

**57.—NOTES ON FISHING PRODUCTS EXPORTED FROM SAN FRANCISCO, CAL., DURING THE YEAR 1883.\***

**By W. H. DALL.**

The following notes and tables give the result of a laborious search through the detailed exportations cited in the Market Review of San Francisco, upon which the accuracy of the figures depends, except in the case of exports by rail, which in the railroad tables are given in pounds of freight without valuation, so that the value has been arrived at by assigning an assumed value derived from the average value of similar material exported by sea. This may be a little too high, as the weight of cases, &c., are probably included in the returns, but there is no doubt that the valuation of the shipments by sea (except in the matter of a few standard articles like canned salmon) is greatly underestimated.

These notes and tables give information which has a certain value, even if merely approximate in precision, and which cannot be found elsewhere. It was thought, therefore, it might be acceptable for the Fish Commission Bulletin.

Table 1 shows the exportation by sea and rail of invertebrate products. No absolute form being required for exports the classification is confused, but is given just as furnished by shippers.

The dry shrimp meats are prepared by the Chinese in California, winnowed of their shells (which go to China as a valuable fertilizer), and are sent not only to China but wherever large numbers of Chinese are found—as Australia, British Columbia, Hawaiian Islands, and Peru. The value of this apparently almost worthless fishery carried on by a few miserable but industrious barbarians is certainly surprising.

The column "Haliotis" includes not only the shells which alone are shipped to England, but the dried meats of *Haliotis rufescens*, which are prepared by fermenting under a bed of horse manure and then desiccated in the sun. These last form the bulk of the exports to China and Chinese colonists in other countries. Under the head of "pearl shell" are included only the shells of the "pearl oyster" fished in the Gulf of California and brought thence to San Francisco for transportation to Europe. The column of "shells unspecified" includes both Haliotis and pearl-oyster products as well as a small proportion of shells used for "shell work" or scientific purposes. There is unfortunately no means of classifying the different sorts of exported shell.

The shipments by the Southern Pacific Railway include chiefly goods en route for Europe via New Orleans. Those by the Central Pacific probably go to Europe via New York, excepting the small quantity

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used by manufacturers in the United States. Good quality of pearl shell, especially of the selected *Haliotis*, is now cited at over a dollar a pound for fine buttons and pearl jewelry. Only the *Haliotis* shell is the product of our own shores, the others being from Mexican waters.

TABLE 1.—*Invertebrate products shipped by sea and rail from San Francisco, Cal., in 1883.*

Shipped to—	Dry shrimps.	Shrimp shells.	Haliotis.	Pearl shell.	Shells unspecified.	Value.
Australia .....	\$2, 829	.....	\$18	.....	.....	\$2, 847
British Columbia .....	168	.....	.....	.....	.....	168
China .....	73, 785	\$26, 288	18, 780	\$9, 885	\$3, 665	122, 518
England .....	.....	.....	6, 402	.....	63, 253	79, 602
France .....	.....	.....	.....	.....	1, 260	1, 260
Hawaii .....	4, 799	.....	845	.....	.....	5, 644
New York .....	.....	.....	.....	.....	1, 818	1, 818
New Zealand .....	.....	.....	.....	.....	200	200
Panama .....	79	.....	.....	.....	.....	79
Peru .....	1, 231	.....	.....	.....	.....	1, 231
Central Pacific Railroad .....	.....	.....	.....	.....	76, 730	76, 700
Southern Pacific Railroad .....	.....	.....	.....	.....	278, 187	278, 187
Total values .....	82, 891	26, 288	26, 105	0, 885	425, 085	570, 254

Table 2 shows the exports of certain sorts of fishery products by rail and sea, and the above notes in regard to destination of railway freight apply also to this table. The same difficulties of classification also appear here.

Fish unspecified, canned fish, and dry fish are chiefly cod products; canned salmon seems to be always so specified. "Fish bones" go to China for manure. "Fish wings" are the lateral expansions of the skate, which make a gelatinous soup; "fish sinews" are a kind of isinglass; "Chinese goods" are the male organs of the sea-lion, dried, used as an aphrodisiac; the galls are used in cleaning silk; all these are exclusively prepared and shipped by and for the Chinese.

Much of the oil shipped was unspecified; the amount of "fish oil" given is only that specified to be such; the total was perhaps twice as much more. Of walrus ivory 31,120 pounds were received in 1883. It is now extremely high, quoted at \$4 and \$4.50 in New York, though the valuation of the shipping list is only \$1 per pound. Two hundred and eighty barrels of walrus oil were taken.

Of whale products not included in the table there were 1,208 barrels of sperm oil, 11,917 barrels of whale oil, and 162,244 pounds of whale-bone obtained by the fleet of 1883. Oil works for refining the catch have been recently established in San Francisco, and but little of the oil will hereafter come east.

The canned salmon statistics represent the movement at the port but not the total catch, much being shipped from the Columbia River and Victoria. Of 155,000 cases of Alaska salmon canned in 1883 only 36,000 were shipped from San Francisco. The movement in canned salmon will be largely decreased hereafter, as the Northern Pacific Railway will now ship and control the movement of all salmon bound east by rail from the Columbia, leaving to San Francisco and the two other

roads only the catch of the Sacramento River and a few small streams of the California coast. The mackerel of the table is all Eastern mackerel; most of the herring is Eastern. The sardines are mostly American, which are rapidly driving out the imported article, of which only about 10,000 cases reached California from all sources in 1883 against over 13,530 cases reported in 1882.

TABLE 2.—Goods shipped by sea and rail from San Francisco, Cal., in 1883.

Goods manifested for.	Asia.	Australasia.	British America.	Central America.	China.	England.
Fish, unspecified . . . . . pkgs.	26	1,321	319	1,257	143	.....
Fish, canned . . . . . cases.	156	1,123	336	126	216	.....
Codfish . . . . . pkgs.	2	1,105	336	125	513	.....
Dry fish, general . . . . . do.	18	.....	198	.....	2,548	.....
Fish bones . . . . . do.	.....	.....	.....	.....	99	.....
Fish wings . . . . . do.	.....	.....	.....	.....	4	.....
Fish sinews . . . . . do.	.....	.....	.....	.....	2	.....
Herring, dry or wet . . . . . do.	.....	2,500	.....	12	2	.....
Mackerel . . . . . kits.	23	.....	27	6	18	.....
Sardines . . . . . cases.	14	.....	145	13	18	.....
Salmon:	.....	30	.....	237	.....	.....
Canned . . . . . do.	4,035	74,070	.....	1,003	1,530	65,059
Pickled . . . . . bbls.	.....	3,083	.....	.....	.....	.....
Smoked . . . . . pkgs.	.....	3	.....	.....	.....	.....
Fish oil . . . . . bbls.	.....	1,425	.....	.....	.....	.....
Chinese goods . . . . . pkgs.	.....	.....	.....	.....	75	.....
Sea lion galls . . . . . do.	.....	.....	.....	.....	1	.....
Walrus ivory . . . . . pounds.	.....	.....	.....	.....	1,250	.....
Sealskins . . . . . casks.	.....	.....	.....	.....	.....	9
Total packages or pounds . . . . .	4,274	84,750	1,361	2,779	5,168	65,068
Total values exported . . . . .	\$22,181	396,641	5,599	47,378	49,994	286,966

Goods manifested for.	Hawaii.	Oceanica.	New York.	Central Pacific Railroad.	Southern Pacific Railroad.	Values.
Fish, unspecified . . . . . pkgs.	2,361	288	.....	<i>Pounds.</i>	<i>Pounds.</i>	\$60,864
Fish . . . . . cases.	.....	242	.....	20,300	1,140	11,278
Codfish . . . . . pkgs.	1,654	61	.....	.....	.....	10,690
Dry fish, general . . . . . do.	170	.....	.....	.....	.....	36,717
Fish bones . . . . . do.	.....	.....	.....	.....	.....	3,838
Fish wings . . . . . do.	.....	.....	.....	.....	.....	850
Fish sinews . . . . . do.	.....	.....	.....	.....	.....	277
Herring, dry or wet . . . . . do.	169	.....	.....	.....	.....	8,753
Mackerel . . . . . kits.	.....	13	.....	.....	.....	343
Sardines . . . . . cases.	.....	93	.....	.....	.....	4,017
Salmon:	.....	.....	.....	.....	.....	.....
Canned . . . . . do.	1,125	4,327	2	10,024,840	13,267,375	2,320,624
Pickled . . . . . bbls.	.....	1,062	.....	1,933,640	176,190	76,431
Smoked . . . . . pkgs.	.....	.....	.....	.....	.....	50
Fish oil . . . . . bbls.	250	.....	.....	.....	.....	1,792
Chinese goods . . . . . pkgs.	.....	.....	.....	.....	.....	469
Sea lion galls . . . . . do.	.....	.....	.....	.....	.....	77
Walrus ivory . . . . . pounds.	.....	.....	2,000	.....	.....	4,210
Sealskins . . . . . casks.	.....	.....	.....	430,540	650,480	802,846
Total packages or pounds . . . . .	5,738	6,086	.....	12,400,410	14,104,185	.....
Total values exported . . . . .	\$31,154	34,445	2,974	1,060,530	1,405,804	3,343,666

Over 100,000 fur-seal skins from American and Russian waters were shipped by rail in casks, all of them intended for Europe. Excluding whale products, the exportation of fishery products from San Francisco in 1883 amounted to not less than \$4,000,000, the foremost items being

salmon, fur-seal skins, pearl shell of various sorts, cod, and shrimp products, in the order of their value.

In the table Asia includes Eastern Siberia, Japan, Batavia, and Manila. Australasia includes Australia and New Zealand; Central America includes also Panama, Mexico, and some small shipments to Peru and Brazil. Oceanica embraces Apia, Bouham Islands, Borabora, Fiji, and Tahiti.

There was hardly any specified movement in shell-fish, most of the excellent canned products being consumed at home or as ship stores. A single shipment of six cases oysters to Mexico is noted.

The total exports of the port of San Francisco by sea in 1883 were \$47,649,172; the total exports of fishery products not including whale products were about \$4,000,000, or nearly 9 per cent. of the total. It is probable that no other port of the United States can show a greater relative value of exported products due to the fishing industries.

WASHINGTON, D. C., *March 5, 1884.*

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**58.—IN REGARD TO THE "SEA-SERPENT" OF LITERATURE.**

**By Prof. SAMUEL GARMAN.**

[From a letter to Prof. S. F. Baird.]

I have no idea that we shall ever find a huge unknown lung-breathing Saurian as a foundation for the stories. The existence of types of extinct Sauria of various geological periods is possible but improbable. The geological record is very incomplete. In the main it is the shoal water or shore and surface forms of the sea, and the land forms, that have been recorded by geology. And this record has become indistinct or entirely obliterated by changes in the rocks in the early formation. The earliest forms were marine and the depths were the original centers of divergence. The earliest forms of animals in regard to solidity were like those now living in great depths, *i. e.*, they were gelatinous, flabby, or loose in structure, and not bony and hard or such as would be preserved in the rocks. In consequence, it seems as if our hopes of solutions of problems of origin and divergence, of knowledge of the beginning itself were best placed on the results of the study of animals in conditions most similar to those of the beginning, on the results of deep-sea researches. Within a few years our imperfect apparatus has secured from great depths a host of strange creatures, but none of the largest or strongest. In fact, we have had scarcely more than mere suggestions of what may exist, and, in view of them, should not be surprised at anything that may come up. If there is a "sea-serpent" yet unknown to scientists, it is likely to prove a deep-sea fish or Selachian.

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