
NOTES
ON THE
EXTENT AND CONDITION OF THE ALEWIFE FISHERIES
OF THE UNITED STATES IN 1896.
BY
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THE ALEWIVES OR RIVER HERRINGS.

Alewives are the most abundant food-fishes inhabiting the rivers of the eastern coast of the United States, and, next to the shad, are commercially the most valuable fishes of those waters. Although their range is similar to that of the shad—namely, from Maine to Florida—they are somewhat more generally distributed; they enter all the rivers frequented by shad and also annually visit in large numbers many other streams.

The two species of alewives are very similar in appearance and habits, and may easily be mistaken for each other on casual observation. They are usually distinguished by fishermen and dealers and receive different names, but the identification of individual specimens by fishermen is often faulty, as they depend more on the time of the run and the denseness of the schools than upon any reliable structural or color characteristics.

The branch herring (*Pomolobus pseudoharengus*) is found from North Carolina northward along the entire coast; if it exists at all in the rivers of South Carolina and Georgia it is very rare, and extensive collections of fishes in the St. Johns River, in Florida, have failed to disclose its presence. It is extremely abundant in Albemarle Sound, Chesapeake Bay, Delaware Bay, New York Bay, and their tributaries, and in the rivers, ponds, and bays of New England. It appears earlier than the other alewife, usually preceding the first run of shad, and ascends to the headwaters of streams to spawn.

The glut herring (*Pomolobus astivalis*) is common in the St. Johns River, Florida, and is found thence northward along the entire coast of the United States, being most abundant in Albemarle Sound and Chesapeake Bay. It usually appears, suddenly, about the middle of the shad season, coming in enormous schools. It does not, as a rule, ascend the streams far above tide water, and spawning takes place at a shorter distance from the sea than in the case of the branch herring.

The branch herring may be readily distinguished from the glut herring by the pale lining (peritoneum) of the abdominal cavity, this structure being black in the glut herring: Other features by which the two fishes may be identified are the deeper body, more elevated fins, and larger eye of *P. pseudoharengus*.

The size of alewives taken for the market is quite uniform. The average weight is two-fifths or one-third of a pound, the two species being similar in this respect. Examples weighing as much as half a pound are rare.

As food-fishes, the alewives are generally regarded as superior to the sea herring, being larger and of better flavor, but they are decidedly inferior to the shad in food value. There is very little difference in the edible qualities of the two species, although the branch herring has the reputation of being somewhat better. Many reach the market in a fresh condition, but perhaps the largest quantities are salted or smoked, smoking being a favorite method of preparation in New England. For use as bait in the line fisheries for cod, haddock, and other ground fish, alewives are considered highly satisfactory, and large numbers are thus utilized in Maine and Massachusetts. The abundance and cheapness of these fish make them of almost incalculable importance in the coast sections, and in 1896 nearly 150,000,000 were sold by fishermen of 14 States for food and bait, besides which large quantities were given away at the fishing shores. The average price received by the fishermen was one-third of a cent per fish.

These fishes are known by a large number of names along different parts of the coast. In the New England States the name alewife is in general use, while in the Middle and South Atlantic States "herring" is the name most frequently heard. The branch herring is known as spring herring, branch alewife, gaspereau, wall-eyed herring, hardhead, alewife, ellwife, and ellwhop. Among the names for the glut herring are blueback, May herring, school herring, summer herring, blackbelly, English herring, kyack, cat-thrasher, and sawbelly.

THE ALEWIFE FISHERIES CONSIDERED BY STATES.

Alewives are caught in much larger numbers than any other fishes entering the fresh waters of the United States, and among all the fishes of American waters are surpassed in this respect only by two species, the sea herring (*Clupea harengus*) and the menhaden (*Brevoortia tyrannus*). They are taken for commercial purposes in every seaboard State from Maine to Florida, except Georgia, in which an alewife fishery was formerly carried on. Maryland, North Carolina, and Virginia are the leading alewife States, although important fisheries also exist in Maine, Rhode Island, Connecticut, Massachusetts, New York, and New Jersey.

The fishing is prosecuted with pound nets, trap nets, weirs, seines, gill nets, fykes, and dip nets; the largest catch is with pound nets and seines. In most States special apparatus is employed, but far the larger part of the yield is obtained with apparatus set primarily for other fishes.

In 1896, according to the investigations of the United States Fish Commission,* over 2,500 persons were engaged in the alewife fisheries, besides many thousand people who operated apparatus in which alewives constituted an important part of the catch. Over 800 people used

* See Report U. S. Fish Commission 1897, pp. CXXV-CXXX.

seines, 930 set gill nets, and nearly 500 fished weirs and pound nets. In the preparation of the catch by smoking and salting 134 persons were engaged. In Maryland there were 616 alewife fishermen, and in Massachusetts 388, while in Maine, Delaware, New Jersey, and North Carolina there were more than 200. The following table exhibits in detail the distribution of the fishermen:

Table showing by States the number of persons employed in the alewife fisheries of the United States in 1896.

States.	Pound-net, trap-net, and weir.	Fisheries in which engaged.					Shores-men.	Total.
		Seine.	Gill-net.	Fyke-net.	Dip-net.	Total.*		
Connecticut.....		110	3			113		113
Delaware.....	2	126	92	2		218		218
Maine.....	147	10			88	237	10	247
Maryland.....	114	18	478	0		610		616
Massachusetts.....	5	223	6		121	342	46	388
New Hampshire.....	10	5				10		10
New Jersey.....		103	44			226		226
New York.....	4	71	26			90		99
North Carolina.....	145	10	10			165	60	225
Pennsylvania.....			12			12		12
Rhode Island.....	28	32				60	18	78
Virginia.....	20	13	258			288		288
Total.....	471	811	930	8	209	2,386	134	2,520

* Exclusive of duplication of those in more than one fishery.

The boats, apparatus, and other property which may be credited to the alewife fishery had a value of \$111,000 in 1896. This sum represents 1,232 boats, 542 pound nets, trap nets, and weirs, 223 seines, 1,469 gill nets, 70 fyke nets, and 215 dip nets, together with nearly \$27,000 worth of shore and accessory property. As may be seen from the following table, the largest investment was in Maryland, where \$26,000 were devoted to this fishery, and where more boats, traps, and gill nets were used than in any other State. Massachusetts, Maine, and North Carolina rank next to Maryland in the value of the property connected with the alewife fisheries.

Table showing by States the boats, apparatus, and property employed in the alewife fisheries of the United States in 1896.

States.	Boats.		Pound nets, trap nets, and weirs.		Seines.		
	No.	Value.	No.	Value.	No.	Length.	Value.
Connecticut.....	31	\$083			30	<i>Feet.</i> 9, 087	\$2, 475
Delaware.....	101	3, 290	6	\$150	34	7, 933	1, 314
Maine.....	223	3, 485	152	8, 240	5	1, 932	2, 257
Maryland.....	355	8, 083	172	10, 160	4	1, 920	256
Massachusetts.....	88	2, 974	1	160	45	17, 739	3, 075
New Hampshire.....	12	155	12	480	2	800	50
New Jersey.....	77	2, 104			57	30, 042	3, 025
New York.....	71	1, 488	4	200	26	6, 030	1, 380
North Carolina.....	84	2, 025	130	6, 505	2	2, 775	410
Pennsylvania.....	6	501					
Rhode Island.....	33	610	18	990	16	9, 600	840
Virginia.....	151	2, 189	48	1, 435	2	2, 100	225
Total.....	1, 232	28, 207	542	28, 370	223	91, 018	13, 907

Table showing by States the boats, apparatus, and property employed in the alewife fisheries of the United States in 1896—Continued.

States.	Gill nets.			Fyke nets.		Dip nets.		Value of shore and accessory property.	Total value of investment.
	No.	Length.	Value.	No.	Value.	No.	Value.		
Connecticut.....	3	<i>Feet.</i> 125	\$20					\$470	\$3, 048
Delaware.....	141	41, 055	1, 346	60	\$180			1, 795	8, 075
Maine.....						94	\$222	5, 369	17, 583
Maryland.....	860	141, 482	5, 561	10	125			1, 215	26, 000
Massachusetts.....	10	2, 250	120			121	193	12, 958	19, 470
New Hampshire.....								355	1, 040
New Jersey.....	183	34, 470	784					800	6, 773
New York.....	20	12, 780	660					300	4, 088
North Carolina.....	70	2, 100	65					3, 350	12, 355
Pennsylvania.....	6	5, 460	940						1, 441
Rhode Island.....								1, 050	3, 490
Virginia.....	176	91, 803	3, 184					300	7, 283
Total.....	1, 469	331, 525	12, 680	70	305	215	415	27, 962	111, 246

The alewives taken and sold in 1896 numbered nearly 148,000,000, weighing 62,000,000 pounds and valued at \$459,600. The catch in the foregoing apparatus set especially for these fish was much less than in the appliances operated primarily for shad. Thus the alewife fisheries proper yielded upward of 32,900,000 fish, while in the shad fisheries there were over 108,000,000 alewives taken and in other fisheries about 6,400,000. The participation of the different States in the yield of these fish is shown in the table.

Table showing by States the catch of alewives in 1896.

States.	In alewife fisheries.			In shad fisheries.		
	No.	Pounds.	Value.	No.	Pounds.	Value.
Connecticut.....	2, 084, 406	742, 762	\$9, 918	173, 392	69, 357	\$580
Delaware.....	1, 434, 850	573, 940	5, 058	622, 540	249, 016	2, 698
Florida.....				40, 000	16, 000	400
Maine.....	4, 871, 958	2, 674, 505	20, 196	404, 781	227, 101	2, 439
Maryland.....	4, 350, 696	1, 740, 278	11, 381	39, 732, 610	15, 901, 044	114, 489
Massachusetts.....	7, 370, 689	3, 970, 274	35, 050			
New Hampshire.....		209, 734	2, 705			
New Jersey.....	3, 410, 640	1, 915, 572	8, 170	2, 200, 350	943, 727	5, 987
New York.....	895, 070	358, 028	4, 892	1, 422, 000	568, 800	6, 333
North Carolina.....	1, 098, 200	439, 280	3, 062	34, 791, 598	13, 916, 640	112, 893
Pennsylvania.....	97, 000	48, 500	257	1, 475, 000	590, 000	4, 115
Rhode Island.....	3, 960, 920	1, 584, 368	23, 641	403, 200	161, 280	692
South Carolina.....				30, 500	12, 200	463
Virginia.....	2, 907, 070	1, 102, 828	7, 189	27, 178, 547	10, 871, 419	55, 264
Total.....	32, 960, 999	15, 480, 069	131, 609	108, 494, 518	43, 520, 584	306, 343

States.	In other fisheries.			Total.		
	No.	Pounds.	Value.	No.	Pounds.	Value.
Connecticut.....	472, 625	189, 069	\$1, 533	2, 730, 423	1, 001, 188	\$12, 031
Delaware.....				2, 057, 390	822, 956	7, 756
Florida.....				40, 000	16, 000	400
Maine.....	961, 100	486, 720	2, 701	6, 237, 839	3, 488, 326	25, 336
Maryland.....	64, 980	25, 993	180	44, 108, 286	17, 667, 315	120, 050
Massachusetts.....	2, 875, 237	1, 386, 215	10, 074	10, 045, 926	5, 356, 489	45, 124
New Hampshire.....	47, 000	23, 937	250	520, 500	293, 671	3, 045
New Jersey.....	733, 050	368, 775	1, 408	6, 344, 040	3, 228, 074	15, 565
New York.....	211, 470	84, 588	1, 378	2, 528, 540	1, 011, 416	12, 603
North Carolina.....				35, 889, 798	14, 355, 920	115, 945
Pennsylvania.....				1, 572, 000	638, 500	4, 372
Rhode Island.....	828, 280	331, 812	3, 551	5, 192, 400	2, 076, 960	27, 984
South Carolina.....				30, 500	12, 200	463
Virginia.....	408, 400	163, 360	571	80, 494, 017	12, 197, 607	63, 024
Total.....	6, 402, 142	3, 059, 969	21, 646	147, 857, 659	62, 066, 622	459, 598

In Massachusetts 7,370,000 were taken—more than in any other State; in the shad fishery of Maryland nearly 40,000,000 alewives were caught; in that of North Carolina nearly 35,000,000, and in that of Virginia about 27,000,000.

The table which follows shows by States the number, pounds, and value of alewives caught with each kind of apparatus. Nearly half of the yield was taken in pound nets, traps, and weirs, and about two-fifths in seines. Only relatively small quantities are obtained with gill nets, fyke nets, dip nets, and other minor apparatus. The largest pound-net catch, amounting to 25,000,000 fish, was made in Virginia; the largest seine catch, aggregating 21,000,000 fish, was in Maryland.

Table showing by States and apparatus of capture the quantity and value of alewives taken in the United States in 1896.

States.	Pound nets, trap nets, and weirs.			Seines.		
	No.	Pounds.	Value.	No.	Pounds.	Value.
Connecticut	506, 580	202, 651	\$1, 635	2, 204, 998	790, 999	\$10, 270
Delaware	71, 000	28, 640	373	1, 732, 290	692, 916	6, 223
Florida				40, 000	16, 000	400
Maine	2, 846, 739	1, 507, 872	14, 360	433, 500	216, 750	1, 156
Maryland	21, 320, 744	8, 528, 298	45, 542	21, 178, 346	8, 471, 339	73, 185
Massachusetts	2, 564, 587	1, 331, 202	9, 842	4, 949, 106	2, 029, 525	23, 440
New Hampshire	481, 500	208, 359	2, 786	45, 000	25, 312	259
New Jersey	149, 550	74, 775	605	6, 066, 540	3, 081, 974	14, 253
New York	254, 990	101, 098	1, 998	1, 913, 550	765, 420	8, 925
North Carolina	18, 080, 214	7, 232, 086	55, 542	16, 680, 384	6, 604, 154	54, 425
Pennsylvania				1, 475, 000	590, 000	4, 115
Rhode Island	1, 823, 330	729, 332	8, 771	3, 369, 079	1, 347, 628	19, 113
South Carolina				2, 800	1, 120	8, 34
Virginia	25, 159, 790	10, 063, 916	49, 724	3, 208, 357	1, 283, 343	8, 030
Total	73, 259, 624	30, 069, 127	191, 048	63, 278, 041	26, 576, 480	223, 843

States.	Gill nets.			Fyke nets.		
	No.	Pounds.	Value.	No.	Pounds.	Value.
Connecticut	18, 845	7, 538	\$120			
Delaware	247, 500	99, 000	1, 130	6, 000	2, 400	\$30
Maryland	1, 254, 336	501, 734	5, 564	305, 860	122, 344	1, 330
Massachusetts	18, 000	10, 125	180			
New Jersey	107, 200	60, 200	646	20, 750	11, 125	161
New York	360, 000	144, 000	1, 680			
North Carolina	8, 200	3, 280	68			
Pennsylvania	97, 000	48, 500	257			
South Carolina				27, 700	11, 080	426
Virginia	2, 119, 070	847, 628	5, 233	6, 800	2, 720	28
Total	4, 230, 151	1, 722, 005	14, 878	367, 110	149, 669	1, 978

States.	All other apparatus.			Total.		
	No.	Pounds.	Value.	No.	Pounds.	Value.
Connecticut				2, 780, 423	1, 001, 188	\$12, 031
Delaware				2, 057, 390	822, 056	7, 756
Florida				40, 000	16, 000	400
Maine	2, 907, 600	1, 603, 704	\$9, 850	6, 237, 839	3, 388, 326	25, 336
Maryland	109, 000	43, 600	429	44, 108, 286	17, 667, 315	126, 050
Massachusetts	2, 514, 233	1, 385, 037	11, 062	10, 045, 920	5, 356, 489	45, 124
New Hampshire				526, 500	263, 071	3, 045
New Jersey				6, 344, 040	3, 228, 074	15, 585
New York				2, 528, 540	1, 011, 410	12, 603
North Carolina	1, 141, 000	450, 400	5, 910	35, 869, 738	14, 355, 920	115, 945
Pennsylvania				1, 572, 000	638, 500	4, 372
Rhode Island				5, 192, 400	2, 070, 860	27, 884
South Carolina				30, 500	12, 200	403
Virginia				30, 494, 017	12, 197, 007	63, 024
Total	6, 721, 833	3, 549, 341	27, 851	147, 857, 650	62, 066, 622	450, 598

THE FISHERIES CONSIDERED BY WATERS.

In the following series of four tables, the extent of the alewife fisheries in 1896 is exhibited by waters; the first table shows persons employed, the second the boats, apparatus, etc., used, the third the aggregate catch in all kinds of appliances, and the fourth the catch in the apparatus set especially for alewives.

The alewife fisheries of the Chesapeake Basin are seen to have been engaged in by over 900 persons, or more than two-fifths the total number of alewife fishermen, the Chester, Potomac, and York rivers being most prominent in this respect.

Table showing by waters the number of persons engaged in the alewife fisheries.

Waters.	States.	Fisheries in which engaged.					Total.*	Shores- mon.	Total.
		Pound- net, trap- net, and weir.	Seine.	Gill- net.	Fyke- net.	Dip- net.			
Dennis River	Maine	4				8	12	12	
Maclias River	do	9				34	30	39	
Penobscot River	do	73					73	73	
Medomak River	do					4	4	6	
St. George River	do	16				7	23	26	
Pemaquid River	do					3	3	5	
Damariscotta River	do	39				4	43	46	
Kennebec River	do					1	1	1	
Casco Bay	do	2	10				12	12	
Shores of Maine	do					27	27	27	
Nowmarket River	New Hampshire	2					2	2	
Exeter River	do	8	5				8	8	
Merrimac River	Massachusetts		49				49	46	
Taunton River	do		87				87	109	
Ponds, small rivers, and creeks.	do	5	87	5		121	206	230	
Ponds and small rivers	Rhode Island	28	32				60	78	
Connecticut River	Connecticut		110	3			113	113	
Shores of Long Island	New York	4	36				36	36	
Hudson River	do		35	22			43	63	
Shores of New Jersey	New Jersey		193	44			226	226	
Delaware River	Pa. and Del.		8	84			92	92	
Delaware Bay	Delaware		5	13			18	18	
Indian River	do	2	113	7	2		120	120	
Chesapeake Bay and tribu- taries:									
Bay shores	Maryland	22		287			309	309	
Saquahanna River	do		10	10			20	20	
Elk River	do	63					63	63	
Chester River	do		8	99			107	107	
Choptank River	do			12			12	12	
Nanticoke River	do			25	4		29	29	
Wicomico River	do			22			22	22	
Pocomoke River	do			8			8	8	
Patuxent River	do	2		7	2		11	11	
Potomac River	Md. and Va.	26	13	55			91	91	
Rappahannock River	Virginia			7			7	7	
York River and tribu- taries.	do			128			128	128	
James River and tribu- taries.	do			70			76	76	
Sassafas River	Maryland	21					21	21	
Total		134	31	736	6		904	904	
Albemarle Sound and tribu- taries.	North Carolina	145	10				155	215	
Neuse River and tribu- taries.	do			10			10	10	
Grand total		471	811	930	8	209	2,386	2,520	

* Exclusive of duplication of those engaged in two or more branches.

The alewife fisheries of the Chesapeake Basin represented an investment of \$33,283, of Albemarle Sound \$12,270, of Taunton River \$12,068, and of Penobscot River \$9,888. The use of traps and weirs for alewives was most extensive in the Penobscot and Elk rivers, in each of which 107 of such appliances were in operation. Seines were most numerous in the Taunton, Connecticut, and Indian rivers. Gill nets were used in largest numbers in the Delaware, Indian, Chester, York, and Neuse rivers. The employment of dip nets is restricted to the New England States.

Table showing by waters the boats, apparatus, and other property employed in the alewife fisheries.

Waters.	States.	*Boats.		Pound nets, trap nets, and weirs.		Seines.		Gill nets.	
		No.	Value.	No.	Value.	No.	Value.	No.	Value.
Dennys River.....	Maine.....	7	\$35	2	\$265	.....	.....	.....	.....
Machias River.....	do.....	22	110	7	175	.....	.....	.....	.....
Penobscot River.....	do.....	124	2,610	107	6,325	.....	.....	.....	.....
St. George River.....	do.....	16	160	8	480	.....	.....	.....	.....
Danariscotta River.....	do.....	43	439	26	855	.....	.....	.....	.....
Casco Bay.....	do.....	10	131	2	140	5	\$257	.....	.....
Shores of Maine.....	do.....	1	10	.....	.....	.....	.....	.....	.....
Newmarket River.....	New Hampshire	2	10	3	150	.....	.....	.....	.....
Exeter River.....	do.....	10	145	9	330	2	50	.....	.....
Merrimac River.....	Massachusetts	14	1,440	.....	.....	6	830	.....	.....
Taunton River.....	do.....	38	1,147	.....	.....	13	1,478	.....	.....
Ponds, small rivers, and creeks.	do.....	36	387	1	150	20	767	10	\$120
Connecticut River.....	Rhode Island	33	610	18	990	16	840	.....	.....
Shores of Long Island.....	Connecticut	31	683	.....	.....	30	2,475	3	20
Hudson River.....	New York	20	520	4	280	20	900	.....	.....
Shores of New Jersey.....	do.....	51	968	.....	.....	6	390	20	600
Delaware River.....	New Jersey	77	2,164	.....	.....	57	3,025	183	784
Delaware Bay.....	Pn. and Del.	58	2,211	.....	.....	2	20	56	1,940
Indian River.....	Delaware	11	165	.....	.....	2	40	9	70
.....	do.....	38	1,415	5	150	30	1,254	82	276
Chesapeake Bay and tributaries:									
Bay shores.....	Maryland.....	171	4,748	28	2,280	.....	.....	633	3,257
Susquehanna River.....	do.....	9	250	.....	.....	2	180	27	675
Elk River.....	do.....	28	1,690	107	5,830	.....	.....	.....	.....
Chester River.....	do.....	70	864	.....	.....	9	76	81	712
Choptank River.....	do.....	6	60	.....	.....	.....	.....	18	195
Nanticoke River.....	do.....	16	143	.....	.....	.....	.....	16	150
Wicomico River.....	do.....	19	108	.....	.....	.....	.....	38	197
Pocomoko River.....	do.....	7	40	.....	.....	.....	.....	13	40
Patuxent River.....	do.....	8	185	1	15	.....	.....	30	175
Potomac River.....	Md. and Va.	45	1,385	53	1,660	2	225	30	1,634
Rappahannock River.....	Virginia	6	41	.....	.....	.....	.....	29	62
York River and tributaries.....	do.....	69	606	.....	.....	.....	.....	70	954
Jamea River and tributaries.....	do.....	38	352	.....	.....	.....	.....	51	604
Sassafras River.....	Maryland.....	14	340	31	1,810	.....	.....	.....	.....
Total.....		506	10,822	220	11,595	6	481	1,036	8,745
Albemarle Sound and tributaries.....	North Carolina	77	2,065	130	6,505	2	410	.....	.....
Neuse River and tributaries.....	do.....	7	20	70	65
Grand total.....		1,232	28,207	542	28,370	223	13,307	1,469	12,680

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Table showing by waters the boats, apparatus, and other property employed in the alewife fisheries—Continued.

Waters.	States.	Fyke nets.		Dip nets.		Value of shore and accessory property.	Total value of investment.
		No.	Value.	No.	Value.		
Dennys River.....	Maine.....			8	\$20	\$53	\$373
Machias River.....	do.....			34	85	365	735
Penobscot River.....	do.....					953	9,888
Modomak River.....	do.....			4	8	220	228
St. George River.....	do.....			7	14	1,361	2,015
Pemaquid River.....	do.....			3	6	250	256
Damariscotta River.....	do.....			10	20	1,980	3,294
Kennebec River.....	do.....			1	2		2
Casco Bay.....	do.....					77	605
Shores of Maine.....	do.....			27	67	110	187
Newmarket River.....	New Hampshire.....					15	175
Exeter River.....	do.....					340	865
Merrimac River.....	Massachusetts.....					96	2,360
Taunton River.....	do.....					9,443	12,068
Ponds, small rivers, and creeks.....	do.....			121	193	3,419	5,036
Ponds and small rivers.....	Rhode Island.....					1,050	3,490
Connecticut River.....	Connecticut.....					470	8,648
Shores of Long Island.....	New York.....						1,770
Hudson River.....	do.....					300	2,318
Shores of New Jersey.....	New Jersey.....					800	6,773
Delaware River.....	Pa. and Del.....						4,171
Delaware Bay.....	Delaware.....						275
Indian River.....	do.....	60	\$180			1,795	5,070
Chesapeake Bay and tributaries:							
Bay shores.....	Maryland.....					385	10,070
Susquehanna River.....	do.....					100	1,205
Elk River.....	do.....					375	7,895
Chester River.....	do.....					40	1,092
Choptank River.....	do.....						255
Nanticoke River.....	do.....	8	95				388
Pocomoke River.....	do.....						305
Pocomoke River.....	do.....						80
Patuxent River.....	do.....	2	30				415
Potomac River.....	Md. and Va.....					300	5,204
Rappahannock River.....	Virginia.....						103
York River and tributaries.....	do.....						1,560
James River and tributaries.....	do.....						1,046
Sassafraus River.....	Maryland.....					315	2,465
Total.....		10	125			1,515	33,283
Albemarle Sound and tributaries.....	North Carolina.....					3,350	12,270
Neuse River and tributaries.....	do.....						85
Grand total.....		70	305	215	415	27,962	111,246

Among the streams of New England in which alewives are taken Damariscotta River in Maine had the largest catch in 1896, followed by the Connecticut, Taunton, Merrimac, St. George, and Penobscot. In the middle Atlantic region the basin of Chesapeake Bay (in Maryland, Virginia, Delaware, Pennsylvania, and District of Columbia) yielded more than half of the entire catch of the United States. Upwards of one-third of the output in this area was taken in the Potomac, which is now the leading alewife stream of the country. Second in importance is the Susquehanna, after which come the Delaware, Rappahannock, Elk, Hudson, Choptank, and Nanticoke. Albemarle Sound with its tributaries ranks next to the Chesapeake in the production of alewives. More than one-fifth of the aggregate catch of the country is obtained in this section. The Chowan, the principal affluent of the sound, has a very large alewife fishery, ranking next to that of the Potomac in extent.

Table showing by waters the aggregate catch of alewives.

Waters.	State.	No.	Pounds.	Value.
St. Croix River	Maine	11, 100	6, 243	\$93
Donny's River	do	100, 500	90, 280	470
Machias River	do	91, 700	51, 581	570
Penobscot River	do	617, 608	308, 844	3, 028
Medomak River	do	73, 800	41, 512	417
St. George River	do	686, 000	355, 804	3, 014
Pemaquid River	do	208, 000	115, 875	1, 100
Damariscotta River	do	2, 472, 100	1, 390, 612	9, 811
Kennebec River	do	494, 781	277, 726	2, 739
Casco Bay	do	1, 391, 250	701, 537	3, 771
Shores of Maine	do	33, 000	18, 562	233
Piscataqua River	New Hampshire	47, 000	23, 937	320
Newmarket River	do	46, 850	26, 038	270
Exeter River	do	433, 150	243, 040	2, 525
Merrimac River	Massachusetts	945, 000	472, 500	4, 200
Cape Cod Bay	do	1, 732, 972	884, 255	5, 479
Taunton River	do	1, 897, 478	1, 097, 324	9, 478
Ponds, small rivers, and creeks	do	4, 528, 211	2, 430, 450	21, 372
Shores of Massachusetts	do	942, 205	501, 960	4, 595
Warren River	Rhode Island	403, 200	161, 260	4, 692
Ponds and small rivers	do	3, 960, 920	1, 584, 308	23, 041
Shores of Rhode Island	do	828, 280	331, 312	3, 551
Connecticut River	Connecticut	2, 216, 243	795, 497	10, 330
Housatonic River	do	4, 200	1, 680	28
Shores of Connecticut	do	509, 980	204, 011	1, 053
Shores of Long Island	New York	336, 540	134, 010	2, 840
Hudson River	N. Y. and N. J.	2, 192, 000	876, 800	9, 793
New York, Sandy Hook, and Raritan bays	do	930, 800	465, 400	1, 374
Shores of New Jersey	New Jersey	3, 482, 140	1, 955, 234	8, 873
Delaware River	N. J., Pa., and Del.	4, 420, 700	1, 812, 980	11, 044
Delaware Bay	N. J. and Del.	221, 400	88, 508	1, 589
Indian River	Delaware	550, 700	220, 280	3, 823
Chosapeake Bay and tributaries:				
Bay shores	Md. and Va.	24, 112, 084	9, 644, 835	61, 709
Susquehanna River	Md. and Pa.	10, 864, 000	4, 345, 600	48, 983
Northeast River	Maryland	587, 400	234, 960	929
Elk River	do	2, 327, 000	930, 800	3, 834
Chester River	do	1, 219, 160	487, 004	4, 025
Choptank River and tributaries	do	1, 093, 500	797, 424	5, 598
Nanticoke River	Md. and Del.	1, 527, 000	610, 800	4, 339
Wicomico River	Maryland	173, 300	69, 320	625
Pocomoke River	do	32, 730	13, 092	223
Patuxent River	do	1, 474, 330	589, 732	4, 008
Potomac River	Md. and Va.	24, 437, 885	9, 775, 154	30, 003
Rappahannock River	Virginia	2, 798, 828	1, 119, 530	6, 411
York River and tributaries	do	632, 798	253, 110	3, 111
James River and tributaries	do	528, 230	211, 292	2, 539
Sassafras, Transquaking, and Blackwater rivers	Maryland	2, 321, 600	928, 640	4, 124
Total		75, 029, 903	30, 011, 962	190, 064
Albemarle Sound and tributaries:				
Sound shores	North Carolina	11, 447, 204	4, 578, 882	34, 071
Pasquotank River	do	829, 000	331, 000	4, 167
Perquimans River	do	662, 500	265, 000	2, 120
Chowan River	do	13, 559, 600	5, 423, 840	36, 715
Roanoke River	do	4, 177, 000	1, 070, 800	19, 962
Total		30, 675, 304	12, 270, 122	97, 641
Croatan Sound	North Carolina	1, 471, 500	588, 000	6, 565
Roanoke Sound	do	19, 400	7, 780	81
Pamlico Sound	do	1, 137, 334	454, 934	4, 112
Pamlico River and tributaries	do	501, 204	200, 482	2, 374
Neuse River and tributaries	do	2, 085, 056	834, 022	5, 172
Pee Dee River and tributaries	South Carolina	10, 100	4, 040	167
Black River	do	17, 600	7, 040	264
Edisto River	do	1, 800	720	22
Cooper River and Saupit Creek	do	1, 000	400	10
St. Johns River	Florida	40, 000	16, 000	460
Grand total		147, 857, 659	62, 066, 622	459, 598

The alewife catch in different waters with apparatus set especially for these fishes is shown in the next table. The Potomac River is seen to have the largest yield, closely followed by the Damariscotta, after which come the Connecticut, Taunton, Sassafras, Delaware, Merrimac, Elk, and Hudson.

Table showing by waters the number, weight, and value of the alewives taken in the special alewife fisheries.

Waters.	State.	No.	Pounds.	Value.
Dennys River.....	Maine.....	160,500	90,280	\$470
Maclias River.....	do.....	91,700	51,581	570
Penobscot River.....	do.....	606,158	303,079	2,971
Medomak River.....	do.....	73,600	41,512	37
St. George River.....	do.....	666,000	385,804	3,014
Pemaquid River.....	do.....	206,000	115,875	1,100
Damariscotta River.....	do.....	2,472,100	1,390,612	9,811
Kennebec River.....	do.....	90,000	50,825	300
Casco Bay.....	do.....	452,700	226,575	1,220
Shores of Maine.....	do.....	33,000	18,562	323
Newmarket River.....	New Hampshire.....	46,350	20,088	270
Exeter River.....	do.....	493,150	243,046	2,525
Merrimac River.....	Massachusetts.....	945,000	472,500	4,200
Taunton River.....	do.....	1,897,478	1,067,324	9,478
Ponds, small rivers, and creeks.....	do.....	4,528,211	2,430,450	21,372
Ponds and small rivers.....	Rhode Island.....	3,960,920	1,584,368	23,641
Connecticut River.....	Connecticut.....	2,084,408	742,702	9,918
Shores of Long Island.....	New York.....	125,070	50,028	1,462
Hudson River.....	do.....	770,000	308,000	8,430
Shores of New Jersey.....	New Jersey.....	3,410,640	1,915,572	8,170
Delaware River.....	Pa. and Del.....	972,000	398,500	1,457
Delaware Bay.....	Delaware.....	9,150	3,690	35
Indian River.....	do.....	550,700	220,280	3,823
Chesapeake Bay and tributaries:				
Bay shores.....	Maryland.....	1,387,816	555,126	4,549
Susquehanna River.....	do.....	125,000	50,000	430
Elk River.....	do.....	900,000	360,000	1,413
Chester River.....	do.....	185,460	74,184	1,239
Choptank River.....	do.....	18,000	7,200	134
Nanticoke River.....	do.....	112,600	45,040	474
Wicomico River.....	do.....	40,140	16,056	182
Pocomoke River.....	do.....	7,180	2,872	62
Patuxent River.....	do.....	60,500	24,200	159
Potomac River.....	Md. and Va.....	2,713,000	1,085,200	4,989
Rappahannock River.....	Virginia.....	33,000	13,200	143
York River and tributaries.....	do.....	236,690	94,676	1,534
James River and tributaries.....	do.....	217,360	86,952	1,036
Sassafras River.....	Maryland.....	1,221,000	488,400	2,226
Total.....		7,257,766	2,903,108	18,570
Albemarle Sound and tributaries.....	North Carolina.....	1,000,000	436,000	2,994
Neuse River and tributaries.....	do.....	8,200	3,280	68
Grand total.....		32,960,990	15,480,069	131,609

COMPARATIVE STATISTICS OF THE CATCH.

In the following table the quantity and value of the alewife catch are exhibited for three seasons separated by intervals of eight years. Some of the States show a larger yield in 1896 than in either 1888 or 1880, and the total output in 1896 is considerably in excess of that for the previous years. In the New England and Middle Atlantic States the increase since 1880 was constant and marked, but in the South Atlantic region there was a smaller catch in 1896 than in the earlier years. Especially noteworthy changes were the increase in Maryland from

9,000,000 pounds in 1880 to over 17,600,000 pounds in 1896, and in Virginia from 6,900,000 pounds in 1880 to 12,197,000 pounds in 1896, and the decrease in North Carolina from 15,500,000 pounds in 1880 and 20,000,000 pounds in 1888 to 14,355,000 pounds in 1896.

Notwithstanding a general increase in 1896 amounting to 16,382,000 pounds over 1880 and 5,908,000 pounds over 1888, the value of catch was less than in either of the earlier years. The average price of alewives per pound in 1896 was 0.7 cent, while in 1888 it was nearly 0.9 cent and in 1880 1.1 cents.

Comparative statement of the catch of alewives in 1880, 1888, and 1896.

States.	1880.		1888.		1896.	
	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.
New England:						
Maine.....	1,804,202	\$35,823	3,079,994	\$30,103	3,388,326	\$25,336
New Hampshire.....	425,000	8,500	146,750	3,080	293,671	3,045
Massachusetts.....	3,751,059	35,802	6,291,937	83,530	5,356,489	45,124
Rhode Island.....	2,978,000	14,460	1,739,300	21,165	2,076,960	27,884
Connecticut.....	770,000	8,700	125,200	1,253	1,001,188	12,031
Total.....	9,728,261	103,285	11,383,181	139,131	12,116,634	113,420
Middle Atlantic:						
New York.....	250,000	3,750	223,000	2,670	1,011,416	12,603
New Jersey.....	1,200,000	17,335	2,717,520	26,924	3,228,074	15,565
Pennsylvania.....			811,657	8,365	638,500	4,372
Delaware.....	2,398,700	30,475	941,986	10,925	822,956	7,756
Maryland.....	9,128,959	139,667	12,835,524	110,291	17,667,315	126,050
Virginia.....	6,925,413	76,300	6,757,105	40,369	12,197,607	63,024
Total.....	19,901,072	267,527	24,280,792	199,544	35,565,868	229,370
South Atlantic:						
North Carolina.....	15,520,000	142,784	20,463,340	161,673	14,355,920	116,046
South Carolina.....	400,000	9,000			12,200	463
Georgia.....	125,000	3,750	24,360	365		
Florida.....	10,000	200			16,000	400
Total.....	16,055,000	155,734	20,487,700	162,038	14,384,120	116,808
Grand total.....	45,684,333	626,546	56,157,673	500,713	62,066,622	459,508