

CONTENTS.

	Page.
I. REPORT OF THE COMMISSIONER.*	vii
Table of contents.....	xliii
II. GENERAL PLAN OF INQUIRIES PROSECUTED.....	1
Memoranda of inquiry relative to the food-fishes of the United States.....	1
Questions relative to the food-fishes of the United States	3
III. TESTIMONY IN REGARD TO THE PRESENT CONDITION OF THE FISHERIES, TAKEN IN 1871	
Newport, Rhode Island	7
Naushon Island, Massachusetts.....	32
Pasque Island, Massachusetts	34
Menemsha Bight, Martha's Vineyard	35
Edgartown, Martha's Vineyard.....	37
Nantucket, Massachusetts	41
Hyannis, Massachusetts	47
Wood's Hole, Massachusetts	53
Head of Buzzard's Bay.....	70
Cohasset Narrows	72
IV. SPECIAL ARGUMENTS IN REGARD TO REGULATING THE SEA-FISHERIES BY LAW.	73
Samuel Powel, of Newport. Delivered in the Rhode Island legislature. (Urging the necessity of a scientific inquiry into the subject).....	73
J. M. K. Southwick, of Newport. (Against protective legislation).....	76
Geo. H. Palmer, of New Bedford. (In favor of protective legislation).....	88
V. REPORTS OF STATE COMMISSIONS IN REGARD TO REGULATING THE SEA-FISH- ERIES BY LAW.....	104
Report of committee of Rhode Island legislature, made at Newport, June 15, 1870	104
Legislative enactment recommended.....	110
Extract from report for 1871 of Theodore Lyman, Massachusetts commissioner of inland fisheries, or the possible exhaustion of sea-fisheries	112
Remarks of Mr. Atwood, of the Cape district, before the Massachusetts senate, in relation to the petition to prohibit net and seine fisheries.....	117
VI. REPORT OF CONFERENCE OF THE UNITED STATES COMMISSIONER WITH COM- MISSIONERS OF RHODE ISLAND AND MASSACHUSETTS, HELD OCTOBER 5, 1871.....	125
VII. DRAUGHT OF LAW PROPOSED FOR THE CONSIDERATION OF, AND ENACTMENT BY, THE LEGISLATURES OF MASSACHUSETTS, RHODE ISLAND, AND CONNECTICUT.	132
A bill to regulate the use of stationary apparatus in the capture of fish.....	132
VIII. MISCELLANEOUS CORRESPONDENCE AND COMMUNICATIONS ON THE SUBJECT OF THE SEA-FISHERIES	135
Letters	135
Copy of memorial of citizens of Hyannis, addressed to Congress, praying that laws may be passed prohibiting the use of fixed apparatus for capturing fish	137

* For detailed table of contents of the report of the commissioner see p. v.

	Page.
IX. EUROPEAN AUTHORITIES ON THE SUBJECT OF REGULATING THE FISHERIES BY LAW	139
On the fisheries of the Gulf of Naples, by Achille Costa	139
On the possibility of exhausting the sea-fisheries, by James G. Bertram	141
Extract from the London Field.....	144
Extract from the report of the commissioners appointed to inquire into the sea fisheries of the United Kingdom, presented to both houses of Parliament by command of Her Majesty	145
X. NOTICES IN REGARD TO THE ABUNDANCE OF FISH ON THE NEW ENGLAND COAST IN FORMER TIMES	149
XI. STATISTICS OF FISH AND FISHERIES ON THE SOUTH SHORE OF NEW ENGLAND.	173
Table I. Amount of fish taken at Menemsha Bight, Martha's Vineyard.....	173
Table II. General return of the Waquoit weir for 1871.....	174
Table III. Return of dog-fish and blue-fish at Waquoit weir for seven years..	175
Table IV. Consolidated returns of alewives, shad, menhaden, bass, blue-fish, and dog-fish, at Waquoit weir, for seven years	176
Table V. Days of first appearance of alewives, scup, blue-fish, and menhaden, at Waquoit weir, for thirteen years.....	176
Table VI. Account of blue-fish caught with a line by Josiah C. Pease about Edgartown, Massachusetts, 1865-1871.....	177
Table VII. Account of fish landed at Baxter's Wharf, Hyannis, in 1870 and 1871	178
Table VIII. Account of Austin Taylor, Hyannis, for 1870 and 1871.....	178
Table IX. Account of Timothy Crocker, Hyannis, 1867-1871.....	179
Table X. Account of J. G. Loring, Hyannis, 1867-1871	179
Table XI. Shipment of fish by railroad from Hyannis, monthly to New York, 1866-1871	179
Table XII. Statement of fish caught at Wood's Hole, Massachusetts, in 1872..	180
Table XIII. Catch of fish at West Falmouth Pound.....	181
Table XIV. Date of first appearance of fish at the pounds and weirs on the south side of New England.....	181
XII. SUPPLEMENTARY TESTIMONY AND INFORMATION RELATIVE TO THE CONDITION OF THE FISHERIES ON THE SOUTH SIDE OF NEW ENGLAND IN 1872.....	182
Notes taken by the Commissioner.....	183
Newport, Rhode Island.....	183
Wood's Hole, Massachusetts.....	183
New York.....	186
Report of Vinal N. Edwards.....	187
Nantucket	187
Edgartown	188
Hyannis	190
Martha's Vineyard.....	191
Lambert's Cove	191
Vineyard Haven.....	192
Additional notes taken by the Commissioner	193
XIII. PLEADINGS BEFORE THE SENATE COMMITTEE ON FISHERIES OF THE RHODE ISLAND LEGISLATURE, AT ITS JANUARY SESSION OF 1872.....	196
Argument of J. Talbot Pitman in favor of a law prohibiting the use of traps and pounds in Rhode Island	196
Abstract of an address by Captain Nathaniel E. Atwood in opposition to legislation	223

	Page.
XIV. NATURAL HISTORY OF SOME OF THE MORE IMPORTANT FOOD-FISHES OF THE SOUTH SHORE OF NEW ENGLAND	228
I. The scup	228
II. The blue-fish	235
XV. DESCRIPTION OF APPARATUS USED IN CAPTURING FISH ON THE SEA-COAST AND LAKES OF THE UNITED STATES	253
Modes of capture	253
Projectiles, explosives, and poison	253
Lines	254
Nets	255
Traps, weirs, pounds, and fykes	259
Location of traps, weirs, and pounds in the United States	273
XVI. LIST OF PATENTS GRANTED BY THE UNITED STATES TO THE END OF 1872 FOR INVENTIONS RELATIVE TO THE CAPTURE, UTILIZATION, OR CULTIVATION OF FISH AND MARINE ANIMALS	275
1. Hooks	275
2. Lines, grapples, traps, &c.	276
3. Reels	276
4. Rods	276
5. Floats, sinkers, and swivels	277
6. Projectiles	277
7. Nets and pounds	278
8. Oyster culture and gathering	278
9. Preservation and utilization of fish	279
10. Fish-culture	279
11. Patents granted prior to 1836	279
XVII. LIST OF THE SEA-WEEDS OR MARINE ALGÆ OF THE SOUTH COAST OF NEW ENGLAND, BY W. G. FARLOW, M. D.	281
XVIII. REPORT UPON THE INVERTEBRATE ANIMALS OF VINEYARD SOUND AND THE ADJACENT WATERS, WITH AN ACCOUNT OF THE PHYSICAL CHARACTERS OF THE REGION, BY A. E. VERRILL. (For a more detailed index of this article see page 757)	295
A.—Habits and distribution of the invertebrate animals	295
I. General remarks	295
II. Fauna of the bays and sounds	300
1. The rocky shores	303
List of species	331
2. The sandy shores	334
List of species	364
3. The muddy shores	366
List of species	377
4. The piles and timbers of wharves and bridges, bottoms of vessels, buoys, and other submerged wood-work	378
List of species	392
5. The rocky bottoms	394
List of species	409
6. The gravelly-shelly bottoms	412
List of species	421
7. The sandy bottoms	425
List of species	428
8. The muddy bottoms	430
List of species	434
9. The free-swimming and surface animals	436

	Page.
XVIII. REPORT UPON THE INVERTEBRATE ANIMALS, &c.—Continued.	
List of species.....	451
10. Animals, parasitic, on fishes, &c.....	455
List of species.....	459
III. Fauna of the estuaries, harbors, ponds, and marshes.....	460
1. The sandy shores and bottoms of brackish waters.....	462
List of species.....	464
2. The muddy shores and bottoms of brackish waters.....	465
List of species.....	470
3. The oyster-beds in brackish water.....	472
List of species.....	476
4. The eel-grass in brackish waters.....	478
List of species.....	480
5. The piles of wharves, bridges, floating timber, rocks, &c., in brackish waters.....	481
List of species.....	482
IV. Fauna of the ocean shores and outer colder waters.....	484
1. The rocky shores off the open coast.....	485
List of species.....	486
2. The sandy shores off the open coast.....	489
List of species.....	490
3. The rocky bottoms off the open coast.....	491
List of species.....	498
4. The sandy and gravelly bottoms off the open coast.....	500
List of species.....	504
5. The muddy bottoms off the open coast.....	506
List of species.....	511
B.—Lists of species found in the stomach of fishes—food of fishes.....	514
C.—The metamorphoses of the lobster and other crustacea, by S. I. Smith....	522
D.—Catalogue of the marine invertebrate animals of the southern coast of New England and adjacent waters, by A. E. Verrill, S. I. Smith, and Oscar Harger.....	537
Articulata.....	539
Insecta.....	539
Arachnida.....	544
Pycnogonidea.....	544
Crustacea.....	545
Annelida.....	580
Scolecida.....	627
Turbellaria.....	627
Mollusca.....	634
Cephalopoda.....	634
Gastropoda.....	636
Lamellibranchiata.....	669
Tunicata.....	698
Bryozoa.....	707
Radiata.....	715
Echinodermata.....	715
Acalephae.....	722
Polypi or Anthozoa.....	737
Protozoa.....	740
Spongiae.....	740
Addenda.....	745
Errata.....	749
Table of contents.....	751
E.—Alphabetical index to report of A. E. Verrill.....	455

	Page.
XIX. CATALOGUE OF THE FISHES OF THE EAST COAST OF NORTH AMERICA; by Theodore Gill	779
XX. LIST OF FISHES COLLECTED AT WOOD'S HOLE IN 1871, BETWEEN JUNE 20 AND OCTOBER 4, by S. F. Baird	823
XXI. TABLE OF TEMPERATURES TAKEN IN WOOD'S HOLE HARBOR, FROM JANUARY 1, 1873, TO DECEMBER 31, 1873.	828
XXII. LIST OF ILLUSTRATIONS.....	833
XXIII. ALPHABETICAL INDEX	835

ERRATA.

Page 10, for "there is no bottom," read "there is a bottom." Page 261, for "Sen-
bass, 2,500 barrels," read "2,500 pounds;" "flat-fish, 1,000 barrels," read "1,000 pounds;"
"tautog, 500 barrels," read "500 pounds;" "bass, 700 barrels," read "700 pounds;"
"mackerel, 200 barrels," read "200 pounds."