



HMAP Data File (in process) 2 Gulf of Maine, Statistical Bulletins, 1898-1935

Supporting Documentation

U. S. COMMISSION OF FISH AND FISHERIES,
FISHERY STATISTICS.

STATEMENT of Quantities and Values of certain Fishery Products landed at Gloucester and Boston, Mass., by American Fishing Vessels during the month of January, 1898.

FISHING GROUNDS.	No. Tons	COD.				HERRING.				MACKEREL.				SALMON.				TOTAL.					
		FISH.		VALUE.		FISH.		VALUE.		FISH.		VALUE.		FISH.		VALUE.		FISH.		VALUE.			
		Pounds.	Value.	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.		
<i>East of 66° W. Longitude.</i>																							
La Have Bank	69	780,500	\$15,420			141,700	\$1,222	1,089,800	\$14,468	185,000	\$1,770			17,550	\$2,048					2,594,330	\$32,758		
Western Bank	1													9,500	1,190					9,500	1,190		
Quezon Bank	19			35,000	\$1,723									478,941	22,358					478,941	22,358	22,900	\$1,723
Green Bank	1													29,000	3,200					29,000	3,200		
Off New Foundland	17															2,629,500	\$28,616	781,023	\$10,150	2,629,500	\$28,616	781,023	\$10,150
Cape Shore	1	10,000	200					27,000	270	2,000	20									40,000	630		
<i>West of 66° W. Longitude.</i>																							
Georges Bank	54	100,000	2,541	245,100	8,028	24,000	290	1,309,000	18,708	47,000	354	4,900	\$112	12,523	1,405					1,483,123	21,604	245,100	8,028
Cashes Bank	5	45,000	798			45,000	475	27,000	348	75,000	730									127,000	2,200		
Middle Bank	17	29,000	729					145,400	1,714	7,000	135	5,700	125							190,100	3,074		
Jeffreys Lodge	41	122,700	2,270			22,500	247	210,000	3,381	20,700	405	2,000	50							391,900	6,626		
Ipswich Bay	1	4,000	80																	4,000	80		
South Channel	11	74,000	681					245,000	2,543	100,000	1,275	5,000	40	1,000	150					422,000	5,941		
Off Highland Light	14	34,000	794					60,500	1,730	12,000	190	3,000	62	1,000	150					126,000	2,929		
Off Chatham	4	11,000	270			45,000	600	3,000	42	1,000	22	500	45							60,000	1,281		
Off Race Point	5	20,000	605					17,000	240	400	6									33,400	1,251		
Shore General	223	617,655	15,624			20,500	226	421,200	7,069	121,200	1,444	15,200	368	1,500	121					1,278,033	26,438		
TOTAL	322	1,983,352	41,892	295,100	9,781	231,700	2,799	4,088,000	51,343	617,300	6,272	25,500	688	221,016	41,417	2,629,500	28,918	781,023	10,150	2,984,271	38,227	1,029,725	12,911
TOTAL LANDED AT GLOUCESTER	277	1,284,152	28,510	236,100	9,781	231,700	2,543	3,371,500	28,438	528,000	5,139			245,961	48,028	264,500	9,441	781,023	10,150	3,303,746	41,805	1,029,725	12,911
TOTAL LANDED AT BOSTON	205	691,100	13,292			20,000	256	1,464,500	22,905	91,300	733	25,500	688	5,123	721	1,629,000	29,477			4,000,035	70,722		

J. J. DAVIS,
Commissioner.

A U.S. Fish Commission monthly statistical bulletin, January 1898 (National Archives, Waltham, MA)

Source: http://fishhistory.org/webdocs/pdf/claesson_stellwagen_p1.pdf



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Summary

- Dataset Title:** Gulf of Maine, Statistical Bulletins, 1898-1935
- HMAP Case Study:** Gulf of Maine
- Large Marine Ecosystem:** 7: Northeast U.S. Continental Shelf
- Subject:** Catches, vessels and fishermen in the Gulf of Maine, 1898-1935; Statistical Bulletins
- Data Provider:** Stefan Claesson
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- Extent:** 11,331 records
- Keywords:** History of Marine Animal Populations; Gulf of Maine; Statistical Bulletins

Citation:

(a) The dataset: please cite as follows: S. Claesson ‘Gulf of Maine, Statistical Bulletins, 1898-1935’ in M.G Barnard & J.H Nicholls (comp.) *HMAP Data Pages* (www.hull.ac.uk/hmap)

(b) Supporting documentation: please cite as follows: D.J. Starkey, ‘HMAP Data File (in process) 2: Gulf of Maine, Statistical Bulletins, 1898-1935’, Supporting Documentation’, in M.G Barnard & J.H Nicholls (comp.) *HMAP Data Pages* (www.hull.ac.uk/hmap)

Acknowledgements:

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1. Gulf of Maine Cod Project: Goals, Objectives & Approach

Goals: The Gulf of Maine Cod Project has three long-term goals:

- 1) to describe the synergistic history of humans and marine species (particularly Atlantic cod) in the Gulf of Maine (including Stellwagen Bank National Marine Sanctuary) and the Northwest Atlantic based on descriptive information from historic sources (1524-1930), documents recording the amount and geographic distribution of catch and fishing effort (1716-1930), and early scientific surveys (1870-1940);
- 2) to develop an arsenal of analytical tools well suited to historical data and validated by historical analysis and contextualization;
- 3) to create a protocol for the sustainable use of cultural as well as restored natural resources by incorporating a historic perspective into public policy, educational outreach and comprehensive management plans.

Objectives: in seeking to attain these goals, the following objectives will be met:

- 1) the recovery of catch data from New England fishing logs and corresponding industry documents written before 1900 in order to estimate the abundance, distribution, migratory patterns and average adult size of marine species, particularly Atlantic cod (*gadhus morua*), in the Gulf of Maine and the Northwest Atlantic before mechanization occurred and regular scientific sampling took place;
- 2) investigation of the historic interconnections between the fishing communities and marine ecosystems, including evidence and characteristics of localized overfishing and/or sustainable harvest, identification of fishing strategies and knowledge systems adapted to particular locales, the effects of changes in fish populations and marine ecosystems on human behavior, profitability and the economics of scale;
- 3) the creation of a historical ecology for the Gulf of Maine, starting with Stellwagen Bank National Marine Sanctuary, based on archaeological evidence from the earliest human settlements, fisheries records to World War II, and scientific surveys by the US Fish Commission, highlighting the importance of marine resources to the human communities from Cape Ann to Cape Cod;
- 4) the adaptation of modern analytical techniques, such as GIS mapping, fisheries stock assessment models, presence/absence analysis, and discrete choice modeling, to non-random statistical samples generated by the historical attrition of original sources;
- 5) the establishment of historical baselines for marine species as broad indicators of ecosystem health and regime state, correcting erroneous assumptions about productivity and abundance.

Approach: information derived from the following types of historical source is being entered into databases:

- a) codfishing logs and fisheries documents, 1852-1866;
- b) regional charts to 1940;



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- c) statistical summaries of collected data generated by the US Fish Commission and the Bureau of Fisheries, 1872-1944, and state fish commissions and census bureaus;
- d) scientific sampling surveys made by US Fish Commission vessels in the late 19th- and early 20th-centuries, as well as published scientific papers;
- e) qualitative sources such as diaries, memoirs, and oral histories.

This data file (in process) is derived from (c) statistical summaries of collected data generated by the US Fish Commission and the Bureau of Fisheries, 1898-1935.

2. Statistical Bulletins: Historical Context & Appraisal

This data file (in process) is derived from statistical bulletins printed by the federal fisheries management agencies, the U.S. Commission of Fish and Fisheries, and the U.S. Bureau of Fisheries. The bulletins contain monthly commercial fish landings for the Boston and Gloucester, MA, and Portland, ME, fishing fleets between 1898 and 1935. The data file was developed for the purposes of documenting the maritime history and marine ecology of the Stellwagen Bank National Marine Sanctuary (SBNMS). These historical data are used further to map and track changes in the population and composition of marine species in the vicinity of SBNMS.

Although the complete set of U.S. Fish Commission and Bureau of Fisheries statistical bulletins is believed to date from 1892 to 1944, this tabular data file includes only the monthly records from 1898 to 1935. Bulletin records for the years 1892-1897 and 1899-1900 are missing, while further data gaps include all the months of 1898 except January, the months of January, February, March and May in 1901, and June 1911. Additionally, a change in the format of the statistical sheets in December 1928 omitted landing data by fishing bank or ground for June-December. The annual landings by species for 1928 are available, however. The fishing banks and grounds were re-organised into regional zones beginning in 1936 and therefore the landings 1936-1944 are not included in this data file.

The format of the bulletins, or statistical sheets, is inconsistent and varies in layout from month to month depending on the types and places of fish caught. The pounds and values of fresh and salted fish landed are recorded for each fishing bank, ground, or area. It is noted in some bulletins sheets that “the weight of salted fish landed has been converted to the basis of fresh fish.” The number of vessel trips made to each fishing area is also recorded.

Significant format changes were made to the bulletins in 1913. In this year, some species are categorised by size according to weight: cod (large [10 and over], market [under 10 and over 2½], scrod [1 to 2½]), haddock (large [over 2½], scrod [1 to 2½]), hake (large [6 and over], small [under 6]), and mackerel (large [over 2½], medium [1½ to 2½], small [under 1½]). These size categories are consistent throughout the series (1913-1935). Landing statistics for flounder, wolffish and rosefish are added to the data tables beginning in 1928. From November 1913 to May 1928, the bulletins note the number of vessels engaged in the bank, market, mackerel, swordfish, herring, and shore fisheries. Only the fishing fleets of Boston and Gloucester, MA, are included from October 1913 to December 1915; from January 1916 to May 1928, the records also include the fishing fleet of Portland, ME. Beginning in August 1914, a summary of each month’s fishing industry-related events is described. The summaries



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address weather conditions, abundances and qualities of various fisheries and fishing locations, overall size of landings, size and operations of fishing fleets, market supply and demand, and socio-political events that affected the fishing industry. Temporally, these summaries extend to December 1935.

This data file does not include species listed in the footnotes of the bulletins. Generally, footnotes record catches of herring, large fish (e.g., swordfish, shark, tuna), and lesser-caught species in the “Other” or “Miscellaneous” data column. Footnotes in this column provide detailed information about the quantities and values of other types of fish landed, but they are not included in this data table. This data is accessible and may be extracted from the transcribed Microsoft Excel workbooks (described below).

The landing tables are printed on standard 8.5 x 11-inch sheets of paper from 1929-1935. Previously, the statistical tables were printed on variable-sized paper; some sheets as large as 30 x 20 inches. There are important additions and alterations to the data tables beginning in 1929. First, there is a table that presents a summary of the fish landed at each port during the month, and a summary of and comparison to the previous year’s landings. The second set of tables is similar to the original bulletin format; however, the later tables provide statistics not only by fishing location but also fishing gear. Fishing gear categories include Danish seines, purse seines, drift gill nets, sink gill nets, harpoons, hand lines, line trawls, scallop drags, otter trawls (large, medium, small [according to vessel size]), and Vigneron-Dahl trawls (large, medium, small [according to vessel size]). Additionally, there are data columns for the number of “Vessels Fishing” on each bank and the number of “Days Absent” from shore or the lengths of the fishing trips. A second table at the bottom of each page summarizes the landing data by fishing bank.

The original statistical bulletins are located at National Archives and Records Administration (NARA) in Waltham, MA (Record Group 22, “Monthly Fishery Statistical Reports, 1901-1944” [Location: 15/16/11-5 – 15/16/11-6]). Digital photographs were taken of all monthly bulletin sheets and saved as .jpg formatted files. Each annual set of bulletin tables was imported into Adobe Acrobat 7.0, saved as .pdf files and named by year (e.g., 1901.pdf, 1902.pdf, etc.). Microsoft Excel 2003 workbooks were created for each year of data with a single worksheet representing each month’s bulletin data. The months are indicated on the worksheet tabs (e.g., Jan, Feb, etc.). Excel files (.xls) are also named according to year (e.g., 1901.xls). Data was manually transcribed from the .pdf files into the Excel worksheets. The worksheets are an exact transcription of the original documents including all tabular data, as well as headers, footers, and sidebar notes. Finally, from these sheets a single tabular database was populated with all statistical bulletin data (1898-1935). The database was imported into ArcGIS and exported as an ESRI .shp (Shapefile) format. Data field definitions are provided below. A quality check of the data was performed four times by three different individuals.

Point locations of all fishing grounds, banks and areas referred to in the bulletins were derived from geographic name databases such as Geographic Names Information System (GNIS) and the Canadian Geographic Names Data Base (CGNDB). When names were not present in these databases, historical fishing maps published by Goode et al. in *The Fisheries and Fishery Industries of the United States* (1887) and Rich in *Fishing Grounds of the Gulf of Maine* (1929) were used to identify fishing places referred to in the bulletins. The locations represent centroids of fishing bank and grounds, and are not exact but rather approximate locations of where fish were caught.

The spatial coverage of the data is the Northwest Atlantic Ocean from approximately Long Island, NY, in the south and north to Iceland, Greenland and the Davis Straits. Landing data



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are available for the following locations: Gulf of Maine, Grand Banks, Massachusetts Bay, Bay of Fundy, Scotian Shelf, Bacalieu Bank, Bank Comfort, Bay of Islands, Block Island, Browns Bank, Burgeo Bank, Canso Bank, Cape North, Cape Shore, Cashes Bank, Clark Bank, Curdo Bank, Davis Strait, Emerald Bank, Fippenies Bank, Flemish Cap, Georges Bank, German Bank, Grand Bank, Grand Manan, Green Bank, Greenland, Iceland, Gulf of St. Lawrence, Ipswich Bay, Jeffreys Ledge, La Have Bank, Labrador, Middle Bank, Stellwagen Bank, Misaine Bank, Nantucket Shoals, Chatham, Funks, Highland Light, Newfoundland, Race Point, Platts Bank, Quereau Bank, Roseway Bank, Sable Island Bank, Sambro Bank, Scatari Bank, Seal Island Grounds, South Channel, St. Anns Bank, St. Peters Bank, Strait of Belle Isle, The Gully, Tillies Bank, and Western Bank.

3. Data Fields and Attributes

Month	Month
Year	Year
Landing	City/Place where fish landed (Gloucester, Boston, or Portland)
Gear	Fishing gear type
Ground	Description of location where fish caught (e.g., Middle Bank)
X	Longitude (decimal degrees)
Y	Latitude (decimal degrees)
Add_Comment	Additional comments – e.g., Canadian or American landings
Vessels	Number of vessels fishing
Trips	Numbers of trips made
Absent	Days absent from port
cod_flp	Cod Fresh Large Pounds
cod_flv	Cod Fresh Large Value
cod_slp	Cod Salted Large Pounds
cod_slv	Cod Salted Large Value
cod_fmp	Cod Fresh Medium Pounds
cod_fmv	Cod Fresh Medium Value
cod_smp	Cod Salted Medium Pounds
cod_smv	Cod Salted Medium Value
cod_fsp	Cod Fresh Small Pounds
cod_fsv	Cod Fresh Small Value
cod_ssp	Cod Salted Small Pounds
cod_ssv	Cod Salted Small Value
cod_fp	Cod Fresh Pounds
cod_fv	Cod Fresh Value
cod_sp	Cod Salted Pounds
cod_sv	Cod Salted Value
had_flp	Haddock Fresh Large Pounds
had_flv	Haddock Fresh Large Value
had_slp	Haddock Salted Large Pounds
had_slv	Haddock Salted Large Value
had_fsp	Haddock Fresh Small Pounds
had_fsv	Haddock Fresh Small Value
had_ssp	Haddock Salted Small Pounds
had_ssv	Haddock Salted Small Value
had_fp	Haddock Fresh Pounds
had_fv	Haddock Fresh Value



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had_sp	Haddock Salted Pounds
had_sv	Haddock Salted Value
hak_flp	Hake Fresh Large Pounds
hak_flv	Hake Fresh Large Value
hak_slp	Hake Salted Large Pounds
hak_slv	Hake Salted Large Value
hak_fsp	Hake Fresh Small Pounds
hak_fsv	Hake Fresh Small Value
hak_ssp	Hake Salted Small Pounds
hak_ssv	Hake Salted Small Value
hak_fp	Hake Fresh Pounds
hak_fv	Hake Fresh Value
hak_sp	Hake Small Pounds
hak_sv	Hake Small Value
pol_fp	Pollock Fresh Pounds
pol_fv	Pollock Fresh Value
pol_sp	Pollock Salted Pounds
pol_sv	Pollock Salted Value
cus_fp	Cusk Fresh Pounds
cus_fv	Cusk Fresh Value
cus_sp	Cusk Salted Pounds
cus_sv	Cusk Salted Value
hal_fp	Halibut Fresh Pounds
hal_fv	Halibut Fresh Value
hal_sp	Halibut Salted Pounds
hal_sv	Halibut Salted Value
flou_fp	Flounder Fresh Pounds
flou_fv	Flounder Fresh Value
wolf_fp	Wolffish Fresh Pounds
wolf_fv	Wolffish Fresh Value
rose_fp	Rosefish Fresh Pounds
rose_fv	Rosefish Fresh Value
mac_flp	Mackerel Fresh Large Pounds
mac_flv	Mackerel Fresh Large Value
mac_slp	Mackerel Salted Large Pounds
mac_slv	Mackerel Salted Large Value
mac_fmp	Mackerel Fresh Medium Pounds
mac_fmv	Mackerel Fresh Medium Value
mac_smp	Mackerel Salted Medium Pounds
mac_smv	Mackerel Salted Medium Value
mac_fsp	Mackerel Fresh Small Pounds
mac_fsv	Mackerel Fresh Small Value
mac_ssp	Mackerel Salted Small Pounds
mac_ssv	Mackerel Salted Small Value
mac_fp	Mackerel Fresh Pounds
mac_fv	Mackerel Fresh Value
mac_sp	Mackerel Salted Pounds
mac_sv	Mackerel Salted Value
her_fp	Herring Fresh Pounds
her_fv	Herring Fresh Value
her_sp	Herring Salted Pounds



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her_sv	Herring Salted Value
swo_fp	Swordfish Fresh Pounds
swo_fv	Swordfish Fresh Value
swo_sp	Swordfish Salted Pounds
swo_sv	Swordfish Salted Value
oth_fp	Other Fish Fresh Pounds
oth_fv	Other Fish Fresh Value
oth_sp	Other Fish Salted Pounds
oth_sv	Other Fish Salted Value
total_fp	Total Fresh Pounds
total_fv	Total Fresh Value
total_sp	Total Salted Pounds
total_sv	Total Salted Value

3. Outputs

The data have been used to inform a number of analyses, including:

Stefan Claesson, 2007. 'Mapping Historic Fishing Grounds in the Gulf of Maine and Northwest Atlantic' in D.J. Starkey, P. Holm & M. Barnard (eds) *Oceans Past: Management Issues from the History of Marine Animal Populations* (London, Earthscan).