PUBLICATIONS

OF THE

UNITED STATES COMMISSION OF FISH AND FISHERIES AVAILABLE FOR DISTRIBUTION ON MARCH 1, 1899.

PUBLICATIONS OF THE UNITED STATES COMMISSION OF FISH AND FISHERIES AVAILABLE FOR DISTRIBUTION ON MARCH 1, 1899.

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Vol. VIII	1893 1896	1890 1894 1897 1899	IX+404 VII+462 VIII+428 VI+436	74 41 94+XL 31+XXII
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PAMPHLET PUBLICATIONS.

Each pamphlet has a serial number, which appears on the left in the accompanying list. The missing numbers are out of print and can not be supplied.

- 3. Report on the condition of the sea fisheries of the south coast of New England in 1871 and 1872, by Spencer F. Baird. Report for 1871-72, I, pp. I-XLI, 1873.
- 4. Report of the Commissioner for 1872 and 1873 .- A. Inquiry into the decrease of
- the food-fishes.—B. The propagation of food-fishes in the waters of the United States, by Spencer F. Baird. Report for 1872-73, 11, pp. x-c11. 1874.

 15. Report of the Commissioner for 1873-74 and 1874-75.—A. Inquiry into the decrease of the food-fishes.—B. The propagation of food-fishes in the waters of the United States, by Spencer F. Baird. Report for 1873-74 and 1874-75, III, pp. VII-LI. 1876.
- 17. Report of the Commissioner for 1875-76.—A. Inquiry into the decrease of food-17. Report of the Commissioner for 1875-76.
 18. The propagation of food-fishes in the waters of the United States, by Spencer F. Baird. Report for 1875-76, iv, pp. 1*-50*.
 1878.
 21. Cheap fixtures for hatching of salmon, by Charles G. Atkins. Report for 1878,

- 21. Cheap natures for intering of samon, by Charles G. Atkins. Report for 1819, VI, pp. 945-966 (including 15 figs.). 1880.
 25. Report of the Commissioner for 1877.—A. Inquiry into the decrease of food-fishes.—B. Propagation of food-fishes in the waters of the United States, by Spencer F. Baird. Report for 1877, V, pp. 1"-48". 1879.
 27. The carp and its culture in rivers and lakes, and its introduction into America,
- by Rudolph Hessel. Report for 1875-76, IV, pp. 865-900 (including 6 figs.). 1878.
- 31. The winter haddock fishery of New England, by G. Brown Goode and J. W. Collins. Bulletin for 1881, 1, pp. 226-235. 1882.
 40. Popular extracts from the investigation of the Commission for the scientific
- examination of the German Seas, by H. A. Meyer et al. Report for 1879, VII, pp. 525-557 (including 17 figs.). 1882. 41. List of dredging stations of the U. S. Fish Commission from 1871 to 1879, inclu-
- sive, with temperature and other observations, by Sanderson Smith and Richard Rathbun. Report for 1879, VII, pp. 559-601. 1882.

 62. Report of the Commissioner for 1880.—A. Inquiry into the decrease of food-
- fishes.—B. Propagation of food-fishes in the waters of the United States, by Spencer F. Baird. Report for 1880, VIII, pp. XVII-XLVI. 1883.
- 65. Report of the Commissioner for 1881, by Spencer F. Baird. Report for 1881, 1х, рр. хии-цххи. 1884.
- 70. Report on the construction and work in 1880 of the Fish Commission steamer Fish Hawk, by Z. l., Tanner. Report for 1881, 1x, pp. 3-53, plates 1-XVIII (including 3 figs.). 1884.
- Annual report on the electric lighting of the U. S. F. C. steamer Albatross, December 31, 1883, by G. W. Baird. Bulletin for 1884, IV, pp. 153-158 (including 8 figs.). 1884.
- 75. The status of the U. S. Fish Commission in 1884, by G. Brown Goode. Report for 1884, xii, pp. 1139-1184. 1886.
- 108. Report of the Commissioner for 1884, by Spencer F. Baird. Report for 1884, хи, рр. хии-ьххи. 1886.
- Report on the meduan collected by the U. S. Fish Commission steamer Albatross in the region of the Gulf Stream, 1883-84, by J. Walter Fewkes. Report for 1884, XII, pp. 927-980, plates I-X. 1886.
- 115. Report of the Commissioner for 1885, by Spencer F. Baird. Report for 1885, хии, рр. хих-схи. 1887.
- 120. On the development of the cetacea, together with a consideration of the probable homologies of the flukes of cetaceans and sirenians, by John A. Ryder. Report for 1885, XIII, pp. 427-488 (including 3 figs.), plates 1-III. 1887.
- 127. A review of the Scianida of America and Europe, by David S. Jordan and Carl
- H. Eigenmann. Report for 1886, XIV, pp. 343-451, plates 1-IV. 1889.

 129. Report on the meduse collected by the U. S. Fish Commission steamer Albatross in the region of the Gulf Stream in 1885-86, by J. Walter Fewkes. Report for
- 1886, XIV, pp. 513-536, plate 1. 1889.

 130. Report on the work of the U. S. Fish Commission steamer Albatross for the year ending December 31, 1886, by Z. L. Tanner. Report for 1886, XIV, pp. 605-692, plates 1-x. 1889.
- Report of operations at the Wytheville Station, Va., from January 1, 1885, to June 30, 1887, by Marshall McDonald. Report for 1886, xiv, pp. 793-800, plates
- 132. The beam-trawl fishery of Great Britain, with notes on beam-trawling in other European countries, by J. W. Collins. Bulletin for 1887, VII, pp. 289-407
- (including 34 figs.), plates I-XXIII. 1889.

 134. Report of the Commissioner for 1886, by Spencer F. Baird. Report for 1886, xIV, pp. IX-LVII. 1889.
- 137. Suggestions for the employment of improved types of vessels in the market fisheries, with notes on British fishing steamers, by J. W. Collins. Bulletin for 1888, VIII, pp. 175-192, plates XVI-XXVII. 1890.

Serial

138. Notes on the fishes collected at Cozumel, Yucatan, by the U. S. Fish Commission, with descriptions of new species, by Tarleton H. Bean. Bulletin for 1888, VIII, pp. 193-206, plates XXVIII-XXIX. 1890.

41. A report upon the fishes of Kalamazoo, Calhoun, and Antrim counties, Mich.,

by Charles H. Bollman. Bulletin for 1888, VIII, pp. 219-225. 1891.

142. Notes on the fishes from the lowlands of Georgia, with a description of a new species (Opsopwodus bollmani), by Charles H. Gilbert. Bulletin for 1888, VIII, pp. 225-229. 1891.

145. Report on the proposed introduction of the Jamaica mountain mullet into the

United States, by Tarleton II. Bean. Bulletin for 1888, VIII, pp. 443-451. 1891.

146. The transplanting of lobsters to the Pacific coast of the United States, by Richard Rathbun. Bulletin for 1888, VIII, pp. 453-472, plate LXXI. 1891.

147. Preliminary report on the invertebrate animals inhabiting Lakes Geneva and

- Mendota, Wisconsin, with an account of the fish epidemic in Lake Mendota in 1884, by S. A. Forbes. Bulletin for 1888, VIII, pp. 473-487, plates LXXII-LXXIV. 1890.
- 150. On two species of larval dibothria from the Yellowstone National Park, by Edwin Linton. Bulletin for 1889, IX, pp. 65-79, plates XXIII-XXVII. 1891.
- 151. The artificial propagation of sturgeon in Schleswig-Holstein, Germany. Bulletin for 1889, 1x, pp. 81-90. 1891.
- 152. Report upon the pearl fishery of the Gulf of California, by Charles H. Townsend. Bulletin for 1889, IX, pp. 91-94, plates XXVIII-XXX. 1891.
- 154. On certain wart-like excrescences occurring on the short minnow (Cyprinodon variegatus) due to psorosperms, by Edwin Linton. Bulletin for 1889, IX,
- pp. 99-102, plate xxxv. 1891.

 161. The fishing-grounds of Bristol Bay, Alaska. A preliminary report upon the investigations of the U.S. Fish Commission steamer Albatross, by Z. L. Tanner.
- Bulletin for 1889, 1x, pp. 279-288, plates CVIII-CX. 1891.

 162. Report upon an investigation of the fishing-grounds off the west coast of Florida, by A. C. Adams and W. C. Kendall. Bulletin for 1889, 1x, pp. 289-312 (including 2 figs.), plate cx1. 1891.
- 163. The giant-scallop fishery of Maine, by Hugh M. Smith, Bulletin for 1889, IX, pp. 313-335, plates CXII-CXVI. 1891.
- 164. A contribution to the life history of Dibothrium cordiceps Leidy, a parasite infesting the trout of Yellowstone Lake, by Edwin Linton. Bulletin for 1889, IX, pp. 337-358, plates cxvII-cxIX. 1891.
- 165. Notice of the occurrence of protozoan parasites (psorosperms) on cyprinoid fishes in Ohio, by Edwin Linton. Bulletin for 1889, IX, pp. 359-361, plate CXX. 1891.
 166. Notes on the king-crab fishery of Delaware Bay, by Hugh M. Smith. Bulletin for 1889, IX, pp. 363-370, plates CXXI-CXXIII. 1891.
- 167. Report upon a collection of fishes made in southern Florida during 1889, by
- James A. Henshall. Bulletin for 1889, 1x, pp. 371-389. 1891.
 168. Report upon a physical investigation of the waters off the southern coast of New England, made during the summer of 1889 by the U.S. Fish Commission schooner *Grampus*, by William Libbey, jr. Bulletin for 1889, Ix, pp. 391-459 (including 1 fig.), plates CXXIV-CLVIII. 1891.
- 169. Notes on the oyster fishery of Connecticut, by J. W. Collins. Bulletin for 1889, 1X, pp. 461-497, plates CLIX-CLXVI. 1891.
- 171. Report upon the construction and equipment of the schooner Grampus, by J. W. Collins. Report for 1887, xv, pp. 437-490 (including 5 figs.), plates i-xvIII.
- 172. Report of the operations of the U.S. Fish Commission schooner Grampus from March 15, 1887, to June 30, 1888, by J. W. Collins and D. E. Collins. Report for 1887, xv, pp. 491-598, plates I-xvi. 1891.
- 173. A review of the labroid fishes of America and Europe, by David S. Jordan.
- Report for 1887, xv, pp. 599-699, plates 1-x1. 1891.

 174. On some Lake Superior entomostraca, by S. C. Forbes. Report for 1887, xv, pp. 701-718, plates 1-1v. 1891.
- 176. Report of the Commissioner for 1887, xv, pp. 1-LXIII, by Marshall McDonald. 1891.
- 177. Statistical review of the coast fisheries of the United States, by J. W. Collins.
- Report for 1888, xv1, pp. 271-378. 1892.

 179. Report of distribution of fish and eggs from July 1, 1888, to June 30, 1889.

 Report for 1888, xv1, pp. 379-394. 1892.

 180. Report upon the investigations of the U. S. Fish Commission steamer Albatross
 for the very surface for 1888, xv1
- for the year ending June 30, 1889, by Z. L. Tanner. Report for 1888, xvi, pp. 395-512, plates L-LII. 1892.
- 181. Report of operations at the laboratory of the U. S. Fish Commission, Woods Hole, Mass., during the summer of 1888, by John A. Ryder. Report for 1888, xvi, pp. 513-522. 1892.

- 182. Notes on entozoa of marine fishes, with description of new species, part III, by Edwin Linton. Report for 1888, XVI, pp. 523-542, plates LIII-LX.
- 183. On the anatomy of Thysanocephalum crispum Linton, a parasite of the tiger shark, by Edwin Linton. Report for 1888, xvi, pp. 543-556, plates Lxi-Lxvii. 1892.
 185. The chemical composition and nutritive values of food-fishes and aquatic inver
 - tebrates, by W. O. Atwater. Report for 1888, XVI, pp. 679-868, plates LXXXI-1892.
- 186. Observations on the aquaria of the U.S. Fish Commission at Central Station, Washington, D. C., by William P. Seal. Bulletin for 1890, x, pp. 1-12 (including 2 figs.), plates I-IV. 1892.
- 188. Observations upon fishes and fish-culture, by Tarleton H. Bean. Bulletin for 1890, x, pp. 49-61. 1892.
- 189. Notes on a collection of fishes from the lower Potomac River, by Hugh M. Smith.
- Bulletin for 1890, x, pp. 63-72, plates xviii-xx. 1892.

 190. A review of the Centrarchidæ or fresh-water sunfishes of North America, by Charles H. Bollman. Report for 1888, xvi, pp. 557-579, plates LXVIII-LXXII. 1892.
- 191. Report upon the participation of the U. S. Fish Commission in the Centennial Exposition held at Cincinnati, Ohio, in 1888, by J. W. Collins. Report for 1888, xvi, pp. 869-885, plate xc. 1892.
- 192. Report of the Commissioner for 1888 [July 1, 1888, to June 30, 1889], including the reports on the division of fish-culture, scientific inquiry, and fisheries, by
- Marshall McDonald. Report for 1888, XVI, pp. 1X-CXXVIII. 1892. 194. Report on an investigation of the fisheries of Lake Ontario, by Hugh M. Smith.
- Bulletin for 1890, x, pp. 177-215, plates xxI-1. 1892.

 195. A report upon the fisheries of Iowa based upon observations and collections made during 1889, 1890, and 1891, by Seth E. Meek. Bulletin for 1890, x, pp. 217-248. 1892.
- 196. Report of an examination of the rivers of Kentucky, with lists of the fishes obtained, by Albert J. Woolman. Bulletin for 1890, x, pp. 249-288, plate L.
- Notes on the streams and fishes of Clinton County, Ky., with a description of a new darter, by Philip H. Kirsch. Bulletin for 1890, x, pp. 289-292 (including 1 fig.). 1892.
- 198. Report upon the rivers of central Florida tributary to the Gulf of Mexico, with lists of fishes inhabiting them, by Albert J. Woolman. Bulletin for 1890, X,
- pp. 293-302, plates LII-LIII. 1892.
 201. Observations on the hatching of the yellow perch, by S. G. Worth. Bulletin for 1890, x, pp. 331-334, plate LXI. 1892.
- 202. The physical and biological characteristics of the natural oyster-grounds of South Carolina, by Bashford Deau. Bulletin for 1890, x, pp. 335-361, plates LXII-LXVIII. 1892.
- 203. The present methods of oyster-culture in France, by Bashford Dean. Bulletin for 1890, x, pp. 363-388 (including 2 figs.), plates LXIX-LXXVIII. 1892.
 206. A statistical report on the fisheries of the Gulf States, by J. W. Collins and
- Hugh M. Smith. Bulletin for 1891, XI, pp. 93-184. 1893. 207. Description of a new sucker, Pantosteus jordani, from the Upper Missouri Basin, by Barton W. Evermann. Bulletin for 1892, xII, pp. 51-56 (including 1 fig.). 1893.
- 209. Observations on the spawning habits of the shad, by S. G. Worth. Bulletin for 1891, x1, pp. 201-206. 1893.
- 210. A preliminary report on the aquatic invertebrate fauna of the Yellowstone National Park, Wyoming, and of the Flathead region of Montana, by S. A. Forbes. Bulletin for 1891, XI, pp. 207-258, 1893, plates XXXVII-XLII. 1893.
 211. Notes on a collection of fishes from the southern tributaries of the Cumberland Picture in Kentucky and Tennascae by Philip II. Visade. Publishing for 1991.
- River in Kentucky and Tennessee, by Philip H. Kirsch. Bulletin for 1891, xi, pp. 259-267. 1893.
- Report on the fisheries of the South Atlantic States, by Hugh M. Smith. Bulletin for 1891, XI, pp. 271-356, plates XLIII-LXXIV. 1893.
 Report upon the European methods of oyster-culture, by Bashford Dean. Bulletin for the European methods of oyster-culture, by Bashford Dean.
- letin for 1891, XI, pp. 357-406 (including 2 figs.), plates LXXV-LXXXVIII. 1893.
- 215. On the classification of the myxosporidia, a group of protozoan parasites infesting fishes, by R. R. Gurley. Bulletin for 1891, x1, pp. 407-420. 1893.
- 217. Report of observations respecting the oyster resources and oyster fishery of the Pacific Coast of the United States, by C. H. Townsend. Report for 1889-91, xvII, pp. 343-372, plates 3-12. 1892.
- 218. Report on the coast fisheries of Texas, by Charles H. Stevenson. Report for 1889-91, xvII, pp. 373-420, plates 13-27. 1893.

219. A review of the sparoid fishes of America and Europe, by David S. Jordan and

Bert Fesler. Report for 1889-91, xvii, pp. 421-544, plates 28-62. 1893.

222. Natural history of the useful aquatic reptiles and batrachians of the United States, by Frederick W. True. The Fisheries and Fishery Industries of the United States, sec. 1, pp. 141-162. 1884.

223. Natural history of mollusks in general, by Ernest Ingersoll. The Fisheries and

Fishery Industries of the United States, sec. 1, pp. 687-710, plates 253-258. 1884.

224. Natural history of crustaceans, worms, radiates, and sponges, by Richard Rathbun. The Fisheries and Fishery Industries of the United States, sec. 1, pp. 763-850, plates 260-277. 1884. pp. 763-850, plates 260-277. 1884. 225. The fishes of Texas and the Rio Grande Basin, considered chiefly with reference

to their geographic distribution, by Barton W. Evermann and William C.

Kendall. Bulletin for 1892, XII, pp. 57-126, plates x-L. 1894.

226. The fyke-nets and fyke-net fisheries of the United States, with notes on the fyke-nets of other countries, by Hugh M. Smith. Bulletin for 1892, XII, pp. 299-356, plates LXXII-XCI. 1894.

228. Summary of the fishery investigations conducted in the North Pacific Ocean and Bering Sea from July 1, 1888, to July 1, 1892, by the U.S. Fish Commission steamer Albatross, by Richard Rathbun. Bulletin for 1892, x11, pp. 127-201, plates LI-LV. 1894.

229. List of fishes collected at Sea Isle City, N. J., during the summer of 1892, by H. F. Moore. Bulletin for 1892, XII, pp. 357-380. 1894.

230. Economic and natural-history notes on fishes of the northern coast of New

Jersey, by Hugh M. Smith. Bulletin for 1892, XII, pp. 365-380. 1894.

231. On the viviparous fishes of the Pacific coast of North America, by Carl H. Eigenmann. Bulletin for 1892, XII, pp. 381-478, plates XCII-CXVIII. 1894.

232. Notes on two hitherto unrecognized species of American whitefishes, by Hugh

M. Smith. Bulletin for 1894, xiv, pp. 1-13, plate 1. 1894.

233. Extension of the recorded range of certain marine and fresh-water fishes of the Atlantic Coast of the United States, by W. C. Kendall and Hugh M. Smith. Bulletin for 1894, xiv, pp. 15-21. 1894.

234. Notes on fishes from the basin of the Mackenzie River, in British America.

Bulletin for 1894, xiv, pp. 23-25, by Charles H. Gilbert. 1894. 234. An American fish in Finland, by Oscar Nordqvist. Bulletin for 1894, xiv,

pp. 27-28. 1894. 234. Two fertile cyprinoid hybrids, by Karl Knauthe.

Bulletin for 1894, XIV,

pp. 29-30. 1894.
235. Report upon explorations made in Eel River Basin, in the northeastern part of Indiana, in the summer of 1892, by Philip H. Kirsch. Bulletin for 1894, XIV, pp. 31-41. 1894.

236. Notes on the fresh-water fishes of Washington County, Me., by William C. Kendall. Bulletin for 1894, XIV, pp. 43-54. 1894.

237. World's Fisheries Congress. Report of the secretary of the general committee,

by Tarleton H. Bean. Bulletin for 1893, xIII, pp. 1-14. 1894.

238. The assimilation of the fishery laws of the Great Lakes, by G. A. MacCallum. Bulletin for 1893, x111, pp. 17-20. 1894.
239. The decrease of food-fishes in American waters, and some of the causes, by A. M. Spangler. Bulletin for 1893, x111, pp. 21-35. 1894.
240. The sea and coast fisheries, by Daniel T. Church. Bulletin for 1893, x111,

рр. 37-38. 1894.

241. Our ocean fishes and the effect of legislation upon the fisheries, by J. M. K. Southwick. Bulletin for 1893, XIII, pp. 39-45. 1894.
242. The past, present, and future of trout culture, by W. L. Gilbert. Bulletin for

1893, x111, pp. 47-48. 1894.

243. The relation of scientific research to economic problems, by G. Brown Goode. Bulletin for 1893, XIII, pp. 49-58. 1894. 244. Biological research in relation to the fisheries, by John A. Ryder. Bulletin for

1893, XIII, pp. 59-63. 1894.
245. On the influence of light on the periodical depth migration of pelagic animals,

by Jacques Loeb. Bulletin for 1893, xIII, pp. 65-68. 1894

246. The investigation of rivers and lakes with reference to fish environment, by B. W. Evermann. Bulletin for 1893, XIII, pp. 69-73. 1894.

247. The habits and development of the lobster, and their bearing upon its artificial propagation, by Francis H. Herrick. Bulletin for 1893, XIII, pp. 75-86. 1894. 248. The origin of the food of marine animals, by W. K. Brooks. Bulletin for 1893,

хии, рр. 87-92. 1894.

249. Atmospheric and other influences on the migration of fishes, by J. J. Armistead. Bulletin for 1893, XIII, pp. 93-99. 1894.

- 250. Some observations concerning fish parasites, by Edwin Linton. Bulletin for 1893, XIII, pp. 101-126, plates 1-8. 1894.
- 251. On the food of the menhaden, by James I. Peck. Bulletin for 1893, x111, pp. 113-126, plates 1-8. 1894.
- Some plankton studies in the Great Lakes, by Jacob E. Reighard. Bulletin for
- 1893, XIII, pp. 127-142, plates 9, 10. 1894.
 253. The aquarium of the U. S. Fish Commission at the World's Columbian Exposition, by S. A. Forbes. Bulletin for 1893, XIII, pp. 143-158. 1894.
- 253. Description of the fresh and salt water supply and pumping plants used for the aquarium, by I. S. K. Reeves. Bulletin for 1893, XIII, pp. 159-161. 1894.
- 253. Observations and experiments on saprolegnia infesting fish, by G. P. Clinton. Bulletin for 1893, xiii, pp. 163-172. 1894.
- 253. Report on a parasitic protozoan observed on fish in the aquarium, by Charles Wardell Stiles. Bulletin for 1893, XIII, pp. 173-190, plates 11, 12. 1894. 254. Statistical review of fish-culture in Europe and North America, by N. Borodine.
- Bulletin for 1893, XIII, pp. 193-196. 1894. 255. Some notes about American fish-culture, by Oscar Nordqvist. Bulletin for 1893,
- хии, рр. 197-200. 1894.
- 256. Fish-culture in Michigan, by Hoyt Post. Bulletin for 1893, XIII, pp. 201-211.
- 257. History and methods of whitefish-culture, by Frank N. Clark. Bulletin for 1893, XIII, pp. 213-220. 1894.
- 259. The propagation of black bass in ponds, by William F. Page. Bulletin for 1893, XIII, pp. 229-236. 1894. 260. Fish and fishing in British Guiana, by J. J. Quelch. Bulletin for 1893, XIII,
- рр. 237-240. 1894.
- 261. Fish-cultural investigations at St. Andrews Marine Laboratory, Scotland, by W. C. McIntosh. Bulletin for 1893, XIII, pp. 241-256. 1894.
- 261. Description of the marine hatchery at Dunbar, Scotland, by T. Wemyss Fulton.
- Bulletin for 1893, XIII, pp. 257-262. 1894.

 262. The past, present, and future of the oyster industry of Georgia, by A. Oemler.
 Bulletin for 1893, XIII, pp. 263-272. 1894.
- 263. Deep-water oyster-culture, by Henry C. Rowe. pp. 273-276. 1894. Bulletin for 1893, XIII,
- 264. Breeding natural food artificially for young fish artificially hatched, by A. Nelson Cheney. Bulletin for 1893, XIII, pp. 277-279. 1894. Bulletin for 1893, XIII, pp.
- 265. What we know of the lobster, by Fred Mather. 281-286. 1894. 268. Foul fish and filth fevers, by J. Lawrence-Hamilton. Bulletin for 1893, XIII,
- pp. 311-334. 1894.
- 269. Recent experiments in sturgeon hatching on the Delaware River, by Bashford Dean. Bulletin for 1893, XIII, pp. 335-339 (including 1 fig.). 1894.
 270. The fisheries of Canada, by L. Z. Joncas. Bulletin for 1893, XIII, pp. 341-348.
- 271. The fishing industry of Lake Eric, past and present, by C. M. Keyes. Bulletin for 1893, XIII, pp. 349-353. 1894. 272. Notes on the Irish mackerel fisheries, by William Spotswood Green. Bulletin
- for 1893, XIII, pp. 357-360, plates 13-16. 1894. 273. Past and future of the fur-seal, by Joseph Stanley-Brown. Bulletin for 1893, хии, рр. 361-370. 1894.
- 275. Fish nets: Some account of their construction and the application of the various forms in American fisheries, by C. H. Augur. Bulletin for 1893, XIII,
- pp. 381-388. 1894.

 277. The fisheries of Japan, by the Japanese bureau of agriculture, compiled by Hugh M. Smith. Bulletin for 1893, XIII, pp. 419-438. 1894.
- 278. On pearls, and the utilization and application of the shells in which they are found, in the ornamental arts, as shown at the World's Columbian Exposition, by George Frederick Kunz. Bulletin for 1893, XIII, pp. 439-457, plates 18-41. 1894.
- 279. Report on a collection of fishes from the rivers of central and northern Mexico,
- by Albert J. Woolman. Bulletin for 1894, XIV, pp. 55-66, plate 2. 1894.

 280. Report of investigations respecting the fishes of Arkansas, conducted during 1891, 1892, and 1893, with a synopsis of previous explorations in the same State, by Seth E. Meek. Bulletin for 1894, XIV, pp. 67-94. 1894.
- 282. Results of explorations in western Canada and northwestern United States, by Carl H. Eigenmann. Bulletin for 1894, xIV, pp. 101-131, plates 5-8. 1894.
- 283. Report of the Commissioner for the fiscal year ending June 30, 1892, including the reports on the divisions of scientific inquiry and fisheries, by Marshall McDonald. Report for 1892, XVIII, pp. VII-CCIV. 1894.

284. Report upon the investigations of the U.S. Fish Commission steamer Albatross for the year ending June 30, 1892, by Z. L. Tanner. Report for 1892, xvIII, pp. 1-64, plate A. 1894.

288. Notes on the fishes of western Iowa and eastern Nebraska, by Seth E. Meek. Bulletin for 1894, XIV, pp. 133-138. 1894.

288. List of fishes inhabiting Clear Lake, California, by Charles H. Gilbert. Bulletin for 1894, xiv, pp. 139-140. 1894.

288. Notes on the fresh-water species of San Luis Obispo County, Cal., by David S. Jordan. Bulletin for 1894, xIV, pp. 141-142. 1894.

289. On the appliances for collecting pelagic organisms, with special reference to those employed by the U. S. Fish Commission, by Z. L. Tanner. Bulletin for

1894, XIV, pp. 143-151, plates 9-12. 1894.

290. The salmon fisheries of Columbia River, together with a report upon physical and natural history investigations in the region by C. H. Gilbert and B. W. Evermann, by Marshall McDonald. Bulletin for 1894, xiv, pp. 153-168, plates 13-15. 1894.

292. Notes on fishes collected in Florida in 1892, by James A. Henshall. Bulletin for 1894, XIV, pp. 209-221. 1894.

293. Notes on a reconnaissance of the fisheries of the Pacific coast of the United States in 1894, by Hugh M. Smith. Bulletin for 1894, xIV, pp. 223-288. 1894.

294. Feeding and rearing of fishes, particularly trout, under domestication, by William F. Page. Bulletin for 1894, XIV, pp. 289-314. 1895.

295. Report upon investigations in the Maumee River Basin during the summer of 1893, by Philip H. Kirsch. Bulletin for 1894, xIV, pp. 315-337. 1895.

296. A statistical report on the fisheries of the Middle Atlantic States, by Hugh M. Smith. Bulletin for 1894, XIV, pp. 339-467. 1895.

297. The fishes of the Colorado Basin, by Barton W. Evermann and Cloud. Rutter. Bulletin for 1894, XIV, 473-486. 1895.

297. A list of species of fishes known from the vicinity of Neosho, Mo., by Barton W. Evermann and W. C. Kendall. Bulletin for 1894, xiv, pp. 469-472. 1895.

Evermann and W. C. Kendall. Bulletin for 1894, XIV, pp. 469-472. 1895.

298. Report of the Commissioner for the fiscal year ending June 30, 1893, including the reports on divisions of fish-culture, scientific inquiry, and fisheries, by Marshall McDonald. Report for 1893, XIX, pp. 1-138. 1896.

300. The American lobster. A study of its habits and development, by Francis Hobart Herrick. Bulletin for 1895, xv, pp. 1-252, plates A-J and 1-54. 1896.

301. A preliminary report upon salmon investigations in Idaho in 1894, by Barton W. Evermann. Bulletin for 1895, xv, pp. 253-284. 1896.

302. Notes on an investigation of the menhaden fishery in 1894, with special reference to the food-fishes taken, by Hugh M. Smith. Bulletin for 1895, xv, pp. 285-302. 1896.

285-302. 1896.

303. The fishes of the Neuse River Basin, by Barton W. Evermann and Ulysses O. Cox. Bulletin for 1895, xy, pp. 303-310. 1896.

304. Notes on intensive pond culture at Sandfort, by S. Jaffé. Bulletin for 1895, xv.

pp. 311-316. 1896. 304. Notes on the rearing of yearling trout at Sandfort, by S. Jaffé. Bulletin for

1895, xv, pp, 317-319. 1896. 304. Fish-cultural methods at the Agricultural School at Freising. Anonymous. Bulletin for 1895, xv, pp. 320-321, plate 55. 1896.
 304. The course of instruction of the Bavarian Fishery Association. Anonymous.

Bulletin for 1895, xv, pp. 321-324. 1896.

305. Report on a reconnaissance of the oyster-beds of Mobile Bay and Mississippi Sound, Alabama, by Homer P. Ritter. Bulletin for 1895, xv, pp. 325-339, plates 56-63. 1896.

306. A list of fishes and mollusks collected in Arkansas and Indian Territory in 1894, by Seth Eugene Meek. Bulletin for 1895, xv, pp. 341-349. 1896.

307. The sources of marine food, by James I. Peck. Bulletin for 1895, xv, pp. 351-368.

1896, plates 64-71. 1896.

308. Contributions toward the improvement of the culture of salmonoids and crawfish in small water-courses, by Karl Wozelka-Iglau. Bulletin for 1895, xv, pp. 369-378, plate 72. 1896.

309. A review of the history and results of the attempt to acclimatize fish and other

water animals in the Pacific States, by Hugh M. Smith. Bulletin for 1895, xv, pp. 379-472, plates 73-83. 1896.

310. Report upon the work of the U.S. Fish Commission steamer Albatross for the year ending June 30, 1893, by Z.L. Tanner. Report for 1893, xix, pp. 305-341, plates 15-18. 1896.

311. Report of the representative of the U.S. Fish Commission at the World's Columbian Exposition, by Tarleton H. Bean. Report for 1894, xx, pp. 177-196, plates 1-5. 1896.

- 312. Report upon ichthyological investigations in western Minnesota and eastern North Dakota, by Albert J. Woolman. Report for 1893, XIX, pp. 343-373, plate 19. 1896.
- 313. The food of the oyster, clam, and ribbed mussel, by John P. Lotsy. Report for 1893, xix, pp. 375-386 (including 4 figs.). 1896.
- 314. Establishment of stations for the propagation of salmon on the Pacific Coast, by John J. Brice. Report for 1893, x1x, pp. 387-392. 1896.
- 315. Report of the Commissioner for the fiscal year ending June 30, 1894, including the reports on the divisions of fish-culture, scientific inquiry, and fisheries, by Marshull McDonald. Report for 1894, xx, pp. 1-175. 1896.

 316. The Russian fur-seal islands, by Leonard Stejneger. Bulletin for 1896, xvi,

pp. 1-148, plates 1-66. 1896.

317. Remarks on the movements and breeding grounds of the fur-seal, based on observations made while on the United States naval patrol of Bering Searin 1894, by John J. Brice. Report for 1894, xx, pp. 573-577. 1896.

318. A report upon salmon investigations in the head waters of the Columbia River, in the State of Idaho, in 1895; together with notes upon the fishes observed in that State in 1894 and 1895, by Barton W. Evermann. Bulletin for 1896, xvi, pp. 149-202, plates 67-72. 1896.

319. The artificial propagation of the rainbow trout, by George A. Seagle. Bulletin for 1896, xvi, pp. 237-256, plates 88-94. 1896.

320. The artificial propagation of salmon on the Pacific Coast of the United States, 320. The artificial propagation of samon on the Facilit Coast of the United States, with notes on the natural history of the quinnat salmon, by Livingston Stone. Bulletin for 1896, XVI, pp. 203-235, plates 73-87. 1896.
321. Report upon the operations of the U. S. Fish Commission steamer Albatross for the year ending June 30, 1894, by Z. L. Tanner and F. J. Drake. Report for 1894, xx, pp. 197-278, plates 6-8. 1896.
322. Description of a closing tow net for submarine use at all depths, by C. H. Townsend. Report for 1894, xx, pp. 279-982, plates 9, 10, 1896.

Townsend. Report for 1894, xx, pp. 279-282, plates 9, 10. 1896.

323. The whitefishes of North America, by Barton W. Evermann and Hugh M. Smith.

Report for 1894, xx, pp. 283-324, plates 11-28. 1896.

324. A report upon the fishes of the Missouri River Basin, by Barton W. Evermann

and Ulysses O. Cox. Report for 1894, xx, pp. 325-429. 1896.

325. A review of the foreign fishery trade of the United States, by Charles H.

325. A review of the foreign fishery trade of the United States, by Charles H. Stevenson. Report for 1894, xx, pp. 431-571. 1896.
326. The ichthyological collections of the U. S. Fish Commission steamer Albatross during the years 1890 and 1891, by Charles H. Gilbert. Report for 1893, xix, pp. 393-476, plates 20-35. 1896.
327. An annotated catalogue of the fishes known from the State of Vermont, by Barton W. Evermann and W. C. Kendall. Report for 1894, xx, pp. 579-604.
328. A report upon the fishes of southwestern Minnesota, by Ulysses O. Cox. Report for 1894, xx, pp. 605-616. 1896.

for 1894, xx, pp. 605-616. 1896.

329. List of publications of the U. S. Commission of Fish and Fisheries from its establishment, in 1871, to February, 1896, by Charles W. Scudder. Report for 1894, xx, pp. 617-706. 1896.

330. Deep-sea explorations: A general description of the steamer Albatross, her appliances and methods, by Z. L. Tanner. Bulletin for 1896, xvi, pp. 257-428 (including 76 figs.), pls. i-xl. 1897.
331. Report of the Commissioner for the fiscal year ending June 30, 1895, including

the reports on the divisions of fish-culture, scientific inquiry, and fisheries, by

Marshall McDonald. Report for 1895, XXI, pp. 1-123. 1896.

332. Report upon the investigations of the U. S. Fish Commission steamer Albatross for the year ending June 30, 1895 (abstract), by F. J. Drake. Report for 1895, XXI, pp. 125-168. 1896. xxi, pp. 125-168. 1896.

333. Notes on Biscayne Bay, Florida, with reference to its adaptability as the site of a marine hatching and experiment station, by Hugh M. Smith. Report for 1895, xxi, pp. 169-191. 1896.

334. The transplanting of eastern oysters to Willapa Bay, Washington, with notes on the native oyster industry, by C. H. Townsend. Report for 1895, xxi, pp. 193-202, plate 1. 1896.

335. Description of a new species of shad (Alosa alabamæ) from Alabama, by Barton W. Evermann. Report for 1895, xx1, pp. 203-205. 1896.

336. A check-list of the fishes and fish-like vertebrates of North and Middle America, by David Starr Jordan and Barton Warren Evermann. Report for 1895, xxi, pp. 207-584. 1896.

337. Report of the Commissioner for the fiscal year ending June 30, 1896, including the reports on divisions of fish-culture, scientific inquiry, and fisheries, by

John J. Brice. Report for 1896, xxII, pp. 1-145, plates 1-10. 1897.

- 338. Report of the representative of the U.S. Fish Commission at the Cotton States and International Exposition at Atlanta, Ga., in 1895, by W. de C. Ravenel.
- Report for 1896, XXII, pp. 147-167 (including 3 figs.), plates 11-21. 1897.

 339. Notes on the extension of the recorded range of certain fishes of the United States Coast, by Hugh M. Smith and William C. Kendall. Report for 1896, ххи, рр. 169-176. 1897.
- 340. Notes on the food of four species of the cod family, by William C. Kendall. Report for 1896, xxii, pp. 177-186. 1897.
 341. The fisheries of Indian River, Florida, by John J. Brice et al. Report for 1896, xxii, pp. 223-262, plates 22-60. 1897.
- 342. Report on the fish and fisheries of the coastal waters of Florida, by John J. Brice. Report for 1896, XXII, pp. 263-342. 1897.
- 343. Report of a survey of the cyster regions of St. Vincent Sound, Apalachicola Bay, and St. George Sound, Florida, by Franklin Swift. Report for 1896, xxii, pp. 187-221, plate 21. 1897.
- 344. Report of the Commissioner for the fiscal year ending June 30, 1897, including the reports on divisions of fish-culture, scientific inquiry, and fisheries, by John J. Brice. Report for 1897, XXIII, pp. 1-CLXXI. 1898.
- 346. Artificial propagation of the Atlantic salmon, rainbow trout, and brook trout.
 Report for 1897, XXIII, pp. 27-101 (including 14 figures), plates 12-20. 1897.
 347. Artificial propagation of the black bass, crappies, and rock bass. Report for
- 1897, XXIII, pp. 159-177 (including 2 figures), plates 43-49. 1897.
- 348. Notes on the edible frogs of the United States and their artificial propagation, by F. M. Chamberlain. Report for 1897, XXIII, pp. 249-261 (including 6 figures). 1897.
- 349. Oysters and methods of oyster-culture, with notes on clam-culture, by H. F. Moore. Report for 1897, XXIII, pp. 263-340 (including 6 figures), plates i-XVIII.
- 351. The fishes of the Klamath River Basin, by Charles H. Gilbert. Bulletin for 1897, XVII, pp. 1-13 (including 6 figures). 1898.
- 352. A report upon salmon investigations in the Columbia River Basin and elsewhere on the Pacific coast in 1896, by Barton W. Evermann and Seth Eugene Meek. Bulletin for 1897, XVII, pp. 15-84 (including 6 figures), plates 1 and 2. 1898.
 353. The fishes found in the vicinity of Woods Hele, by Hugh M. Smith. Bulletin 1897, XVIII, pp. 25-111 (including 16 graph).
- 1897, XVII, pp. 85-111 (including 1 figure), plate 3. 1898.
 355. Report of observations made on board the U. S. Fish Commission steamer Albatross during the year ending June 30, 1896. Report for 1896, XXII, pp. 357-386. 1897.
- 356. Observations upon the herring and herring fisheries of the northeast coast, with special reference to the vicinity of Passamaquoddy Bay, by H. F. Moore,
- Ph. D. Report for 1896, xxII, pp. 387-442, plates 60-62. 1897.

 357. The salmon fishery of Penobscot Bay and River in 1895 and 1896, by Hugh M. Smith. Bulletin for 1897, xVII, pp. 113-124, plates 4 and 5. 1898.
- 358. Descriptions of new or little-known genera and species of fishes from the United States, by Barton W. Evermann and William C. Kendall. Bulletin for 1897, xvII, pp. 125-133, plates 6-9. 1898.
- 359. Notes on the halibut fishery of the northwest coast in 1896, by A. B. Alexander.
- Bulletin for 1897, XVII, pp. 141-144. 1898.
 360. The herring industry of the Passamaquoddy region, Maine, by Ansley Hall. Report for 1896, xxii, pp. 443-489. 1897.
- 361. Statistics of the fisheries of the interior waters of the United States, by Hugh M. Smith. Report for 1896, XXII, pp. 489-574. 1898.
- 362. Notes on the fisheries of the Pacific coast in 1895, by William A. Wilcox. Report
- for 1896, XXII, pp. 575-659. 1898.

 363. Proceedings and papers of the National Fishery Congress. Bulletin for 1897, XVII, pp. 145-371. 1898.
- 364. Proceedings of National Fishery Congress. Bulletin for 1897, XVII, pp. 147-168.
- 365. Methods of plankton investigation in their relation to practical problems, by Jacob Reighard. Bulletin for 1897, xvii, pp. 169-175. 1898.
 366. The importance of extended scientific investigation, by H. C. Bumpus. Bulle-
- tin for 1897, XVII, pp. 177-180. 1898.

 367. The utility of a biological station on the Florida coast in its relations to the commercial fisheries, by Seth E. Meek. Bulletin for 1897, XVII, pp. 181-183.
- 368. Establishment of a biological station on the Gulf coast, by W. Edgar Taylor. Bulletin for 1897, xvII, pp. 185-188. 1898.

- 369. Some notes on American ship worms, by Charles P. Sigerfoos. Bulletin for 1897, XVII, pp. 189-191. 1898.
- 370. An economical consideration of fish parasites, by Edwin Linton. Bulletin for
- 1897, XVII, pp. 193-199. 1898. 371. The fish fauna of Florida, by B. W. Evermann. Bulletin for 1897, XVII, pp. 201-208. 1898.
- 372. The lampreys of central New York, by H. A. Surface. Bulletin for 1897, XVII.
- pp. 209-215, plates 10 and 11. 1898.

 373. The protection of the lobster fishery, by Francis H. Herrick. Bulletin for 1897, XVII, pp. 217-224. 1898.
- 374. The Florida commercial sponges, by Hugh M. Smith. Bulletin for 1897, xvii, pp. 225-240, plates 12-31. 1898.
- 375. On the feasibility of raising sponges from the egg, by H. V. Wilson. Bulletin for 1897, xvii, pp. 241-245. 1898. 376. The Hudson River as a salmon stream, by A. Nelson Cheney. Bulletin for 1897,
- xvII, pp. 247-251. 1898. 377. A plea for the development and protection of Florida fish and fisheries, by
- James A. Henshall. Bulletin for 1897, xvII, pp. 253-255. 1898.
- 378. International protection for the denizens of the sea and waterways, by Bushrod W. James. Bulletin for 1897, XVII, pp. 257-263. 1898. 379. The restricted inland range of shad due to artificial obstructions, and its effect
- upon natural reproduction, by Charles H. Stevenson. Bulletin for 1897, xvii. pp. 265-271. 1898.
- 380. The green turtle and the possibilities of its protection and consequent increase on the Florida coast, by Ralph M. Munroe. Bulletin for 1897, xvii, pp. 273-
- 381. Some factors in the oyster problem, by H. F. Moore. Bulletin for 1897, xvII, pp. 275-284. 1898.
- 382. The oyster grounds of the west Florida coast; their extent, condition, and peculiarities, by Franklin Swift. Bulletin for 1897, xvii, pp. 2×5-287. 1898.
 383. The oyster and oyster beds of Florida, by John G. Ruge. Bulletin for 1897, xvii, pp. 289-296. 1898.
- 384. The Louisiana oyster industry, by F. C. Zacharie. Bulletin for 1897, xvII, pp. 297-304.
- 385. The oyster bars of the west coast of Florida, their depletion and restoration, by H. A. Smeltz. Bulletin for 1897, xvII, pp. 305-308. 1898.
- 386. Notes on the fishing industry of eastern Florida, by John Y. Detwiler. Bulletin for 1897, xvii, pp. 309-312. 1898.
- 387. Oysters and oyster culture in Texas, by I. P. Kibbe. Bulletin for 1897, XVII, pp. **3**13-314. 1898.
- 388. The methods, limitations, and results of whitefish culture in Lake Erie, by J. J.
- Stranahan. Bulletin for 1897, xvII, pp. 315-319. 1898.

 389. A brief history of the gathering of fresh-water pearls in the United States, by George F. Kunz. Bulletin for 1897, xvII, pp. 321-330. 1898.
- 390. The red-enapper fisheries; their past, present, and future, by Andrew F. Warren. Bulletin for 1897, xvii, pp. 331-335. 1898.
- 391. Some brief reminiscences of the early days of fish-culture in the United States, by Livingston Stone. Bulletin for 1897, xvii, pp. 337-343. 1898.
- 392. The relations between State fish commissions and commercial fishermen, by W. E. Meehan. Bulletin for 1897, xv11, pp. 345-348. 1898.
- 393. Possibilities for an increased development of Florida's fishery resources, by John N. Cobb. Bulletin for 1897, xvii, pp. 349-351. 1898.
- 394. The utility and methods of mackerel propagation, by J. Percy Moore. Bulletin for 1897, xvii, pp. 353-361. 1898.
 395. The large mouthed black bass in Utah, by John Sharp. Bulletin for 1897, xvii,
- pp. 363-368. 1898.
- 396. Florida fur farming, by J. M. Willson, jr. Bulletin for 1897, xvII, pp. 369-371. 1898.
- 397. The fresh-water pearls and pearl fisheries of the United States, by George F. Kunz. Bulletin for 1897, xvII, pp. 373-426, plates I-XXII.
- 398. Report of the Commissioner for the fiscal year ending June 30, 1898, including the reports on divisions of fish culture, scientific inquiry, and fisheries, by
- George M. Bowers. Report for 1898, XXIV, pp. I-CLXXXI, plates I-XXI. 1899.

 399. Report on mackerel investigations in 1897, by J. Percy Moore. Report for 1898, xxiv, pp. 1-22. 1899.
- 400. Report on fishes obtained by the steamer Albatross in the vicinity of Santa Catalina Island and Monterey Bay, by Charles H. Gilbert. Report for 1898, xxiv, pp. 23-29, plates 1 and 2. 1899.

- 401. Notes on the extent and condition of the alewife fisheries of the United States in 1896, by Hugh M. Smith. Report for 1898, XXIV, pp. 31-43. 1899. 402. Report on the oyster bods of Louisiana, by H. F. Moore. Report for 1898, XXIV,
- pp. 45-100, plate 3. 1899. 403. The shad fisheries of the Atlantic coast of the United States, by Charles H. Ste-
- 403. The shad fisheries of the Atlantic coast of the United States, by Charles H. Stevenson. Report for 1898, xxiv, pp. 101-269. 1899.
 404. List of fishes collected at the Revillagigedo Archipelago and neighboring islands, by David Starr Jordan and Richard Crittenden McGregor. Report for 1898, xxiv, pp. 273-284, plates 4-7. 1899.
 405. Report on investigations by the U. S. Fish Commission in Mississippi, Louisiana, and Texas in 1897, by Barton Warren Evermann. Report for 1898, xxiv, pp. 923-210 plates 2-36 1800
- 285-310, plates 8-36, 1899.
- 406. List of publications of the U.S. Commission of Fish and Fisheries available for distribution on March 1, 1899. Report for 1898, xxiv, pp. 311-327. 1899.
- 407. Report upon exhibit of the United States Fish Commission at the Tennessee Centennial Exposition in 1897, by W. de C. Ravenel. Report for 1898, xxiv, pp. 329-339, plate 37, 1899.

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