XL.—STATEMENTS CONCERNING THE FISHERIES OF SEVERAL DIFFERENT COUNTRIES.

[Compiled from the Consular Report for 1882 and 1883.]

1.—THE PILCHARD FISHERIES OF FALMOUTH, ENGLAND, IN 1882.

By HOWARD FOX, *Consul.*

The decadence of the seine fishery is more and more marked. The drift-boats again contributed a large portion of the catch, and were again especially successful at the close of the season when fishing at a distance from the curing places. Owing to the more efficient arrangements for preserving the fish, most of these distant catches turned out better than in some former years. Increased attention was given to pickling instead of dry-salting, with satisfactory results, but we regret that some curers remain careless in preparing fish for export, which is a short-sighted policy.

The quantity of pilchards exported during the season of 1882 was 8,317 hogsheads (which included about 1,000 hogsheads caught in 1881), as against 13,963 hogsheads shipped during the previous season. The season of 1882 yielded less for export than either of the eleven preceding years. The prices realized by the curers, the ports to which the fish were exported, and some other interesting particulars relating to this fishery are shown in the following table:

Summary of pilchards exported from 1870 *to* 1882.

Years.	Genoa.	Leghorn.	Civita Vecchia.	Naples.	Bari.	Ancona.	Venice.	Total.	Price per hogshead to curers.
	Hhds.	*Hhds.*	*Hhds.*	*Hhds.*	*Hhds.*	*Hhds.*	*Hhds.*	*Hhds.*	*Shillings.*
1870	2,623½	583½	.....	1,548½	100	76	1,117	6,048½	60 to 90
1871	15,551½	7,077	1,092	13,237	1,010½	3,097½	4,545	45,683½	20 68½
1872	802	248	.....	88	.....	.....	.....	1,138*	....
	10,652½	1,361½	.....	2,579½	632	.....	2,173½	18,406	38 85
1873†	14,643	4,119½	470	6,263½	593½	1,802½	2,185	31,019	25 51
1874‡	819	.....	.....	.....	.....	.....	.....	819*	....
	4,467½	488	.....	1,332½	155½	.....	1,094	7,543½	60 89
1875	4,904½	530½	.....	1,346½	220½	34	211½	7,337½	52 95
1876	4,732	905½	.....	3,138½	100	155	872	9,903	52 100
1877	5,717½	856	.....	1,886½	.....	98	919	9,477	40 80
1878	7,880	221	.....	1,368½	537½	30	272	10,309	30 60
1879	7,855½	1,157½	.....	2,698½	.....	.....	226½	11,037½	41 68
1880	7,577½	744	.....	2,847½	350	.....	324	11,843	55 80
1881	9,100½	600	.....	4,262½	.....	.....	.....	13,963	42 75
1882§	6,563	403	.....	1,351	.....	.....	.....	8,317	41 84

* Previous season's fish.
† 658 hogsheads lost on the voyage.
‡ 155½ hogsheads lost on the voyage.
§ About 1,000 hogsheads were previous season's fish.

2.—THE FISHERIES OF NOVA SCOTIA IN 1882

By WAKEFIELD G. FRYE, *Consul-General.*

Of the total production of the fisheries in the Dominion of Canada in 1881, the value of which is officially stated to have been no less than $15,817,162, the product of Nova Scotia for that year was $6,214,781, or fully 39 per cent of the whole. The principal kinds of fish, and their values, were as follows:

Kind.	Value.	Kind.	Value.
Codfish	$2,477,878	Shad	$75,1[illegible]
Herring	809,907	Halibut	43,102
Mackerel	639,723	Salmon (including salted, smoked, &c.)	37,851
Haddock	406,560		
Hake	258,597	Total	4,949,130
Pollock	110,453		
Alewives	89,896		

The production for the past year is reported to have been considerably less than for 1881, but prices have been higher, especially in the West Indies, and the fish market has been active.

Provision for the payment of a fishing bounty was made during the past year by the Dominion Government, as follows: A bounty of $2 per ton will be paid to Canadian vessels of 10 tons and upwards, having been engaged during three months of the current year in the catch of sea-fish not exempted under the Washington treaty, one-half of such bounty being payable to the owner and the other half to the crew, payment to any vessel not to exceed $160. Fishing boats under 10 tons engaged in fishing for a similar period, and having caught not less than 2,500 pounds of sea-fish per man, are also entitled to a bounty of $2.50 per man, one-fifth of this being payable to the owner and four-fifths to the men.

UNITED STATES CONSULATE-GENERAL,
Halifax, N. S., January 22, 1883.

3.—THE FISHERIES OF PICTOU, NOVA SCOTIA.

By E. JOHNSON, *Consul.*

According to the consular invoices, the value of canned lobsters exported to the United States was $50,781.25, while, according to the custom-house report, it was a little less. A considerable share of this trade, however, went through Halifax. This can be inferred from the fact that the total sale of canned lobsters to the United States from Nova Scotia in 1882 was 2,507,501 pounds, worth $232,274. One-half or more of this was the produce of the consular district of Pictou. The

total exportation from Nova Scotia for the fiscal year 1882 has been 8,153,997 pounds, worth $816,612. From the Dominion of Canada the amount was 14,809,152 pounds, worth $1,431,741. Nova Scotia, therefore, produces more than half of the lobster trade of the Dominion, and this consular district must then produce more than one-fourth of the total production of Canada. England and France are the principal markets for the export trade outside of the United States.

The fisheries are well developed in this district. On the northern shore the lobster canning industries are rapidly developing. We find these establishments all along the coast, at Pugwash, Malagash, Point Brulé, Cape John, Toney River, Cariboo Island, Sandy Cove, three on Pictou Island, Point Betty, Merigomish Ponds, Arisaig, Antigonish, and so on, through the counties of Cape Breton; each of these cost from $3,000 to $4,000, and employs on an average from fifty to sixty people. Each cans on an average per annum at least 150,000 cans; some will probably put up 250,000 cans. Some capital is invested in the herring, cod, mackerel, and salmon fisheries. On the Cape Breton coast the cod fisheries assume much greater importance than on the northern coast.

Statement showing the principal points in the fishing industries of the Pictou consular district in 1881.

County.	Men engaged in fishing.	Nets.	Cod.	Haddock, hake, and pollock.	Herring.	Mackerel.	Canned lobster.	Fish-oil.
	Number.	*Fathoms.*	*Quintals.*	*Quintals.*	*Barrels.*	*Barrels.*	*Pounds.*	*Gallons.*
Inverness	921	34,416	18,529	1,751	5,115	6,390	74,480	4,370
Victoria	1,252	31,120	23,945	1,925	3,590	3,403	.....	7,840
Cape Breton	1,670	74,624	33,384	3,075	14,434	4,659	33,600	10,808
Colchester	176	27,112	60	38	107	6	100,000	80
Pictou	210	10,953	1,440	16	1,287	398	394,000	524
Antigonish	487	19,318	2,087	815	990	3,084	.....	970
Richmond	2,314	145,849	34,616	9,600	14,272	11,123	129,941	14,048
Cumberland	120	4,224	195	164	737	70	157,218	61
Total	7,059	347,868	114,285	17,384	40,541	29,133	1,389,239	38,857

For 1883 these figures must all be increased, especially those for canned lobsters.

UNITED STATES CONSULATE,
Pictou, N. S., August 30, 1883.

4.—THE FISHERIES OF GASPÉ BASIN, QUEBEC, FOR 1883.

By GEORGE H. HOLT, *Consul.*

The trade and navigation of this district are almost entirely connected with the fishery establishments. American fishing-vessels, small in number of late years, risked their enterprise in the waters of the Gulf of the Saint Lawrence, and a fortunate few of them fell in with the fine

schools of mackerel which reappeared, after an absence of many years, on the old fishing-grounds of the Gulf and bays. The cod fishery off the coast of Gaspé is too precarious, and the quality of the fish is not fine enough to satisfy American fishermen, who prefer to risk the perils of the storms and to fish on the banks.

The Jersey fishery establishments, however, carry on the routine of their stations on the coasts of the Gulf year after year, having had but little variation during the past hundred years, except the startling one that of late years the losses on the shipments are of more frequent occurrence. The causes of this may be attributed to the formidable competition of the Norwegian fisheries, in the first place, and recently to the enormous export from Newfoundland (440,529 quintals) between the 1st of August and 15th of December, 1883, being in excess of 1882 by 126,140 quintals, which operated as an avalanche on the foreign markets.

Shippers here paid $4 to $5 per quintal for their export cargoes. Freight to Rio Janeiro was 3*s.* 6*d.* sterling per steamship, and 4*s.* 9*d.* sterling per sailing vessel, per tub, 128 pounds, Portuguese quintal; freight to Naples, 3*s.* 3*d.* sterling per quintal per sailing vessel. During 1883 there were shipped in 21 vessels a total of 54,794 quintals of dry cod, valued at $280,460, destined for the West Indies, Brazil, and Mediterranean ports.

Salmon fishing proved excellent in yield both to the gill-netters and anglers. The net owners received 7 cents per pound for it fresh; and pickled salmon was sold at $20 per barrel.

Whaling is now an industry represented in Canada but by one little schooner of 60 tons, which, after a three months' cruise in the Strait of Belle Isle, returned to port with the oil of four whales (4,800 gallons), which was sent to Montreal and sold at 55 cents per gallon.

The lobster fishery is reported as pursued with so little regard for the future that more effective legislative action will be required for its better preservation. The business of the factories began in May and closed in July. The product of five of them in this district is estimated at 90,000 pounds, in 1-pound cans.

UNITED STATES CONSULATE,
Gaspé Basin, Quebec, January 10, 1884.

5.—THE FISHERIES OF AUSTRALASIA IN 1882.

By O. M. SPENCER, *Consul-General.*

From the report of the commissioners appointed by the Government of Tasmania to inquire into the conditions of the fisheries of that colony we gather the following interesting particulars:

Including the successfully acclimatized European fishes, there are

found in Tasmanian waters one hundred and eighty-eight different species of known sea and river fishes, of which about one-third are regarded as good edible fish. Of the latter, about twenty species are found in sufficient numbers to afford a regular supply for the market. One of the most highly-prized among these, both on account of its size and flavor, is the trumpeter, which is taken at a depth of from 10 to 80 fathoms, and sometimes reaches a weight of 60 or more pounds. Tasmanian fishermen heretofore have depended principally for large returns upon the kingfish, of which, however, owing to its migratory habits, the supply is very uncertain. In 1874–'75 it appeared in such vast numbers that the fish were actually sold for manure, while in 1881 the export was merely nominal.

Shoals of sprats, anchovies, and mackerel periodically visit the Tasmanian waters; but, in the absence of the proper appliances for their capture and preservation, these large stores of wealth have hitherto remained inutilized. Among the crustaceans the most important, commercially, is the crawfish, which is found in great numbers, especially on the eastern coasts; but which, notwithstanding its present abundance, is threatened with total extinction, owing to its wholesale capture irrespective of size or condition.

Referring to the Tasmanian oyster fisheries, which, twenty years ago, were of great commercial importance, the commissioners remarked:

"It is astonishing to contemplate the fact that the quantity then brought to market in one year would now, at current prices, realize a sum of £93,125 (about $450,000); that is, a sum more than the equivalent of the value of the last three years' export of grain, hay, flour, and bran from Tasmania. It is not surprising that those who remember the abundance and commercial value of the original oyster-beds should again and again have attempted to do something to improve this at present neglected and almost obsolete industry, and to claim the aid of Parliament in promoting the welfare of an industry which reasonably might again become of wide national importance.

"When we consider that the only natural beds which may be profitably worked are now to be found in the vicinity of Spring Bay, and that the total yield does not amount to more than one hundred thousand oysters per year, it is humiliating for us to confess that the lesson in oyster culture given to the world by France, many years ago, should in this colony be so thoroughly disregarded."

The commissioners reported that the efforts made from time to time to acclimatize certain species of the salmonidæ had been fairly successful. This was especially true of the salmon trout and the large brown trout. With regard to the successful introduction of the true salmon (*Salmo salar*), the report of the commissioners left the question involved in considerable doubt. They said, however:

"It is satisfactory to find that specimens sent to England for examination have been pronounced to possess the characteristics of true sal-

mon, and the successful acclimatization of this fish from the ova already received may now perhaps be a mere matter of time."

Referring to the development of the fishing industry, the commissioners called attention to the desirability of extending the market for fresh fish, and urged the adoption of improved appliances for the capture and preservation of both the permanent and migrating fish with a view to foreign exportation.

UNITED STATES CONSULATE-GENERAL,
Melbourne, Victoria, May 21, 1884.

6.—THE FISHERIES OF BRITISH INDIA IN 1882.

By H. MATTSON, *Consul-General.*

Fish are found in great abundance and variety in all the waters surrounding India, and, by their extensive and permanent use as an article of food among the native population, they constitute an important factor in the internal economy of the country. They are not, however, an article of export. Some attempts have been made at fish-curing as an industry and as a means of increasing the food supply, which have proved successful and will in all probability soon be developed under the fostering care of some of the local governments. In the Madras presidency there are eleven curing-yards, in which the total curings amounted to 1,734 tons. The fishing industry is particularly well suited to the natives of India, and it is only for the want of enterprise that it has not already become one of great importance and profit.

UNITED STATES CONSULATE-GENERAL,
Calcutta, January 27, 1883.

7.—FISHERIES OF CAPE COLONY, AFRICA.

By JAMES W. SILER, *Consul.*

Little effort is made to utilize the various species and great numbers of fish along the South African coast. In the coast districts sufficient fish are taken to supply a cheap food to the inhabitants of the immediate neighborhood; but the attempts made at curing the fish are of the most primitive kind, and the only exports of this commodity from the seaports, worth naming, are to Mauritius. Some years ago whale fisheries were carried on to some extent on the southern and southeastern coasts of the colony; but latterly whales have ceased to frequent these waters, and the amount of sperm-oil now taken is trifling. South African rivers, as a rule, are singularly destitute of fish useful for table or sporting purposes.

UNITED STATES CONSULATE,
Cape Town, October, 1883.

8.—THE FISHERIES OF FRANCE IN 1880, '81, AND '82.

By GEORGE WALKER, *Consul-General.*

The following tables are summarized from reports published in the Official Journal, showing the condition of the French fisheries during 1880, '81, and '82.

Quantities of fish caught.

Kinds.	1880.	1881.	1882.
Codfish, Newfoundland.....pounds..	40, 534, 316	38, 992, 652	39, 257, 652
Codfish, Iceland.....do....	37, 105, 028	21, 378, 381	26, 488, 792
Herring.....do....	74, 267, 037	86, 219, 568	56, 050, 431
Mackerel.....do....	16, 465, 689	12, 937, 890	11, 825, 251
Anchovies.....do....	8, 925, 840	13, 213, 793	3, 592, 723
Other species.....do....	106, 555, 090	110, 117, 757	117, 549, 749
Shrimps, &c.....do....	2, 209, 405	2, 680, 616	2, 291, 592
Total.....do....	286, 062, 414	285, 540, 657	257, 056, 190
Sardines.....number..	628, 478, 248	372, 940, 031	512, 802, 668
Oysters.....do....	144, 552, 625	374, 985, 770	155, 761, 399
Lobsters, crabs, &c.....do....	1, 398, 454	1, 905, 691	1, 564, 220
Total.....do....	774, 429, 327	749, 831, 492	670, 128, 287
Mussels.....bushels..	1, 416, 253	1, 393, 090	2, 612, 767
Other shell-fish.....do....	525, 944	591, 446	978, 857
Total.....do....	1, 942, 197	1, 984, 536	3, 591, 624
Sea-weed*.....cubic yards..	2, 502, 470	2, 802, 326	3, 104, 110

* Sea-weed is used for preserving and curing fish, but this method is considered much inferior to packing in salt. It is also used to a great extent for manuring lands adjacent to the coast.

Value of fish caught.

Kinds.	1880.	1881.	1882.
Codfish, Newfoundland	$1, 241, 752	$1, 521, 275	.....
Codfish, Iceland	1, 323, 372	1, 134, 185	.....
Coast fisheries, including herring and mackerel	14, 209, 986	13, 299, 861	.....
Total*	16, 775, 110	15, 955, 321	$17, 941, 859

* The decrease in 1881 and increase in 1882 is due largely to the difference in the amount of sardines taken.

Number of men and vessels employed, and tonnage of the vessels.

	1880.	1881.	1882.
Men:			
Cod fisheries, Newfoundland	5, 740	5, 165	.....
Cod fisheries, Iceland	4, 556	3, 436	.....
Coast fisheries	72, 488	72, 274	.....
Total	82, 784	80, 875	83, 845
Vessels:			
Cod fisheries, Newfoundland	147	137	.....
Cod fisheries, Iceland	269	202	.....
Coast fisheries	22, 320	21, 786	.....
Total	22, 736	22, 125	22, 891
Tonnage of vessels:			
Cod fisheries, Newfoundland	23, 588	21, 083	.....
Cod fisheries, Iceland	24, 729	19, 652	.....
Coast fisheries	109, 472	108, 562	.....
Total	157, 789	149, 297	156, 287
Persons fishing along shore without boats	.....	55, 485	52, 954

Herring.—During the season of 1881 herring were abundant, and 11,952,531 pounds more were caught than in 1880, with an increased value of $129,538.

This fishery would have been more productive but for the bad weather in the English Channel and the North Sea, which occasioned the loss of vessels having on board full cargoes of fish. The port of Boulogne suffered severely, having lost eight of its vessels, together with their crews and cargoes. The vessels that escaped the storms were obliged to take refuge in the neighboring ports, in which they had to remain some time for repairs.

Coast fisheries.—The sardine fishery in 1881 was much worse than usual, decreasing more than one-third both in catch and value. The fish came late on the coast, and in certain quarters made only a short stay, while in other regions they scarcely appeared at all.

The difficulty that fishermen encounter in selling their products on the spot is the principal reason for the low price of these products in some localities.

The "*seines belot*" have continued to give excellent results. On that account their number has increased in the Douarnenez quarter, in Finistère, where this apparatus has been especially employed.

The result of the fishing for fresh fish was superior in 1881 to that of the preceding year, but the receipts were less in value by $157,078, owing to falling prices in certain markets.

In some quarters of the west coast the fishermen have replaced their ancient vessels by those of larger tonnage, thus enabling them to go farther out to sea; and this has proved practically a success, as is demonstrated by the increased catch of fish.

Cod fisheries of Newfoundland.—The following table shows the statistics of the French cod-fisheries here during the three years named:

	1880.	1881.	1882.
Number of men employed	5,740	5,165	.....
Number of vessels	147	137	.....
Tonnage of vessels	23,588	21,083	.....
Number of pounds caught	40,534,316	38,992,652	39,257,652
Value	$1,241,752	$1,521,275	.....

As soon as the vessels arrived at the fishing grounds they were able to occupy the places assigned to them, and the fishing began immediately after the first work of installation. In the month of August, 1881, the product of the fisheries was sufficient only for the food of the crews. In fact, that month was particularly bad, owing to the frequent and violent northeast gales, accompanied by dense fogs and heavy rains, which rendered the drying of the fish very difficult. However, the results at the end of the season of 1881 were better than those of the preceding years, and the captains, with few exceptions, declared themselves satisfied with their fishing. On the other hand, the prices considerably

increased, notwithstanding the abundance of codfish on the market. The sale produced an excess of $279,523 over the preceding year, although the vessels fitted out were ten less in number.

The commander of the station of Newfoundland communicated the good results which the English obtained by the use of nets called "traps." This apparatus was tried by some of the French fishermen, and the trial proved fully satisfactory. This mode of fishing, independent of drag-nets and lines of all kinds, gave rich returns, with little fatigue to the crews.

Cod fisheries of Iceland.—This table, as with Newfoundland, shows partial statistics of the French cod-fisheries near Iceland.

	1880.	1881.	1882.
Number of men employed	4,550	3,436	.....
Number of vessels employed	260	202	.....
Tonnage of vessels	24,720	19,652	.....
Number of pounds caught	37,105,028	21,378,381	26,488,792
Value	$1,323,372	$1,134 185	.....

The exceptional cold of the winter of 1880–'81, and the presence of icebergs upon the east coast until the end of May, were very prejudicial. Moreover, the continual northeast winds, frequently very violent, rendered fishing nearly impossible. To this was added the absence of jelly-fish, the favorite food for the codfish, which were driven farther south on account of the ice. The month of April was especially disastrous, three schooners being wrecked upon the coast, and two others were lost with their crews.

Upon the west coast, during the season of 1881, where the icebergs were not frequently met with, the weather was favorable from July 20 to August 10. The vessels which remained as usual upon this coast during the twenty days above-mentioned, captured an abundance of fish and made good profits. The fish captured were large and of good quality.

Algerian coast fisheries.—In the French colony of Algeria the results of the coast fisheries were less favorable in 1882 than in 1881. The following table gives some comparative statistics:

	1881.	1882.	Decrease in 1882.
Fishermen	5,105	4,916	189
Boats	1,173	1,044	129
Tonnage	3,573	3,258	315
Value	$834,881	$784,149	$50,732

This diminished value was chiefly occasioned by the fact that the catch of the choicer kinds of fish was less abundant in 1882 than in 1881. This brought about a decreased value of the total catch, although the quantity secured was greater than in the preceding year.

UNITED STATES CONSULATE-GENERAL,

Paris, France, February 21 and December 14, 1883.

9.—THE FISHERIES OF AMSTERDAM IN 1882.

By D. ECKSTEIN, *Consul.*

The statements and tables of this article are based largely upon a report recently made by the board of fisheries of the Netherlands, for the year 1881, relating to the Dutch sea and coast fishing interests.

The herring catch of 1881 was not so great as that of the previous year, but as the prices realized for the article were so much higher, the total value of the catch exceeded that of former years, and amounted to nearly 4,000,000 florins* [$1,540,000]. The best foreign markets for these herring are South Germany, Belgium, and the United States. A sharp competition from France in the export trade of the article was met during the past two years in the Russian market, especially also in that of Stettin.

Respecting the quality of the Dutch herring, it seems worth noticing that they are held somewhat superior to all others, and are preferred in the trade even to the Scotch article, and this principally on account of the particular care and attention paid to their preparation and assorting, and they consequently command usually a slightly higher price of about from 5 to 10 per cent.

The craft now chiefly employed in the sea and coast fisheries of this country consist of luggers and cutters. Sloops and the so-called "hockers," formerly much in use, have been almost entirely abandoned.

Before 1880 no herring were shipped to the United States in full casks (tuns), but invariably in "sixteenths;" but in that year whole casks were first exported, and in the following year, 1881, the exports in whole casks amounted to 1,800. The difference in the cost of barrels, labor, freight, &c., between whole casks and "sixteenths" is estimated to be about 7 florins [$2.70] per tun or cask; or, in other words, a whole cask of herring can be furnished to the American trade at about 7 florins less than 16 of the small kegs.

Product of the herring fisheries in the North Sea from 1872 *to* 1881, *inclusive.*

Years.	Product of sea fisheries.		Product of coast fisheries.		Total product.
	Pickled.	Fresh.	Pickled.	Fresh.	
	Tuns.	*Number.*	*Tuns.*	*Number.*	*Number.*
1872	60,438	1,655,000	22,248	39,350,000	97,069,000
1873	77,406	2,719,000	39,962	52,205,000	135,072,000
1874	66,122	1,349,000	46,519	27,582,000	105,003,000
1875	59,486	826,000	42,487	10,439,000	89,097,000
1876	56,103	1,021,000	58,221	37,578,000	114,766,000
1877	71,585	2,013,000	69,414	41,748,000	137,791,000
1878	70,356	2,628,000	41,176	23,094,000	111,557,000
1879	78,103	1,764,000	87,750	48,052,000	163,300,000
1880	134,275	9,989,000	83,724	66,718,000	227,135,000
1881	110,116	3,323,000	88,788	57,804,000	197,573,000

*A Dutch florin = 38½ cents; a kilogram = 2⅕ pounds; an anker = 5 pecks (all approximately).

The total number of herring representing each year's product, as appearing in the above statement, is not supposed to be entirely correct, as not all tuns or casks contain an equal number of herring, but is based upon an estimate.

The average contents of each tun or cask of pickled herring is computed at 715 pieces as relating to the sea fisheries, and at 650 pieces in respect to the coast fisheries.

Exports of pickled or salted herring, and the countries whither exported, from 1879 *to* 1882, *inclusive.*

Years.	Germany.	Belgium.	Russia.	Hamburg.	United States.	Total exports, including other countries.
	Tuns.	*Tuns.*	*Tuns.*	*Tuns.*	*Tuns.*	*Tuns.*
1879	57,074	10,506	20	4,714	6,627	90,841
1880	91,513	19,253	200	9,820	10,249	138,986
1881	85,075	24,860	440	5,535	10,220	134,620
1882	95,000	18,000	1,200	4,200	17,000	140,000

Great quantities of fresh herring are not at once salted and prepared for export as pickled herring, but are smoked or dried (being known to the trade as "bokking") and prepared for export, particularly to Belgium and Germany.

As an evidence of the great importance of the marine resources of Holland aside from the herring fisheries, and in order to show to what extent these resources are being utilized, the following statistical tables are given, showing the exports for several years of fresh sea-fish, codfish, and stock-fish; also of anchovies, shrimps, and oysters:

Exports of fresh sea-fish from 1872 *to* 1882, *inclusive.*

[Officially valued at 12 florins per 100 kilograms.]

Years.	To Belgium.	To Germany.	Total exports, including other countries.	Years.	To Belgium.	To Germany.	Total exports, including other countries.
	Kilograms.	*Kilograms.*	*Kilograms.*		*Kilograms.*	*Kilograms.*	*Kilograms.*
1872	2,617,000	420,000	3,120,000	1878	4,671,000	603,000	5,353,000
1873	4,327,000	633,000	5,459,000	1879	5,952,000	416,000	6,638,000
1874	4,456,000	583,000	5,548,000	1880	6,445,000	443,000	6,959,000
1875	5,491,000	470,000	6,911,000	1881	3,943,000	463,000	4,806,000
1876	5,452,000	375,000	6,779,000	1882	3,424,000	342,000	4,300,000
1877	3,637,000	375,000	4,236,000				

Exports of salted codfish and stock-fish from 1873 *to* 1882, *inclusive.*

Years.	Salted codfish.*	Stock-fish.†	Years.	Salted codfish.*	Stock-fish.†
	Kilograms.	*Kilograms.*		*Kilograms.*	*Kilograms.*
1873	764,000	1,539,000	1878	000,000	1,218,000
1874	676,000	1,143,000	1879	893,000	1,428,000
1875	580,000	1,362,000	1880	533,000	1,024,000
1876	943,000	1,292,000	1881	576,000	1,546,000
1877	973,000	1,293,000	1882	394,000	971,000

* Officially valued at 10 florins per 100 kilograms.
† Officially valued at 20 florins per 100 kilograms.

Catch, export, &c., of anchovies from 1872 *to* 1881, *inclusive.*

[Officially valued at 28 florins per 100 kilograms.]

Years.	Catch.	Export.	Stock on December 31 of each year.	Years.	Catch.	Export.	Stock on December 31 of each year.
	Ankers.	*Ankers.*	*Ankers.*		*Ankers.*	*Ankers.*	*Ankers.*
1872	9,000	14,900	14,200	1877	6,000	17,000	43,700
1873	30,000	31,000	13,200	1878	1,400	28,300	22,000
1874	40,000	26,200	27,000	1879	3,000	19,800	5,200
1875	55,000	29,000	53,000	1880	1,000	4,300	1,900
1876	40,000	38,000	55,000	1881	15,000	12,200	4,700

Exports of shrimps from 1872 *to* 1881, *inclusive.*

[Officially valued at 10 florins per 100 kilograms.]

Years.	To England.	To Belgium.	Total exports.	Years.	To England.	To Belgium.	Total exports.
	Kilos.	*Kilos.*	*Kilos.*		*Kilos.*	*Kilos.*	*Kilos.*
1872	577,000	88,000	665,000	1877	647,000	124,000	771,000
1873	479,000	130,000	609,000	1878	712,000	214,000	946,000
1874	209,000	129,000	338,000	1879	511,000	251,000	762,000
1875	197,000	350,000	547,000	1880	417,000	247,000	667,000
1876	437,000	155,000	592,000	1881	1,020,000	140,000	1,173,000

Statement showing the extent of oyster culture and the exports of oysters, from 1876 *to* 1881.

	Oysters.
Delivered in different Dutch markets for home consumption	2,297,000
Exported to Germany	4,559,000
Exported to Belgium and France	4,199,000
Exported to England	10,788,000
Total in 1881	31,843,000
Total in 1880	16,589,000
Total in 1879	11,116,000
Total in 1878	7,193,000
Total in 1877	9,679,000
Total in 1876	36,580,000

The waters along the Dutch coast and in the Zuyder Zee abound with many other sorts of excellent fish, the yearly catch of some of which is quite large, supplying not only the home market but also increasing the export trade in fish.

UNITED STATES CONSULATE,

Amsterdam, Netherlands, September 30, 1883.

10.—THE FISHERIES OF SPAIN IN 1879.

By DWIGHT T. REED, *Consul-General.*

The following statement shows the condition of the fisheries of the Spanish Peninsula at the close of 1879, no later statistics being available:

Fish-curing establishments:	
Number of establishments	785
Value of establishments (7,149,278 pesetas)	$1,379,810
Number of vessels	1,620
Tonnage	5,966
Value of vessels (779,350 pesetas)	$150,415
For the supply of fresh fish, and not connected with the above establishments:	
Number of nets and other contrivances for taking fish	95,458
Value (6,634,114 pesetas)	$1,280,385
Number of vessels	14,017
Tonnage	40,184
Value of vessels (7,779,577 pesetas)	$1,501,460
Total number of persons employed in connection with the establishments and in shipping fresh fish	78,184
Total value of the establishments, vessels, outfits, and apparatus for the supply of fresh fish (22,342,319 pesetas)	$4,312,070

No returns exist as to the amount or value of the products.

Atun or tunny.—I make special mention of the atun or tunny, a very large fish of the mackerel family, as it is not found in American waters, and as it is one of the principal productions of the Peninsular fisheries. This fish weighs from 100 to 300 pounds. It is migratory in its habits, and enters the Mediterranean from the Atlantic during the spring of each year, in large schools, for the purpose of reproduction, returning afterward to the ocean. It is taken with strong seines, and when surrounded by the net each fish is lifted on board the vessel by means of poles with a stout hook at the end. The flesh is highly esteemed and is eaten fresh; also it is cured in oil in large quantities.

For the purpose of taking the tunny the coasts of the Peninsula are divided into districts, and each district is leased by the Government, at public auction, to the highest bidder, for a term of from three to five years. In 1879 the Government received 124,071 pesetas, or $23,945.70, for these leases.

THE CANARY ISLANDS FISHERIES.

On the west coast of Africa, between the twentieth and twenty-ninth parallels of north latitude, there is an immense abundance of fish of many varieties. It is from this source that the Canary Islands derive their supply of fish for salting purposes. Thirty-five schooners of from 30 to 50 tons each, manned by about 700 men and boys, constitute the fishing fleet of these islands. This fleet furnishes annually about

16,500,000 pounds of imperfectly cured fish for the consumption of the inhabitants. It does not appear that any of the fish is exported, with the exception of a small quantity to the island of Cuba. The fishing banks are within the belt of the northeast trade-winds, which blow almost constantly; and so mild is the climate and so moderate the winds that during the four centuries while Spain has possessed the islands not a single fishing vessel, so far as is known, has been lost from stress of weather. The products of this fishery might be greatly increased if larger and more commodious vessels were employed, and if the improved methods of curing practiced by other nations were at the same time generally introduced.

UNITED STATES CONSULATE-GENERAL,
Madrid, Spain, October 30, 1883.

11.—THE FISHERIES OF MADEIRA IN 1882.

By L. DU PONT SYLE, *Consul.*

The Portuguese peasant seldom eats meat, but vegetables and a morsel of fish form his staple food. The Government lays a heavy tax upon fish, and obtains a considerable part of its revenue from this source. The fisheries, consequently, are but little developed in comparison with what might be done.

Fish of the following kinds are found near the coast of the Madeira Islands: Perch, red mullet, gray mullet, beryx, barracuda, gurnard, sea-bream, pickerel, flag-fish, mackerel, zemdæ, wrasse, pike, herring, codfish, eel, and flat-fish.

The only freshwater fish are eels, of which there are several kinds. They are taken in the mountain streams.

Tunnies of large size are caught in the deep-sea fishing grounds, as also is the cherne. Turtles are taken chiefly during the summer time, and vary in size; they are not so highly prized as the West India turtles, but nevertheless make good soup. Shrimps (camarõens) are sometimes offered for sale. Madeira lobsters are very different in appearance from those in England. Crabs are small and not worth eating. The white-bait (guelros) of Madeira are exceedingly good, and are caught chiefly after heavy rains, when they come in shoals to the muddy waters brought down by the mountain torrents.

At low water innumerable limpets and periwinkles are seen on the rocks, and crabs of every size are scattered around. Sea-urchins with long spines are dangerous to bathers, and have been known to cause serious trouble to those that stepped on them. Occasionally the fishermen bring in curious sea-monsters—the Urgamanta, for instance, the creature described in Victor Hugo's "Toilers of the Sea." This is much dreaded by the boys diving around the ships at anchor, for it comes to

the surface floating on its back, and endeavors to envelop its prey with its large and powerful double flaps, and having done so immediately sinks to the bottom. The octopus (pulvo) sometimes grows to a large size. From this sea-monster the Portuguese fishermen make a soup which they consider a great delicacy.

UNITED STATES CONSULATE,
Funchal, Madeira, May 10, 1883.

12.—THE SEA FISHERIES OF AUSTRO-HUNGARY FROM 1877 TO 1883.

By JAMES RILEY WEAVER, *Consul-General.*

The sea fisheries of Austria are not of great importance, being confined exclusively to the waters of the Adriatic Sea. They employ an average of 10,000 men annually, of which number about 900 are Italian subjects. The average catch of an Austrian fisherman is about half that of an Italian fisherman, but in explanation it should be stated that many Austrians are fishermen only during the best part of the season, and are engaged in farm work or some other employment at other portions of the year. The statistical year extends from April 23 to April 22, forming two fishing seasons, the summer and the winter season. About three-fourths of the catch is consumed near the places where taken. The condition of the Austrian fisheries is not satisfactory, and there is need for some legal protection to this industry by forbidding the use of seines of small meshes and by preventing the fishing for certain species during the period of spawning.

The following tables are based on data varying in slight details. If the data are reliable, the tables may be regarded as approximately correct.

General statistics of Austro-Hungarian fisheries.

Years.	Pieces.*	Weight.	Value.
		Pounds.	
1877–'78	.....	.....	$970,630
1878–'79	.....	.....	870,140
1879–'80	7,175,423	17,261,767	709,533
1880–'81	9,905,410	24,184,140	1,140,049
1881–'82	5,400,645	17,954,503	896,115
1882–'83	6,167,021	18,802,676	1,028,733

* Pieces is probably the same as number. In this and the following tables United States denominations have been used instead of the Austrian weights and measures, according to the following equivalents: 1 florin=45.8 cents; 1 kilogram=2.2046 pounds; and 1 metrical centner=110.5 pounds.

Quantities of fish, mollusks, shell-fish, &c., taken in 1879–'80.

Kinds.	Amounts.	Kinds.	Amounts.
Sardines.....pounds..	1,810,763	Moss mussels.....number..	3,337,500
Bream.....do....	1,429,541	Ark mussels.....do....	425,600
Mackerel.....do....	974,380	Oysters.....do....	60,807
Perch.....do....	186,192		
Sea-mullets.....do....	170,943	Total.....	3,823,907
Eels.....do....	144,755		
Sea-gudgeons.....do....	131,937		
Barbels.....do....	122,765	Crawfish.....number..	327,383
Roy.....do....	104,975	Lobsters.....do....	24,660
Stockern.....do....	85,195		
Soles.....do....	73,814	Total.....	352,043
Sharks.....do....	69,394		
Anchovies.....do....	57,460		
Sunfish.....do....	20,663	Sponges.....number..	400
		Mammals.....do....	8
Total.....	5,382,897		

Fishermen, boats, and tackle engaged from 1879 to 1883, reported in half-yearly seasons end-October 22 and April 22.

Season.	Fishermen.	Boats.		Tackle.	
		Number.	Value.	Number.	Value.
Summer, 1879.....	10,496	2,578	$327,918	60,660	$493,927
Winter, 1879–'80.....	8,555	2,336	311,860	47,894	356,959
Summer, 1880.....	10,496	2,671	349,991	61,642	497,731
Winter, 1880–'81.....	8,839	2,419	346,903	45,874	336,124
Summer, 1881.....	10,981	2,688	351,777	48,117	479,074
Winter, 1881–'82.....	9,070	2,422	313,185	42,022	315,678
Summer, 1882.....	10,634	2,813	355,443	67,200	510,865
Winter, 1882–'83.....	9,016	2,447	301,553	44,981	321,924

The fishing boats belong to 118 ports, and in only two instances (Comisa and Grado) does the number exceed 100 boats.

Catch and home consumption from 1879 to 1883, in the same half-yearly seasons.

Season.	Catch.			Home consumption.	
	Pieces.	Weight.	Value.	Pieces.	Weight.
		Pounds.			*Pounds.*
Summer, 1879.....	4,363,755	9,965,676	$487,719	2,558,211	6,092,685
Winter, 1879–'80.....	2,811,668	7,316,091	311,814	2,590,802	4,878,722
Summer, 1880.....	7,175,423	17,281,767	799,534	5,155,013	10,971,404
Winter, 1880–'81.....	2,729,087	6,902,373	340,515	2,571,506	5,131,237
Summer, 1881.....	2,028,275	11,071,550	552,376	1,812,186	6,070,403
Winter, 1881–'82.....	3,372,370	6,882,953	343,739	3,154,431	5,652,414
Summer, 1882.....	2,359,237	12,314,664	681,461	1,570,968	6,336,250
Winter, 1882–'83.....	3,807,784	6,488,012	347,272	3,493,239	5,906,309

The number of fishing boats engaged in the trade in Hungary during 1881 was 64, aggregating 136 tons burden and manned by 142 fishermen. The data as to the catch and consumption cannot be given.

Sardine fisheries at Triest.—This industry dates back to 1862, and has developed to about 225 fishing boats, employing about 500 men. Although when compared with the 10,000 boats engaged in fishing for sardines on the coast of France the Triest fisheries seem small, yet

taking into account the short period of their existence much development is shown. The catch is preserved with Italian and French oils, as the Dalmatian oil is not suited to the purpose. About two thirds of the year's product is sent to America, China, and India. The present careless methods of using drag-nets, and the excise duty paid on salt, are a drawback to this fishery. It is surprising that no protective laws are in existence in regard to these sea fisheries, as the river fisheries are carefully regulated by local laws.

UNITED STATES CONSULATE-GENERAL,
Vienna, February 27, 1883, *and February* 25, 1884.

13.—THE FISHERIES OF SYRIA IN 1882.

By JOHN S. ROBESON, *Consul.*

The fisheries along the coast of Syria are neither extensive nor important, the fish caught being of inferior quality. Roach, mullet, and tunny are the principal varieties, and may be taken during all seasons of the year. Fishermen are few, and the amount of capital invested in boats and fishing tackle is small. The fisheries controlled by the governor of Beirut are leased to the highest bidder annually, who receives 20 per cent of the value of all the fish caught in his district. Last year the lessee paid $3,280. The value of the fish is estimated at $20,000. A coarse sponge is found near Beirut, but very little attention is given to sponge-fishing on the Syrian coast.

UNITED STATES CONSULATE,
Beirut, Syria, October 1, 1883.