

LISTS OF THE DREDGING STATIONS OF THE U. S. FISH COMMISSION FROM 1871 TO 1879, INCLUSIVE, WITH TEMPERATURE AND OTHER OBSERVATIONS.

[Arranged for publication by SANDERSON SMITH and RICHARD RATHBUN.]

The following lists include all the recorded dredging stations made by, or in connection with, the United States Fish Commission, from its organization up to date. The stations are, for the most part, arranged chronologically, and are designated by four series of numbers or letters, as follows: One series of numbers, from 1 V to 87 V, with letters appended, represents the stations for 1871. The 1872 stations (in the Bay of Fundy) are designated by letters from *t* to *z*. Those for 1873 are indicated by a second series of numbers, from 1 to 212, with B. (*Bache*) or Bl. (*Bluelight*) added, according as the dredgings were carried on from the steamers *Bache* or *Bluelight*. In this series, however, are also included the stations of the *Bache* for 1872 and 1874, as well as those for 1873. The last series combines all the stations from 1874 to 1879, inclusive (omitting 1876, during which year sea-work was suspended), in numbers running from 1 to 769. For the sake of obtaining greater uniformity in recording the stations on charts, as explained further on, the stations for 1874 and 1875, originally numbered separately, have been united with those from 1877 to 1879, and given numbers following 1879. The numbers for these later years run as follows: 1874, from 400 to 580; 1875, from 600 to 769; 1877, from 1 to 128; 1878, from 129 to 238; 1879, from 239 to 378.

The stations of the *Speedwell* for 1877, 1878, and 1879 are indicated by numbers only, and are readily distinguished from those of the *Bache* and *Bluelight*, which have B. or Bl. affixed to them. In the following tables the localities given are taken from the original record books, whenever such exist (*i. e.*, for all the work of the *Speedwell* and much of that of the *Bluelight*—101 Bl. to 166 Bl.), with some other notes added to facilitate the finding of the localities on the chart. In many cases the positions were marked, at the time, on the steamers' charts by the commanding officer, and all such positions have been adopted, even though differing somewhat from those given by the record books. From the nature of the operations of dredging and trawling, it becomes almost

impossible to estimate exactly the changes of position caused by currents, etc., especially when out of sight of land, and in a few cases the positions were not placed on the charts at the time, and the bearings given do not suffice to fix them very accurately. It is believed, however, that but few positions are rendered uncertain to any great extent by either of these causes. A large part of the positions determined by the *Bache* were originally given by latitude and longitude. The other latitudes and longitudes given in the tables are intended to serve as the readiest means of finding the localities, all of which are either thus designated or are referred to as being near others which are so. The bearings given for the *Speedwell's* work in 1878 are true; the others, with a few (unrecognizable) exceptions, are magnetic.

In the last column of the tables the letter indicates the apparatus employed in dredging: D., Dredge; Ag. D., Agassiz Dredge; R. D., Rake Dredge; T., Trawl; Ag. T., Agassiz Trawl; O. T., Otter Trawl; Tan., Tangles.

STATIONS FOR 1871, IN AND ABOUT VINEYARD SOUND, MASSACHUSETTS.

During this, the first year of the Commission, the dredgings in shallow water were made partly from a sail-boat and partly from a steam-launch, and those in the deeper waters from the United States revenue-cutter *Moccasin*, Capt. J. G. Baker. The dredging stations numbered in all about 250, but to avoid confusion in laying them out on the chart, they were combined into 87 groups or lines, each including from 2 to 9 stations, the lines being designated by numbers, the stations by letters. In this manner they were represented on the large chart accompanying the Report of the United States Fish Commissioner for 1871-'72. In making up the present list the same arrangement has also been followed, and where all the stations of a group were of the same nature, they have been located collectively; otherwise the exact position of each station has been given.

Dates are not prefixed to all of the inner groups, as many of these include stations made on different days. Temperature observations (with Miller-Casella self-registering thermometers) were taken at most of the outer stations, as recorded in the list, but were omitted at the inner ones. The dredge was the implement most commonly used for scraping the bottom, but the beam-trawl was also frequently employed on the smooth inner grounds. The rake-dredge was worked a few times off Gay Head and the tangles very rarely, in only a few places. The characters of the many localities gone over in 1871, as well as the species of animals found inhabiting them, are fully discussed in the "Report upon the Invertebrate Animals of Vineyard Sound and the adjacent waters, with an account of the physical characters of the region," by Prof. A. E. Verrill; contained in the Report of the United States Fish Commissioner, Part I, for 1871-'72.

NOTE.—The serial numbers in this table from 1 to 87, inclusive, should be read 1 v, 2 v, 3 v, etc., to correspond with the charts upon which the positions are so designated.

Serial number.	Date.	Locality.	Depth in fathoms.	Nature of bottom.	Temperature.		
					Air.	Surface.	Bottom.
1	1871.						
2	June 30	a, b. Off Little Harbor, Wood's Holl... a, b. Off Little Harbor, Wood's Holl, between Nobska Point and Nonamesset Island.	1½-2 2-3½	Covered with eol-grass Rocky, small stones			
3	July 11	a, b, c. Off Great Harbor, Wood's Holl, from south of buoy R. No. 4 to Great Ledge.	2½-0½	Rocks, gravel, &c.			
4	June 30	a, b, c, d, e. Beginning nearly the same as No. 3 and extending to beyond buoy R. No. 2.	3½-12½	Rocks, small stones, &c.			
5		Wood's Holl: a, b. Southeast of Nonamesset Island... c, d. Between Nonamesset Island and Great Ledge. e. Off Mink Point, Nonamesset Island... f, g. Mouth of Great Harbor.....	3½-5½ 3½ 8½ 5½-9½	Sand, gravel Rocks, stones, dead shells. do do			
6	July 20	Vineyard Sound: a, b. Between Nobska Point and Falmouth. c. Between Nobska Point and Falmouth. d. About ½ mile south of Falmouth... e, f. Between Falmouth Harbor and Western end of L'Homme Dieu Shoal.	2-3 3-5 4½ 5½-9	Covered with eol-grass Gravel and shells do do			
7		a. Lackey's Bay, Vineyard Sound.....		Covered with eol-grass			
8	June 30	b, c, d. Lackey's Bay, Vineyard Sound. a, b, c, d, e, f, g. Vineyard Sound, off Nonamesset Island and Wood's Holl.	7-10	Gravel Rocks, gravel, small stones.			
9	June 29	a, b, c, d. Vineyard Sound, south of Little Harbor, Wood's Holl, ½ to 1½ miles from Nobska Point.	7-12	Rocks.			
10	July 24	Wood's Holl: a, b, c. Passages between Nonamesset and Naushon Islands. d. Hadley Harbor e, f. Between Long Neck and Nonamesset Island.	1½-2½ 3½ 3-6½	Soft mud do Hard gravel			
11		Wood's Holl Passage: a, b, c. Off Nonamesset Island.....	3½-4½	Fine gravel, dead weeds.			
12		d, e, f, g. Off Uncatena Island.....	3½-5	Sand, stones			
13		a, b, c. Wood's Holl Passage, between Long Neck and Nonamesset Island.	2½-5½	Sand, gravel			
14		a, b. Mouth of Great Harbor, Wood's Holl, from off Bar Neck wharf to midway between Mink Point and Parker's Neck. Wood's Holl, in the passage-way to the east and south of Ram and Bluff Islands:	1½-7	Gravel, &c.			
15		a, b..... c, d..... e, f, g. In Great Harbor.....	3½-5½ 2½-5½ 5-10	Rocky do Rocky, sand			
16		a, b, c. Wood's Holl, buoy No. 3, Middle Ledge to Lone Rock Spindle.	½-2½	Gravel, small stones, shells.			
17		a, b, c. Great Harbor, Wood's Holl, near buoys No. 12 and 14. Mouth of Great Harbor, from Bar Neck to east of Nonamesset Island.	1½-14½	Rocks			
18	July 24	a, b..... c, d, e, f..... a, b, c, d. Mouth of Great Harbor, from off Bar Neck wharf to midway between Parker's Neck and Nonamesset Island.		Mud and eol-grass Rocks, &c. Hard gravel.			
19		a, b. Mouth of Great Harbor, between Parker's Neck and Lone Rock Spindle.	1-8½	Gravel, mud, weeds			
20		a, b, c. Mouth of Great Harbor, between Nonamesset Island and Parker's Neck.	1½-0½	Gravel, &c.			
21	June 27 } June 28 }	a, b, c, d, e. Vineyard Sound, southeasterly from Nobska Point about ½ mile; all near together.	6-10	Rocks, gravel, small stones.			
22		Vineyard Sound, between Nobska Point and Falmouth Harbor. a, b, c..... d.....	4-5½	Stones, dead shells Sand, gravel			

Serial number.	Date.	Locality.	Depth in fathoms.	Nature of bottom.	Temperature.		
					Air.	Surface.	Bottom.
23	1871. June 30 July 3 July 8	a, b, c, d, e, f. Between Nobska Point and Palmouth, and south of Palmouth, about 1 mile.	4½-10	Gravel, small stones, shells.	.....	.....	.....
24		Vineyard Sound: a, b. About ¼ mile south of Palmouth. c, d. North of west end of L'Homme Dieu Shoal.	5½-10 5-13	.....	.....	.....	.....
25		a, b, c, d, e. Vineyard Sound, between Waquoit Bay and Palmouth.	3-5	Sand, shells, cel-grass.	.....	.....	.....
26		a, b, c, d, e. Vineyard Sound; a line of dredgings parallel to No. 25, and from ¾-1 mile further south.	5-13	Gravel, shells	.....	.....	.....
27		a, b. Vineyard Sound, about midway between the western part of L'Homme Dieu Shoal and the mainland.	5½-13	Sand, shells, cel-grass	.....	.....	.....
28	July 20	Vineyard Sound: a, b. Off western entrance to channel between L'Homme Dieu Shoal and Hedge Fence. c, d, e, f. South of western end of Hedge Fence.	5-6 10-12	Sand, stones, sea-weeds Sand, gravel, small stones.	.....	.....	.....
29		a, b, c. Vineyard Sound; a line parallel to, and just south of, eastern half of Hedge Fence.	5½-12	Gravel, &c	.....	.....	.....
30		a, b. Mouth of Vineyard Haven, between East and West Chop.	5-7	Sand, cel-grass, algæ.	.....	.....	.....
31	July 20	Vineyard Sound: a, b. Between Hedge Fence and East Chop. c, d, e. North of East Chop and off Vineyard Haven.	10-13 9-11½	Sand, gravel, small stones. do	.....	.....	.....
32		a, b, c. Vineyard Sound; line running east and west, north of eastern half of Hedge Fence.	11-12½	Gravel, &c	.....	.....	.....
38		Vineyard Sound: a, b. South of eastern end of L'Homme Dieu Shoal. c, d. Southeast of same shoal.	5½-13½ 5-8½	do do	.....	.....	.....
34		a, b, c, d, e, f. Vineyard Sound, between eastern end of L'Homme Dieu Shoal and Wreck Shoal.	5-7	Gravel, hard mud, sand.	.....	.....	.....
35		a, b, c, d, e. Vineyard Sound; line running east and west between Wreck Shoal and 1 mile off Waquoit Bay.	4-7½	Gravel, shells	.....	.....	.....
36		a, b, c, d. Nantucket Sound, between Wreck Shoal and Horse-Shoe Shoal.	4½-15½	Astrungia, sponges, &c	.....	.....	.....
37		Vineyard Sound, off north side of Martha's Vineyard and nearly parallel with the shore, distant from shore ¼-½ mile: a, b, c, d. Between Martha's Vineyard and Middle Ground. e, f, g. Off West Chop. h, i. Off East Chop.	5-11 9-13 4½-9	Gravel, stones, rocks. Rocks, sand Sand, stones	.....	.....	.....
38		Vineyard Sound: a. About ½ mile north of center of Middle Ground. b, c. Just off center of Middle Ground.	10-14 9½-13½ 12-13½	Gravel. Stones, gravel.	.....	.....	.....
39	June 29	a, b. Vineyard Sound, about midway between Nobska Point and Middle Ground.	10-13	Gravel, stones, sand.	.....	.....	.....
40		a, b, c, d. Vineyard Sound, between Wood's Holl and Middle Ground.	10-13	Gravel, stones, sand.	.....	.....	.....
41		Vineyard Sound: a. About 1½ miles east of Nobska Point. b. About 1½ miles southeast of Nobska Point.	4½-6½ 10-12	Small stones do	.....	.....	.....
42	July 17	a, b. Vineyard Sound, off Tarpaulin Cove.	10½-15½	Gravel	.....	.....	.....
43		Vineyard Sound: a, b, c. Line of dredgings off northern half of Naushon Island, parallel to shore, distant about ¼ mile. d. Continuation of same, ½ mile off Nonamisset Island.	10½-12½ 10½-11½	Gravel, hard sand Gravel	.....	.....	.....

Serial number.	Date.	Locality.	Depth in fathoms.	Nature of bottom.	Temperature.		
					Air.	Surface.	Bottom.
44	1871.	a, b, c, d, e. Vineyard Sound; line about parallel to last, off northern half of Naushon Island, about 1 mile from shore.	10½-15½	Gravel			
45		a, b. Vineyard Sound, off Quick's Hole.	6½-8½	Coarse gravel, shells			
46		Vineyard Sound, off the Elizabeth Islands.	7-14½				
		a, b. Off Pasque Island		Sand, shells			
		c. Off Robinson's Hole		do			
		d, e. Off south end of Naushon Island.		Sand, shells, and gravel			
47		a, b, c, d, e. Vineyard Sound, off west side of Martha's Vineyard, between Menemsha Bight and Cedar Tree Neck, ½ to 1½ miles from shore, and nearly parallel to it.	10-17½				
		a, b, c, d		Black mud, dead mussels, &c.			
		e		Sand			
48		a, b, c, d. Vineyard Sound, same as last, ½-1 mile from shore, and extending about 1½ miles both north and south of Cape Higgon.	4½-11	Sand, gravel, shells			
49		Vineyard Sound: a. About northeast of Gay Head, 4½ miles.	7½-13				
		b. About west of Lucas Shoal, 1½ miles.	5-6				
50		a, b. Vineyard Sound, Menemsha Bight.	4-8				
51		Vineyard Sound, Menemsha Bight: a, b, c	1½-2½	Mud, fine sand			
		d	4½	do			
		e	6-9	do			
52	July 14 } July 17 }	a, b, c, d. Vineyard Sound, north of southwestern extremity of Martha's Vineyard, ½-1 mile from shore (c, d, off Menemsha Bight).	10-12	Sand			
53	July 14	a, b, c, d, e. Vineyard Sound, north and northeast of Devil's Bridge, Gay Head, ¾ to 1 mile from shore.	5-12	Sand, rocks			
54		Vineyard Sound, north of Gay Head: a. About 1½ miles from shore	16½	Mussels			
		b. About 2½ miles from shore	14-15½	do			
55	July 22	a, b, c. Vineyard Sound, north of Devil's Bridge, Gay Head, ¾ mile.	6½-13½	Rocky, dead mussels, &c.			
56	July 22	a, b, c, d. Vineyard Sound, northwesterly from Gay Head, about 1 mile.	5-11	do			
57		a, b, c, d, e. About same position as last, forming a line about ½ mile further off.	5-13½	Rocky			
58		a, b, c, d, e. Vineyard Sound, northwesterly from Gay Head, 1½-2 miles.	10-10				
		a, b, c		Rocky			
		d		Mud, dead mussels			
		e		Rocky			
59		a, b, c. Vineyard Sound, northwesterly from Gay Head, ¾-1½ miles.	6½-11½	do			
60		a, b, c. Vineyard Sound, northwesterly from Gay Head, 1-2 miles.	6-11½	do			
61		a, b, c. Vineyard Sound, northwesterly from Gay Head, 1-2 miles; more easterly than 60.	5½-13½	do			
62		a, b, c. Vineyard Sound, northwesterly from Gay Head, 1-2 miles; more easterly than 61.	5½-10½	do			
63		a, b, c, d. Vineyard Sound, north of Devil's Bridge, Gay Head, ¾-1 mile.	6-8½	Rocks, sand, shells			
64	July 12	Buzzard's Bay, Cataumet Harbor: a. In harbor	3½	Sand, eel-grass			
		b. At mouth of harbor	3½-4½	do			
65		a, b. Buzzard's Bay, off Cataumet Harbor.	4½				
66		a, b. Buzzard's Bay, between Long Neck and Quamisset Harbor.	5-6½	Hard sand			
67	July 24	a, b. Just outside of 66.	5-6½	Sand, mud			
68		Buzzard's Bay, west of Quamisset Harbor: a. About 2 miles	7½	Fine sandy mud			
		b. About 1 mile	7½	do			
		c. About ½ mile	6-7	Mud			
69		a, b. Buzzard's Bay, west of Quamisset Harbor, about 1½ miles.	5½-7½				

Serial number.	Date.	Locality.	Depth in fathoms.	Nature of bottom.	Temperature.		
					Air.	Surface.	Bottom.
70	1871.	a, b, c, d. Buzzard's Bay, westward of Quamquisset Harbor, about 1½-2½ miles.	7½	Sand, gravel, stones			
71		a, b. Wood's Holl Passage, between Long Neck and Uncatena Island.	3½-6½	Fine gravel			
72		c, d. West of Long Neck, ¼-½ mile.	3½-6½	Rocks, hard sand			
		a, b, c, d. Buzzard's Bay, northward from Woepecket Island, 1½-2 miles, forming a line running about northeast and southwest.	7½-8½				
73		Buzzard's Bay, north of northern part of Naushon Island:					
		a, b, c. Parallel and near to shore from Uncatena Island to south of Woepecket Island.	6½-10½	Sand, mud			
		d. About west of Woepecket Island, ½ mile.	6½	Rocks			
		e, f, g. North westerly from Woepecket, e, ½ mile; f, 1 mile; g, 1½ miles.	7½-8½	Sand and muddy sand.			
74		a, b. Buzzard's Bay, northward of Woepecket Island, 1½-2½ miles.	7½	Mud			
75		Buzzard's Bay, forming a line of dredgers parallel to the Elizabeth Islands and distant from them ¼-½ mile.	7-9				
		a, b, c. Off Naushon Island.		Blue mud			
		d, e. Off Pasque Island.		do			
		f, g, h. Off Cuddyhunk Harbor.	3½-5				
76		a, b, c. Buzzard's Bay, between Quick's Hole and Lone Rock.	3½-8½	Gravel, dead weeds, &c			
77		a, b, c, d, e, f. Quick's Hole, between Pasque Island and Nashawena Island.	6½-8½	Rocks, gravel, sand			
78		a, b, c, d, e. Buzzard's Bay, off northern entrance to Robinson's Hole.	3½-7½				
		a		Mud, eel-grass, and dead weeds.			
		b		Black mud			
		c		Blue clay			
79		In channel between Chappaquiddick Island, Martha's Vineyard, and Hawe's Shoal:					
		a. Northern part of channel	3½-4½				
		b. Southern part of channel	4½-5				
80	Sept. 12	Southeasterly from Martha's Vineyard, 3½ to 9 miles:					
		a. 10 miles south from Cape Poge	10½	Sand and silicious sponges.	64		60
		b. 13 miles south from Cape Poge	18½	Sand	64		59
		c. 1½ miles west of b	21	Sandy mud	61.5		59
81	Sept. 12	South of Martha's Vineyard, 5 to 8 miles:					
		a. Southeast of Gay Head, 12½ miles	16½	Sand			
		b. Southeast of Gay Head, 8 miles	10½	do			61
82	Sept. 9	South and southwest from Gay Head, about 5 miles; northwest of Noman's Land:					
		a. 5 miles south-southwest of Gay Head.	8-12	Gravel and stones			
		b. 5 miles south of Gay Head	16	do			62
83		a, b, c, d. Vineyard Sound, off Gay Head, parallel to No. 58, and slightly more distant from shore.	10-10	Rocky			
84	Sept. 11	South and southwest of Gay Head:					
		a. 1½ miles southwest of Gay Head	13	Rocks, gravel			
		b. 4 miles southwest of Gay Head	10½	Sandy mud			
		c. 2½ miles a little west of south of Gay Head.	12	Rocks, gravel			
		d. 3½ miles a little east of south of Gay Head.	7	do			
85	Sept. 9	West of Gay Head, 2 to 5 miles:					
		a. 3 miles; b, 3½ miles; west of Gay Head.	15½	Sand	67		63
		c. 4 miles west of Gay Head	18	Soft, sticky mud	62		58
		d. 1 mile north-northwest from c	19	do	62		57
		e. 5 miles a little north of west from Gay Head.	11	do	63		59
86	Sept. 13	West-southwest of Gay Head, 10 to 13 miles:					
		a. 13 miles west-southwest from Gay Head.	25	Gravel, sand, with some mud.			
		b. 10½ miles west-southwest from Gay Head.	25	do	64		