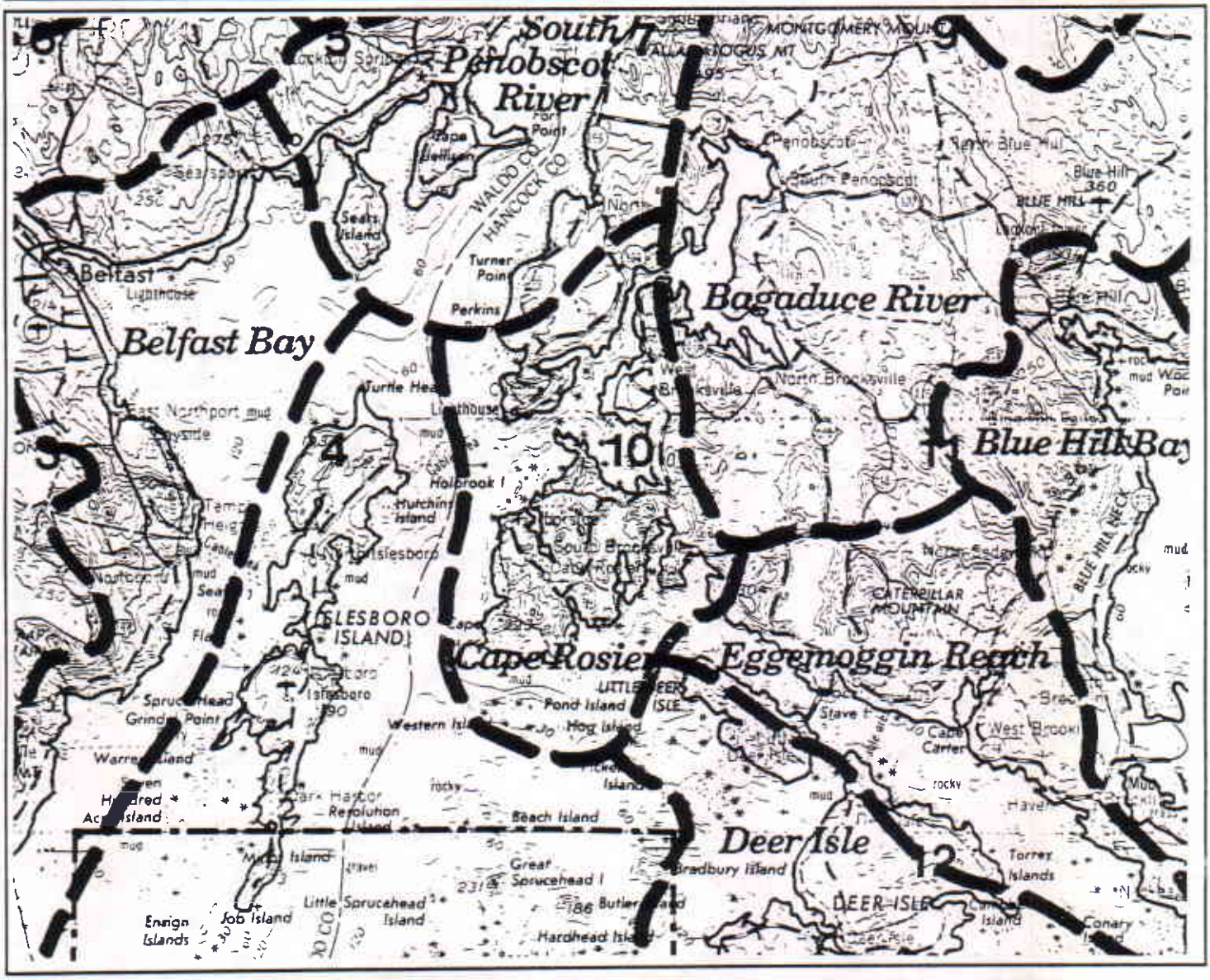
Sub-Region **Cape Rosier** Towns **Castine, Penobscot, Brooksville** County **Hancock**
1989 Coastal Scenic Inventory Maine State Planning Office

Sub-Region Description

Cape Rosier is one of the most vivid landscapes within Penobscot Bay, characterized by a highly configured shoreline, an abundance of small, semi-enclosed bays and coves, picturesque villages, settlements, and mooring areas, and a generous sprinkling of small offshore islands. Much of the land is still relatively undeveloped, although several large, highly visible parcels have been subdivided in recent years.

Scenic Areas

Hatch Cove (007-07)
Castine Village (011-07)
Wadsworth Cove (013-07)
West Brooksville (016-07)
Battle Island (001-09)
Smith Cove (001-10)
Indian Bar Point (004-10)
Goose Falls (005-10)
Harborside (006-10)
Orr Cove (007-10)
Bakeman Beach (008-10)
Weir Cove (009-10)
Horseshoe Cove (010-10)
South Brooksville (001-11)



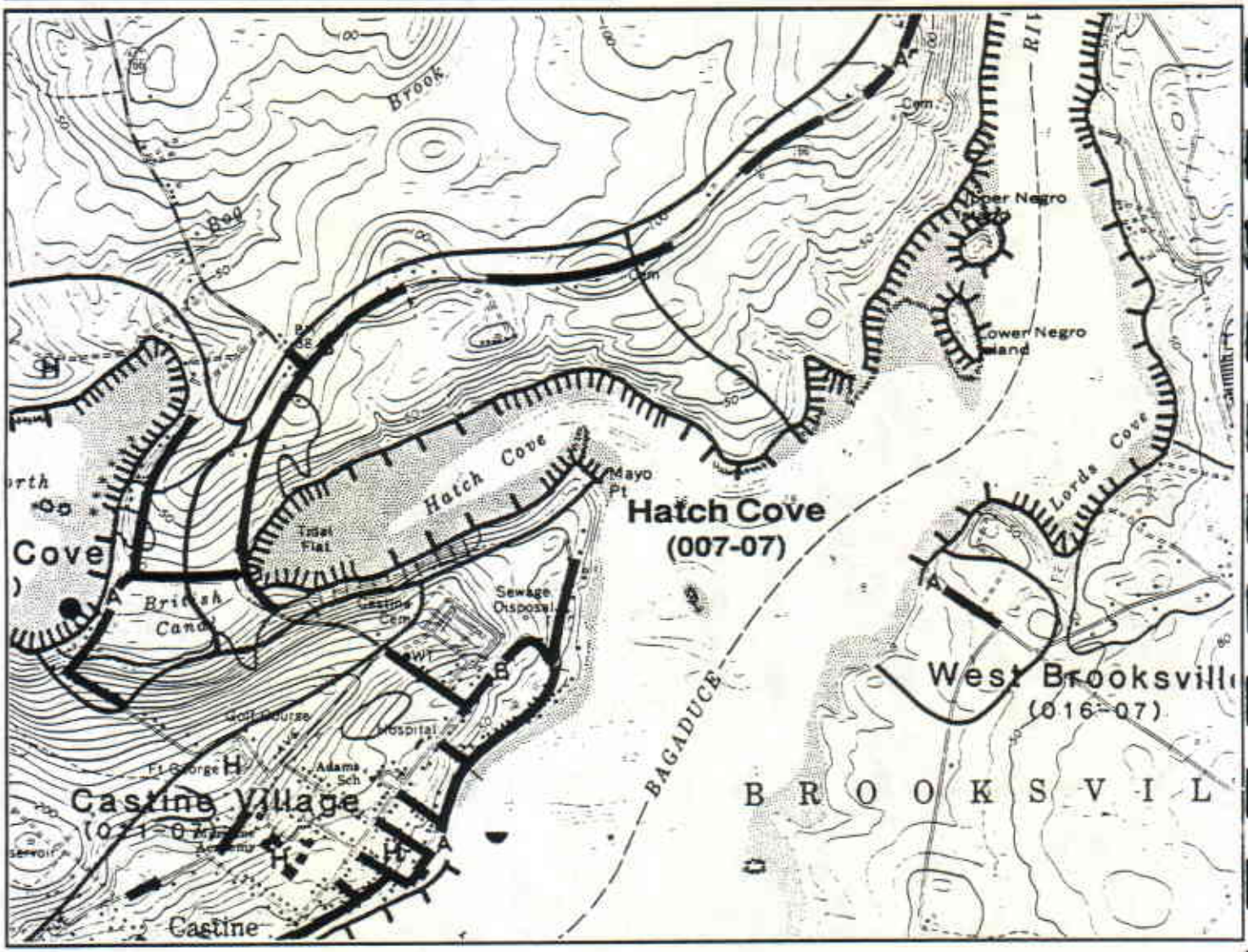
Scenic Area Evaluation Form

Scenic Area **Hatch Cove** Code **007-07** Town(s) **Castine** County **Hancock**
1989 Coastal Scenic Inventory Maine State Planning Office

SI	S	IP	Special Interest/Score/Indicators Present
	2	X	1.Landform Topography____Slope 2
			2.Open Land
	6	X	3.Shoreline Configuration
			4.Scenic Features
	18		5.Scenic Quality of Water
			Duration of View 9
			Type of Water 6
			Quality of Horizon 3
	26	2	**Desktop Subtotal**
	17		6.Landscape Character
			Land Use 5
			Roadside Characteristics 3
			Settlement Characteristics 9
	6		7.Vegetation
	6		8.Composition & Effect
	55		**Total Score**
			Special Interest

Viewshed Description Small tidal pond at the entrance to the village of Castine, seen on the east side of Route 166. Viewshed is dominated by a graceful Federal home on the west side of the road, overlooking the pond. Enclosed view of local significance.

Viewshed Management Recommendations Protection of land area within the viewshed of the pond through conservation easements and/or local land use ordinances.



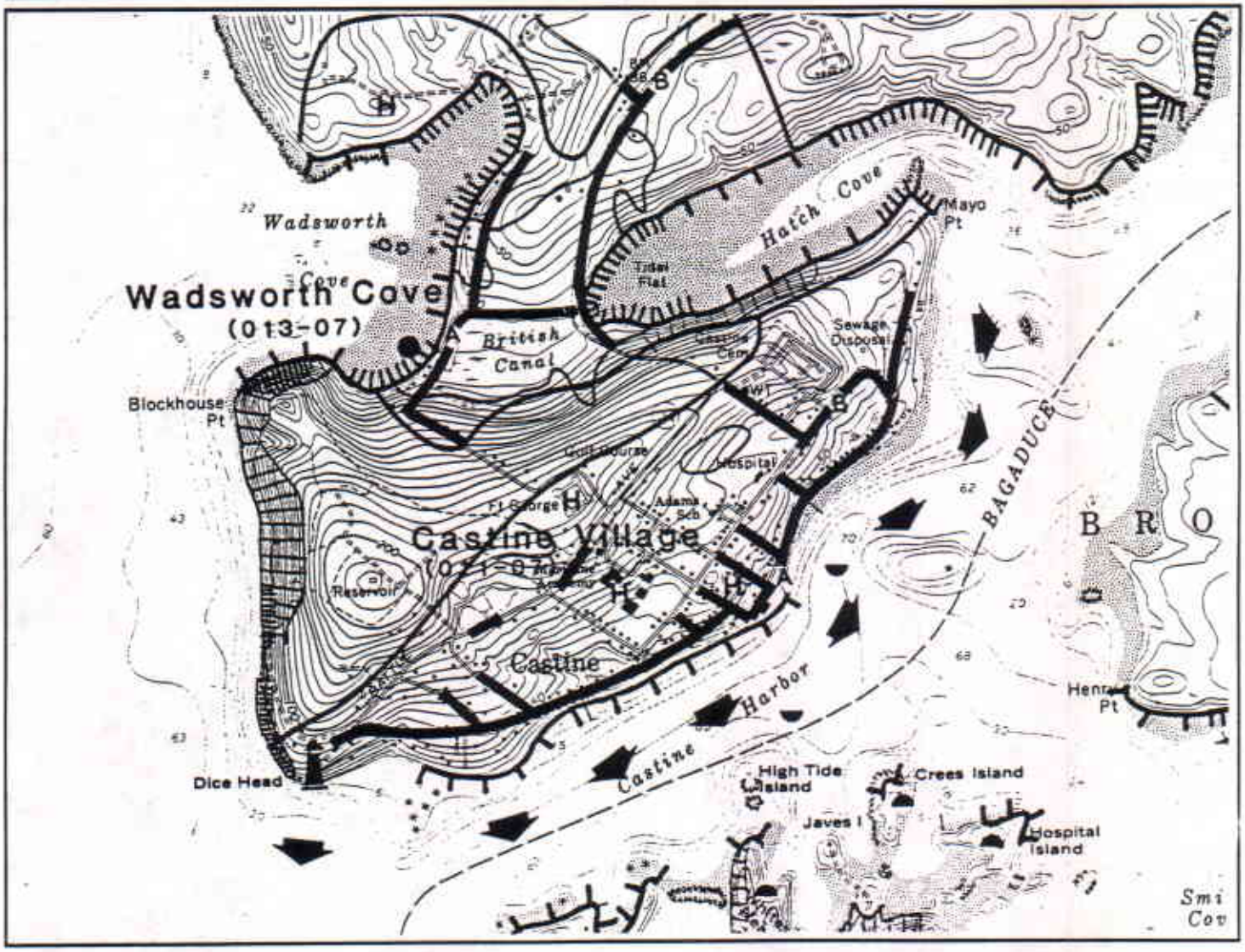
Scenic Area Evaluation Form

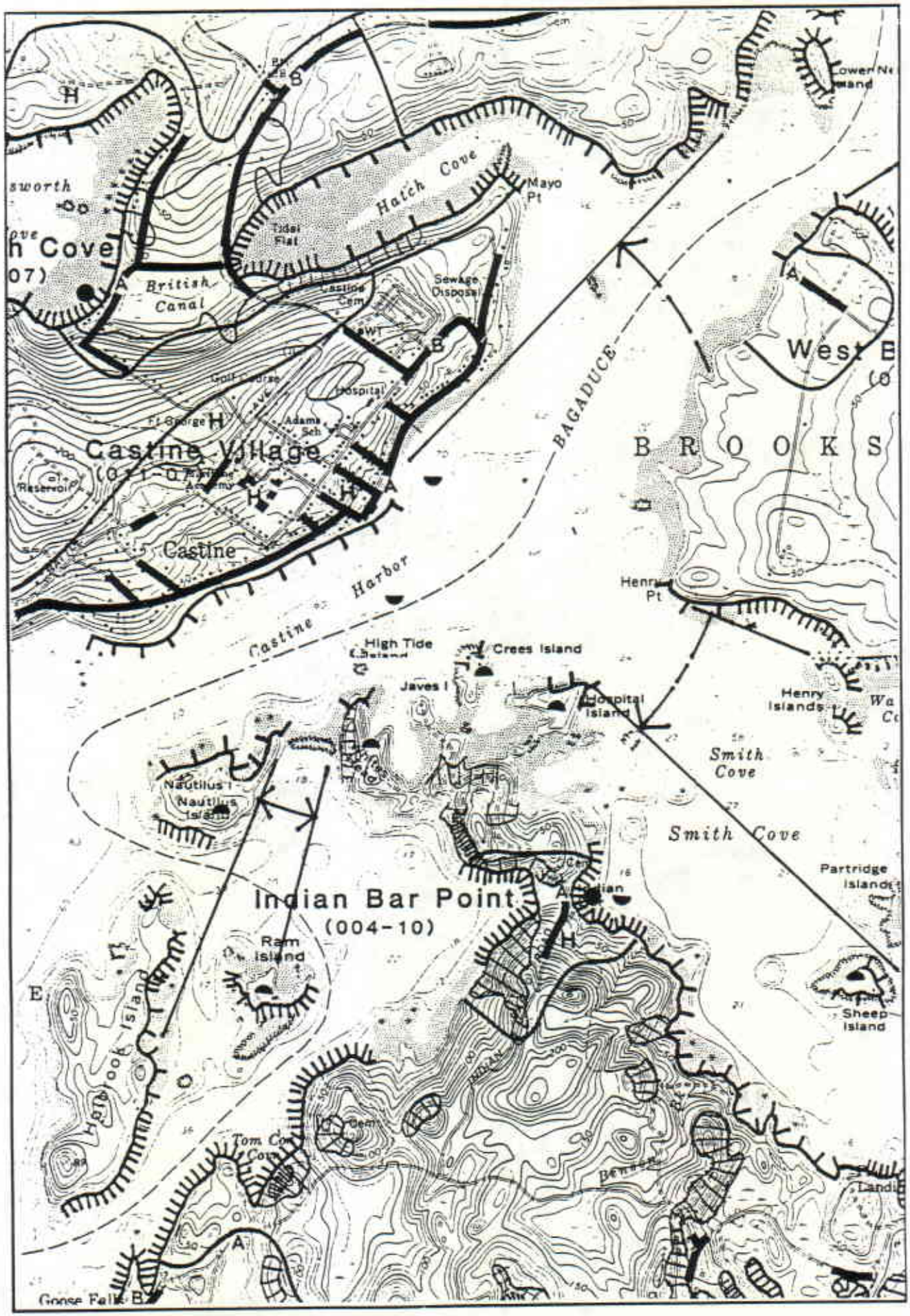
Scenic Area **Castine Village** Code **011-07** Town(s) **Castine** County **Hancock**
1989 Coastal Scenic Inventory — Maine State Planning Office

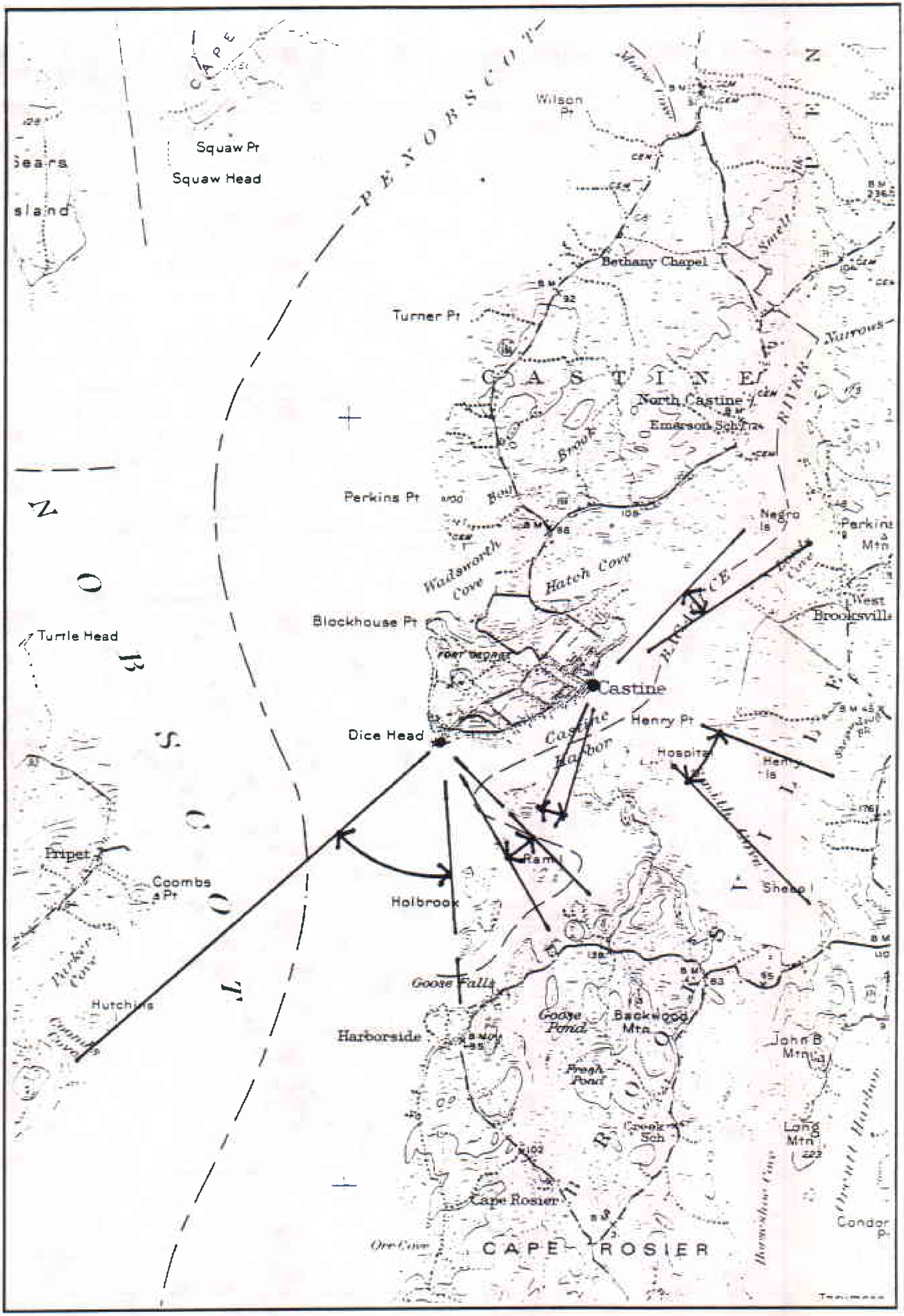
SI	S	IP	Special Interest/Score/Indicators Present
			1.Landform Topography____Slope____
	3		2.Open Land
	3	X	3.Shoreline Configuration
	9	X	4.Scenic Features
X	30		5.Scenic Quality of Water
			Duration of View 9
			Type of Water 12
			Quality of Horizon 9
	45	3	**Desktop Subtotal**
X	19		6.Landscape Character
			Land Use 7
			Roadside Characteristics 6
			Settlement Characteristics 9
	9		7.Vegetation
X	9		8.Composition & Effect
	82		**Total Score**
3			**Special Interest**

Viewshed Description An historic coastal village with a strong orientation to its active harbor. The streets are laid out in a grid pattern, superimposed over a steep topography, creating a strong sense of order. Maine Maritime Academy is the dominant physical presence in town, with large institutional buildings and the USS Maine tied up on the dock. The view from most places in town is a multilayered panorama of islands and hills, sailboats, and working vessels. The views extends to the waters of the Bagaduce River and Smith Cove and the hills of Cape Rosier and Islesboro on the horizon. Historic integrity is very strong and overall landscape is in very good condition.

Viewshed Management Recommendations Site plan reviews should include preservation of visual access and compatibility with town character. Acquisition of conservation/view easements on islands in harbor.




Hatch Cove
Mayo Pt
Tidal Flat
British Canal
Castine Cem
Sewage Disposal
SWT
Golf Course
Hospital
Ft George
Adams Sch
Castine Village
(011-01)
Reservoir
Academy
Castine
Harbor
BAGADUCE
B R O O K S
West B
Henry Pt
High Tide Island
Crees Island
Javes I
Hospital Island
Henry Islands
Smith Cove
Nautilus I
Nautilus Island
Indian Bar Point
(004-10)
Ram Island
Partridge Islands
Sheep Island
Hardhook Island
Tom Cove
Goose Falls B


PENOBSCOT
Squaw Pt
Squaw Head
Wilson Pt
Bethany Chapel
Turner Pt
CASTINE
North Castine
Emerson Sch
Perkins Pt
Wadsworth Cove
Hatch Cove
Negro Is
Blockhouse Pt
Fort George
Castine
Turtle Head
Dice Head
Castine Harbor
Henry Pt
Hospital
Henry Is
Pripet
Coombs Pt
Holbrook
Goose Falls
Harborside
Goose Pond
Backwood Mtn
Fresh Pond
Creek Sch
Cape Rosier
CAPE ROSIER
Ore Cove
Long Mtn
Condor Pt
West Brooksville
Perkins Mtn
Hutchins
Parker Cove

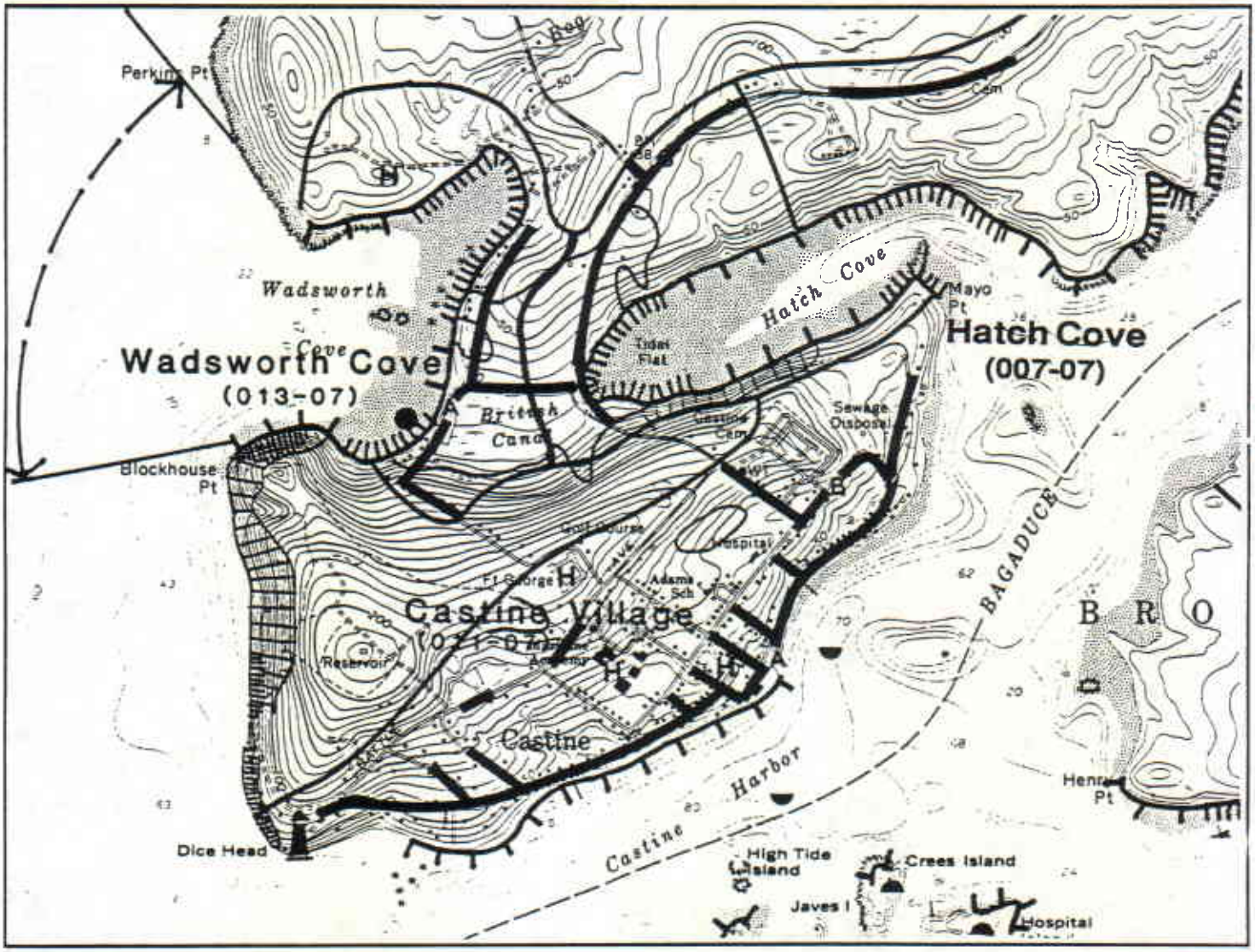
Scenic Area Evaluation Form

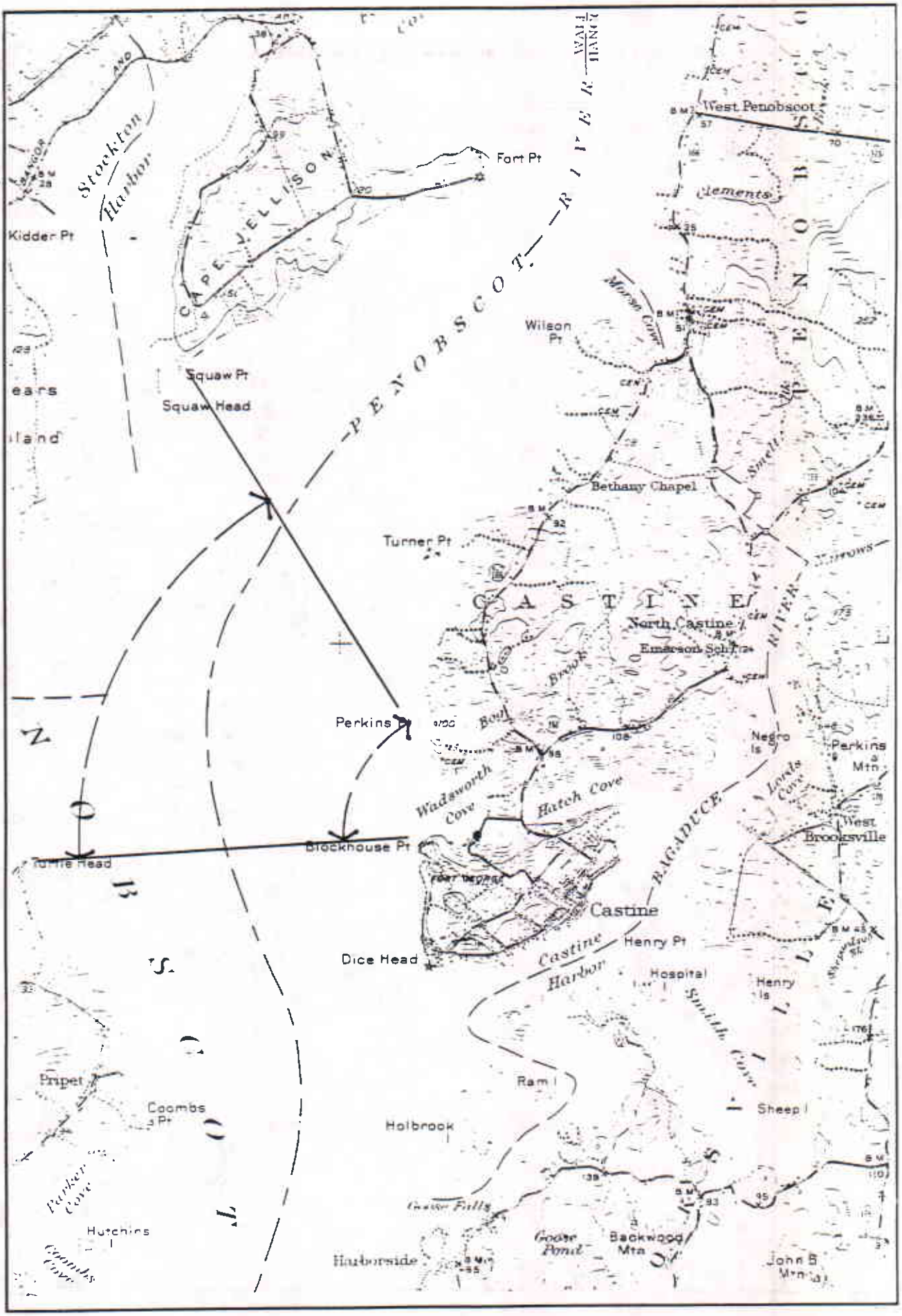
Scenic Area **Wadsworth Cove** Code **013-07** Town(s) **Castine** County **Hancock**
1989 Coastal Scenic Inventory — Maine State Planning Office

SI	S	IP	Special Interest/Score/Indicators Present
	3	X	1.Landform Topography____Slope 3
			2.Open Land
	6	X	3.Shoreline Configuration
	9	X	4.Scenic Features
	27		5.Scenic Quality of Water
			Duration of View 9
			Type of Water 12
			Quality of Horizon 6
	45	3	**Desktop Subtotal**
	19		6.Landscape Character
			Land Use 7
			Roadside Characteristics 3
			Settlement Characteristics 9
	6		7.Vegetation
	9		8.Composition & Effect
	79		**Total Score**
			Special Interest

Viewshed Description Sheltered, small, gravel beach at the terminus of the British Canal. Popular local park, used for swimming, walking, and wave watching. Dramatic contrast between an old estate on the northern arm of the cove and the steep, spruce covered slopes on the southerly arm. One of the finest examples of a semi-enclosed cove in Penobscot Bay.

Viewshed Management Recommendations Protection of all land area within the viewshed of the beach through conservation easements and/or local land use ordinances.




Stockton Harbor
Kidder Pt
CAPE JELLISON
Fort Pt
PENOBSCOT RIVER
Squaw Pt
Squaw Head
West Penobscot
Wilson Pt
Bethany Chapel
Turner Pt
CASTINE
North Castine
Emerson Schl
Perkins Pt
Negro Is
Perkins Mtn
Wadsworth Cove
Hatch Cove
Blockhouse Pt
Castine
Dice Head
Henry Pt
Castine Harbor
Hospital
Henry Is
Ram I
Sheep I
Holbrook
Pripet
Coombs Pt
Parker Cove
Hutchins I
Harborside
Goose Pond
Backwood Mtn
John B Mtn
BAGADUCE RIVER
West Brooksville

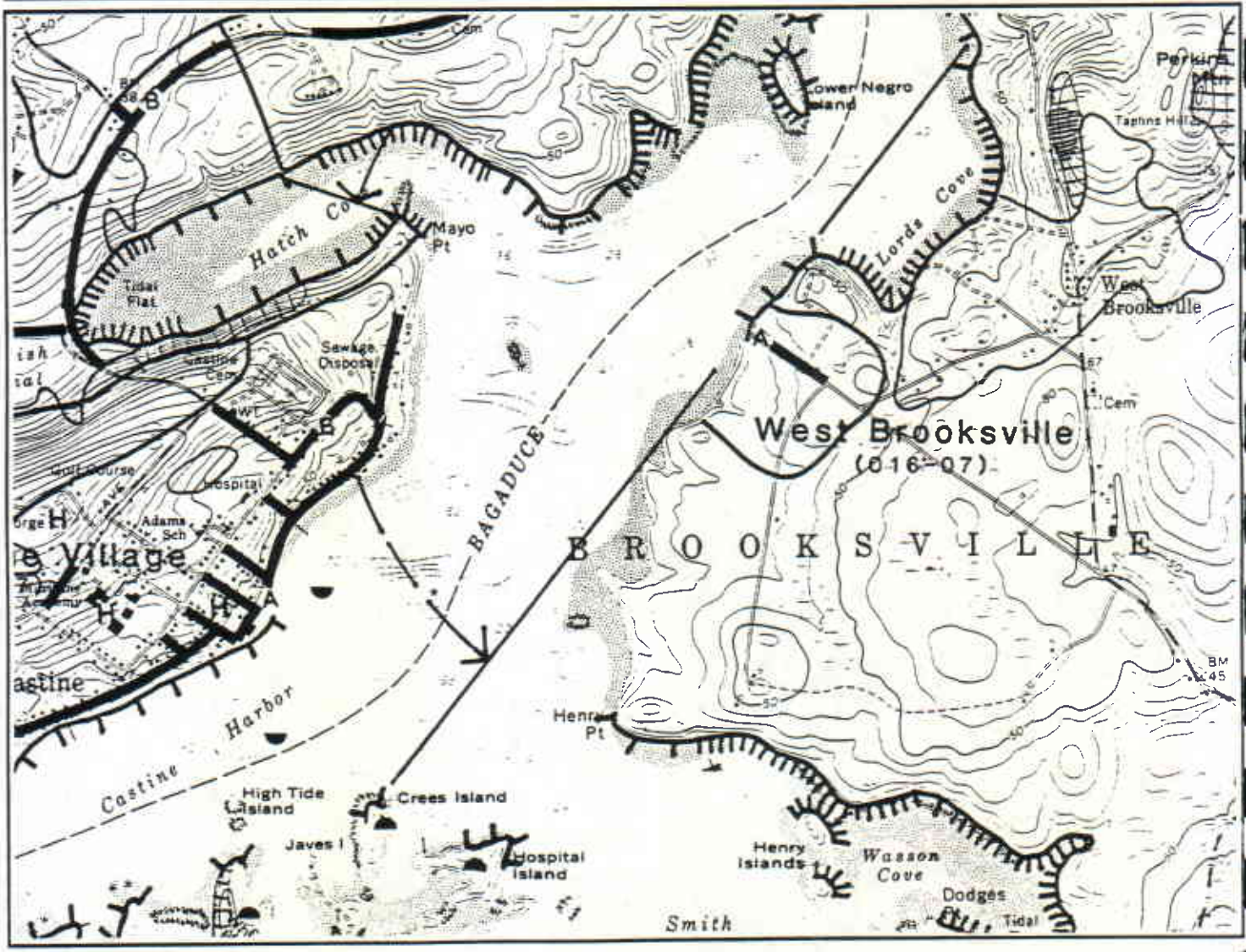
Scenic Area Evaluation Form

Scenic Area **West Brooksville** Code **016-07** Town(s) **Brooksvile** County **Hancock**
1989 Coastal Scenic Inventory — Maine State Planning Office

SI	S	IP	Special Interest/Score/Indicators Present
			1.Landform Topography____Slope____
			2.Open Land
	3	X	3.Shoreline Configuration
	6	X	4.Scenic Features
	24		5.Scenic Quality of Water
			Duration of View 3
			Type of Water 12
			Quality of Horizon 9
	33	3	**Desktop Subtotal**
	14		6.Landscape Character
			Land Use 5
			Roadside Characteristics 3
			Settlement Characteristics 6
	6		7.Vegetation
	9		8.Composition & Effect
	62		**Total Score**
			Special Interest

Viewshed Description The view from the end of a rural road leading to the Bagaduce River, 1.5 miles northeast of Castine. Old granite walls and timber cribbing hint at a much more active past. Traditional settlement patterns: old farms, boat house, scattered structures. Midground view extends to the village of Castine.

Viewshed Management Recommendations Potential point of public access to the Bagaduce River. Any increase in level of use must consider privacy of local residents and visual impacts on the surrounding landscape



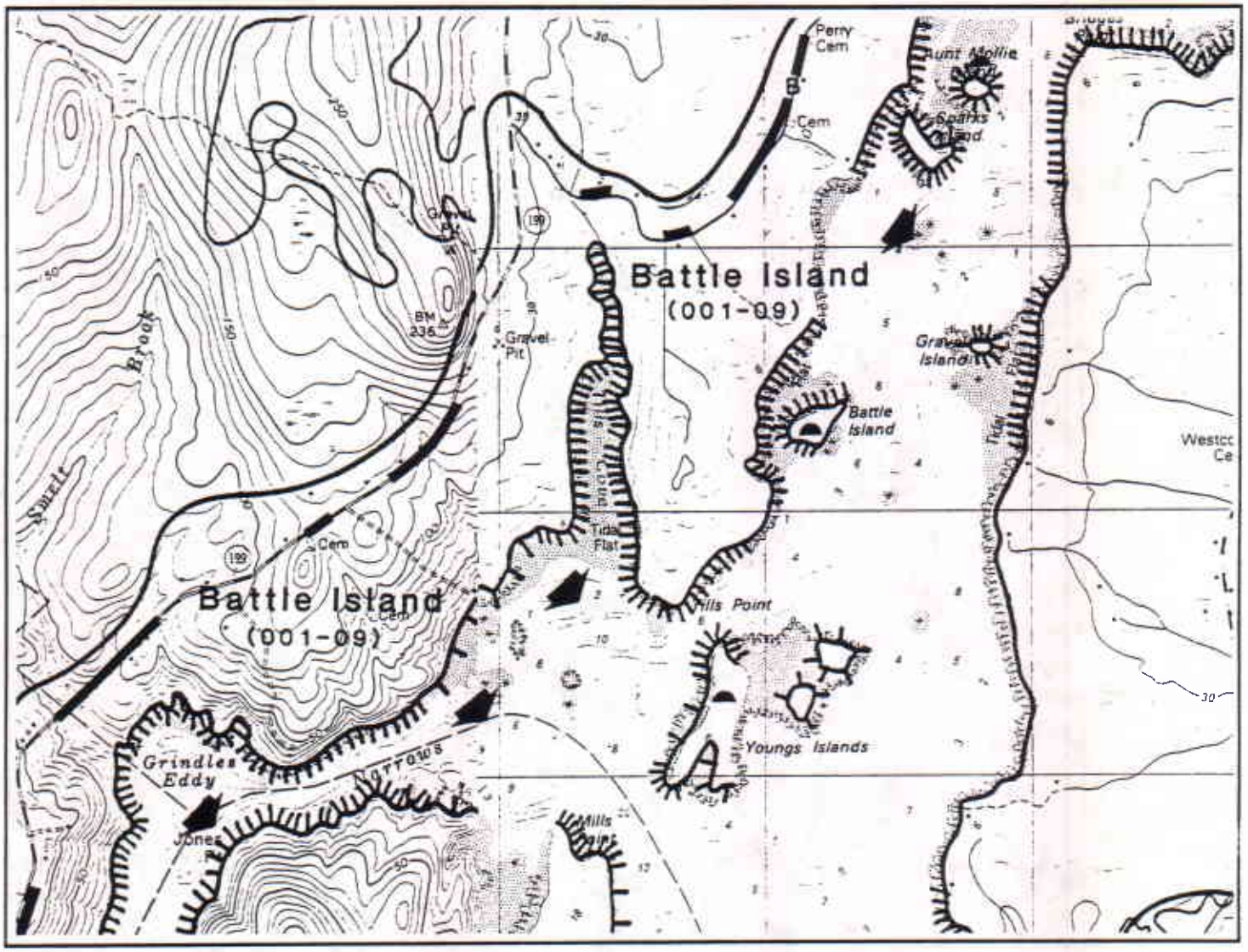
Scenic Area Evaluation Form

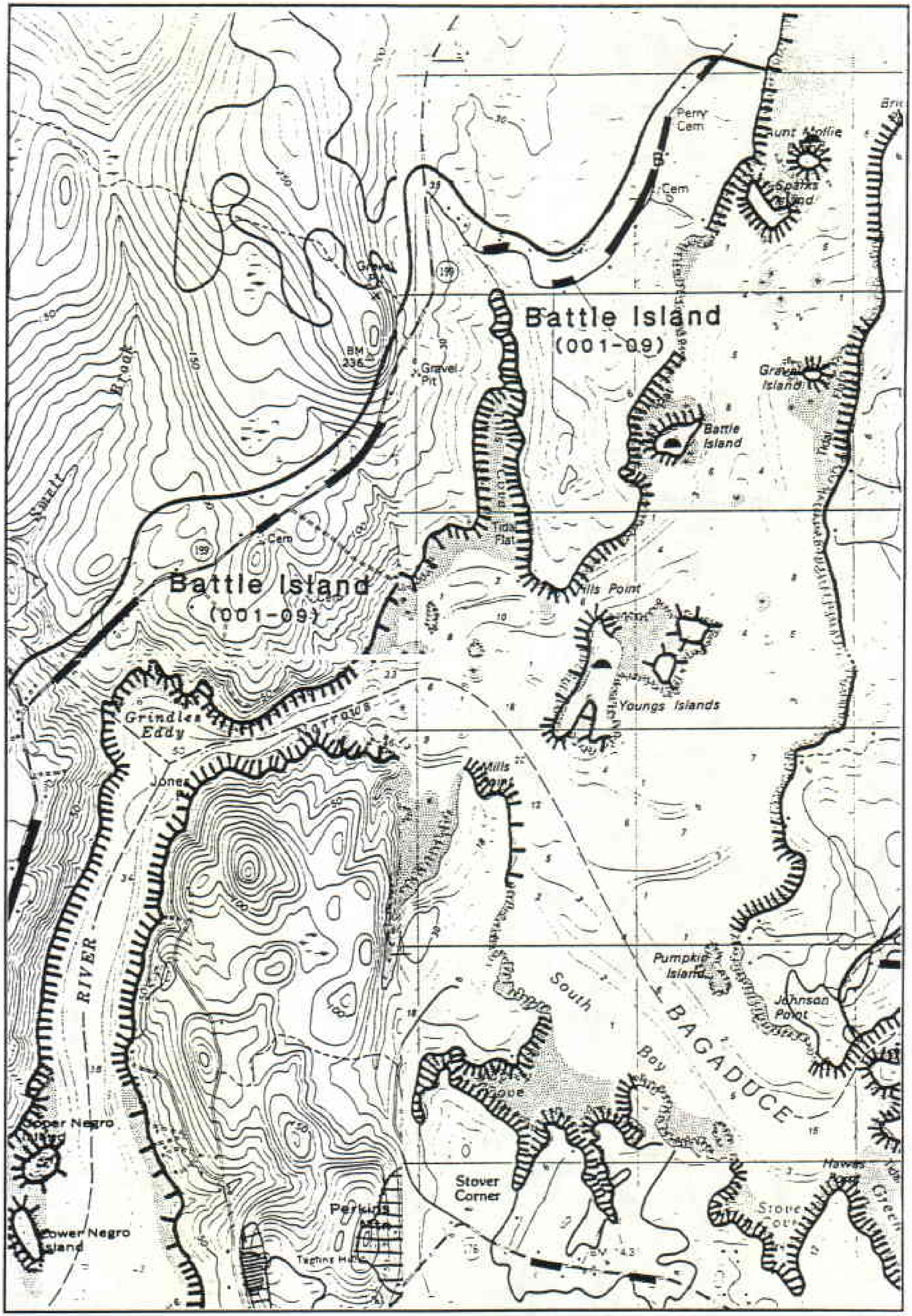
Scenic Area **Battle Island** Code **001-09** Town(s) **Penobscot** County **Hancock**
1989 Coastal Scenic Inventory Maine State Planning Office

SI	S	IP	Special Interest/Score/Indicators Present
			1.Landform Topography____Slope____
	4	X	2.Open Land
	6	X	3.Shoreline Configuration
			4.Scenic Features
	18		5.Scenic Quality of Water
			Duration of View 6
			Type of Water 9
			Quality of Horizon 3
	28	3	**Desktop Subtotal**
	11		6.Landscape Character
			Land Use 5
			Roadside Characteristics 3
			Settlement Characteristics 3
	6		7.Vegetation
	3		8.Composition & Effect
	48		**Total Score**
			Special Interest

Viewshed Description Primarily rural area with a mixture of relatively new and some historic homes, hayfields, manicured lawns, and second growth field. State highway and local roads parallel the Bagaduce River and provide several short views to the water. Foreground includes hayfields, second growth field, and residential structures. Midground includes the Bagaduce River and accompanying shoreline. Background views are to low spruce-covered hills in the distance. Most views are blocked or filtered by vegetation. The landscape condition is good but not entirely cohesive.

Viewshed Management Recommendations Maintain open views across second growth fields. Work with local land trusts to protect viewshed of Bagaduce River.




Battle Island
(001-09)
Battle Island
(001-09)
Perry Cem
Cem
Gravel Pit
BM 236
Smelt Brook
Battle Island
Youngs Islands
Grindles Eddy
Narrows
Mills Point
RIVER
Pumpkin Island
South Bay
BAGADUCE
Johnson Point
Stover Corner
Perkins Mtn
Lower Negro Island
Tidal Flat

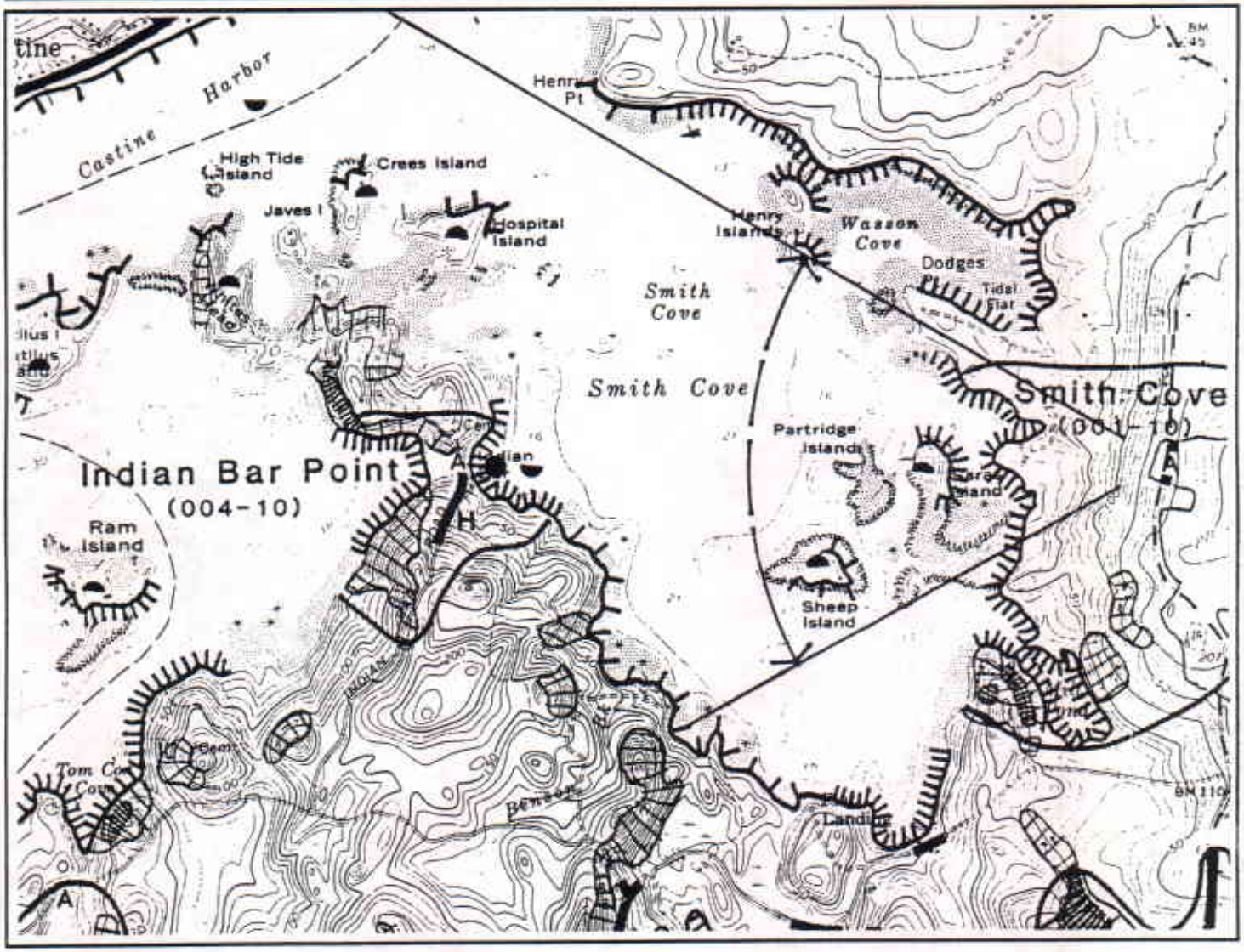
Scenic Area Evaluation Form

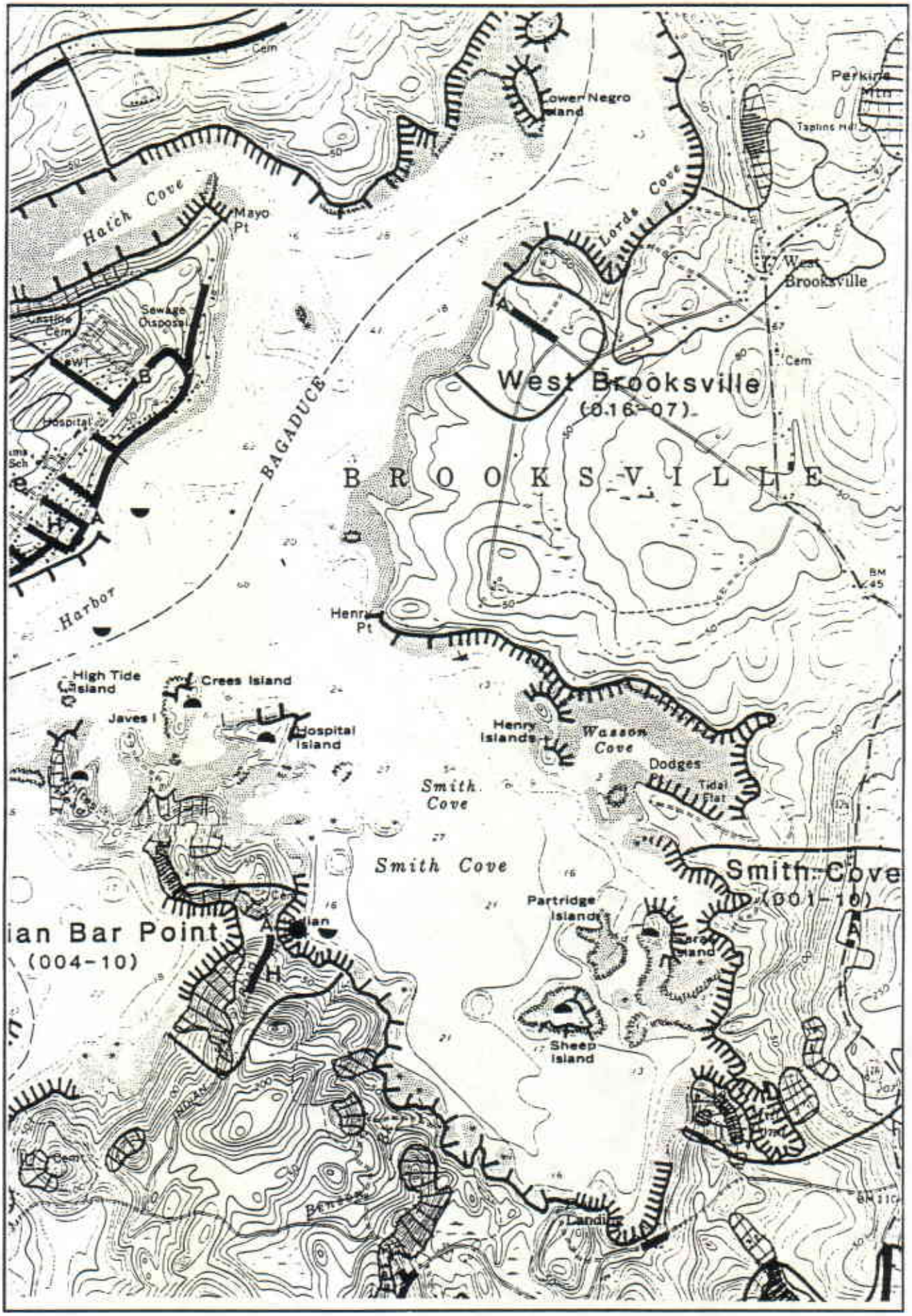
Scenic Area **Smith Cove** Code **001-10** Town(s) **Brooksville** County **Hancock**
1989 Coastal Scenic Inventory — Maine State Planning Office

SI	S	IP	Special Interest/Score/Indicators Present
	2	X	1.Landform Topography____Slope 2
			2.Open Land
	6	X	3.Shoreline Configuration
	6	X	4.Scenic Features
	27		5.Scenic Quality of Water
			Duration of View 6
			Type of Water 12
			Quality of Horizon 9
	41	4	**Desktop Subtotal**
	14		6.Landscape Character
			Land Use 5
			Roadside Characteristics 3
			Settlement Characteristics 6
	6		7.Vegetation
	6		8.Composition & Effect
	67		**Total Score**
			Special Interest

Viewshed Description A short overlook above the southerly shore of Smith Cove provides one of the few public viewing opportunities into this highly configured, very diverse inlet. Smith Cove is surrounded by low to medium sized hills and is punctuated by a number of wooded islands. The viewpoint focuses on the town of Castine at the northern end of the cove. Settlement is limited to a few scattered residences along the roads. One of the most pristine semi-enclosed landscapes within Penobscot Bay. The view from the road only gives a hint of the beauty of the cove. Another view at waters edge is possible at Indian Bay Point.

Viewshed Management Recommendations Conservation easements to protect the entire viewshed of Smith Cove. Open up additional vistas from the road.




Cem
Lower Negro Island
Perkins Mtn
Taplins Hill
Hatch Cove
Mayo Pt
Lords Cove
West Brooksville
Sewage Disposal
Cem
SWT
Hospital
BAGADUCE
West Brooksville
(0.16-07)
B R O O K S V I L L E
Harbor
BM 45
Henry Pt
High Tide Island
Crees Island
Javes I
Hospital Island
Henry Islands
Wasson Cove
Dodges
Tidal Flat
Smith Cove
Smith Cove
Smith Cove
(001-10)
Partridge Islands
ian Bar Point
(004-10)
Sheep Island
Beam
Landing

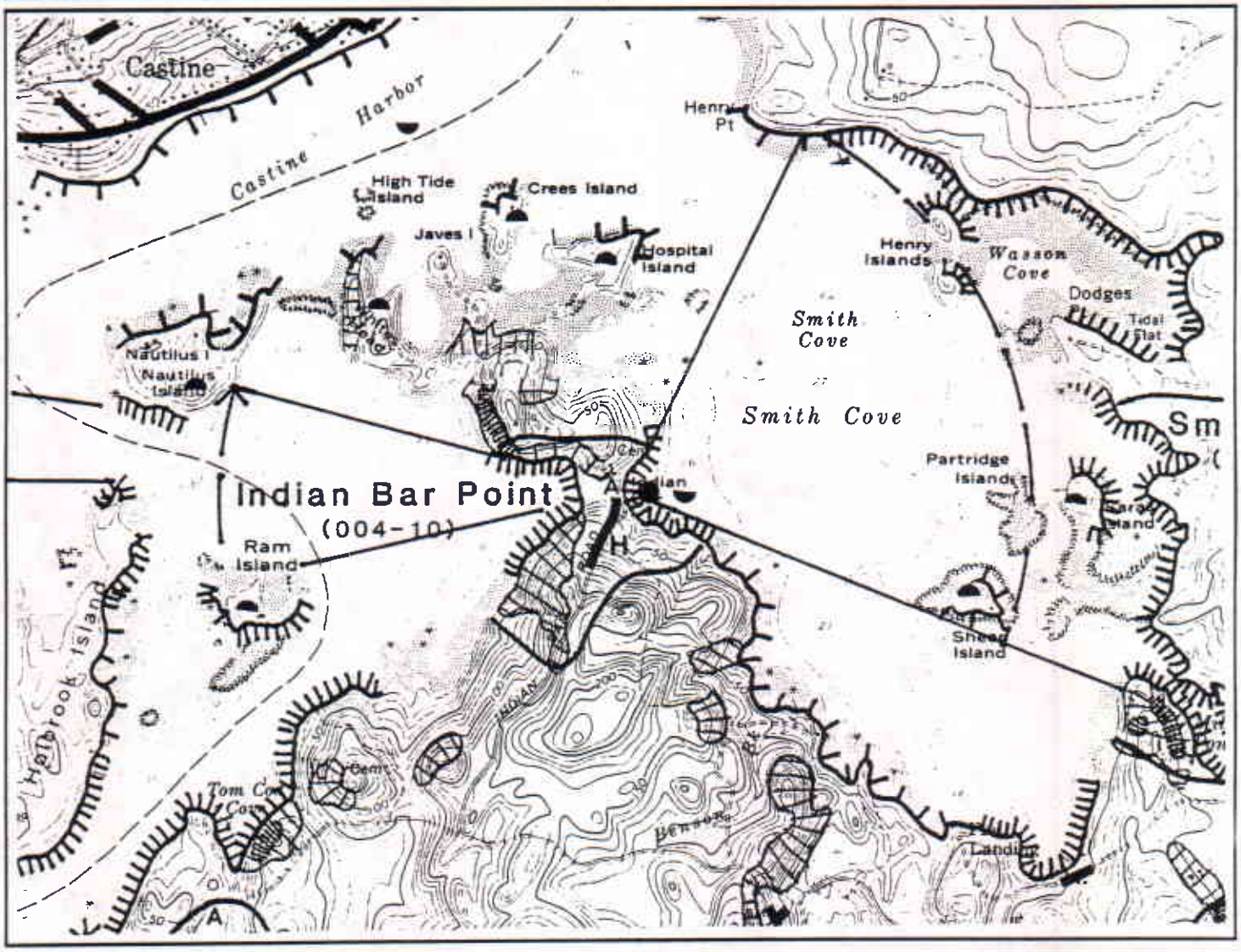
Scenic Area Evaluation Form

Scenic Area **Indian Bar Point** Code **004-10** Town(s) **Brooksville** County **Hancock**
1989 Coastal Scenic Inventory — Maine State Planning Office

SI	S	IP	Special Interest/Score/Indicators Present
	2	X	1.Landform Topography____Slope 2
			2.Open Land
	6	X	3.Shoreline Configuration
	9	X	4.Scenic Features (Beach/Mooring area)
X	30		5.Scenic Quality of Water
			Duration of View 9
			Type of Water 12
			Quality of Horizon 9
	47	4	**Desktop Subtotal**
X	19		6.Landscape Character
			Land Use 7
			Roadside Characteristics 3
			Settlement Characteristics 9
X	9		7.Vegetation
X	9		8.Composition & Effect
	84		**Total Score**
4			**Special Interest**

Viewshed Description A narrow sand bar located between Holbrook Island Sanctuary and a small private peninsula, affording a highly diverser view of water, islands, marshes, and hills. A dirt road dead ends at the area (road becomes private) with parking facilities (handicap access provided). The foreground view includes a small beach, salt marsh, granite cliffs, small mooring area, 19th century homestead, and the waters of Smith Cove and Penobscot Bay. Midground include the waters of Castine Harbor and Penobscot Bay, several nearby islands, and the east side of Smith Cove. Background views extend to Islesboro and spruce-covered hilltops on the horizon. Spectacular, diverse landscape in very good condition.

Viewshed Management Recommendations Continue to acquire conservation easements to preserve viewshed from Sanctuary land. High level of maintenance.



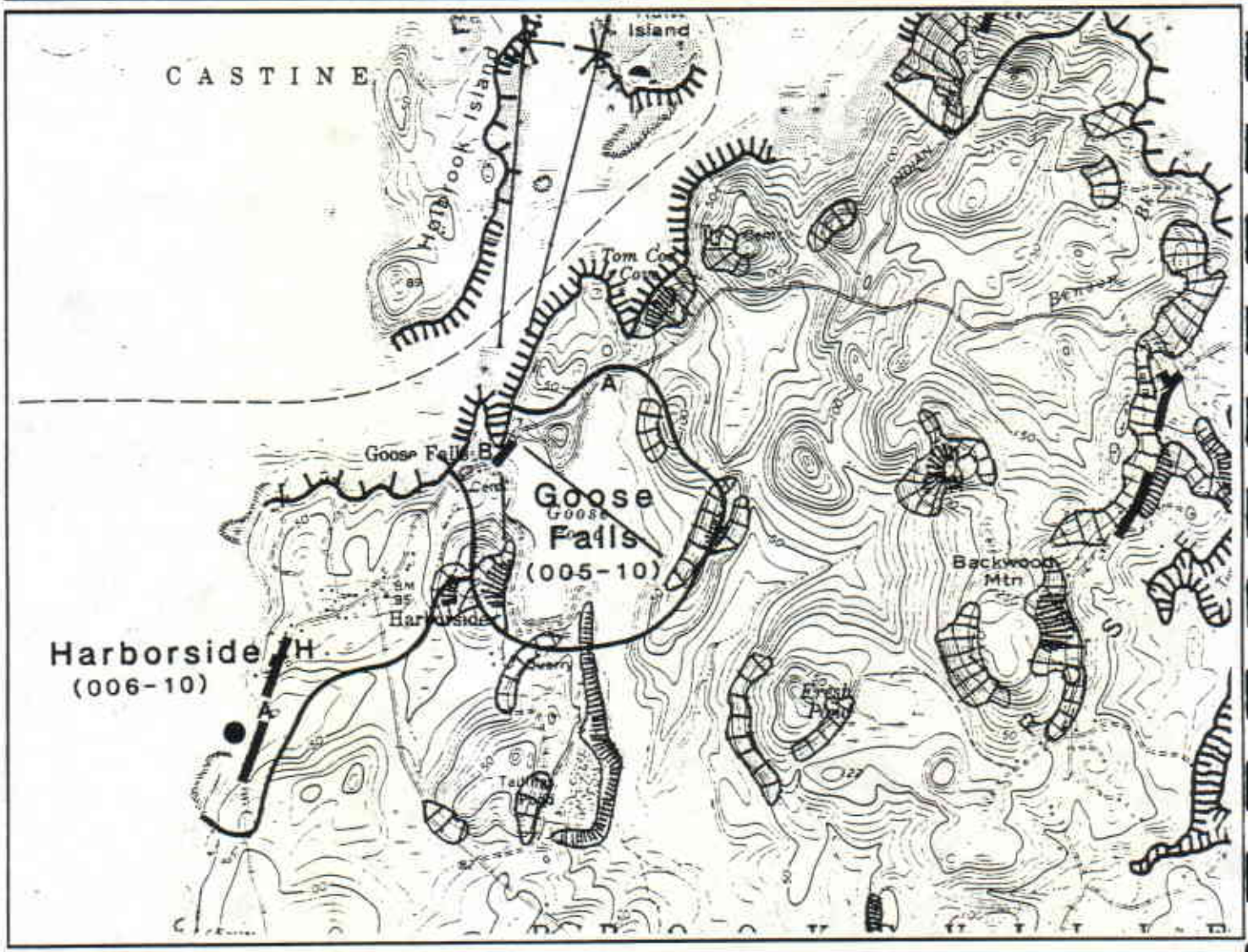
Scenic Area Evaluation Form

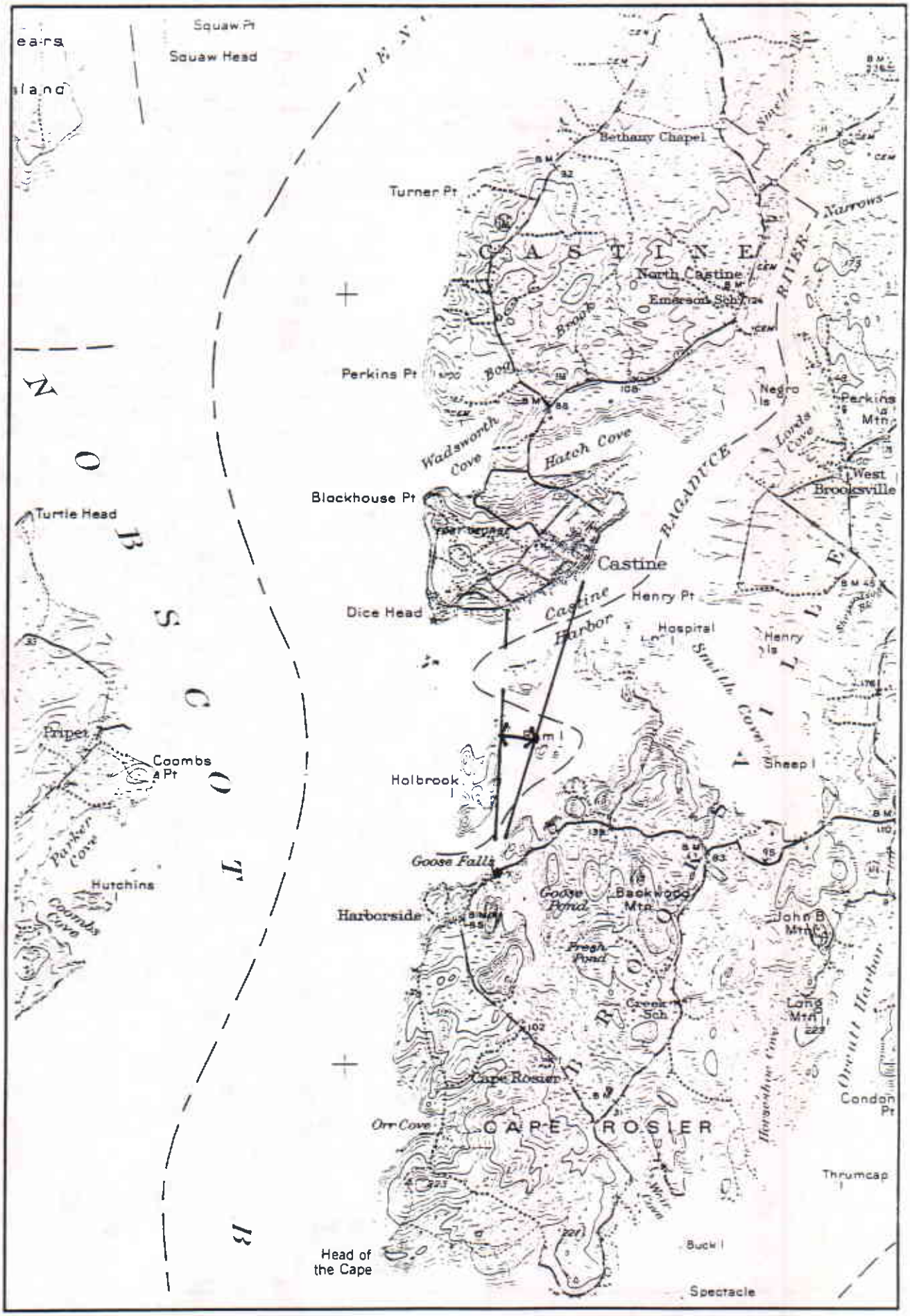
Scenic Area **Goose Falls** Code **005-10** Town(s) **Brooksville** County **Hancock**
1989 Coastal Scenic Inventory — Maine State Planning Office

SI	S	IP	Special Interest/Score/Indicators Present
	3	X	1.Landform Topography____Slope 3
			2.Open Land
	6	X	3.Shoreline Configuration
	9	X	4.Scenic Features
	30		5.Scenic Quality of Water
			Duration of View 9
			Type of Water 12
			Quality of Horizon 9
	39	4	**Desktop Subtotal**
	11		6.Landscape Character
			Land Use 5
			Roadside Characteristics 3
			Settlement Characteristics 3
	3		7.Vegetation
X	9		8.Composition & Effect
	71		**Total Score**
1			**Special Interest**

Viewshed Description A well-known reversing falls found at the outlet of Goose Pond. A narrow view extends to the north toward Castine, past Holbrook Island. A pull-off area on the narrow dirt road affords a view to the falls and the pond. Midground views includes pine-covered shorelines, the ruins of wharves, mine tailings on Goose Pond, and the waters of Penobscot Bay. Background views are to the Bay, Castine Village, and wooded hilltops. The general landscape condition is good to very good, with exception of tailings on the pond. A complex viewshed with many points of interest.

Viewshed Management Recommendations Work with land trusts and others to protect islands and land within viewshed. Encourage owner of tailings to rehabilitate slope and restore vegetation. Refine parking-pull-off area. Improve filtered views to Goose Pond.




Squaw Pt
Squaw Head
Bethany Chapel
Turner Pt
CASTINE
North Castine
Emerson Sch
Perkins Pt
Negro Is
Perkins Mtn
Wadsworth Cove
Hatch Cove
Lords Cove
West Brooksville
Blackhouse Pt
Turtle Head
Castine
Henry Pt
Dice Head
Castine Harbor
Hospital
Henry Is
Penobscot Bay
Sheep I
Holbrook I
Goose Falls
Goose Pond
Backwood Mtn
Harborside
John B Mtn
Fresh Pond
Long Mtn
Cape Rosier
Orr Cove
CAPE ROSIER
Condon Pt
Thrumcap
Buck I
Head of the Cape
Spectacle
Pripet
Coombs Pt
Parker Cove
Hutchins
Coombs Cove

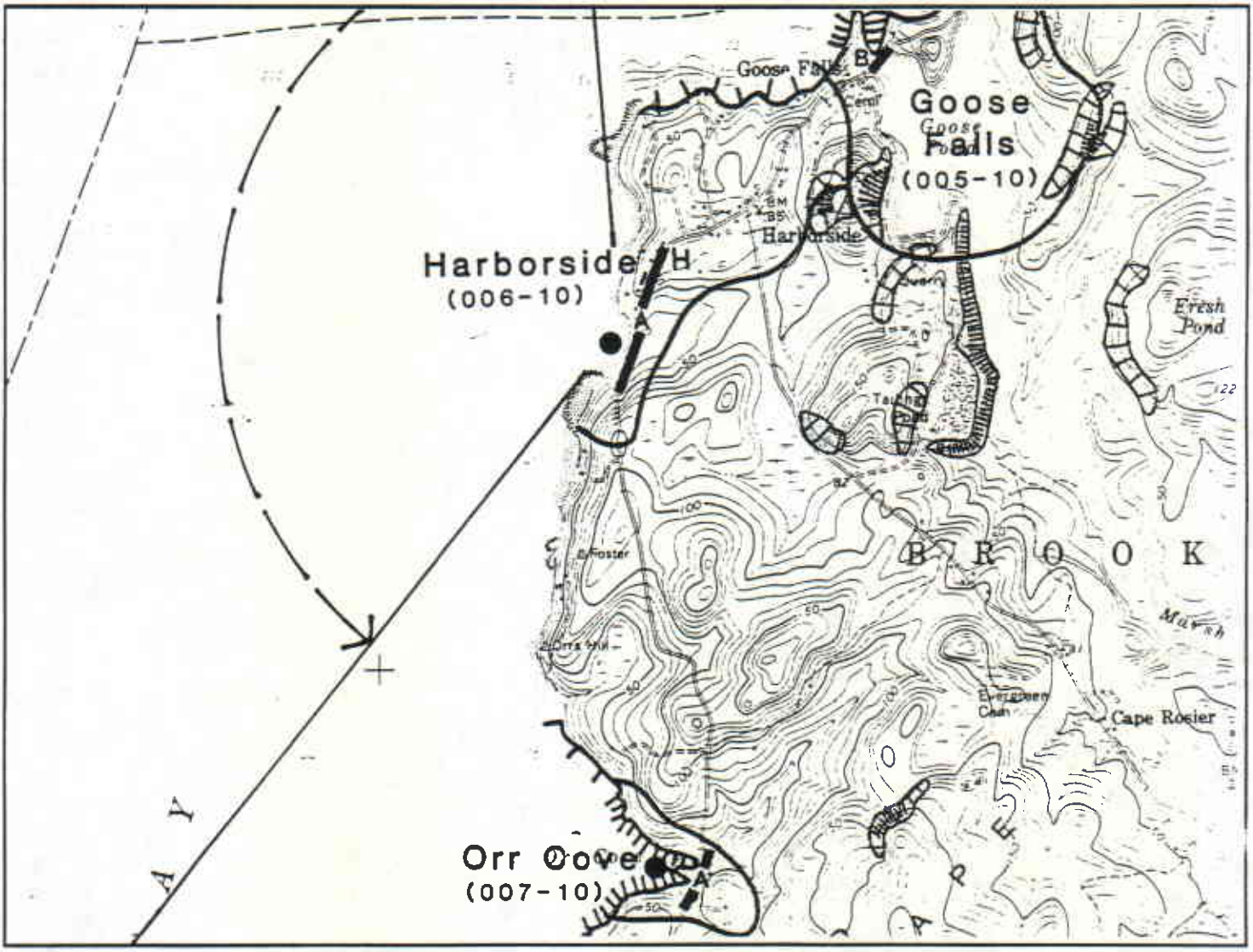
Scenic Area Evaluation Form

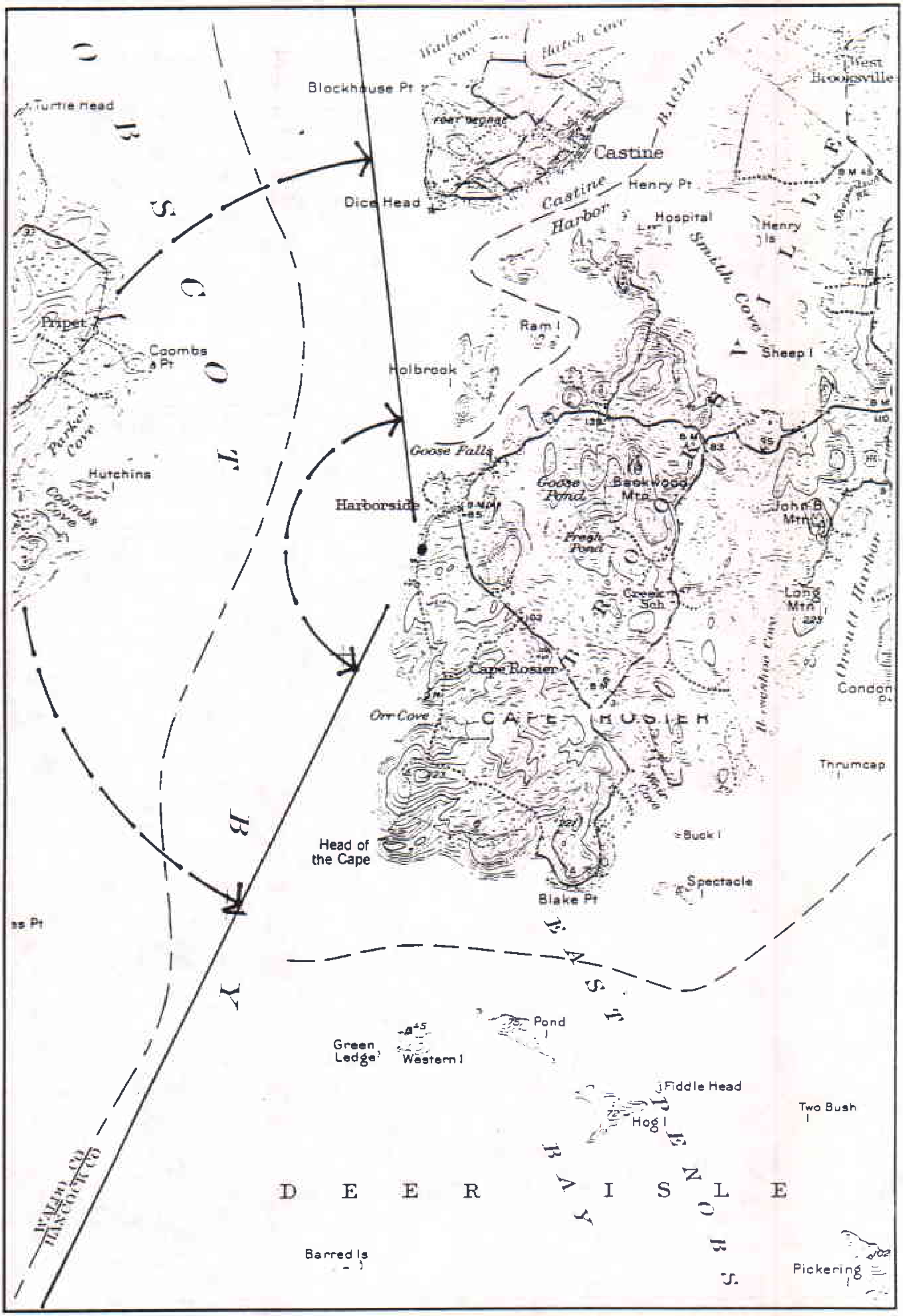
Scenic Area **Harborside** Code **006-10** Town(s) **Brooksville** County **Hancock**
1989 Coastal Scenic Inventory Maine State Planning Office

SI	S	IP	Special Interest/Score/Indicators Present
			1.Landform Topography____Slope____
	5	X	2.Open Land
			3.Shoreline Configuration
	9	X	4.Scenic Features (Beach/Camden Hills)
	21		5.Scenic Quality of Water
			Duration of View 6
			Type of Water 9
			Quality of Horizon 6
	35	3	**Desktop Subtotal**
X	22		6.Landscape Character
			Land Use 7
			Roadside Characteristics 6
			Settlement Characteristics 9
X	9		7.Vegetation
	9		8.Composition & Effect
	75		**Total Score**
2			**Special Interest**

Viewshed Description Small residential settlement of well-kept, architecturally compatible structures, open pasture land, and stone beach. Local road has both filtered and open views to Penobscot Bay. Foreground elements include pasture, cottages, stone beach, evergreen forests, rows of planted spruce, and the waters of Penobscot Bay. Views extend to Islesboro and the Camden Hills beyond. The general condition of the land is very good to excellent with well-maintained landscapes. Limited development is beginning to occur on the east side of the road in an open field near the primary viewing point.

Viewshed Management Recommendations Develop performance standards for new subdivisions which preserve visual access to the water and respect the architectural integrity of the comunity. Assist land trust in efforts to protect shoreline properties.




Blockhouse Pt
Turtle Head
Castine
Castine Harbor
Henry Pt
Dice Head
Hospital
Henry Is
Smith Cove
Ram I
Sheep I
Holbrook
Coombs Pt
Goose Falls
Goose Pond
Backwood Mtn
Hutchins
Harborside
John B Mtn
Fresh Pond
Coombs Cove
Parker Cove
Long Mtn
Cape Rosier
Condon
Orr Cove
CAPE ROSIER
Thrumcap
Buck I
Head of the Cape
Spectacle
Blake Pt
Pond
Green Ledge
Western I
Fiddle Head
Two Bush
Hog I
D E E R I S L E
Barred Is
Pickering
WALDO CO
HANCOCK CO

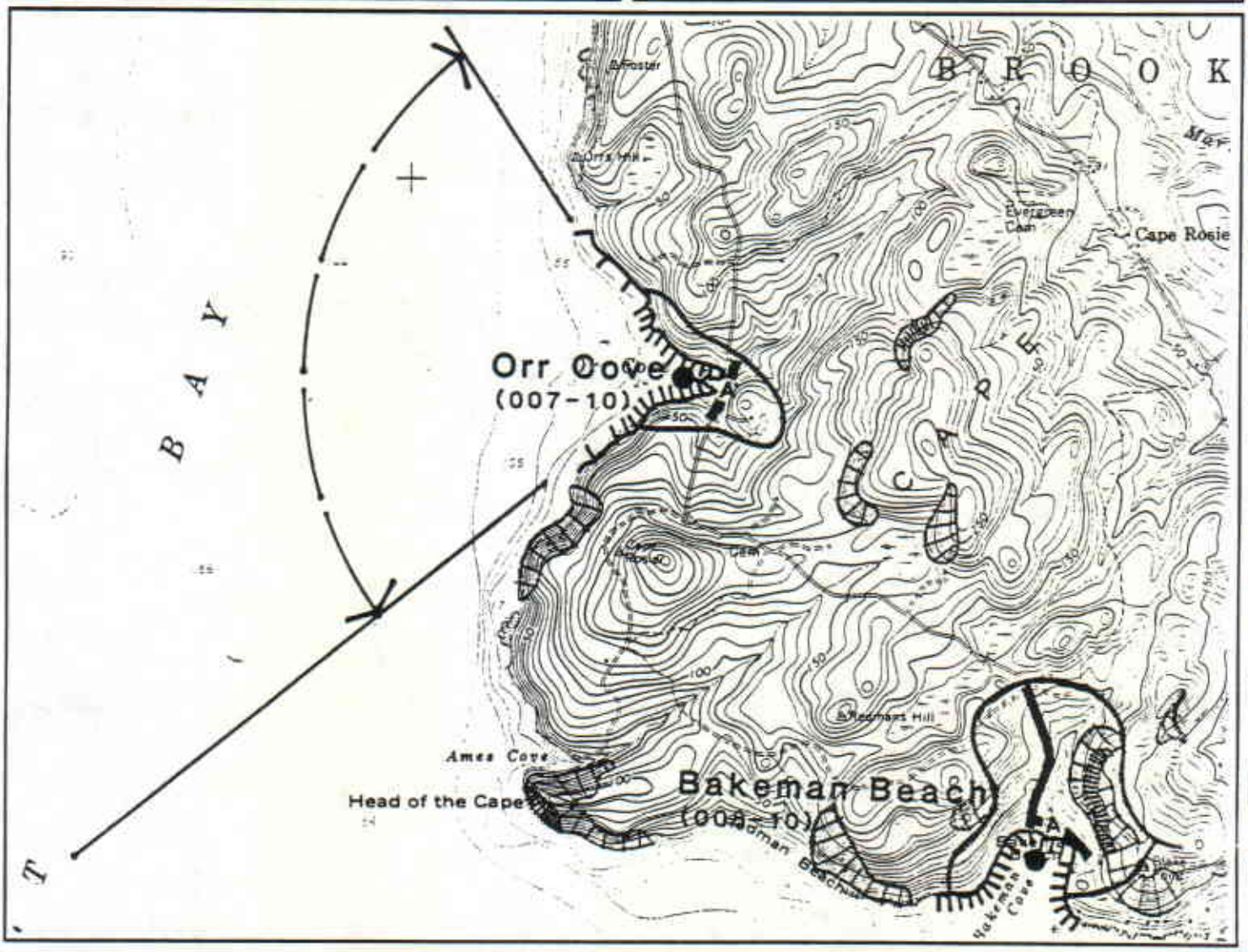
Scenic Area Evaluation Form

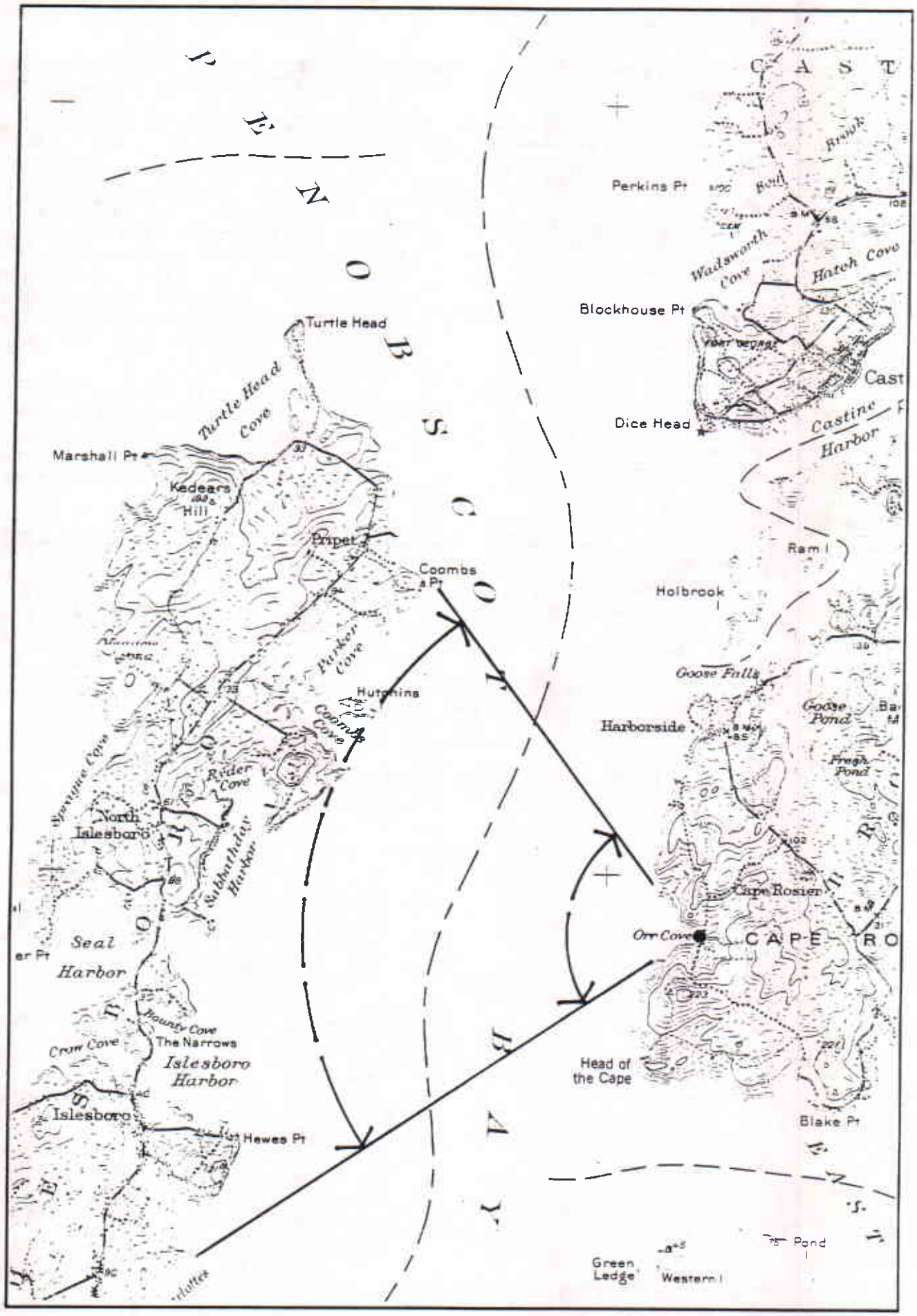
Scenic Area **Orr Cove** Code **007-10** Town(s) **Brooksville** County **Hancock**
1989 Coastal Scenic Inventory — Maine State Planning Office

SI	S	IP	Special Interest/Score/Indicators Present
			1.Landform Topography____Slope____
			2.Open Land
	6	X	3.Shoreline Configuration
	9	X	4.Scenic Features
	21		5.Scenic Quality of Water
			Duration of View 3
			Type of Water 12
			Quality of Horizon 6
	36	3	**Desktop Subtotal**
	16		6.Landscape Character
			Land Use 7
			Roadside Characteristics 3
			Settlement Characteristics 6
	9		7.Vegetation
	9		8.Composition & Effect
	70		**Total Score**
			Special Interest

Viewshed Description Small inlet on Cape Rosier in Penobscot Bay punctuated by large rocks in a coarse sand beach surrounded by pine-covered ledges. The Harborside homestead of Helen and the late Scott Nearing is located on the uplands directly east of Orr Cove. Background view is to Islesboro.

Viewshed Management Recommendations The land on both sides of Orr Cove should be protected through the acquisition of development rights or purchase by a conservation organization.




PENOBSCOT BAY
CAST
Perkins Pt
Wadsworth Cove
Hatch Cove
Blockhouse Pt
Cast
Dice Head
Castine Harbor
Ram I
Holbrook
Goose Falls
Goose Pond
Harborside
Fresh Pond
Cape Rosier
Orr Cove
CAPE RO
Head of the Cape
Blake Pt
Turtle Head
Turtle Head Cove
Marshall Pt
Kedears Hill
Pripet
Coombs Pt
Parker Cove
Hutchins
Coombs Cove
Rider Cove
Spruce Cove
North Islesboro
Sabbathday Harbor
Seal Harbor
Crow Cove
Mounty Cove
The Narrows
Islesboro Harbor
Islesboro
Hewes Pt
Hatter
Green Ledge
Western I
Pond

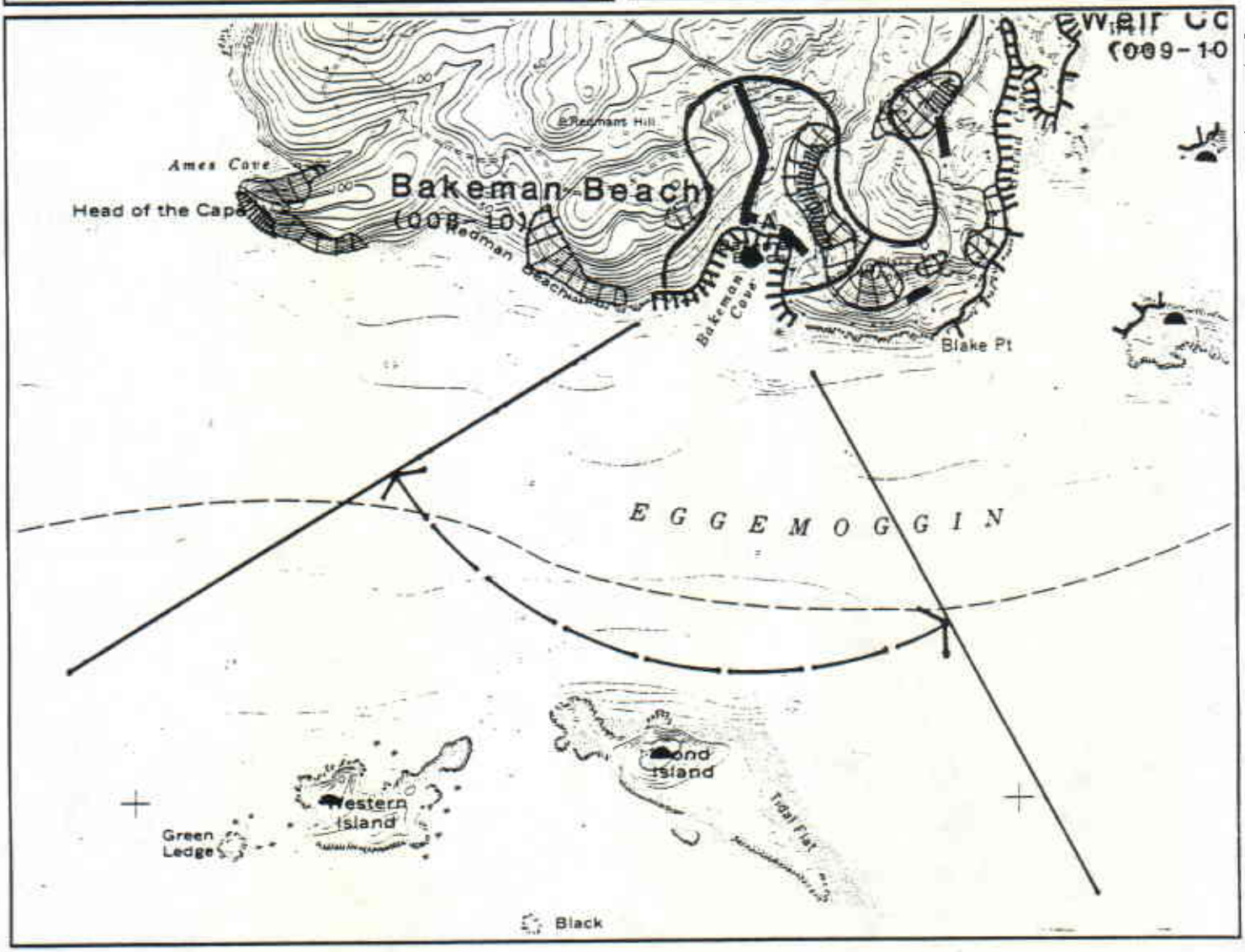
Scenic Area Evaluation Form

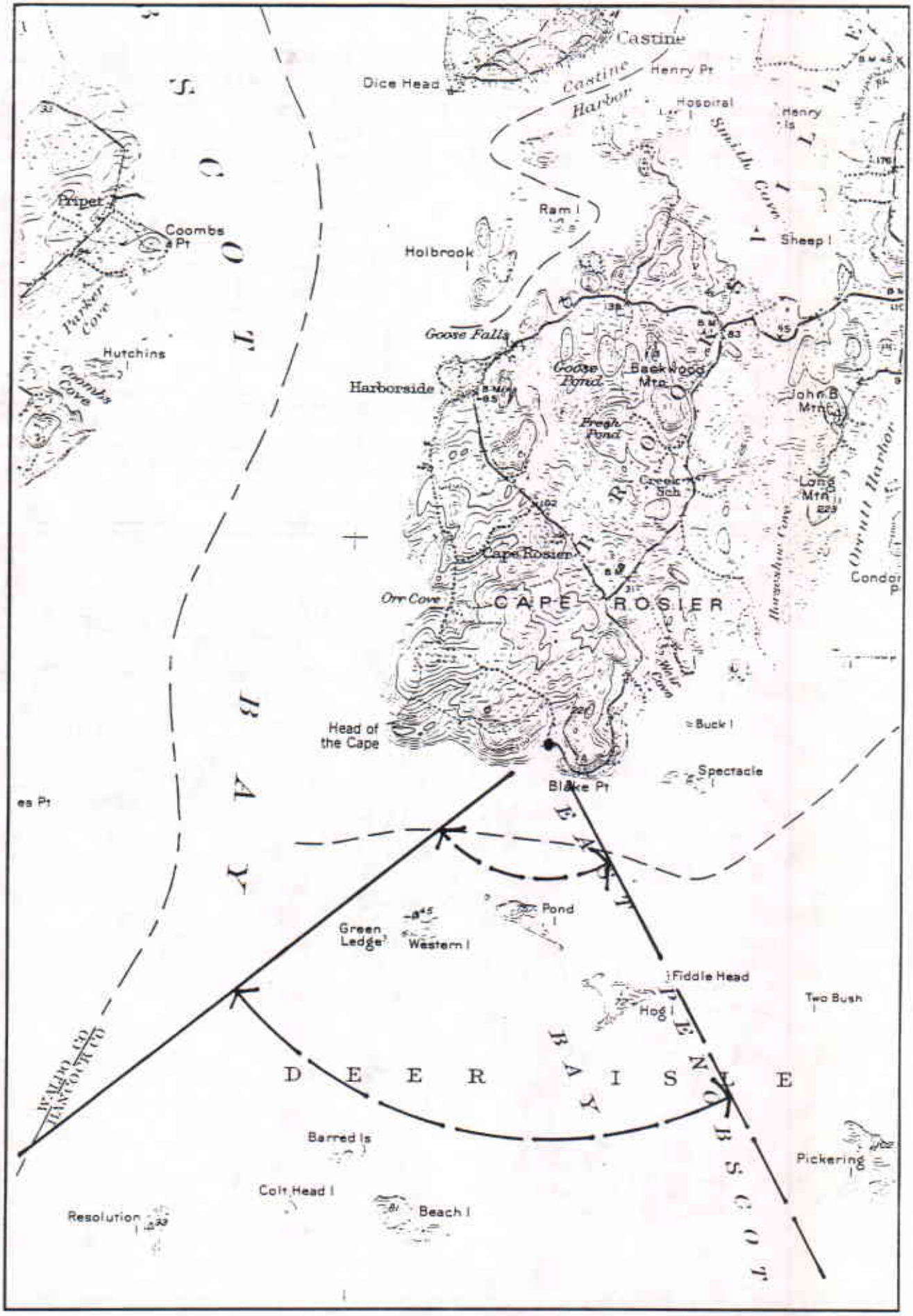
Scenic Area **Bakeman Beach** Code **008-10** Town(s) **Brooksville** County **Hancock**
1989 Coastal Scenic Inventory — Maine State Planning Office

SI	S	IP	Special Interest/Score/Indicators Present
	3	X	1.Landform Topography____Slope 3
			2.Open Land
	6	X	3.Shoreline Configuration
X	9	X	4.Scenic Features (Beach)
X	27		5.Scenic Quality of Water
			Duration of View 9
			Type of Water 12
			Quality of Horizon 6
	45	4	**Desktop Subtotal**
	19		6.Landscape Character
			Land Use 7
			Roadside Characteristics 3
			Settlement Characteristics 9
	6		7.Vegetation
X	9		8.Composition & Effect
	79		**Total Score**
3			**Special Interest**

Viewshed Description Natural area with large horseshoe shaped stone beach, wetland area, blueberry fields, and one residence. Local dirt road parallels the beach and rises into blueberry fields providing a variety of views as well as access to the beach. Foreground includes maintained blueberry fields, meadows, and stone beach. Midground includes Bakeman Cove and mature spruce shoreline. Background views are to the open ocean and several small distant islands. A very well composed view providing spectacular imagery.

Viewshed Management Recommendations Continue public access with careful development of defined parking and pull-off areas. Protect natural character of the bluffs on either side of the beach through conservation easements.




Castine
Dice Head
Castine Harbor
Henry Pt
Hospital
Henry Is
Smith Cove
Ram I
Sheep I
Holbrook
Pripet
Coombs Pt
Parker Cove
Hutchins
Coombs Cove
Goose Falls
Goose Pond
Backwood Mtn
Harborside
John B Mtn
Fresh Pond
Creek
Sch
Long Mtn
Cape Rosier
Orr Cove
CAPE ROSIER
Horseshoe Cove
Orrell Harbor
Condor
Wolf Cove
Head of the Cape
Buck I
Spectacle
Blake Pt
es Pt
Pond
Green Ledge
Western I
Fiddle Head
Hog I
Two Bush
Barred Is
Colt Head I
Resolution
Beach I
Pickering
S C O T T B A Y
E A S T P E N O B S C O T T B A Y
D E E R I S L E

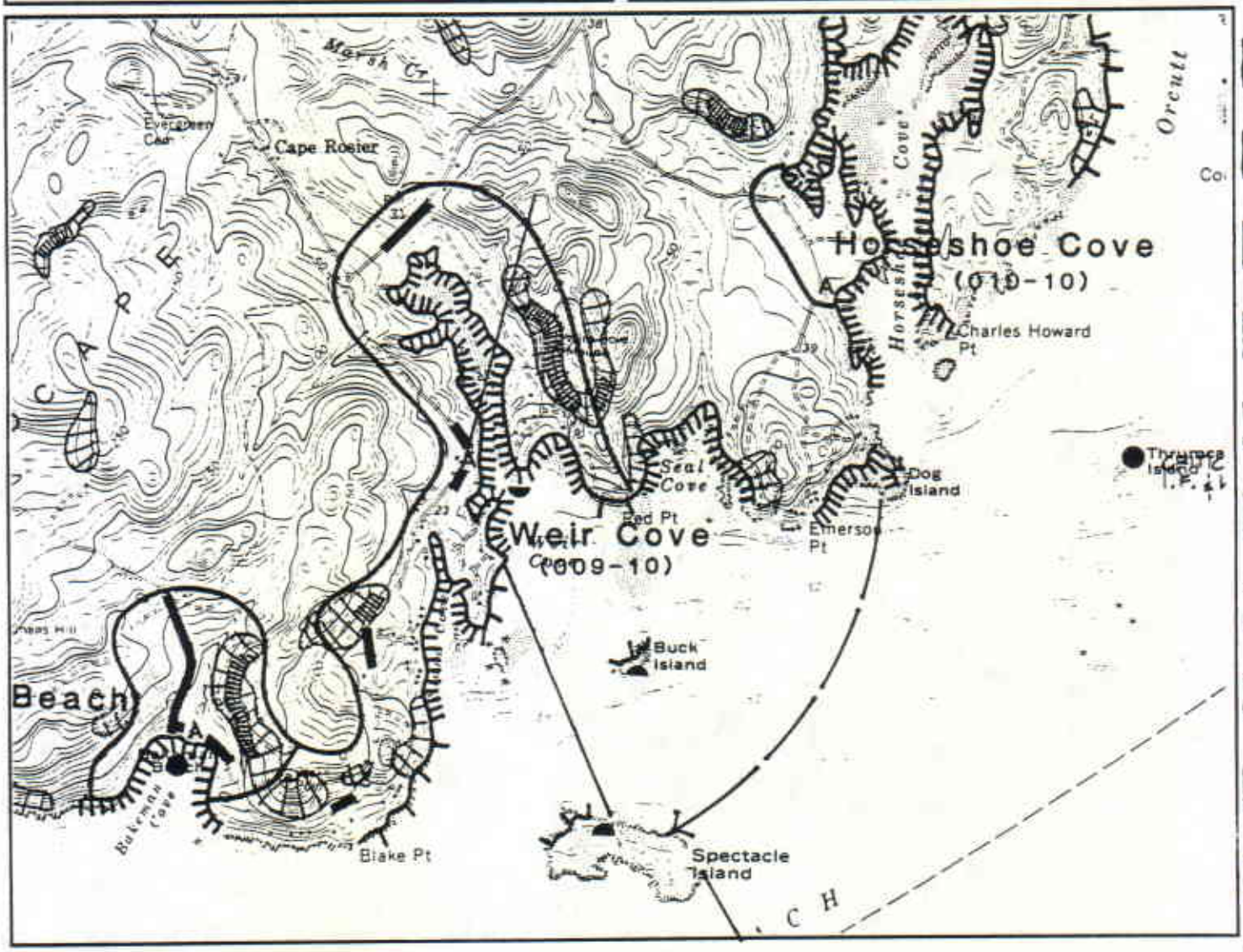
Scenic Area Evaluation Form

Scenic Area **Weir Cove** Code **009-10** Town(s) **Brooksville** County **Hancock**
1989 Coastal Scenic Inventory Maine State Planning Office

SI	S	IP	Special Interest/Score/Indicators Present
	3	X	1.Landform Topography____Slope 3
			2.Open Land
	6	X	3.Shoreline Configuration
	9	X	4.Scenic Features
	27		5.Scenic Quality of Water
			Duration of View 6
			Type of Water 12
			Quality of Horizon 9
	45	4	**Desktop Subtotal**
	16		6.Landscape Character
			Land Use 7
			Roadside Characteristics 3
			Settlement Characteristics 6
	6		7.Vegetation
	9		8.Composition & Effect
	76		**Total Score**
			Special Interest

Viewshed Description One of the few places in Penobscot Bay affording a view where open water (Weir Cove) and mountains (Weir Cove Mountain) are juxtaposed. Highly configured harbor area with well kept small scaled homes. Periodic views from a very narrow road. Very diverse, vivid landscape, composed of a mixture of open fields, views to the semi-enclosed harbor and Eggemoggin Reach, and several offshore islands.

Viewshed Management Recommendations A high priority area for conservation activities to protect the fragile nature of the visual landscape.



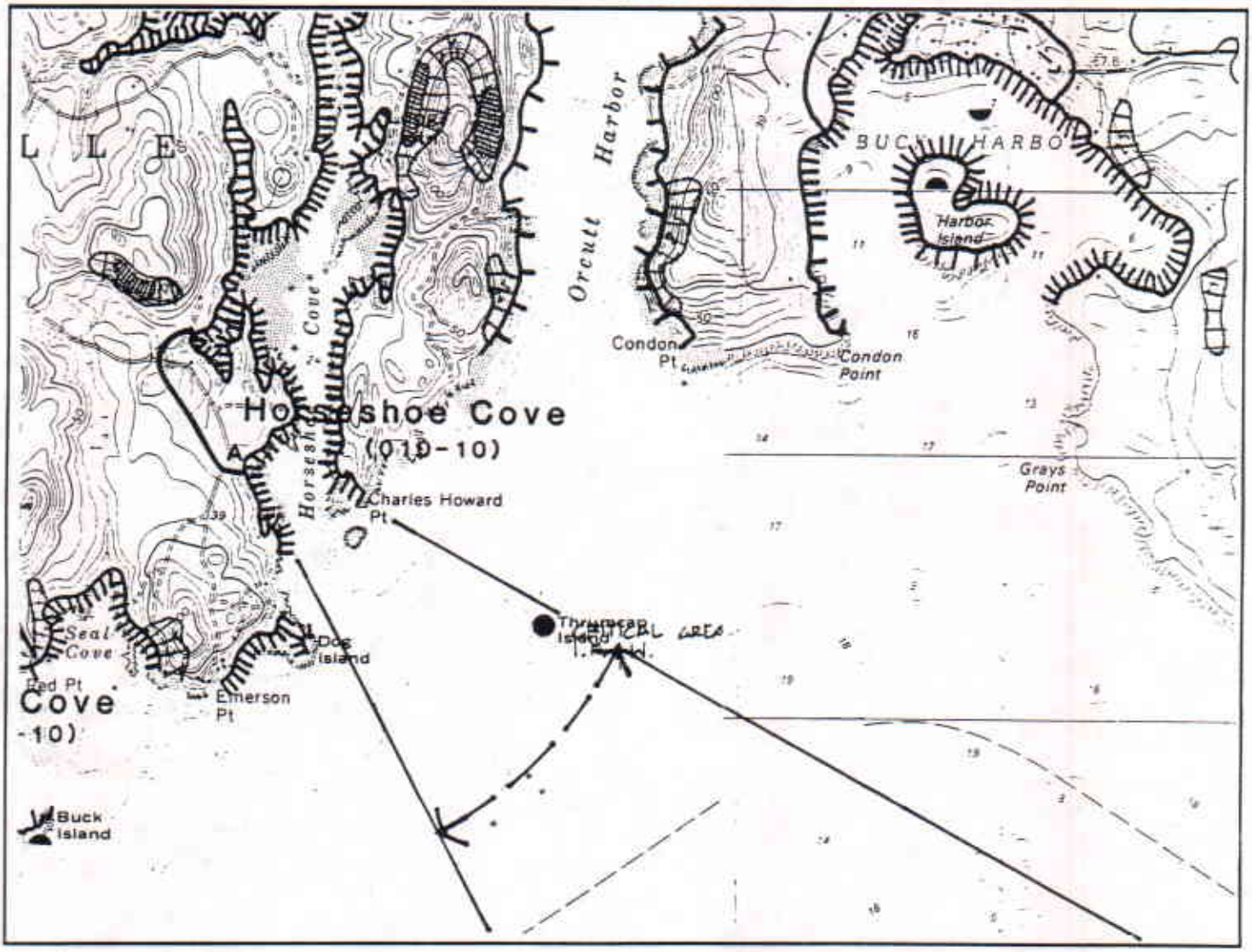
Scenic Area Evaluation Form

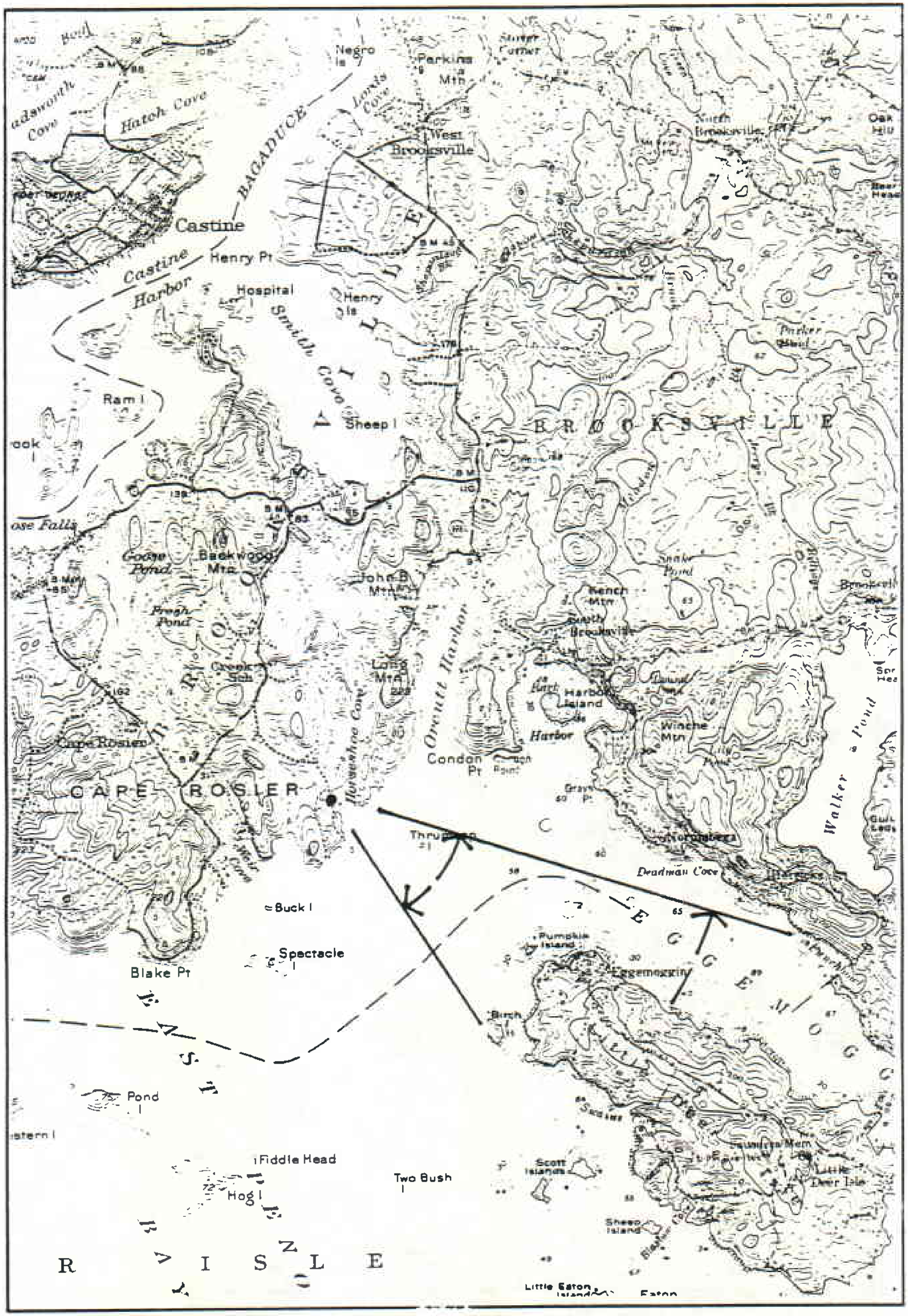
Scenic Area **Horseshoe Cove** Code **010-10** Town(s) **Brooksville** County **Hancock**
1989 Coastal Scenic Inventory — Maine State Planning Office

SI	S	IP	Special Interest/Score/Indicators Present
			1.Landform Topography____Slope____
			2.Open Land
	6	X	3.Shoreline Configuration
	6	X	4.Scenic Features (Islands/Deer Isle Bridge)
X	21		5.Scenic Quality of Water
			Duration of View 3
			Type of Water 12
			Quality of Horizon 6
	33	3	**Desktop Subtotal**
	17		6.Landscape Character
			Land Use 7
			Roadside Characteristics 1
			Settlement Characteristics 9
	6		7.Vegetation
X	9		8.Composition & Effect
	65		**Total Score**
2			**Special Interest**

Viewshed Description Largely intact natural area of spruce forest and short water view located at the end of a gravel road. Foreground elements include the spruce forest, granite shoreline, the waters of Horseshoe Cove, and Charles Howard Point on the opposite shoreline. Midground views includes the cove and Eggemoggin Reach. The background view extends to Penobscot Bay, Little Deer Isle, the Deer Isle Bridge, and several other islands on the horizon.

Viewshed Management Recommendations Provide traffic turn around and pull-off area. Preserve the character of the shoreline around Horseshoe Cove with conservation easements or other forms of protection.





Negro Is
Perkins Mtn
Hatch Cove
BAGADUCE
Lords Cove
West Brooksville
North Brooksville
Castine
Castine Harbor
Henry Pt
Hospital
Henry Is
Smith Cove
Ram I
Sheep I
BROOKSVILLE
Goose Pond
Backwoods Mtn
Fresh Pond
John B Mtn
Orcutt Harbor
Snake Pond
Bench Mtn
South Brooksville
Long Mtn
Creek Sch
Harbor Island
Winche Mtn
Horseshoe Cove
Cape Rosier
CAPE ROSIER
Condon Pt
Walker Pond
Thrumcap
Deadman Cove
Buck I
Pumpkin Island
Spectacle I
Blake Pt
Eggemoggin
Birch
Pond I
Fiddle Head
Two Bush I
Scott Islands
Hog I
Little Deer Isle
Sheep Island
Little Eaton Island
PENOBSCOT BAY

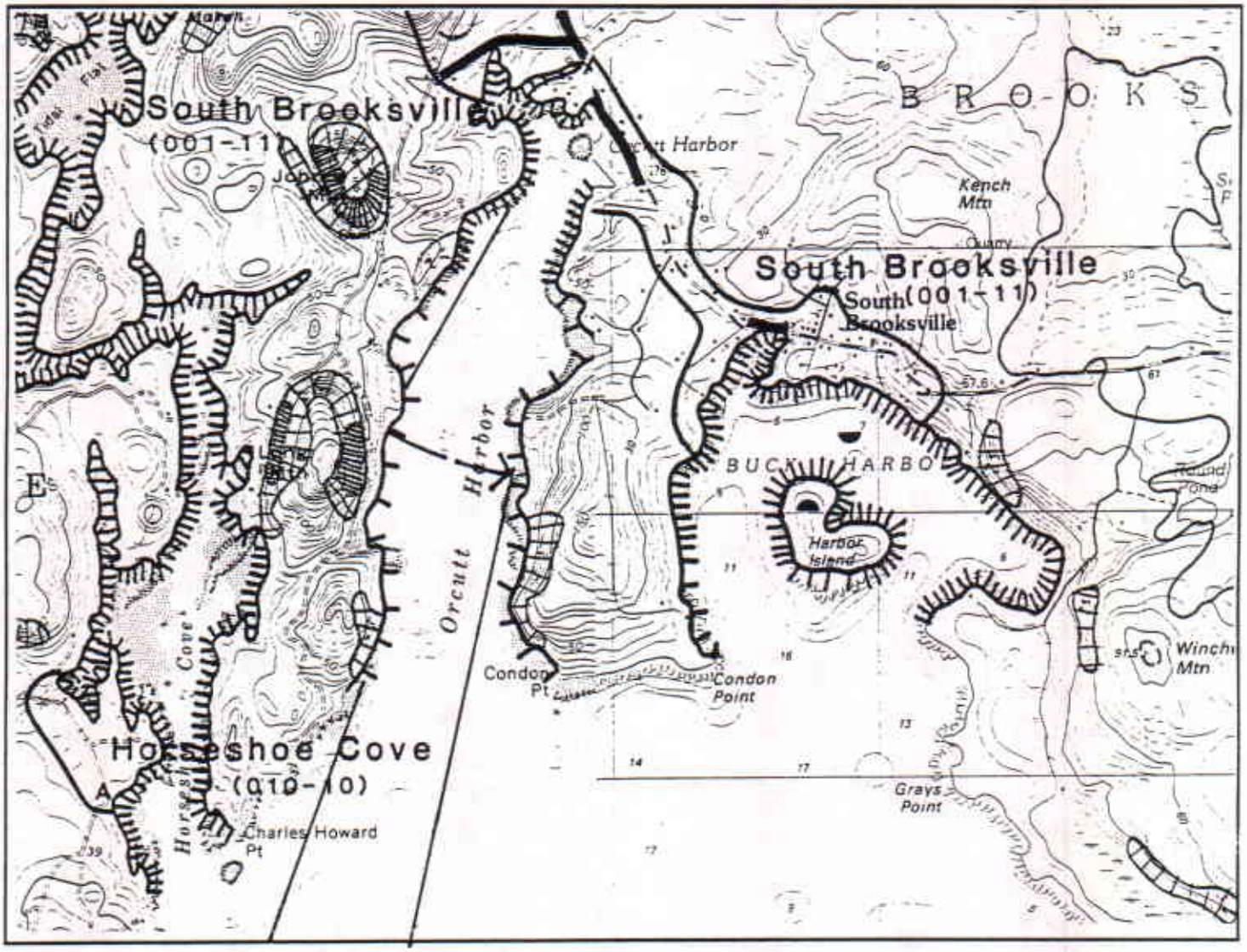
Scenic Area Evaluation Form

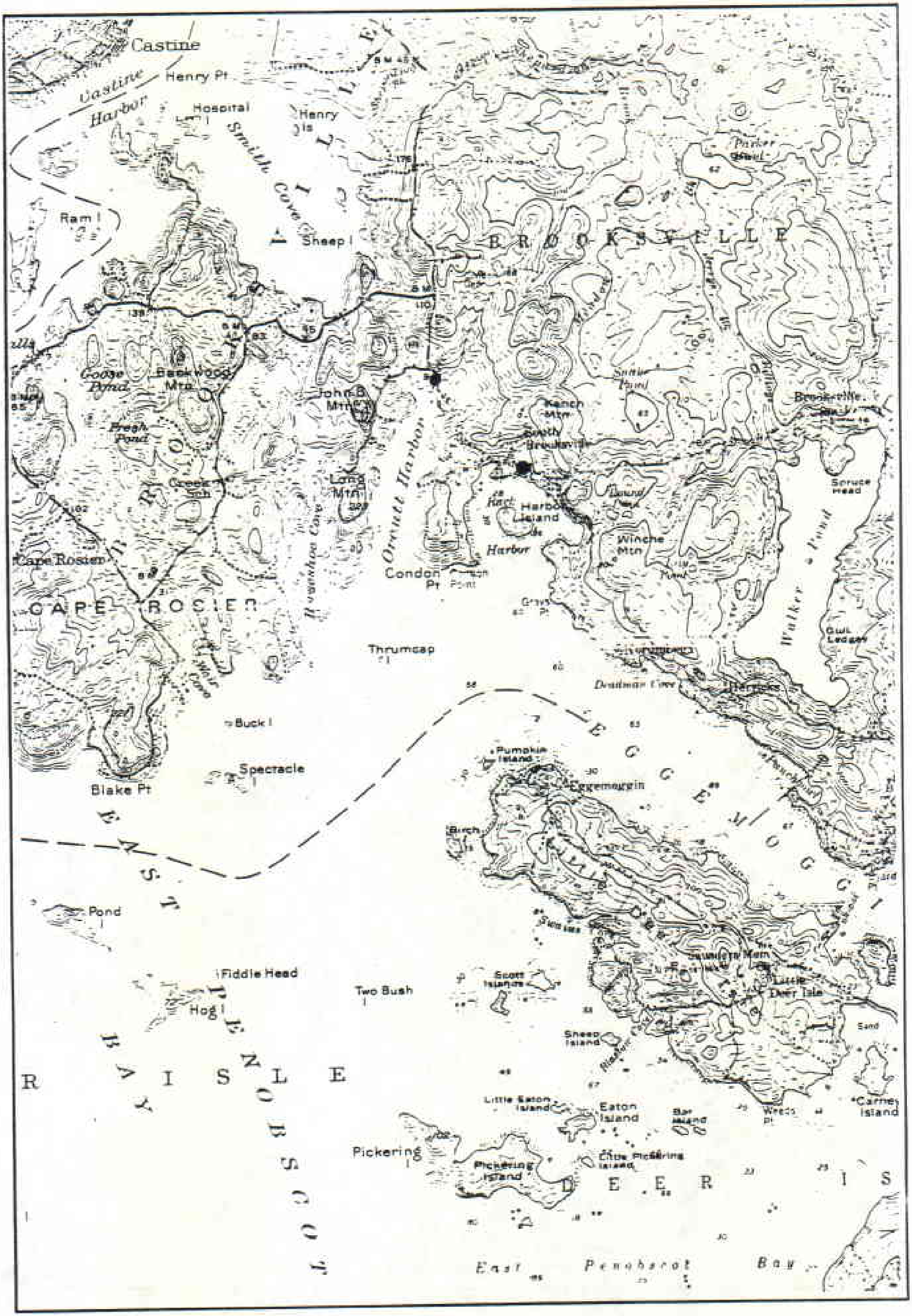
Scenic Area **South Brooksville** Code **001-11** Town(s) **Brooksville** County **Hancock**
1989 Coastal Scenic Inventory — Maine State Planning Office

SI	S	IP	Special Interest/Score/Indicators Present
	3	X	1.Landform Topography____Slope 3
			2.Open Land
	6	X	3.Shoreline Configuration
	9	X	4.Scenic Features
	27		5.Scenic Quality of Water
			Duration of View 6
			Type of Water 12
			Quality of Horizon 9
	45	4	**Desktop Subtotal**
	12		6.Landscape Character
			Land Use 5
			Roadside Characteristics 1
			Settlement Characteristics 6
	6		7.Vegetation
	6		8.Composition & Effect
	69		**Total Score**
			Special Interest

Viewshed Description A small village overlooking Bucks Harbor and Orcutt Harbor. A popular mooring for pleasure boats. Highly configured pine covered shoreline extends to Eggemoggin Reach. Periodic views of the water afford a variety of opportunities to see this largely undeveloped landscape. Some development activity is beginning to occur in the hills overlooking Bucks Harbor.

Viewshed Management Recommendations Protection of the hills that form the harbors through conservation easements and/or innovative zoning measures. Open additional view corridors to the water.




Castine
Castine Harbor
Henry Pt
Hospital I
Henry Is
Smith Cove
Ram I
Sheep I
BROOKSVILLE
Goose Pond
Backwood Mtn
John B. Mtn
Fresh Pond
Orcutt Harbor
Ranch Mtn
South Brooksville
Brooksville
Creek Sch
Long Mtn
Horseshoe Cove
Harbor Island
Harbor
Spruce Head
Walker Pond
Winche Mtn
Cape Rosier
Condon Pt
CAPE ROSIER
Grays Pt
Thrumcap I
Gull Ledges
Deadman Cove
Buck I
Pumpkin Island
Spectacle I
Eggemoggin
Blake Pt
Birch
EGGEMOGGIN
EAST
Pond I
Fiddle Head
Two Bush I
Scott Islands
Hog I
Little Deer Isle
Sheep Island
PENOBSCOT BAY
R ISLE
Little Eaton Island
Eaton Island
Bar Island
Weeds Pt
Carney Island
Pickering I
Pickering Island
Little Pickering Island
DEER IS
East Penobscot Bay

BAGADUCE RIVER

Penobscot
Johnson Point
Bagaduce Falls

Sub-Region Evaluation Form

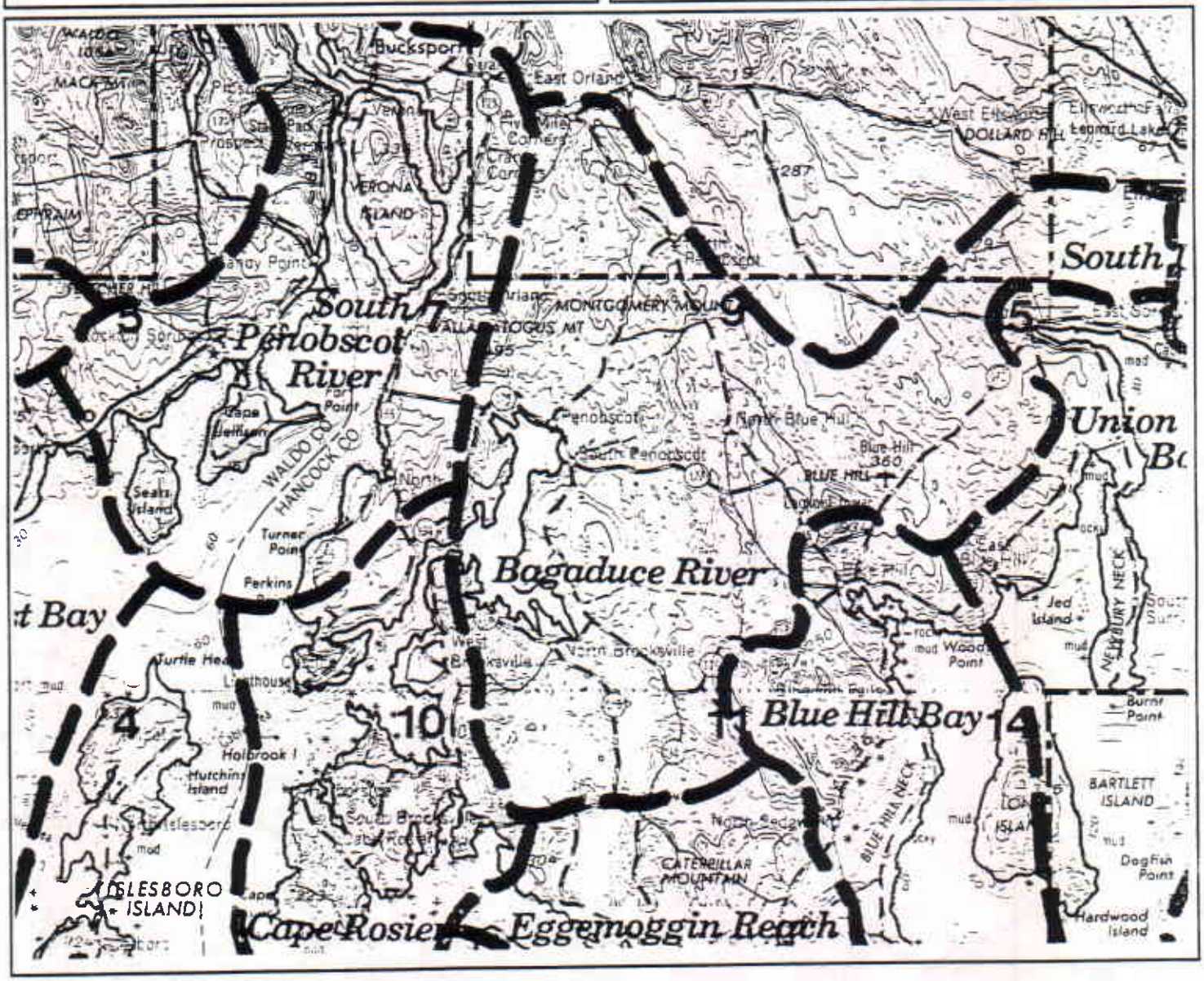
Sub-Region **Bagaduce River** Towns **Penobscot, Brooksville** County **Hancock**
1989 Coastal Scenic Inventory
Maine State Planning Office

Sub-Region Description

Bagaduce River is an interior subarea characterized by small villages, rural roads, and a level of development activity that is far less intense than the majority of the Penobscot Bay region. Several of the higher hills to the east of the Bagaduce River offer views to the Bay across vast blueberry barrens and rocky farmland.

Scenic Areas

Penobscot (004-09)
Johnson Point (005-09)
Bagaduce Falls (006-09)



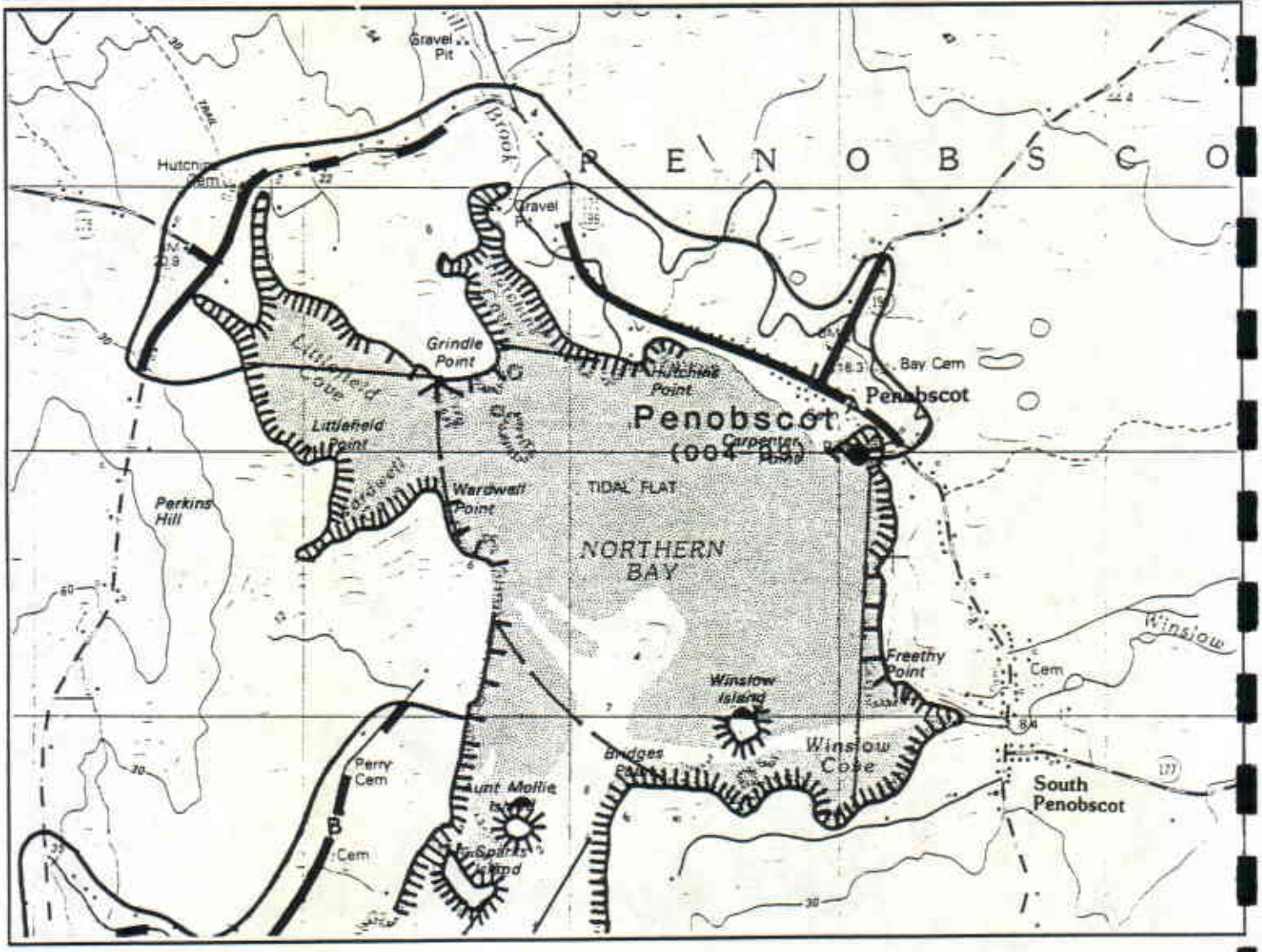
Scenic Area Evaluation Form

Scenic Area **Penobscot** Code **004-09** Town(s) **Penobscot** County **Hancock**
1989 Coastal Scenic Inventory Maine State Planning Office

SI	S	IP	Special Interest/Score/Indicators Present
			1.Landform Topography____Slope____
	4	X	2.Open Land
	6	X	3.Shoreline Configuration
			4.Scenic Features
	24		5.Scenic Quality of Water
			Duration of View 9
			Type of Water 9
			Quality of Horizon 6
	34	3	**Desktop Subtotal**
	14		6.Landscape Character
			Land Use 5
			Roadside Characteristics 3
			Settlement Characteristics 6
	3		7.Vegetation
	6		8.Composition & Effect
	57		**Total Score**
			Special Interest

Viewshed Description A very small village on a hillside overlooking Northern Bay. A small raodside park provides direct access to the Bay and the Bagaduce River to the south. Low hills, covered with mixed softwoods, enclose the highly configured shoreline. The only obvious development occurs at the village. The occasional single family home around the bay is well screened or set back to render them invisible during the summer months.

Viewshed Management Recommendations Conservation easements on all lands visible from the village and from Northern Bay. Strict performance standards for new development to minimize visual impacts on the bay.



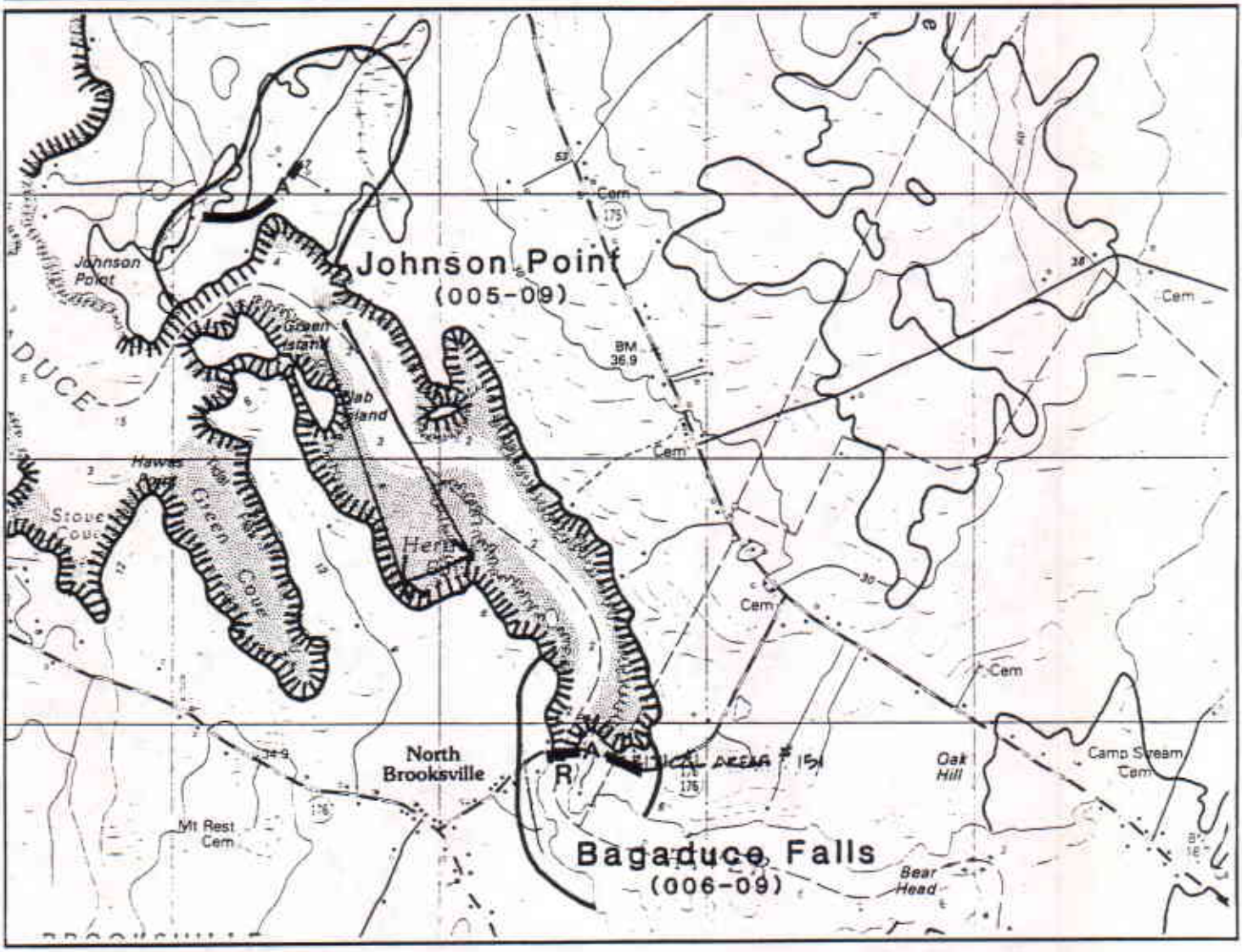
Scenic Area Evaluation Form

Scenic Area **Johnson Point** Code **005-09** Town(s) **Penobscot** County **Hancock**
1989 Coastal Scenic Inventory — Maine State Planning Office

SI	S	IP	Special Interest/Score/Indicators Present
			1.Landform Topography____Slope____
	3	X	2.Open Land
	6	X	3.Shoreline Configuration
			4.Scenic Features
	21		5.Scenic Quality of Water
			Duration of View 6
			Type of Water 9
			Quality of Horizon 6
	30	3	**Desktop Subtotal**
	9		6.Landscape Character
			Land Use 5
			Roadside Characteristics 1
			Settlement Characteristics 3
	3		7.Vegetation
	3		8.Composition & Effect
	45		**Total Score**
			Special Interest

Viewshed Description Rural area with recent residential development, primarily in open meadows. Local road provides open and filtered views to the Bagaduce River. Foreground elements include meadows, houses, mixed forest edge, oaks on shoreline, and the Bagaduce River. Midground includes the river and low spruce-covered hills on the opposite shoreline. General landscape condition is good to very good but lacks cohesiveness.

Viewshed Management Recommendations Support the efforts of local land trusts to acquire conservation easements to protect the viewshed of the Bagaduce River.



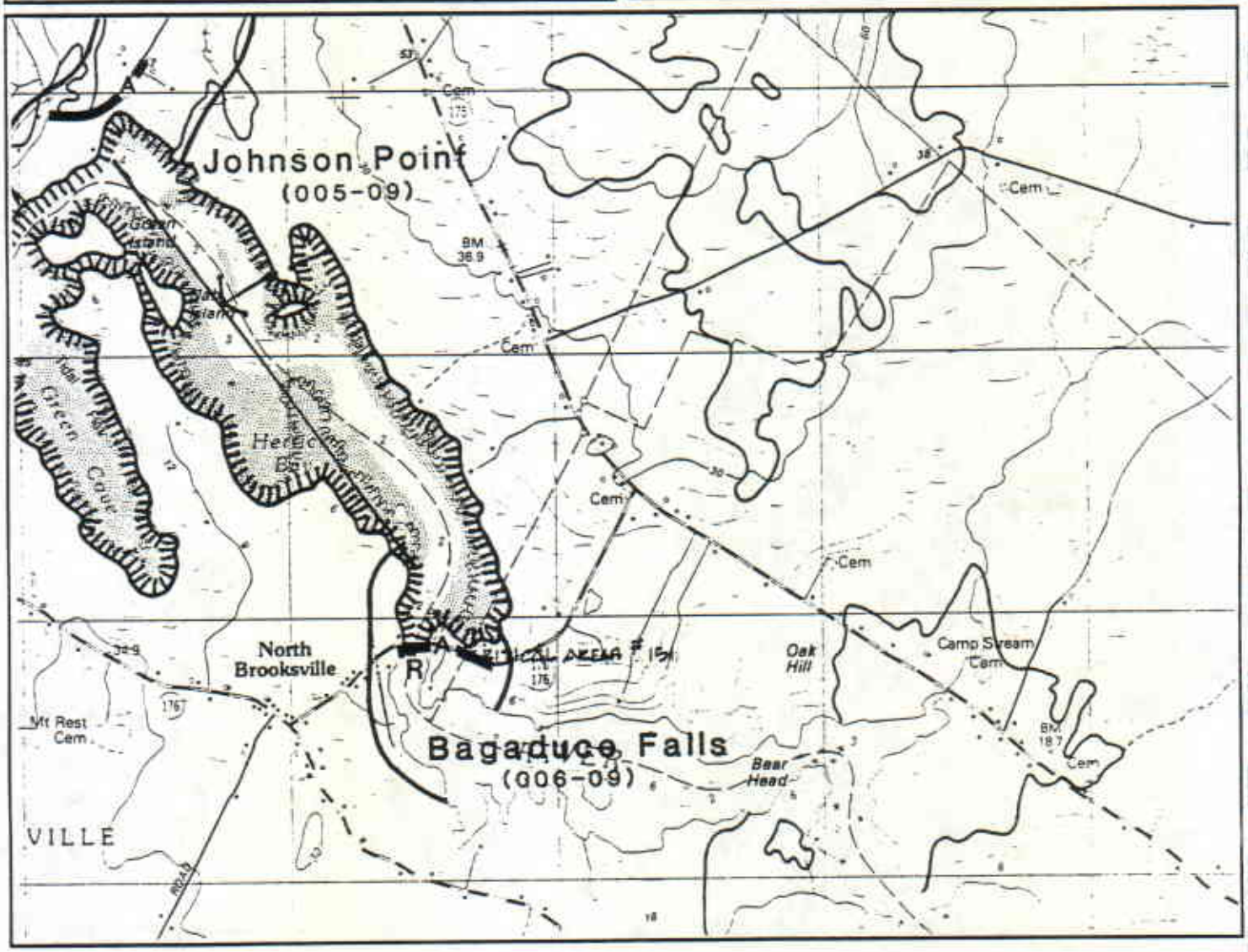
Scenic Area Evaluation Form

Scenic Area **Bagaduce Falls** Code **006-09** Town(s) **Penobscot/Brooksville** County **Hancock**
1989 Coastal Scenic Inventory — Maine State Planning Office

SI	S	IP	Special Interest/Score/Indicators Present
			1.Landform Topography____Slope____
			2.Open Land
	6	X	3.Shoreline Configuration
	9	X	4.Scenic Features (Reversing Falls)
	18		5.Scenic Quality of Water
			Duration of View 3
			Type of Water 9
			Quality of Horizon 6
	27	3	**Desktop Subtotal**
	11		6.Landscape Character
			Land Use 5
			Roadside Characteristics 3
			Settlement Characteristics 3
	3		7.Vegetation
	6		8.Composition & Effect
	53		**Total Score**
			Special Interest

Viewshed Description Bagaduce Falls is a well known natural feature (tidal reversing falls) between the Bagaduce River and Snow Cove. The highway bridge affords a good view of the falls as well as half a mile of the undeveloped shoreline of the river. The foreground of the viewpoint includes a seasonal restaurant with a picnic and parking area, filtered views through a spruce forest, the cove and the river. Midground includes spruce forested banks and tidal river.

Viewshed Management Recommendations Provide public pull-off and access near bridge. Encourage the continued acquisition of conservation easements along the Bagaduce River to protect the entire viewshed.



DEER ISLE

Blastow Cove
Weeds Point
Deer Isle Village
Pressey Cove
Mill Pond
Crockett Cove
West Stonington
Moose Island
Stonington Village
Buckmaster Neck
South Deer Isle
Hatch Cove
Long Cove
Mountainville
Western Cove
East Side Cove
Oak Point
Naskeag
Haven
Herrick Head
Flye Point

Sub-Region Evaluation Form

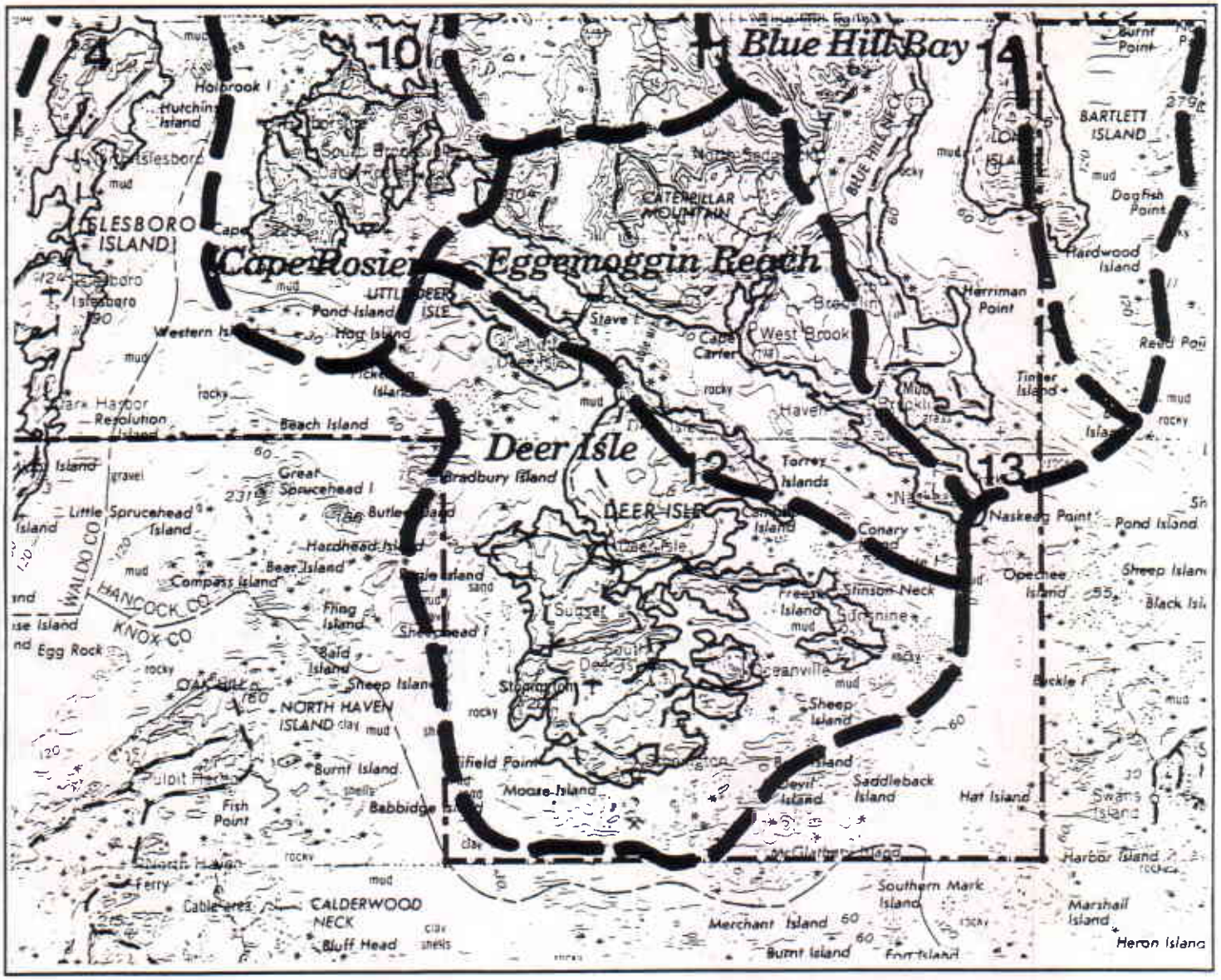
Sub-Region **Deer Isle** Towns **Deer Isle, Brooklin** County **Hancock**
1989 Coastal Scenic Inventory Maine State Planning Office

Sub-Region Description

Deer Isle is the major near-shore island group in Penobscot Bay. The landscape is a highly vivid and unified complex of small coves with rocky, spruce covered shorelines, rounded islands, and small villages oriented to the Bay. Settlement patterns are distinctive, tightly organized, and unified by a consistency in architectural style. Most of the views to the water look out to the many smaller islands that surround Deer Isle and Little Deer Isle, adding to the richness and variety of the landscape. Deer Isle offers the beauty and uniqueness of an island with the convenience of the mainland.

Scenic Areas

Blastow Cove (009-11)
Weeds Point (010-11)
Deer Isle Village (002-12)
Pressey Cove (004-12)
Mill Pond (006-12)
Crockett Cove (007-12)
West Stonington (008-12)
Moose Island (009-12)
Stonington Village (010-12)
Buckmaster Neck (012-12)
South Deer Isle (013-12)
Hatch Cove (014-12)
Long Cove (015-12)
Mountainville (017-12)
Western Cove (003-13)
East Side Cove (005-13)
Oak Point (007-13)
Naskeag (008-13)
Haven (003-14)
Herrick Head (004-14)
Flye Point (006-14)



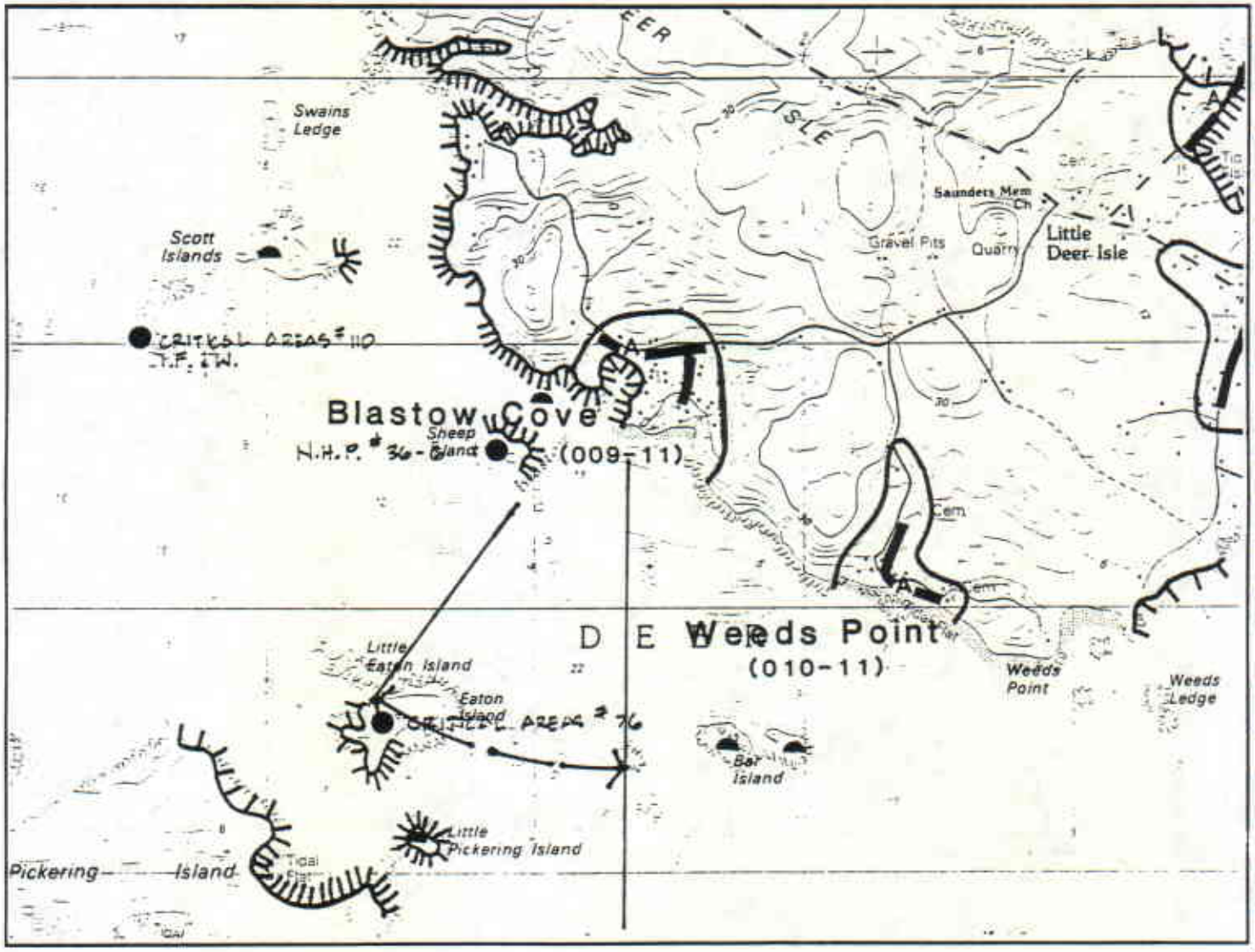
Scenic Area Evaluation Form

Scenic Area **Blastow Cove** Code **009-11** Town(s) **Deer Isle** County **Hancock**
1989 Coastal Scenic Inventory Maine State Planning Office

SI	S	IP	Special Interest/Score/Indicators Present
			1.Landform Topography____Slope____
			2.Open Land
	6	X	3.Shoreline Configuration
	9	X	4.Scenic Features
X	24		5.Scenic Quality of Water
			Duration of View 6
			Type of Water 12
			Quality of Horizon 6
	39	3	**Desktop Subtotal**
	7		6.Landscape Character
			Land Use 3
			Roadside Characteristics 1
			Settlement Characteristics 3
	3		7.Vegetation
	3		8.Composition & Effect
	52		**Total Score**
1			**Special Interest**

Viewshed Description Small cove on Little Deer Isle with substantial residential settlement. Area includes stone beaches, spruce forests, a commercial construction operation, residences, and a restaurant. Local roads provide access to homes and restaurant. Foreground includes lawns, second growth field, structures, beach, spruce forest, and Sheep Island immediately offshore. Midground includes Blastow Cove and several small islands. Background views are to open waters, several small islands, and North Haven Island on the horizon. Landscape and structures are generally in poor to fair condition.

Viewshed Management Recommendations Define road edges. Provide parking pull-off areas.



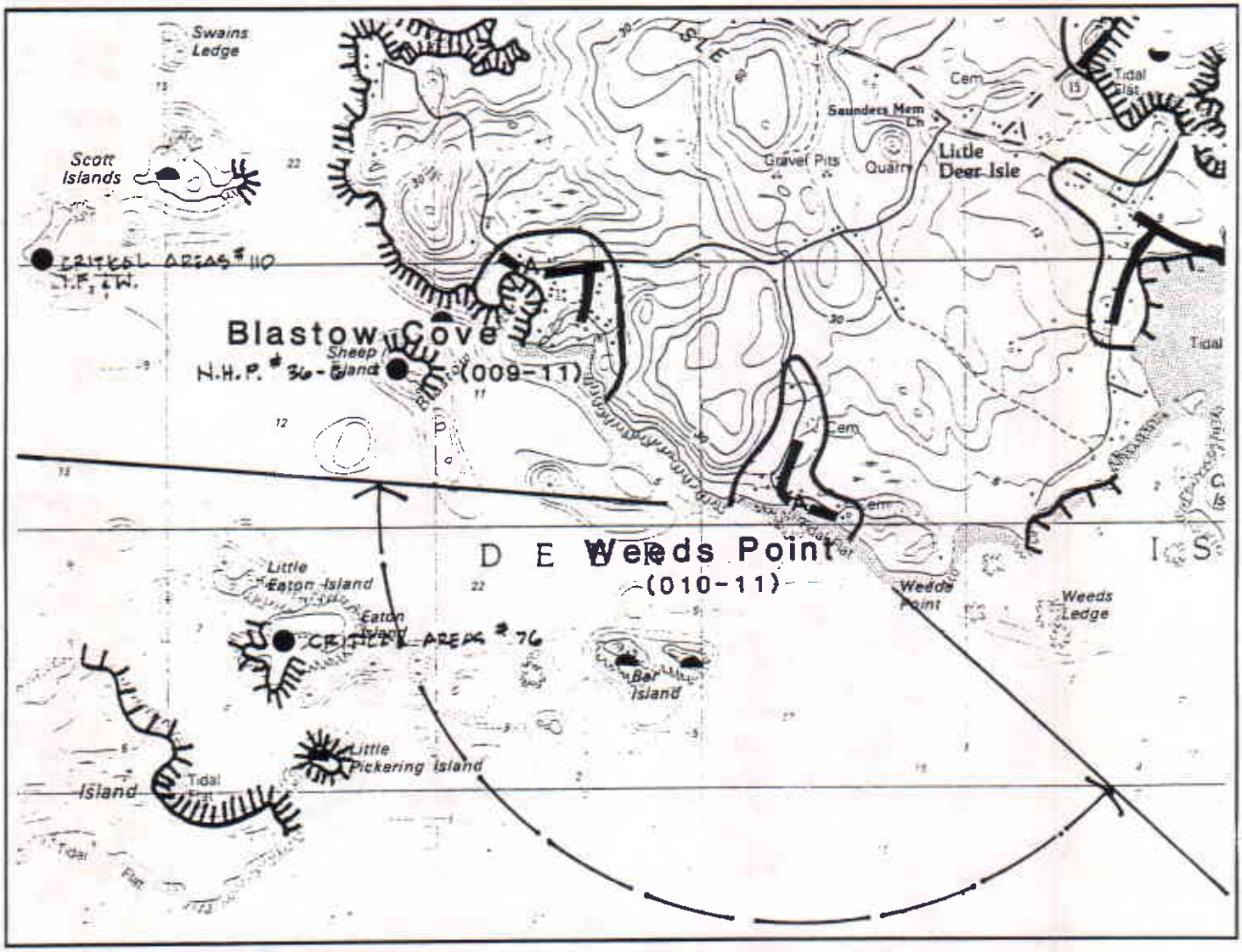
Scenic Area Evaluation Form

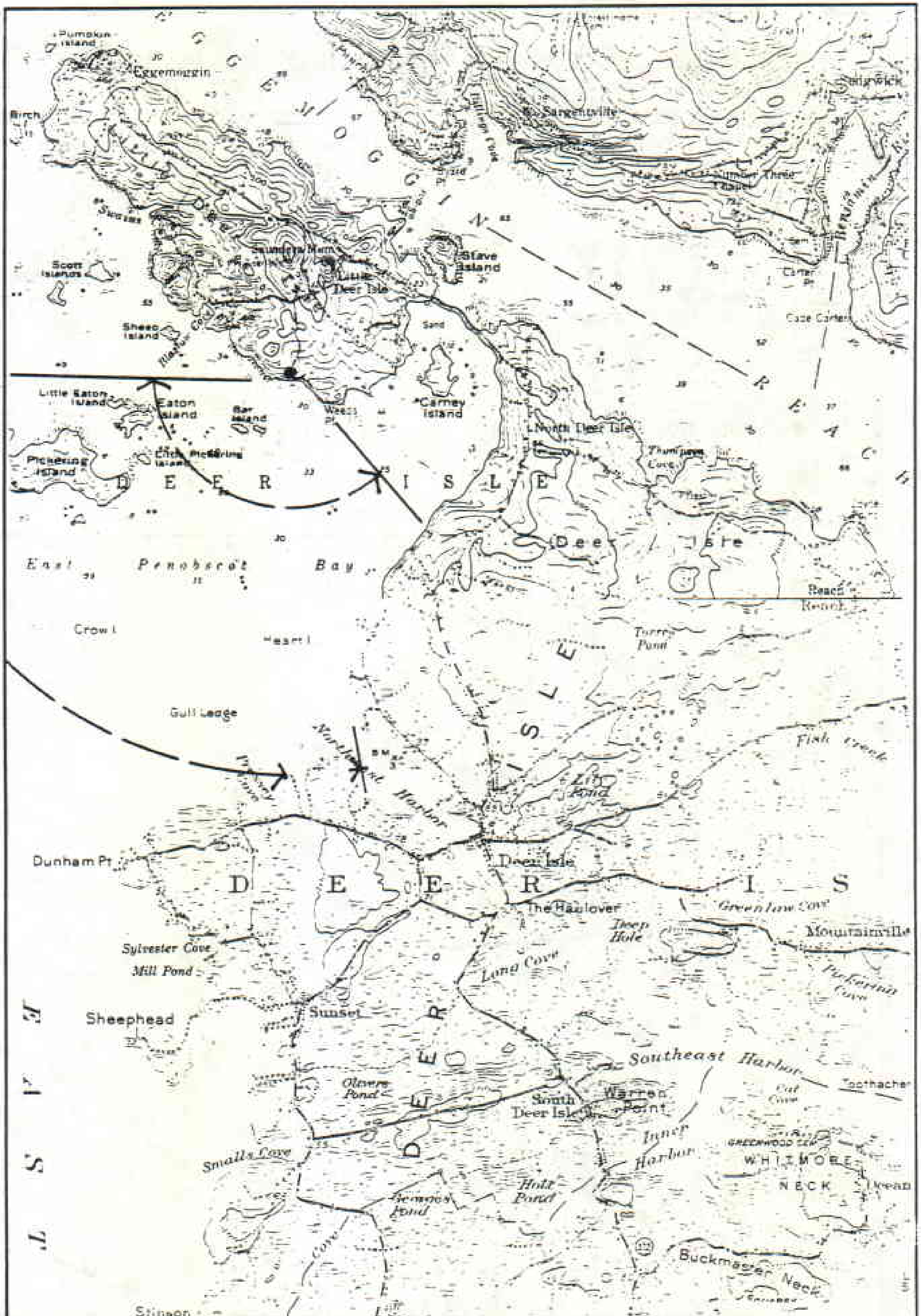
Scenic Area **Weeds Point** Code **010-11** Town(s) **Deer Isle** County **Hancock**
1989 Coastal Scenic Inventory — Maine State Planning Office

SI	S	IP	Special Interest/Score/Indicators Present
			1.Landform Topography____Slope____
			2.Open Land
	3	X	3.Shoreline Configuration
	9	X	4.Scenic Features
	27		5.Scenic Quality of Water
			Duration of View 9
			Type of Water 12
			Quality of Horizon 6
	39	3	**Desktop Subtotal**
	19		6.Landscape Character
			Land Use 7
			Roadside Characteristics 6
			Settlement Characteristics 6
	9		7.Vegetation
	9		8.Composition & Effect
	76		**Total Score**
			Special Interest

Viewshed Description A small group of cottages facing south to East Penobscot Bay at the southern tip of Little Deer Isle. Weeds Point is a memorable landscape, exhibiting a fine balance between the natural and the cultural. The foreground is composed of well kept fishing shacks, older capes, a winding road that ends at the cove, a coarse grained beach, and many trees to frame the views. The views extend to a few islands and the western shore of Deer Isle.

Viewshed Management Recommendations Zoning, site plan review, and subdivision ordinances to maintain the character of the landscape.




Pumpkin Island
Eggemoggin
Birch
Sargentville
Sedgwick
Number Three Chapel
Benjamin
Scott Islands
Little Deer Isle
Stave Island
Carter Pt
Cape Carter
Sheep Island
Sand
Little Eaton Island
Eaton Island
Bar Island
Weeds Pt
Carney Island
North Deer Isle
Thompson Cove
Pickering Island
Little Pickering Island
D E E R   I S L E
Deer Isle
East Penobscot Bay
Reach
Crow I
Heart I
Torrey Pond
Gull Ledge
Fish Creek
Northwest Harbor
Lily Pond
Dunham Pt
Deer Isle
D E E R   I S
The Haulover
Greenlaw Cove
Deep Hole
Mountainville
Sylvester Cove
Mill Pond
Long Cove
Pickering Cove
Sheephead
Sunset
Southeast Harbor
Toothacher
Olivers Pond
South Deer Isle
Warren Point
Cat Cove
Inner Harbor
GREENWOOD CEM
WHITMORE NECK
Ocean
Smalls Cove
Holt Pond
Barbours Pond
Buckmaster Neck
Stinson

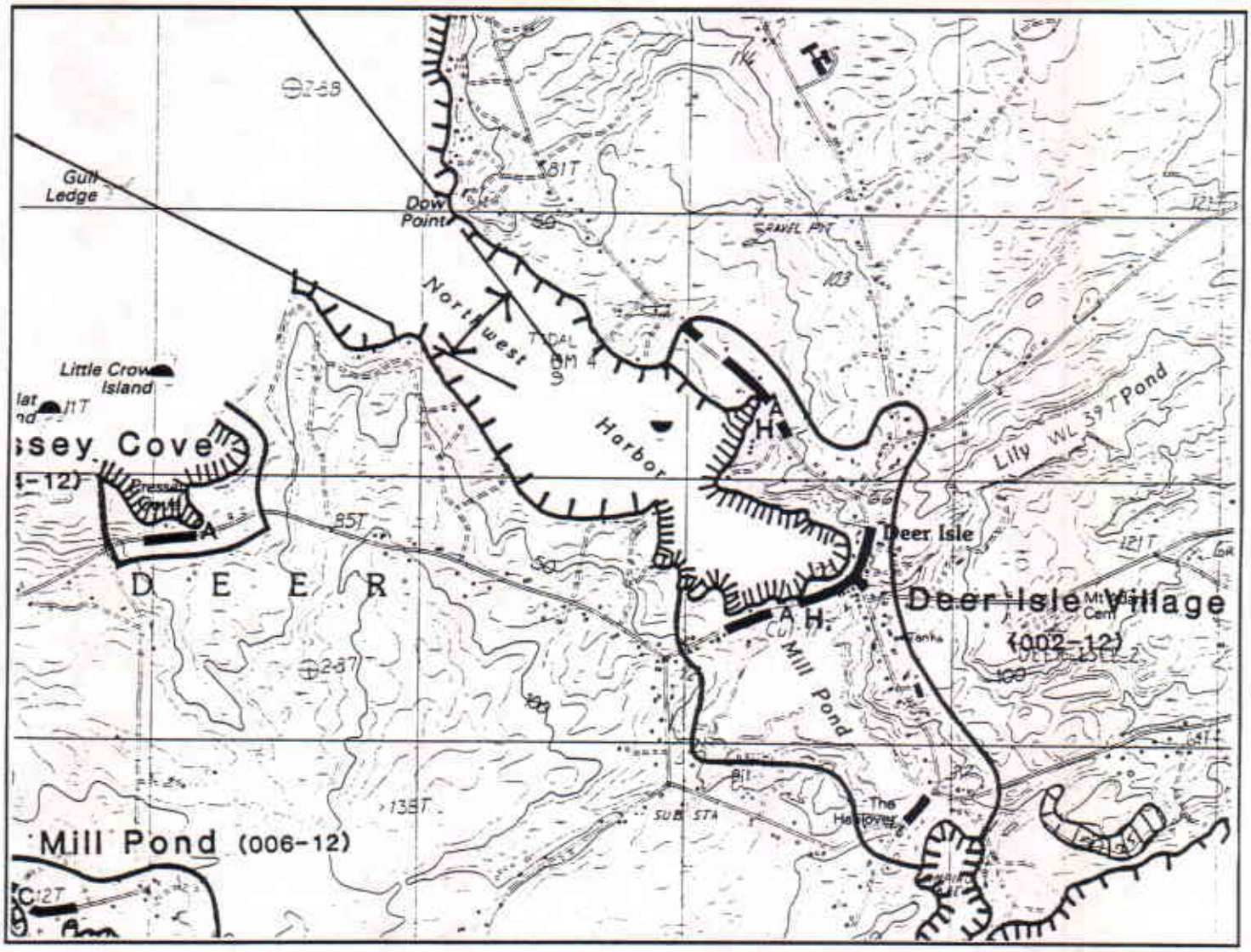
Scenic Area Evaluation Form

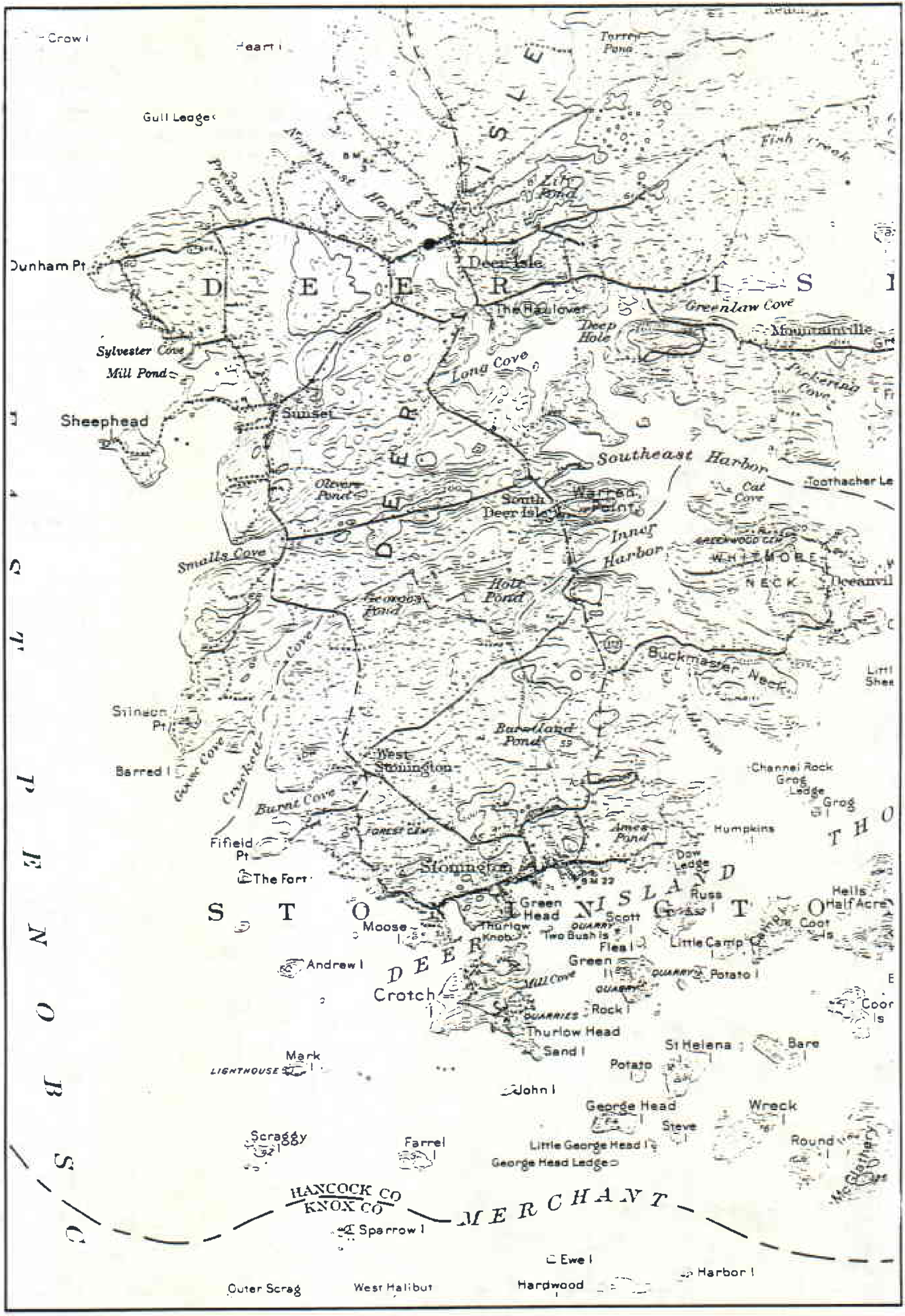
Scenic Area **Deer Isle Village** Code **002-12** Town(s) **Deer Isle** County **Hancock**
1989 Coastal Scenic Inventory — Maine State Planning Office

SI	S	IP	Special Interest/Score/Indicators Present
			1.Landform Topography____Slope____
			2.Open Land
	6	X	3.Shoreline Configuration
	9	X	4.Scenic Features (Memorial/Gazebo)
	27		5.Scenic Quality of Water
			Duration of View 9
			Type of Water 12
			Quality of Horizon 6
	42	3	**Desktop Subtotal**
	14		6.Landscape Character
			Land Use 5
			Roadside Characteristics 3
			Settlement Characteristics 6
	6		7.Vegetation
	6		8.Composition & Effect
	68		**Total Score**
			Special Interest

Viewshed Description Small village area without strong waterfront orientation. Victorian commercial Main Street is surrounded by village homes. A waterfront park lies on the edge of the village at a small causeway. Streets have only filtered water views with open views occurring at the causeway. Foreground elements include park, structures, lawns and the waters of Northwest Harbor and Mill Pond. Midground includes the waters of Northwest Harbor, small mooring area, and highly-configured spruce shoreline. Background views are to the waters of Penobscot Bay and spruce-covered hillsides. The overall landscape condition is good to very good.

Viewshed Management Recommendations Provide public viewpoints from the village area / Define parking and pull-off areas.




Crow I
Heart I
Gull Ledge
Dunham Pt
DEER ISLE
Deer Isle
The Haulover
Greenlaw Cove
Deep Hole
Mountainville
Sylvester Cove
Mill Pond
Long Cove
Pickering Cove
Sheephead
Sunset
Southeast Harbor
Toothacher Le
Cat Cove
South Deer Isle
Warren Point
Inner Harbor
WHITMORE NECK
Smalls Cove
Holt Pond
Buckmaster Neck
Stinson Pt
Barred I
Burnt Cove
West Stonington
Channel Rock
Grog Ledge
Grog I
Humpkins
Ames Pond
Fifield Pt
The Fort
Stonington
Green Head
Scott
Russ
Hells Half Acre
Moose
Thurlow Knob
Two Bush Is
Flea I
Little Camp
Coot Is
Andrew I
Green
Potato I
Crotch
Mill Cove
Rock I
Thurlow Head
Coor Is
Sand I
St Helena
Bare
Mark
LIGHTHOUSE
Potato
John I
George Head
Wreck
Steve
Scraggy
Farrel
Little George Head I
George Head Ledge
Round
HANCOCK CO
KNOX CO
MERCHANT
Sparrow I
Ewe I
Harbor I
Outer Scrag
West Halibut
Hardwood

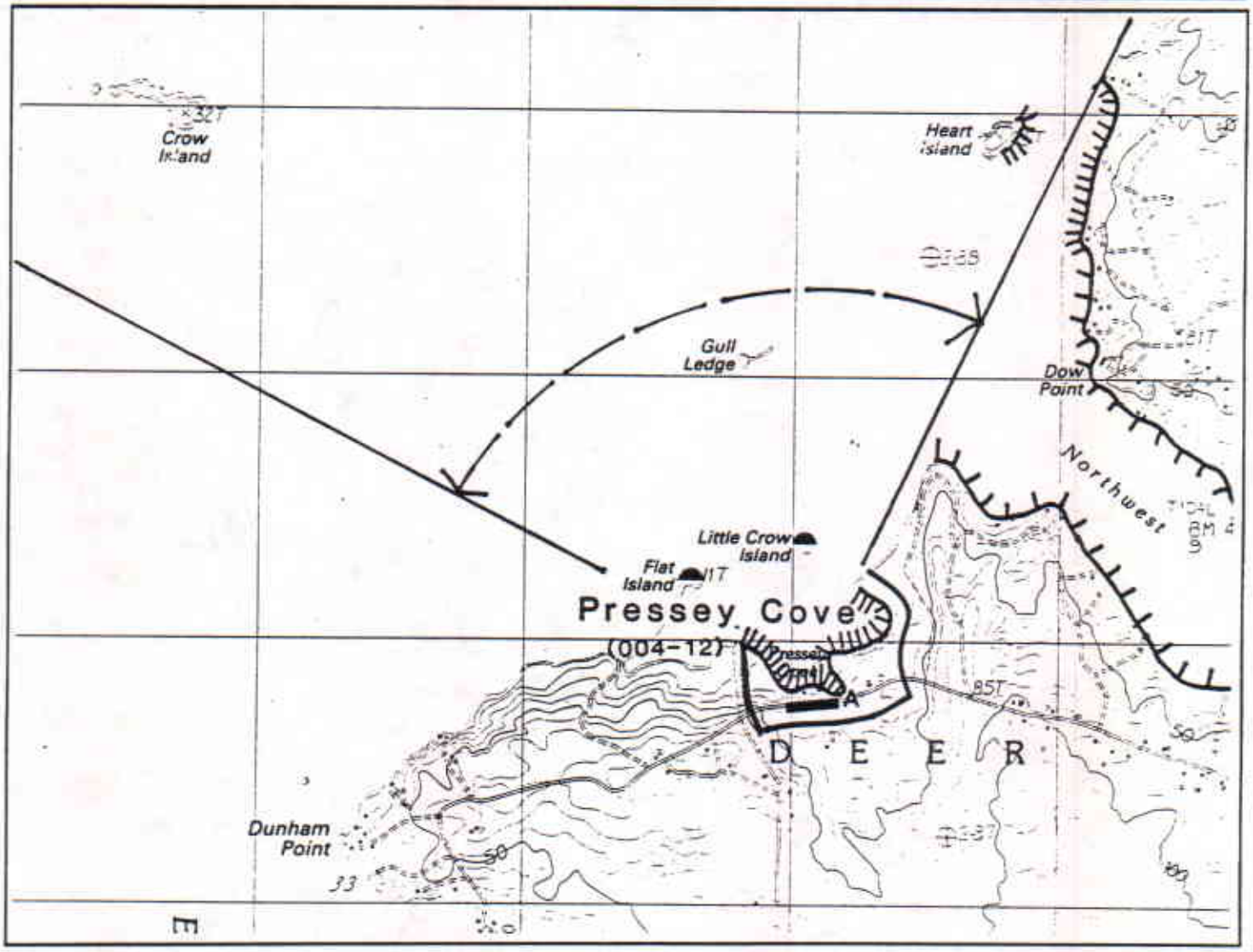
Scenic Area Evaluation Form

Scenic Area **Pressey Cove** Code **004-12** Town(s) **Deer Isle** County **Hancock**
1989 Coastal Scenic Inventory — Maine State Planning Office

ST	S	IP	Special Interest/Score/Indicators Present
			1.Landform Topography____Slope____
			2.Open Land
	6	X	3.Shoreline Configuration
	6	X	4.Scenic Features (Scenic islands)
	21		5.Scenic Quality of Water
			Duration of View 3
			Type of Water 12
			Quality of Horizon 6
	33	3	**Desktop Subtotal**
	14		6.Landscape Character
			Land Use 5
			Roadside Characteristics 3
			Settlement Characteristics 6
	6		7.Vegetation
	6		8.Composition & Effect
	59		**Total Score**
			Special Interest

Viewshed Description A relatively short view to a small scale, protected cove. The character of the landscape is defined by the relatively undeveloped rolling woods with a few scattered homes. Foreground interest includes the dense wooded islands, and Little Crow and Flat Islands.- The view extends to Pickering and Little Deer Isle on the north.

Viewshed Management Recommendations Maintain character of shoreline through suitable development controls.



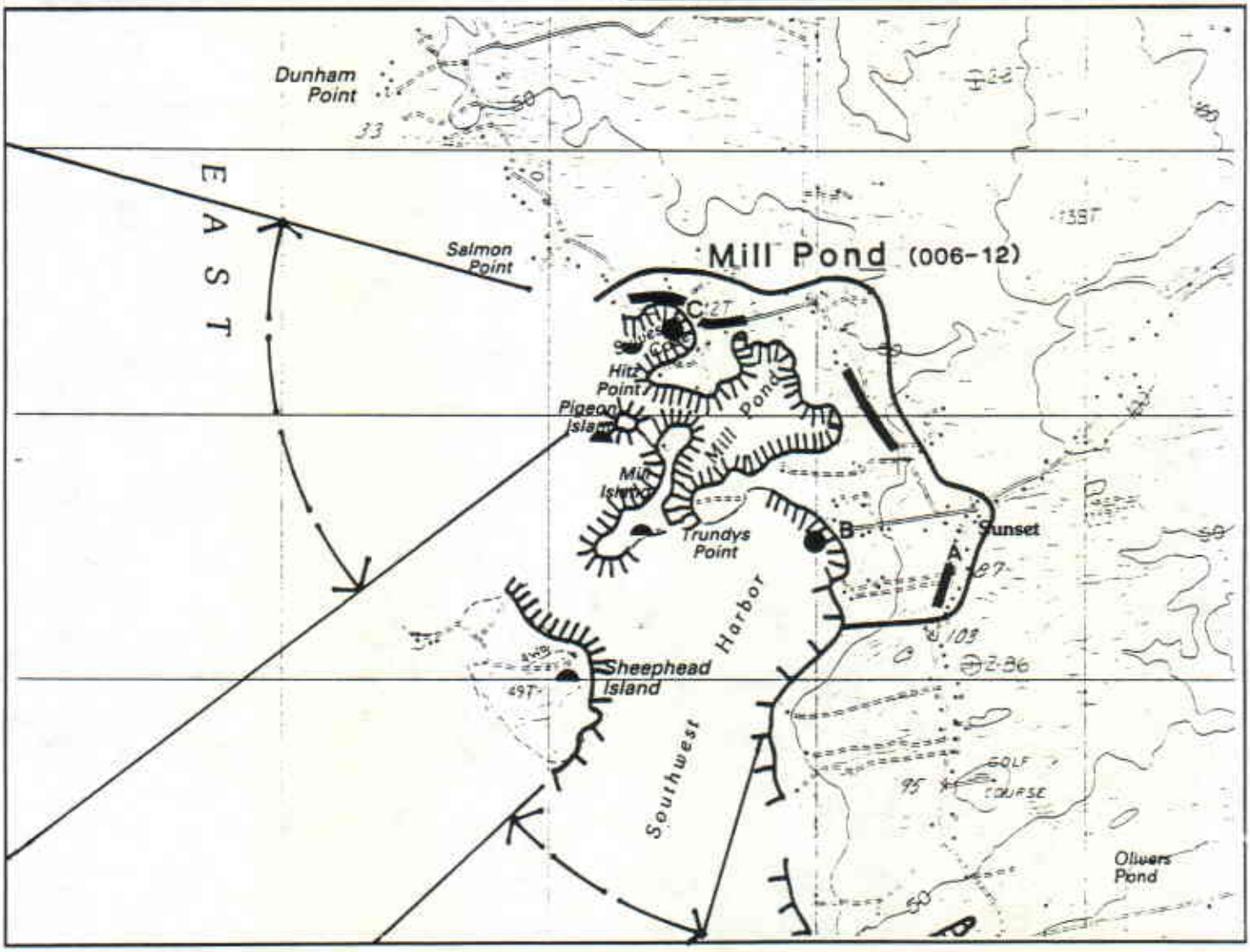
Scenic Area Evaluation Form

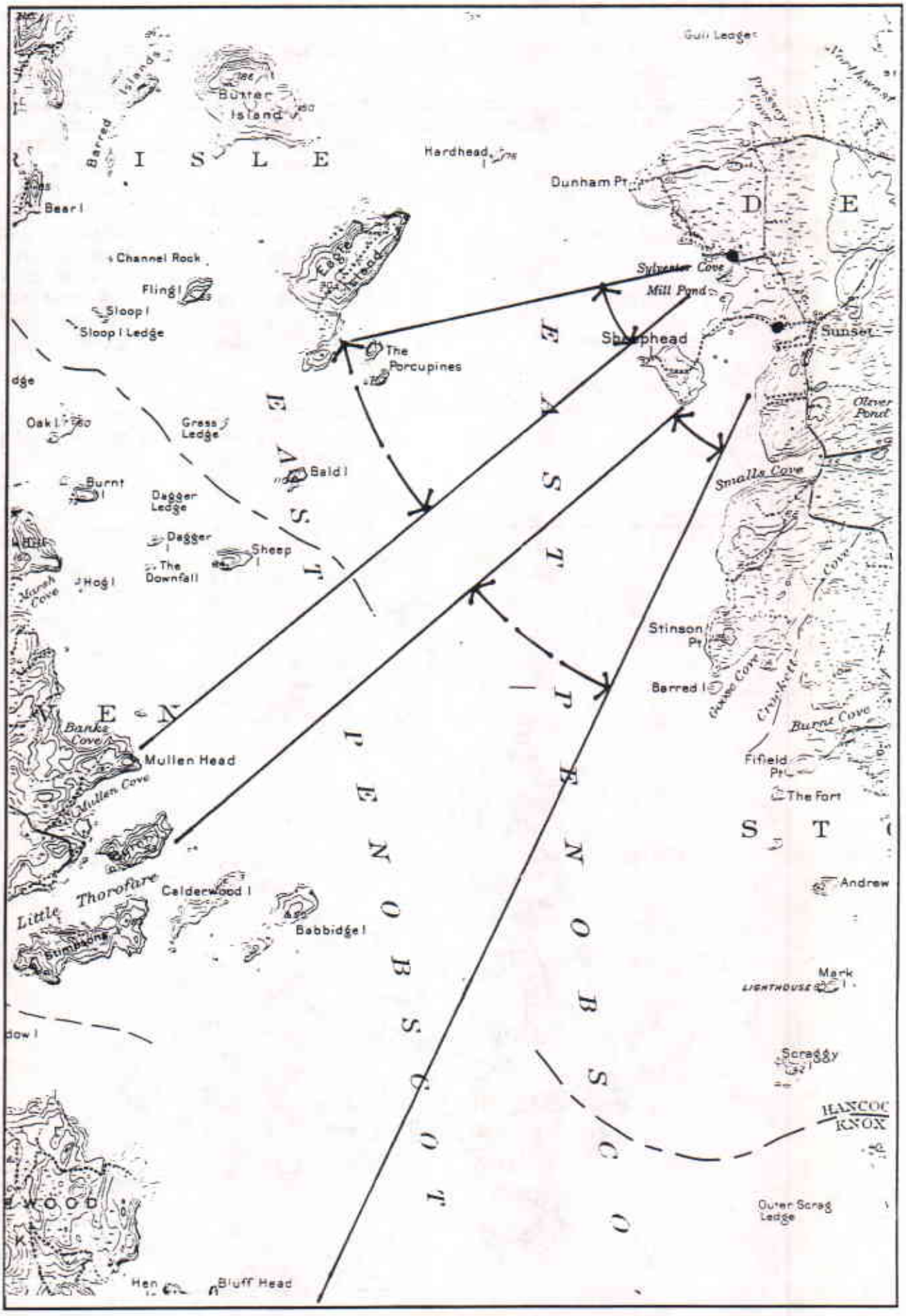
Scenic Area **Mill Pond** Code **006-12** Town(s) **Deer Isle** County **Hancock**
1989 Coastal Scenic Inventory Maine State Planning Office

SI	S	IP	Special Interest/Score/Indicators Present
			1.Landform Topography____Slope____
			2.Open Land
X	6	X	3.Shoreline Configuration
	9	X	4.Scenic Features
X	30		5.Scenic Quality of Water
			Duration of View 9
			Type of Water 12
			Quality of Horizon 9
	45	3	**Desktop Subtotal**
X	19		6.Landscape Character
			Land Use 7
			Roadside Characteristics 3
			Settlement Characteristics 9
	6		7.Vegetation
X	9		8.Composition & Effect
	79		**Total Score**
4			**Special Interest**

Viewshed Description Small cottage community with some colonial agricultural roots on the outskirts of Sunset. Several landscape types; rural, beach, spruce forest, yacht club, cottage community. Highly configured shoreline with a combination of elevated views and water level views. Local roads provide at least two access points to stone beaches. Foreground elements include stone beaches, salt marsh, second growth meadow, vernacular architecture, mooring area, islands, and the waters of Sylvester Cove and Southwest Harbor. Midground includes the waters of Penobscot Bay and additional islands with background views to the waters of Penobscot Bay, Vinalhaven Island, and Camden Hills on the horizon. Landscape is in very good overall condition with a strong integrity.

Viewshed Management Recommendations Retain public access. Defined parking and road shoulders.




Gull Ledge
Butter Island
Barred Islands
I S L E
Hardhead
Dunham Pt
D E
Bear I
Channel Rock
Fling I
Sloop I
Sloop I Ledge
Eagle Island
Sylvester Cove
Mill Pond
Sunset
The Porcupines
Oliver Pond
Oak I
Grass Ledge
Bald I
Burnt I
Dagger Ledge
Dagger I
Sheep I
The Downfall
Hog I
Marsh Cove
Smalls Cove
Stinson Pt
Barred I
Burnt Cove
Fifield Pt
The Fort
Banks Cove
Mullen Head
Mullen Cove
Thorofare
Little Sumbaroo
Calderwood I
Babbidge I
Andrew
Mark
LIGHTHOUSE
Scraggy
HANCOCK
KNOX
Outer Scrag Ledge
Hen
Bluff Head
E A S T P E N O B S C O T B A Y

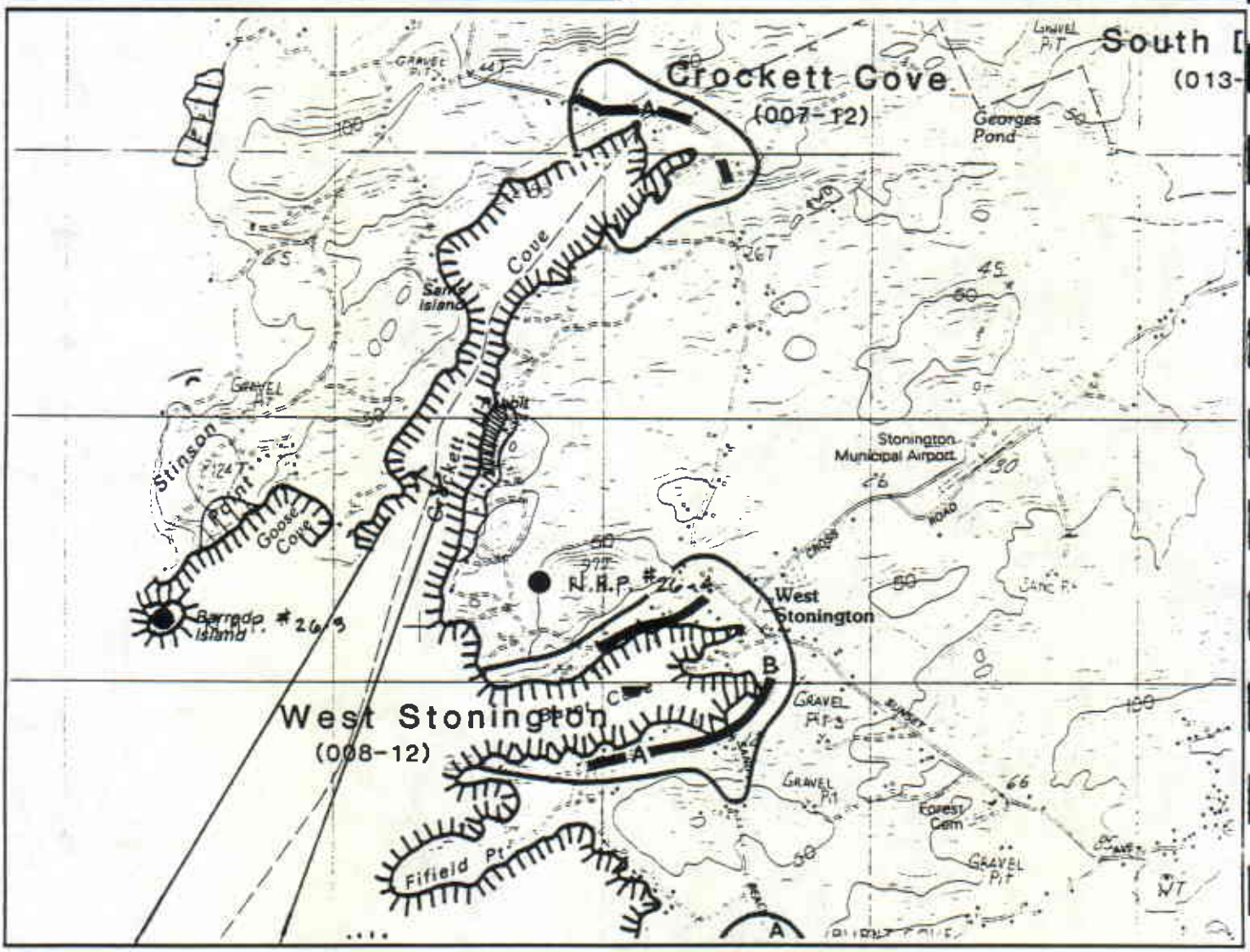
Scenic Area Evaluation Form

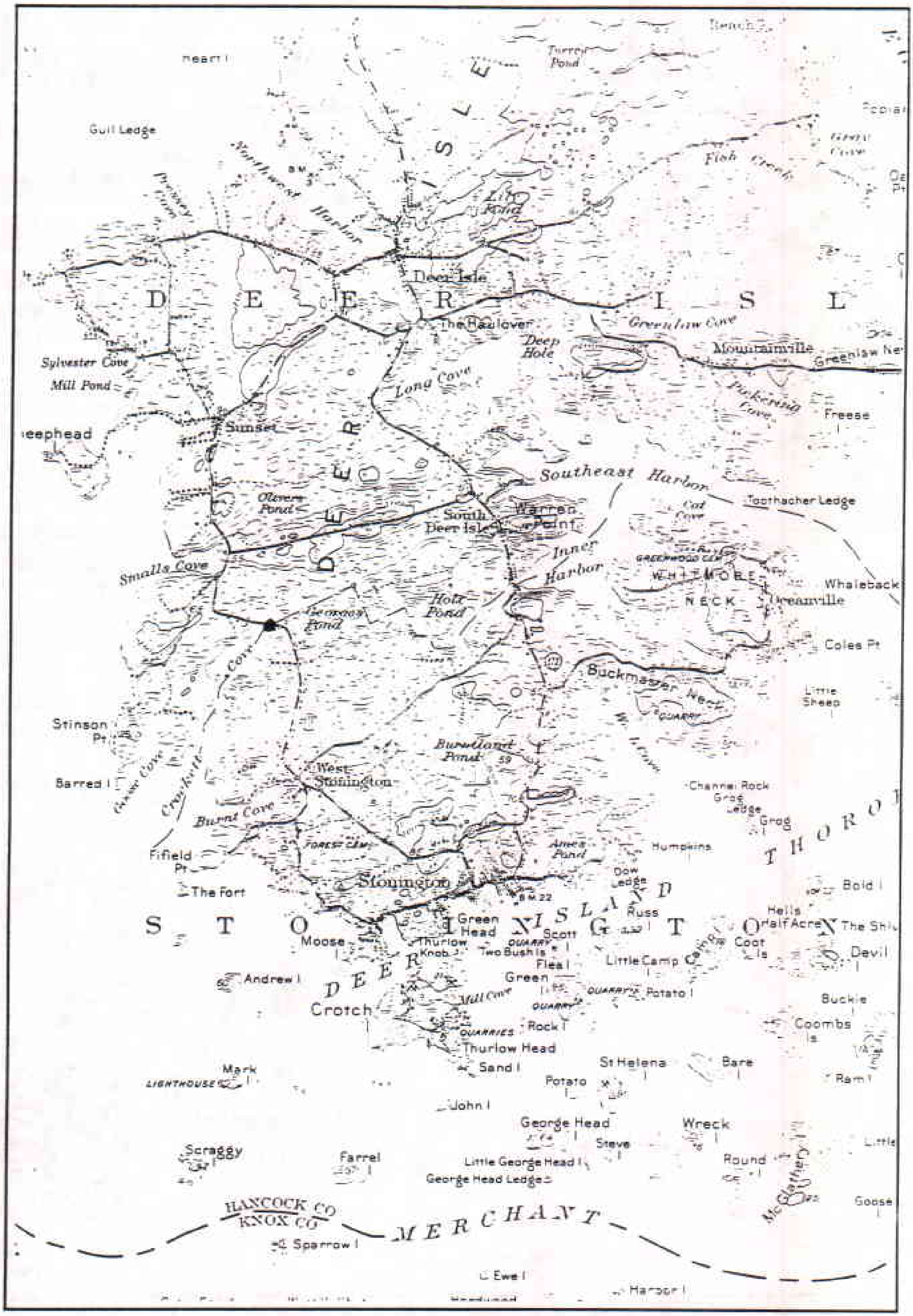
Scenic Area **Crockett Cove** Code **007-12** Town(s) **Stonington** County **Hancock**
1989 Coastal Scenic Inventory Maine State Planning Office

SI	S	IP	Special Interest/Score/Indicators Present
			1.Landform Topography____Slope 3
			2.Open Land
	6	X	3.Shoreline Configuration
			4.Scenic Features
	18		5.Scenic Quality of Water
			Duration of View 6
			Type of Water 6
			Quality of Horizon 6
	24	2	**Desktop Subtotal**
	9		6.Landscape Character
			Land Use 5
			Roadside Characteristics 1
			Settlement Characteristics 3
	3		7.Vegetation
	6		8.Composition & Effect
	42		**Total Score**
			Special Interest

Viewshed Description Natural area of second growth field, young spruce woods, historic and recent residential development. Town road provides short views from the head of the small cove. Foreground elements include meadow, second growth field, houses, spruce woods and the waters of Crockett Cove. Midground includes the waters of Crockett Cove and opposite shore. Background views consist of spruce-covered hilltops and a narrow view of the waters of Penobscot Bay. General landscape condition is fair to good with unkept second growth.

Viewshed Management Recommendations Reclaim old pasture.




Heart I
Gull Ledge
Northwest Harbor
Lily Pond
Fish Creek
Deer Isle
D E E R I S L
The Haulover
Greenlaw Cove
Deep Hole
Mountainville
Sylvester Cove
Mill Pond
Long Cove
Pickering Cove
Freese
Sunset
Southeast Harbor
Toothacher Ledge
Olivers Pond
South Deer Isle
Warren Point
Smalls Cove
Inner Harbor
WHITMORE NECK
Whaleback
Oceanville
Holt Pond
Coles Pt
Buckmaster Neck
Stinson Pt
Burntland Pond
West Stonington
Barred I
Channel Rock
Burnt Cove
Crockett Cove
Humpkins
Fifield Pt
Ames Pond
Stonington
The Fort
S T O N I N G T O N
Green Head
Moose
Scott
Coot Is
Devil
Two Bush Is
Flea I
Little Camp
Andrew I
Green
Potato I
Buckle
Crotch
Rock I
Coombs Is
Thurlow Head
Sand I
St Helena
Bare
Mark
LIGHTHOUSE
Potato
Ram I
John I
George Head
Wreck
Steve
Scraggy
Farrel
Little George Head I
George Head Ledges
Round
Goose
HANCOCK CO
KNOX CO
MERCHANT
Sparrow I
Ewe I
Harbor I

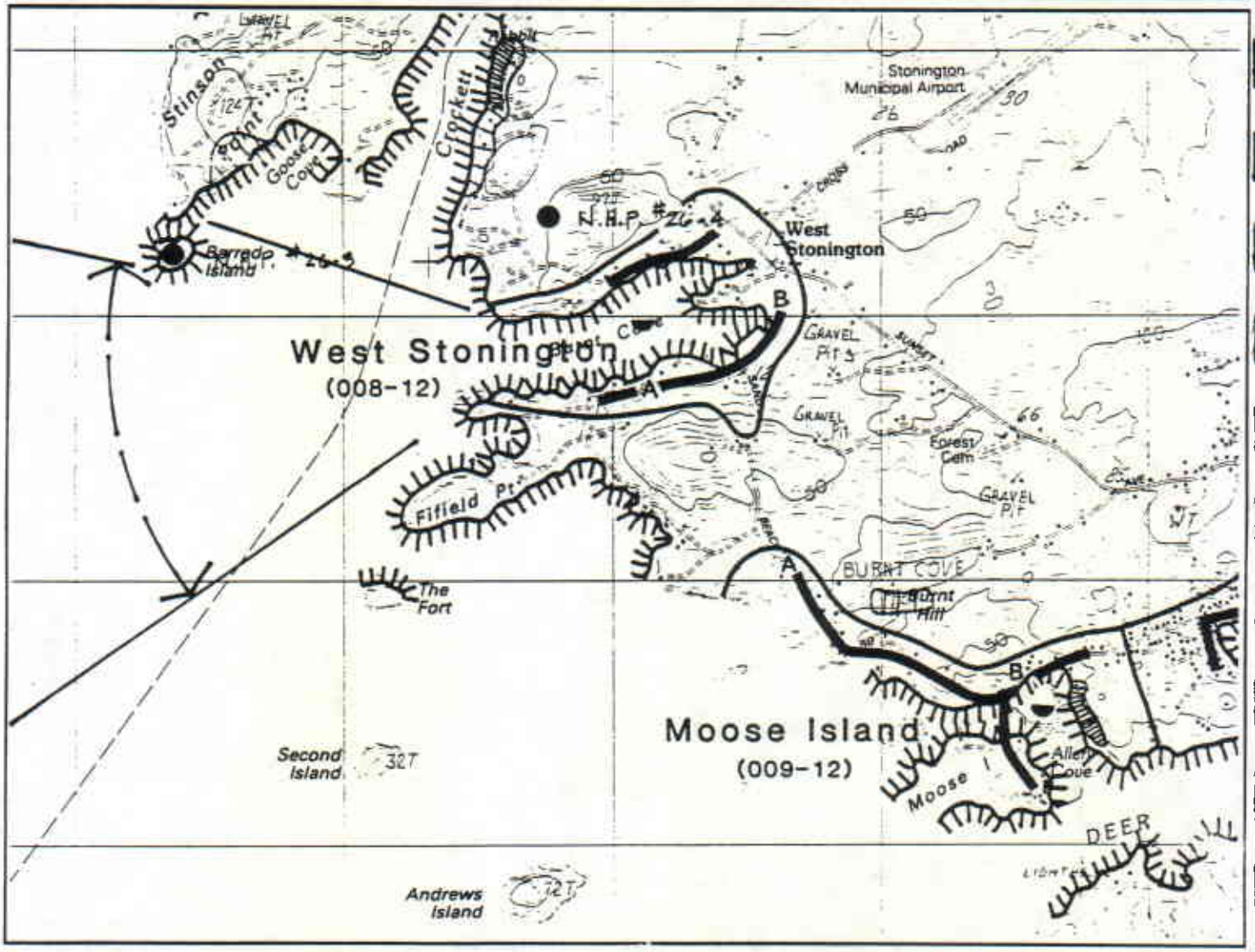
Scenic Area Evaluation Form

Scenic Area **West Stonington** Code **008-12** Town(s) **Stonington** County **Hancock**
1989 Coastal Scenic Inventory — Maine State Planning Office

ST	S	IP	Special Interest/Score/Indicators Present
			1.Landform Topography____Slope____
			2.Open Land
	6	X	3.Shoreline Configuration
	9	X	4.Scenic Features
	30		5.Scenic Quality of Water
			Duration of View 9
			Type of Water 12
			Quality of Horizon 9
	45	3	**Desktop Subtotal**
	13		6.Landscape Character
			Land Use 7
			Roadside Characteristics 3
			Settlement Characteristics 3
	3		7.Vegetation
	6		8.Composition & Effect
	67		**Total Score**
			Special Interest

Viewshed Description Small scaled, cohesive village focussed on Burnt Cove. Periodic views of the cove are seen from a town road that follows the edge of the water. Picturesque compositions of weathered old fishing shacks and houses, mature free-standing pines, open fields, and the waters of Burnt Cove. The midground views are focussed on the opposite shoreline of the cove and the wooded hillside above. A good example of a suitable balance between settlement and the natural environment.

Viewshed Management Recommendations Effective land use controls over large developments. Preserve visual access to waterfront. Maintenance of open fields.



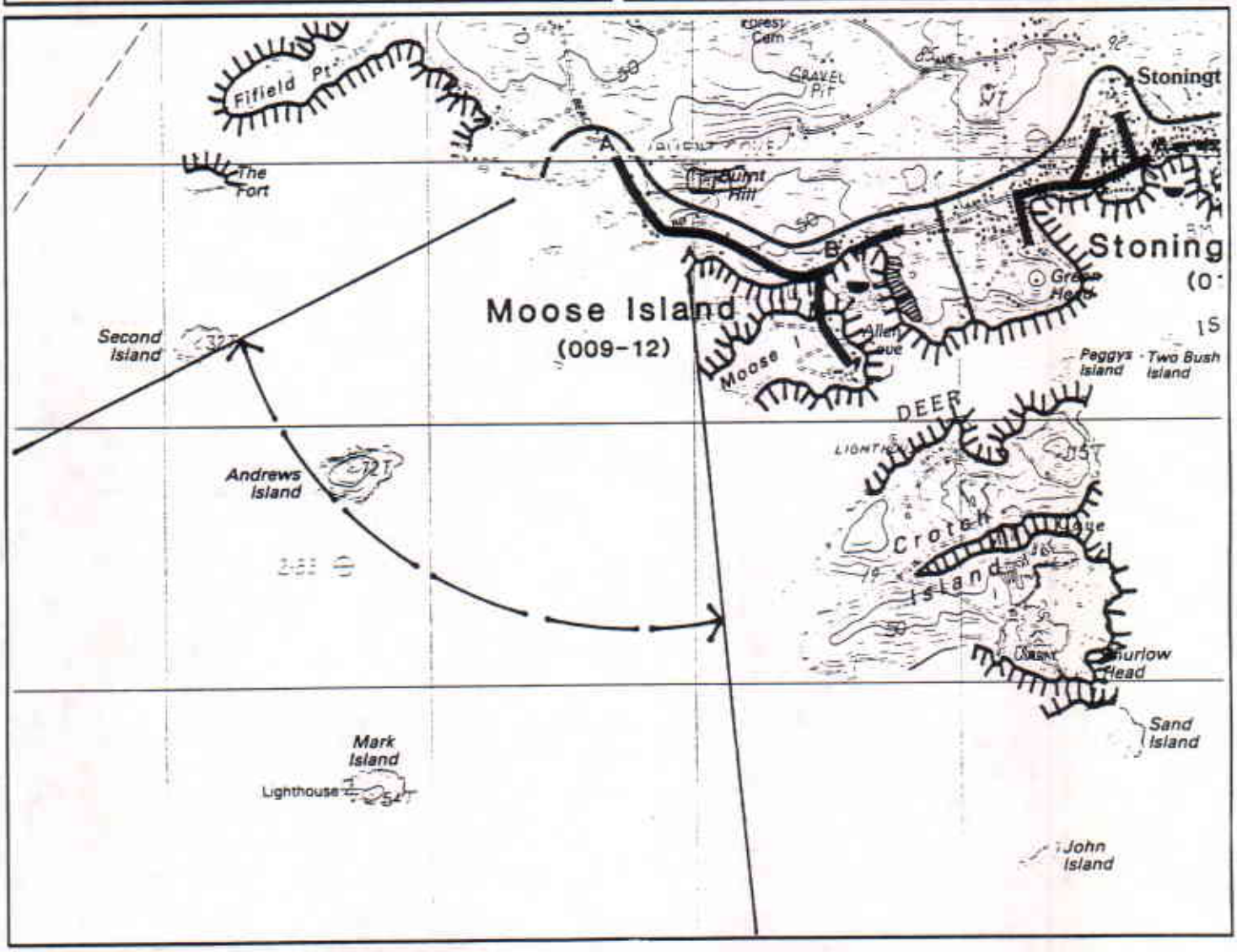
Scenic Area Evaluation Form

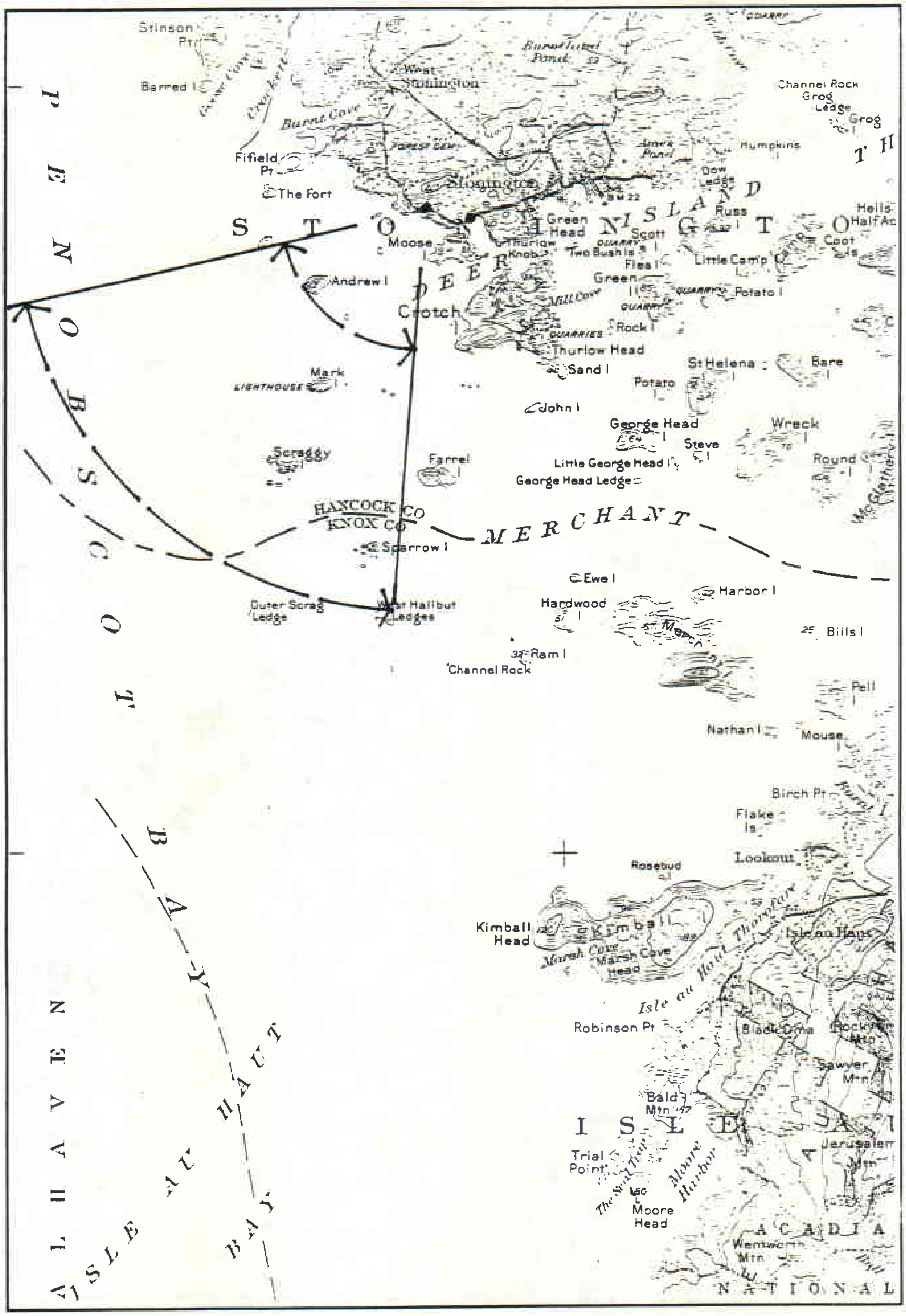
Scenic Area **Moose Island** Code **009-12** Town(s) **Stonington** County **Hancock**
1989 Coastal Scenic Inventory — Maine State Planning Office

SI	S	IP	Special Interest/Score/Indicators Present
			1.Landform Topography____Slope____
			2.Open Land
	6	X	3.Shoreline Configuration
	9	X	4.Scenic Features
	24		5.Scenic Quality of Water
			Duration of View 6
			Type of Water 12
			Quality of Horizon 6
	39	3	**Desktop Subtotal**
	1		6.Landscape Character
			Land Use 5
			Roadside Characteristics 3
			Settlement Characteristics 3
	3		7.Vegetation
	6		8.Composition & Effect
	59		**Total Score**
			Special Interest

Viewshed Description A small village/commercial area just outside of Stonington with a town road providing intermittent views to the harbor and Penobscot Bay. A one lane road crosses the causeway to Moose Island. Foreground elements include lobster holding ponds, opposite shoreline, mooring areas, residential and commercial structures, and Allen Cove. Midground views includes the waters of Penobscot Bay, the opposite shoreline and islands. Background views extend across the waters of Penobscot Bay to distant islands. General landscape condition is fair to good.

Viewshed Management Recommendations Site Plan review standards to ensure a high level of visual compatibility in any new development. Acquisition of development rights on offshore islands.




Stinson Pt
Barred I
West Stonington
Burnt Cove
Crockett
Fifield Pt
The Fort
Stonington
Channel Rock
Grog Ledge
Grog
Humpkins
Dow Ledge
Russ
Green Head
Scott
Hells Half Ac
Coot
Moose
Thurlow Knob
Two Bush Is
Flea I
Little Camp
Andrew I
DEER ISLAND
Green
Mill Cove
Potato I
Crotch
Rock I
QUARRIES
Thurlow Head
Sand I
St Helena
Bare
Mark
LIGHTHOUSE
Potato
John I
George Head
Wreck
Steve
Scraggy
Farrel
Little George Head I
George Head Ledge
Round
HANCOCK CO
KNOX CO
MERCHANT
Sparrow I
Ewe I
Harbor I
Hardwood
Outer Scrag Ledge
West Halibut Ledges
Bills I
Ram I
Channel Rock
Pell
Nathan I
Mouse
Birch Pt
Flake Is
Lookout
Rosebud
Kimball Head
Kimball
Marsh Cove
Marsh Cove Head
Isle au Haut Thorofare
Isle au Haut
Robinson Pt
Black Dinah
Rock Mtn
Sawyer Mtn
Bald Mtn
Jerusalem Mtn
Trial Point
Moore Harbor
Moore Head
ACADIA
Wentworth Mtn
NATIONAL
PENOBSCOT BAY
ISLE AU HAUT BAY
VINALHAVEN
STONINGTON
ISLE

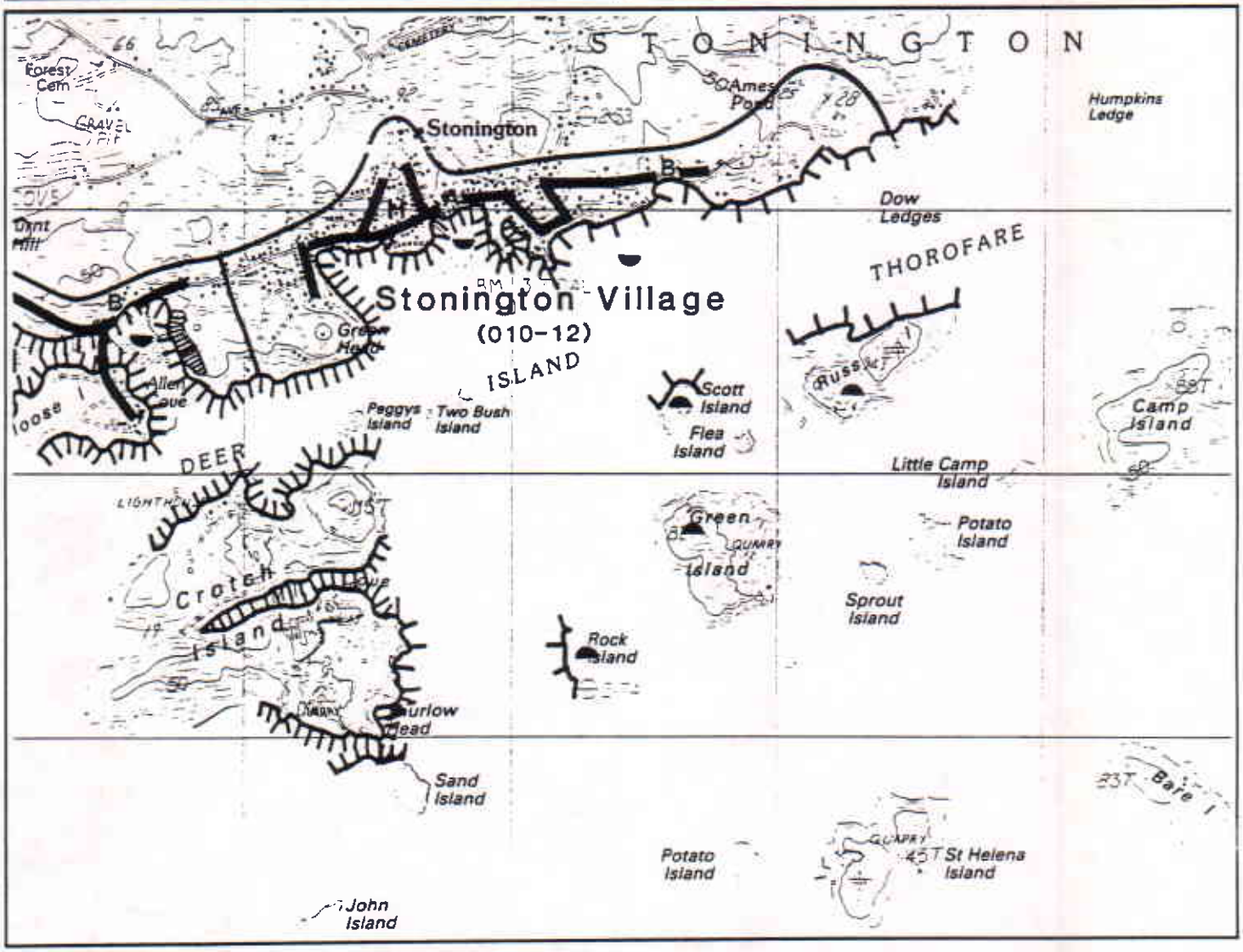
Scenic Area Evaluation Form

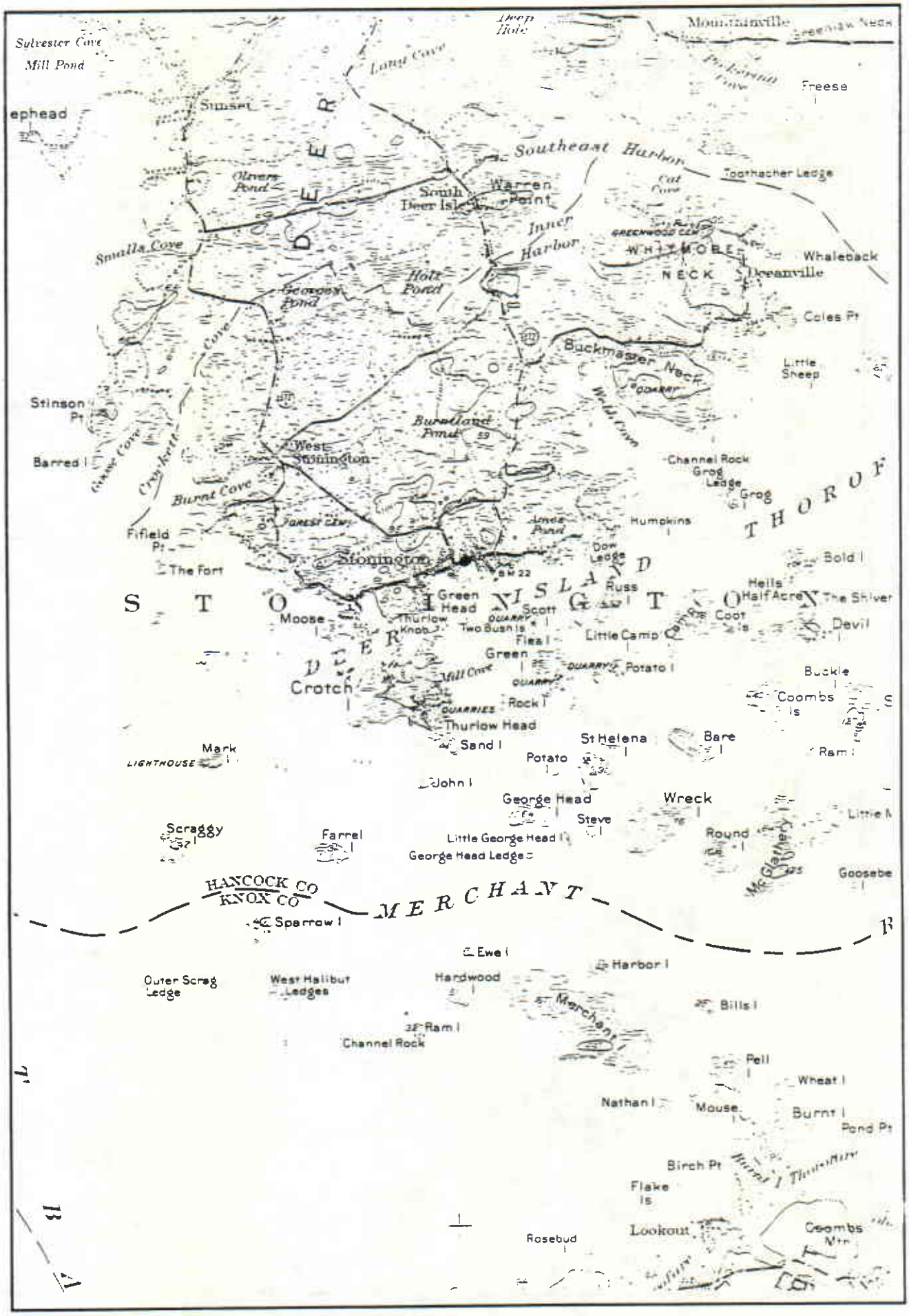
Scenic Area **Stonington Village** Code **010-12** Town(s) **Stonington** County **Hancock**
1989 Coastal Scenic Inventory — Maine State Planning Office

ST	S	IP	Special Interest/Score/Indicators Present
			1.Landform Topography____Slope____
			2.Open Land
	6	X	3.Shoreline Configuration
	9	X	4.Scenic Features
	27		5.Scenic Quality of Water
			Duration of View 9
			Type of Water 12
			Quality of Horizon 6
	42	3	**Desktop Subtotal**
	17		6.Landscape Character
			Land Use 5
			Roadside Characteristics 6
			Settlement Characteristics 6
	3		7.Vegetation
	9		8.Composition & Effect
	71		**Total Score**
			Special Interest

Viewshed Description Classic Maine coastal community that owes its existence to granite, fishing, and lobstering. The foreground consists of a busy, protected harbor and the town of Stonington, with well tended homes and businesses, granite walls, and streets extending to the water. The midground is defined by Crotch Island and a multitude of smaller islands to the south of town. A landscape that is familiar to the many admirers of Eliot and Fairfield Porter.

Viewshed Management Recommendations Protection of offshore islands through conservation easements and/or acquisition. Site plan review standards for new in-town construction that addresses issues of visual compatibility.




Sylvester Cove
Mill Pond
Sunset
Deep Hole
Mountainville
Freese
Southeast Harbor
Toothacher Ledge
Oliver's Pond
South Deer Isle
Warren Point
Inner Harbor
Whaleback
Oceanville
NECK
Smalls Cove
Holt Pond
Georges Pond
Coles Pt
Buckmaster Neck
Little Sheep
Stinson Pt
Barred I
West Stonington
Burntland Pond
Channel Rock
Grog Ledge
Grog
Burnt Cove
Fifield Pt
The Fort
Stonington
Humpkins
Bold I
Hells Half Acre
The Shiver
Green Head
Scott
Russ
Moose
Thurlow Knob
Two Bush Is
Flea I
Little Camp
Coot
Devil
Green
Potato I
Buckle
Crotch
Mill Cove
Rock I
Coombs Is
Thurlow Head
Sand I
St Helena
Bare
Ram I
Mark
LIGHTHOUSE
Potato
John I
George Head
Wreck
Steve
Little George Head I
George Head Ledge
Scraggy
Farrel
Round
Goosebe
HANCOCK CO
KNOX CO
MERCHANT
Sparrow I
Ewe I
Harbor I
Outer Scrag Ledge
West Halibut Ledges
Hardwood
Bills I
Ram I
Channel Rock
Pell
Wheat I
Nathan I
Mouse
Burnt I
Pond Pt
Birch Pt
Flake Is
Lookout
Coombs Mtn
Rosebud

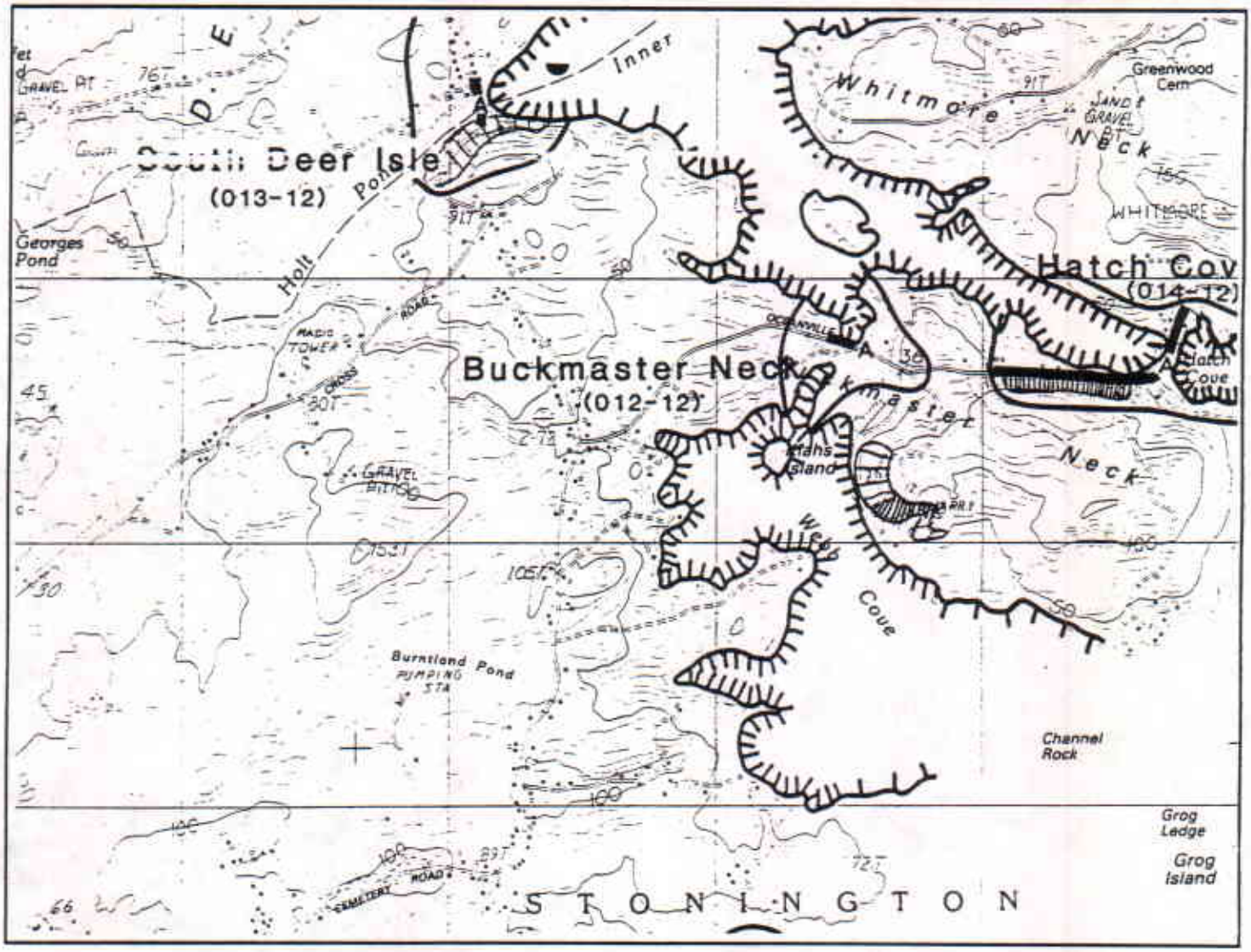
Scenic Area Evaluation Form

Scenic Area **Buckmaster Neck** Code **012-12** Town(s) **Stonington** County **Hancock**
1989 Coastal Scenic Inventory — Maine State Planning Office

SI	S	IP	Special Interest/Score/Indicators Present
			1.Landform Topography____Slope____
			2.Open Land
	6	X	3.Shoreline Configuration
			4.Scenic Features
	18		5.Scenic Quality of Water
			Duration of View 3
			Type of Water 6
			Quality of Horizon 6
	24	2	**Desktop Subtotal**
	12		6.Landscape Character
			Land Use 5
			Roadside Characteristics 1
			Settlement Characteristics 6
X	9		7.Vegetation
	9		8.Composition & Effect
	54		**Total Score**
1			**Special Interest**

Viewshed Description The view from the narrowest point of land on Buckmaster Neck looks out to a quiet, forested inlet of Inner Harbor to the north, and a freshwater marsh above Webb Cove to the south. A narrow causeway crosses the marsh offering a brief view to the enclosed water. A commercial warehouse seen through the trees is the only man-made intrusion.

Viewshed Management Recommendations Protect marsh area and accompanying shoreline. Provide defined pull-off area at an appropriate location.



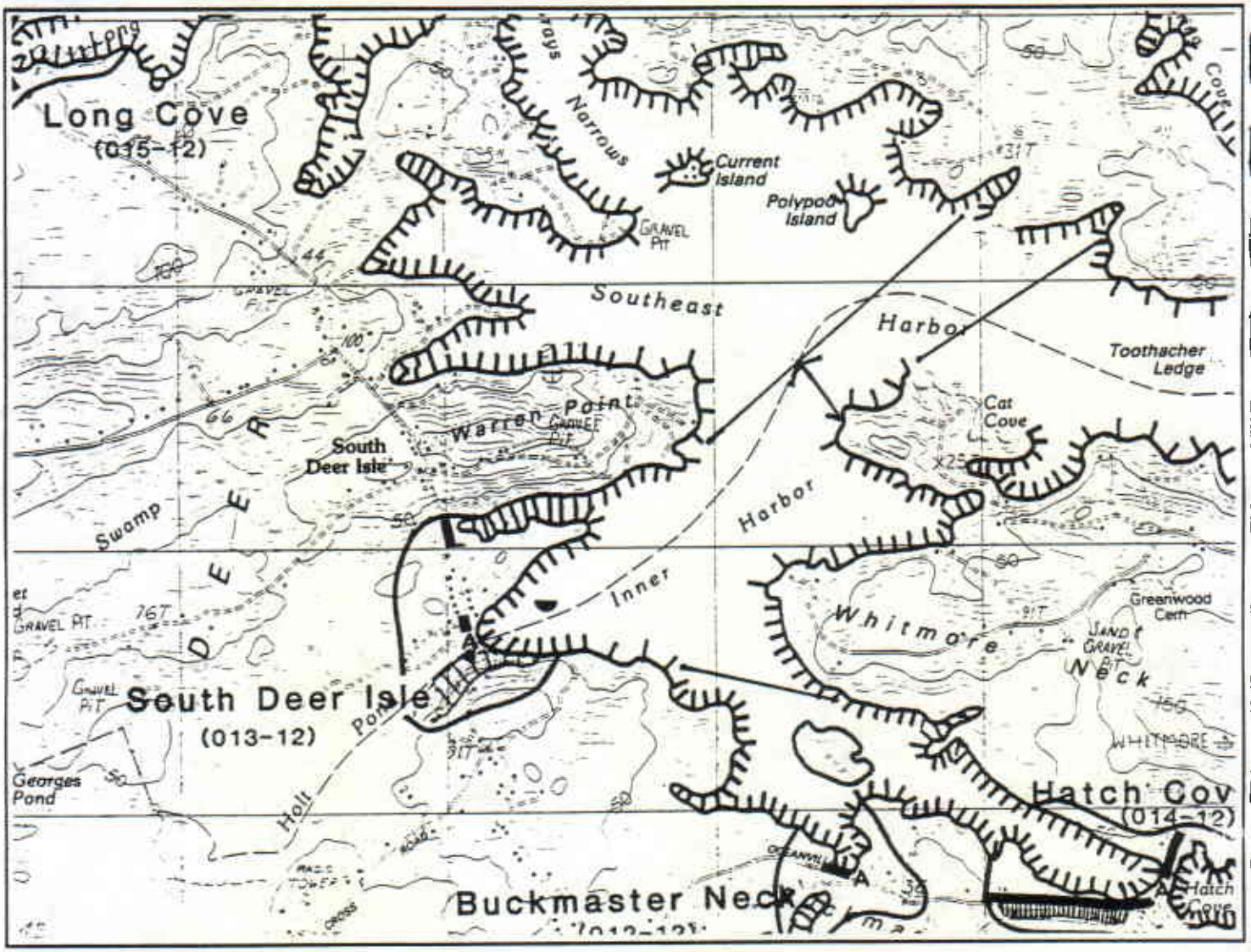
Scenic Area Evaluation Form

Scenic Area **South Deer Isle** Code **013-12** Town(s) **Deer Isle** County **Hancock**
1989 Coastal Scenic Inventory — Maine State Planning Office

SI	S	IP	Special Interest/Score/Indicators Present
			1.Landform Topography____Slope____
			2.Open Land
	6	X	3.Shoreline Configuration
			4.Scenic Features
	18		5.Scenic Quality of Water
			Duration of View 6
			Type of Water 9
			Quality of Horizon 3
	24	3	**Desktop Subtotal**
	14		6.Landscape Character
			Land Use 5
			Roadside Characteristics 3
			Settlement Characteristics 6
	6		7.Vegetation
	6		8.Composition & Effect
	50		**Total Score**
			Special Interest

Viewshed Description A small village consisting of older homes oriented to the waters of Inner Harbor. Primary views are south of South Deer Isle. A causeway separates Holt Pond from the harbor. Views are relatively short and primarily of local interest. The foreground consists of mature shade trees, older cape style homes, manicured lawns, and the harbor. The midground views extend to Southeast Harbor and the wooded shoreline of Whitmore Cove.

Viewshed Management Recommendations Local site plan review standards to protect visual integrity of landscape.



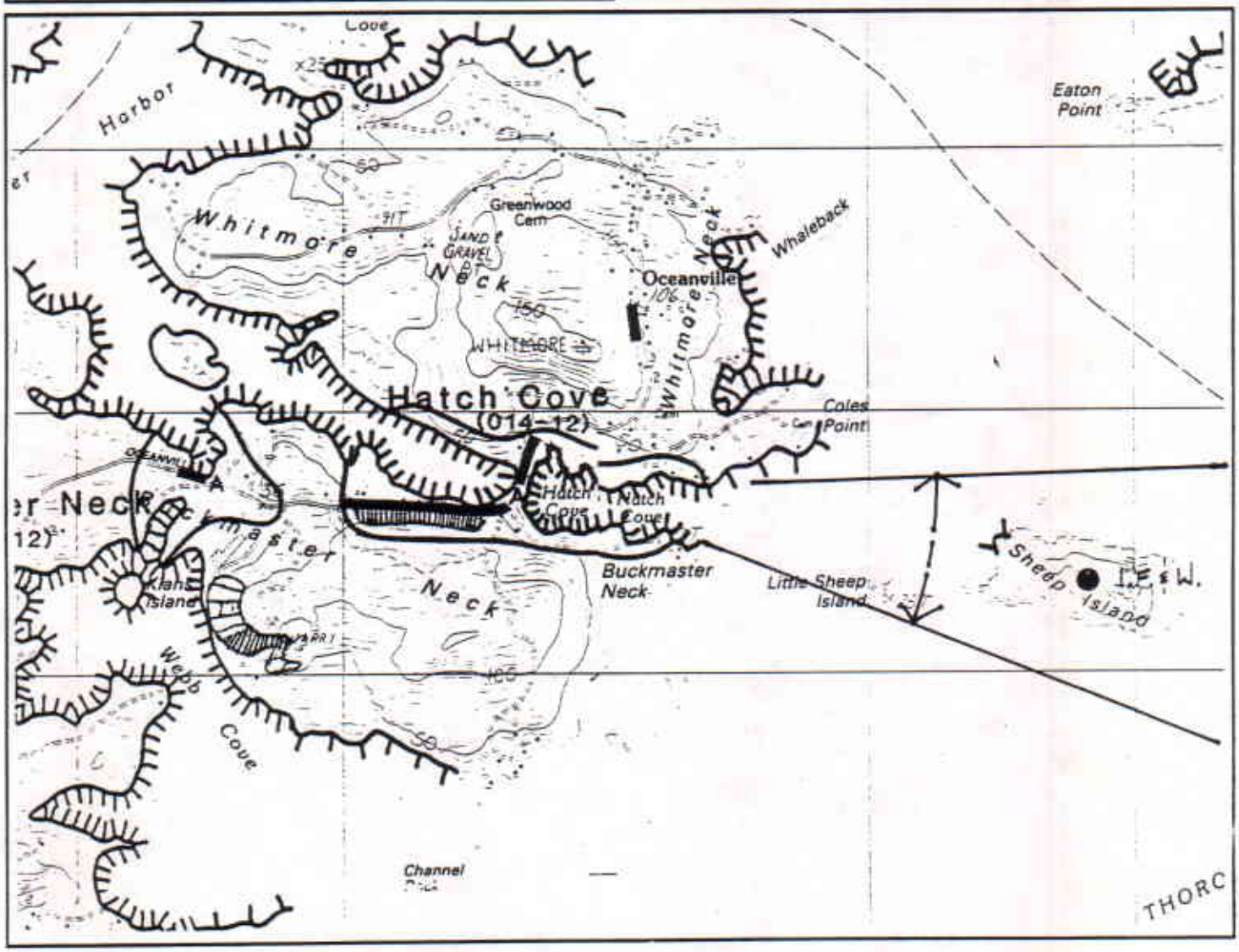
Scenic Area Evaluation Form

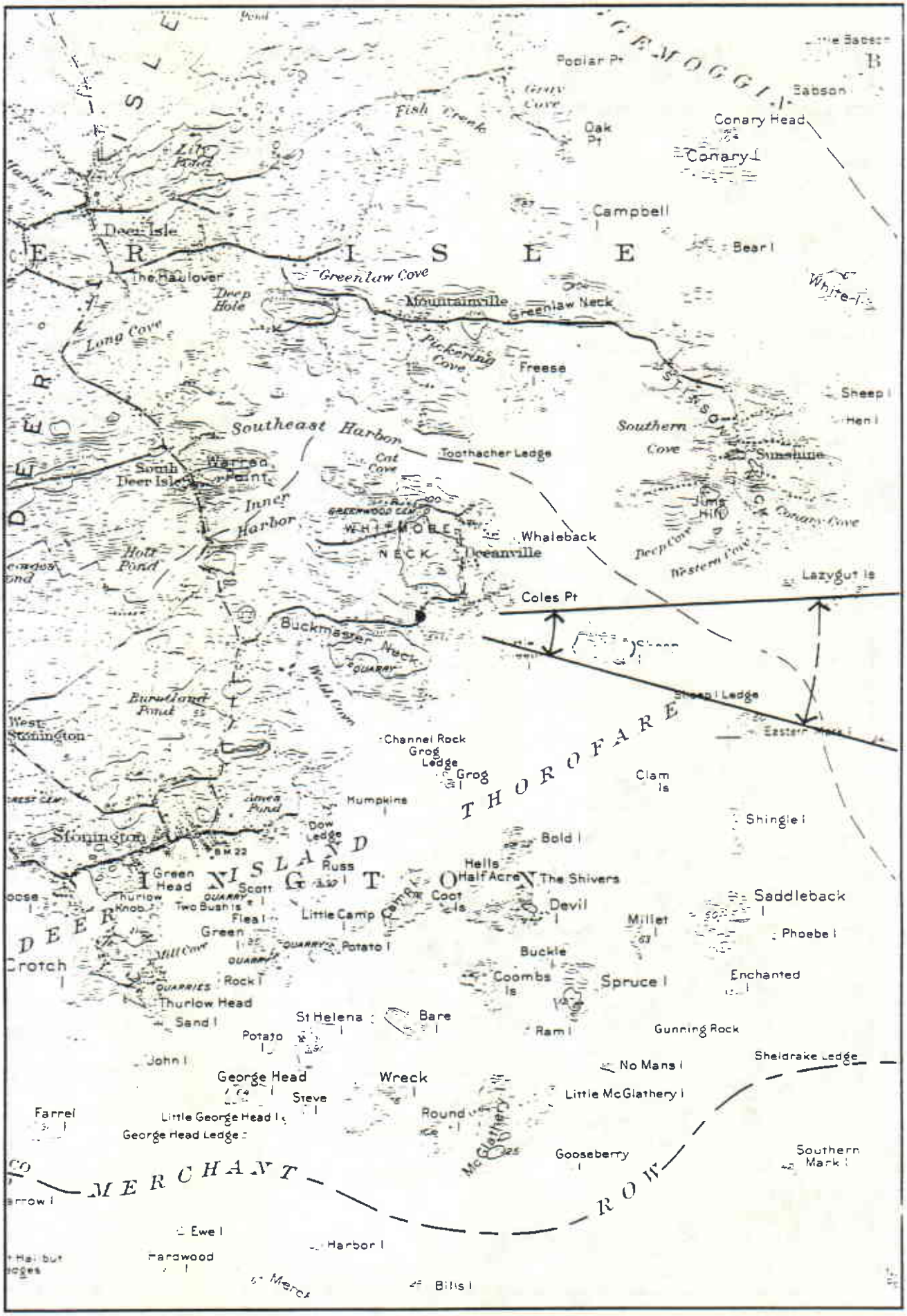
Scenic Area **Hatch Cove** Code **014-12** Town(s)**Stonington** County **Hancock**
1989 Coastal Scenic Inventory Maine State Planning Office

SI	S	IP	Special Interest/Score/Indicators Present
	3	X	1.Landform Topography____Slope 3
			2.Open Land
	6	X	3.Shoreline Configuration
			4.Scenic Features
	24		5.Scenic Quality of Water
			Duration of View 6
			Type of Water 12
			Quality of Horizon 6
	33	3	**Desktop Subtotal**
	11		6.Landscape Character
			Land Use 5
			Roadside Characteristics 3
			Settlement Characteristics 3
	3		7.Vegetation
	6		8.Composition & Effect
	53		**Total Score**
			Special Interest

Viewshed Description Hatch Cove is a long, narrow inlet featuring low hills, offshore ledge outcrops, and a scattering of homes. Channelled views to open water are visible from the causeway leading from Buckmaster Neck to Whitmore Neck. Foreground elements include the causeway, spruce-covered shoreline, modest homes, fields, and the waters of Hatch Cove and Inner Harbor. The views are constrained by the landforms to the waters of Hatch Cove, Inner Harbor, and Jericho Bay. The general landscape condition is good. Views to water are limited primarily to the area in the immediate vicinity of the causeway.

Viewshed Management Recommendations Provide defined pull-off area near the causeway. Minor maintenance work required on the road, shoulders, and guard rail.




DEER ISLE
Deer Isle
The Haulover
Greenlaw Cove
Mountainville
Greenlaw Neck
Deep Hole
Long Cove
Pickering Cove
Freese
Southeast Harbor
Southern Cove
Toothacher Ledge
Cat Cove
South Deer Isle
Warren Point
Inner Harbor
Holt Pond
WEHTMORE NECK
Whaleback
Deep Cove
Western Cove
Conary Cove
Lazygut Is
Coles Pt
Buckmaster Neck
QUARRY
Burntland Point
West Stonington
Channel Rock
Grog Ledge
Grog I
Clam Is
THOROFARE
Humpkins
Shingle I
Stonington
Dow Ledge
Bold I
Hells Half Acre
The Shivers
Saddleback I
Green Head
Russ
Scott
Two Bush Is
Flea I
Little Camp
Coot Is
Devil
Millet
Phoebe I
Green
Potato I
Buckle
Crotch
Rock I
Coombs Is
Spruce I
Enchanted
Thurlow Head
Sand I
St Helena
Bare
Ram I
Gunning Rock
Potato
John I
George Head
Wreck
No Mans I
Sheldrake Ledge
Steve
Little McGlathery I
Farrel
Little George Head I
George Head Ledge
Round
Gooseberry
Southern Mark I
MERCHANT ROW
Ewe I
Harbor I
Hardwood
Bills I
Poplar Pt
Babson
Conary Head
Conary I
Campbell
Bear I
Sheep I
Hen I
Fish Creek
Oak Pt
Lily Pond

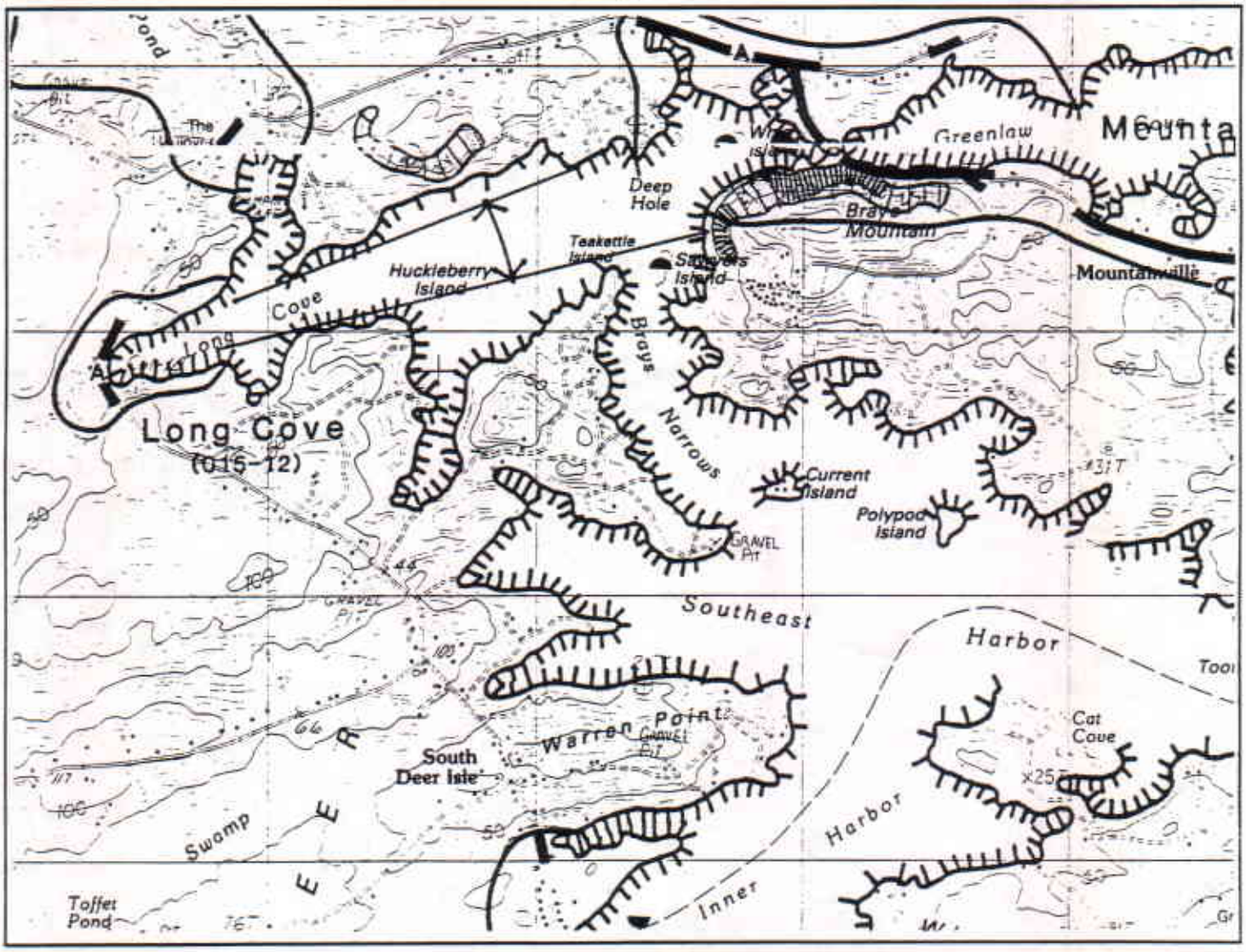
Scenic Area Evaluation Form

Scenic Area **Long Cove** Code **015-12** Town(s) **Deer Isle** County **Hancock**
1989 Coastal Scenic Inventory — Maine State Planning Office

SF	S	IP	Special Interest/Score/Indicators Present
			1.Landform Topography____Slope____
			2.Open Land
	6	X	3.Shoreline Configuration
			4.Scenic Features
	15		5.Scenic Quality of Water
			Duration of View 3
			Type of Water 9
			Quality of Horizon 3
	21	3	**Desktop Subtotal**
	14		6.Landscape Character
			Land Use 5
			Roadside Characteristics 3
			Settlement Characteristics 6
	6		7.Vegetation
	6		8.Composition & Effect
	47		**Total Score**
			Special Interest

Viewshed Description A predominately natural area with a single home at the head of Long Cove, aptly named for its long, narrow configuration. The town highway crosses a tidal creek and provides a short open view up the cove at an undefined pull-off area. Foreground elements include the evergreen covered shoreline, the old homestead, and the waters of Long Cove. The view continues to the end of Long Cove, but is constrained by the low hills on either side. High quality characteristic landscape in good to very good condition.

Viewshed Management Recommendations Work with local land trust to protect the viewshed of Long Cove.



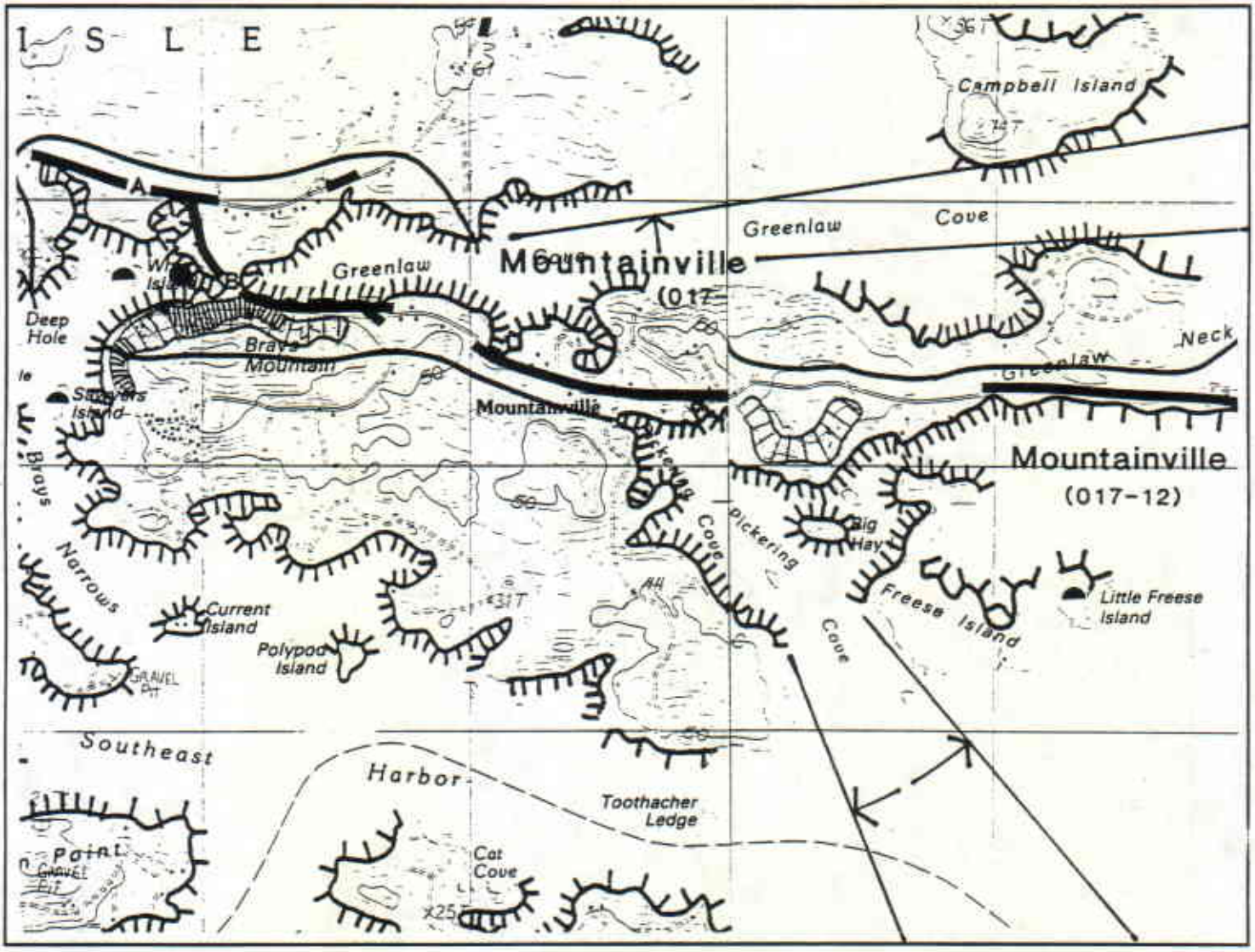
Scenic Area Evaluation Form

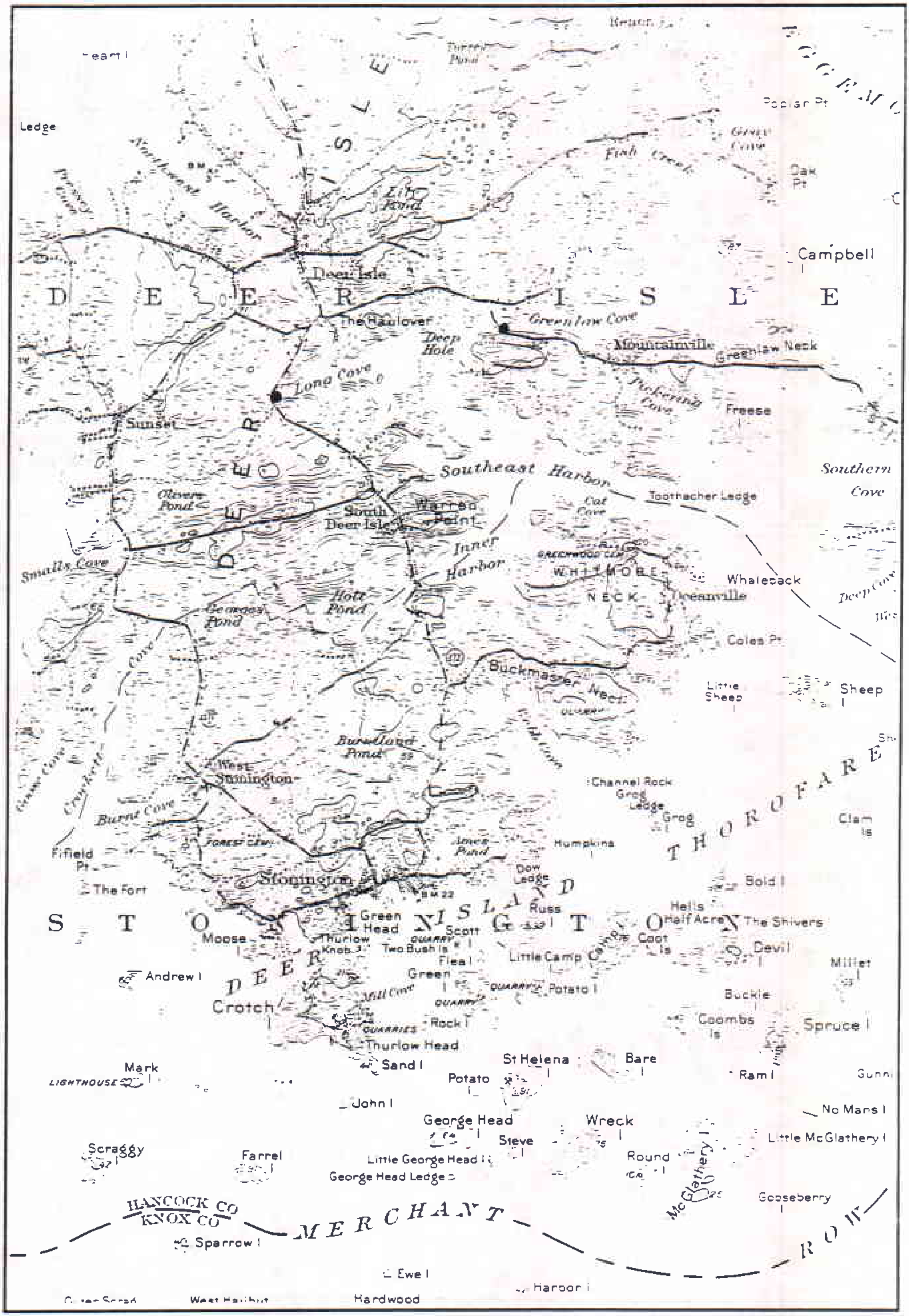
Scenic Area **Mountainville** Code **017-12** Town(s) **Deer Isle** County **Hancock**
1989 Coastal Scenic Inventory — Maine State Planning Office

SI	S	IP	Special Interest/Score/Indicators Present
	3	X	1.Landform Topography____Slope 3
	5	X	2.Open Land
X	6	X	3.Shoreline Configuration
	6	X	4.Scenic Features
X	27		5.Scenic Quality of Water
			Duration of View 9
			Type of Water 12
			Quality of Horizon 6
	47	5	**Desktop Subtotal**
	16		6.Landscape Character
			Land Use 7
			Roadside Characteristics 3
			Settlement Characteristics 6
	9		7.Vegetation
X	9		8.Composition & Effect
	81		**Total Score**
3			**Special Interest**

Viewshed Description A diverse landscape composed of meadows, beaches, small settlements, and evergreen woods, focussed on Greenlaw Cove and Deep Hole. A variety of open views and periodic views to semi enclosed water bodies. Foreground compositions include meadows, beaches, mature woods, residential structures, islands, opposite shoreline, and the various water bodies. of Deep Hole, Greenlaw Cove, and Pickering Cove. Midground and background views extend to Penobscot Bay and several distant islands on the horizon. General landscape condition is very good, natural, diverse, and well composed.

Viewshed Management Recommendations Attention should paid to details of roadside elements: guard rails, shoulders, edges. Vegetation management to maintain open views to water. Work with local land trust to preserve viewshed of Mountainville.




DEER ISLE
Deer Isle
The Haulover
Green Law Cove
Mountainville
Greenlaw Neck
Campbell I
Poplar Pt
Oak Pt
Fish Creek
Northwest Harbor
Lily Pond
Long Cove
Deep Hole
Pickering Cove
Freese
Sunset
Southeast Harbor
Southern Cove
Toothacher Ledge
Oliver Pond
South Deer Isle
Barred Point
Cat Cove
Inner Harbor
Smalls Cove
WHITMORE NECK
Oceanville
Whaleback
Georges Pond
Holt Pond
Coles Pt
Buckmaster Neck
Sheep I
Little Sheep I
Burntland Pond
West Stonington
Channel Rock
Grog Ledge
Grog I
Burnt Cove
Crockett Cove
Fifield Pt
The Fort
Ames Pond
Humpkins
Stonington
Dow Ledge
THOROFARE
Bold I
Clam Is
STONINGTON
DEER ISLAND
Green Head
Russ
Hells Half Acre
The Shivers
Moose
Thurlow Knob
Two Bush Is
Scott
Coot Is
Devil
Little Camp
Flea I
Millet
Andrew I
Green
Potato I
Mill Cove
Crotch I
Buckle
Rock I
Coombs Is
Spruce I
Thurlow Head
Sand I
St Helena
Bare
Mark
LIGHTHOUSE
Potato
Ram I
John I
No Mans I
George Head
Wreck
Steve
Little McGlathery I
Scraggy
Farrel
Little George Head I
Round
George Head Ledge
McGlathery I
Gooseberry
HANCOCK CO
KNOX CO
MERCHANT ROW
Sparrow I
Ewe I
Harbor I
Hardwood
West Halibut
Ledge

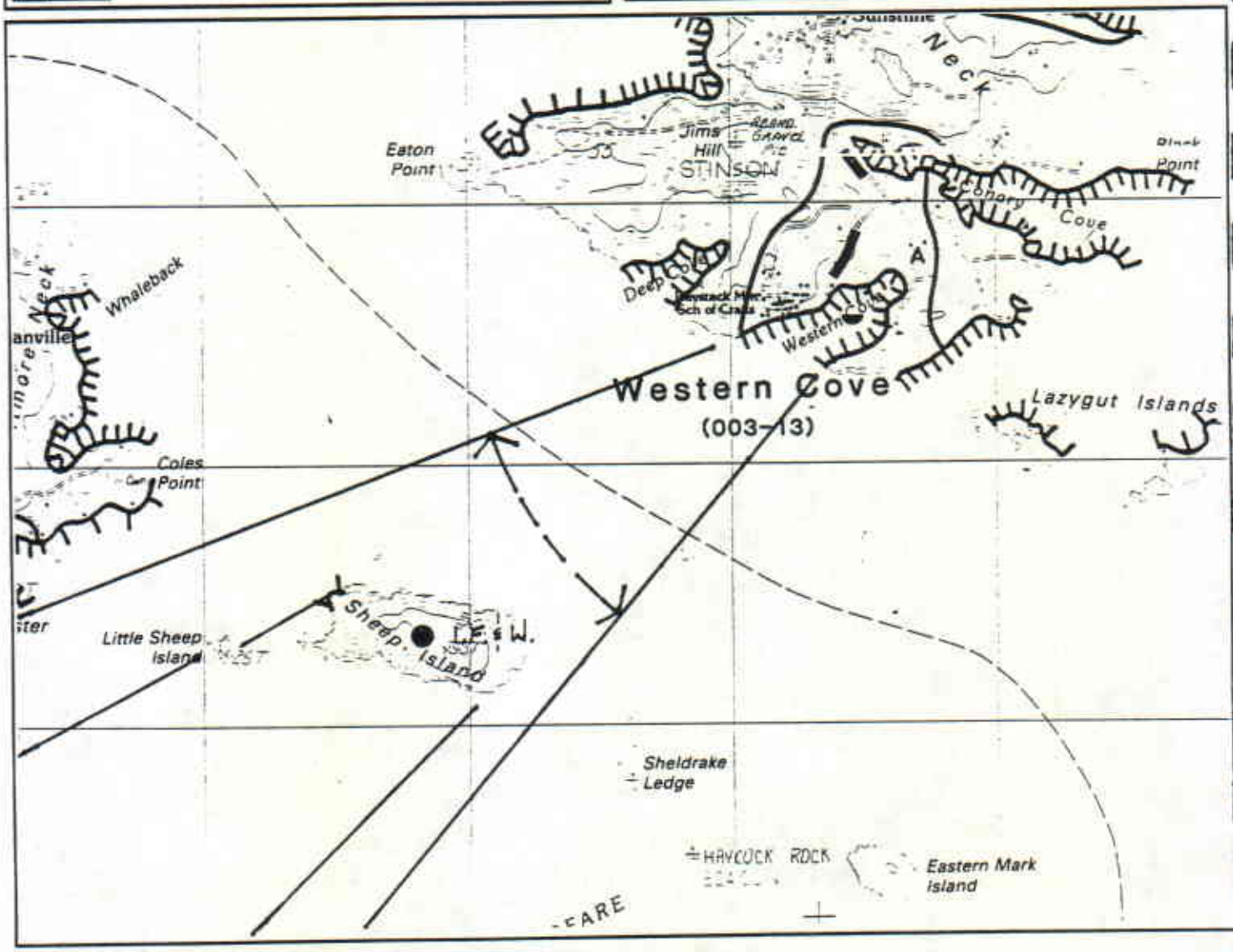
Scenic Area Evaluation Form

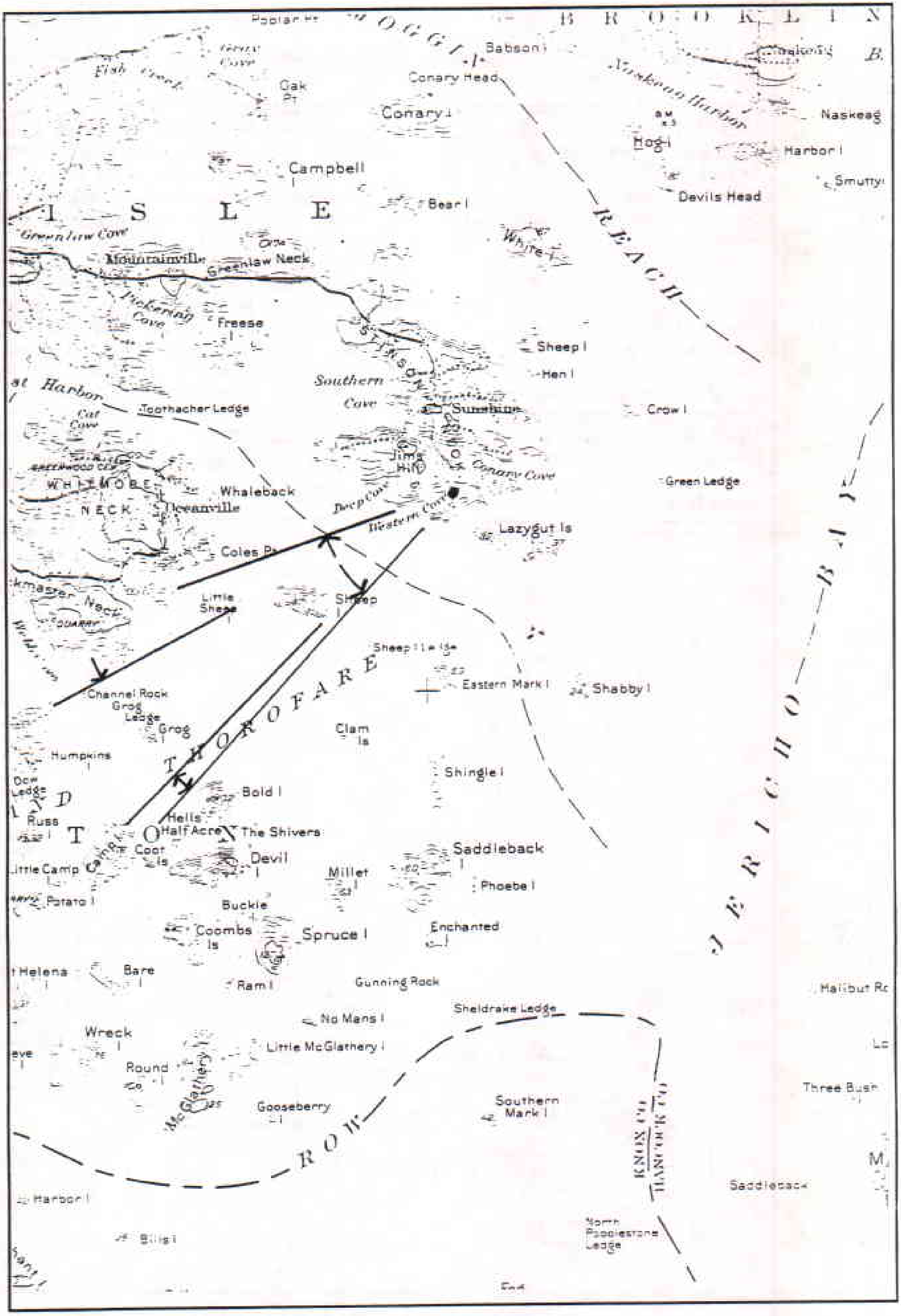
Scenic Area **Western Cove** Code **003-13** Town(s) **Deer Isle** County **Hancock**
1989 Coastal Scenic Inventory — Maine State Planning Office

SI	S	IP	Special Interest/Score/Indicators Present
			1.Landform Topography____Slope____
			2.Open Land
	6	X	3.Shoreline Configuration
	6	X	4.Scenic Features
	24		5.Scenic Quality of Water
			Duration of View 6
			Type of Water 12
			Quality of Horizon 6
	36	3	**Desktop Subtotal**
	9		6.Landscape Character
			Land Use 5
			Roadside Characteristics 1
			Settlement Characteristics 3
	6		7.Vegetation
	6		8.Composition & Effect
	51		**Total Score**
			Special Interest

Viewshed Description A small cove near the end of Stinson Neck on the extreme eastern end of Deer Isle. The cove is defined by spruce covered fingers of land that form a protected harbor. The internationally known Haystack Mountain School of Crafts is located on the west side of Western Cove, but is not visible from the public road. The midground view extends to several small islands and further to Stonington.

Viewshed Management Recommendations Acquisition of development rights and/or protective development restrictions on the offshore islands.




Poplar Pt
Babson I
Conary Head
Naskeag Harbor
Fish Creek
Oak Pt
Conary I
Naskeag
Hog I
Harbor I
Campbell
Smutty
Bear I
Devils Head
I S L E
Greenlaw Cove
Mountainville
Greenlaw Neck
REACH
Pickering Cove
Freese
Sheep I
Hen I
Southern Cove
Toothacher Ledge
Cat Cove
Sunshine
Crow I
Jims Hill
Conary Cove
WHITMORE NECK
Whaleback
Green Ledge
Oceanville
Deep Cove
Western Cove
Lazygut Is
Coles Pt
Little Sheep
Sheep I
Sheep I Ledge
Eastern Mark I
Shabby I
Channel Rock
Grog Ledge
Grog
THOROFARE
Clam Is
Humpkins
Shingle I
Bold I
Russ
Hells Half Acre
The Shivers
Coot Is
Saddleback
Devil I
Millet I
Phoebe I
Little Camp
Potato I
Buckle
Coombs Is
Spruce I
Enchanted
JERICHO BAY
Helena
Bare
Ram I
Gunning Rock
Halibut Rc
Sheldrake Ledge
No Mans I
Wreck
Little McGlathery I
Round
McGlathery
Three Bush
Gooseberry
Southern Mark I
KNOX CO
HANCOCK CO
ROW
Saddleback
Harbor I
North Popplestone Ledge
Bills I

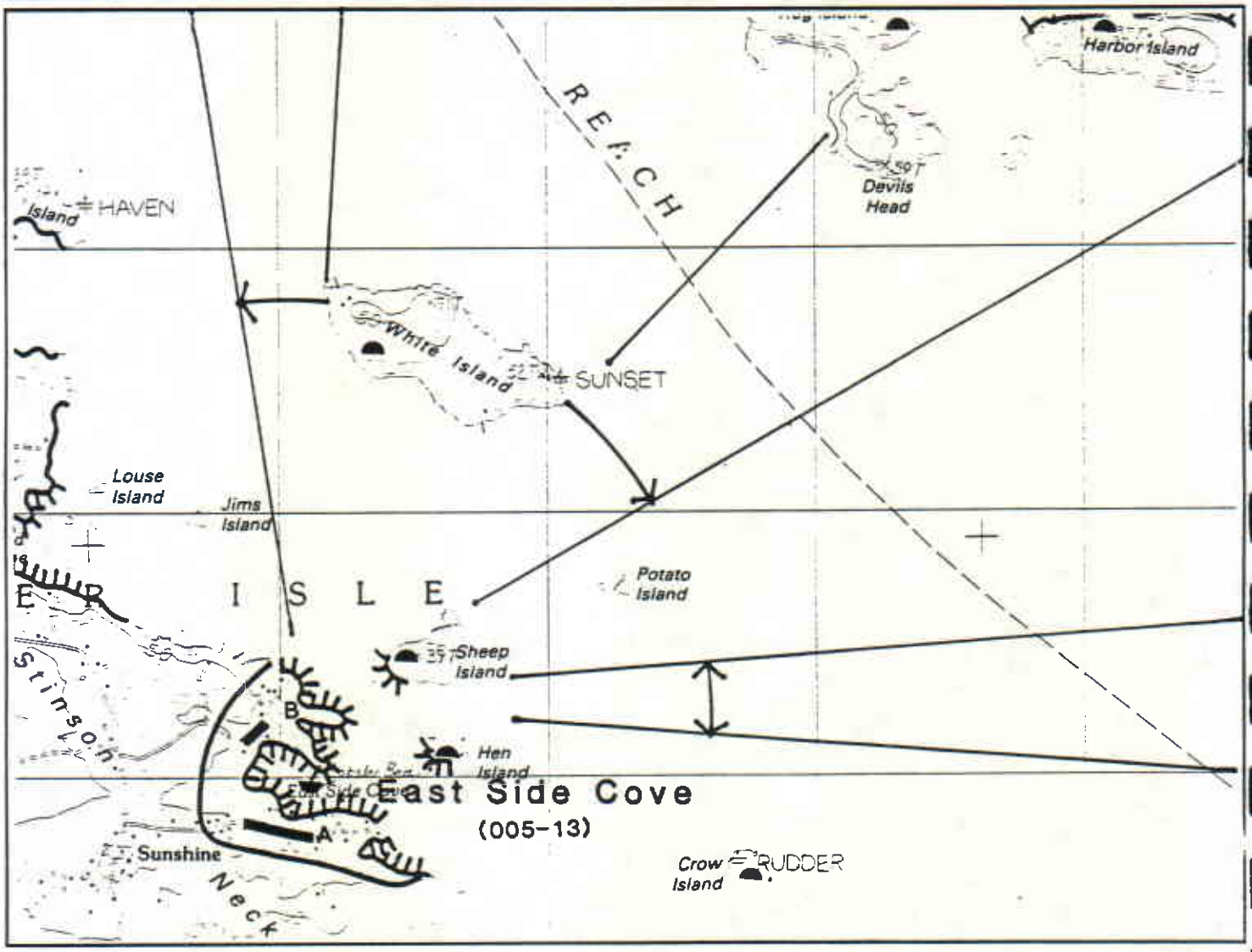
Scenic Area Evaluation Form

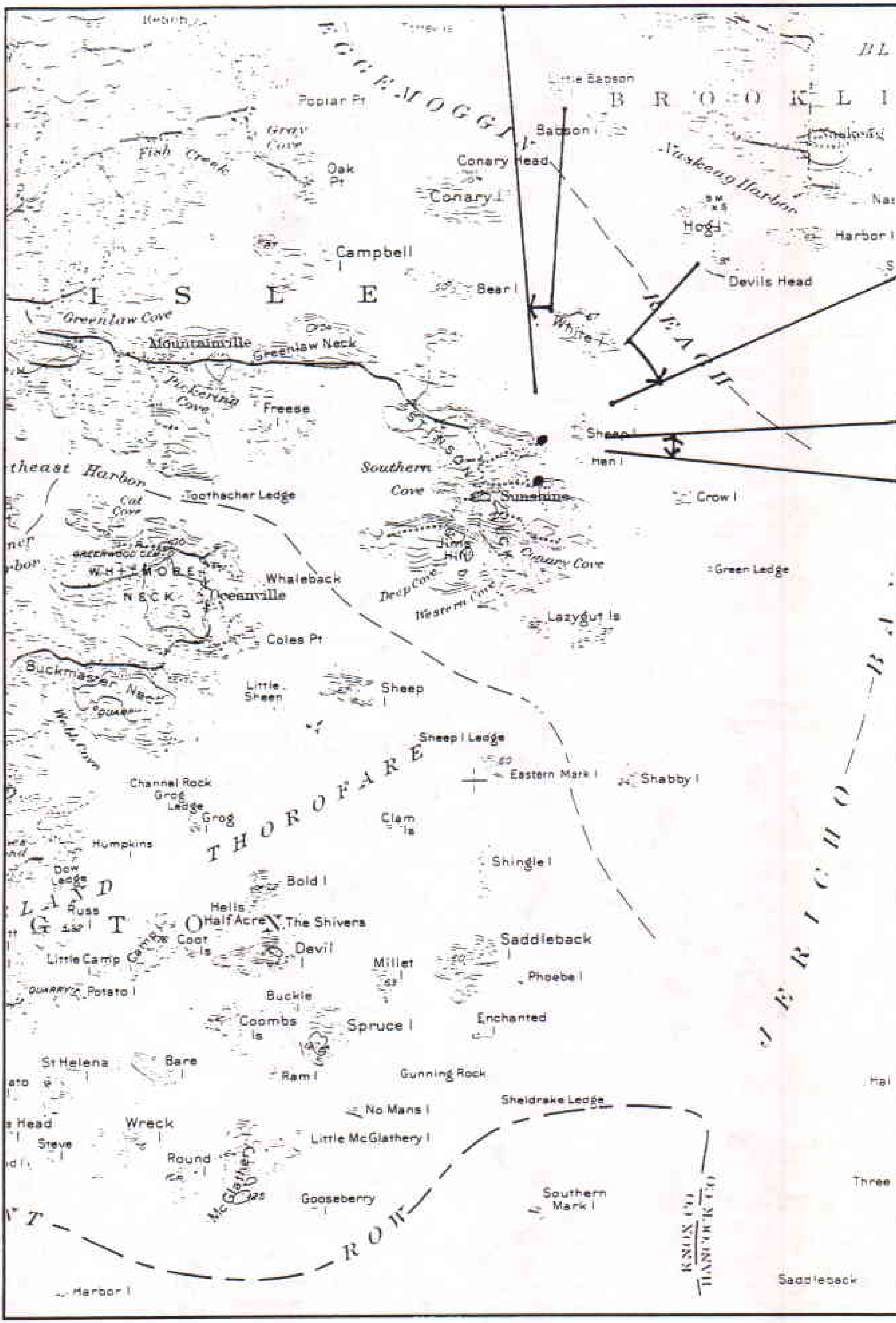
Scenic Area **East Side Cove** Code **005-13** Town(s) **Deer Isle** County **Hancock**
1989 Coastal Scenic Inventory — Maine State Planning Office

SI	S	IP	Special Interest/Score/Indicators Present
			1.Landform Topography____Slope____
			2.Open Land
	6	X	3.Shoreline Configuration
	9	X	4.Scenic Features (Islands/Beach)
X	30		5.Scenic Quality of Water
			Duration of View 9
			Type of Water 12
			Quality of Horizon 9
	45	3	**Desktop Subtotal**
	9		6.Landscape Character
			Land Use 5
			Roadside Characteristics 1
			Settlement Characteristics 3
	3		7.Vegetation
	9		8.Composition & Effect
	66		**Total Score**
X			**Special Interest**

Viewshed Description East Side Cove is the waterfront of the small residential settlement of Sunshine on Deer Isle. The cove is the site of a number of water dependent commercial operations, including lobster pounds and boatbuilding, giving form to a variety of recent and vernacular architecture. The foreground includes a meadow, stone beach, structures, a mooring area, lobster beds, several small spruce covered islands, and the waters of East Side Cove and Jericho Bay. The midground is framed by several additional islands looking out to the waters of Jericho Bay. The background views include the mountains of Mt. Desert Island with Blue Hill on the horizon. The general landscape condition is fair to good.

Viewshed Management Recommendations Define public access locations. Site Plan Review ordinance to establish performance standards for new construction.





Poplar Pt
EGGEMOGGIN
Little Babson
BROOKLIN
Babson I
Conary Head
Naskeag Harbor
Fish Creek
Gray Cove
Oak Pt
Conary I
Hog I
Harbor I
Campbell I
Devils Head
ISLE
Bear I
REACH
Greenlaw Cove
White I
Mountainville
Greenlaw Neck
Pickering Cove
Freese I
STINSON
Sheep I
Hen I
Southern Cove
Toothacher Ledge
Sunshine
Crow I
Cat Cove
Jims Hill
Conary Cove
WHITMORE NECK
Whaleback
Green Ledge
Oceanville
Deep Cove
Western Cove
Lazygut Is
Coles Pt
Buckmaster Neck
Little Sheep
Sheep I
Webb Cove
Sheep I Ledge
Eastern Mark I
Shabby I
Channel Rock
Grog Ledge
Grog I
THOROFARE
Clam Is
Humpkins I
Shingle I
Dow Ledge
Bold I
Russ I
Hells Half Acre
The Shivers
Saddleback I
Coot Is
Devil I
Little Camp
Millet I
Phoebe I
Potato I
Buckle I
JERICHO BAY
Coombs Is
Spruce I
Enchanted
St Helena
Bare I
Ram I
Gunning Rock
Sheldrake Ledge
No Mans I
Wreck I
Steve I
Little McGlathery I
Round I
McGlathery I
Gooseberry I
Southern Mark I
Three
ROW
KNOX CO
HANCOCK CO
Saddleback
Harbor I

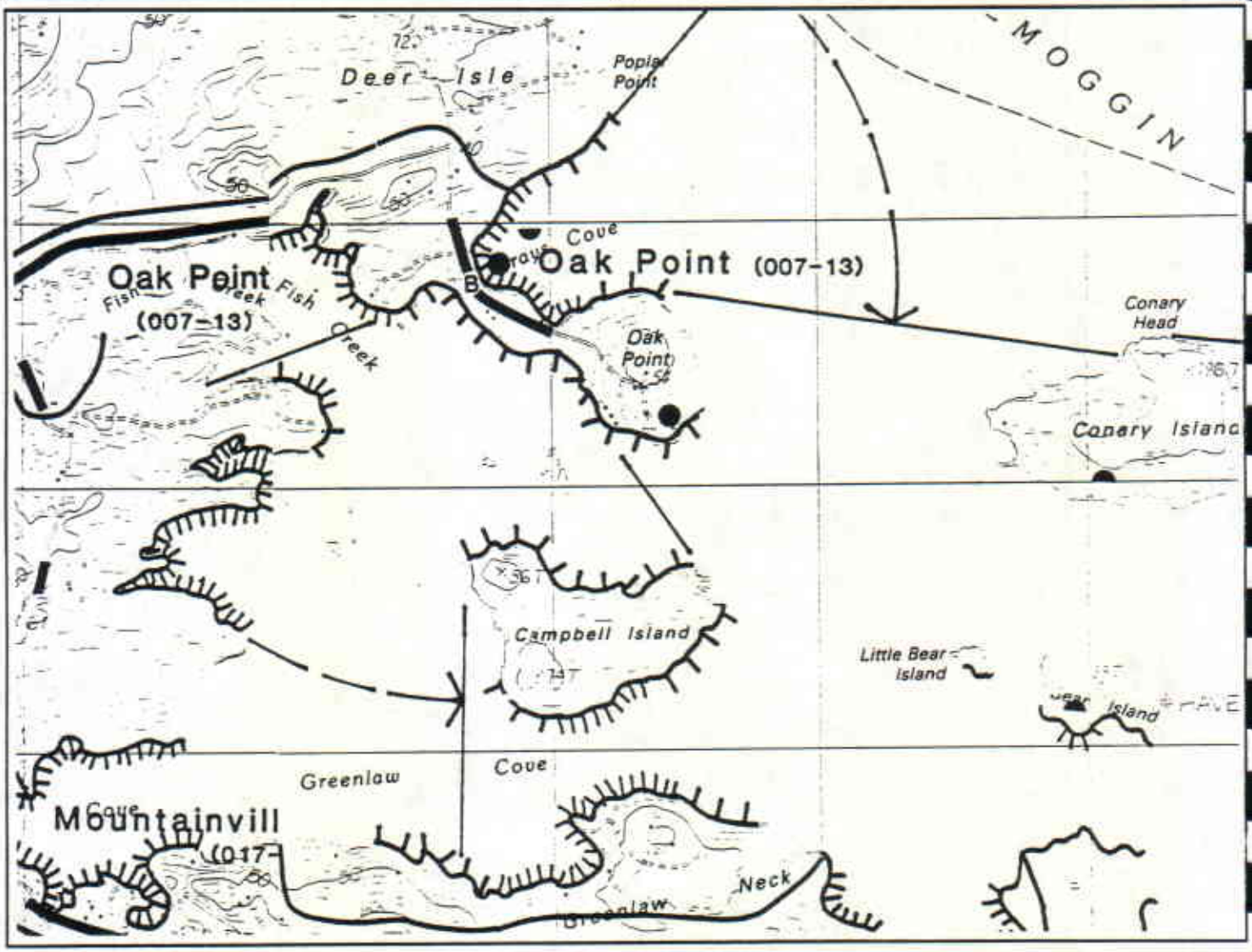
Scenic Area Evaluation Form

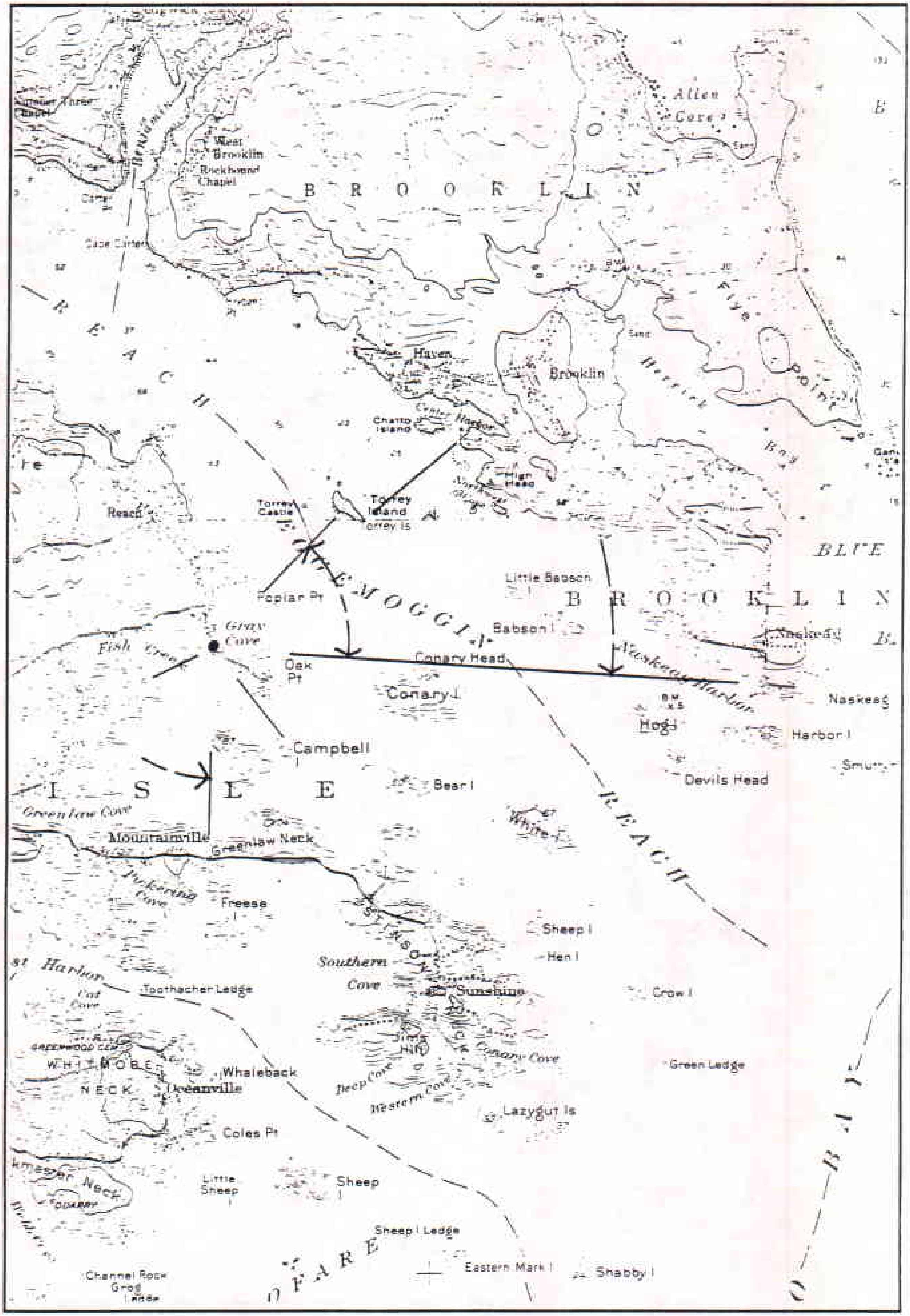
Scenic Area **Oak Point** Code **007-13** Town(s)**Deer Isle** County **Hancock**
1989 Coastal Scenic Inventory — Maine State Planning Office

ST	S	IP	Special Interest/Score/Indicators Present
			1.Landform Topography____Slope____
			2.Open Land
	6	X	3.Shoreline Configuration
	9	X	4.Scenic Features
X	27		5.Scenic Quality of Water
			Duration of View 9
			Type of Water 12
			Quality of Horizon 6
	42	3	**Desktop Subtotal**
	16		6.Landscape Character
			Land Use 7
			Roadside Characteristics 3
			Settlement Characteristics 6
	9		7.Vegetation
	9		8.Composition & Effect
	76		**Total Score**
1			**Special Interest**

Viewshed Description A highly diverse, predominately natural landscape on the east side of Deer Isle. Foreground views include a sand beach, salt marshes, small protected coves, rocky shorelines, solitary homes, and low, evergreen covered hills. A causeway separates the waters of Fish Creek on the south and Gray Cove on the north. The views extend to the mainland of Deer Isle on the south and the shoreline of Brooklin on the north.

Viewshed Management Recommendations Involvement with the local land trust to preserve the integrity of the landscape. Preservation of visual access to the water.




West Brooklin
Rockbound Chapel
B R O O K L I N
Allen Cove
Haven
Brooklin
Center Harbor
Chatto Island
Flye Point
Herrick Bay
High Head
Torrey Castle
Torrey Island
Torrey Is
Reach
BLUE
Little Babson
B R O O K L I N
Poplar Pt
Gray Cove
Fish Creek
Babson I
Naskeag
Conary Head
Oak Pt
Conary I
Naskeag Harbor
Naskeag
Hog I
Harbor I
Campbell I
Bear I
Devils Head
I S L E
Greenlaw Cove
Mountainville
Greenlaw Neck
White I
REACH
Pickering Cove
Freese I
Sheep I
Hen I
Southern Cove
Toothacher Ledge
Sunshine
Crow I
Cat Cove
WHITMORE NECK
Whaleback
Oceanville
Deep Cove
Western Cove
Conary Cove
Green Ledge
Lazygut Is
Coles Pt
Little Sheep I
Sheep I
Sheep I Ledge
Eastern Mark I
Shabby I
Channel Rock
Grog Ledge

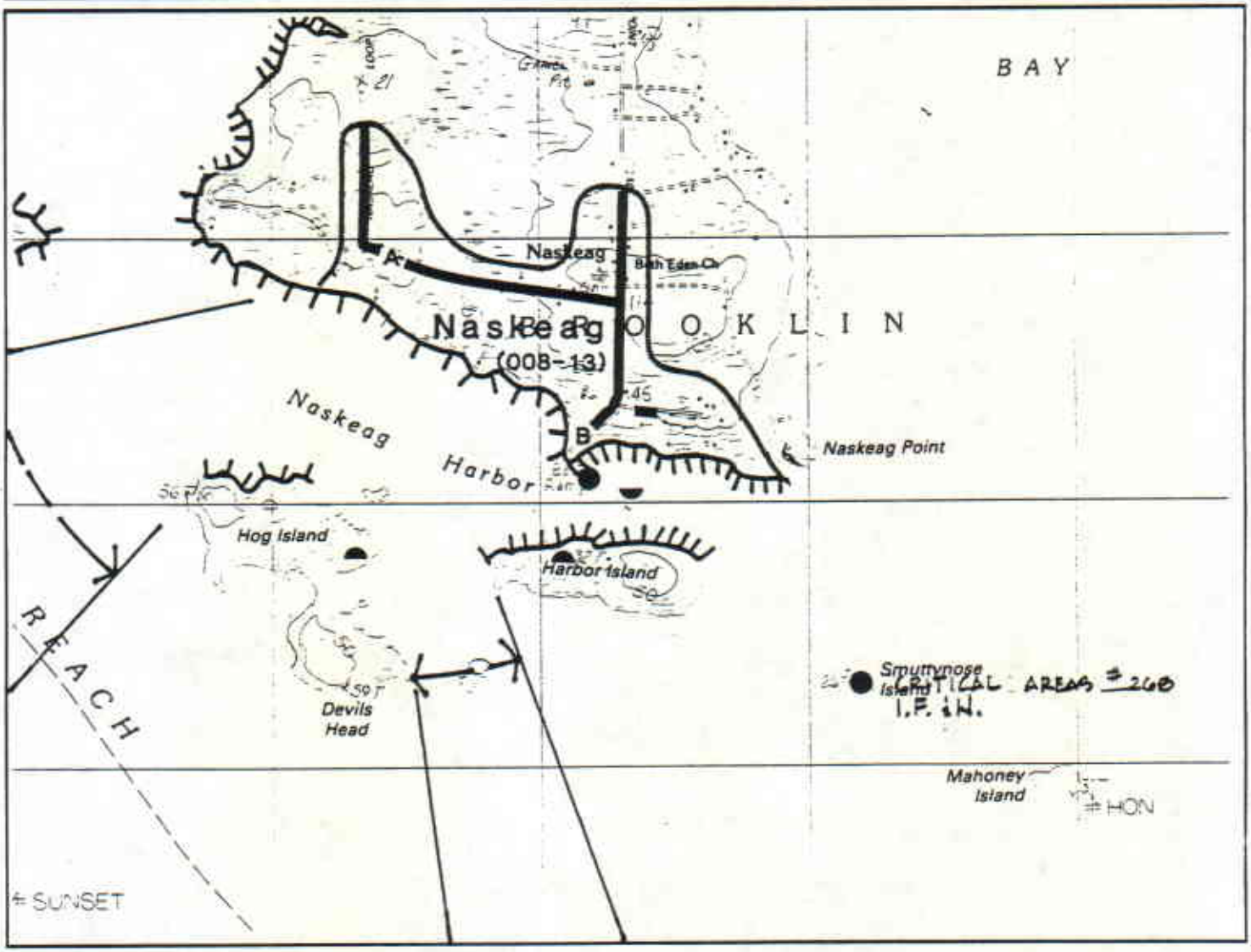
Scenic Area Evaluation Form

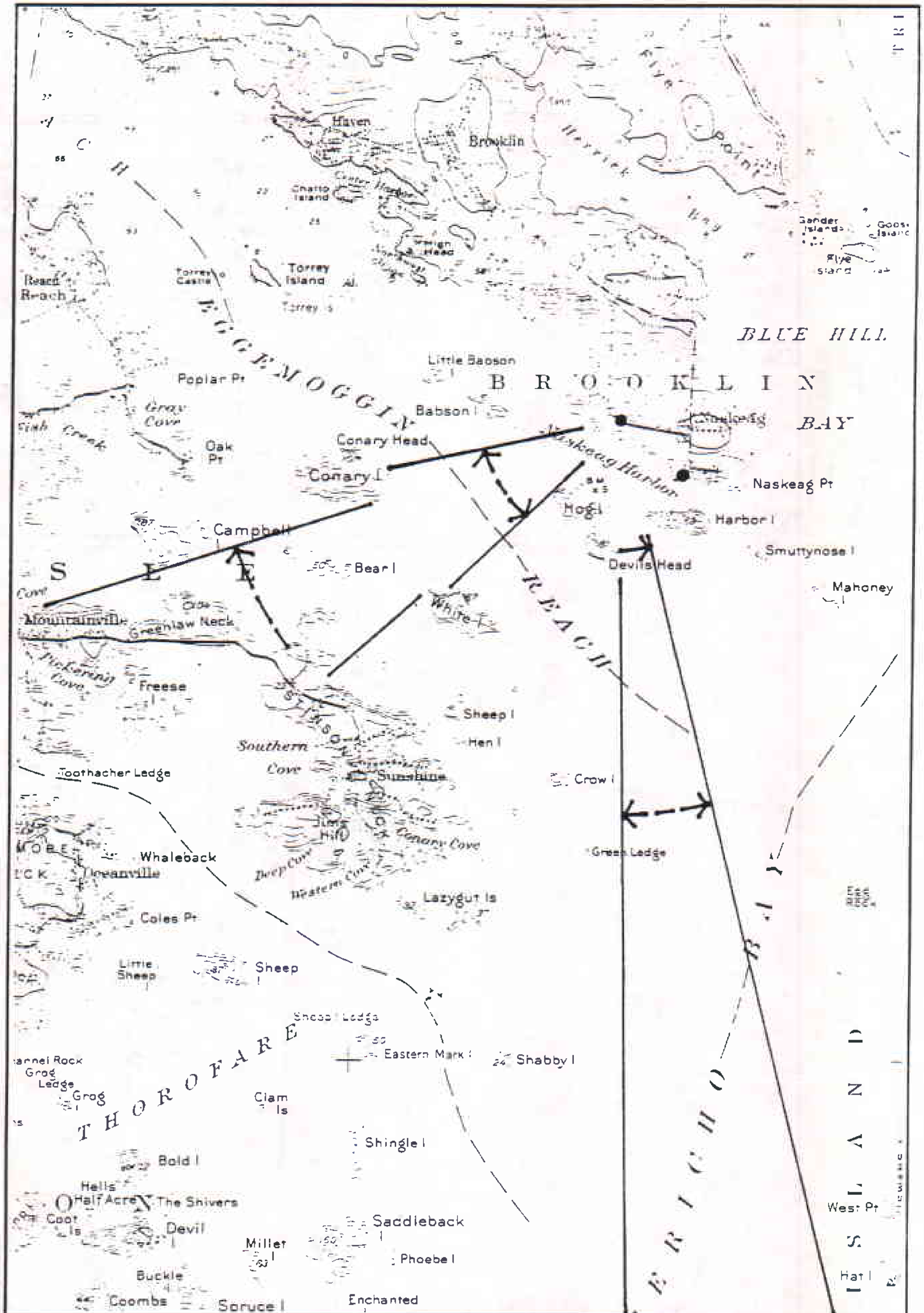
Scenic Area **Naskeag Brook** Code **008-13** Town(s) **Brooklin** County **Hancock**
1989 Coastal Scenic Inventory — Maine State Planning Office

SI	S	IP	Special Interest/Score/Indicators Present
	1	X	1.Landform Topography____Slope 1
			2.Open Land
	6	X	3.Shoreline Configuration
	9	X	4.Scenic Features
X	27		5.Scenic Quality of Water
			Duration of View 9
			Type of Water 12
			Quality of Horizon 6
	43	4	**Desktop Subtotal**
	19		6.Landscape Character
			Land Use 7
			Roadside Characteristics 3
			Settlement Characteristics 9
	9		7.Vegetation
X	9		8.Composition & Effect
	80		**Total Score**
2			**Special Interest**

Viewshed Description Naskeag Harbor, south of the village of Naskeag, is protected by Hog, Devils, and Harbor Islands, which form the backdrop for a semi-enclosed landscape. The foreground includes a broad sand beach, boat ramp, moorings, a well maintained cemetery, picnic area, lawns and domestic landscapes, and restored homes. The edge of the mid-ground view is defined by the low, evergreen covered islands.

Viewshed Management Recommendations Work with local land trust or other conservation interests to protect the offshore islands. Site plan review standards to ensure that future development fits the scale and texture of the existing settlement patterns.




Haven
Brooklin
Chatto Island
Torrey Island
Torrey Castle
Reach
BLUE HILL
BROOKLIN BAY
Little Babson
Poplar Pt
Babson I
Conary Head
Conary I
Oak Pt
Gray Cove
Naskeag Harbor
Naskeag Pt
Hog I
Harbor I
Smuttynose I
Campbell
Bear I
Devils Head
Mahoney
White I
Mountainville
Greenlaw Neck
Pickering Cove
Freese I
Sheep I
Hen I
Southern Cove
Sunshine
Crow I
Toothacher Ledge
Conary Cove
Green Ledge
Whaleback
Oceanville
Deep Cove
Western Cove
Lazygut Is
Coles Pt
Little Sheep
Sheep I
Sheep Ledge
Eastern Mark I
Shabby I
THOROFARE
Grog Ledge
Grog I
Clam Is
Shingle I
Bold I
Hells Half Acre
The Shivers
Coot Is
Devil I
Saddleback I
Miller I
Phoebe I
Buckle
Coombs
Spruce I
Enchanted
West Pt
Hat I
JERICHO BAY
ISLAND
EGGEMOGGIN REACH

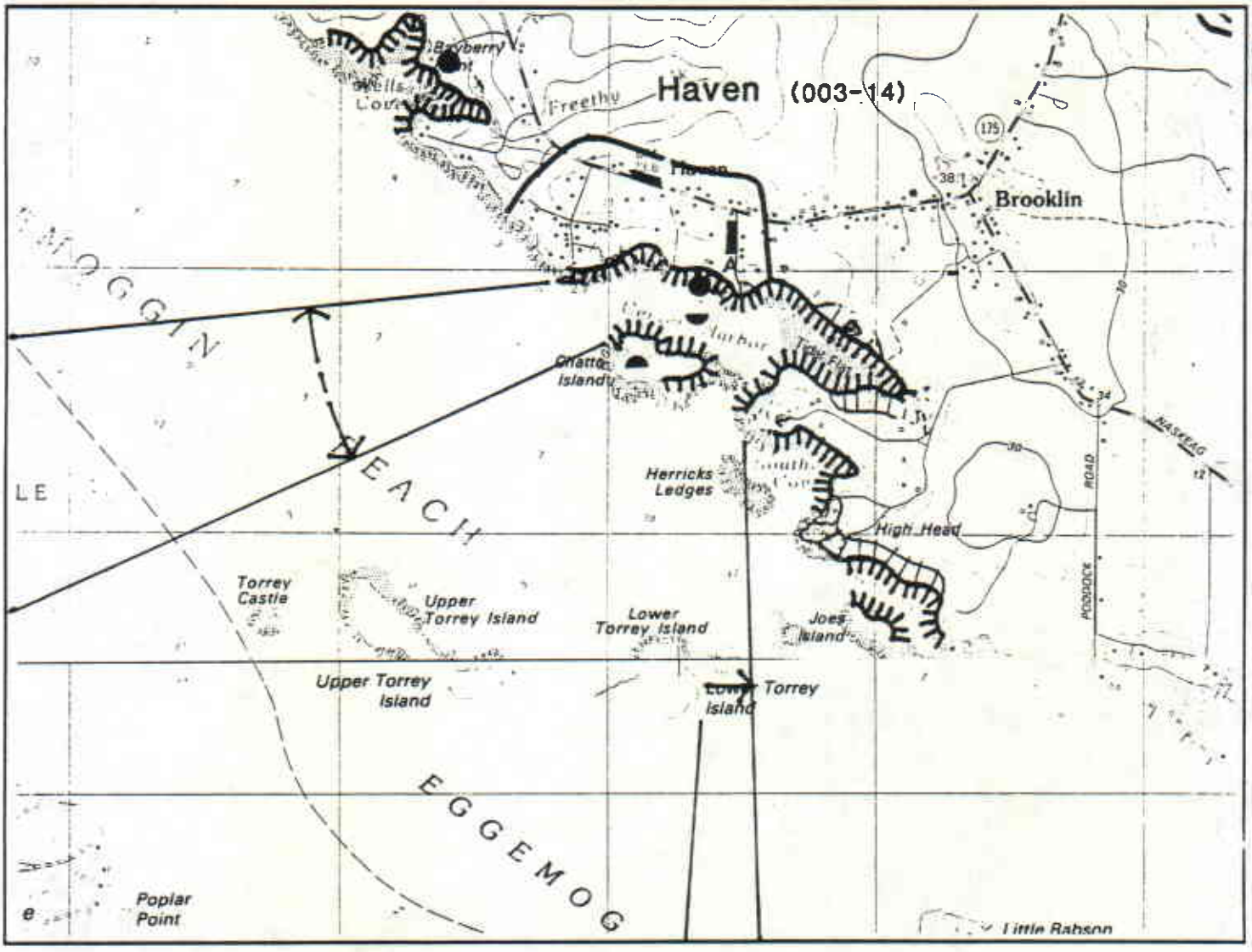
Scenic Area Evaluation Form

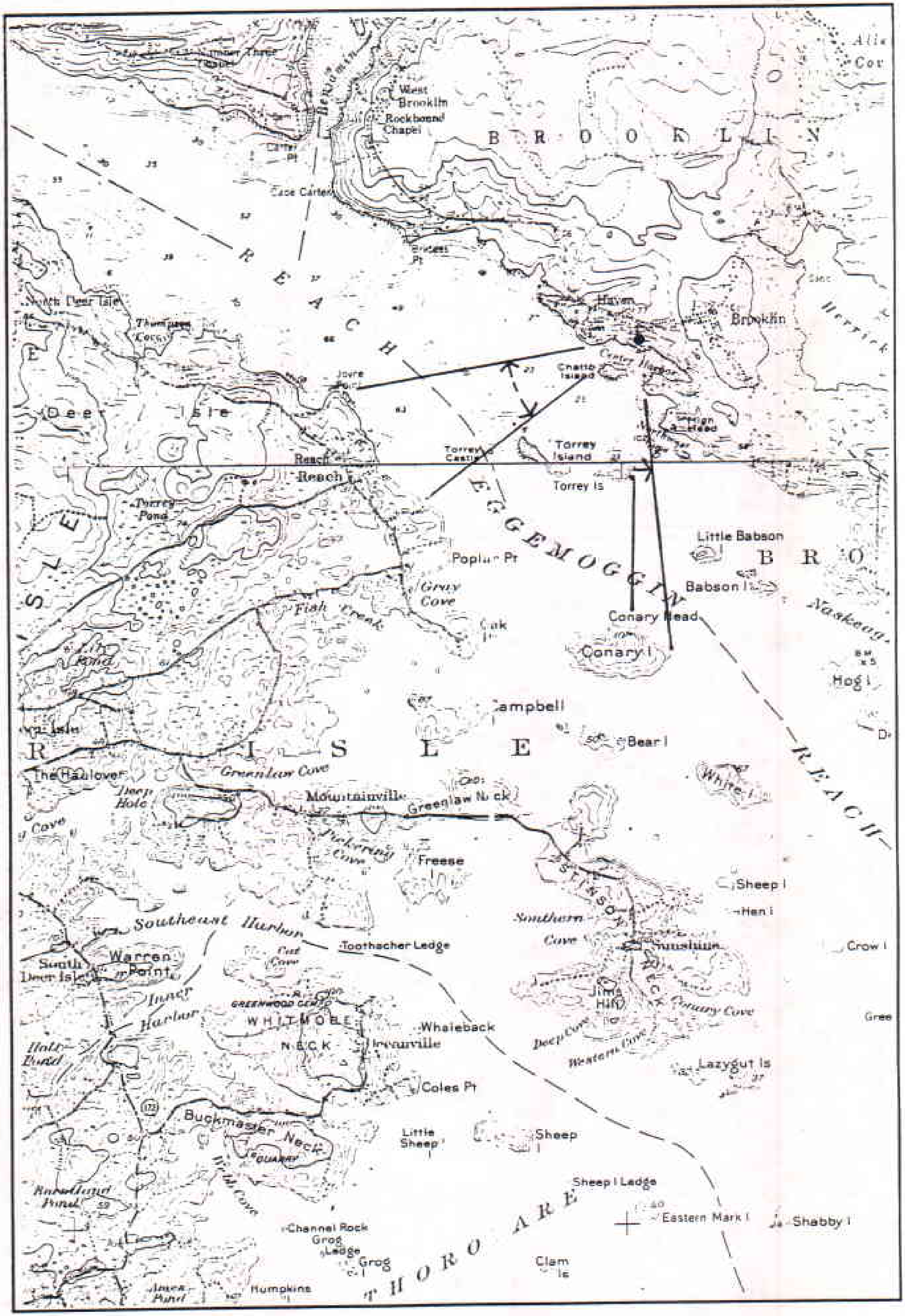
Scenic Area **Haven** Code **003-14** Town(s) **Brooklin** County **Hancock**
1989 Coastal Scenic Inventory Maine State Planning Office

SI	S	IP	Special Interest/Score/Indicators Present
			1.Landform Topography____Slope____
			2.Open Land
	6	X	3.Shoreline Configuration
	9	X	4.Scenic Features (Mooring area/Island)
X	27		5.Scenic Quality of Water
			Duration of View 9
			Type of Water 12
			Quality of Horizon 6
	42	3	**Desktop Subtotal**
	14		6.Landscape Character
			Land Use 7
			Roadside Characteristics 1
			Settlement Characteristics 6
	6		7.Vegetation
X	9		8.Composition & Effect
	71		**Total Score**
2			**Special Interest**

Viewshed Description Small village with associated harbor area and cottage community. Road has limited filtered views between structures and vegetation. Local road ends at waterfront, providing open views from a small parking lot. Foreground elements include diverse architecture, meadow, stone beach, commercial marine operation, mooring area, Chatto Island, and the waters of Center Harbor. Midground includes the waters of Eggemoggin Reach, associated islands, and spruce-covered shoreline. The background views are to open water with distant islands on the horizon. General landscape condition is good to very good. Spectacular views from a traditional harbor village.

Viewshed Management Recommendations Improve and define parking at waterfront.




West Brooklin
Rockbound Chapel
B R O O K L I N
Cape Carter
R E A C H
North Deer Isle
Thompson Cove
Haven
Brooklin
Center Harbor
Jayne Point
Chatto Island
Deer Isle
Torrey Castle
Torrey Island
Reach
Torrey Is
Torrey Pond
E G G E M O G G I N
Little Babson
Poplar Pt
Gray Cove
Fish Creek
Babson I
Conary Head
Conary I
Naskeag
Hog I
Campbell
Bear I
I S L E
The Haulover
Greenlaw Cove
Deep Hole
Mountainville
Greenlaw Neck
Pickering Cove
Freese
Sheep I
Hen I
Southeast Harbor
Toothacher Ledge
Southern Cove
Crow I
South Deer Isle
Warren Point
Inner Harbor
WHITMORE NECK
Whaleback
Deep Cove
Western Cove
Lazygut Is
Coles Pt
Buckmaster Neck
Little Sheep I
Sheep I
Sheep I Ledge
Eastern Mark I
Shabby I
Channel Rock
Grog Ledge
Grog I
Clam Is
Humpkins
THOROFARE

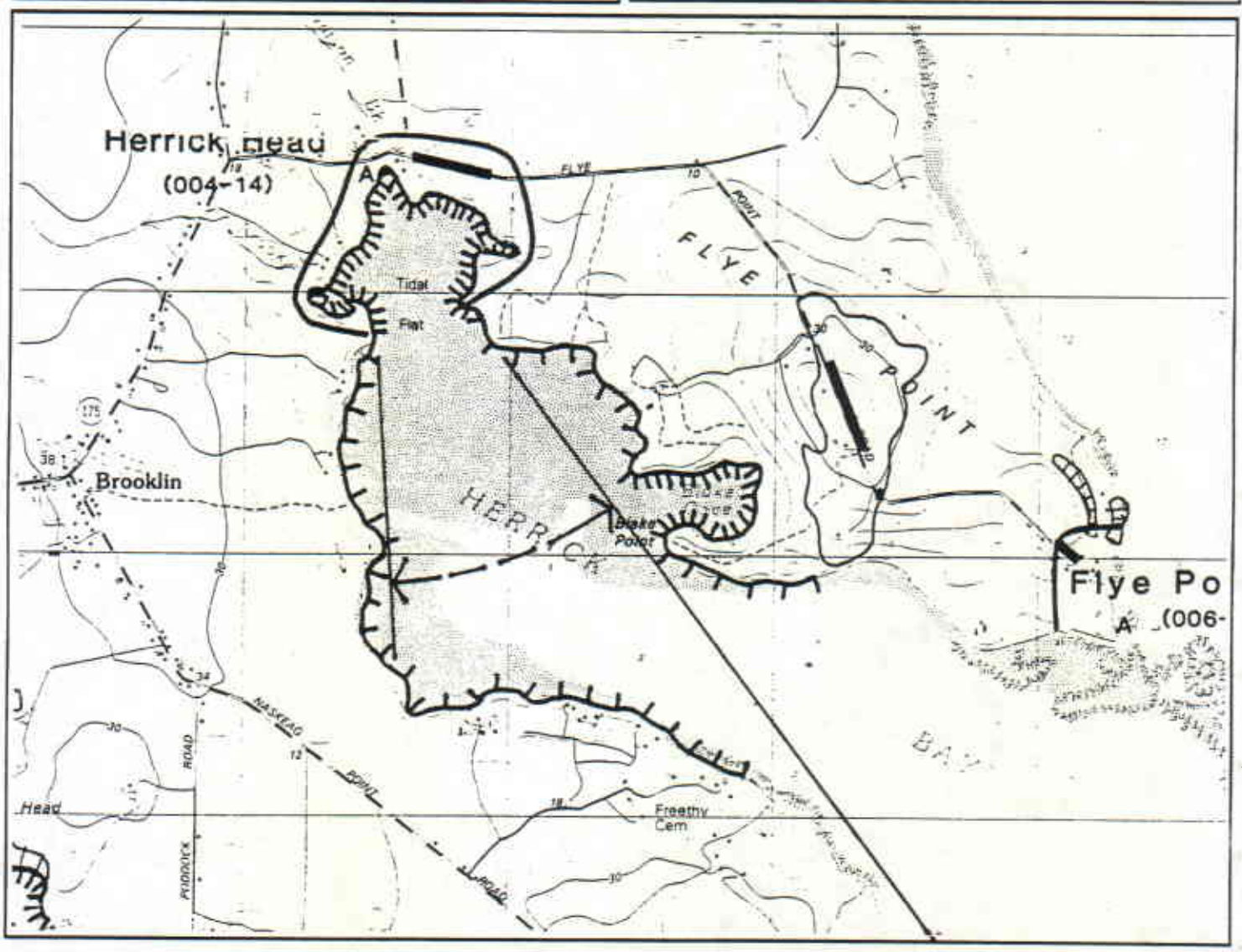
Scenic Area Evaluation Form

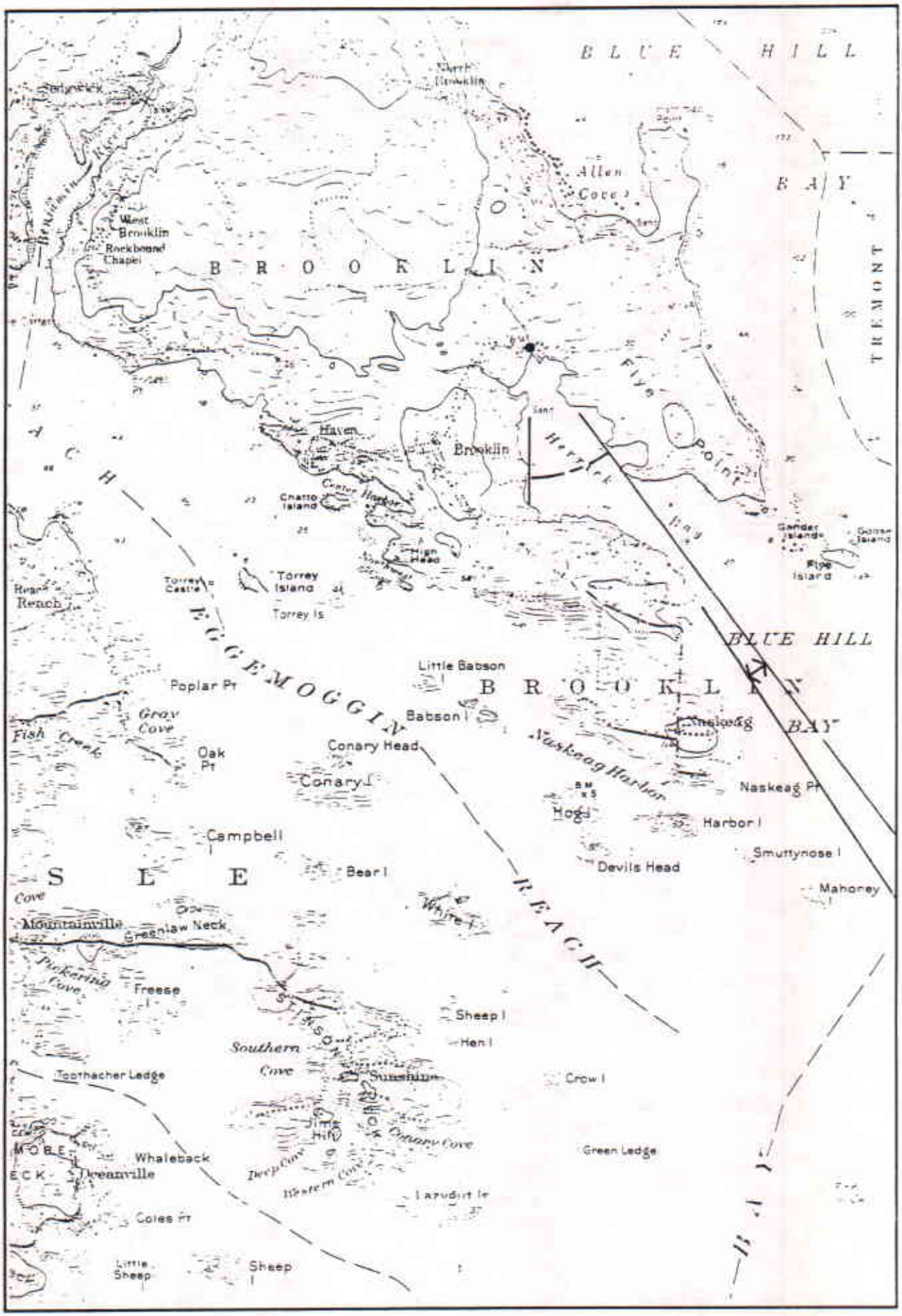
Scenic Area **Herrick Head** Code **004-14** Town(s) **Brooklin** County **Hancock**
1989 Coastal Scenic Inventory — Maine State Planning Office

SI	S	IP	Special Interest/Score/Indicators Present
			1.Landform Topography____Slope____
			2.Open Land
	6	X	3.Shoreline Configuration
			4.Scenic Features
	24		5.Scenic Quality of Water
			Duration of View 6
			Type of Water 12
			Quality of Horizon 6
	30	2	**Desktop Subtotal**
	9		6.Landscape Character
			Land Use 5
			Roadside Characteristics 1
			Settlement Characteristics 3
	6		7.Vegetation
	3		8.Composition & Effect
	48		**Total Score**
			Special Interest

Viewshed Description Rural area with one residence and associated meadows located at the head of a long. semi-enclosed tidal bay. A town road and a State highway intersect in this area, providing limited filtered views to the water. Foreground elements include meadows, residence, mature pine trees, spruce lined shores, and the waters of Herrick Bay. Midground includes the waters of Herrick Bay and spruce lined shore with background views to open water and spruce covered hilltops. The general landscape condition is fair to good with views screened from highway by vegetation.

Viewshed Management Recommendations Vegetation management to maintain views to water.




BLUE HILL
BAY
BROOKLIN
TREMONT
Allen Cove
West Brooklin
Rockbound Chapel
Five Point
Herrick
Bay
Haven
Brooklin
Center Harbor
Chatto Island
High Head
Torrey Island
Torrey Is
Torrey Castle
Ryan Ranch
Gander Islands
Pipe Island
BLUE HILL
BAY
Little Babson
Poplar Pt
Babson I
Gray Cove
Fish Creek
Oak Pt
Conary Head
Conary I
Naskeag Harbor
Naskeag Pt
Hog I
Harbor I
Smuttynose I
Devils Head
Mahoney I
Campbell I
Bear I
SLEE
Cove
Mountainville
Greenlaw Neck
Pickering Cove
Freese I
Whitney
REACH
Sheep I
Hen I
Southern Cove
Toothacher Ledge
Crow I
Jims Hill
Deep Cove
Western Cove
Green Ledge
MOBE
ECK
Whaleback
Dreamville
Coles Pt
Little Sheep
Sheep I

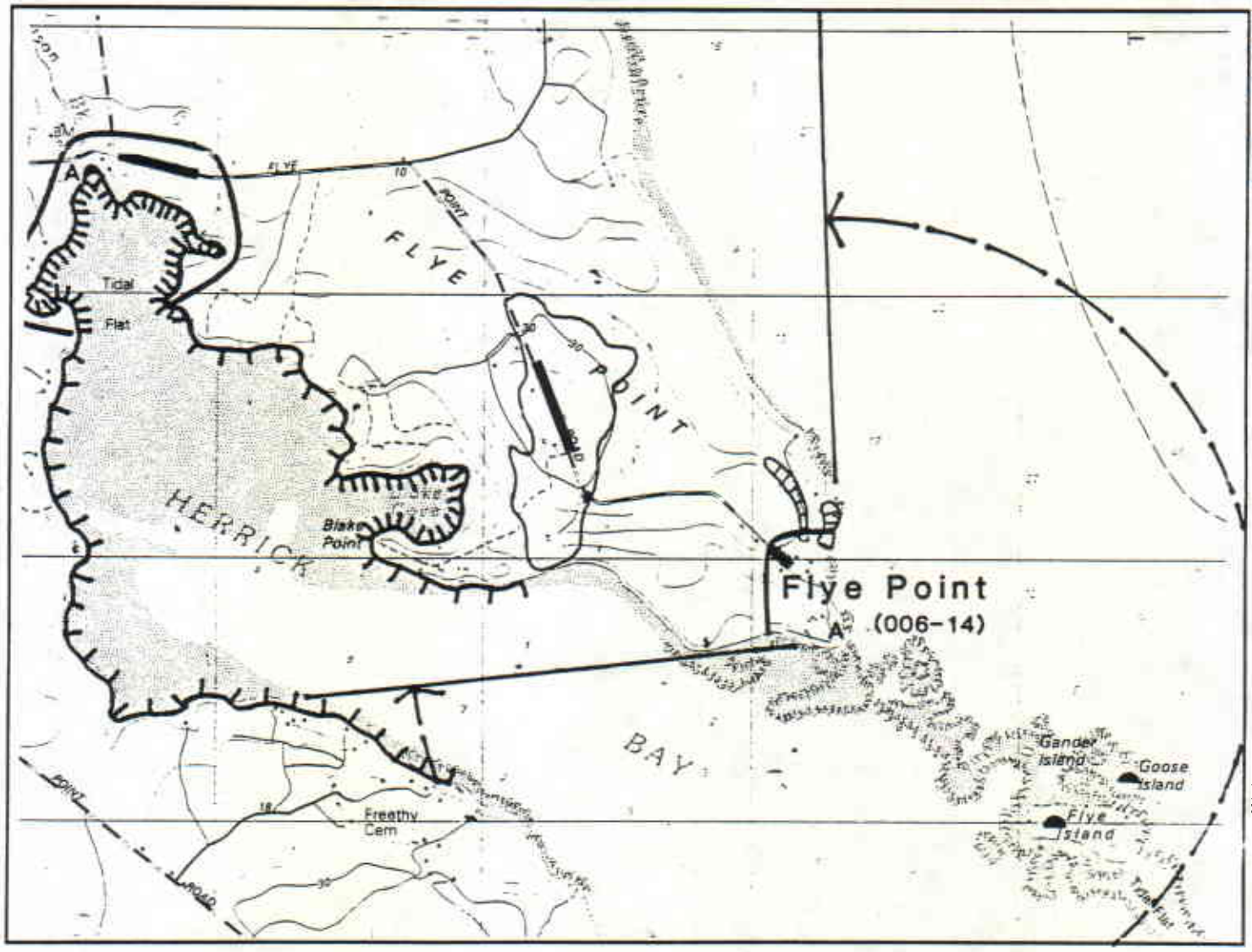
Scenic Area Evaluation Form

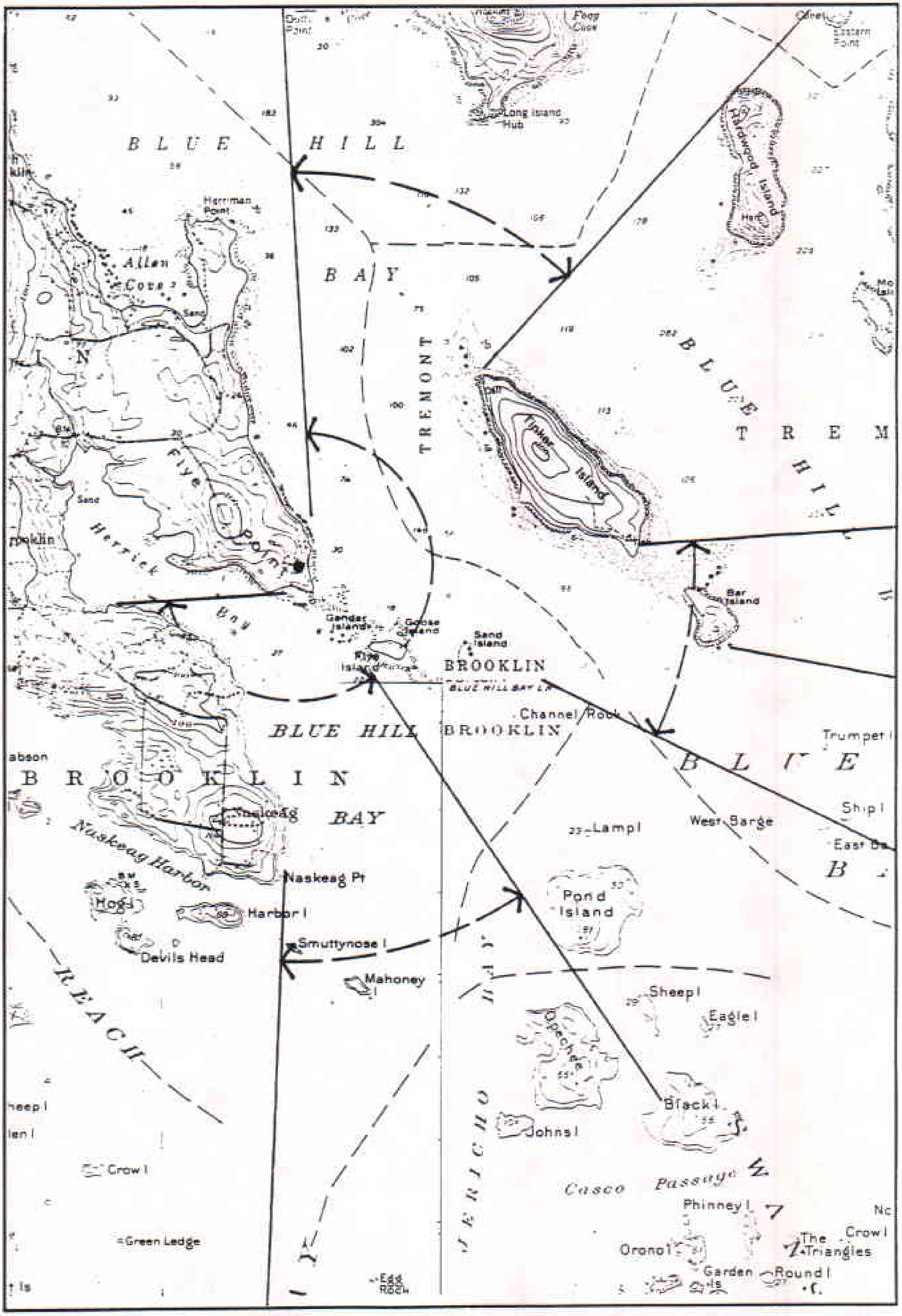
Scenic Area **Flye Point** Code **006-14** Town(s) **Brooklin** County **Hancock**
1989 Coastal Scenic Inventory — Maine State Planning Office

SI	S	IP	Special Interest/Score/Indicators Present
			1.Landform Topography____Slope____
	3	X	2.Open Land
	3	X	3.Shoreline Configuration
	9	X	4.Scenic Features (Islands/Stone Beach)
X	30		5.Scenic Quality of Water
			Duration of View 9*
			Type of Water 12
			Quality of Horizon 9
	45	4	**Desktop Subtotal**
	14		6.Landscape Character
			Land Use 7
			Roadside Characteristics 1
			Settlement Characteristics 6
	6		7.Vegetation
X	9		8.Composition & Effect
	74		**Total Score**
2			**Special Interest**

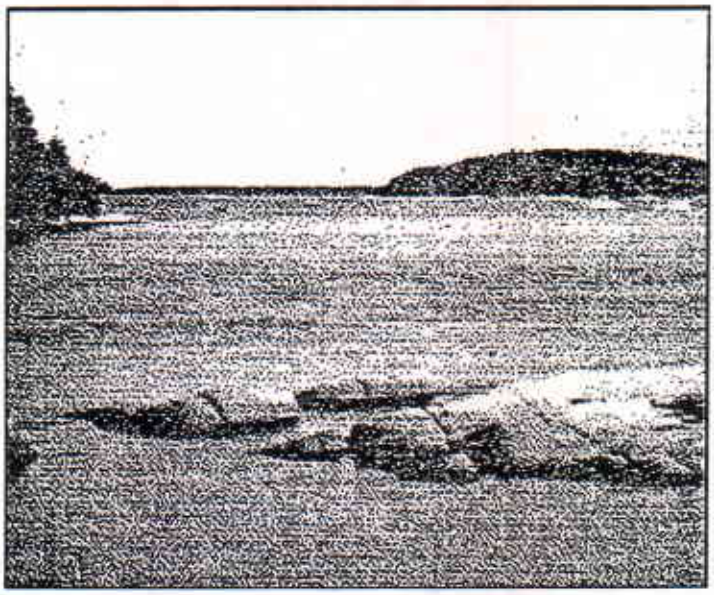
Viewshed Description Rural location dominated by an historic Inn with a 270 degree panoramic view of ocean and distant mountains. The foreground view is composed of a meadow, the Inn and its gardens, the ledgey shorelin, a mixed forest edge, and the waters of Blue Hill Bay. The dominant feature in the mid-ground is Flye Island. Background views are across open water with islands and the mountains of Mt. Desert Island on the horizon. The general landscape condition is good.

Viewshed Management Recommendations Continued high level of maintenance.




BLUE HILL
BAY
Long Island
Hub
Harriman Point
Allen Cove
Sand
Hardwood Island
TREMONT
BLUE
TREM
HILL
Tinker Island
Flye Point
Herrick
Bay
Bar Island
Gander Islands
Goose Island
Sand Island
Flye Island
BROOKLIN
BLUE HILL BAY LT
Channel Rock
BLUE HILL
BROOKLIN
Trumpet I
BLUE
BROOKLIN
Naskeag
BAY
Naskeag Harbor
Ship I
West Barge
East Ba
Lamp I
Naskeag Pt
Hog I
Harbor I
Pond Island
Smuttynose I
Devils Head
Mahoney I
REACH
JERICHO BAY
Sheep I
Eagle I
Opechee
Black I
Johns I
Crow I
Casco Passage
Phinney I
Green Ledge
Orono I
The Triangles
Crow I
Garden
Round I
Egg Rock

EGGEMOGGIN REACH



South Brooksville
Caterpillar Mountain
Sargentville
Deer Isle Bridge
Sargent Hill
Eggemoggin
Deer Isle Causeway
Tinken Ledges
Sedgwick
Bridges Point

Sub-Region Evaluation Form

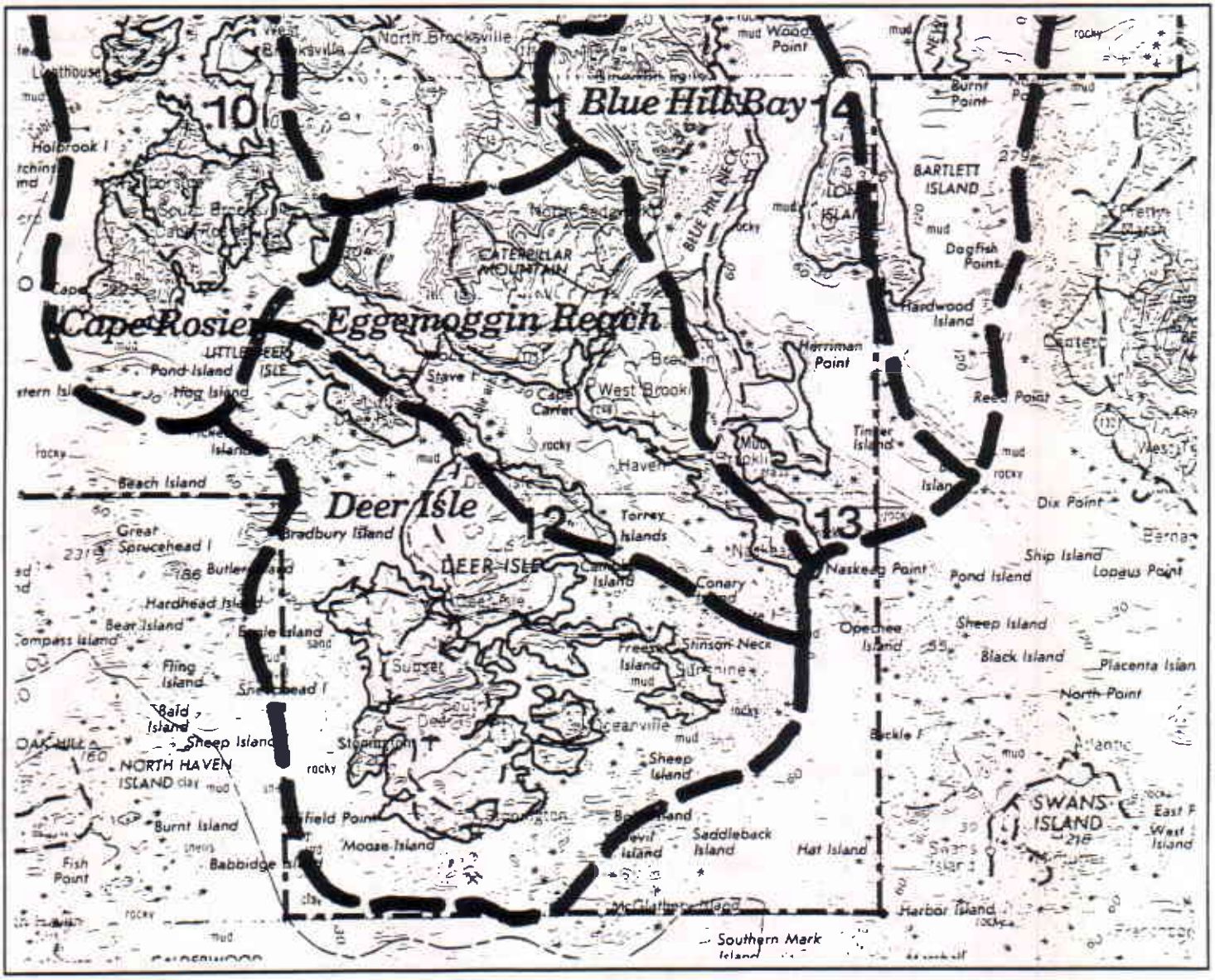
Sub-Region **Eggemoggin Reach** Towns **Brooksville, Sedgwick, Brooklin, Deer Isle** County **Hancock**
1989 Coastal Scenic Inventory Maine State Planning Office

Sub-Region Description

Eggemoggin Reach is a long, relatively narrow sub-region of Penobscot Bay, unified by the channel that separates the mainland from Deer Isle. The landscape is composed of rolling fields with occasional water views, several villages set back from the edge of the Reach, and a multitude of private homes and small scaled roads along the water. Caterpillar Mountain affords viewers an opportunity to look out over the entire region, including Eggemoggin Reach and Deer Isle.

Scenic Areas

Caterpillar Mountain (002-11)
Sargentville (004-11)
Deer Isle Bridge (005-11)
Sargent Hill (007-11)
Eggemoggin (008-11)
Deer Isle Causeway (011-11)
Tinken Ledges (012-11)
Sedgwick (001-14)
Bridges Point (002-14)



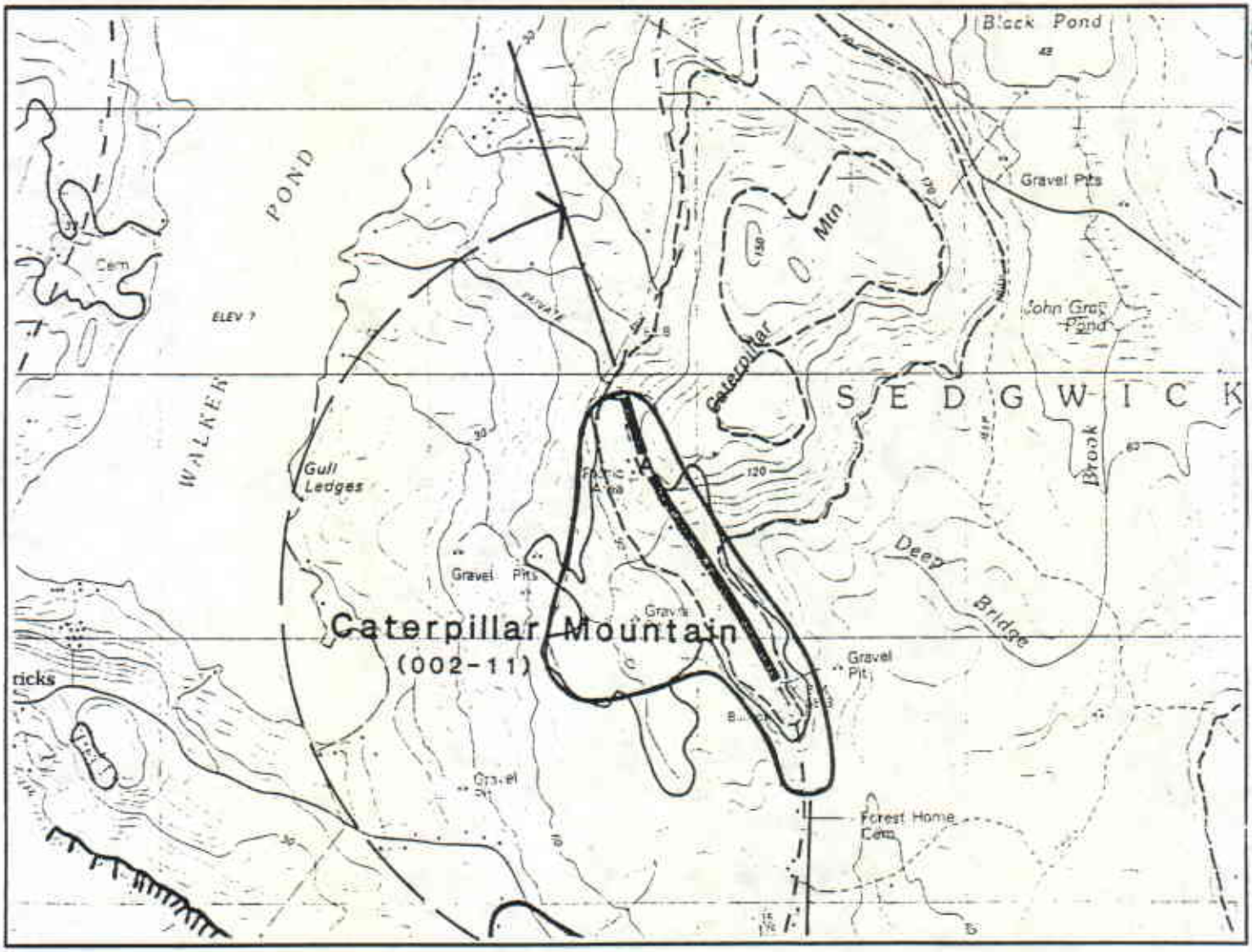
Scenic Area Evaluation Form

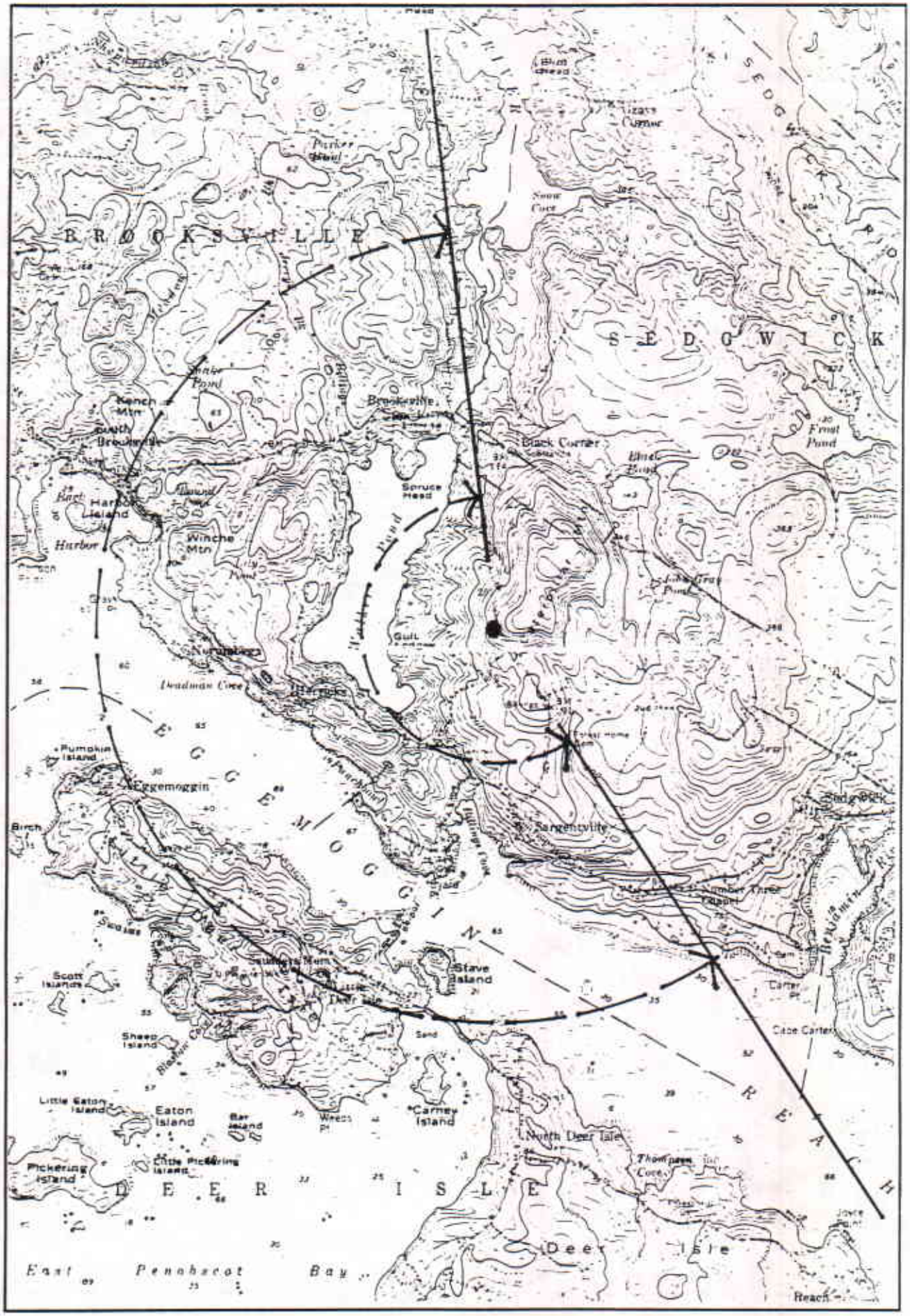
Scenic Area **Caterpillar Mountain** Code **002-11** Town(s) **Sedgwick** County **Hancock**
1989 Coastal Scenic Inventory — Maine State Planning Office

SI	S	IP	Special Interest/Score/Indicators Present
	1	X	1.Landform Topography 1 Slope____
X	6	X	2.Open Land
	6	X	3.Shoreline Configuration
			4.Scenic Features
	30		5.Scenic Quality of Water
			Duration of View 9
			Type of Water 12
			Quality of Horizon 9
	43	4	**Desktop Subtotal**
	16		6.Landscape Character
			Land Use 7
			Roadside Characteristics 3
			Settlement Characteristics 6
	9		7.Vegetation
X	9		8.Composition & Effect
	77		**Total Score**
2			**Special Interest**

Viewshed Description Agricultural area of blueberry barrens covering the south and east slopes of a prominent hill (>350') overlooking Walker Pond and Eggemoggin Reach. A MeDOT rest area is located at the top of the hill, providing a 180 degree panorama. Views from the rest area are framed in oaks and extend past the blueberry fields south and west to the waters of Penobscot Bay, the Reach, and the open ocean with the Camden Hills and Deer Isle on the horizon. Landscape is generally in good condition with spectacular views. Land immediately uphill from the overlook has recently been subdivided and is on the market. An active gravel pit is located in the center of the barrens below the overlook.

Viewshed Management Recommendations Improve safety and condition of rest area. Protect blueberry fields from development.




BROOKSVILLE
SEDGWICK
Kench Mtn
South Brooksville
Brooksville
Black Center
Spruce Head
Harbor Island
Harbor
Winche Mtn
Gull
Pumpkin Island
Eggemoggin
Reach
Sargentville
Scott Islands
Stave Island
Sheep Island
Little Eaton Island
Eaton Island
Carney Island
North Deer Isle
Pickering Island
DEER ISLE
Deer Isle
East Penobscot Bay
Reach

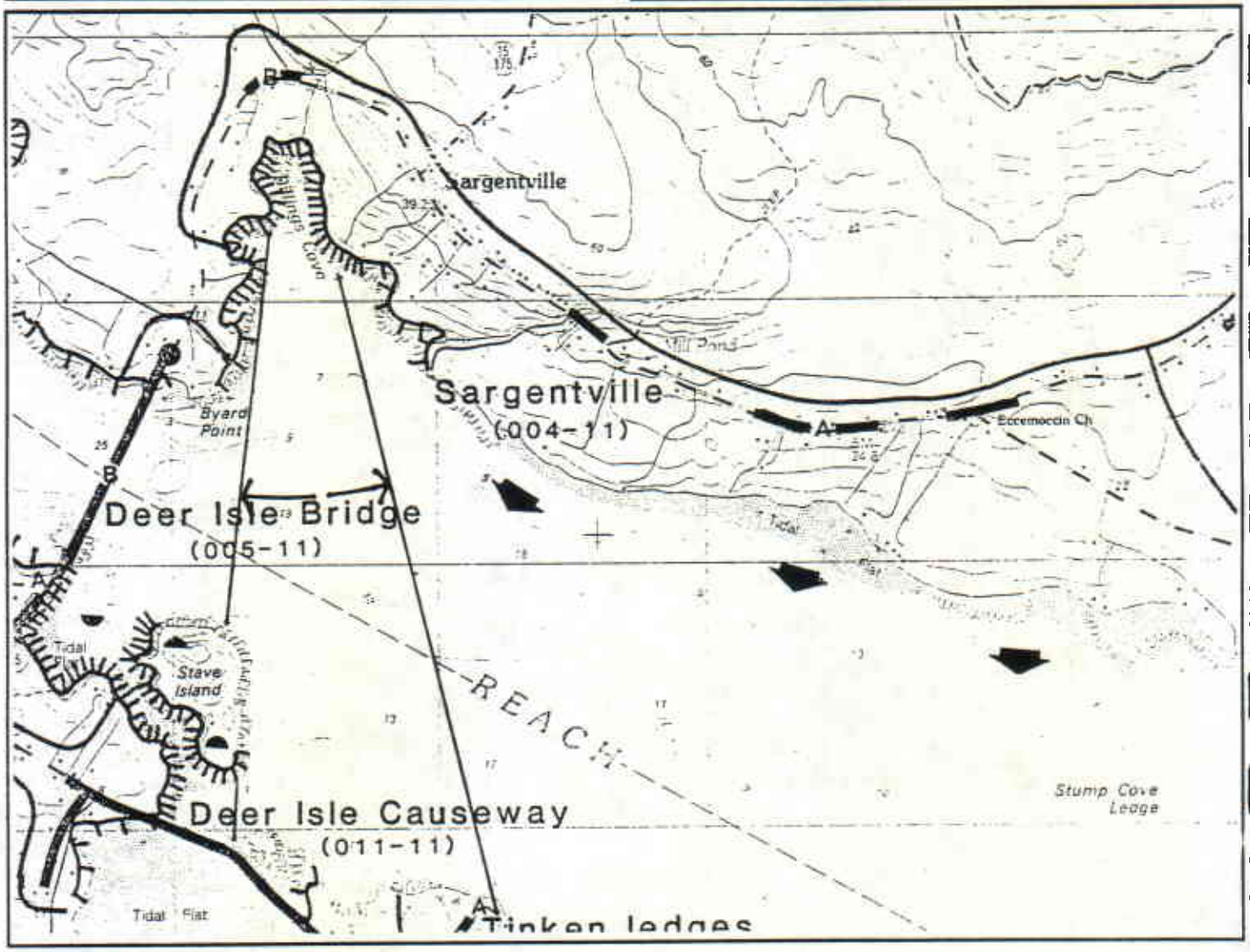
Scenic Area Evaluation Form

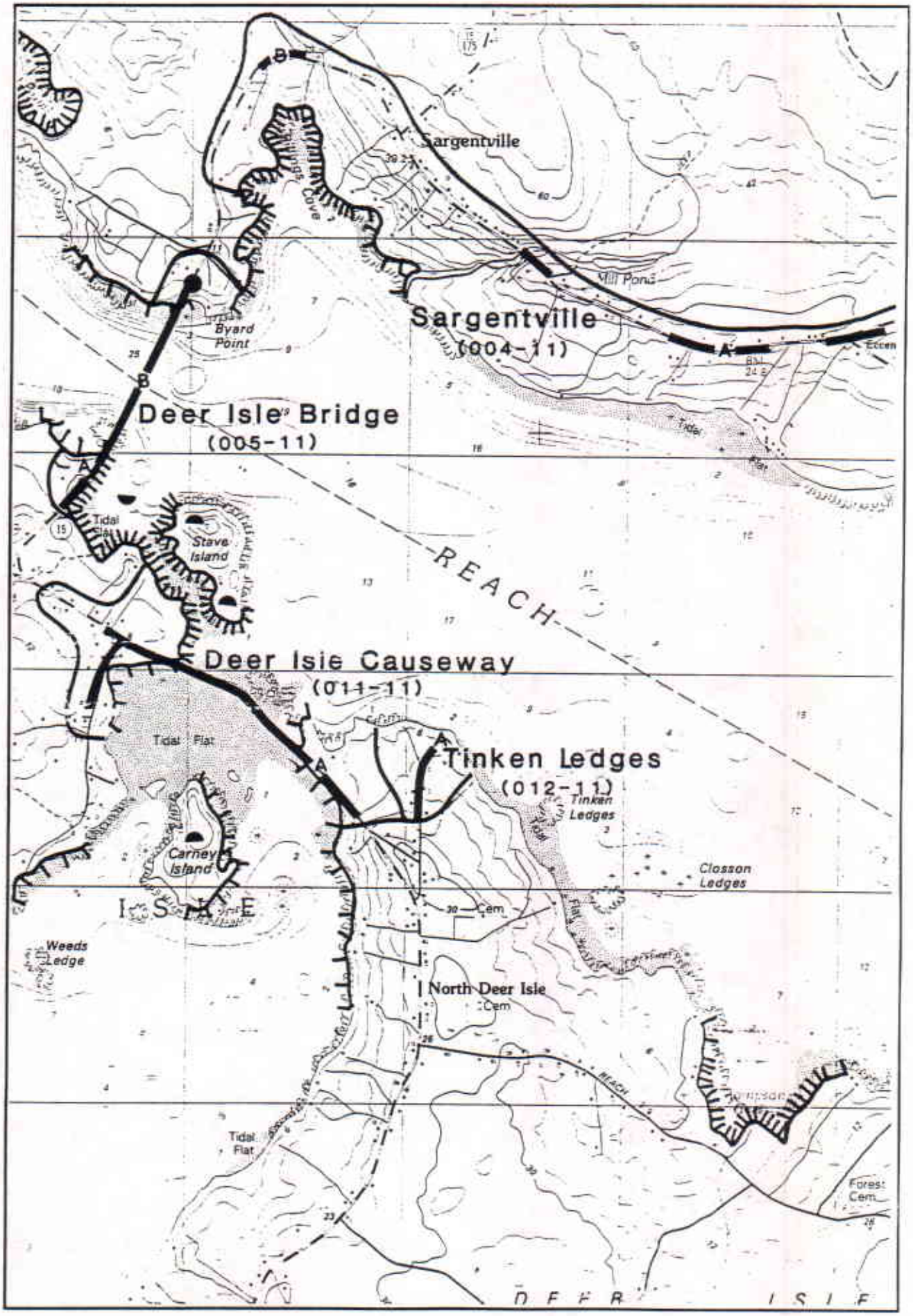
Scenic Area **Sargentville** Code **004-11** Town(s) **Sedgwick** County **Hancock**
1989 Coastal Scenic Inventory — Maine State Planning Office

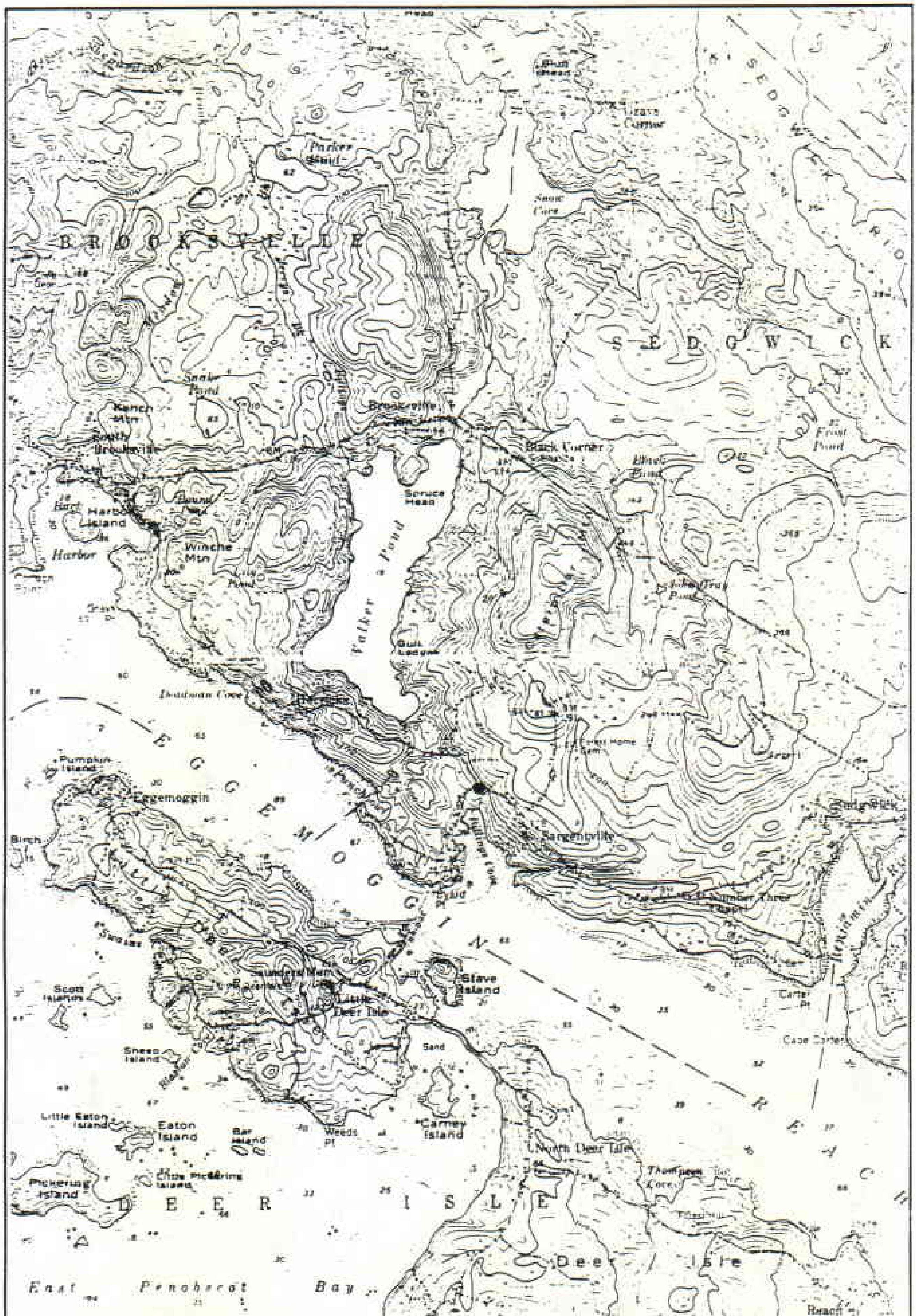
SI	S	IP	Special Interest/Score/Indicators Present
			1.Landform Topography____Slope____
			2.Open Land
	3	X	3.Shoreline Configuration
			4.Scenic Features
	24		5.Scenic Quality of Water
			Duration of View 6
			Type of Water 12
			Quality of Horizon 6
	27	2	**Desktop Subtotal**
	19		6.Landscape Character
			Land Use 7
			Roadside Characteristics 6
			Settlement Characteristics 6
	9		7.Vegetation
	6		8.Composition & Effect
	61		**Total Score**
			Special Interest

Viewshed Description A small settlement overlooking the Deer Isle Bridge and Eggemoggin Reach. The foreground consists of open fields extending to the water, roadside trees, and well kept homes making up the village. The midground landscape consists of the waters of Eggemoggin Reach and the northerly shoreline of Deer Isle.

Viewshed Management Recommendations Protection of shoreline through land use ordinances and/or conservation easements. Vegetation management to maintain view corridors.




Sargentville
Mill Pond
Sargentville
(004-11)
Byard Point
Deer Isle Bridge
(005-11)
Tidal Flat
Stave Island
REACH
Deer Isle Causeway
(011-11)
Tidal Flat
Tinken Ledges
(012-11)
Tinken Ledges
Carney Island
Closson Ledges
Cem
Weeds Ledge
North Deer Isle
Cem
Tidal Flat
Forest Cem


BROOKSVILLE
SEDGWICK
Walker Pond
EGGEMOGGIN
REACH
DEER ISLE
Snow Cove
Parker Pond
Snake Pond
Kench Mtn
South Brooksville
Brooksville
Black Corner
Black Pond
Frost Pond
Harbor Island
Harbor
Winche Mtn
Spruce Head
Gull Ledges
Deadman Cove
Pumpkin Island
Eggemoggin
Birch
Sargentville
Number Three
Sedgwick
Slave Island
Little Deer Isle
Scott Islands
Sheep Island
Sand
Carter Pt
Cape Carter
Little Eaton Island
Eaton Island
Bar Island
Weeds Pt
Carney Island
North Deer Isle
Thompson Cove
Pickering Island
Little Pickering Island
Deer Isle
East Penobscot Bay
Beach

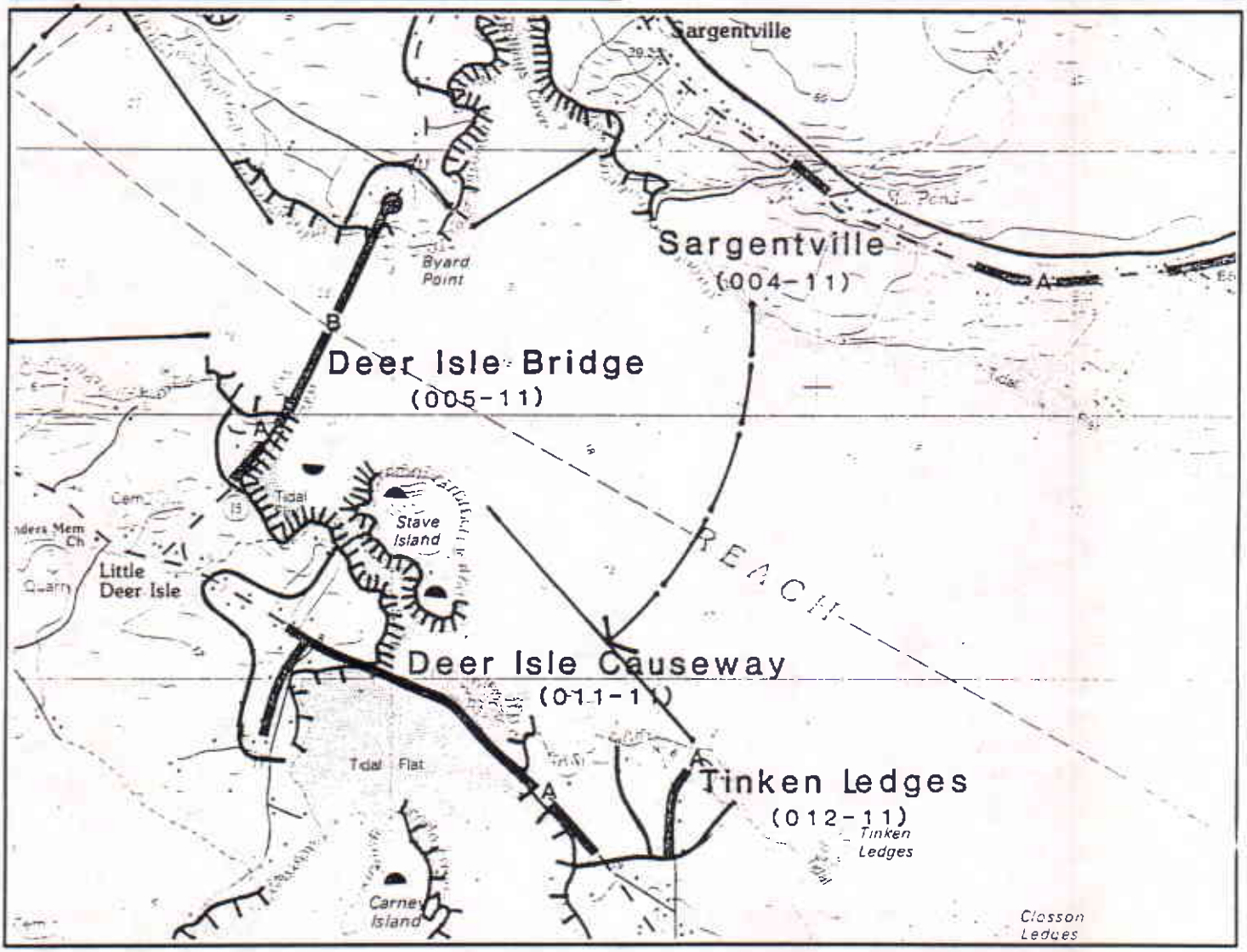
Scenic Area Evaluation Form

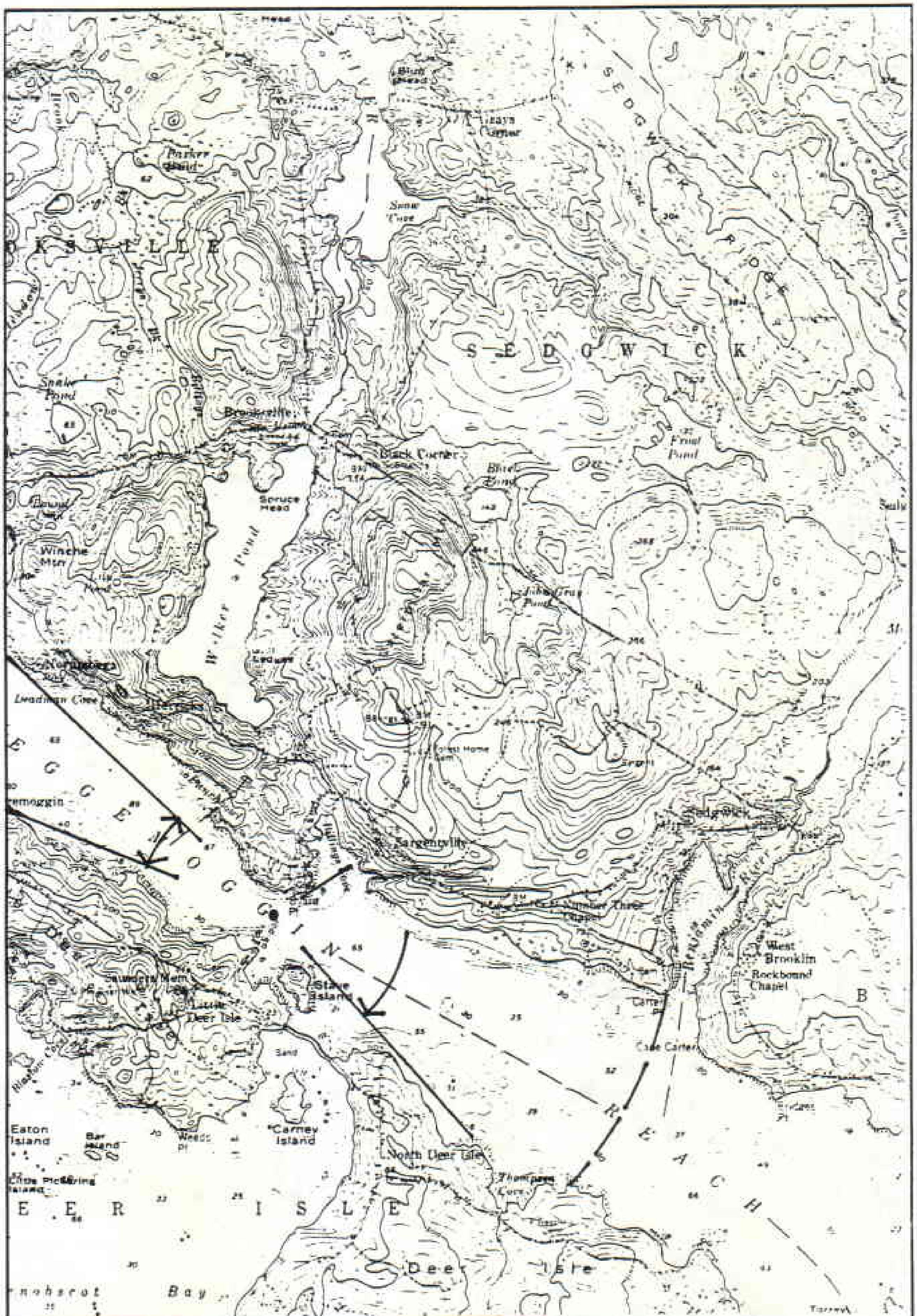
Scenic Area **Deer Isle Bridge** Code **005-11** Town(s) **Sedgwick/Deer Isle** County **Hancock**
1989 Coastal Scenic Inventory — Maine State Planning Office

ST	S	IP	Special Interest/Score/Indicators Present
			1.Landform Topography____Slope____
			2.Open Land
	6	X	3.Shoreline Configuration
X	9	X	4.Scenic Features
	27		5.Scenic Quality of Water
			Duration of View 9
			Type of Water 12
			Quality of Horizon 6
	42	3	**Desktop Subtotal**
	16		6.Landscape Character
			Land Use 7
			Roadside Characteristics 6
			Settlement Characteristics 3
	3		7.Vegetation
	9		8.Composition & Effect
	70		**Total Score**
1			**Special Interest**

Viewshed Description Long span suspension bridge over Eggemoggin Reach, connecting Sedgwick on the mainland to Little Deer Isle. One of Maine's most noteworthy bridges, located in an area of evergreen forests and rocky shorelines. Foreground elements include the bridge, small birch grove, pull-off area with cut granite blocks, spruce shoreline and the waters of Eggemoggin Reach. Midground and background views are up and down the Reach and to the woodlands on the opposite shoreline. General landscape condition is good with the bridge providing an exceptional cohesive element, a focal point that complements the landscape with its delicacy and grace.

Viewshed Management Recommendations Improve pull-off areas. Continued high level of maintenance.




SEDGWICK
Brooksville
Black Corner
Spruce Head
Walker's Pond
Sargentville
Sedgwick
West Brooklin
Rockbound Chapel
Stave Island
Little Deer Isle
Eaton Island
Carney Island
North Deer Isle
Thompson Cove
Deer Isle
Bay
REACH
Parker Pond
Snow Cove
Frost Pond
John Gray Pond
Cape Carter

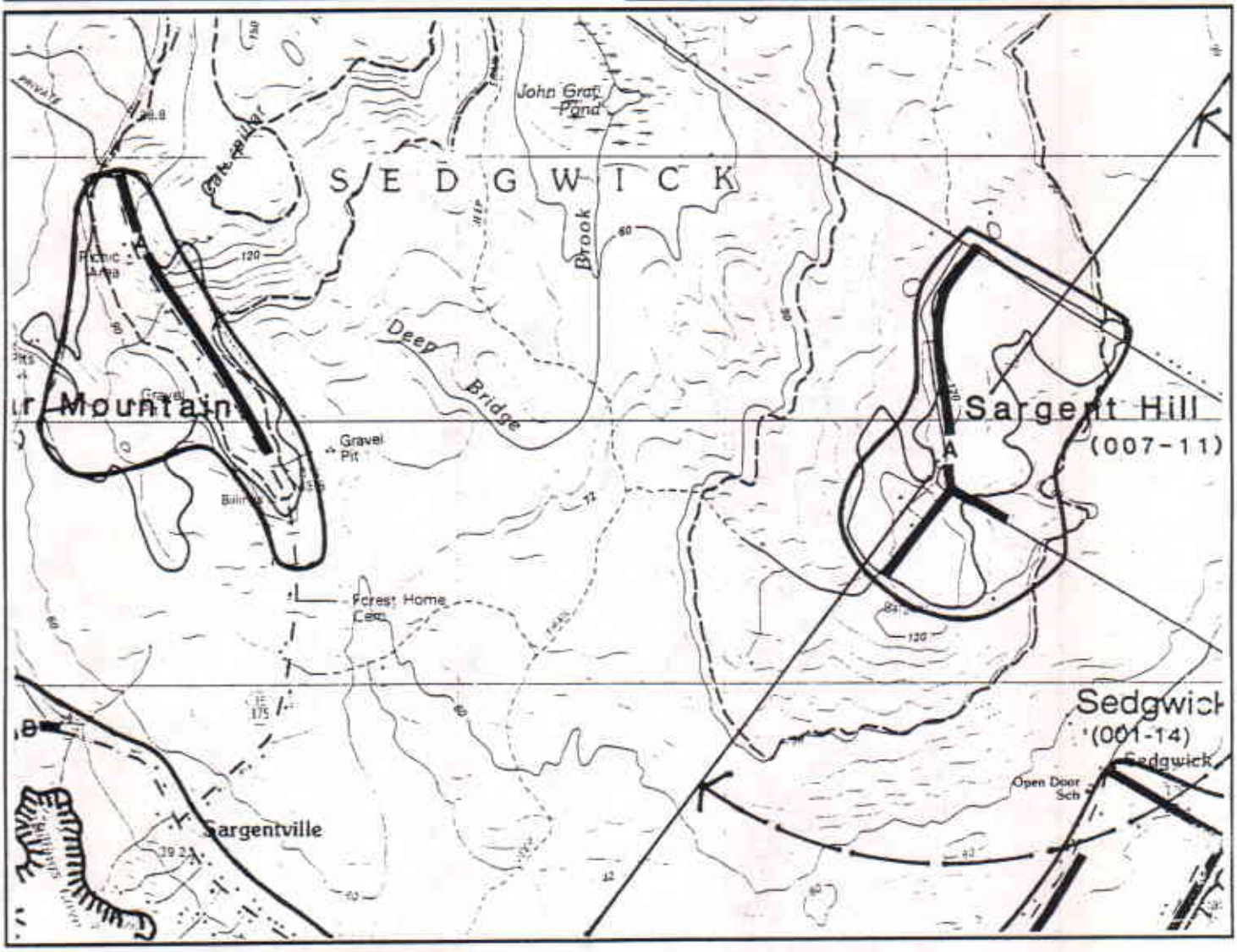
Scenic Area Evaluation Form

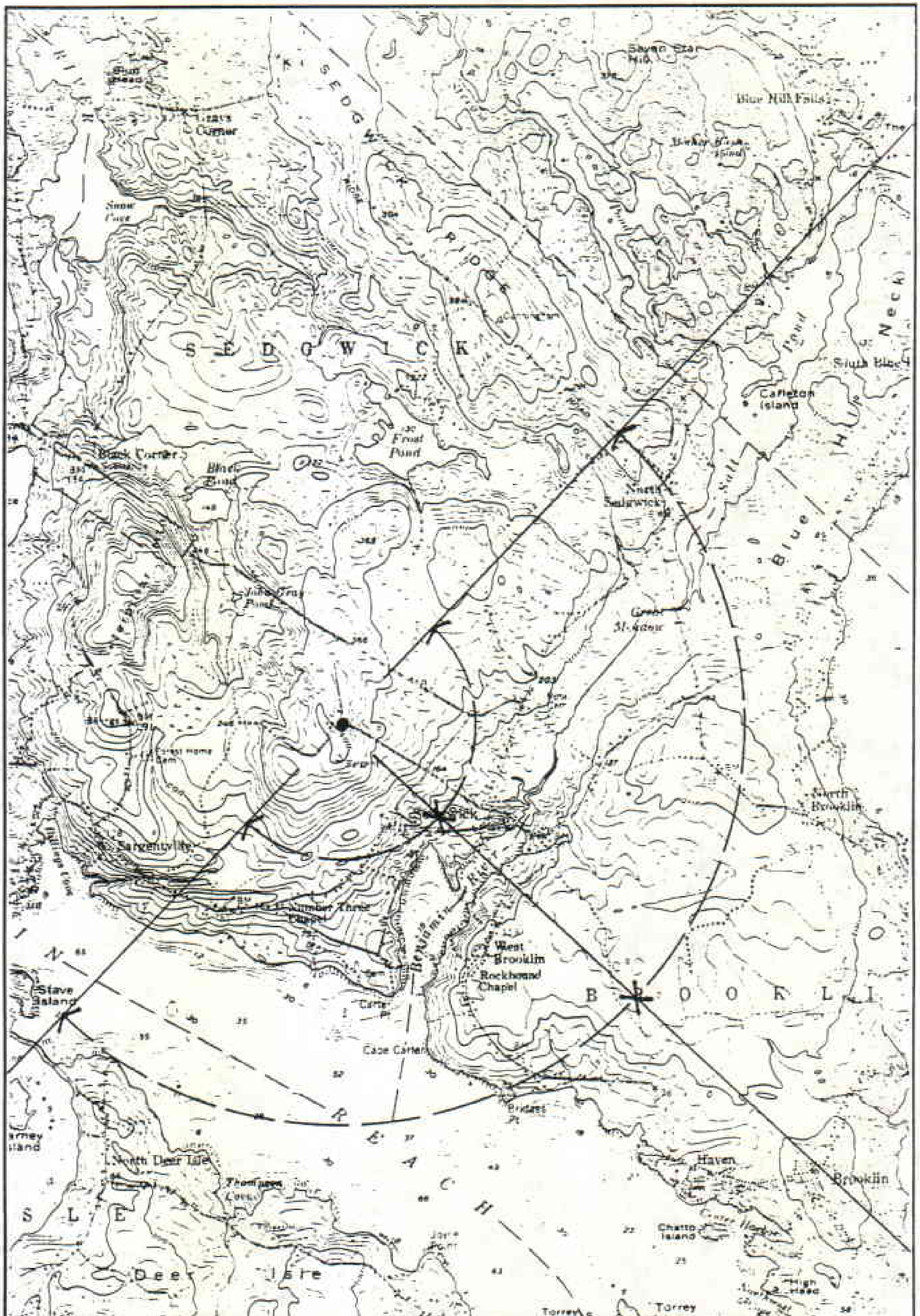
Scenic Area **Sargent Hill** Code **007-11** Town(s) **Sedgwick** County **Hancock**
1989 Coastal Scenic Inventory — Maine State Planning Office

ST	S	IP	Special Interest/Score/Indicators Present
	1	X	1.Landform Topography 1 Slope____
X	6	X	2.Open Land
	6	X	3.Shoreline Configuration
	3	X	4.Scenic Features
	24		5.Scenic Quality of Water
			Duration of View 9
			Type of Water 6
			Quality of Horizon 9
	40	5	**Desktop Subtotal**
	16		6.Landscape Character
			Land Use 7
			Roadside Characteristics 3
			Settlement Characteristics 6
X	6		7.Vegetation
	6		8.Composition & Effect
	68		**Total Score**
2			**Special Interest**

Viewshed Description Sargent Hill is a locally prominent hilltop affording mid-range and background views of Eggemoggin Reach, the hills of Mount Desert Island, and outward to the Atlantic Ocean. Foreground views focus on the extensive blueberry barrens. A limited amount of development has occurred at the edge of the landscape.

Viewshed Management Recommendations Protection of open blueberry plains through conservation easements and/or local ordinance.




SEDGWICK
Blue Hill Falls
Carleton Island
Frost Pond
Black Corner
Black Pond
North Sedgwick
Sargentville
West Brooklin
Rockbound Chapel
Slave Island
Cape Carter
Bridges Pt
North Deer Isle
Haven
Brooklin
Chatto Island
Deer Isle
Torrey Island
North Brooklin
BROOKLIN
REACH

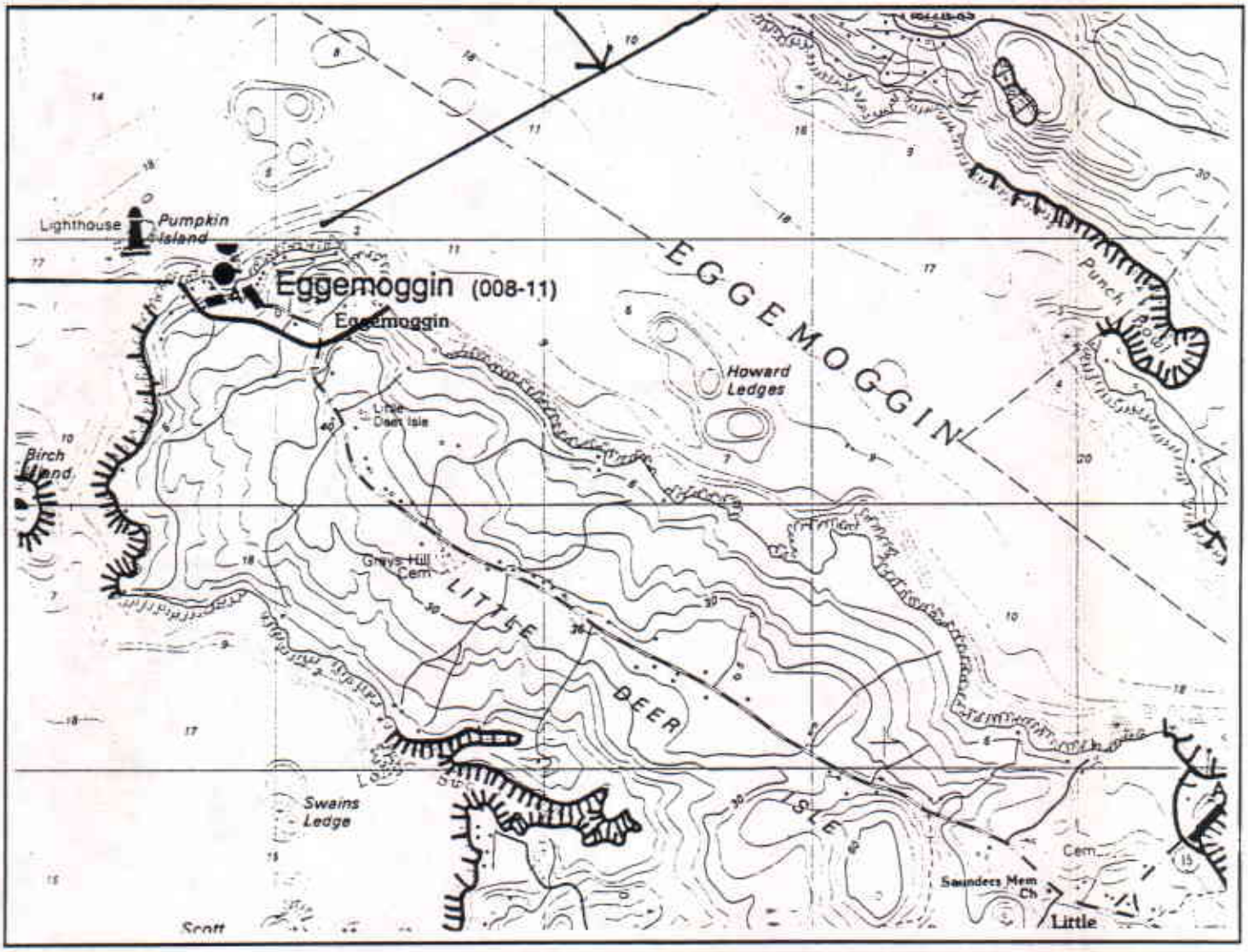
Scenic Area Evaluation Form

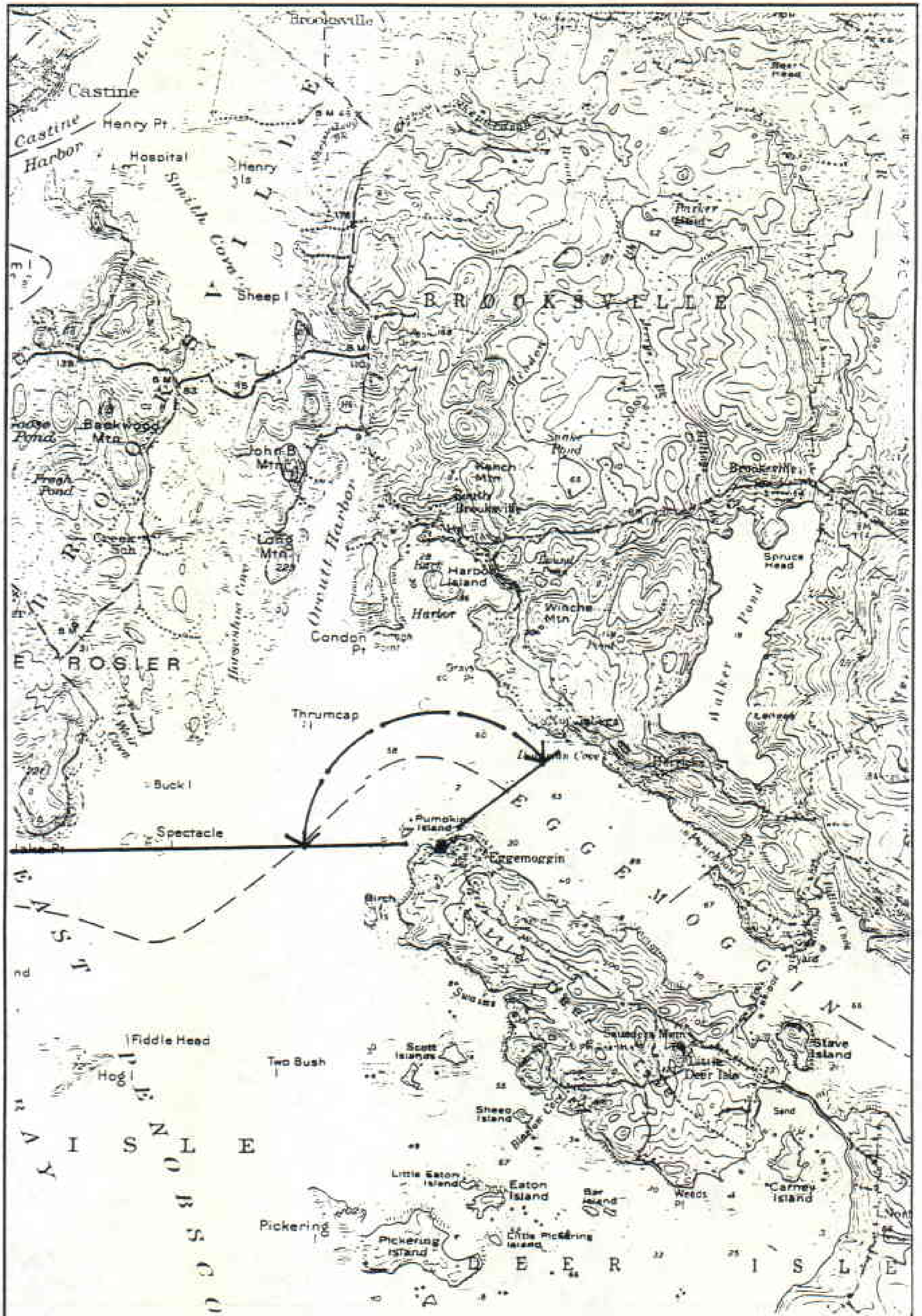
Scenic Area **Eggemoggin** Code **008-11** Town(s) **Deer Isle** County **Hancock**
1989 Coastal Scenic Inventory Maine State Planning Office

SI	S	IP	Special Interest/Score/Indicators Present
			1.Landform Topography____Slope____
			2.Open Land
	6	X	3.Shoreline Configuration
X	9	X	4.Scenic Features (Light House/Beach)
	24		5.Scenic Quality of Water
			Duration of View 9
			Type of Water 12
			Quality of Horizon 3
	39	3	**Desktop Subtotal**
	19		6.Landscape Character
			Land Use 7
			Roadside Characteristics 3
			Settlement Characteristics 9
	6		7.Vegetation
	9		8.Composition & Effect
	73		**Total Score**
			Special Interest

Viewshed Description Natural area with lighthouse, mooring area, shingle style architecture and public access. Winding road runs perpendicular to water, dead ending at the waterfront access point. Foreground elements include residential structures, lawns, beach, mooring area, lighthouse, and the waters of Eggemoggin Reach. Midground includes Eggemoggin Reach and wooded shoreline of Brooksville and Cape Rosier. The overall landscape condition is very good and provides an excellent foreground to a well composed view.

Viewshed Management Recommendations Maintain and define public access and parking. Protect landscape surrounding the point with conservation easements.




Brooksville
Castine
Castine Harbor
Henry Pt
Hospital I
Henry Is
Smith Cove
Sheep I
BROOKSVILLE
Backwood Mtn
Fresh Pond
John B Mtn
Creek Sch
Long Mtn
Orcutt Harbor
Harborside Cove
Condon Pt
Ranch Mtn
South Brooksville
Harbor Island
Harbor
Walker Pond
Parker Head
Spruce Head
ROSIER
Thrumcap
Buck I
Spectacle
Pumpkin Island
Eggemoggin
EGGEMOGGIN
Birch Is
Fiddle Head
Two Bush
Hog I
Scott Islands
Sheep Island
Slave Island
Little Deer Isle
Little Eaton Island
Eaton Island
Bar Island
Weeds Pt
Carney Island
Pickering
Pickering Island
Little Pickering Island
PENOBSCOT
ISLE
DEER ISLE

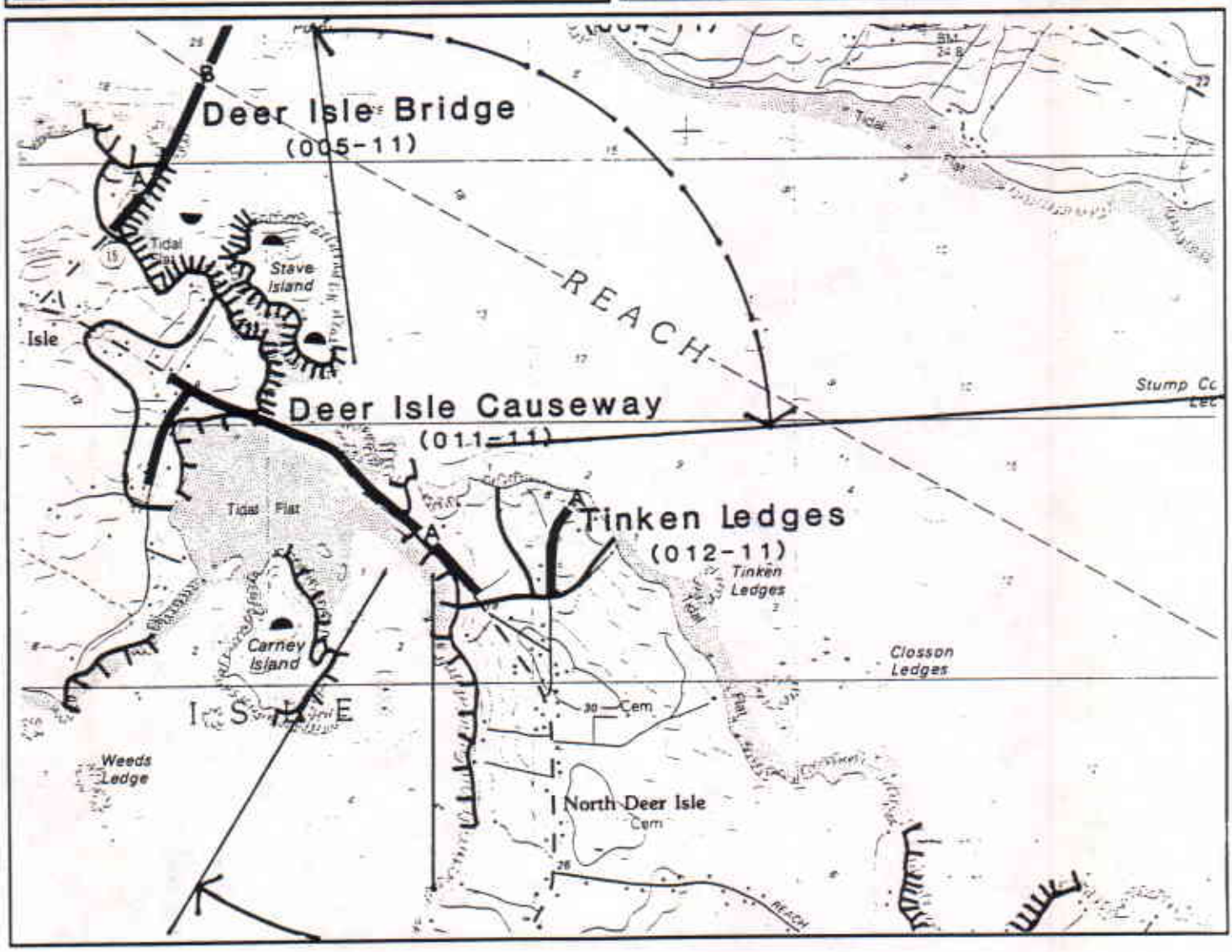
Scenic Area Evaluation Form

Scenic Area **Deer Isle Causeway** Code **011-11** Town(s) **Deer Isle** County **Hancock**
1989 Coastal Scenic Inventory
Maine State Planning Office

ST	S	IP	Special Interest/Score/Indicators Present
			1.Landform Topography____Slope____
			2.Open Land
	6	X	3.Shoreline Configuration
	9	X	4.Scenic Features (Beach / Islands)
X	27		5.Scenic Quality of Water
			Duration of View 9
			Type of Water 12
			Quality of Horizon 6
	42	3	**Desktop Subtotal**
	14		6.Landscape Character
			Land Use 5
			Roadside Characteristics 6
			Settlement Characteristics 3
	3		7.Vegetation
	9		8.Composition & Effect
	68		**Total Score**
1			**Special Interest**

Viewshed Description Causeway connecting Little Deer Isle with Deer Isle affords the traveller views of Eggemoggin Reach, Charney Island, a narrow stone beach and tidal flats. The approach passes meadows, second growth fields, and homes at either end. The more distant view includes Eggemoggin Reach and the shoreline of Sargentville to the north, and Penobscot Bay, various islands, and spruce-covered shoreline to the south. The general landscape condition is good to very good and provides good open water views, especially at high tide.

Viewshed Management Recommendations Improve pull-off locations. Continue high level of landscape maintenance.



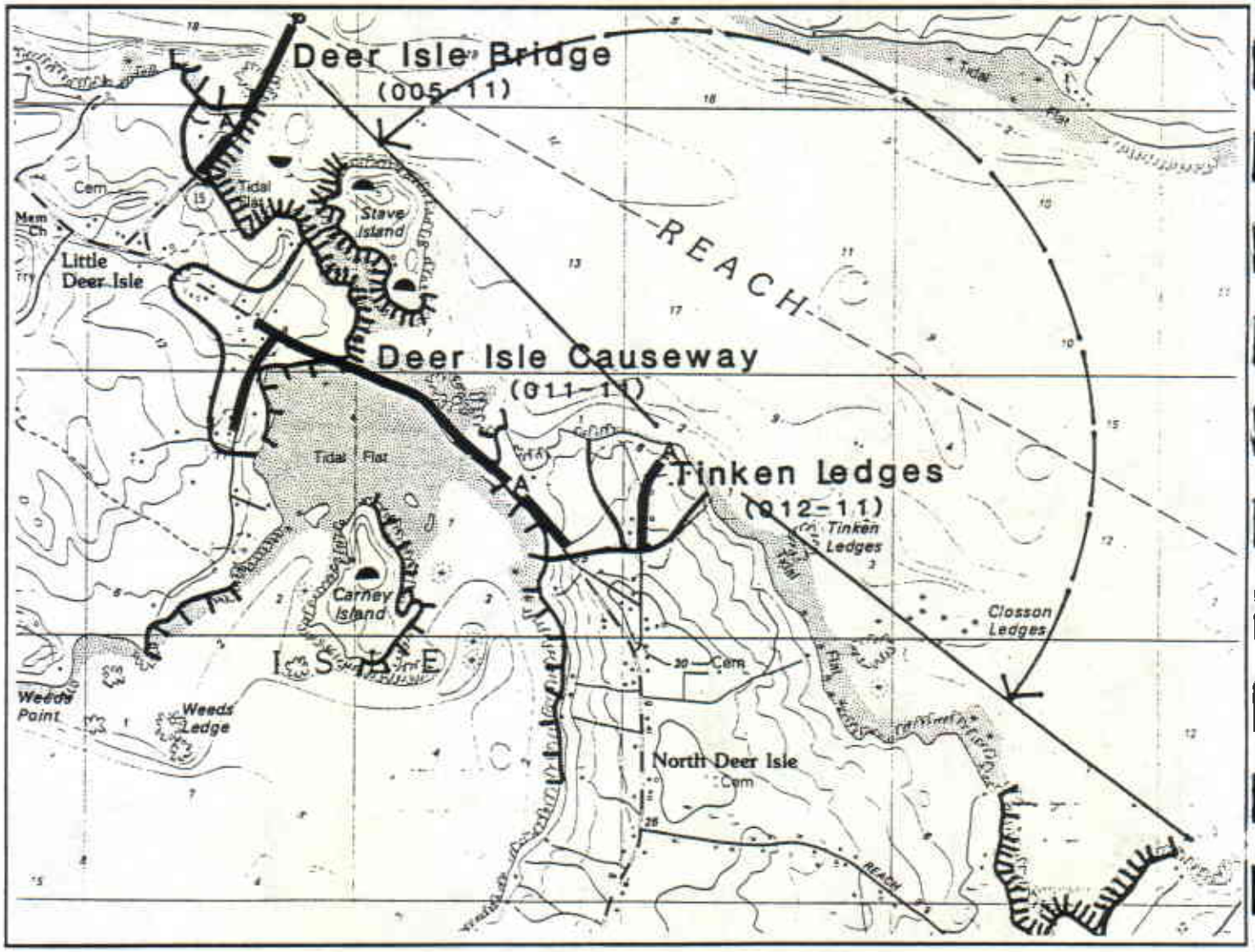
Scenic Area Evaluation Form

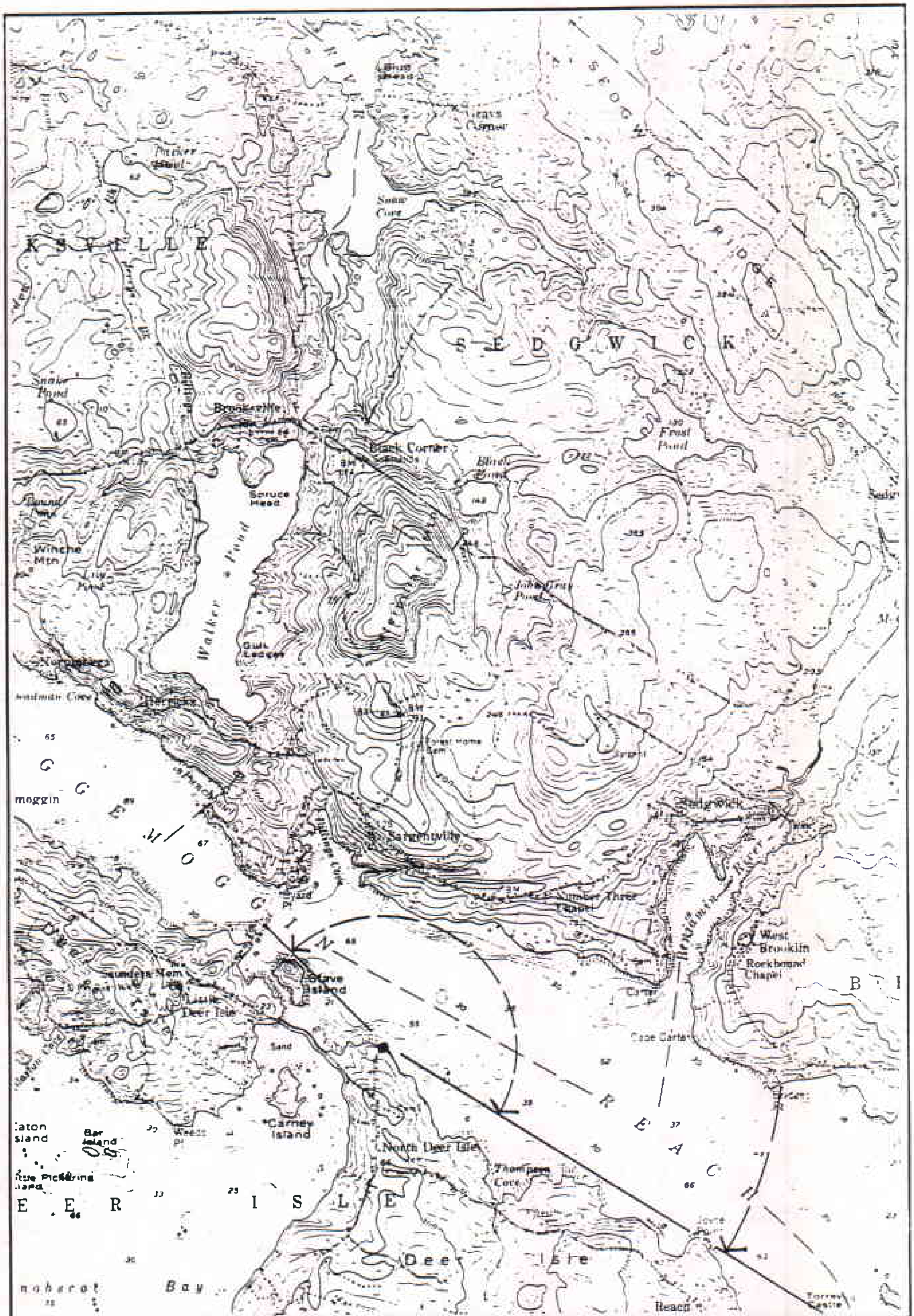
Scenic Area **Tinken Ledges** Code **012-11** Town(s) **Deer Isle** County **Hancock**
1989 Coastal Scenic Inventory Maine State Planning Office

S	S	IP	Special Interest/Score/Indicators Present
			1.Landform Topography____Slope____
			2.Open Land
			3.Shoreline Configuration
	9	X	4.Scenic Features
	21		5.Scenic Quality of Water
			Duration of View 9
			Type of Water 9
			Quality of Horizon 3
	30	2	**Desktop Subtotal**
	14		6.Landscape Character
			Land Use 7
			Roadside Characteristics 1
			Settlement Characteristics 6
	6		7.Vegetation
	9		8.Composition & Effect
	59		**Total Score**
			Special Interest

Viewshed Description Local residential road terminates with a northerly view of Eggemoggin Reach and the wooded shoreline of Sargentville. Tinken Ledges is typical of many of the 'end of the road' views along this section of Deer Isle.

Viewshed Management Recommendations Ordinances (zoning, subdivision, site plan review) to ensure consideration of visual impact and open space preservation in development proposals.




Parker Pond
Snow Cove
S E D G W I C K
Snake Pond
Brooksville
Black Corner
Black Pond
Frost Pond
Spruce Head
Walker Pond
Gull Ledges
John Gray Pond
Forest Home Cem
Sedgwick
Sargentville
Number Three Chapel
Benjamin River
West Brooklin
Rockbound Chapel
Grave Island
Little Deer Isle
Carney Island
Bar Island
North Deer Isle
Thompson Cove
Cape Carter
R E A C H
E E R   I S L E
Deer Isle
Bay

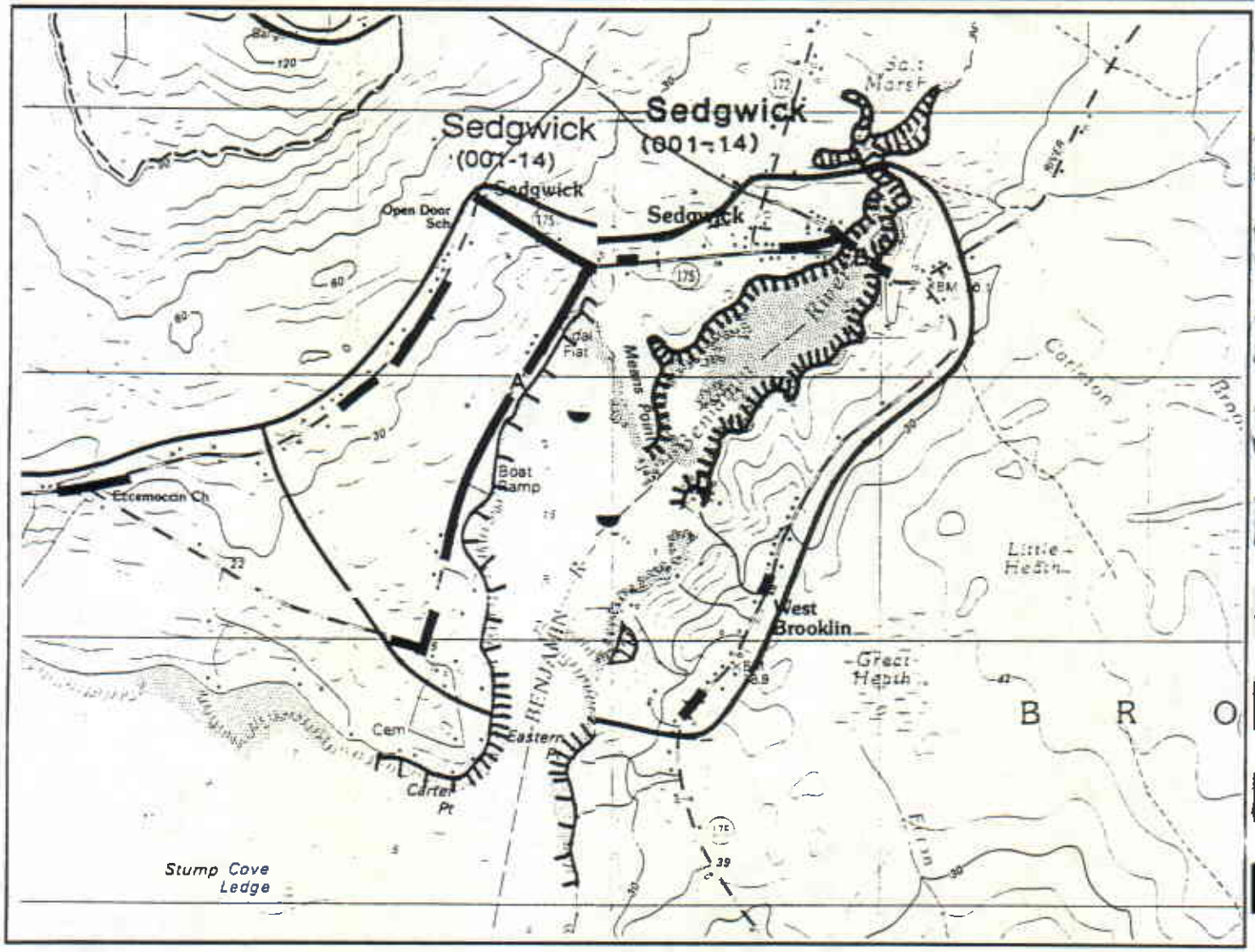
Scenic Area Evaluation Form

Scenic Area **Sedgwick** Code **001-14** Town(s) **Sedgwick/Brooklin** County **Hancock**
1989 Coastal Scenic Inventory — Maine State Planning Office

SI	S	IP	Special Interest/Score/Indicators Present
			1.Landform Topography____Slope____
			2.Open Land
	6		3.Shoreline Configuration
	9		4.Scenic Features
	24		5.Scenic Quality of Water
			Duration of View 9
			Type of Water 9
			Quality of Horizon 6
	39		**Desktop Subtotal**
	16		6.Landscape Character
			Land Use 7
			Roadside Characteristics 3
			Settlement Characteristics 6
	6		7.Vegetation
	6		8.Composition & Effect
	67		**Total Score**
			Special Interest

Viewshed Description A distinct village center on the upper reaches of the Benjamin River. Classic New England architecture. Views to the harbor and the river from most of the town roads. The constructed shoreline gives the viewshed a closed appearance. Great variety of spaces and views. Foreground includes the village homes, the town road, open fields and lawns extending down to the water, and the harbor with its modest fleet of small boats. The view extends south to the mouth of the harbor bordered by open fields and low hills.

Viewshed Management Recommendations Site plan review standards which address visual access to the water, architectural compatibility, and preservation of open space.



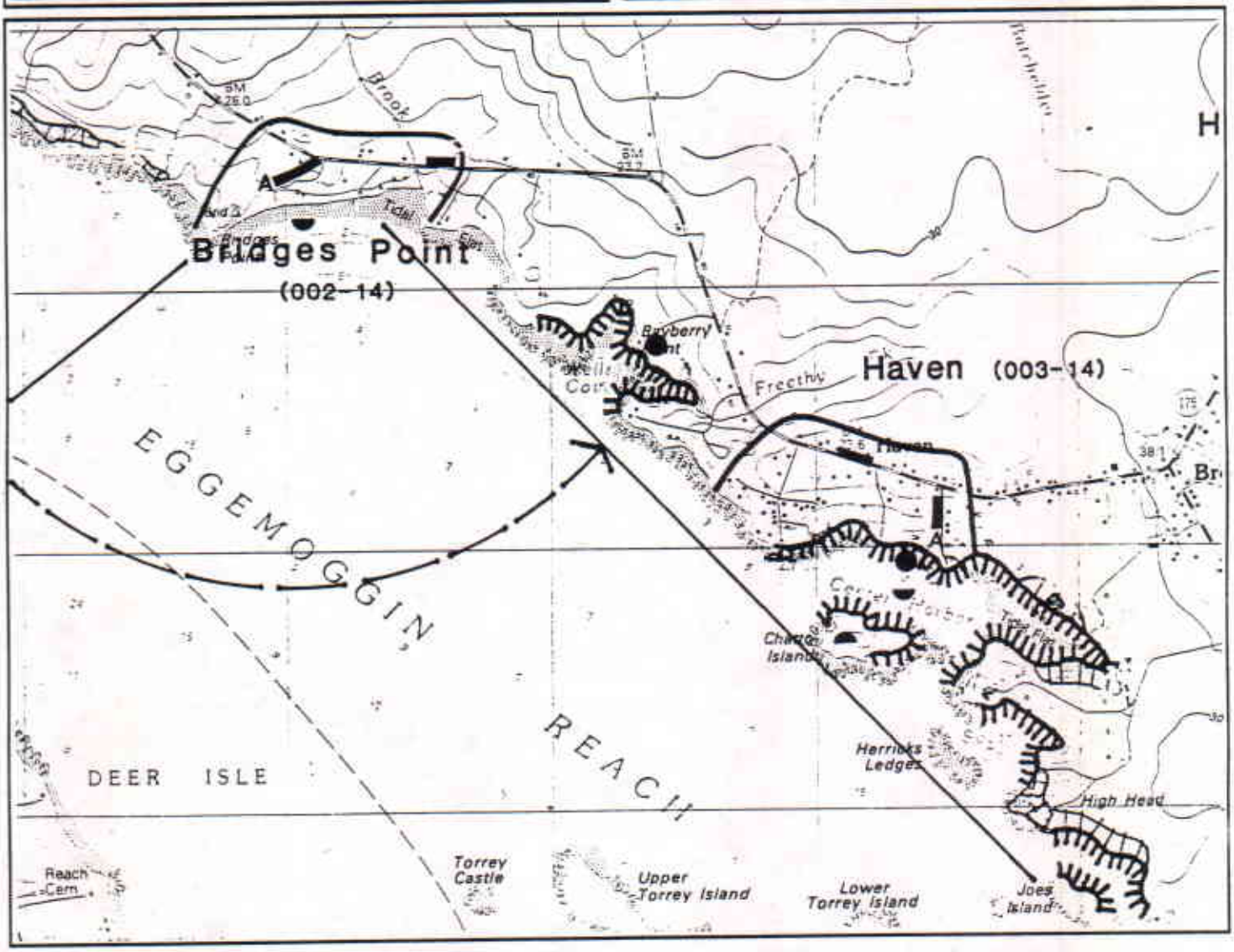
Scenic Area Evaluation Form

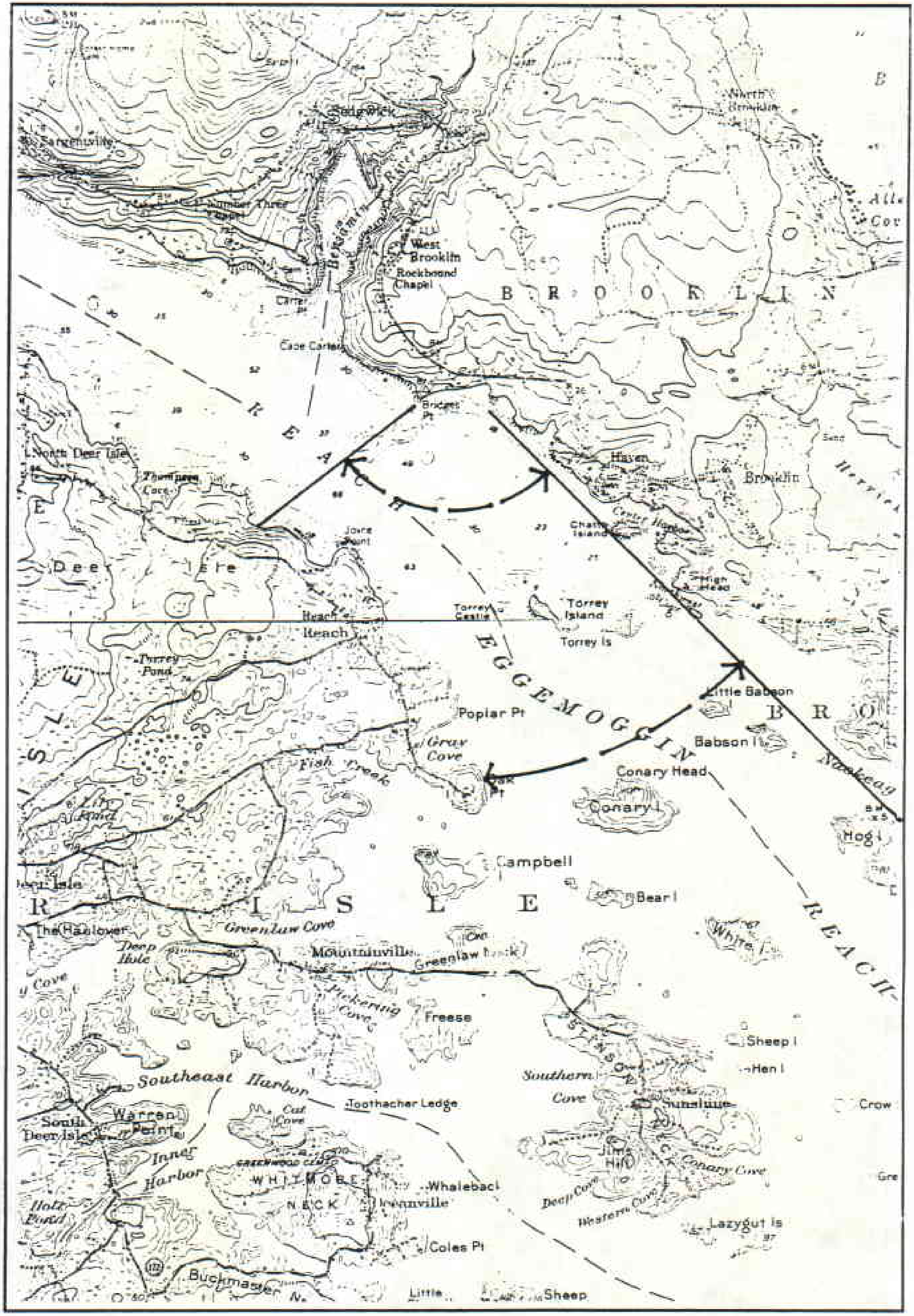
Scenic Area **Bridges Point** Code **002-14** Town(s) **Brooklin** County **Hancock**
1989 Coastal Scenic Inventory — Maine State Planning Office

SI	S	IP	Special Interest/Score/Indicators-Present
			1.Landform Topography____Slope____
			2.Open Land
			3.Shoreline Configuration
			4.Scenic Features
	18		5.Scenic Quality of Water
			Duration of View 6
			Type of Water 9
			Quality of Horizon 3
	18	1	**Desktop Subtotal**
	7		6.Landscape Character
			Land Use 3
			Roadside Characteristics 1
			Settlement Characteristics 3
	3		7.Vegetation
	3		8.Composition & Effect
	31		**Total Score**
			Special Interest

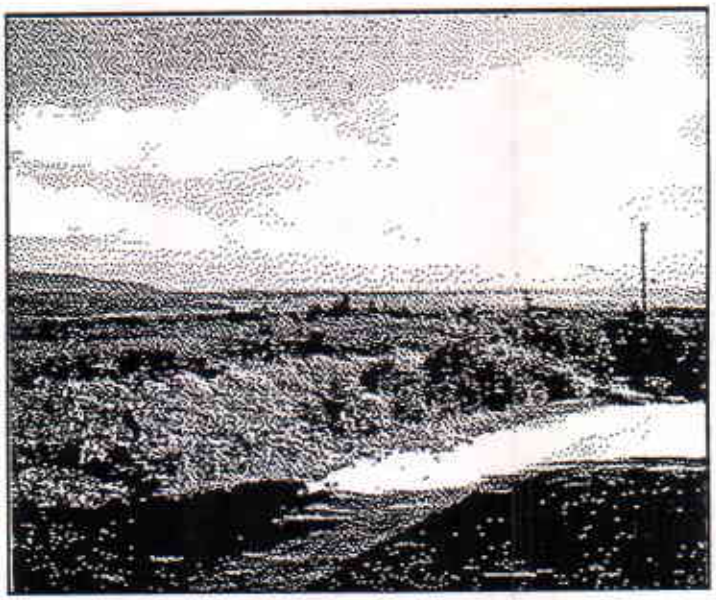
Viewshed Description A series of views from the highway to the waters of Eggemoggin Reach, past an eclectic mixture of contemporary and historic residential development. The area is characterized by mixed second growth woods, manicured lawns leading to waterfront homes, and small boat building shop. The foreground views include lawns, woods, homes, a rocky shoreline, and a boat storage area. Midground elements include the waters of Eggemoggin Reach and the shoreline of Little Deer Isle. Background views are to spruce covered hilltops. Landscape condition is average to good.

Viewshed Management Recommendations Vegetation management to maintain open views from highway to the waters of Eggemoggin Reach.




Sedgwick
Sargentville
Benjamin River
West Brooklin
Rockbound Chapel
B R O O K L I N
Cape Carter
Bridges Pt
North Deer Isle
Thompson Cove
Haven
Brooklin
Center Harbor
Chatto Island
Torrey Island
Torrey Is
Torrey Castle
Reach
Torrey Pond
Poplar Pt
Little Babson
Babson I
Conary Head
Conary I
Gray Cove
Fish Creek
Naskeag
Hog I
Campbell
Bear I
Deer Isle
E G G E M O G G I N
R E A C H
The Haulover
Greenlaw Cove
Deep Hole
Mountainville
Pickering Cove
Freese
Sheep I
Hen I
Southeast Harbor
Southern Cove
Sunshine
Toothacher Ledge
South Deer Isle
Warren Point
Inner Harbor
Cat Cove
W H I T M O R E
N E C K
Whaleback
Greenville
Crow
Jim's Hill
Conary Cove
Deep Cove
Western Cove
Lazygut Is
Coles Pt
Buckmaster N.
Little
Sheep

BLUE HILL BAY



Sedgwick Ridge
North Sedgwick
Allen Point
Blue Hill Falls
Parker Point
Blue Hill Village
Blue Hill

Sub-Region Evaluation Form

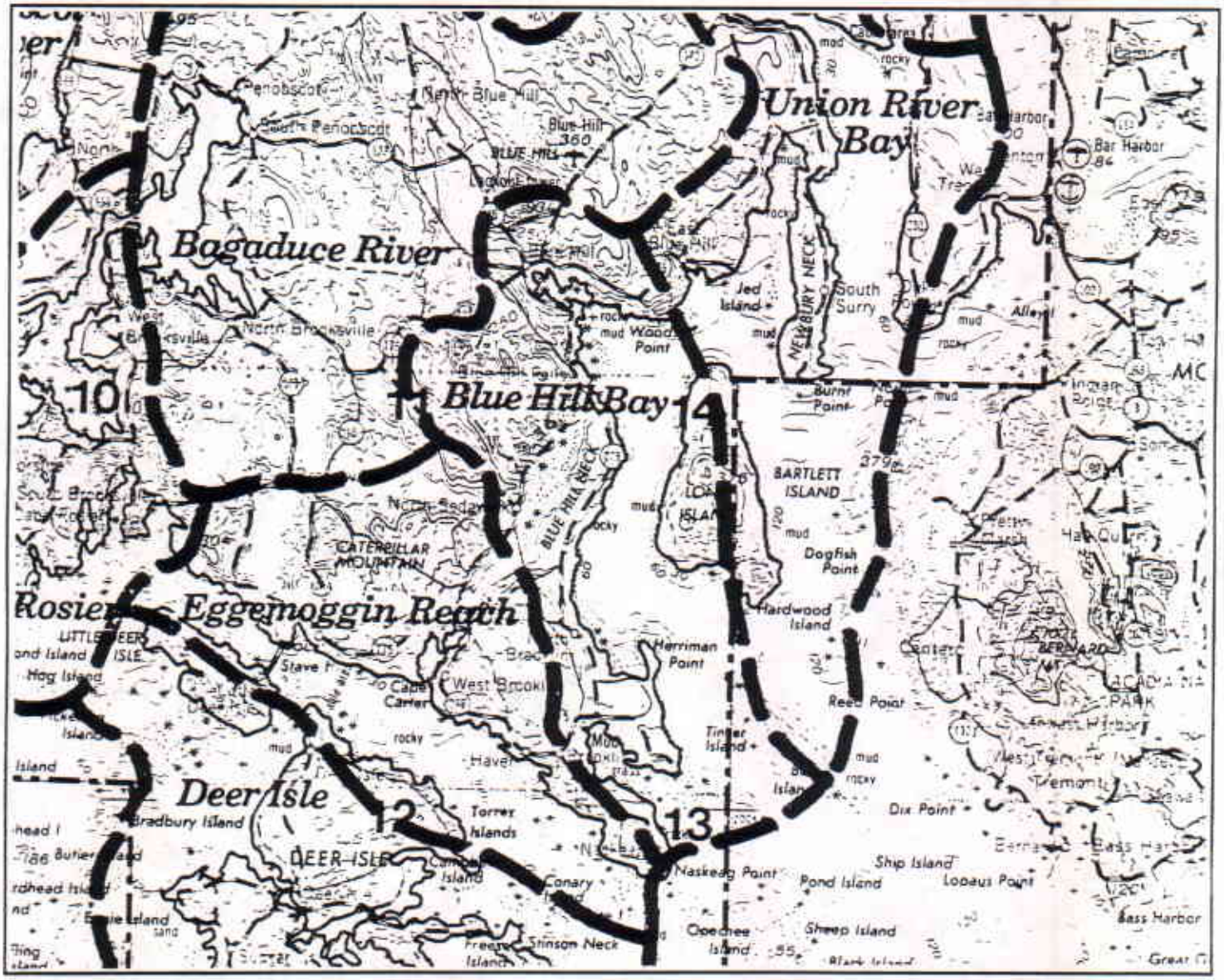
Sub-Region **Blue Hill Bay** Towns **Brooklin, Blue Hill** County **Hancock**
1989 Coastal Scenic Inventory Maine State Planning Office

Sub-Region Description

Blue Hill Bay is protected subregion of Penobscot Bay, well known to sailors and others who appreciate the combination of rugged shoreline and neat village atmosphere. Most of the coast is moderately configured, with villages at the head of the deeper coves and smaller bays. The northern end of the region is capped by Blue Hill, offering a panorama that extends to Mount Desert Island to the east and most of Penobscot Bay. Several high ridges on the western edge also viewing opportunities across open blueberry barrens and rocky farmland.

Scenic Areas

Sedgwick Ridge (012-14)
North Sedgwick (013-14)
Allen Point (014-14)
Blue Hill Falls (002-15)
Parker Point (003-15)
Blue Hill Village (004-15)
Blue Hill (005-15)



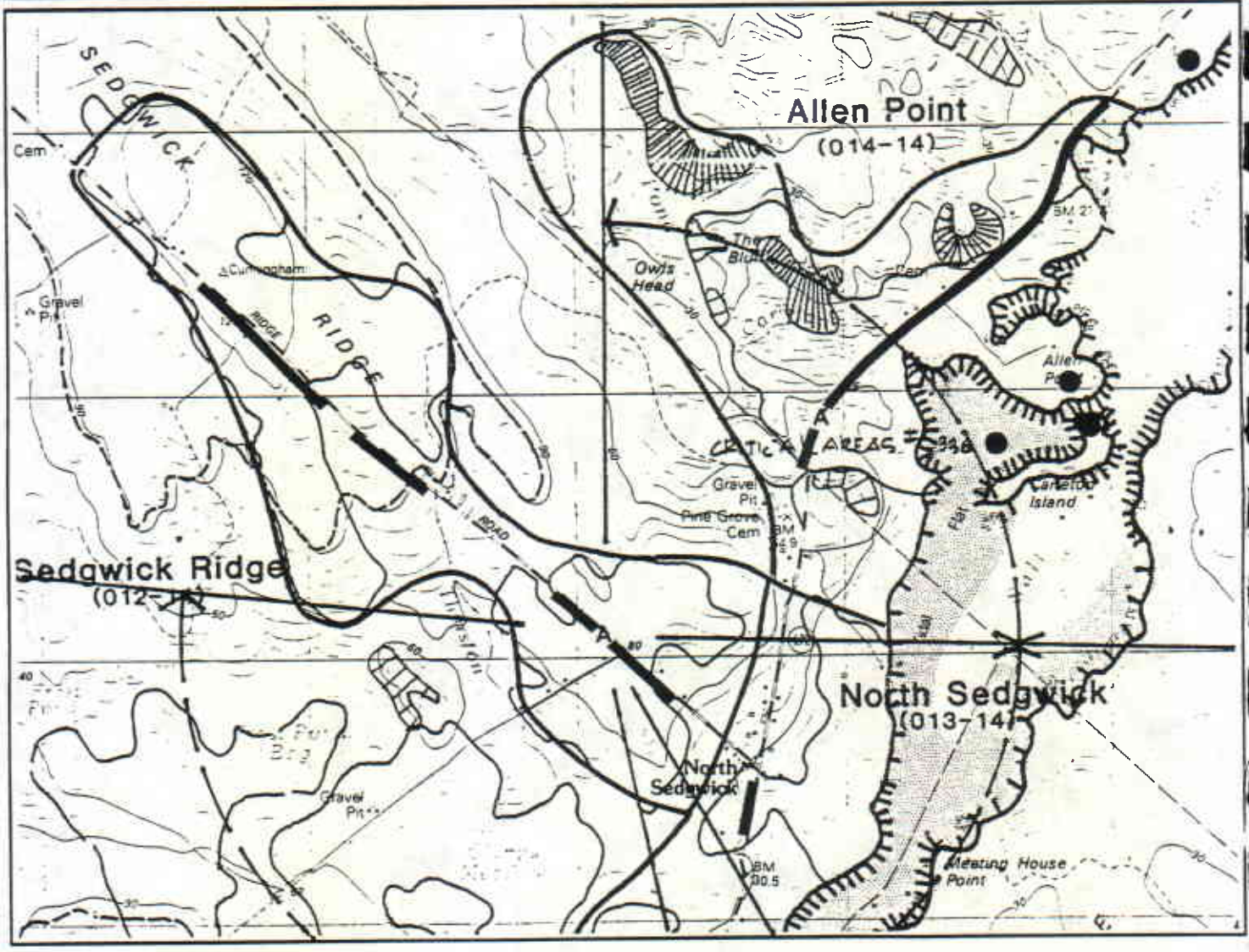
Scenic Area Evaluation Form

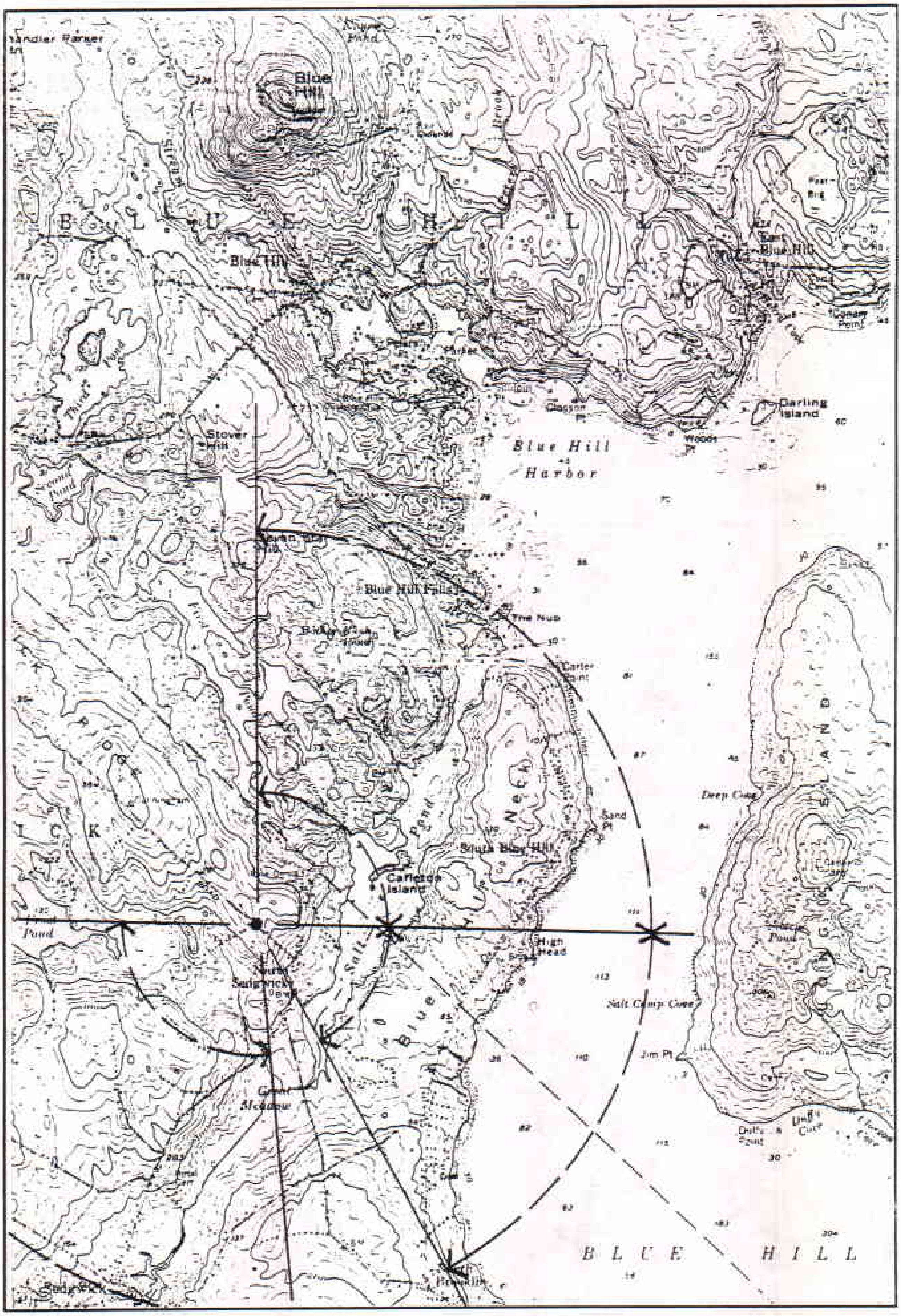
Scenic Area **Sedgwick Ridge** Code **012-14** Town(s) **Sedgwick** County **Hancock**
1989 Coastal Scenic Inventory — Maine State Planning Office

SI	S	IP	Special Interest/Score/Indicators Present
	1	X	1.Landform Topography 1 Slope____
	6	X	2.Open Land
	6	X	3.Shoreline Configuration
	3	X	4.Scenic Features
	24		5.Scenic Quality of Water
			Duration of View 9
			Type of Water 6
			Quality of Horizon 9
	46	5	**Desktop Subtotal**
	11		6.Landscape Character
			Land Use 7
			Roadside Characteristics 1
			Settlement Characteristics 3
	6		7.Vegetation
	9		8.Composition & Effect
	66		**Total Score**
			Special Interest

Viewshed Description Active blueberry barren at the top of a 450 foot ridge with 270 degree views to the Camden Hills, Mount Desert Island, and Isle au Haut. Open water of Blue Hill Bay forms a dramatic backdrop for the panorama from the southeastern end of Ridge Road.

Viewshed Management Recommendations A landscape highly vulnerable to development pressure. Open, flat land with panoramic views can offer a quick monetary return. Protection at a local level should include open space and clustering provisions in the subdivision and site plan ordinances, and recognition of the scenic value and sensitivity of the ridgeline in the Comprehensive Plan.





Blue Hill
B L U E H I L L
Blue Hill
East Blue Hill
Darling Island
Clapson Pt
Blue Hill Harbor
Stover Hill
Second Pond
Third Pond
Blue Hill Falls
The Nub
Carter Point
Deep Cove
Sand Pt
Salt Pond
Carleton Island
High Head
North Sedgwick
Salt Camp Cove
Jim Pt
Great Meadow
Sedgwick
B L U E H I L L

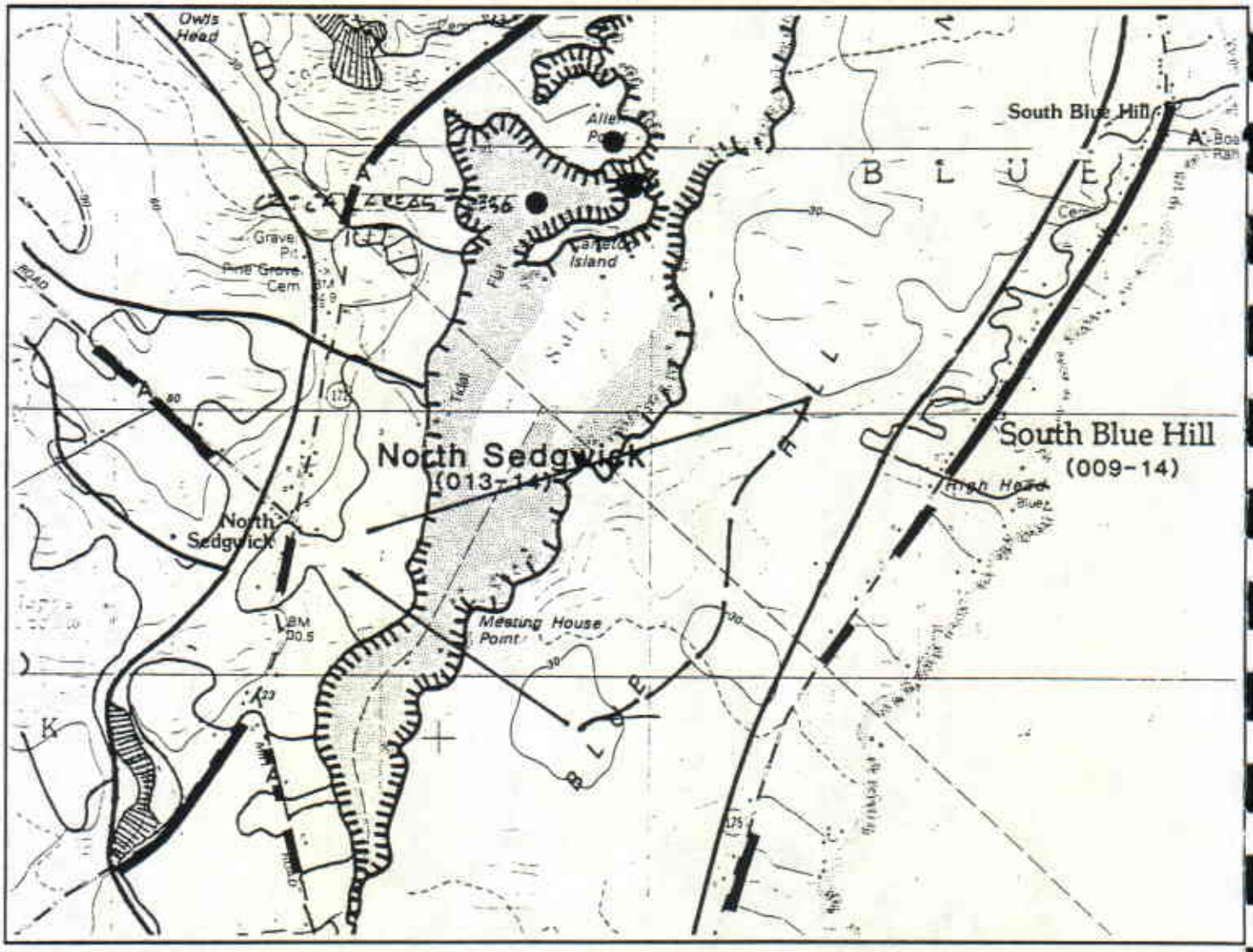
Scenic Area Evaluation Form

Scenic Area **North Sedgwick** Code **013-14** Town(s) **Sedgwick** County **Hancock**
1989 Coastal Scenic Inventory — Maine State Planning Office

SI	S	IP	Special Interest/Score/Indicators Present
			1.Landform Topography____Slope____
	3	X	2.Open Land
	6	X	3.Shoreline Configuration
			4.Scenic Features
	15		5.Scenic Quality of Water
			Duration of View 6
			Type of Water 6
			Quality of Horizon 3
	24	3	**Desktop Subtotal**
	14		6.Landscape Character
			Land Use 5
			Roadside Characteristics 3
			Settlement Characteristics 6
	6		7.Vegetation
	6		8.Composition & Effect
	50		**Total Score**
			Special Interest

Viewshed Description Small crossroads village center overlooking Salt Pond. Overgrown fields lead to the edge of the water. Views are framed by stately old deciduous trees. The immediate landscape is dominated by an historic church. Very well composed pastoral landscape with distinct edges and focal points.

Viewshed Management Recommendations Maintenance of open fields and low hills on the opposite shoreline of Salt Pond through conservation easements, open space/clustering provisions in local ordinances.



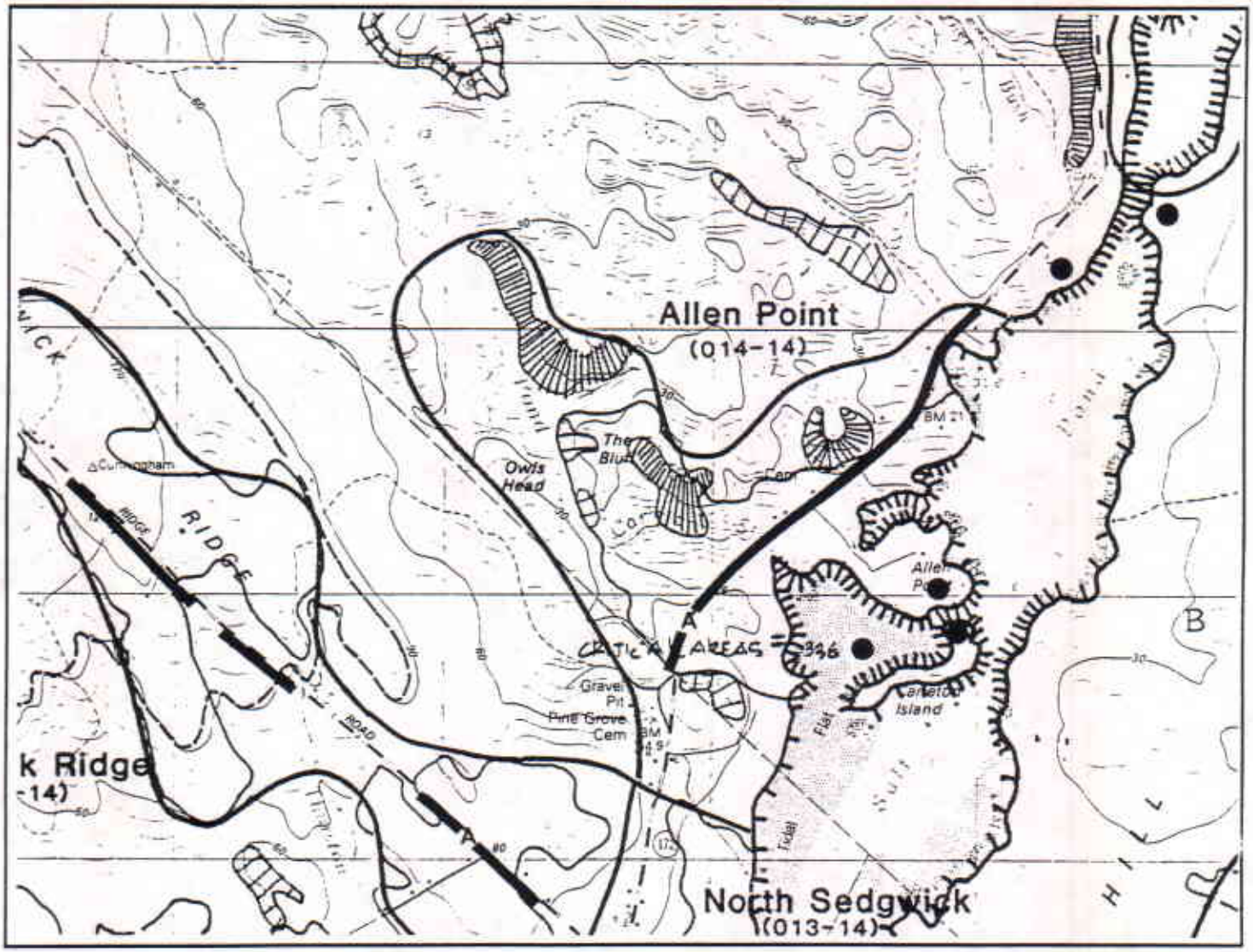
Scenic Area Evaluation Form

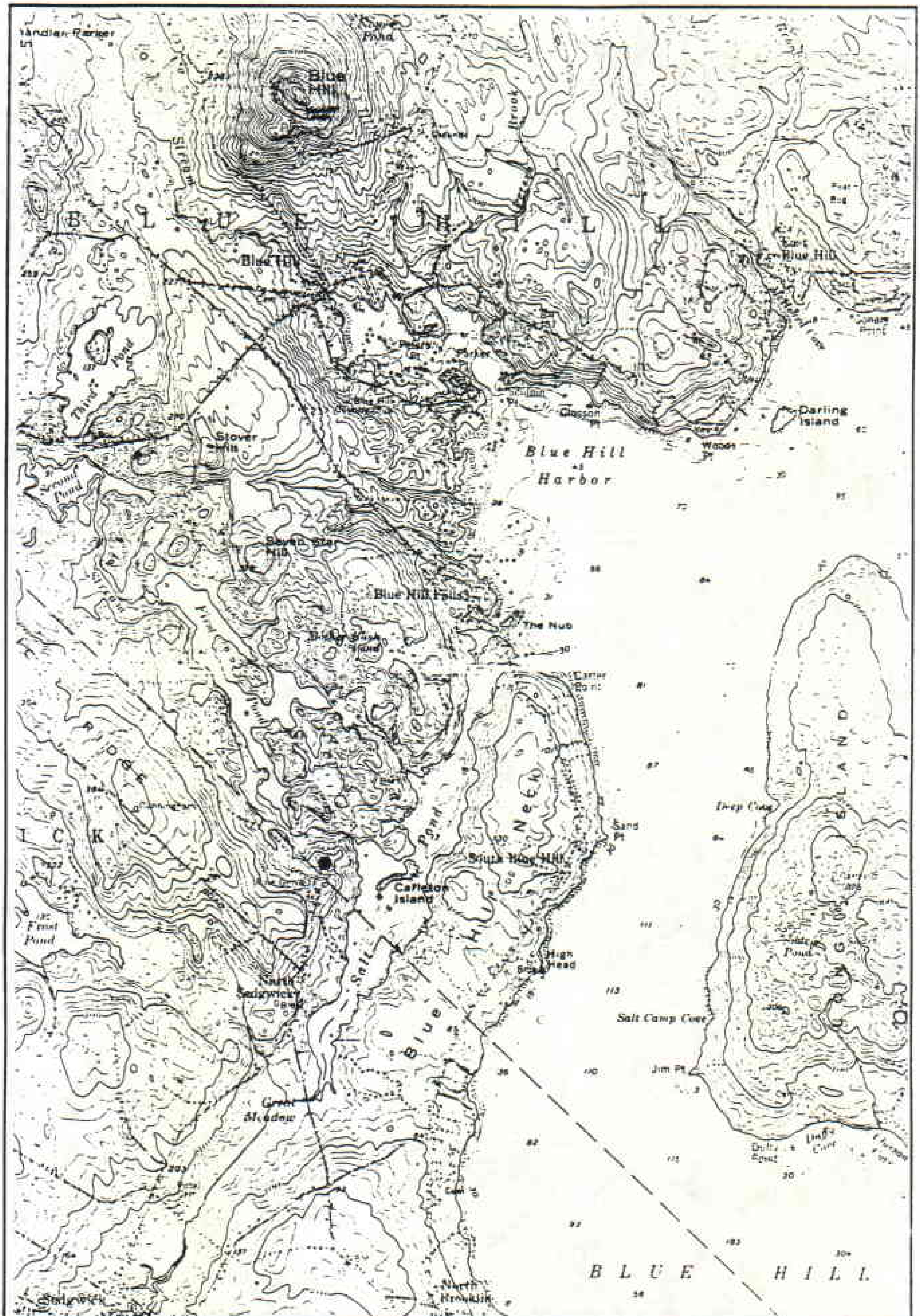
Scenic Area **Allen Point** Code **014-14** Town(s) **Blue Hill** County **Hancock**
1989 Coastal Scenic Inventory — Maine State Planning Office

SI	S	IP	Special Interest/Score/Indicators Present
	3	X	1.Landform Topography____Slope 3
X	6	X	2.Open Land
	6	X	3.Shoreline Configuration
X	6	X	4.Scenic Features (Cliffs/Fresh Water Pond)
	21		5.Scenic Quality of Water
			Duration of View 9
			Type of Water 6
			Quality of Horizon 6
	42	5	**Desktop Subtotal**
	16		6.Landscape Character
			Land Use 7
			Roadside Characteristics 3
			Settlement Characteristics 6
X	6		7.Vegetation
X	6		8.Composition & Effect
	70		**Total Score**
4			**Special Interest**

Viewshed Description A highly diversified landscape featuring views of blueberry barrens, Salt Pond, boulder strewn fields, and well maintained indigenous architecture. The meandering highway presents the viewer with a continuously changing panorama, with the majority of the interest focused in the foreground and midground. Background views are to spruce covered hillsides and Mt. Desert Island. The area is generally well maintained.

Viewshed Management Recommendations Scenic pullouts opportunity exists at the top of the hill near the cemetery. Work with local land trust to protect open blueberry fields and the viewshed surrounding First and Salt Ponds.




Blue Hill
B L U E H I L L
Blue Hill
East Blue Hill
Darling Island
Stover Hill
Blue Hill Harbor
Seven Star Hill
Blue Hill Falls
The Nub
Second Pond
Third Pond
Sand Pt
Deep Cove
South Blue Hill
Carleton Island
High Head
Salt Camp Cove
Salt Pond
Jim Pt
North Sedgwick
Great Meadow
Frost Pond
North Brooklin
Sedgwick
B L U E H I L L

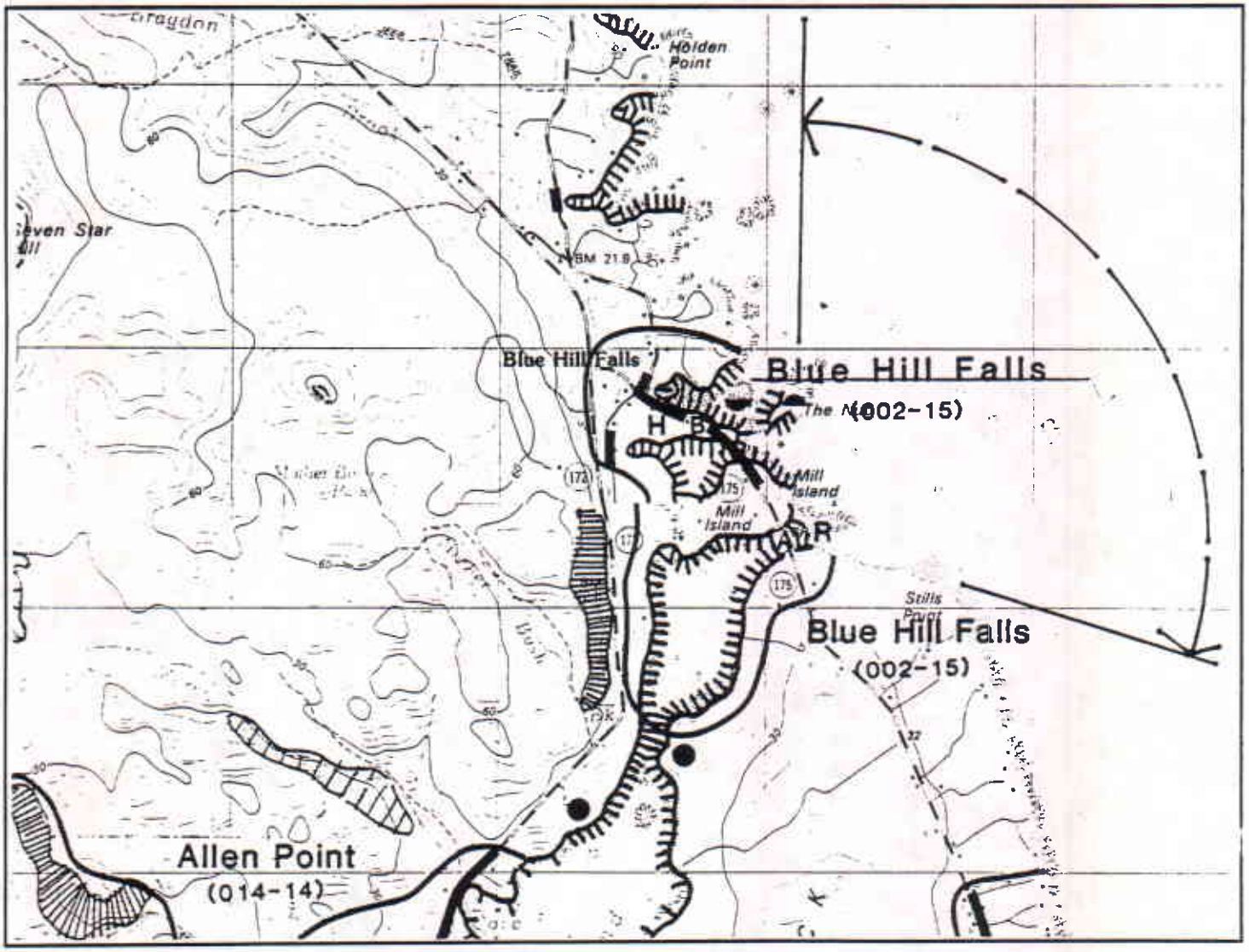
Scenic Area Evaluation Form

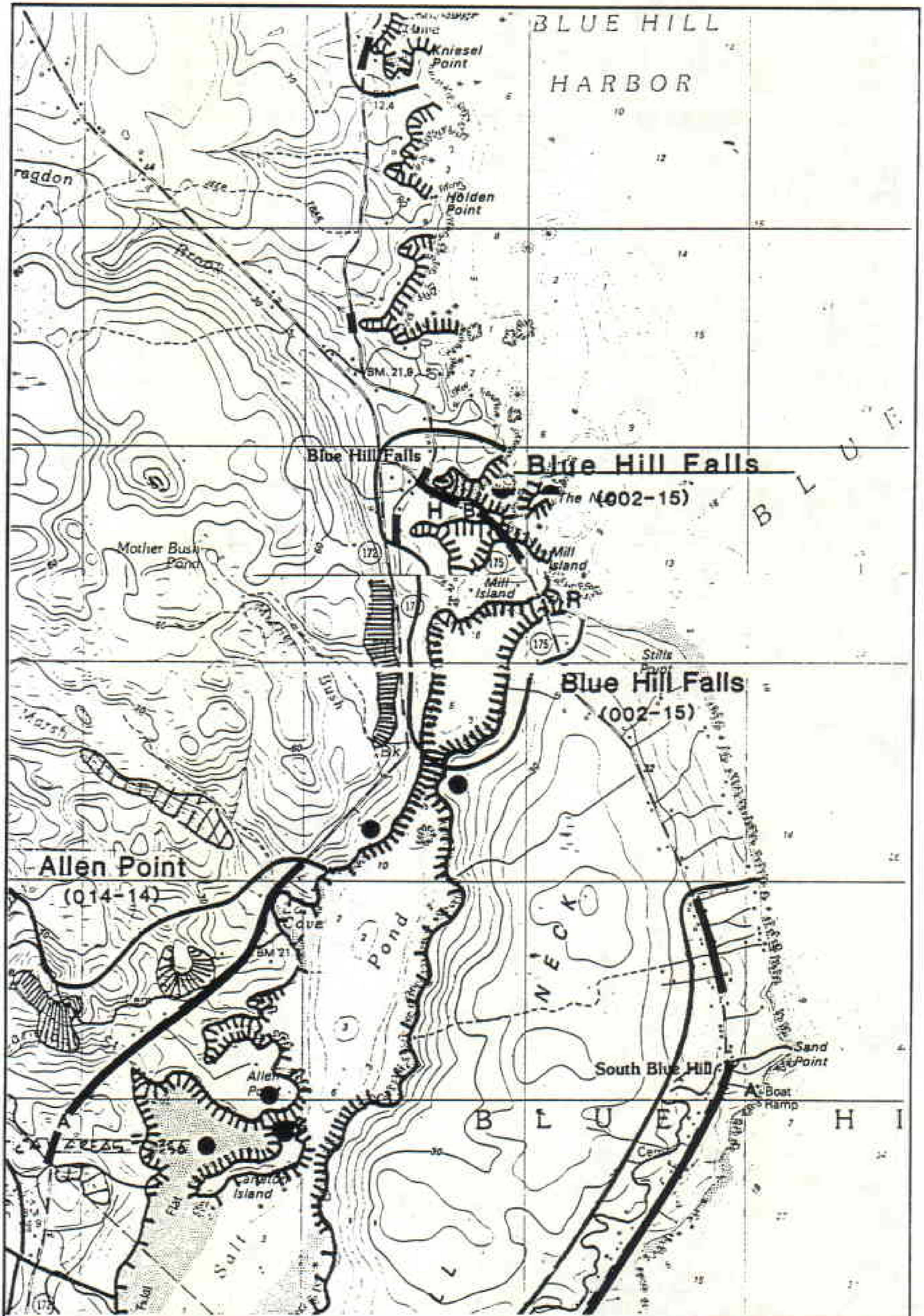
Scenic Area **Blue Hill Falls** Code **002-15** Town(s) **Blue Hill** County **Hancock**
1989 Coastal Scenic Inventory — Maine State Planning Office

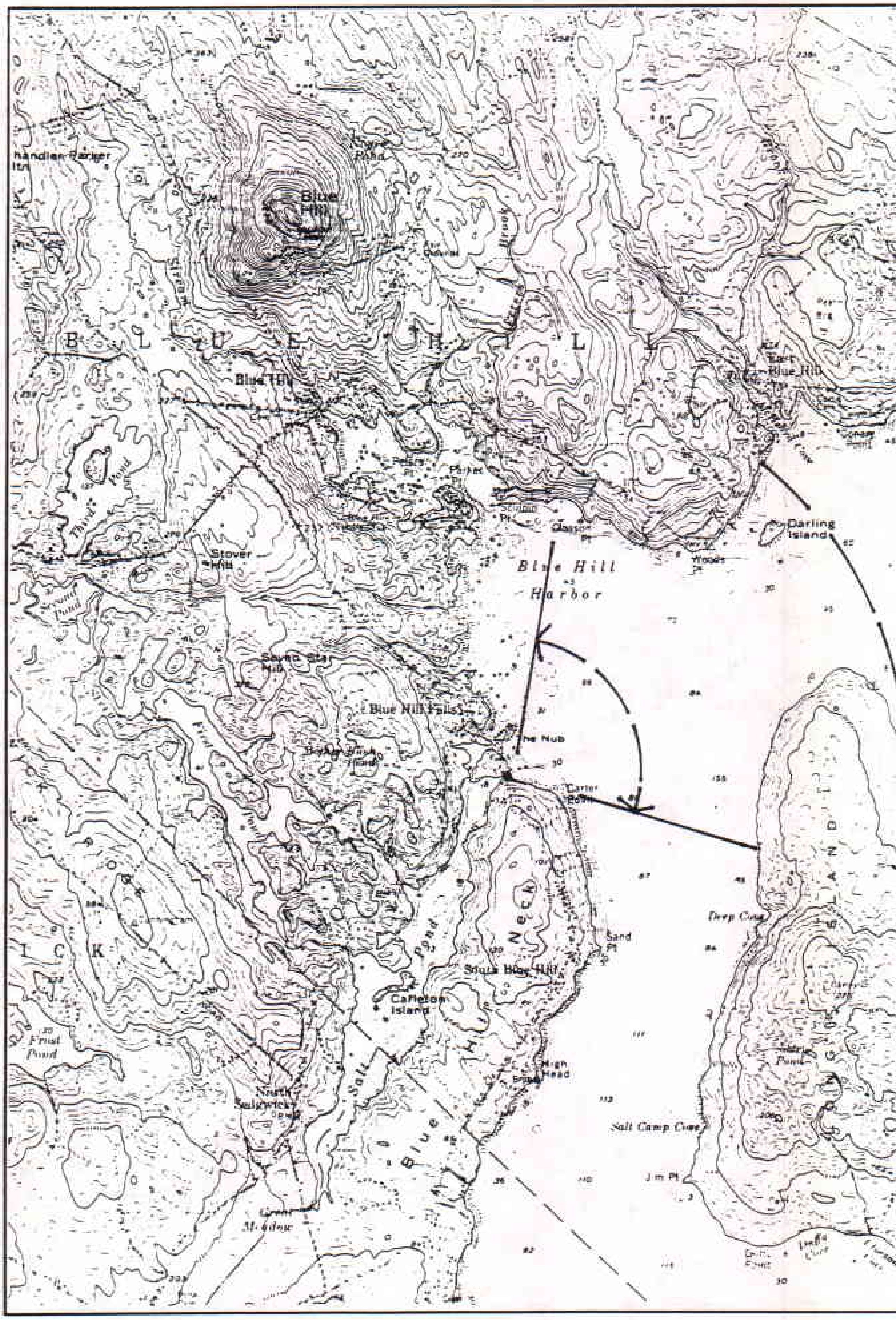
SI	S	IP	Special Interest/Score/Indicators Present
			1.Landform Topography____Slope____
			2.Open Land
X	6	X	3.Shoreline Configuration
	9	X	4.Scenic Features
X	24		5.Scenic Quality of Water
			Duration of View 6
			Type of Water 12
			Quality of Horizon 6
	39	3	**Desktop Subtotal**
X	19		6.Landscape Character
			Land Use 7
			Roadside Characteristics 6
			Settlement Characteristics 6
	6		7.Vegetation
X	9		8.Composition & Effect
	73		**Total Score**
4			**Special Interest**

Viewshed Description Natural area which is situated on the narrows separating Blue Hill Bay from tidal Salt Pond. Area includes a well-designed bridge over a spectacular reversing falls, a small mooring area, a small island in the foreground, well-kept boathouse on harbor, and spruce forest edges. Foreground includes ledge, bridge, manicured lawn, small island, spruce forest, architecture and waters of Salt Pond and Blue Hill Bay. Midground includes the waters of Blue Hill Bay and spruce-covered hillsides. Background views are to Long Island, waters of Blue Hill Bay and Newbury Neck. Very well-composed, well-kept and cohesive area.

Viewshed Management Recommendations Define safe and adequate roadside pull-offs / Prune 2nd growth along road edges / Safety signage warning of pedestrian activity & slow moving traffic.




BLUE HILL
HARBOR
Kniesel Point
Holden Point
Blue Hill Falls
Blue Hill Falls
(002-15)
Mill Island
Mill Island
Stills Point
Blue Hill Falls
(002-15)
Mother Bush Pond
Allen Point
(014-14)
Cove
Pond
NECK
Allen Point
Carleton Island
South Blue Hill
Sand Point
Boat Ramp
B L U E H I
Salt



Blue Hill
B L U E H I L L
Blue Hill
East Blue Hill
Darling Island
Blue Hill Harbor
Stover Hill
Third Pond
Second Pond
Blue Hill Falls
The Nub
Carter Point
Deep Cove
Sand Pt
South Blue Hill
Carleton Island
High Head
Salt Camp Cove
Jim Pt
North Sedgwick
Frost Pond
Great Meadow

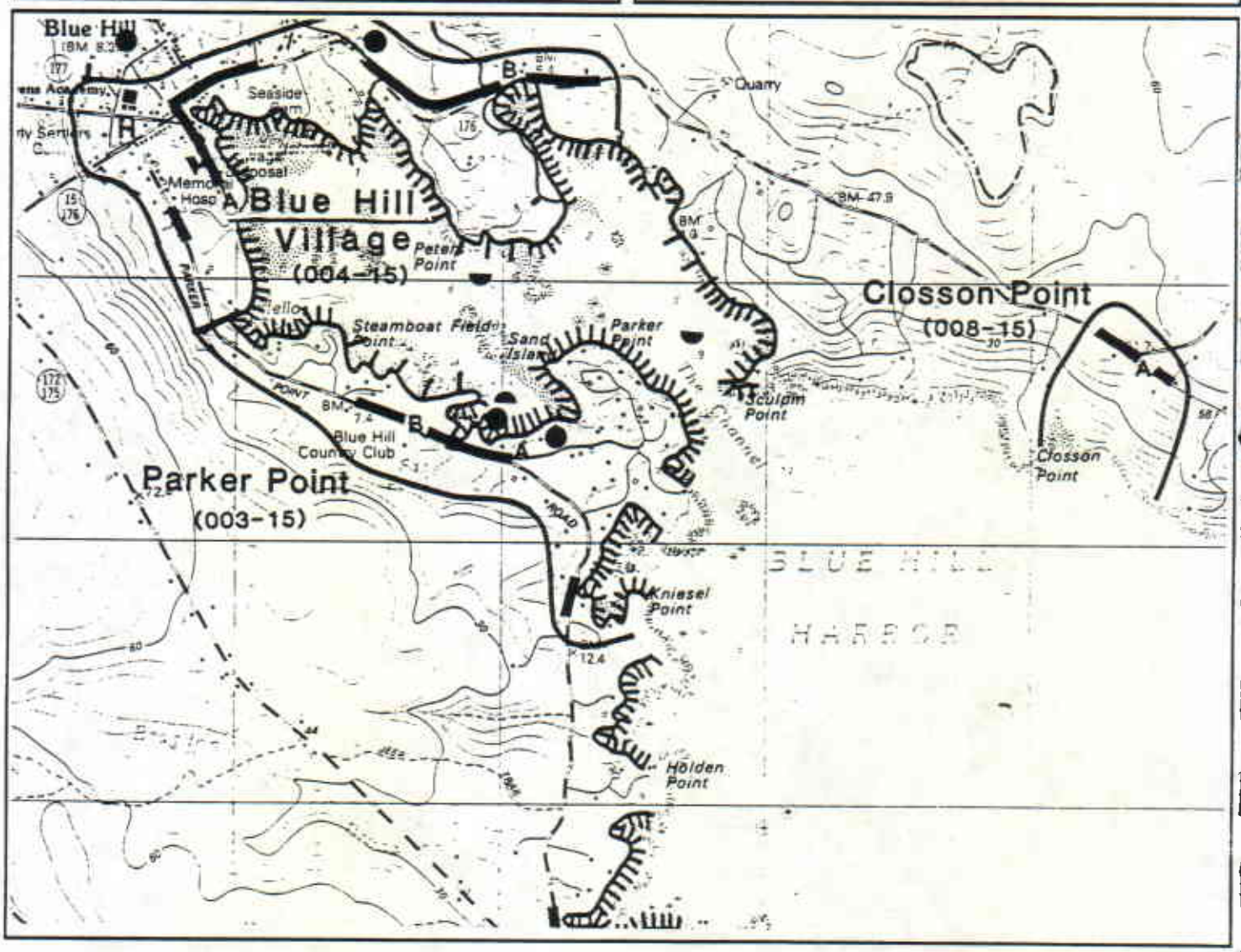
Scenic Area Evaluation Form

Scenic Area **Parker Point** Code **003-15** Town(s) **Blue Hill** County **Hancock**
1989 Coastal Scenic Inventory — Maine State Planning Office

SI	S	IP	Special Interest/Score/Indicators Present
			1.Landform Topography____Slope____
			2.Open Land
X	6	X	3.Shoreline Configuration
	9	X	4.Scenic Features
	27		5.Scenic Quality of Water
			Duration of View 6
			Type of Water 12
			Quality of Horizon 9
	39	3	**Desktop Subtotal**
	16		6.Landscape Character
			Land Use 7
			Roadside Characteristics 3
			Settlement Characteristics 6
	9		7.Vegetation
X	9		8.Composition & Effect
	75		**Total Score**
2			**Special Interest**

Viewshed Description Highly diverse landscape featuring foreground views across the Blue Hill Golf Course to an island studded harbor. Blue Hill rises at the edge of the midground to the north. Picturesque old trees frame the view in all directions.

Viewshed Management Recommendations Continued high level of maintenance of the golf course and the mature trees that frame the view to the water. Town ordinances to deal with the visual impacts of developments within the viewshed of this highly vulnerable landscape.



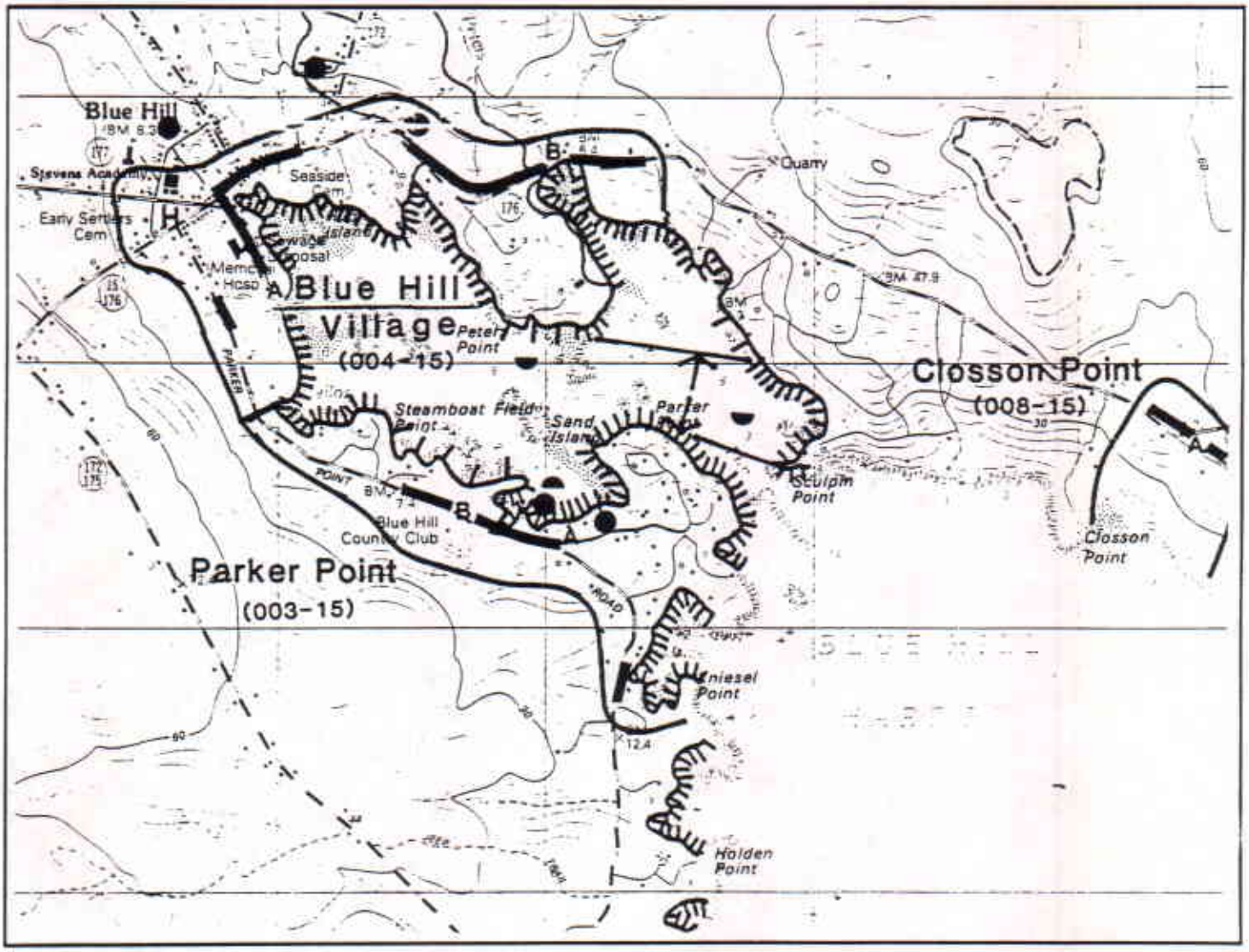
Scenic Area Evaluation Form

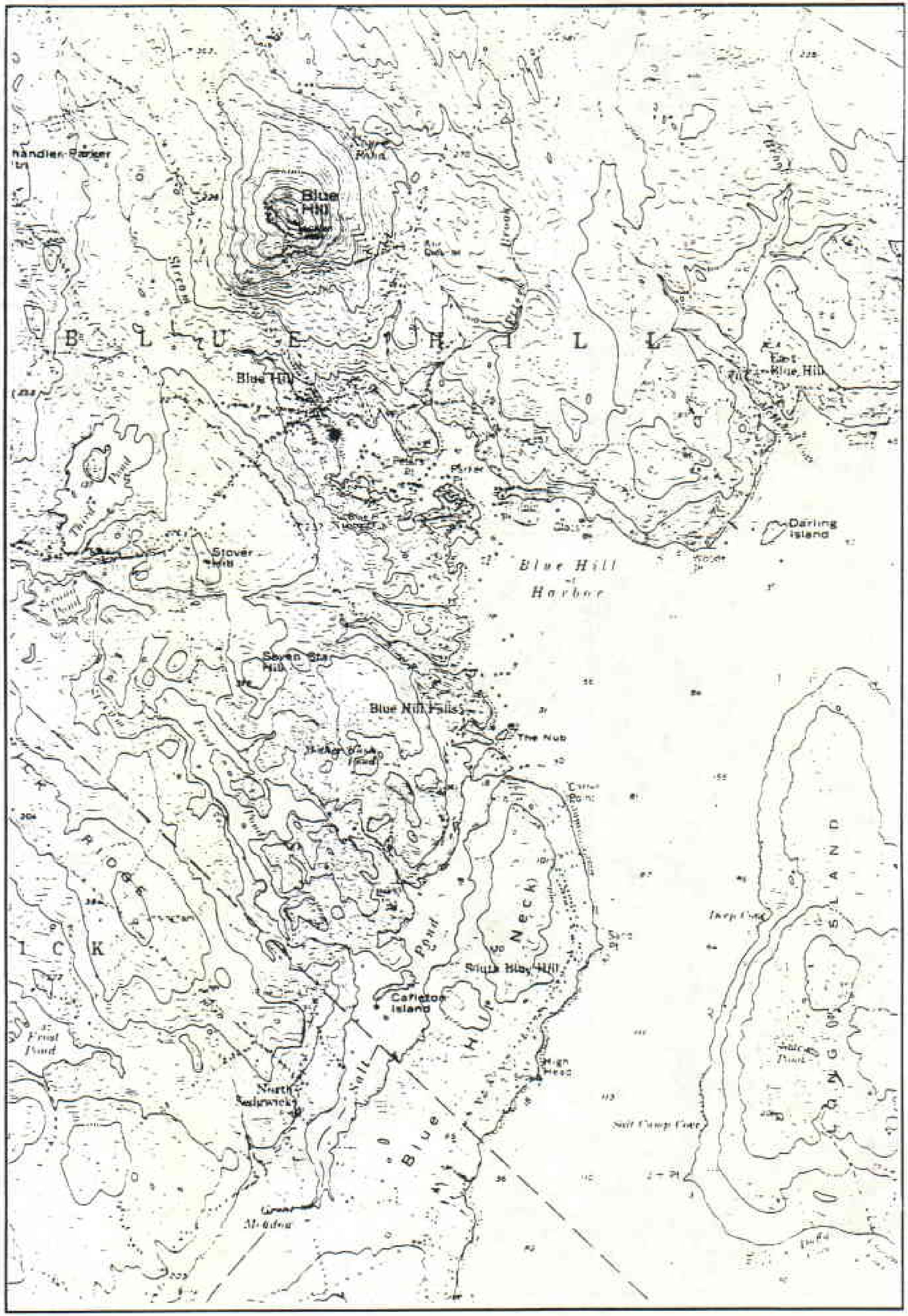
Scenic Area **Blue Hill Village** Code **004-15** Town(s) **Blue Hill** County **Hancock**
1989 Coastal Scenic Inventory — Maine State Planning Office

SI	S	IP	Special Interest/Score/Indicators Present
			1.Landform Topography____Slope____
			2.Open Land
X	6	X	3.Shoreline Configuration
	6	X	4.Scenic Features (Mooring Area)
	27		5.Scenic Quality of Water
			Duration of View 9
			Type of Water 12
			Quality of Horizon 6
	39	3	**Desktop Subtotal**
X	19		6.Landscape Character
			Land Use 7
			Roadside Characteristics 3
			Settlement Characteristics 9
	9		7.Vegetation
	9		8.Composition & Effect
	77		**Total Score**
2			**Special Interest**

Viewshed Description Blue Hill is one of Maine's most outstanding waterfront villages, characterized by a strong sense of architectural integrity throughout its commercial, civic, and residential structures. The focus of the town is its sheltered harbor, enclosed by park-like landscapes, majestic old trees, and stately homes. The harbor area includes significant wood-framed buildings on Main St., a public waterfront park and cemetery, and an active harbor. Midground elements include Blue Hill Harbor, spruce shoreline, and the mooring area. Background views are to spruce shoreline and spruce hilltops. The general condition of the area is very good with outstanding architectural and landscape cohesiveness.

Viewshed Management Recommendations Provide additional public access at the village area. Develop site plan review standards.




Blue Hill
B L U E H I L L
Blue Hill
East Blue Hill
Darling Island
Blue Hill Harbor
Stover Hill
Seven Star Hill
Blue Hill Falls
The Nub
Carleton Island
North Sedgwick
Salt Pond
Neck
Salt Camp Cove
Frost Pond
Great Meadow

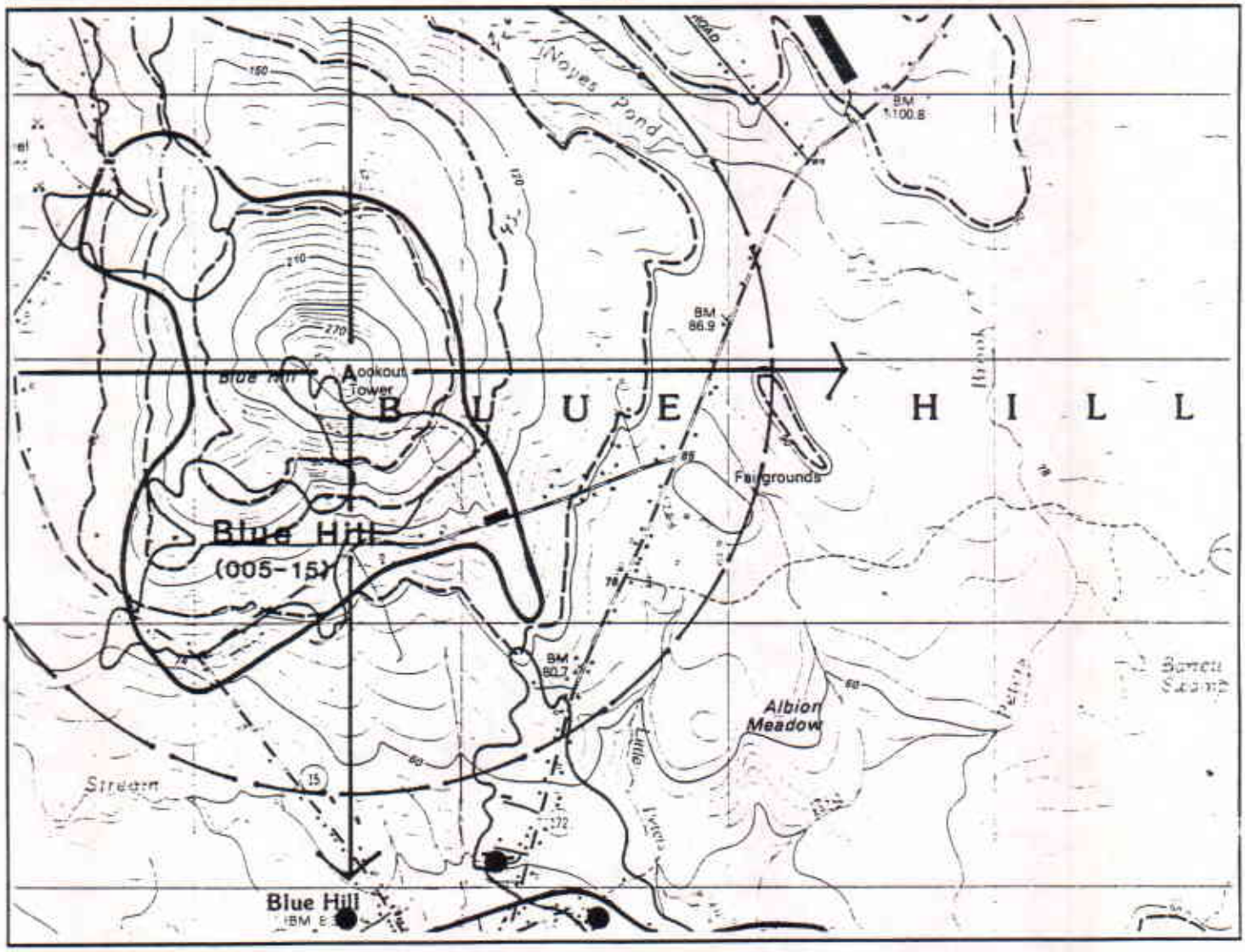
Scenic Area Evaluation Form

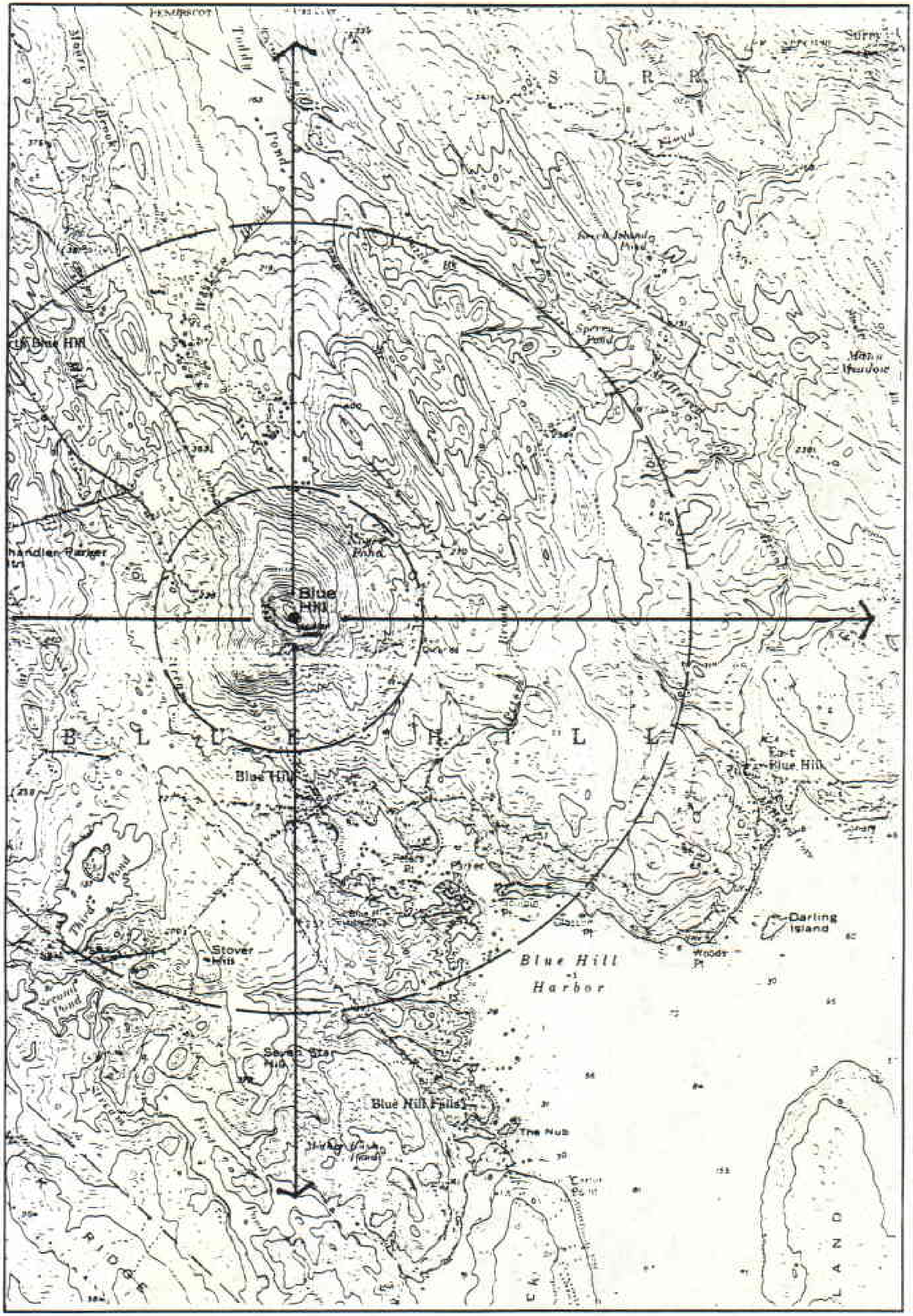
Scenic Area **Blue Hill** Code **005-15** Town(s) **Blue Hill** County **Hancock**
1989 Coastal Scenic Inventory — Maine State Planning Office

SI	S	IP	Special Interest/Score/Indicators Present
X	8	X	1.Landform Topography 6 Slope 2
X	6	X	2.Open Land
	6	X	3.Shoreline Configuration
			4.Scenic Features
X	30		5.Scenic Quality of Water
			Duration of View 9
			Type of Water 12
			Quality of Horizon 9
	50	4	**Desktop Subtotal**
	14		6.Landscape Character
			Land Use 7
			Roadside Characteristics 1
			Settlement Characteristics 6
	9		7.Vegetation
X	9		8.Composition & Effect
	82		**Total Score**
4			**Special Interest**

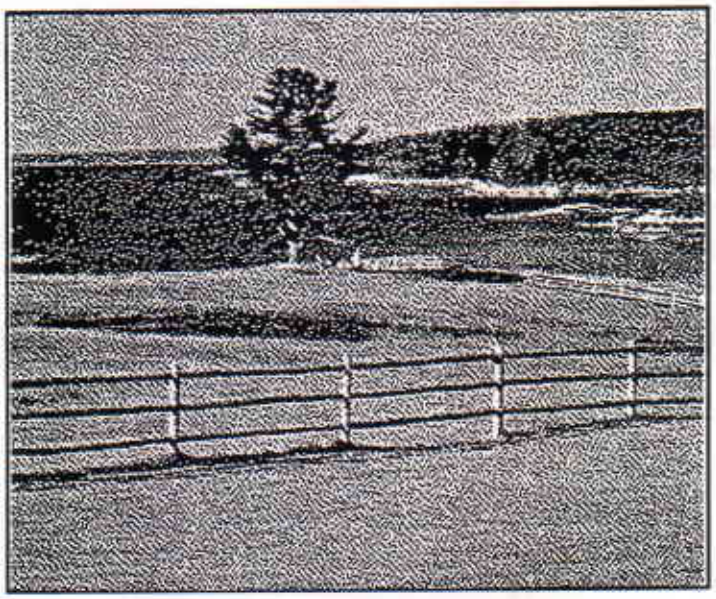
Viewshed Description Prominent hilltop area rising to over 885 feet (270 meters) above sea level. Blueberry fields, exposed ledge, meadow and spruce forest make up the hillside environment. A fire tower provides 360 degree views above the treeline. A town highway, unimproved parking area and well used walking path provide access to the area. Foreground features include meadow, blueberry field, exposed ledge and spruce forest. Midground elements include the same, as well as the waters of Blue Hill Bay. Background is made up of open water, distant wooded hilltops and islands, and the mountains of Mt. Desert Island. Pristine natural area is just beginning to see intrusions from development.

Viewshed Management Recommendations Define parking area / Public access and maintenance of hiking trail




S U R R Y
Blue Hill
B L U E H I L L
East Blue Hill
Darling Island
Blue Hill Harbor
Stover Hills
Seven Star Hill
Blue Hill Falls
The Nub

UNION RIVER BAY



East Blue Hill
Morgan Bay
Newbury Neck
Surry
Contention Cove

Sub-Region Evaluation Form

Sub-Region **Union River Bay**
1989 Coastal Scenic Inventory

Towns **Surry, Trenton**

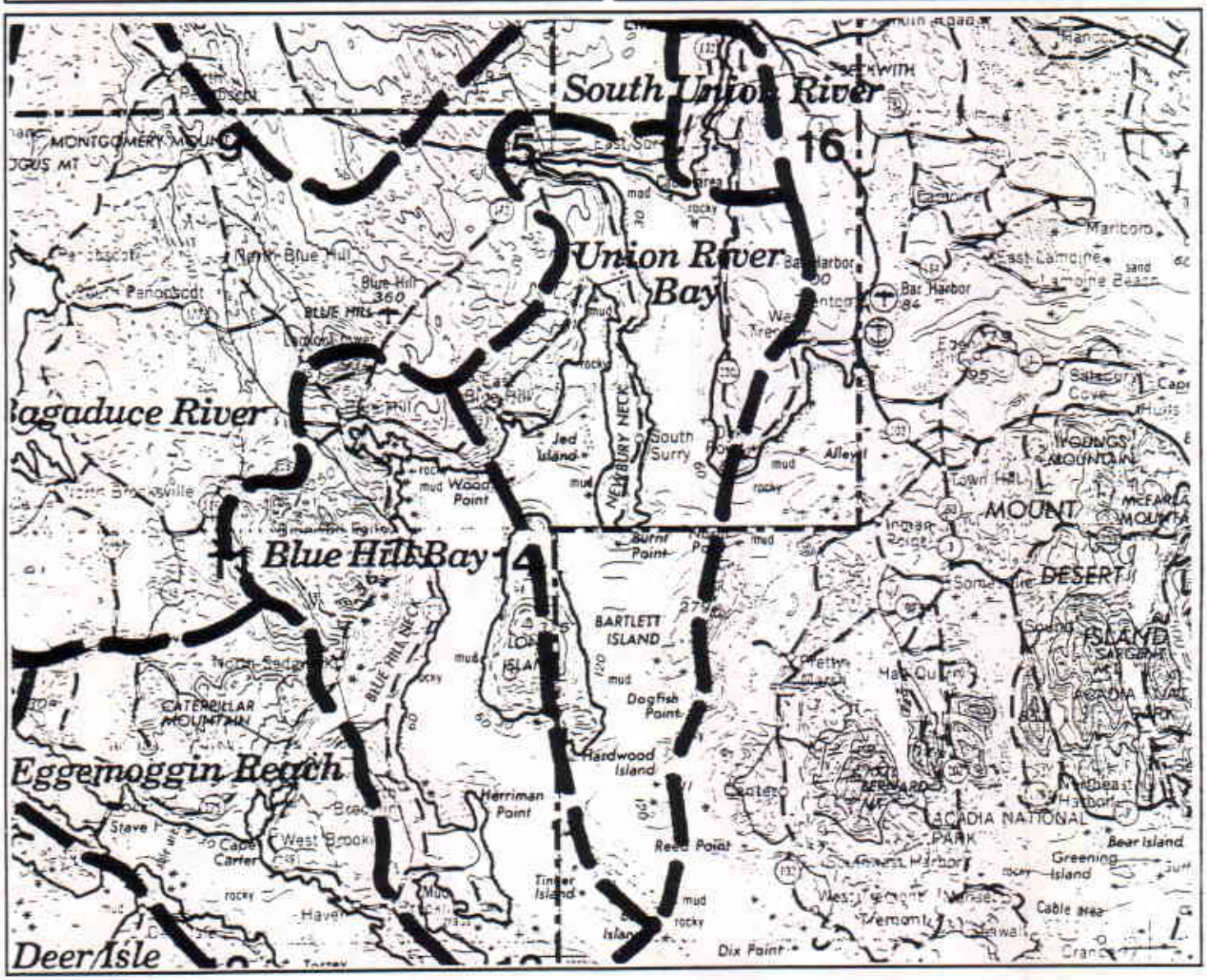
County **Hancock**
Maine State Planning Office

Sub-Region Description

Union River Bay, one of the most sparsely populated regions of Penobscot Bay, is made up of several long coves, low wooded hillsides, and a few villages that are generally not oriented to the water. The subregion is divided by the spine of Newbury Neck, one of the longest peninsulas in the Bay.

Scenic Areas

East Blue Hill (006-15)
Morgan Bay (001-16)
Newbury Neck (002-16)
Surry (004-16)
Contention Cove (005-16)



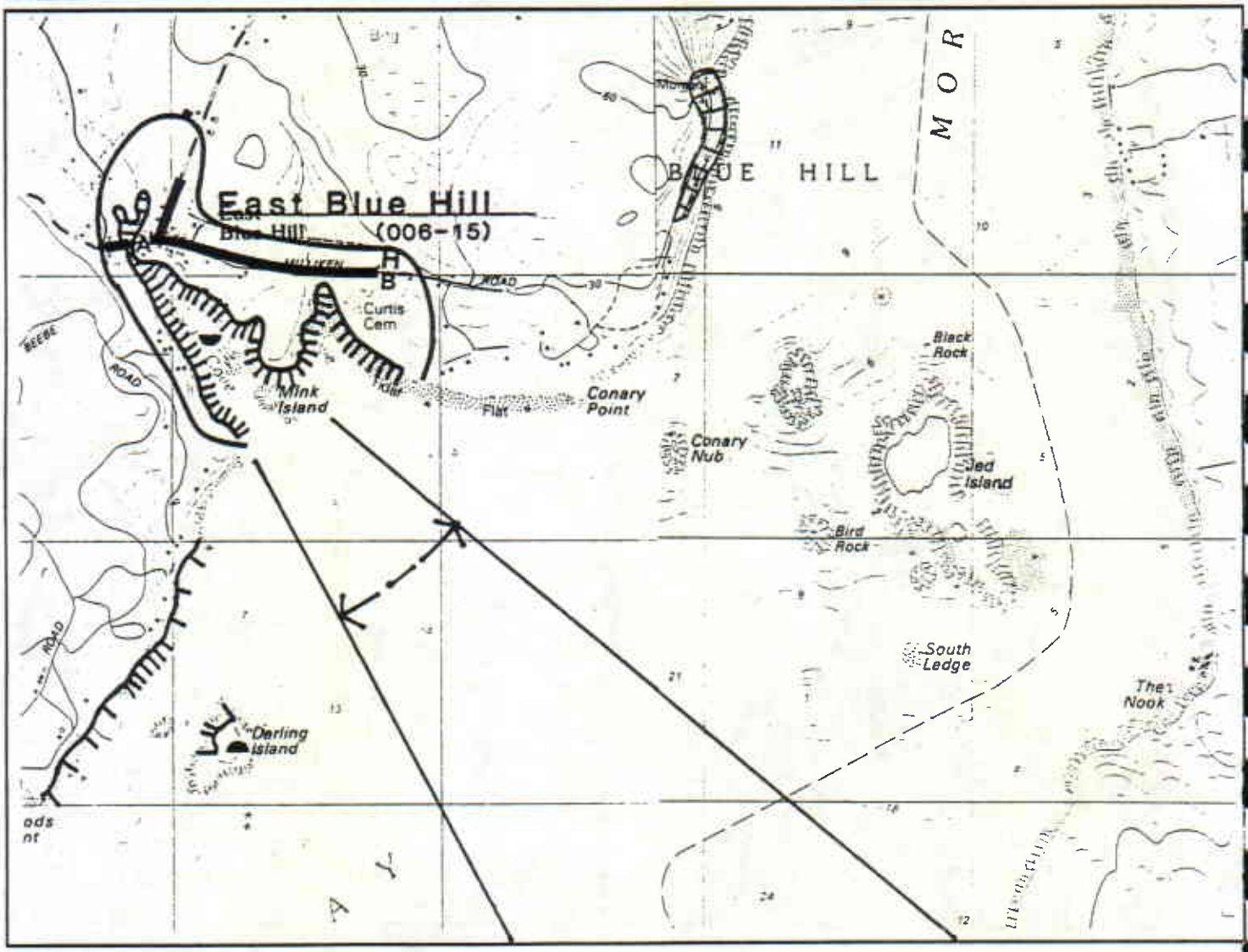
Scenic Area Evaluation Form

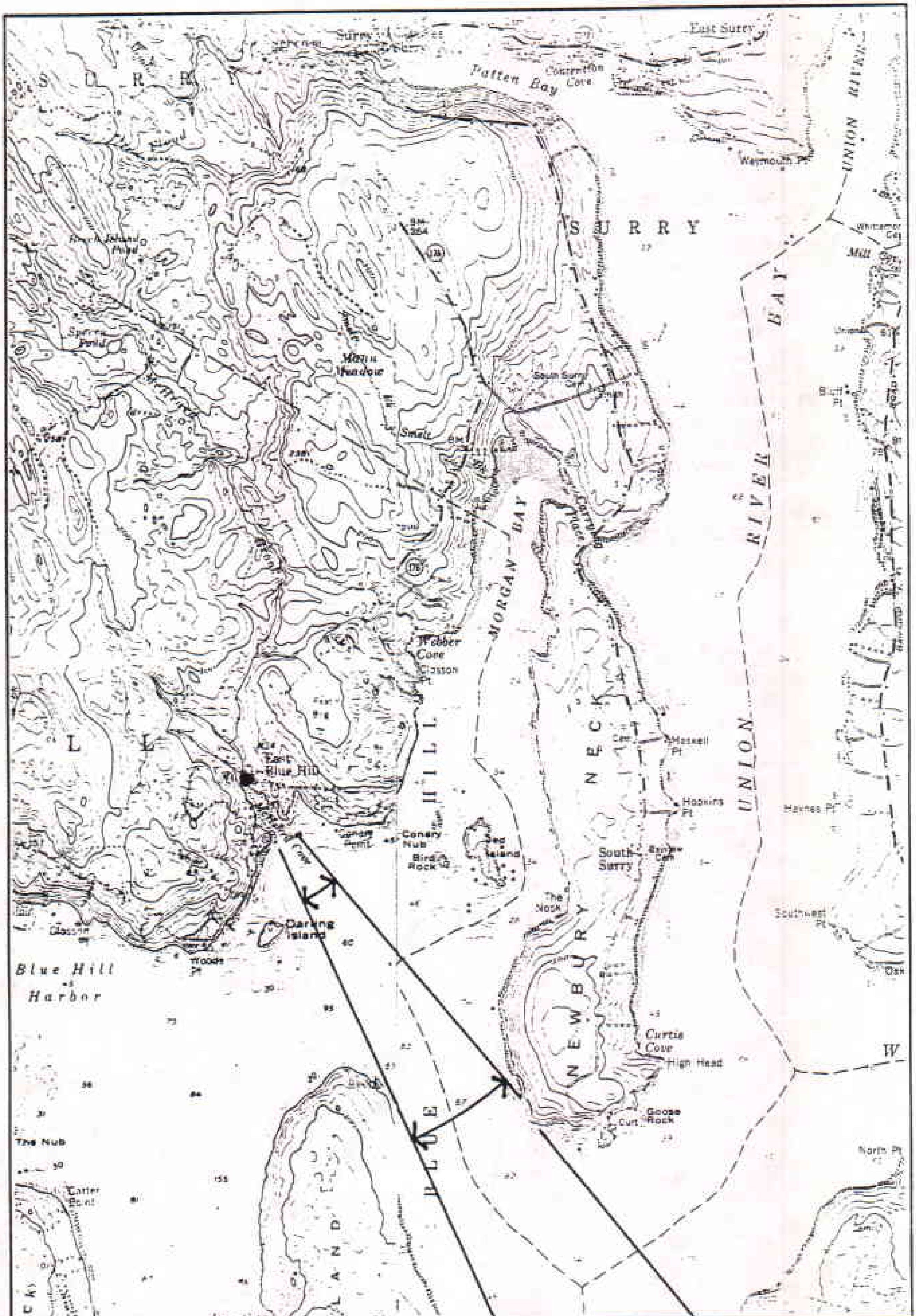
Scenic Area **East Blue Hill** Code **006-15** Town(s) **Blue Hill** County **Hancock**
1989 Coastal Scenic Inventory — Maine State Planning Office

SI	S	IP	Special Interest/Score/Indicators Present
			1.Landform Topography____Slope____
			2.Open Land
	6	X	3.Shoreline Configuration
	9	X	4.Scenic Features (Mooring area/Islands)
X	27		5.Scenic Quality of Water
			Duration of View 6
			Type of Water 12
			Quality of Horizon 9
	42	3	**Desktop Subtotal**
	16		6.Landscape Character
			Land Use 7
			Roadside Characteristics 3
			Settlement Characteristics 6
	6		7.Vegetation
	9		8.Composition & Effect
	73		**Total Score**
			Special Interest

Viewshed Description Small 19th century residential settlement with limited commercial development, waterfront park, open pasture, and bridge over tidal creek. Town roads provide filtered views between structures and vegetation, a narrow view from the bridge, and open views across pasture. Foreground elements include vernacular architecture, pasture, bridge, ledge creek edges, spruce forest edge, and the waters of McHeard Cove and Blue Hill Bay. Midground includes the waters of Blue Hill Bay and opposite shoreline with background views to Long Island, Blue Hill Bay, and open waters with islands on the horizon. General landscape condition ranges from good to very good with well composed water views.

Viewshed Management Recommendations Traffic pull-out area near bridge / Define road edges.




East Surry
Patten Bay
Contention Cove
Weymouth Pt
UNION RIVER
SURRY
Mill Cove
BAY
Bluff Pt
RIVER
UNION
Mann Meadow
Smelt
MORGAN BAY
Webber Cove
Closson Pt
East Blue Hill
Conary Nub
Bird Rock
Sea Island
South Surry
NEWBURY NECK
Haskell Pt
Hopkins Pt
Haynes Pt
Southwest Pt
The Neck
Darling Island
Woods Pt
Blue Hill Harbor
Curtis Cove
High Head
Goose Rock
North Pt
The Nub
Carter Point
BLUE HILL

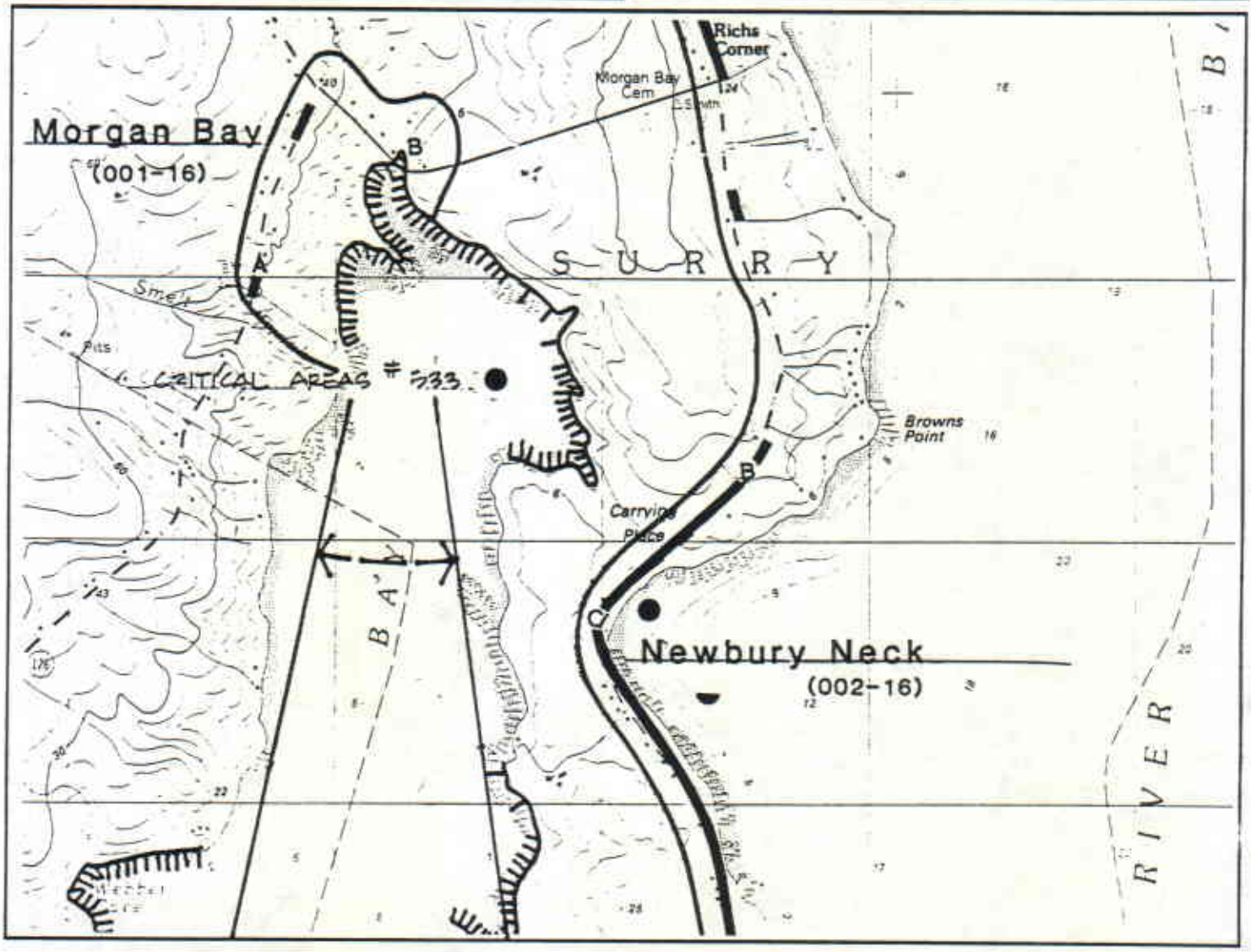
Scenic Area Evaluation Form

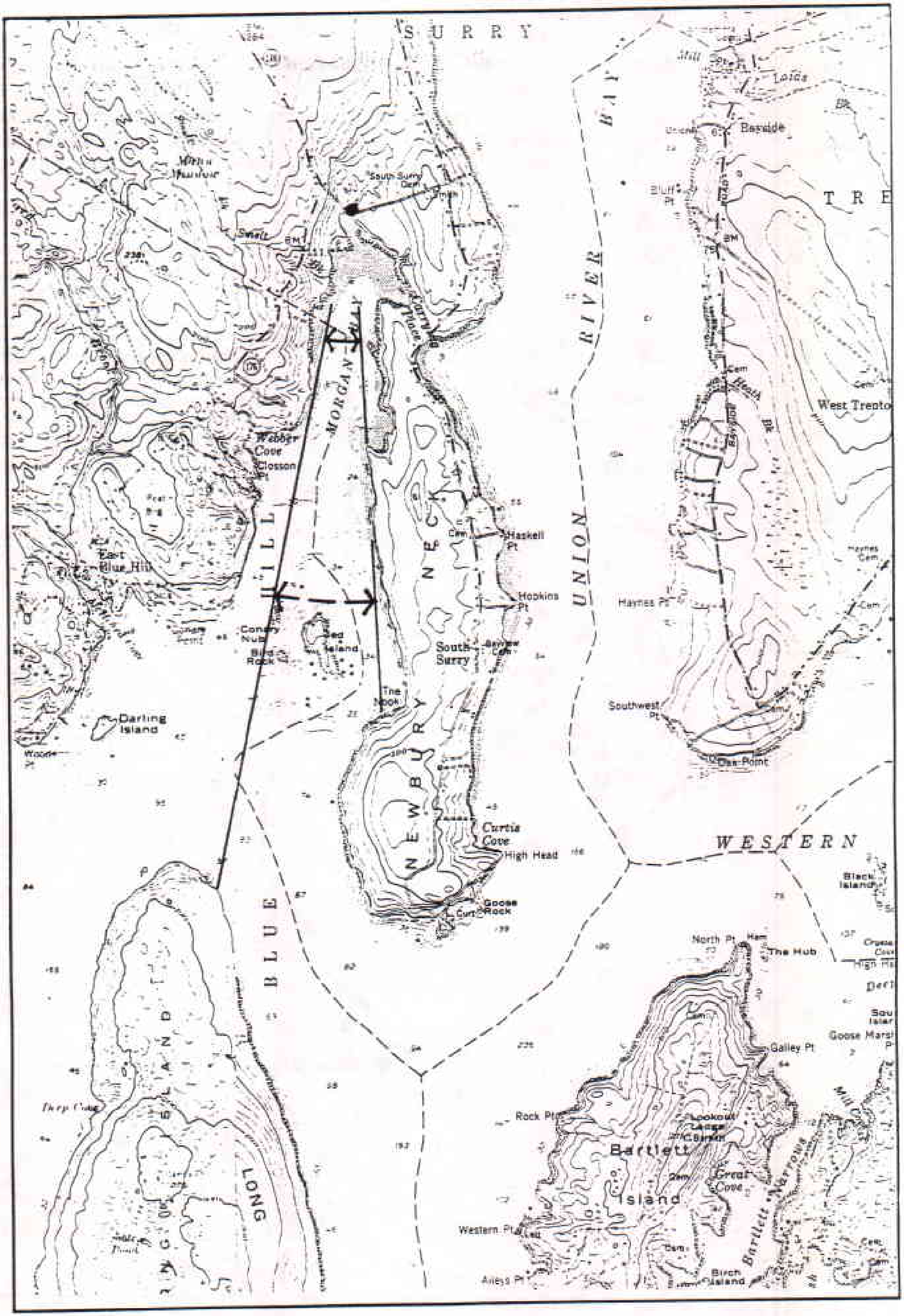
Scenic Area **Morgan Bay** Code **001-16** Town(s) **Surry** County **Hancock**
1989 Coastal Scenic Inventory — Maine State Planning Office

SI	S	IP	Special Interest/Score/Indicators Present
			1.Landform Topography____Slope____
			2.Open Land
	6	X	3.Shoreline Configuration
	9	X	4.Scenic Features
	27		5.Scenic Quality of Water
			Duration of View 6
			Type of Water 12
			Quality of Horizon 9
	42	3	**Desktop Subtotal**
	13		6.Landscape Character
			Land Use 5
			Roadside Characteristics 3
			Settlement Characteristics 6
	9		7.Vegetation
	6		8.Composition & Effect
	70		**Total Score**
			Special Interest

Viewshed Description Pristine natural area with a mixture of recent and historic architecture. Local road provide open and filtered views from water level and viewer dominant positions. Foreground elements include a salt marsh and the upper end of Morgan Bay, wooded hillsides on either side of the peninsula, open fields, and scattered structures. The view terminates with distant views of the hills of Mt. Desert Island. The general condition of the landscape is good to very good.

Viewshed Management Recommendations Conservation easements to protect open space, wooded edges to the waterfront, and the ridgelines visible from the public highway.




SURRY
BAY
TRE
West Trenton
RIVER
UNION
MORGAN BAY
NECK
NEWBURY
South Surry
BLUE HILL
East Blue Hill
Webber Cove
Closson Pt
Haskell Pt
Hopkins Pt
Conary Nub
Bird Rock
Sed Island
The Nook
Darling Island
Curtis Cove
High Head
Goose Rock
Haynes Pt
Southwest Pt
WESTERN
Black Island
North Pt
The Hub
Galley Pt
Rock Pt
Lookout Ledge
Bartlett Island
Great Cove
Bartlett Narrows
Western Pt
Birch Island
LONG ISLAND
Bayside
Bluff Pt

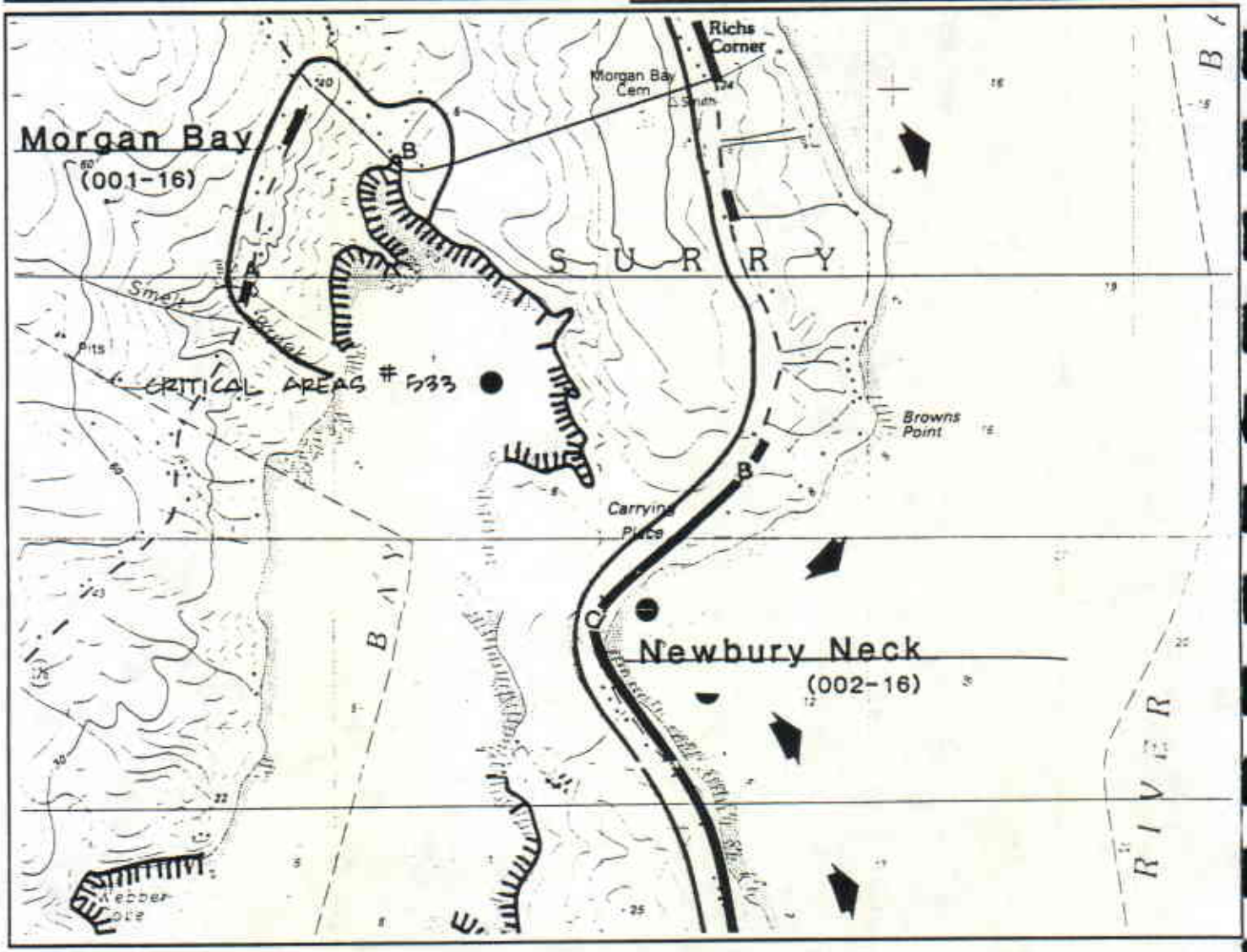
Scenic Area Evaluation Form

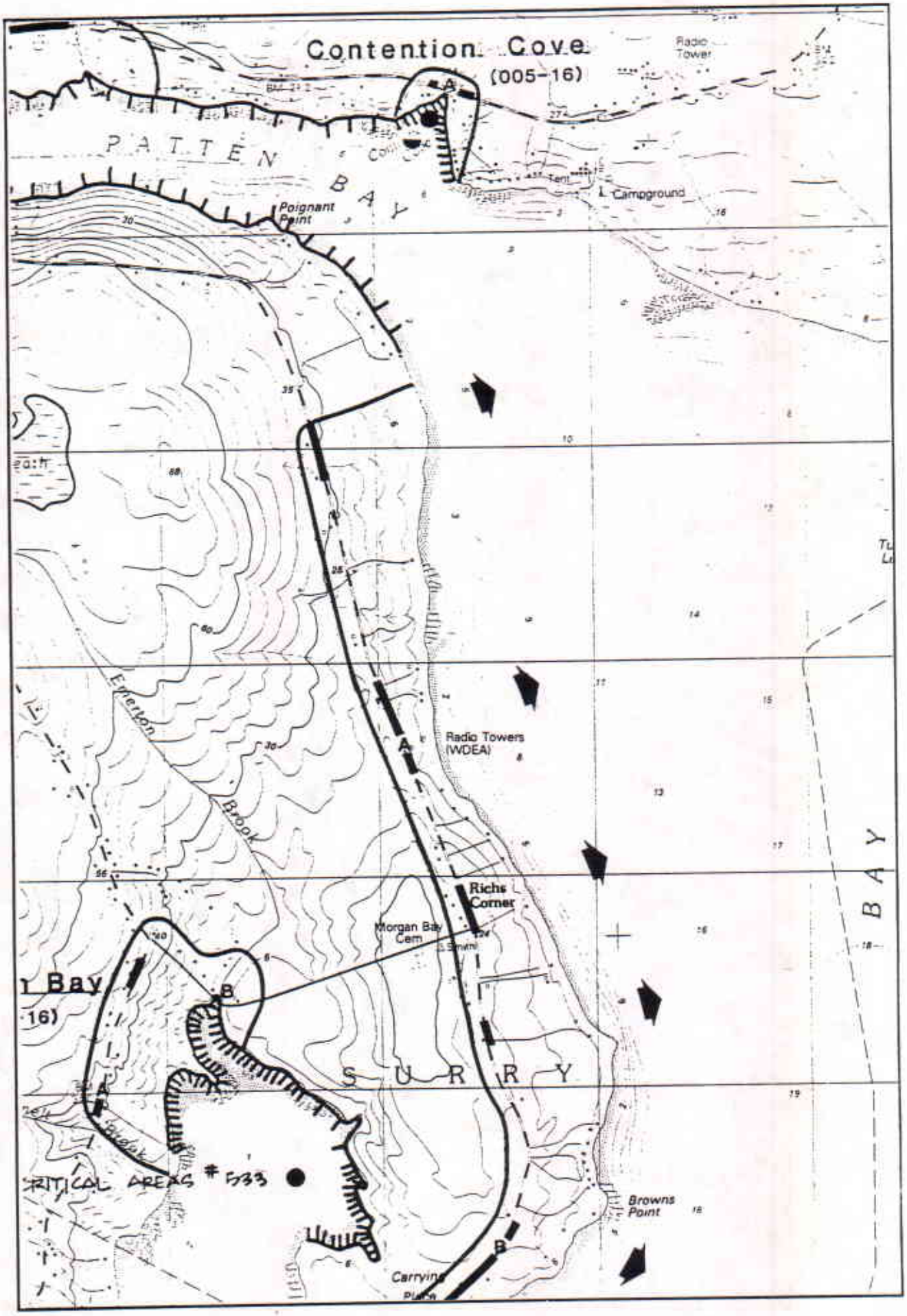
Scenic Area **Newbury Neck** Code **002-16** Town(s) **Surry** County **Hancock**
1989 Coastal Scenic Inventory — Maine State Planning Office

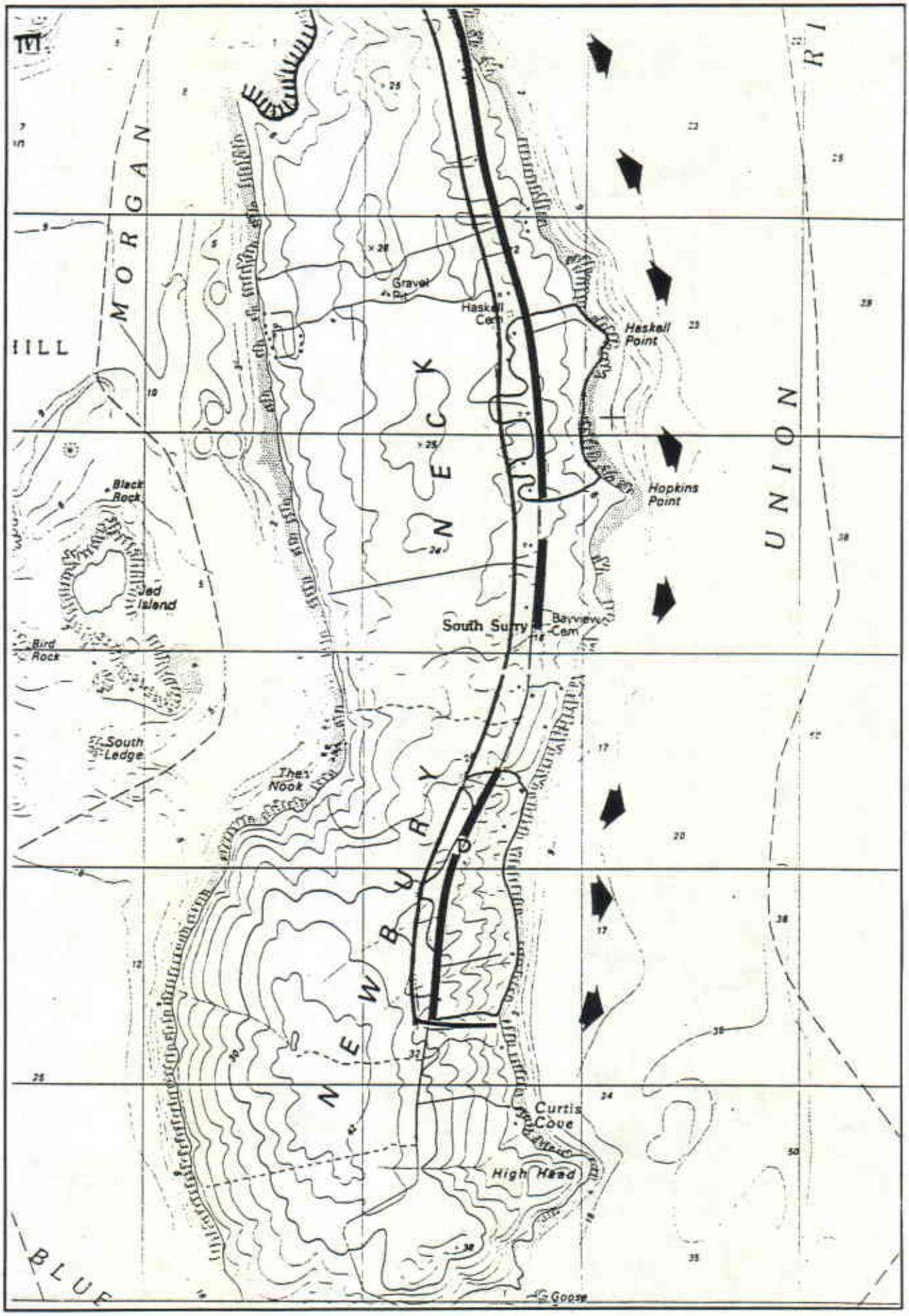
SI	S	IP	Special Interest/Score/Indicators Present
			1.Landform Topography____Slope____
	6	X	2.Open Land
			3.Shoreline Configuration
	9	X	4.Scenic Features
	27		5.Scenic Quality of Water
			Duration of View 9
			Type of Water 9
			Quality of Horizon 9
	42	3	**Desktop Subtotal**
	17		6.Landscape Character
			Land Use 5
			Roadside Characteristics 6
			Settlement Characteristics 6
	9		7.Vegetation
X	9		8.Composition & Effect
	77		**Total Score**
1			**Special Interest**

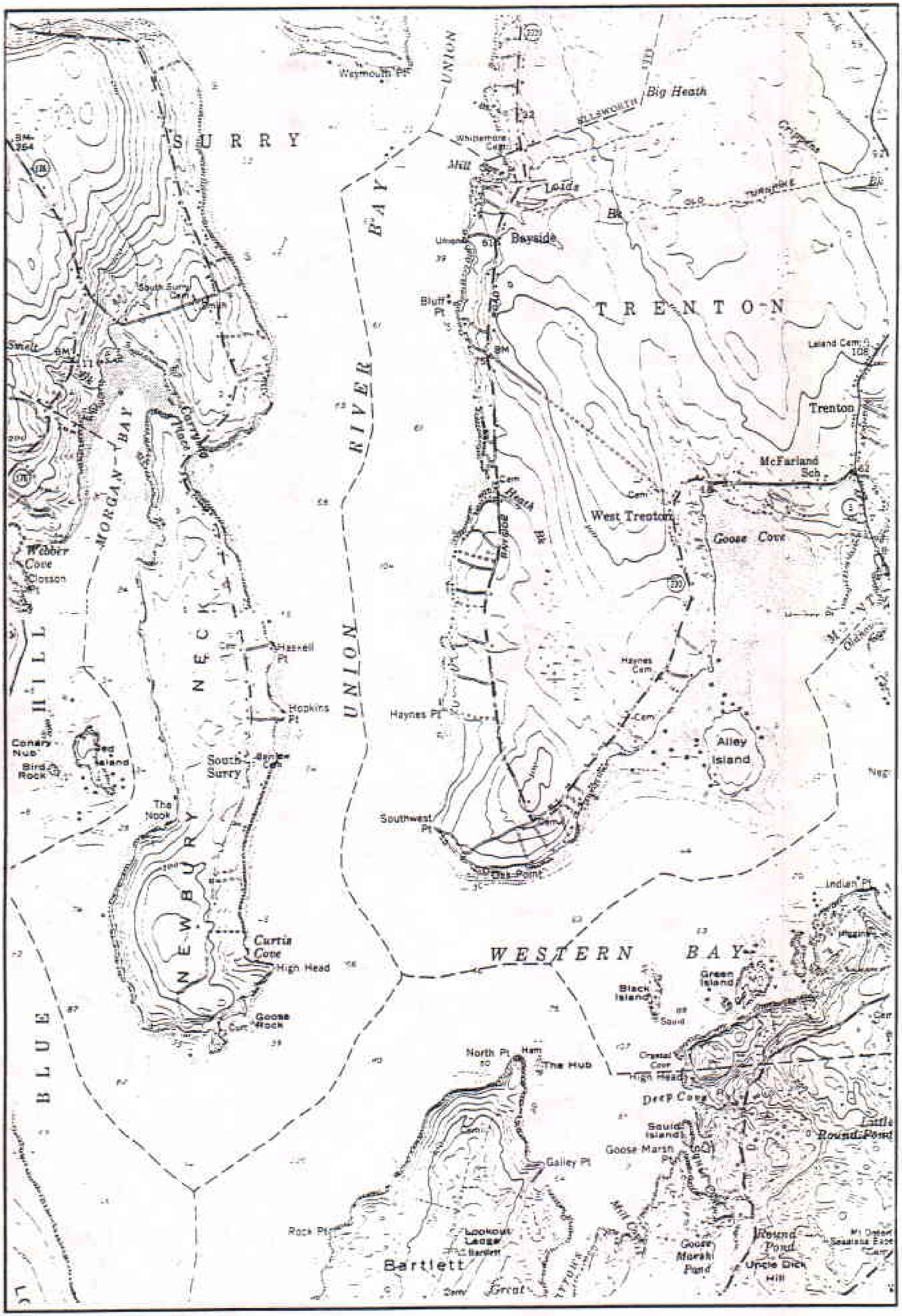
Viewshed Description Six miles of very scenic coastal highway with intermittent views to Union Bay on the east over open fields and beaches. Scattered farmhouses are oriented to the fields and the water. A very well maintained landscape with a high level of internal cohesion. Two miles to the east the mid-ground is dominated by low wooded hills in Trenton.

Viewshed Management Recommendations Work with land trust to maintain integrity of the landscape. Site plan review standards to ensure high quality site planning and development. Encourage preservation of open fields through clustering of new construction or transferring development rights to the edges and wooded areas.




Contention Cove
(005-16)
Radio Tower
PATTEN BAY
Poignant Point
Campground
Tent
Emerson Brook
Radio Towers (WDEA)
Richs Corner
Morgan Bay Cem
I Bay
16)
SURRY BAY
Brook
CRITICAL AREAS # 533
Browns Point
Carrying


MORGAN
HILL
UNION
RI
NEWBURY
BLUE
Gravel Pit
Haskell Cem
Haskell Point
Hopkins Point
Black Rock
Jed Island
Bird Rock
South Ledge
South Surry
Bayview Cem
The Nook
Curtis Cove
High Head
Goose


SURRY
Weymouth Pt
UNION
Big Heath
ELLSWORTH
Whittemore Cem
Mill
Loids
Bk
TURNPIKE
BAY
Union
Bayside
South Surry Cem
Bluff Pt
TRENTON
Leland Cem
Trenton
RIVER
MORGAN BAY
McFarland Sch
West Trenton
Goose Cove
Heath Bk
Webber Cove
Closson Pt
NECK
Haskell Pt
UNION
Hopkins Pt
Haynes Cem
Haynes Pt
Alley Island
Conary Nub
Bird Rock
South Surry
The Nook
Southwest Pt
Oak Point
NEWBURY
Indian Pt
Curtis Cove
High Head
WESTERN BAY
Green Island
Black Island
Goose Rock
BLUE HILL
North Pt
The Hub
Crystal Cove
High Head
Deep Cove
Sand Island
Goose Marsh Pt
Little Round Pond
Galley Pt
Rock Pt
Lookout Ledge
Bartlett
Goose Marsh Pond
Round Pond
Uncle Dick Hill
Great

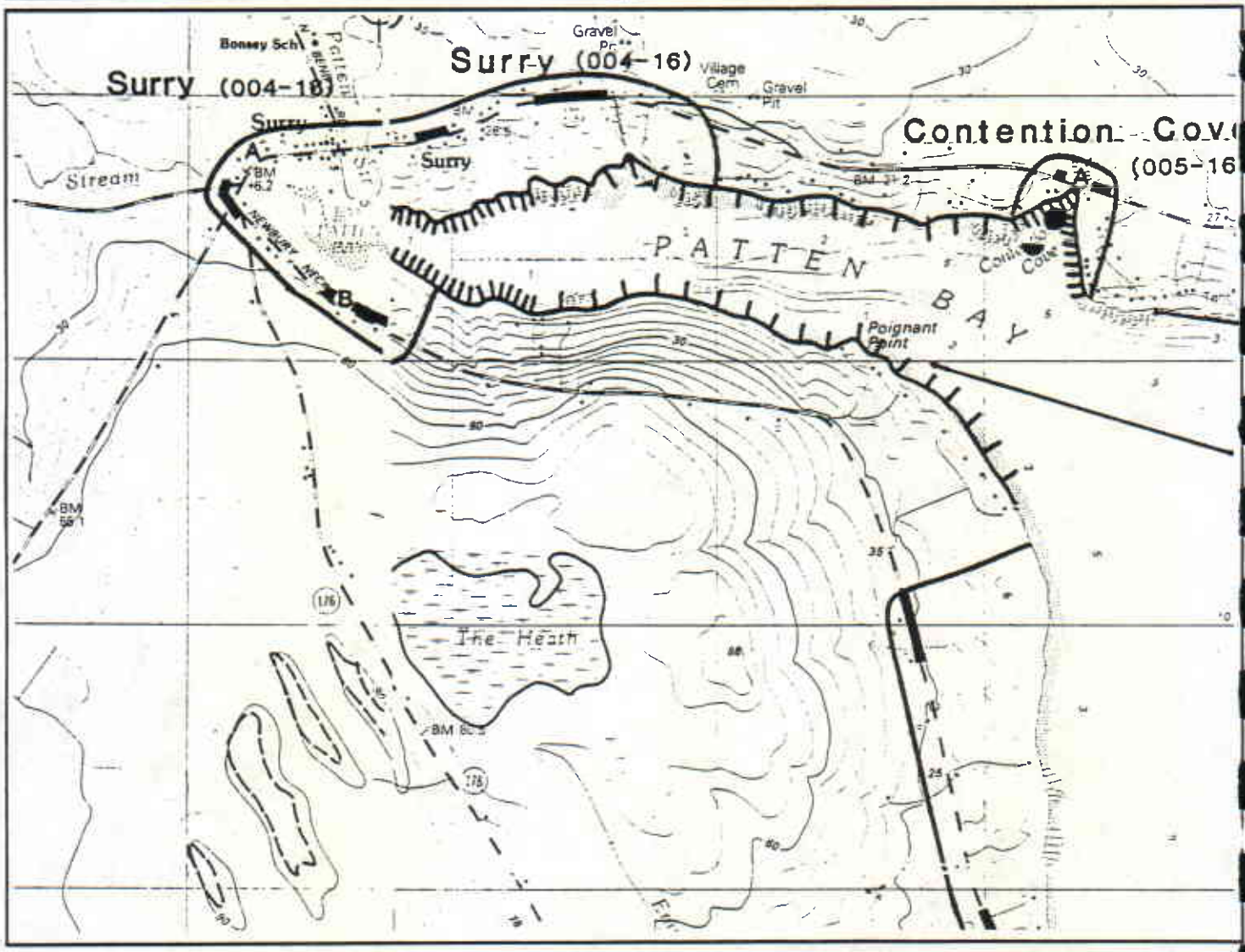
Scenic Area Evaluation Form

Scenic Area **Surry** Code **004-16** Town(s) **Surry** County **Hancock**
1989 Coastal Scenic Inventory Maine State Planning Office

SI	S	IP	Special Interest/Score/Indicators Present
			1.Landform Topography____Slope____
			2.Open Land
	6	X	3.Shoreline Configuration
			4.Scenic Features
	15		5.Scenic Quality of Water
			Duration of View 6
			Type of Water 6
			Quality of Horizon 3
	21	2	**Desktop Subtotal**
	9		6.Landscape Character
			Land Use 5
			Roadside Characteristics 1
			Settlement Characteristics 3
	3		7.Vegetation
	3		8.Composition & Effect
	36		**Total Score**
			Special Interest

Viewshed Description Several short views through trees and side yards from Route 172 to the head of Patten Bay. More sustained views are likely during the winter months without the intervening vegetation. The majority of the public views are in the midground range. A small scaled village at the upper reaches of the bay, consisting of several dozen homes, both contemporary and historic.

Viewshed Management Recommendations Protective covenants on development on the water side of the road to preserve visual access to Patten Bay. Roadside maintenance to maintain water views.



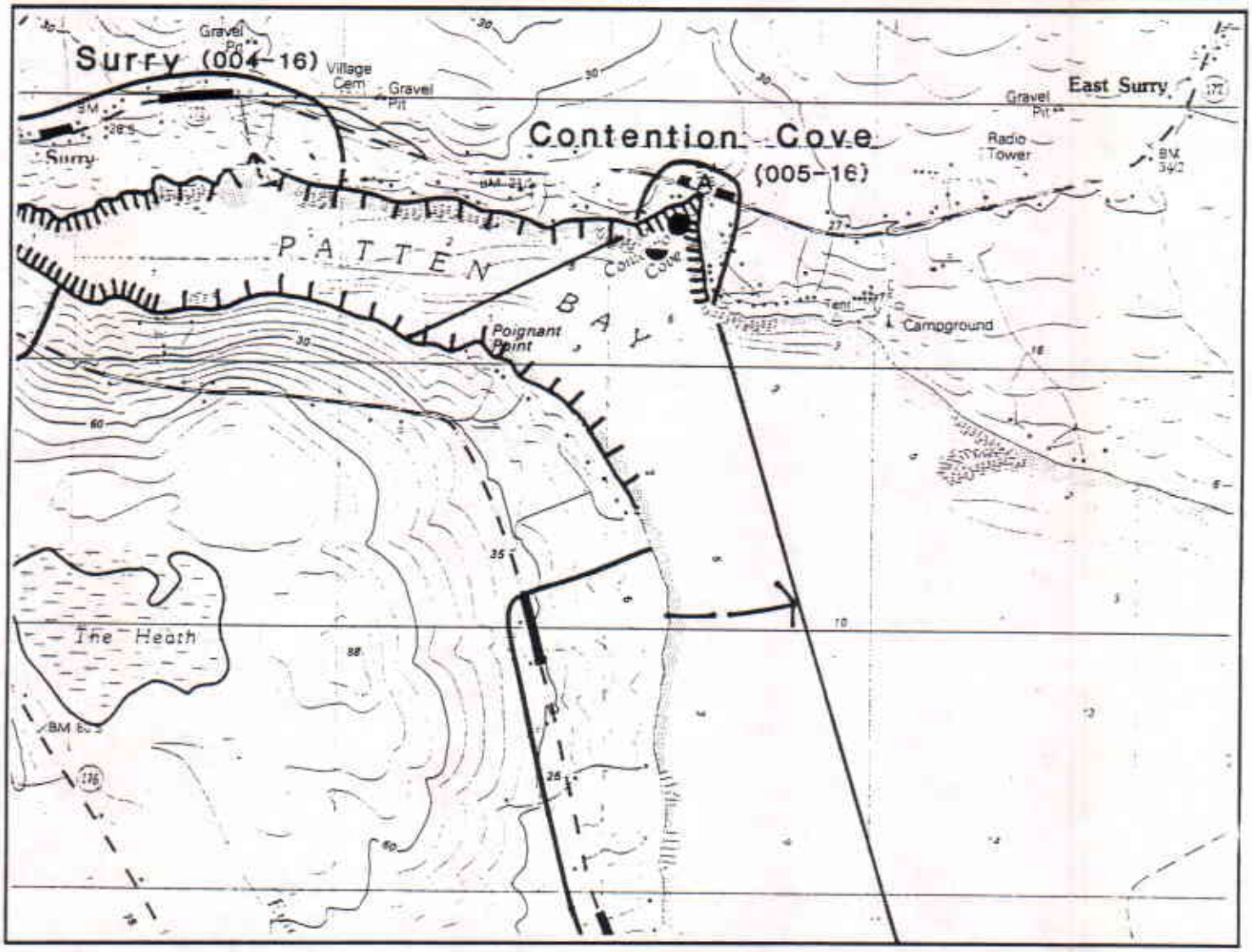
Scenic Area Evaluation Form

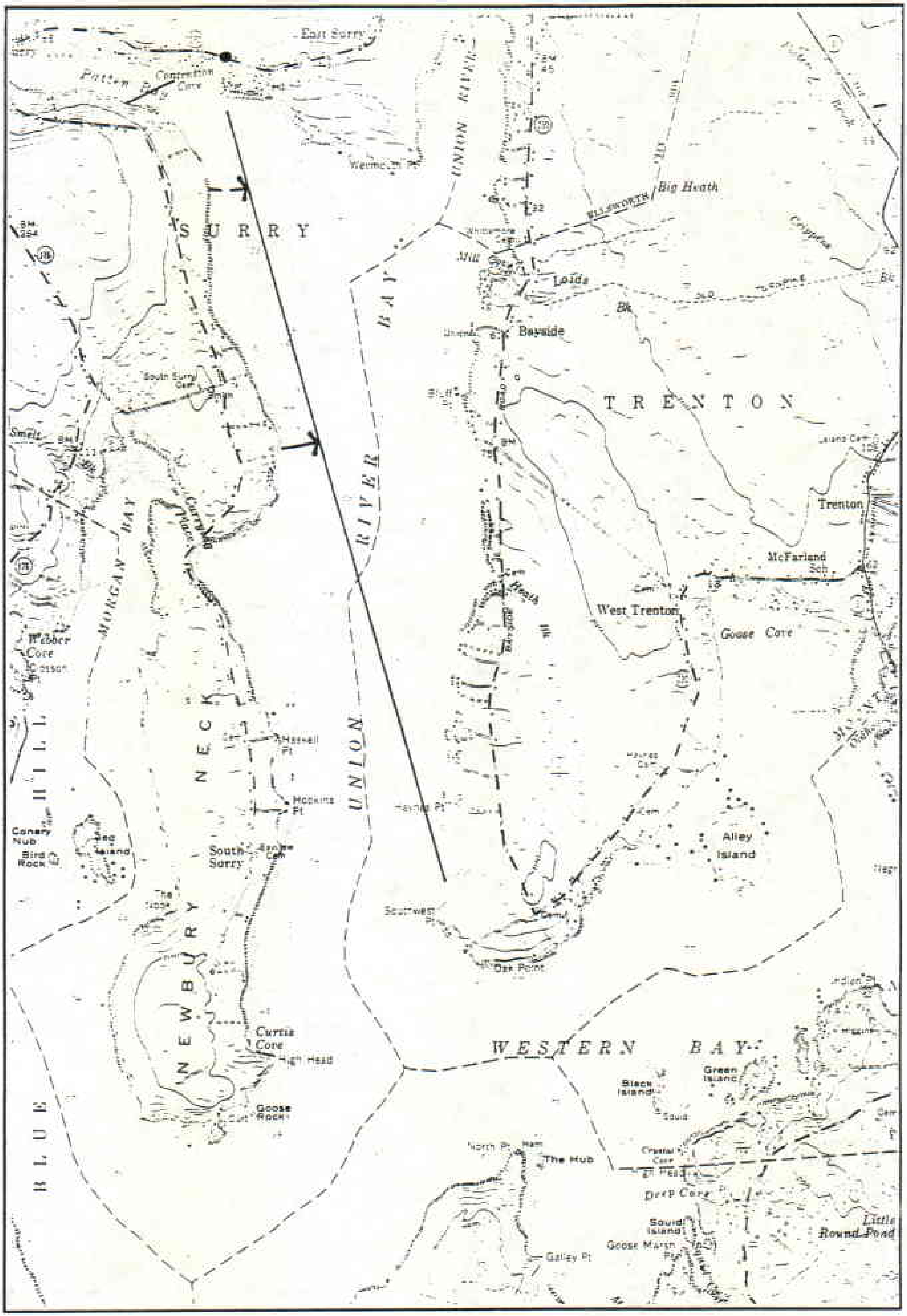
Scenic Area **Contention Cove** Code **005-16** Town(s) **Surry** County **Hancock**
1989 Coastal Scenic Inventory — Maine State Planning Office

SI	S	IP	Special Interest/Score/Indicators Present
			1.Landform Topography____Slope____
			2.Open Land
	6	X	3.Shoreline Configuration
	9	X	4.Scenic Features (Beach/Moorings)
	18		5.Scenic Quality of Water
			Duration of View 3
			Type of Water 12
			Quality of Horizon 3
	33	3	**Desktop Subtotal**
	16		6.Landscape Character
			Land Use 5
			Roadside Characteristics 1
			Settlement Characteristics 6
	6		7.Vegetation
	6		8.Composition & Effect
	57		**Total Score**
			Special Interest

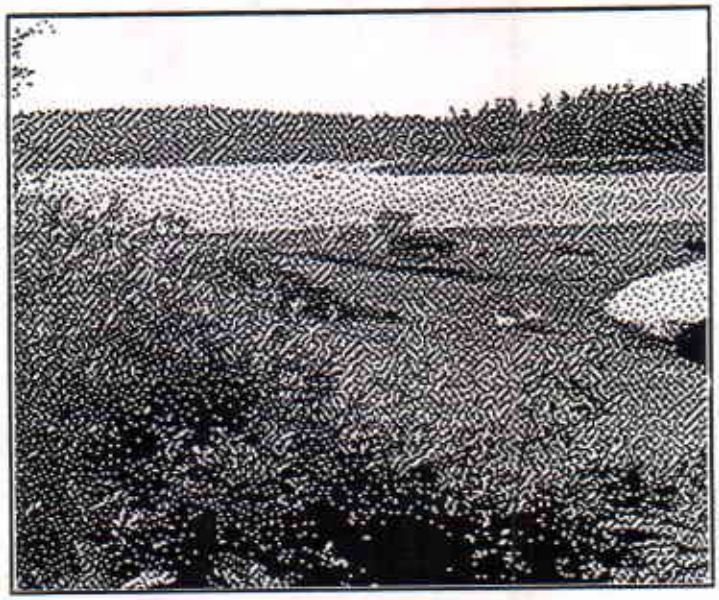
Viewshed Description A small shallow cove in a rural location at the upper end of Patten Bay. The town road passes within 50' of high water, giving a 90 degree view of the cove with its rocky shoreline and coarse grained beach, a meadow, one house, and a small mooring area. The midground includes the waters of Patten Bay, opposite shoreline in Surry, and the waters of Blue Hill Bay. Background views include the hills of Mt. Desert Island. The general landscape condition is good to very good, but the duration of view is very limited.

Viewshed Management Recommendations Provide vehicular pull-off.




East Surry
Patten Bay
Contention Cove
Weymouth Pt
UNION RIVER
Big Heath
ELLSWORTH
SURRY
Whittemore Cem
Mill
Loids
Bk
Bayside
TRENTON
South Surry Cem
Smelt
Trenton
McFarland Sch
West Trenton
Goose Cove
RIVER
MORGAN BAY
Webber Cove
NECK
Haskell Pt
Hopkins Pt
UNION
Canary Nub
Sea Island
Bird Pt
Rock
South Surry
Alley Island
The Nose
NEWBURY
Southwest Pt
Oak Point
Curtis Cove
High Head
WESTERN BAY
Green Island
Black Island
Goose Rock
BLUE HILL
North Pt
The Hub
Deep Cove
Sound Island
Goose Marsh Pt
Galley Pt
Little Round Pond

SOUTH UNION RIVER



Ellsworth City

Sub-Region Evaluation Form

Sub-Region **South Union River**
1989 Coastal Scenic Inventory

Town **Ellsworth**

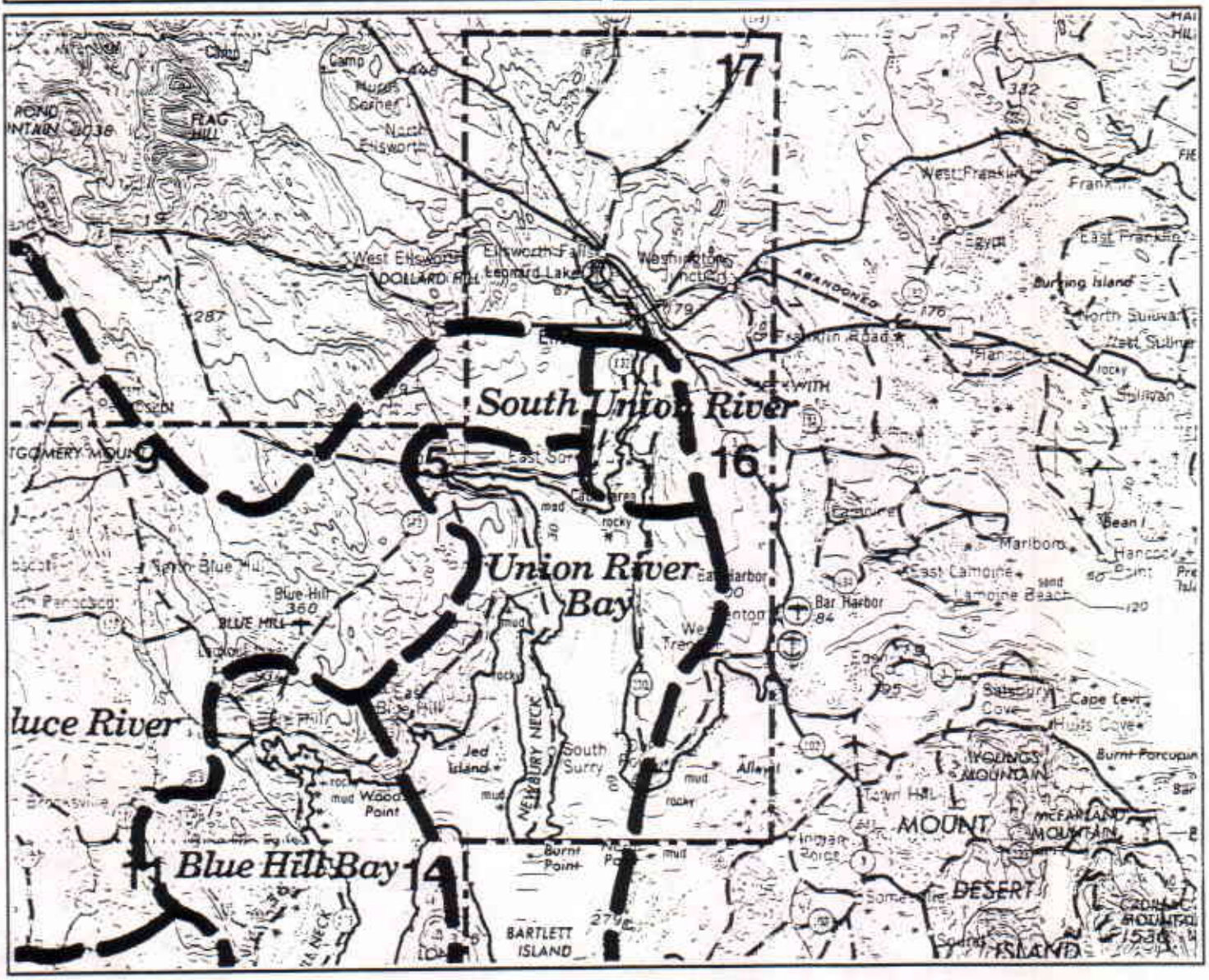
County **Hancock**
Maine State Planning Office

Sub-Region Description

South Union River could be considered a part of Union River Bay, except for its development patterns along the Union River in Ellsworth and the tighter scale of the landscape. This area marks the transition zone between Penobscot Bay and Maine's bold coast, starting at Mount Desert Island.

Scenic Area

Ellsworth City (001-17)



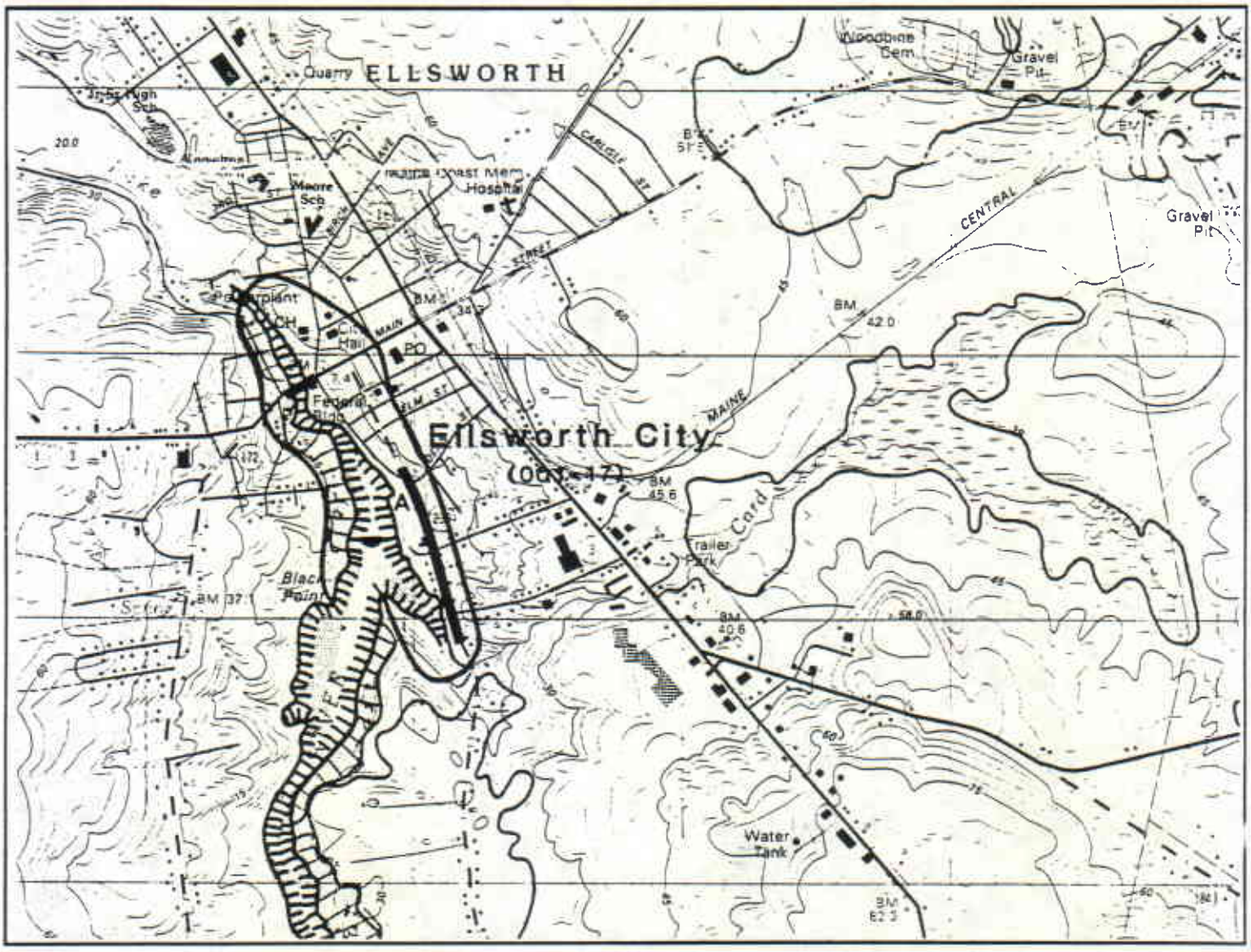
Scenic Area Evaluation Form

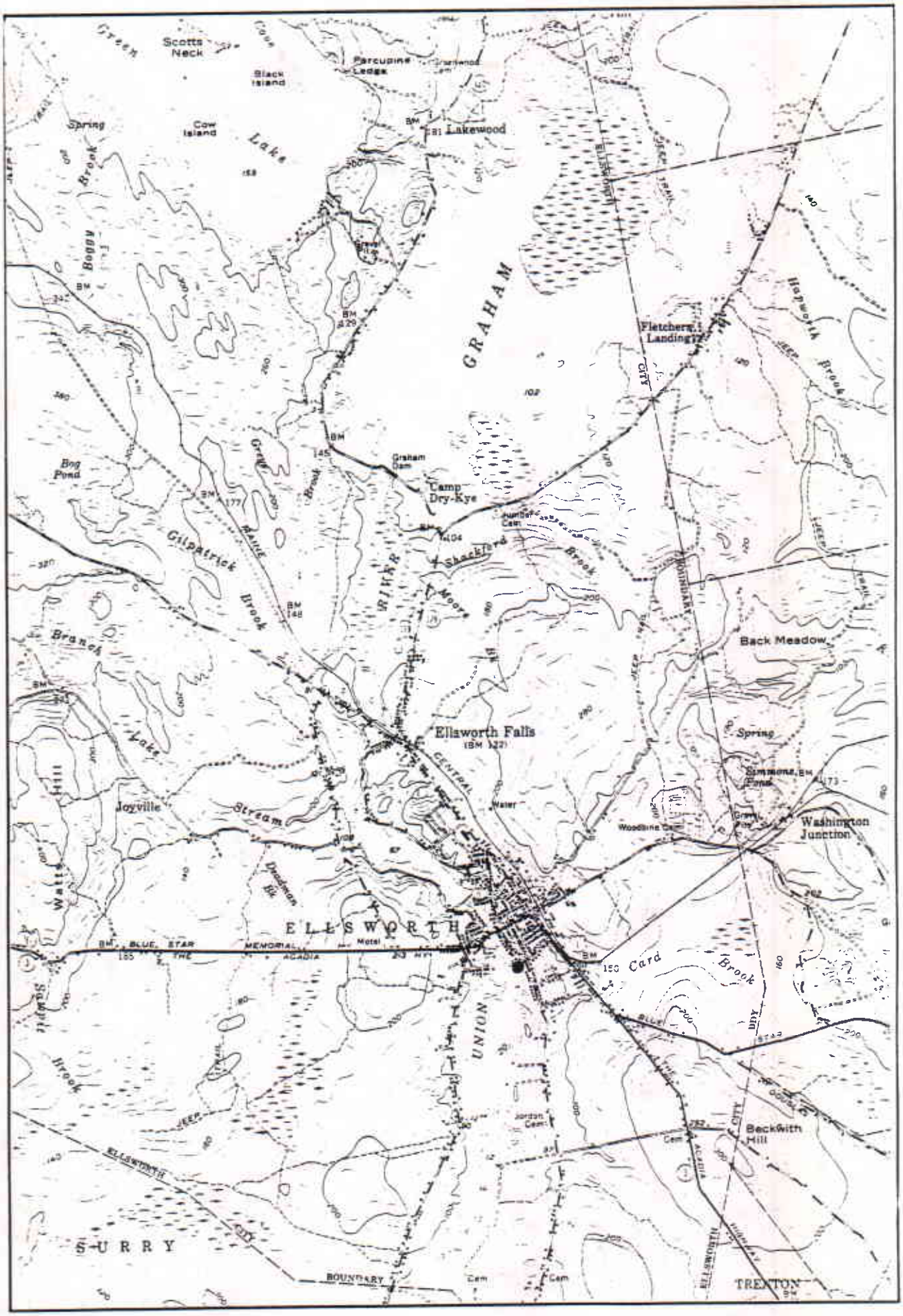
Scenic Area **Ellsworth City** Code **001-17** Town(s) **Ellsworth** County **Hancock**
1989 Coastal Scenic Inventory — Maine State Planning Office

ST	S	IP	Special Interest/Score/Indicators Present
	2	X	1.Landform Topography____Slope 2
			2.Open Land
	6	X	3.Shoreline Configuration
	9	X	4.Scenic Features (Mooring area)
	18		5.Scenic Quality of Water
			Duration of View 9
			Type of Water 6
			Quality of Horizon 3
	35	4	**Desktop Subtotal**
	11		6.Landscape Character
			Land Use 5
			Roadside Characteristics 3
			Settlement Characteristics 3
	3		7.Vegetation
	6		8.Composition & Effect
	55		**Total Score**
			Special Interest

Viewshed Description The city has very limited views to the harbor from its road system, but a waterfront landing and park provides foreground views of the Union River, parking, and water access. Midground includes the waters of the Union River, spruce shoreline and hilltops. The general condition of the landscape is fair to very good, with the waterfront landing being the key element.

Viewshed Management Recommendations Vegetation management to open views from public streets. Interpretive signage program to interpret the history of the Ellsworth waterfront.




Scotts Neck
Porcupine Ledge
Black Island
Cow Island
Spring
Lake
Lakewood
Boggy Brook
GRAHAM
Fletchers Landing
Hopwood Brook
Bog Pond
Grahm Dam
Camp Dry-Kye
Gilpatrick Brook
Shackford Brook
Back Meadow
Ellsworth Falls
Spring
Joyville
Stream
Washington Junction
ELLSWORTH
Card Brook
Union River
Beckwith Hill
SURRY
TRENTON

GLOSSARY

GLOSSARY OF TERMS

Visual resource assessment is a relatively recent development in natural resource analysis, therefore a unified vocabulary used to describe the visual environment has not yet been established. Utilizing their own vocabularies, several federal agencies have instituted Visual Resource Management (VRM) systems. Many similarities exist within these systems, as well as some major differences.

By its nature a visual assessment is a highly site specific activity. Many of the concepts developed by the federal agencies have relevance to the Penobscot Bay Visual Assessment. Each has been examined in light of the unique aspects of the study area and the task at hand. Since the terminology may be new to some reviewers it is included here for easy reference.

AESTHETICS: The science or philosophy concerned with the quality of sensory experience; the use here is limited to visual experience.

CHARACTER TYPE: A relatively large area of land that has common distinguishing visual characteristics of landform, rock formations, water forms, and vegetative patterns. For purposes of this assessment the study area was initially identified in The Natural Regions of Maine, by Paul Adamus, Center for Natural Areas, South Gardiner, Maine, for the Maine Critical Areas Program, December, 1978.

CHARACTERISTIC LANDSCAPE: The naturally and culturally established landscape being viewed. It visually represents the basic vegetative patterns, landforms, rock formations, water forms, and structures which are in view.

CONE OF VISION: The horizontal angle of the landscape that is visible from a viewpoint. Constrictions to the viewer's eye may include buildings, street trees, forest edges, or foreground landforms.

CONFIGURATION: The amount of irregularity and/or enclosure in the shoreline. Shorelines with coves, points, bays, islands, and other features are considered highly configured, and are usually thought to be highly scenic.

CONTRAST: The way in which an introduced element may be compared to determine differences. Contrast is measured in terms of form, line, color, and texture.

DISTANCE ZONES: Horizontal divisions of the landscape being viewed. The delineations correspond to the most recent draft of the Scenic Character Regulations of the Maine Department of Environmental Protection.

Foreground is the visible landscape within one quarter mile from the observer. At this range textures and gross details are easily discernible. Trees, for example, may be appreciated for their individual characteristics. In some visual evaluation systems this distance can fluctuate from one quarter to one half a mile.

Midground extends from the foreground to 3 miles from the observer. Texture is normally characterized by the masses of trees in stands of uniform tree cover.

Background extends from the midground to infinity.

DOMINANCE: Determines the extent to which an object is noticeable when compared to the surrounding context.

DURATION: Relative measure of the time available to experience a view. The actual elapsed time will be a function of many factors: mode of transportation, speed of movement, obstacles in the foreground, intention of the viewer, amount of clearing between viewer and view, and opportunities for pull-offs along a road.

Short Views are fleeting glimpses of relatively short duration, from 1 to 3 seconds.

Medium Views are those visible for a moderate amount of time, from 3 to 10 seconds.

Long Views are visible for extended periods of time, greater than 10 seconds.

LANDFORM: The dominant topographic features of the landscape, described in terms of slope and repetitive natural forms. The dominant landforms found in the Penobscot Bay Study Area include low hills, prominent mountains, domelike islands, small coves, and highly configured shorelines.

LANDSCAPE: The surface features of an area including landform, water, vegetation, cultural features and all other objects and aspects of natural and human origin.

LANDSCAPE CHARACTER: A particular level of visual variety or diversity of landscape character. Features such as Landform, Vegetation, Water, and Cultural Features are compared singularly or in combination with those commonly found in the study area. The study area has been classified into variety classes based upon definitions developed by the US Forest Service:

Class A: Distinctive - Unusual and/or outstanding landscape that stands out from that which is commonly seen. Distinctive landscapes are considered to be of greater than local or regional significance.

Class B: Scenic - The combination of landform, water, vegetation, and/or cultural patterns has given the area a visual character that is above the average for the characteristic landscape.

Class C: Common - Little or no visual variety within the landscape. Monotonous or below average compared to the common features within the study area.

MITIGATION: A method or procedure designed to reduce the adverse scenic impact caused by an aspect of the project.

SCENERY: The general appearance of a place; the features seen in the landscape.

SCENIC AREA: A place within Penobscot Bay which exhibits a high degree of variety, harmony, and contrast among the basis visual elements, resulting in place with greater than normal visual quality.

SCENIC SUB-REGION: A smaller sub-set of Penobscot Bay; an area of distinct, relatively homogeneous landscape character as determined by the landforms, shoreline characteristics, waterforms, and settlement patterns.

VIEW: Something, especially a broad landscape or panorama, that is looked toward or kept in sight.

VIEWER ELEVATION: The position of the viewer relative to the scene being viewed.

Viewer Inferior - viewer is below that portion of a scene with the greatest visual interest.

Viewer Normal - viewer looks straight ahead to see the majority of the view; the most common relationship between viewer and scenery.

Viewer Superior - viewer is elevated above the scene observed, usually looking down to the rear portions of the foreground.

VIEWER EXPECTATION: An estimate of people's concern for visual quality in the environment.

VIEWERS: People who see the landscape at present, or who are likely to see the project in the future.

VIEWPOINT: The actual point from which a viewer sees the landscape. Most of the viewpoints identified in this study focus on common landscapes.

VIEWSHED: All the surface areas visible from an observer's viewpoint; also, the surface area(s) within which a critical object or viewpoint is seen.

VISUAL CHARACTER: The overall impression of a landscape created by the order of the patterns composing it: the visual elements of these patterns are the form, line, color, and texture of the landscape's components. Their interrelationships can be described in terms of dominance, scale, diversity, and continuity.

VISUAL IMPACT: The degree of scenic quality change as a result of anticipated activities or land use that are to take place (or have taken place) on the landscape.

VISUAL RESOURCES: The appearance of the features that make up the visible landscape.

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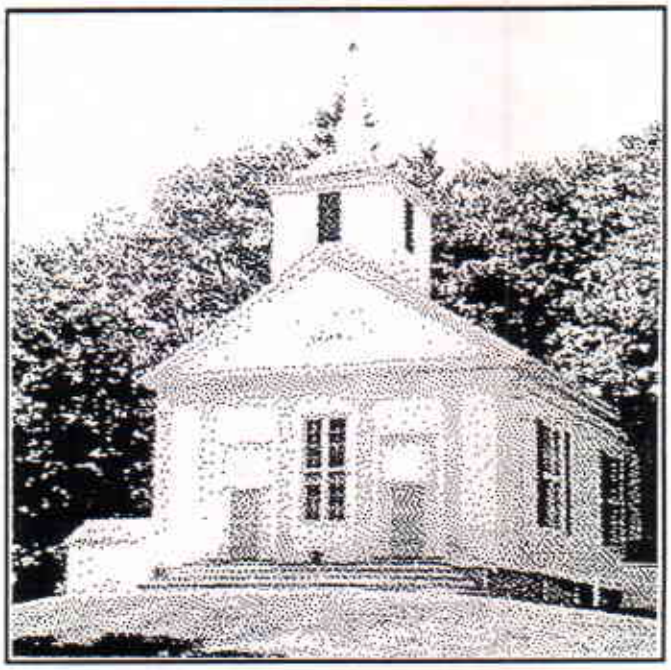

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MacNeil, Jami

From: MacNeil, Jami
Sent: Thursday, November 04, 2021 4:39 PM
To: Ron Huber
Subject: RE: Safe Harbors Rockland application comments

Hi Mr. Huber,

Thank you for the comment letter and attachments. I was able to download the PDF that came as a Google Drive document. The news article came as a hyperlink attachment. If you want it entered into the Department's record, please copy and paste the article content into a Word document and send as an e-mail attachment.

The public comment deadline is today at 5:00 pm. However, if there is something additional you want to send and you get it to me no later than 5:00 pm tomorrow, I will accept it into the record.

Thank you,
Jami

-Jami MacNeil (she/her)
Environmental Specialist III
Bureau of Land Resources
Maine Department of Environmental Protection
(207) 446-4894 | jami.macneil@maine.gov

From: Ron Huber <coastwatch@gmail.com>
Sent: Thursday, November 04, 2021 4:15 PM
To: MacNeil, Jami <Jami.MacNeil@maine.gov>
Subject: Safe Harbors Rockland application comments

Attached are the Penobcot BayWatch comments on the Safe Harbors Rockland marina expansion project, and cited attachments.
We reserve the right to add additional comments before the close of the comment period November 52021 at 5pm. Note that one document: Scenicinventory_PenBaymainland_Aug90.pdf, is so large it was automatically sent as a google drive document

ScenicInventory_PenBayMainland_Aug90.pdf

Ron Huber
Penobscot Bay Watch
POB 1871, Rockland Maine 04841
e coastwatch@gmail.com
www.penbay.org 207-691-4634

MacNeil, Jami

From: Ron Huber <coastwatch@gmail.com>
Sent: Thursday, November 04, 2021 5:23 PM
To: MacNeil, Jami
Subject: Re: Safe Harbors Rockland application comments

thanks Jami
I'd downloaded the penbay pilot document I don't think it was actually online. The image and coding info were all in the folder that accompanied the htmlt
It *expressed* in html expressed in html code but would work the same in a computer that was not connected to the internet at all.
But thank you for the opportunity to send it you as a word document. I will certainly do so.do so.

Best wishes
Ron

Ron Huber
Penobscot Bay Watch
POB 1871, Rockland Maine 04841
e coastwatch@gmail.com
www.penbay.org 207-691-4634

On Thu, Nov 4, 2021 at 4:38 PM MacNeil, Jami <Jami.MacNeil@maine.gov> wrote:

> Hi Mr. Huber,
>
> Thank you for the comment letter and attachments. I was able to download the PDF that came as a Google Drive document. The news article came as a hyperlink attachment. If you want it entered into the Department's record, please copy and paste the article content into a Word document and send as an e-mail attachment.
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>
> Thank you,
>
> Jami
>
> **-Jami MacNeil** (she/her)

Environmental Specialist III

Bureau of Land Resources

Maine Department of Environmental Protection

(207) 446-4894 | jami.macneil@maine.gov

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To: MacNeil, Jami <Jami.MacNeil@maine.gov>
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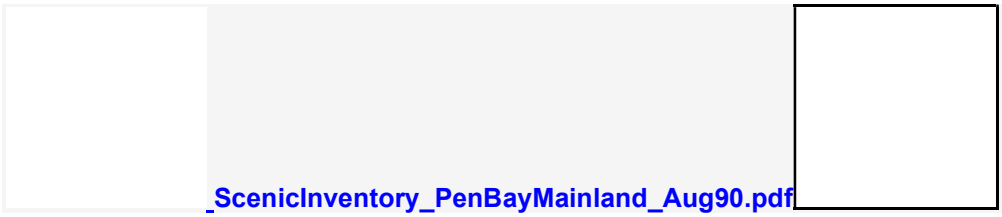

Ron Huber

Penobscot Bay Watch

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www.penbay.org 207-691-4634

MacNeil, Jami

From: Becca Shaw Glaser <beccaglaser@gmail.com>
Sent: Thursday, November 04, 2021 5:39 PM
To: MacNeil, Jami
Subject: Re: Additional Public Comment on SHM Rockland, LLC's Natural Resources Protection Act permit application (#L-20386-4P-P-N)

Categories: Red Category

Hi Jami,
Thank you again for your detailed reply. I really appreciate it.

That's interesting that the clearcutting, which was done by the city, would be under the purview only of the city itself. It seems like that dynamic opens up room for environmental mishaps.

As to the great blue heron, I wasn't thinking merely of dredging's impacts but of the fact that Rockland has been seeing more birds like that than we used to, and I wonder if having more activity, more boats, etc. in that area might affect them as well. You probably understand heron habits more than I do though!

Will you be at the site visit tomorrow?

I have to work, although I've considered trying to get over for the site visit. But I don't know if it makes sense for me to go to something where I am assuming, based on it being explained as not allowing public comment, I won't be able to converse and explain some of the public's concerns. In contrast, it is my assumption that the representatives of the company will be allowed to converse with and of course try to explain their proposal in the best possible light to state regulators. Perhaps I am wrong, but if that is how these state site visits work, it seems to have the potential to be skewed in favor of companies since they get to represent their applications in the best light, and it locks out the wisdom of the public who may have other things to point to at a site visit which are hard to explain in email.

I imagine that is not a policy that you personally have control over but I simply wanted to express that it doesn't feel like the most open, public process if that is how the state conducts these site visits. Conversely, I can imagine that having to field many comments and questions from the community could feel overwhelming, but if only the corporation or government officials are allowed to speak in person with the state regulators, does that not in some ways disempower and even devalue the public, the community at large?

Thanks again, and take care,
Rebecca Glaser

On Thursday, November 4, 2021, MacNeil, Jami <Jami.MacNeil@maine.gov> wrote:

> Hi Ms. Glaser,
>
> Thank you for your additional comments. These will also be added to the record and considered during the Department's review.

The cutting of upland vegetation adjacent to the coastal wetland is subject to the Shoreland Zoning Ordinance, administered by the Town. That activity does not fall within the Department's jurisdiction under the NRPA.

All of the proposed dredging areas are subtidal, and therefore will not affect habitat used by wading birds such as herons.

There is a site visit scheduled for tomorrow at 1:30pm, for regulators to view the site. Although members of the public may be present, there will be no opportunity for public comment at the site visit.

Best,

Jami

-Jami MacNeil (she/her)

Environmental Specialist III

Bureau of Land Resources

Maine Department of Environmental Protection

(207) 446-4894 | jami.macneil@maine.gov

From: Becca Shaw Glaser <beccaglaser@gmail.com>
Sent: Thursday, November 04, 2021 1:43 PM
To: MacNeil, Jami <Jami.MacNeil@maine.gov>
Subject: Additional Public Comment on SHM Rockland, LLC's Natural Resources Protection Act permit application (#L-20386-4P-P-N)

Dear Jami,

Thank you so much for your reply. I am relieved to hear that you are aware of the environmental covenants and their boundaries. I know that the company has already presented, in a private meeting with some city of Rockland officials, some sort of upland plans, so it is likely in the future to come up.

I would like to submit more public comments regarding Safe Harbor Marinas' expansion plans for the Maine DEP's consideration.

1. I want to make sure that the proposal is considered carefully in terms of its close proximity to Sandy Beach (sometimes called South End Beach, as on this image below showing the expansion plan proposal in context with the surrounding parks). As I said in my previous email, I have been the volunteer gardener at Sandy Beach for over ten years and I see how much it is enjoyed by the community year-round.

Sandy Beach is the ONLY swimming ocean beach in all of Rockland. It also seems to be our only truly sandy public beach, albeit quite small. People could swim at the Breakwater as well, but I don't see them doing that, plus the beach there is rockier. At Sandy Beach in the summer, every single day of the week (unless it's very rainy or cold) there are always families with children enjoying it, often families without much money or other resources. **Sandy Beach is where people go to take a dip, take a longer swim, sunbathe, picnic, play, explore, visit, cool off in summer. Families spend the whole day there. At night, they moon-gaze, look out at the Breakwater, and more.**

I don't know how disruptive the marina expansion could be for the people at Sandy Beach, but I am concerned about more boats, especially the 200'-240' boats, coming in and out near people trying to relax, unwind, enjoy themselves. Plus if the boats can be seen and heard in their slips from Sandy Beach and Sandy Beach Park it could take away from the open feeling people currently enjoy there. Those four 150' docks they want to put in near Sandy Beach can hold boats that are at least 200' long, so they need to be viewed as how that extra 50' or more poking out from the docks will be viewable from Sandy Beach.

I am also concerned about SHM's plans to have large trucks coming in to bring in the 10,000+ gallons of fuel to put in the boats. (10,000 gallons was the info quoted, approximately, by SHM's Bill Morong at the October 13 Rockland City Council meeting.) **Are those trucks going to be disruptive, loud, have fumes as they go in and out of the very small driveway/access point right next to Sandy Beach Park?**

Certainly, those trucks would affect those there to enjoy the small public strip of land that we call Sandy Beach and Sandy Beach Park. Though I have been reading that recent federal regulations makes boat fuel much less destructive to human health, and as long as these boats and trucks use the very best fittings, spills and incidental leakage of this fuel has become less common, I still am concerned about it, particularly with how close it is to the children playing at Sandy Beach.

Others have also wondered what regulations are in place for washing boats so close to public areas and the shore. When I was a kid growing up at the North End Shipyard in Rockland through the 80s and 90s, all the boats were washed with soaps, scrubbed down with all sorts of toxic paints, varnishes, grease, etc. There was always a slick of oil around there from fuel and oil used in the boats. That residue would be floating around. I would hope there are better regulations now, but there is concern that if these megayachts are being washed there, it will affect sealife, human life, and the ability to swim, etc.

The other thing to know about Rockland is that it is only recently that we have been able to enjoy swimming in Rockland Harbor. When I was a kid growing up there, in the 80s and 90s, I remember seeing raw sewage in the harbor due to inadequate drainage systems, and the other fuel and oil slicks made swimming there not so pleasant. So we finally have this lovely place at Sandy Beach to swim, sunbathe, and water clean enough to swim in. I have talked to several locals who think of Sandy Beach as their special place to go; one for when she was in recovery from heavy substance use, others as balm for their grief.

The risk that this expanded private marina might negatively affect those who are finally able to enjoy the water from the shore should be carefully considered. Why should the state give more public water over to a private for-profit corporation, the largest marina corporation in the world, when we the public have only recently had clean-enough water to swim in in Rockland harbor?

2. Is the DEP aware that in January 2021, hundreds of arbor vitae were clearcut from the land owned by Safe Harbor and Rockland Harbor Park LLC? On the map, those trees/hedges were near that gazebo and all the way along much of the harbor boardwalk, on the harbor side of where it shows parking spots. It seemed like it happened overnight; there had been a large hedge enjoyed by many birds, and then suddenly, it had all been chopped down to the ground apparently by Rockland's Public Works Department working alongside SH and RHP who approved it. The decision was all conducted behind closed doors and took many of us by surprise. I went and counted the stumps afterwards. The trees/hedge was close to the water's edge, so I wondered at the time whether that clearcutting was legal, and whether it being so close to the shore also made it illegal. Or perhaps the city got a permit for it ahead of time? Is the DEP the correct agency that should be looking into that? Here is an article about it: https://knox.villagesoup.com/2021/01/23/rockland-clears-greenery-to-open-harbor-view-1881380/

The sort of behavior that the city has undertaken alongside SHM and RHPLLC concerns me as I wonder what other things they may undertake behind the scenes, in corporate-government partnership. It cannot be considered public, when the public weren't involved in the process.

3**. I neglected to mention the great blue heron** that many people have noticed in the inner harbor now, near where the marina expansion would be. Will all the dredging and disruption affect the herons and other animals there?

4. **I wanted to also include some comments by locals made at the October 13, 2021 Rockland City Council meeting, in case they did not know about the public comment with the state:**

Ken Pride, Rockland, taught school here for 32.5 years, was told he had to move his mooring when MBNA came to town. “For me it worked out okay, because I'm in a more weather-friendly place. But the dilemma was I incurred significant expense because of the move. I was in different water. I was more than two or 300 strokes by oar from the public landing. And all of a sudden I had to pay four times as much to keep my dinghy in a different place. But my point is that it's not just a simple moving of moorings, the morning owners will incur additional expense in terms of gear. Where are you going to put those guys because they're going from shallower water to deeper water and their access to their morning is changing?...I personally will not campaign to stop you guys. I know there's give and take in all of these kinds of things. But I am extraordinarily skeptical about your ability to not impede traffic through the city channel.”

Amy Files, Rockland: “But my main issue with this project is that the federal government is using tax dollars to take away my view and access to the harbor in order to build a playground for rich yacht owners. I don't see how in any way a project like this is in the public's interest. It doesn't align with Maine or Rockland’s values and protecting public access to our harbor and our shoreline. It further tips the balance of ownership of our city from a year-round residential community to a seasonal wealthy elite from away city. And it doesn't align with state or city climate goals as the project would encourage increased use of fossil fuel burning unsustainable luxury items. I realize council isn't currently in a position to approve or reject the application. But your voice as our representatives is powerful. And with that voice, I'd urge you to reject the expansion. It's one thing for a property owner to update and renovate infrastructure on their own property. But allowing them to expand their property line is very different. It would be like allowing a homeowner or business owner to move their property line into one of our public parks, and in many ways that's just what the expansion would be doing. The public access is being sacrificed in the name of private profit and a large swath of our harbor is being privatized. I hope that in your position, you'll encourage further review by the state, demand more scrutiny and ask more questions. For example, how can the state evaluate

impact on views without any renderings or photo mock-ups? How can the state evaluate ecological impact on traffic without an explicit description of the size and amount of vessels that the expansion would accommodate? And what's the actual value of this expanded area taking into account loss of access, impact on paddlers, small craft, harbor moorings, loss of view and experience? And if this project is allowed to go forward, how will the public be compensated for that loss? I hope you'll also please urge the state to expand public process to include a public meeting here in Rockland that includes stakeholders, residents and councillors."

Judy Pasqualge, Rockland: "I think that the proposal does violate Maine guidelines as it does unreasonably interfere with customary or traditional public access ways to or from public trust rights, especially recreation."

Maria Devery, Owls Head. "I've watched this, I've read about it, I've looked at the drawings, etc. And I agree with a previous speaker who talked about the harbor really as the jewel of the city. And I think that you guys are handing over the jewel of this city without a fight. And it's something that the people before you worked long and hard to create, along with many other things in the city. I personally don't understand how many people a megayacht is going to bring in. I don't think that a megayacht is like taking a bus and it hauls in 300 people…."

Thanks again for taking my comments seriously. I would love to continue to be informed of future things, such as a site visit, if there is one.

Thank you!
Rebecca Glaser
Rockport

On Mon, Nov 1, 2021 at 10:17 AM MacNeil, Jami <Jami.MacNeil@maine.gov> wrote:

> Dear Ms. Glaser,
>
> Thank you for your comments regarding the expansion of an existing marina in Rockland Harbor as proposed by SHM Rockland, LLC in NRPA application #L-20386-4P-P-N. The deadline for public comments on the application is November 4, 2021.
>
> To answer your question in comment #4, the Department is aware of the environmental covenants related to the voluntary response action plan (VRAP) at the project site, which was implemented to deal with lime kiln

residue. If/when the applicant proposes to disturb soil within those areas, they will need to submit a plan for handling any lime kiln residues encountered during construction to the Department for review and approval. At this time, the applicant does not propose disturbance within those areas.

Your comments will be added to the file and will be considered during the review of the project. You may contact me with additional concerns, questions, or comments at (207) 446-4894 or via email at jami.macneil@maine.gov.

Sincerely,

Jami

-Jami MacNeil (she/her)

Environmental Specialist III

Bureau of Land Resources

Maine Department of Environmental Protection

(207) 446-4894 | jami.macneil@maine.gov

From: Becca Shaw Glaser <beccaglaser@gmail.com>
Sent: Wednesday, October 27, 2021 6:15 PM
To: MacNeil, Jami <Jami.MacNeil@maine.gov>
Subject: Public Comment on SHM Rockland, LLC's Natural Resources Protection Act permit application (#L-20386-4P-P-N)

Dear Jami,

Thank you so much for carefully considering public comments on Safe Harbor Marinas' Rockland Natural Resources Protection Act permit application to expand their marina. I grew up in Rockland and nearby Camden; my dad made his living on a boat out of Rockland's North End Shipyard. Some of my concerns with Safe Harbor's proposal are as follows:

1. ***The application is incomplete.*** Without accurate, independent 2D/3D renditions of how the views from all sides of the harbor-- Sandy Beach, the boardwalk, Harbor Park, the Breakwater, and even the State Park at Owls Head--will be affected by the maximum amount of boats which are

longer than 200'+ and several stories-high on their marina, we can't accurately assess how the viewsheds and our enjoyment of the harbor will be affected.

2. ***As far as megayachts, the original Yachting Solutions' application for the 2017 federal Boating Infrastructure Grant, the grant which Safe Harbor Marinas Rockland has taken over, references megayachts at least 25 times*** and states that the "Yachting Solutions Boat Basin is positioned to become the most attractive destination for megayachts between Portland and Bangor." Though SHM seems to have taken pains to avoid using the term "megayacht" in their application to the state, and in their recent public statements, their current proposal includes several 150' docks, able to hold 200' boats, and perhaps even longer, and the Yachting Solutions associates who oversaw YS's BIG grant are still in charge of Safe Harbor-Rockland; those 25 megayacht references are still very much relevant and should be seen as reflective of Safe Harbor's plans. Megayachts are among the most environmentally destructive ways to travel; their small global fleet is responsible for spewing pollution and guzzling fuel--even more than entire nations. How does allowing for the building of more megayacht infrastructure, therefore inviting them into Maine waters, fit with Maine's aims at being better stewards of the environment, and our future as a species?

3. ***One of the things the people of Rockland and the surrounding communities enjoy most about Rockland is the harbor boardwalk.*** This boardwalk was originally included in a plan by the former owner of the land, MBNA/Bracebridge Corporation; the plan was approved by the Maine DEP in 2000. In this plan the harbor boardwalk was billed as "An approximately 1,350 foot boardwalk will provide public access during daylight hours along the applicant's waterfront between two municipal parks (Harbor Park and Sandy Beach Park) bordering the site on the north and east boundaries." document 000150; bk2550; page 245; attached).

The expanded marina is very likely to interfere with these open views which have been enjoyed along the boardwalk by the public for over twenty years, particularly the fact that these boats can be several stories high. Furthermore, continued public access is also not guaranteed in the recent deed transfer between Rockland Harbor Park LLC and Safe Harbor, meaning that our community could easily lose this space we have enjoyed for decades (attached).

4. ***There are environmental covenants enacted on the property which Safe Harbor bought.*** Is the DEP looking to check on whether any of those are relevant to the plan Safe Harbor has put forward (doc 3450; book 3774; page 101; also in the deed between Bracebridge and Rockland Harbor Park LLC doc 3451; book 3774; page 125 (attached))?

5. ***An unknown number of moorings would have to be moved.*** At an October 13, 20210 Rockland City Council meeting, Safe Harbor Marinas, who want to start dredging on November 1, were unable to give even a ballpark figure of how many moorings their plan would require moving. Moving moorings often causes stress, financial cost and other burdens to the people whose moorings are being moved. It can lead to a loss of established uses such as fishing, if any of them are related to fishing uses, as well as recreational users. Most of the docking space Safe Harbor is creating will be for "transient users;" this means that locals are being pushed out of the way to make room for more transient boat users.

5. ***Fuel bunkering is in their plans.*** Although Safe Harbor declined to include their bunkering plans in their application, at the October 13, 2021 Rockland City Council meeting to discuss their plans, Bill Morong, who was there as a consultant representing Safe Harbor Marinas Rockland said

that Safe Harbor is planning to be the only marina “north of Portland” very specifically doing fuel bunkering. This will involve, in Morong's words: “10,000 gallons or something like that, so it's not just pulling up to a pump and putting in and holding the nozzle. It's a larger exercise than that…So to answer your question, not another fuel pump in town. But we would allow for a truck to come in and have some plumbing to do that for for a larger service.” So, he said they are planning to plumb the marina for these large quantities of boat fuel.

10,000+ gallons of bunker fuel in Rockland's inner harbor, abbuted by two of Rockland's most-used city parks, seems like a pretty big deal, with potential for incidental leakage and spills. Although bunkering spills and leakage now appear to be rare as long as adequate equipment is used, it is still a worry. The fact that their plan to be a major Maine bunkering location is not referenced in Safe Harbor's application, yet has been discussed in their publicly-vocalized plans, makes one wonder again whether their application is incomplete.

6. Some of their proposed dredging runs right through the city channel. Page 45 of their application includes a dredging proposal--it includes a swath 300’ long and for the entire width of that length of the city channel. How long will the dredging go on for? How disruptive will it be? Certainly the dredging would cause undue burden on the boats that currently navigate that channel.

7. Their marina is likely to obstruct the city channel, particularly when boats are on their longest dock, which could likely accommodate a 240' (or even longer) megayacht. At the October 13 Rockland City Council meeting, Safe Harbor was asked if boats at SHM would ever obstruct the city channel. Mike Sabatini, the engineer consulting with SHM-Rockland, whose firm drew up the plans for the expansion, said, “A boat could be sitting there, if it became a problem, it could be moved, but *there’s no reason why a boat couldn’t be there for a week or a couple days*. And it wouldn’t obscure the *whole* channel.” Morong seemed to try to tamp down Sabatini’s comment by saying, “The intention is not to obscure the channel.” That may be a stated intention, but the likelihood that the boats would end up obscuring part of the city channel for days on end, is high. The buffer that SHM has put between its dock and the city channel is only 20', while the large boats they hope to attract are often 40'+ wide boats, meaning that when those larger boats are on that dock, they will undoubtedly be poking into the city channel, which is used by all sorts of boats and watercraft. This would mean the Rockland Harbormaster would be tasked with having to decide whether to talk to Safe Harbor about these boats in the channel, potentially causing frequent tension and stress on city employees. Why couldn't they put a more appropriate 60' buffer on that dock?

8. They are also proposing a look-out near Sandy Beach, another of Rockland's prized public parks. Again, without a 2D/3D model, how are we to know the extent to which this will affect our views and the wide-open space we enjoy at Sandy Beach? I have been the volunteer gardener for Sandy Beach for over a decade. I see how many members of the public enjoy this space, for swimming and relaxing. There are almost always families with small children enjoying Sandy Beach, particularly families without much money. To have another privately-owned lookout that might encroach on that public feeling would be a shame. While SHM claims this new lookout would be publicly-accessible, their actual deed says that they can make the boardwalk closed to the public if they and the owners of the other section of the boardwalk agree to it. Therefore, were that to

happen, this lookout could be simply more private corporate encroachment on what is now an area of public enjoyment.

9. They want to put four 150' docks on the Eastern side, a side they do not even have a submerged land lease for. Why can't they be satisfied with the submerged land lease they already had, rather than taking more of the public water and viewshed, an area where seabirds and other animals use, for their own profit?

Thank you so much. I would love to be informed of any future opportunities to engage on this topic.

Rebecca Glaser

Rockport

MacNeil, Jami

From: Ron Huber <coastwatch@gmail.com>
Sent: Thursday, November 04, 2021 5:54 PM
To: MacNeil, Jami
Subject: Safe Harbors Rockland media story as word doc
Attachments: noreaster_storm_rockland__pbpilot_102721.docx

Categories: Red Category

Hi Jami,
Attached as a word document is the pen bay pilot news story about the October 2021 storm washing rockland boats ashore

Ron
Ron Huber
Penobscot Bay Watch
POB 1871, Rockland Maine 04841
e coastwatch@gmail.com
www.penbay.org 207-691-4634

Strong nor’easter rips boats from moorings in Rockland Harbor

By Sarah Thompson, Penbay Pilot

Wed, 10/27/2021 3:45pm

ROCKLAND — Boat owners of damaged vessels and salvage crews were on the south side of Rockland Harbor, Wednesday, Oct. 27, after a strong storm blowing winds and rain out of the north east continued to batter the Midcoast.

Taking advantage of the day’s high tide, around 2 p.m., Calligan Dive Service ventured into the waves while Charlies Marine and Fields Dive Service each drew lines, revved their own boat motors, and dragged grounded sailboats back into the tides.

Still waiting to be redirected were a lobster boat that had rubbed up against a stone wall next to Archers Pier, and a third sailboat tucked into a corner of Snow Marine Park.

Nearby to the third sailboat, the hull of another vessel bobbed in the harbor.

The strength of the storm peaked early this morning, Oct. 27, as it churned up the coast from Nantucket, into the Gulf of Maine. Rockland Harbor has suffered the brunt of it.

While winds were still gusting this afternoon, the National Weather Service said the storm would: “gradually shift south away from the southern New England coastline today. Periods of rain and gusty winds will continue through the day before gradually diminishing by this evening. Quieter weather is then expected for both Thursday and Friday before another storm system approaches from the south this weekend.”

MacNeil, Jami

From: MacNeil, Jami
Sent: Thursday, November 04, 2021 5:58 PM
To: Ron Huber
Subject: RE: Safe Harbors Rockland media story as word doc

Thank you Mr. Huber, that is much appreciated.

-Jami MacNeil (she/her)
Environmental Specialist III
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From: Ron Huber <coastwatch@gmail.com>
Sent: Thursday, November 04, 2021 5:54 PM
To: MacNeil, Jami <Jami.MacNeil@maine.gov>
Subject: Safe Harbors Rockland media story as word doc

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