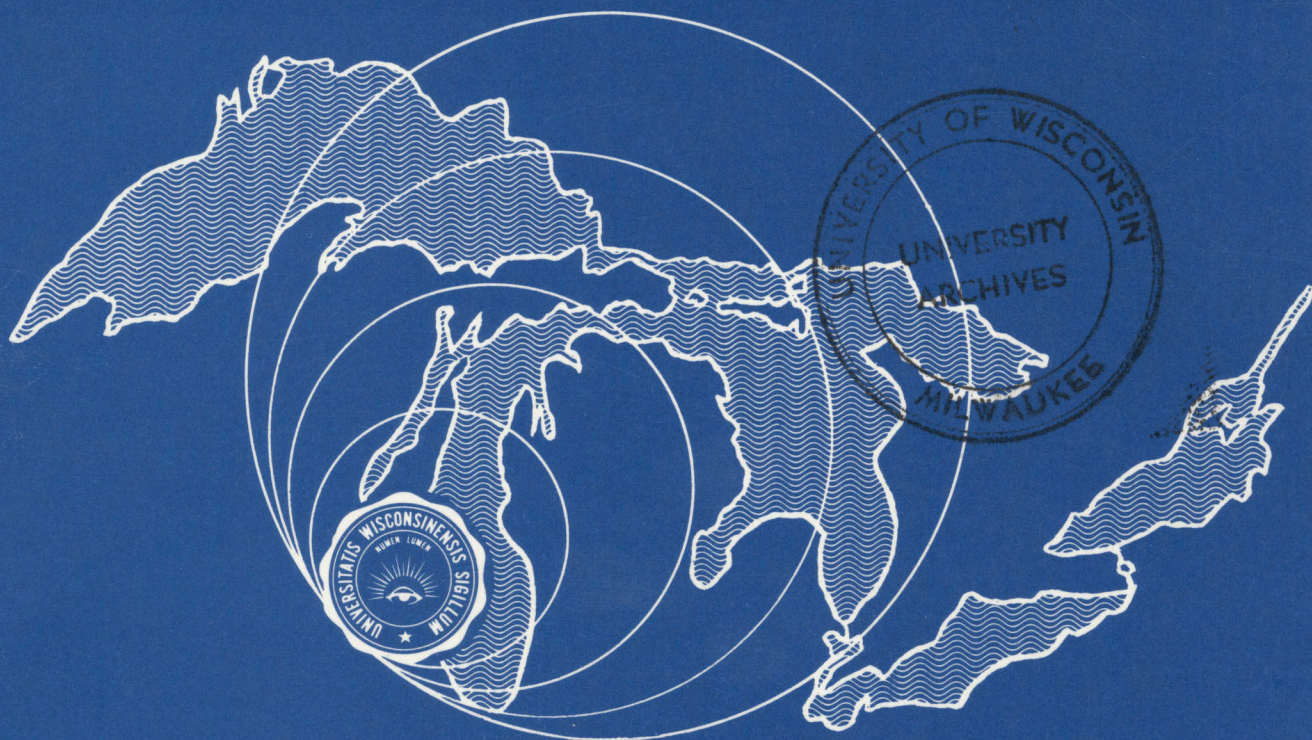
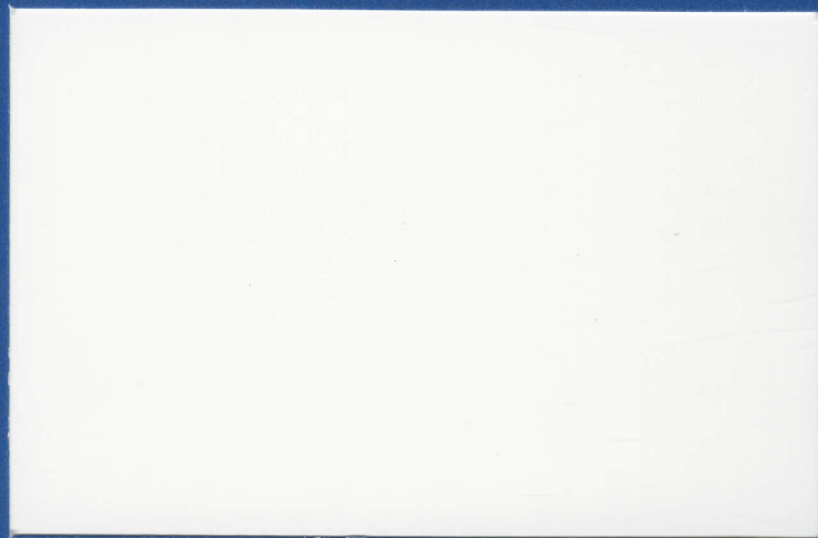
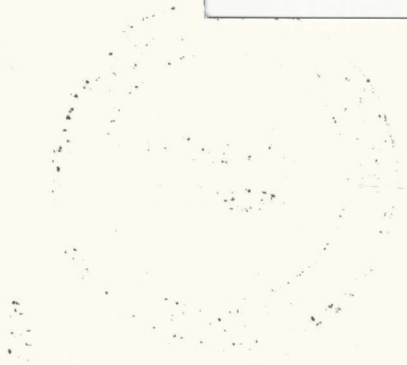


THE UNIVERSITY OF WISCONSIN—MILWAUKEE

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SPECIAL REPORT NO. 7

Great Lakes Plankton Investigations:

A Bibliography

by

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Center for Great Lakes Studies

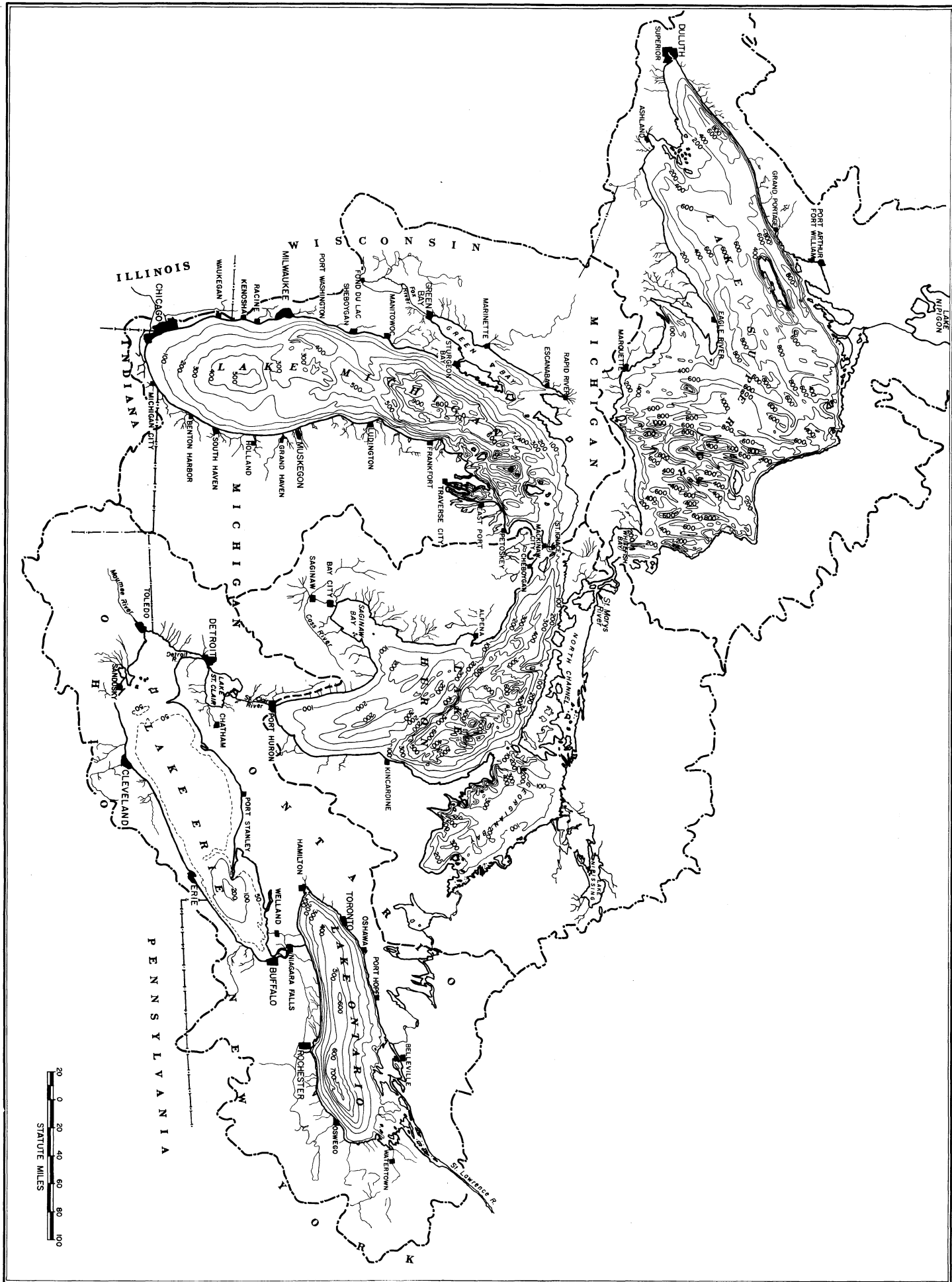
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Fig. 1. The St. Lawrence Great Lakes. The dashed line indicates the boundary of the drainage basin. Depth contours are in feet.



INTRODUCTION

Our knowledge of the biology and limnology of large lakes remains far behind our understanding of small bodies of water. This is due primarily to the sampling problems inherent in conducting research in large lakes. The St. Lawrence Great Lakes represent one of the largest concentrations of fresh water in the world (Fig. 1). Research on the Great Lakes began in the late 19th century, but little was known concerning their ecology until the last few decades. Even the earliest workers on the Lakes realized the importance of plankton in the overall economy of the lakes. Although over four hundred papers have been published on the plankton of the St. Lawrence Great Lakes, the biology and ecology of the plankton remain poorly known. Most papers are descriptive and concentrate heavily on taxonomy and distribution of certain organisms. Experimental work on the dynamics of Great Lakes plankton is urgently needed in light of rapidly changing environmental conditions and fluctuating fish stocks.

This bibliography has been prepared to provide quick reference to papers published on Great Lakes plankton. In addition to Lakes Superior, Michigan, Huron, Erie, and Ontario, papers on Lake St. Clair, Lake Nipigon and Lake Nipissing have been included. Plankters are all the obligate drifters in the water which move about mainly under the influence of the currents. Therefore, this bibliography includes papers on: bacteria, fungi, algae, protozoa, Rotifera, Cladocera, Copepoda, and Hydracarina found in the water column. Certain organisms, such as Pontoporeia affinis, Mysis relicta, and Chaoborus sp., are essentially benthic organisms but undergo vertical migration into the water column at night. Only papers concerning the taxonomy, distribution, and presence of these organisms in the

water column have been included; papers dealing strictly with these organisms as benthos have been excluded. Papers on plankton in water quality investigations and plankton as food for fishes have also been included in the bibliography. Bibliographic style followed in this report is that recommended by: World List of Scientific Periodicals (3rd Edition (1968), as listed in Abbreviated Titles of Biological Journals compiled by P. C. Williams on behalf of The Biological Council, London); and the American Institute of Biological Sciences, Style Manual for Biological Journals (2nd Edition, AIBS, Washington, D.C., 117 p.).

I have examined and briefly annotated each of the papers listed. The main purpose of the annotations is to elaborate on the titles and to define more clearly the content of the papers. The annotations include comments on the qualitative or quantitative nature of the study, date of sampling and the level of taxonomic identification given. The appendix lists other sources of information on Great Lakes plankton. Brief geographical and subject indices are included.

Any bibliography of this scope is, unfortunately, never complete. Although not constituting publication, several mimeographed reports are listed here, as they are available in some of the libraries of the larger universities and research institutes in the Great Lakes region. Omissions, if they exist, are probably confined to early taxonomic works and to reports by municipal and state organizations. The author would be grateful if any such omissions would be brought to his attention.

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3. Ahlstrom, E. H. 1936. The deep-water plankton of Lake Michigan, exclusive of the Crustacea. Trans. Amer. microsc. Soc., 55: 286-299. [Species identification of phytoplankton, Protozoa, and rotifers from No. 20 mesh silk vertical net hauls, 20 June-23 October, 1930, and 11 May-2 November, 1931.]
4. Ahlstrom, E. H. 1937. Studies on variability in the genus Dinobryon (Mastigophora). Trans. Amer. microsc. Soc., 56: 139-159. [Several hundred samples from 66 localities including Lakes Superior and Michigan.]
5. Allin, A. E. 1929a. Seining records and food of the intermediate stages of Lake Erie fishes, p. 188-194. In: Preliminary report on the cooperative survey of Lake Erie, season of 1928. Bull. Buffalo Soc. Natur. Sci., 14 (3). [Stomach contents of 14 species of young fish collected mainly near Grand Island, Niagara River. Organisms identified to major groups only.]
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88. Damann, K. E. 1943. An analysis of plankton yields of Lake Michigan. Unpublished doctoral thesis, Northwestern Univ. (Summaries Doct. Diss., Northwestern Univ., 11: 226-230.) [Water intake data on total plankton and bacteria from Chicago (1926-1942), Michigan City (1942) and Milwaukee (1939-1942). Also laboratory experiment on plankton periodicity.]

89. Damann, K. E. 1945. Plankton studies of Lake Michigan, I. Seventeen years of plankton data collected at Chicago, Illinois. *Amer. Midl. Natur.*, 34: 769-796. [Total plankton and coliform bacteria from water intake, 1926-1943.]
90. Damann, K. E. 1960. Plankton studies on Lake Michigan, II. Thirty-three years of plankton data collected at Chicago, Ill. *Trans. Amer. microsc. Soc.*, 79: 397-404. [Annual average standing crops of total plankton and coliform bacteria, 1926-1958.]
91. Damann, K. E. 1966. Plankton studies of Lake Michigan, III. Seasonal periodicity of total plankton. *Proc. 9th Conf. Great Lakes Res., Univ. Michigan, Great Lakes Res. Div., Publ. No. 15*: 9-17. [Total plankton from 1940-1963 taken from City of Milwaukee water intake.]
92. Davis, C. C. 1954a. A preliminary study of industrial pollution in the Cleveland harbor area, Ohio, II. The distribution and quantity of the phytoplankton. *Ecol. Monogr.*, 24: 321-347. [Lake Erie—nine stations sampled 23 times between 15 September 1950 and 30 September 1951. Seasonal variation in total volume and distribution of dominant species emphasized.]
93. Davis, C. C. 1954b. A preliminary study of industrial pollution in the Cleveland harbor area, Ohio, III. The zooplankton, and general ecological considerations of phytoplankton and zooplankton production. *Ohio J. Sci.*, 65: 388-408. [Lake Erie—10 liter Juday trap and 250 ml centrifuged samples from September, 1950, to October, 1951. Quantitative data on seasonal abundance of zooplankton.]
94. Davis, C. C. 1955. Plankton and industrial pollution in Cleveland Harbor. *J. Sewage & Indus. Wastes*, 27: 835-850. [Phytoplankton and zooplankton in relation to industrial pollution as indicated by total iron content of the water. Part IV of "A preliminary study of industrial pollution in the Cleveland harbor area, Ohio." See Davis (1954a) and (1954b) for Parts II and III.]
95. Davis, C. C. 1958. An approach to the problem of secondary production in the western Lake Erie region. *Limnol. Oceanogr.* 3: 15-28. [Samples from western Lake Erie and from several ponds were analyzed for dissolved organic matter, dissolved inorganic matter, phytoplankton and zooplankton volume, volume of μ -cells (mostly bacteria), and volume of organic and inorganic tripton as an indirect approach to the problem of zooplankton nutrition.]

96. Davis, C. C. 1959a. Osmotic hatching in the eggs of some fresh-water copepods. *Biol. Bull.*, 116: 15-29. [Laboratory studies using Diaptomus siciloides, D. ashlandi, D. oregonensis, Cyclops biduspidatus and Mesocyclops edax collected from Hatchery Bay, Put-in-Bay, Ohio (western Lake Erie).]
97. Davis, C. C. 1959b. Damage to fish fry by cyclopoid copepods. *Ohio J. Sci.*, 59: 101-102. [Cyclops bicuspidatus and Mesocyclops edax, western Lake Erie.]
98. Davis, C. C. 1961. Breeding of calanoid copepods in Lake Erie. *Verh. int. Ver. Limnol.*, 14: 933-942. [Specimens collected in all three basins of the lake.]
99. Davis, C. C. 1962. The plankton of the Cleveland harbor area of Lake Erie in 1956-1957. *Ecol. Monogr.*, 32: 209-247. [Protozoa, Rotifera, zooplankton Crustacea and phytoplankton from three stations near Cleveland harbor. Stations sampled every two weeks, 16 September 1956 through 12 October 1957 with the exception of 15 December 1956 through 17 March 1957.]
100. Davis, C. C. 1964. Evidence of the eutrophication of Lake Erie from phytoplankton records. *Limnol. Oceanogr.*, 9: 275-283. [Total phytoplankton counts and dominant genera from Cleveland, Ohio, water intake samples, 1919-1963.]
101. Davis, C. C. 1965. The standing stock of phytoplankton in Lake Erie at Cleveland, Ohio, 1964. *Info. Bull. Planktol. Japan*, No. 12: 51-53. [256 phytoplankton counts (cells/ml) made between 2 January and 31 December 1964 from water intake 13 m below the surface and 5.9 km from shore.]
102. Davis, C. C. 1966a. Plankton studies in the largest Great Lakes of the world, with special reference to the St. Lawrence Great Lakes of North America. *Univ. Michigan, Great Lakes Res. Div., Publ. No. 14*: 1-36. [A review encompassing phytoplankton and zooplankton studies.]
103. Davis, C. C. 1966b. Biological research in the central basin of Lake Erie. *Proc. 9th Conf. Great Lakes Res., Univ. Michigan, Great Lakes Res. Div., Publ. No. 15*: 18-26. [A review including both phytoplankton and zooplankton studies.]

104. Davis, C. C. 1968. The July 1967 zooplankton of Lake Erie. Proc. 11th Conf. Great Lakes Res., Int. Assoc. Great Lakes Res.: 61-75. [Total zooplankton species identification and abundance from 27 stations along a longitudinal transect near the center of the lake. Vertical hauls collected with a $\frac{1}{2}$ -m net fitted with No. 20 bolting silk.]
105. Davis, C. C. 1969. Plants in Lakes Erie and Ontario, and changes of their numbers and kinds. Bull. Buffalo Soc. Natur. Sci., 25: 18-44. [A review article on research on plants, including phytoplankton, in Lakes Erie and Ontario.]
106. Davis, C. C., and H. B. Roney. 1953. A preliminary study of industrial pollution in the Cleveland harbor area, Ohio, I. Physical and chemical results. Ohio J. Sci., 53: 14-30. [Background data for simultaneous plankton studies. See Davis, (1954a), (1954b), and (1955). Also includes results of viability experiments using planktonic Crustacea in polluted water.]
107. Dryer, W. R. and J. Beil. 1964. Life history of lake herring in Lake Superior. U.S. Fish. Wildl. Serv., Fish. Bull., 63: 493-540. [Includes stomach analyses of 146 fish collected on various dates in 1950-60 at Bayfield, Wis., and Marquette, Mich. Zooplankton identified only to major groups.]
108. Dryer, W. R., L. F. Erkkila, and C. L. Tetzloff. 1965. Food of lake trout in Lake Superior. Trans. Amer. Fish. Soc., 94: 169-176. [Mysis and Pontoporeia important food items, especially in fish under 8 inches in length.]
109. Dutka, B. J., J. Popplow, and J. Yurack. 1968. Salmonellae isolation from surface waters. Proc. 11th Conf. Great Lakes Res., Int. Assoc. Great Lakes Res.: 531-537. [Collections made in the eastern near-shore sector of Lake Ontario between Kingston and Trenton including the Bay of Quinte and the upper St. Lawrence River during summer, 1967. Study includes coliform, fecal coliform, fecal streptococci, standard plate count densities, and isolation of Salmonella serotypes.]
110. Eddy, S. 1927. The plankton of Lake Michigan. Bull. Illinois State Div. Natur. Hist. Surv., 17 (4): 203-232. [Phytoplankton, Protozoa, Rotifera, and Crustacea from inshore and surface collections in southern Lake Michigan.]

111. Eddy, S. 1930. The fresh-water armored or thecate dinoflagellates. *Trans. Amer. microsc. Soc.*, 49: 277-321. [Taxonomic discussion, not Great Lakes specifically.]
112. Eddy, S. 1934. A study of fresh-water plankton communities. *Illinois Biol. Monogr.*, 12 (4), 93 p. [Ecology of lotic and lentic plankton communities including samples from Lake Michigan and Lake Superior.]
113. Eddy, S. 1942. A survey of fish food habits. *Conserv. Volunteer (Minnesota)*, 3 (18): 31-35. [A popular article, includes brief comment on "deep water crustaceans" as food for lake trout in Lake Superior.]
114. Eddy, S. 1943. Limnological notes on Lake Superior. *Proc. Minn. Acad. Sci.*, 11: 34-39. [Preliminary report of limnological investigations, 1930-1934. Dominant zooplankton species discussed briefly.]
115. Edmondson, W. T. (ed.) 1959. *Fresh-water biology*. 2nd Ed. Wiley and Sons, New York, 1248 p. [Standard taxonomic work applicable to the flora and fauna of the Great Lakes region.]
116. Ellis, J. B. and E. M. Sutherland. 1951. Report of the International Joint Commission, U.S. and Canada, on the pollution of boundary waters. *Int. Joint Comm.*, Washington, D. C. and Ottawa, 312 p. [Includes coliform bacteria and B.O.D. data, Lakes Erie, Ontario, Huron, and Superior.]
117. Ellms, J. W. 1922. A sanitary survey of Lake Erie, opposite Cleveland, Ohio, 1920. *J. Amer. Water Wks. Assoc.*, 9: 186-207. [A detailed study of total and coliform bacteria.]
118. Engel, R. E. 1962. *Eurytemora affinis*, a calanoid copepod new to Lake Erie. *Ohio J. Sci.*, 62: 252. [Found in the island region of western Lake Erie during summer, 1961.]
119. Eschmeyer, P. H. 1956. The early life history of the lake trout in Lake Superior. *Mich. Dept. Conserv., Inst. Fish. Res., Misc. Publ. No. 10*, 31 p. [Stomach contents of 717 fish examined. Zooplankton Crustacea identified mostly to major groups only.]

120. Eschmeyer, P. H. and R. M. Bailey. 1955. The pygmy white-fish, Coregonus coulteri, in Lake Superior. Trans. Amer. Fish. Soc., 84: 161-199. [Stomach analysis of 112 fish. Zooplankton identified only to major groups.]
121. Ewers, L. A. 1930. The larval development of freshwater Copepoda. Ohio State Univ., Stone Lab., Contrib. No. 3: 1-43. [Laboratory rearing of 12 species of Cyclops, Diatomus siciloides, and Canthocamptus northumbrius. Most of them collected from Lake Erie and vicinity.]
122. Ewers, L. A. 1933. Summary report of Crustacea used as food by the fishes of the western end of Lake Erie. Trans. Amer. Fish. Soc., 63: 379-390. [Stomach analyses of 12 species of fish taken in western Lake Erie. Crustacea identified to species.]
123. Ewers, L. A. 1936. Propagation and rate of reproduction of some freshwater Copepoda. Trans. Amer. microsc. Soc., 55: 230-238. [Laboratory studies on 12 species of Cyclops, 2 of Diaptomus and one of Canthocamptus, many collected from Lake Erie in the vicinity of Put-in-Bay, Ohio.]
124. Faber, D. J. and E. G. Jermolajev. 1966. A new copepod genus in the plankton of the Great Lakes. Limnol. Oceanogr., 11: 301-303. [Calanoida: Eurytemora affinis Poppe.]
125. Fabian, M. W. 1960. Mortality of fresh water and tropical fish fry by cyclopoid copepods. Ohio J. Sci., 60: 268-270. [Laboratory experiments using three species of cyclopoid copepods collected in Hatchery Bay, Put-in-Bay, Ohio, western Lake Erie.]
126. Fenwick, M. G. 1962. Some interesting algae from Lake Huron. Trans. Amer. microsc. Soc., 81: 72-76. [New species recorded from 1954 synoptic survey of Lake Huron.]
127. Fenwick, M. G. 1968. Lake Huron distribution of Tabellaria fenestrata var. geniculata A. Cleveland and Coelastrum reticulatum var. polychordon Korshik. Trans. Amer. microsc. Soc., 87: 376-383. [Distribution at surface, 50 ft., 100 ft., and at 5 ft from the bottom during synoptic surveys in June, July, and August, 1954.]

128. Fish, C. J. 1929. Preliminary report on the cooperative survey of Lake Erie, season of 1928. Bull. Buffalo Soc. Natur. Sci., 14 (3): 7-6, 59, 195-220. [Results and conclusions of a biological survey of the eastern basin of Lake Erie including bacteria, phytoplankton and zooplankton. See Fish (1960) for the final report of this survey which also covers the central basin of Lake Erie.]
129. Fish, C. J. 1960. Limnological survey of eastern and central Lake Erie. U.S. Fish. Wildl. Serv., Spec. Sci. Rept. --Fish. No. 334, 198 p. [Includes macroplankton studies by P. R. Burkholder and microplankton studies by C. B. Wilson. Results of extensive survey conducted in 1928-29. See Fish (1929) for a more detailed discussion of the work in the eastern basin of the lake during 1928.]
130. Forbes, E. B. 1897. A contribution to a knowledge of North American freshwater Cyclopidae. Bull. Illinois State Lab. Natur. Hist., 5 (Art. 2): 27-82. [Mainly a taxonomic discussion using specimens collected from the United States and Canada including the Great Lakes.]
131. Forbes, S. A. 1882a. On some Entomostraca of Lake Michigan and adjacent waters. Amer. Natur., 16: 537-542; 640-649. [Species descriptions from tow-net samples from Grand Traverse Bay and off Racine, Wis.]
132. Forbes, S. A. 1882b. On the food of young whitefish (Coregonus). Bull. U.S. Fish. Comm., 1 (1881): 269-270. [Letter to Prof. S. F. Baird discussing zooplankton caught in net tows off Racine, Wis., at the time hatchery-reared young whitefish were released into the lake.]
133. Forbes, S. A. 1883. The first food of the common white-fish (Coregonus clupeiiformis, Mitch.). Illinois Natur. Hist. Surv. Bull., 1 (6): 87-99. [Stomach analyses of hatchery-reared fry; Cyclops and Diaptomus concluded as most important.]
134. Forbes, S. A. 1884. The first food of the common whitefish (Coregonus clupeiiformis, Mitch.). U.S. Fish Comm. Rept. (1881) Part A: 771-782. [Report of same experiment discussed in Forbes (1883).]
135. Forbes, S. A. 1888. Notes on the first food of the whitefish. Trans. Amer. Fish. Soc., 17: 59-66. [Another paper describing laboratory experiments using zooplankton collected from Lake Michigan. See Forbes (1883, 1884).]

136. Forbes, S. A. 1891. On some Lake Superior Entomostraca. U. S. Comm. Fish. Rept., (1887), Pt. 15: 701-718. [Descriptions of Cladocera and Copepoda collected from piers and breakwaters along the south shore during August, 1889.]
137. Fry, F. E. J. 1937. The summer migration of the cisco, Leucichthys artedi (Le Sueur), in Lake Nipissing, Ontario. Univ. Toronto Stud. Biol. Ser., Publ. Ont. Fish. Res. Lab. No. 55: 9-91. [Includes discussion of feeding activity. See Langford (1938) for detailed stomach analyses of fishes in this study.]
138. Gamet, M. B. and J. M. Rademacher. 1960. Study of short filter runs with Lake Michigan water. J. Amer. Water Wks. Assoc., 52: 137-152. [Study at 12 municipal water intakes in southern and central Lake Michigan and Green Bay in 1958. Data presented as total raw-water plankton, total settled-water plankton, and counts of Melosira, Tabellaria, Synedra, Cyclotella, and non-diatom algae.]
139. Gerstein, H. H. 1965. Lake Michigan pollution and Chicago's supply. J. Amer. Water Wks. Assoc., 57: 841-857. [Water intake data, 1950-1964. In addition to chemical data, coliform bacteria and total plankton counts are presented. Certain species of diatoms are singled out as filter-cloggers.]
140. Gordon, W. G. 1957. Biology of the American smelt, Osmerus mordax (Mitchell) of Saginaw Bay, Lake Huron. Unpublished masters thesis, Univ. Michigan, 31 p. [See Gordon (1961).]
141. Gordon, W. G. 1961. Food of the American smelt in Saginaw Bay, Lake Huron. Trans. Amer. Fish. Soc., 90: 439-443. [Crustacea and Rotifera identified to genus.]
142. Gottschall, R. Y. 1930. Preliminary report on the phytoplankton and pollution in Presque Isle Bay, Lake Erie. Proc. Pennsylvania Acad. Sci., 4: 69-79. [Year-round study of bacteria and phytoplankton in Presque Isle Bay and the Erie, Pa. water intake.]
143. Gottschall, R. Y. and O. E. Jennings. 1933. Limnological studies at Erie, Pa. Trans. Amer. microsc. Soc., 52: 181-191. [Lake Erie—includes seasonal distribution of phytoplankton from August, 1929, through May, 1931, from a water intake 1 mile from the north shore of Presque Isle and 25 ft below the surface. Also distribution of phytoplankton in Presque Isle Bay during summer, 1929 and 1930, and a brief statement on bacterial counts.]

144. Graham, J. J. 1957. Some observations on the schooling movements of the alewife in Lake Ontario. *Can. Field Natur.*, 71: 115-116. [Field and laboratory observations on schooling and feeding.]
145. Graikoski, J. T. 1965. Microbiological studies on Lake Ontario. *Proc. 8th Conf. Great Lakes Res.*, Univ. Michigan, Great Lakes Res. Div., Publ. No. 13: 211 [abstract only.]
146. Griffith, R. E. 1955. Analysis of phytoplankton yields in relation to certain physical and chemical factors of Lake Michigan. *Ecology*, 36: 543-552. [Surface collections off the breakwater, Evanston, Illinois, April 1953 to April 1954. Data presented mainly as total phytoplankton. Identifications to genus only.]
147. Gullans, O. 1953. Common plankton organisms in Lake Michigan water—their effect on filtration. *Pure Water*, 5: 64-66. [A general article on plankton and water filtration at Chicago, Ill.]
148. Hankinson, T. L. 1914. Young whitefish in Lake Superior. *Science, N.S.*, 40: 239-240. [Food of eight young whitefish (4.9–9 cm TL) was examined by C. Juday. Bosmina longirostris, Diaptomus ashlandi, and Cyclops viridus were the chief species present. See Hankinson (1916) for the full report.]
149. Hankinson, T. L. 1916. Results of the Shiras Expeditions to Whitefish Point, Michigan: fishes. *Michigan Geol. & Biol. Surv.*, Biol. Ser. Publ. No. 20, pp. 109-170. [Some zooplankton data from fish stomachs, Lake Superior.]
150. Hart, J. L. 1930. The spawning and early life history of the whitefish, Coregonus clupeaformis (Mitchell), in the Bay of Quinte, Ontario. *Stud. Biol. Sta. Canada, N.S.*, 6: 165-214. [Includes stomach analyses of young whitefish from Lake Ontario, Lake Superior, and Lake Nipigon. Cladocera identified mainly to species and Copepoda to genus.]
151. Hedrick, L. R. 1961. Characteristics of Lake Michigan water in regard to toxicity toward Shigella sonnei and other bacteria. *Proc. 4th Conf. Great Lakes Res.*, Univ. Michigan, Great Lakes Res. Div., Publ. No. 7: 1-9. [Used water from Chicago water intake.]

152. Hedrick, L. R., R. Meyer, and M. Kossoy. 1962. Survival of Salmonella, Shigella and coliforms in Lake Michigan water. Proc. 5th Conf. Great Lakes Res., Univ. Michigan, Great Lakes Res. Div., Publ. No. 9: 159-171. [Laboratory studies using untreated water from Chicago water intake.]
153. Hedrick, L. R., M. Soyugenc, P. DuPont, and R. Ambrosini. 1964. Yeasts in Lake Michigan and Lake Erie. Proc. 7th Conf. Great Lakes Res., Univ. Michigan, Great Lakes Res. Div., Publ. No. 11: 77-83. [Water and bottom samples.]
154. Hedrick, L. R. and M. Soyugenc. 1967. Yeasts and molds in water and sediments of Lake Ontario. Proc. 10th Conf. Great Lakes Res., Univ. Michigan, Great Lakes Res. Div., Publ. No. 15: 20-30. [Water and bottom samples from 27 stations.]
155. Hedrick, L. R., W. Cook and L. Woollett. 1968. Yeasts and molds in Lake Superior water and some of its tributaries. Proc. 11th Conf. Great Lakes Res., Int. Assoc. Great Lakes Res.: 538-543. [Populations of yeasts and molds isolated from different stations were related, in general, to the amount of organic nitrogen reported for each habitat.]
156. Herms, W. B. 1907. Notes on a Sandusky Bay shrimp Palaemonetes exilipes Stimpson. Ohio Natur., 7(4): 73-79. [Found during summer 1904-1906 in littoral areas.]
157. Hickey, J. J., J. A. Keith, and F. B. Coon. 1966. An exploration of pesticides in a Lake Michigan ecosystem. J. Appl. Ecol., 3 (Suppl.): 141-154. [Study includes use of Mysis relicta and Pontoporeia affinis.]
158. Hintz, W. J. 1954. Variations in populations and cell dimensions of phytoplankton in the island region of western Lake Erie. Masters thesis, Ohio State Univ., 27 p. See Hintz (1955).]
159. Hintz, W. J. 1955. Variations in populations and cell dimensions of phytoplankton in the island region of western Lake Erie. Ohio J. Sci., 55: 271-278. [Surface samples only; fall, winter, spring 1952-1954. Diatoms emphasized in treatment of data.]
160. Hockley, A. E. 1954. Respiration measurements of microscopic plankton in western Lake Erie water. Unpublished masters thesis, Ohio State Univ., 15 p. [Dark bottle pH measurements used as criterion of respiratory activity.]

161. Hohn, M. H. 1951. A study of the distribution of diatoms (Bacillariaceae) in western New York state. Cornell Univ. Agric. Exper. Sta., Mem. No. 308, 39 p. [Diatom species list including samples from rivers and bays in southeastern Lake Erie and southern Lake Ontario.]
162. Hohn, M. H. 1966. Analysis of plankton ingested by Stizostedion vitreum vitreum (Mitchell) fry and concurrent vertical plankton tows from southwestern Lake Erie, May 1961 and May 1962. Ohio J. Sci., 66: 193-197. [Phytoplankton and zooplankton identified to species.]
163. Hohn, M. H. In press. Diatoms of western Lake Erie. Ohio Biol. Surv. Bull.
164. Holland, R. E. 1965. The distribution and abundance of planktonic diatoms in Lake Superior. Proc. 8th Conf. Great Lakes Res., Univ. Michigan, Great Lakes Res. Div., Publ. No. 13: 96-105. [Offshore samples taken by pump or bucket, June through November 1964.]
165. Holland, R. E. 1968. Correlation of Melosira species with trophic conditions in Lake Michigan. Limnol. Oceanogr., 13: 555-557. [Southern Green Bay and four locations in the main portion of the lake.]
166. Holland, R. E. 1969. Seasonal fluctuations of Lake Michigan diatoms. Limnol. Oceanogr., 14: 423-436. [Collections from April to early November, 1965, from southern Green Bay and four areas of Lake Michigan. Identifications to species.]
167. Holleyman, J. B. 1968. A study of relationship of coliform count in Calumet-Indiana harbor area to wind direction and precipitation. Proc. 11th Conf. Great Lakes Res., Int. Assoc. Great Lakes Res.: 544-549. [Collections from eight sampling sites during June and July, 1966 and 1967.]
168. Hoy, P. R. 1872. Deep-water fauna of Lake Michigan. Trans. Wis. Acad. Sci., Arts, Lett. (1870-1872), 1: 98-101. Also: 1873. Ann. Mag. Natur. Hist., 4th Ser., 11: 319-320. [Early examination of stomach contents of whitefish and report of a dredging expedition also published by Stimpson (1871). Early record of Mysis in Lake Michigan.]

169. Hubschman, J. H. 1960. Relative daily abundance of planktonic Crustacea in the island region of western Lake Erie. Ohio J. Sci., 60: 335-340. [Single station between Gibraltar and Middle Bass Islands, data presented as Calanoida, Cyclopoda, Leptodora, and other Cladocera.]
170. Huntsman, A. G. 1915. The fresh-water Malacostraca of Ontario. Contrib. Can. Biol. (Studies from Biol. Stations of Canada), 1911-1914, II: 145-163. [Includes reports of Mysis from Lake Ontario and Georgian Bay, Lake Huron.]
171. Imhof, O. E. 1894. Die Rotatorien der grossen Seen in Michigan, Nord Amerika. Biol. Zentralbl., 14: 494-495. [A brief summary of Jennings (1894) with a comparison of rotifers in Michigan (especially Lake St. Clair) with the European fauna.]
172. International Joint Commission. 1951. Report of the International Joint Commission, United States and Canada, on the pollution of boundary waters. Washington and Ottawa, Int. Joint Comm., 312 p. [Includes coliform bacteria tests on boundary waters between United States and Canada in Lakes Superior, Huron, St. Clair, Erie, and Ontario.]
173. Jackson, D. F., N. L. Nemerow, and M. C. Rand. 1964. Ecological investigations of the Oswego River drainage basin, I. The outlet. Proc. 7th Conf. Great Lakes Res., Univ. Michigan, Great Lakes Res. Div., Publ. No. 11: 88-99. [Includes coliform bacteria, total phytoplankton and total zooplankton (consisting almost entirely of rotifers) from 10 January through 6 March 1964. A tributary of Lake Ontario.]
174. Jahoda, W. J. 1950. Seasonal differences in distribution of Diaptomus (Copepoda) in western Lake Erie. Unpublished doctoral dissertation, Ohio State Univ. (Abstr., Doct. Diss., Ohio State Univ., 58: 211-216. [Horizontal and vertical distribution reproductive cycle, sex ratios and a key for the adult diaptomids of western Lake Erie.]
175. Jennings, H. S. 1894a. A list of the Rotatoria of the Great Lakes and of some of the inland lakes of Michigan. Bull. Mich. Fish. Comm., No. 3, 34 p. [Littoral and pelagic collections from Lake St. Clair supplemented with littoral collections from several inland lakes during summer, 1893. A list of 122 species with notes on local distribution.]

176. Jennings, H. S. 1894b. Rotifers related to Euchlanis lynceus Ehrbg. Zool. Anzeiger, 17: 55-56. [A taxonomic note on a species of rotifer found in Lake St. Clair and other inland lakes of Michigan during summer, 1892.]
177. Jennings, H.S. 1896. Report on the Rotatoria—with description of a new species, p. 85-93. In: Ward, H. B., A biological examination of Lake Michigan in the Traverse Bay region. Bull. Mich. Fish. Comm., No. 6, 99 p. [Species list and notes on ecology. See Ward (1896) for the complete study.]
178. Jennings, H.S. 1898. Trochosphaera again. Science, N.S., 8: 551. [Found at Put-in-Bay, Ohio, western Lake Erie.]
179. Jennings, H. S. 1901a. A report of work on the Protozoa of Lake Erie, with especial reference to the laws of their movements. Bull. U.S. Bur. Fish. (1899), 19: 105-114. [Includes a list of 68 species found near South Bass Island, during summer, 1898, and laboratory study of locomotion and chemotaxis in Paramecium.]
180. Jennings, H. S. 1901b. Rotatoria of the United States, with especial reference to those of the Great Lakes. Bull. U.S. Bur. Fish. (1899), 19: 67-104. [Taxonomic study with many specimens collected in the island region of Lake Erie in 1898.]
181. Jennings, H. S. 1904. Rotatoria of the United States, II. A monograph of the Rattulidae. Bull. U.S. Fish. Comm.(1902), Pt. 2, 22: 273-352. [Taxonomic work with brief discussions on general physiology and ecology. Most species inhabit littoral zones. Collections from Lake Erie.]
182. Jennings, O. E. 1930. A survey of the phytoplankton of Erie, Pennsylvania. Science, N.S., 71: 560-561. [Lake Erie—news report of study later published by Gottschall (1930).]
183. Johnson, R. L. 1960. Limnology and the sanitary engineer. Proc. 3rd Conf. Great Lakes Res., Univ. Michigan, Great Lakes Res. Div., Publ. No. 4: 43-49. [Includes coliform bacteria data for Menominee and Escanaba water intakes (Lake Michigan).]
184. Johnson, R. L. 1962. Factors affecting winter quality of lake water. Proc. 5th Conf. Great Lakes Res., Univ. Michigan, Great Lakes Res. Div., Publ. No. 9: 150-158. [Includes coliform bacteria data from water intakes from Lake Michigan at Escanaba, Gladstone, Menominee, and Muskegon (all Michigan).]

185. Kellicott, D. S. 1878. Notes on the microscopic life in the Buffalo water supply. *Amer. J. Microsc. Pop. Sci.*, 3: 250-252. [Seasonal distribution of Lake Erie zooplankton and phytoplankton (emphasis on diatoms) from a water intake in the Niagara River.]
186. Kellicott, D. S. 1884. Observations on infusoria, with descriptions of new species. *Trans. Amer. microsc. Soc.*, 7: 110-124. [Vorticellids from Lake Erie at Buffalo, N. Y., and other localities.]
187. Kellicott, D. S. 1885. Observations on some fresh water infusoria. *Proc. Amer. Soc. microsc.*, 8: 38-47. [Includes specimens (suctorians and peritrichs) from Buffalo, N. Y., water supply (Lake Erie).]
188. Kellicott, D. S. 1896. The Rotifera of Sandusky Bay. *Trans. Amer. microsc. Soc.*, 18: 155-164. [List of 67 species from littoral collections and Sandusky water supply samples, Lake Erie.]
189. Kellicott, D. S. 1897. The Rotifera of Sandusky Bay (Second Paper). *Trans. Amer. microsc. Soc.*, 19: 43-54. [List of 39 additional species collected by surface net tows in Sandusky Bay including notes on their natural history (Lake Erie).]
190. Keup, L. E., W. M. Ingram, J. Geckler, W. B. Horning, II. 1965. Biology of Chicago's waterways. U. S. Publ. Health Serv., Publ. No. 999-WP-32, 20 p. [Limited data on phytoplankton.]
191. Kinney, E. C. 1950. The life history of the trout perch, Percopsis omiscomaycus (Walbaum) in western Lake Erie. Unpublished masters thesis, Ohio State University. (Abstr., *Ohio State Univ.*, 63: 109-110.) [Includes stomach analyses. Microcrustacea important food source.]
192. Kinney, E. C. 1954. The life history of the silver chub, Hybopsis storeriana (Kirtland), in western Lake Erie with notes on associated species. Unpublished doctoral dissertation, Ohio State Univ., 99 p.
193. Klugh, A. B. 1913. Notes on the algae of Georgian Bay. *Rhodora*, 15 (173): 88-92. [Species list of Cyanophyceae and Chlorophyceae collected in Georgian Bay, Lake Huron, during August and September, 1912.]

194. Kofoid, C. A. 1896. A report upon the Protozoa observed in Lake Michigan and the inland lakes in the neighborhood of Charlevoix, during the summer of 1894, p. 76-84. In: Ward, H. B., A biological examination of Lake Michigan in the Traverse Bay region. Bull. Michigan Fish. Comm., No. 6, 99 p. [Species list and notes on ecology. See Ward (1896) for details on the complete study.]
195. Lackey, J. B. 1944. Quality and quantity of plankton in the south end of Lake Michigan in 1942. J. Amer. Water Wks. Assoc., 36: 669-674. [Plankton algae and Protozoa from Dunne water intake and Calumet River.]
196. Landacre, F. L. 1908. The Protozoa of Sandusky Bay and vicinity. Proc. Ohio State Acad. Sci., 4 (10): 421-472. [A species list of Protozoa and flagellated phytoplankton collected during summer, 1902-1904. Includes a bibliography of North American freshwater protozoan investigations complete to 1904.]
197. Langford, R. R. 1938a. Diurnal and seasonal changes in the distribution of the limnetic Crustacea of Lake Nipissing, Ontario. Univ. Toronto Stud. Biol., No. 45, Publ. Ont. Fish. Res. Lab., 56: 3-142. [Comprehensive study at two stations (one deep, the other shallow) during July-October, 1932, and May-September, 1934 and 1935. Zooplankton identified to species.]
198. Langford, R. R. 1938b. The food of the Lake Nipissing cisco, Leucichthys artedi (Le Sueur) with special reference to the utilization of the limnetic Crustacea. Univ. Toronto Stud. Biol., Publ. Ont. Fish. Res. Lab, 57: 145-190. [Comprehensive study including diurnal and seasonal differences in feeding during 1935. Zooplankton identified to species.]
199. Langford, R. R. 1945. The study of seasonal and annual plankton production in the eastern end of Lake Ontario, 1945. Fish. Res. Bd. Canada, Proc. 9th Mtg. Exec. Natur. Comm. Fish. Culture, App. D: 1-12. (Mimeographed report.) [Phytoplankton studies in the Bay of Quinte region during summer, 1945. Phytoplankton total counts and pigment extraction.]
200. Langford, R. R. 1952. Plankton and Great Lakes fisheries research. Res. Council Ontario, Adv. Comm. Fish & Wildl., Report No. 3-6-52, App. C-9: 1-2. (Mimeographed report.) [Short discussion of the role of plankton research in fisheries investigations.]

201. Langlois, T. H. 1954. The western end of Lake Erie and its ecology. J. W. Edwards, Ann Arbor, 479 p. [A review of ecological research on western Lake Erie including studies of phytoplankton, zooplankton, and plankton as food for fish.]
202. MacClement, W. T. 1915. Preliminary report on the plants of Georgian Bay: A contribution to the biology of the Georgian Bay waters. Contrib. Canad. Biol., 1911-1914, II: 201-211. [Includes a list of algae.]
203. MacKay, H. H. 1930. Pollution problems in Ontario. Trans. Amer. Fish. Soc., 60: 297-305. [Includes short statements on qualitative plankton from many Canadian Great Lakes ports in relation to pollution.]
204. Manion, P. J. 1967. Diatoms as food of larval sea lampreys in a small tributary of northern Lake Michigan. Trans. Amer. Fish. Soc., 96: 224-226. [Diatoms identified to genus.]
205. Manny, J. A. 1928. The study of the food of the minnow, Notropis atherinoides. Unpublished masters thesis, Ohio State University.
206. Marsh, C. D. 1893. On the Cyclopidae and Calanidae of central Wisconsin. Trans. Wis. Acad. Sci., Arts, Lett. (1892-1893), 9, Pt. 1: 189-224. [Keys and species descriptions including Great Lakes species.]
207. Marsh, C. D. 1895. On the Cyclopidae and Calanidae of Lake St. Clair, Lake Michigan, and certain of the inland lakes of Michigan. Bull. Mich. Fish. Comm., 5: 24. [Includes a list of zooplankton collected in northern Lake Michigan in spring, 1893; Lake St. Clair, Detroit River, and western Lake Erie in summer, 1893; Grand Traverse Bay, Lake Michigan, summer of 1894; and a key to the known species.]
208. Marsh, C. D. 1901. The plankton of freshwater lakes. Trans. Wis. Acad. Sci., Arts, Lett. (1900), 13, Pt. 1: 163-187. [A general article on planktology with emphasis on planktonic Crustacea. Reviews work in Lake Superior (Smith, 1874) and Lake Michigan (Hoy, 1872).]
209. Marsh, C. D. 1909. A revision of the North American species of Cyclops. Trans. Wis. Acad. Sci., Arts, Lett., 16, Pt. 2 (3): 1067-1134. [Includes mention of C. bicuspidatus abundant in the Great Lakes.]

210. Marsh, C. D. 1912. Notes on fresh-water Copepoda in the United States National Museum. Proc. U.S. Nat. Mus., 42: 245-255. [Includes species identifications of copepods collected in Sodus Bay, Lake Ontario in 1911.]
211. Marsh, C. D. 1929. Distribution and key of the North American copepods of the genus Diaptomus, with a description of a new species. Proc. U.S. Nat. Mus., 75: 1-27. [Includes Great Lakes species.]
212. Marshall, R. 1929. Canadian Hydracarina. Univ. Toronto Stud. Biol. Ser., No. 33, Publ. Ont. Fish. Res. Lab., No. 39: 57-93. [Includes collections from Lake Nipigon and Lake Ontario.]
213. Marzolf, G. R. 1965. Vertical migration of Pontoporeia affinis (Amphipoda) in Lake Michigan. Proc. 8th Conf. Great Lakes Res., Univ. Michigan, Great Lakes Res. Div., Publ. No. 13: 133-140. [Grand Traverse Bay, northern Lake Michigan.]
214. Matheson, D. H. 1962. A pollution study of western Lake Ontario. Proc. 5th Conf. Great Lakes Res., Univ. Michigan, Great Lakes Res. Div., Publ. No. 9: 15-20. [Includes a short discussion of coliform bacteria data in the vicinity of Hamilton and Burlington, western Lake Ontario.]
215. Matheson, D. H., and D. V. Anderson. 1966. The temporal distribution of chlorophyll in Lake Ontario at Hamilton, Ontario. Proc. 9th Conf. Great Lakes Res., Univ. Michigan, Great Lakes Res. Div., Publ. No. 15: 90-97. [Three years of water intake data.]
216. McCombie, A. M. 1967. A recent study of phytoplankton of the Bay of Quinte 1963-1964. Proc. 10th Conf. Great Lakes Res., Int. Assoc. Great Lakes Res.: 37-62. [Lake Ontario; compare with Tucker (1948).]
217. McLaughlin, A. J. 1911. Sewage pollution of interstate and international waters. U.S. Publ. Health Serv., Publ. Health Bull. No. 77, 169 p. [Includes coliform bacteria tests for United States and Canada boundary waters in the Great Lakes area.]
218. McNaught, D. C. 1966. Depth control by planktonic cladocerans in Lake Michigan. Proc. 9th Conf. Great Lakes Res., Univ. Michigan, Great Lakes Res. Div., Publ. No. 15: 98-108. [Vertical distribution and rate of movement in relation to light quality at depth.]

219. McNaught, D. C. and A. D. Hasler. 1966. Photoenvironments of planktonic Crustacea in Lake Michigan. Verh. int. Ver. Limnol., 16: 194-203. [Vertical distribution and rate of movement in relation to light quality at depth for Daphnia retrocurva, Limnocalanus macrurus, Mysis relicta, and Pontoporeia affinis.]
220. McQuate, A. G. 1956. Photosynthesis and respiration of the phytoplankton in Sandusky Bay. Ecology, 37: 834-839. [Lake Erie, measurements by pH and oxygen methods from 2 February to 18 June 1954.]
221. Metcalf, I. S. H. 1942. The attraction of fishes by disposal plant effluent in a fresh water lake. Ohio J. Sci., 42: 191-197. [Attracts white bass and minnows. Studied phytoplankton and zooplankton of effluent outlet and open Lake Erie.]
222. Michalski, M. F. P. 1968. Phytoplankton levels in Canadian near-shore waters of the lower Great Lakes. Proc. 11th Conf. Great Lakes Res., Int. Assoc. Great Lakes Res.: 85-95. [Weekly phytoplankton samples from 14 water intakes on lower Lake Huron, Detroit River, Lake Erie, Lake Ontario and the lower St. Lawrence River from March, 1966, through November, 1967. Standing crops and dominant species discussed.]
223. Mills, H. 1882. Microscopic organisms in the Buffalo water-supply and in the Niagara River. Trans. Amer. Soc. Microsc., 5: 165-175. [Samples from water intake 1-1/3 mi. from Lake Erie on the Niagara River. Discussions of prominent Protozoa and phytoplankton species present.]
224. Mohlman, F. W. and C. C. Ruchhoff. 1927. The quality of Lake Michigan water, raw and treated, from Waukegan to Gary during 1926, p. 31-47. In: Lake Michigan Sanitary Congress., Proc. 4th Ann. Mtg, 47 pp. [Gelatin, agar and bacteria coli-form counts at 15 water intakes.]
225. Morsell, J. W. 1968. Food habits of the alewife, Alosa pseudoharengus (Wilson), in Lake Michigan. Unpublished masters thesis, University of Wisconsin-Milwaukee, 51 p. [See Morsell and Norden (1968).]
226. Morsell, J. W. and C. R. Norden. 1968. Food habits of the alewife, Alosa pseudoharengus (Wilson), in Lake Michigan. Proc. 11th Conf. Great Lakes Res., Int. Assoc. Great Lakes Res.: 96-102. [Alewives collected from Lake Michigan, Green Bay, and Milwaukee harbor from various depths and times of the year. Pontoporeia affinis and zooplankton Crustacea (especially copepods) predominated in stomachs. Variations in diet noted seasonally and with depth.]

227. Nalewajko, C. 1966a. Photosynthesis and excretion in various planktonic algae. *Limnol. Oceanogr.*, 11: 1-9. [Laboratory studies using 24 species of planktonic algae. Seventeen of those were isolated from Lake Ontario.]
228. Nalewajko, C. 1966b. Dry weight, ash, and volume data for some freshwater planktonic algae. *J. Fish. Res. Bd. Canada*, 23: 1285-1287. [21 species isolated from Lake Ontario.]
229. Nalewajko, C. 1966c. Composition of phytoplankton in surface waters of Lake Ontario. *J. Fish. Res. Bd. Canada*, 23: 1715-1725. [Species identification and seasonal fluctuations, January, 1964, to July, 1965.]
230. Nalewajko, C. 1967. Phytoplankton distribution in Lake Ontario. *Proc. 10th Conf. Great Lakes Res., Int. Assoc. Great Lakes Res.*: 63-69. [Inshore-offshore distribution of three species of diatoms in relation to the thermal bar during April, 1965.]
231. Nalewajko, C. and L. Marin. 1969. Extracellular production in relation to growth of four planktonic algae and of phytoplankton populations from Lake Ontario. *Can. J. Bot.*, 47: 405-414. [Laboratory experiments using Chlorella pyrenoidosa and 3 species of diatoms common in Lake Ontario. Phytoplankton collected during spring, 1966, from the surface off Gibraltar Point.]
232. New York Conservation Department. 1929. A biological survey of the Erie-Niagara system. *Suppl. 18th Ann. Rept. (1928)*, 244 p. [Includes studies on bacteriology, phytoplankton and zooplankton from a biological survey of the eastern basin of Lake Erie. See also Fish (1929; 1960).]
233. New York Conservation Department. 1940. A biological survey of the Lake Ontario watershed. *Biol. Surv. (1939)*, 16, *Suppl. 29th Ann. Rept. (1939)*, 210 p. [Includes a study of phytoplankton and zooplankton mainly in four bays of Lake Ontario. See also Tressler, Austin, and Orban (1953).]
234. Nicholson, H. A. 1872. Preliminary report on dredgings in Lake Ontario. *Ann. Mag. Natur. Hist.*, 4th Ser., 10: 276-285. [Includes first report on Pontoporeia affinis in Lake Ontario.]
235. Noble, R. E. 1957. Comparative coliform indices between standard lactose broth and lauryl tryptose broth in parallel tests of untreated Lake Michigan water. *Pure Water*, 9: 1-3. [Laboratory studies using Lake Michigan water at Chicago, Ill.]

236. Noble, R. E. 1960. Reliability of MPN indexes of coliform organisms. *J. Amer. Water Wks. Assoc.*, 52: 803-814. [Used raw water from Chicago, Ill. water intake (Lake Michigan) for tests.]
237. Noble, R. E. and M. L. Sutherland. 1952. The reliability of coliform most probable number indices. *Pure Water*, 4: 155-169. [Variation in coliform populations at the south end of Lake Michigan.]
238. Noble, R. E. and M. Reitman. 1957. The influence of basic fuchsin and sodium sulfite on the productivity of the membrane filter EHC endomedium. *Pure Water*, 9: 85-92. [Experiments using E. coli isolated from untreated Lake Michigan water.]
239. Norden, C. R. 1968. Morphology and food habits of the larval alewife, Alosa pseudoharengus (Wilson), in Lake Michigan. *Proc. 11th Conf. Great Lakes Res., Int. Assoc. Great Lakes Res.*: 103-110. [Larvae (5.3-67.1 mm TL) collected from August through October, 1966 and 1967, near Milwaukee, Wis. Zooplankton Crustacea identified to genus.]
240. Ogawa, R. E. 1969. Lake Ontario phytoplankton, September, 1964, p. 27-38. In: *Limnological survey of Lake Ontario, 1964. Great Lakes Fish. Comm., Tech. Rept. No. 14*, 59 p. [Total phytoplankton counts and identifications to the species level.]
241. Ogawa, R. E. and J. F. Carr. 1969. The influence of nitrogen on heterocyst production in blue-green algae. *Limnol. Oceanogr.*, 14: 342-351. [Laboratory studies using algae in culture. Some species used were isolated from Lake Erie. Includes seasonal field data from a single station in the central basin of Lake Erie.]
242. Ohio Department of Natural Resources, Division of Water. 1953. Lake Erie pollution survey. *Ohio Dept. Natur. Res., Div. Water, Final Rept.*, 201 p. [Includes papers on bacteria, phytoplankton and zooplankton.]
243. Olson, T. A. and T. O. Odlaug. 1966. Limnological observations on western Lake Superior. *Proc. 9th Conf. Great Lakes Res., Univ. Michigan, Great Lakes Res. Div., Publ. No. 15*: 109-118. [Includes total plankton, planktonic Crustacea, chlorophyll and carbon fixation data.]

244. Osburn, R. C. 1926a. A preliminary study of the extent and distribution of sewage pollution in the west end of Lake Erie. Ohio Div. Fish. & Game, mimeographed report, 7 p. [Brief discussion of survey conducted during August, 1926, including phytoplankton, zooplankton, and bacteria.]
245. Osburn, R. C. 1926b. Details regarding preliminary pollution survey of Lake Erie. Ohio Div. Fish & Game, mimeographed report, 18 p. [Station by station presentation of data. Plankton identified only to major groups. Coliform bacteria counts at surface and bottom.]
246. Palmer, C. M. 1962. Algae in Ohio water supplies. Ohio J. Sci., 62: 225-239. [A review, including Lake Erie.]
247. Patrick, R. and C. W. Reimer. 1966. The diatoms of the United States exclusive of Alaska and Hawaii. Vol. I. Fragilariaceae, Eunotiaceae, Achnanthaceae, and Naviculaceae. Acad. Natur. Sci., Philadelphia, Monogr. No. 13, 688 p. [Taxonomic treatise, not Great Lakes specifically.]
248. Pearse, A. S. 1910. A preliminary list of the Crustacea of Michigan. Mich. Acad. Sci., Arts. Lett., Rept. No. 12: 68-76. [Zooplankton and larger benthic forms including citations from Lake Michigan, Lake Superior and Lake St. Clair.]
249. Pearse, A. S. 1921. The distribution and food of the fishes of three Wisconsin lakes in summer. Univ. Wisconsin Stud. Sci., No. 3, 61 p. [Includes stomach analysis of 30 species of fish from Lake Michigan; Crustacea identified only to major groups.]
250. Pennak, R. W. 1953. Fresh-water invertebrates of the United States. Ronald Press, New York, 769 p. [Useful for general biology and ecology of zooplankton. See Edmondson (1959) for taxonomy.]
251. Pennak, R. W. 1963. Species identification of the fresh-water cyclopoid Copepoda of the United States. Trans. Amer. microsc. Soc., 82: 353-359. [Most recent key to the U.S. cyclopoid copepods, not Great Lakes specifically.]
252. Pieters, A. J. 1894. The plants of Lake St. Clair. Bull. Mich. Fish. Comm., No. 2, 9 p. [Includes a list of phytoplankton taken from qualitative net tows during summer, 1893.]

253. Pieters, A. J. 1901. The plants of western Lake Erie, with observations on their distribution. Bull. U.S. Fish. Comm., No. 21: 57-79. [Studies during the summer of 1898 in the island region of Lake Erie. Includes phanerogams, Characeae and Desmideae. See Snow (1903) for Chlorophyceae studied during this project.]
254. Pfister, R. M., P. R. Dugan, and J. I. Frea. 1968. Particulate fractions in water and the relationship to aquatic microflora. Proc. 11th Conf. Great Lakes Res., Int. Assoc. Great Lakes Res.: 111-116. [Interactions of suspended materials (minerals and detritus) on certain bacteria using differential and gradient centrifugation in conjunction with electron microscopy. Water used in the study was collected from the Sandusky River (tributary to Lake Erie).]
255. Poppen, A. R. 1951. A bio-assay for toxicity of Ohio's Grand River near its mouth. Unpublished masters thesis, Ohio State University. [River empties into Lake Erie at Fairport, Ohio; Daphnia magna was the test organism.]
256. Poppen, R. 1953. The presence of toxic materials at the mouths of Ohio streams discharging into Lake Erie, as indicated by the test organism, Daphnia magna, p. 137-152. In: Ohio Dept. Natur. Res., Div. Water, Lake Erie pollution survey, final report, 201 p. [Bioassays using water collected from the mouths of 10 rivers from April to September, 1951.]
257. Poston, H. W. and M. B. Gamet. 1964. Effect of algae on filter runs with Great Lakes water. J. Amer. Water Wks. Assoc., 56: 1203-1216. [Clogging and taste and odor problems discussed for various cities on Lakes Erie and Michigan. A few phytoplankters identified to species, most to genus.]
258. Powers, C. F., A. Robertson, and R. F. Anderson. 1967. Direct observation of Mysis relicta in Lake Michigan, p. 138-141. In: Ayers, J. C. and D. C. Chandler. Studies on eutrophication of Lake Michigan. Univ. Michigan, Great Lakes Res. Div., Spec. Rept. No. 30, 415 p. [See Robertson, Powers, and Anderson (1968).]

259. Powers, C. F., A. Robertson, S. A. Czaika, and W. P. Alley. 1967. Lake Michigan biological data, 1964-66, p. 179-187. In: Ayers, J.C. and D. C. Chandler. Studies on the eutrophication of Lake Michigan. Univ. Michigan, Great Lakes Res. Div., Spec. Rept. No. 30, 415 p. [Data collected on organic matter in suspended particulate matter (phytoplankton plus detritus), zooplankton, macrobenthos, and in the dissolved state from 35 stations throughout Lake Michigan twice monthly, April through November, 1964 and 1965, and March through June, 1966. Data placed on computer data cards and a print-out is presented here. No treatment of the data is included.]
260. Powers, C. F. and A. Robertson. 1968. Biological exploration in Lake Michigan from a research submarine. Proc. 11th Conf. Great Lakes Res., Int. Assoc. Great Lakes Res.: 117-123. [Most observations carried out near the bottom. Includes observations of copepods, amphipods, and mysids during June, 1967.]
261. Prescott, G. W. 1962. Algae of the western Great Lakes area. 2nd Rev. Ed. Wm. C. Brown, Dubuque, 977 p. [Regional taxonomic treatise.]
262. Price, J.W. 1963. A study of the food habits of some Lake Erie fish. Ohio Biol. Surv., Bull. N.S., 2 (1): 1-89. [14,118 fish stomachs from 10 species of fish primarily from the western basin. Plankton identified to genus.]
263. Pritchard, A. L. 1929. The alewife (Pomolobus pseudoharengus) in Lake Ontario. Univ. Toronto Stud. Biol., No. 33, Publ. Ont. Fish. Res. Lab., No. 39: 39-54. [Includes stomach analyses of 58 fish obtained off Port Credit during summer, 1927, and 58 fish from Bay of Quinte in 1928. Some zooplankton identified to genus, others to species.]
264. Pritchard, A. L. 1930. Spawning habits and fry of the cisco (Leucichthys artedi) in Lake Ontario. Contrib. Canad. Biol. Fish., 6: 227-240. [Includes stomach analyses of fry. Cladocera identified to species and Copepoda and algae identified to genus. Bay of Quinte, Lake Ontario.]
265. Pritchard, A. L. 1931. Taxonomic and life history studies of the ciscoes of Lake Ontario. Univ. Toronto Stud. Biol., No. 35, Publ. Ont. Fish. Res. Lab., No. 41: 78 p. [Includes stomach analyses of fish obtained in Lake Ontario and Lake Nipigon during 1926, 1927, and 1928.]

266. Prouse, M. E. 1956. The distribution and abundance of the Cladocera and Copepoda of inshore Lake Erie and Rondeau Bay. Unpublished masters thesis, Univ. Western Ontario, 63 p. [A comparison of species composition in Rondeau Bay and inshore Lake Erie south of Erieau, Ontario, during summer 1953 and 1954.]
267. Putnam, H. D. and T. A. Olson. 1961. Studies on the productivity and plankton of Lake Superior. Sch. Publ. Health, Univ. Minnesota, 24 pp. [The most comprehensive plankton study on Lake Superior to date. Includes standing crop of phytoplankton and zooplankton, periphyton on fish nets, primary productivity, and chlorophyll measurements. All work conducted in the western end of the lake.]
268. Putnam, H. D. and T. A. Olson. 1966. Primary productivity at a fixed station in western Lake Superior. Proc. 9th Conf. Great Lakes Res., Univ. Michigan, Great Lakes Res. Div., Publ. No. 15: 119-128. [Carbon fixation, chlorophyll a and c, and standing stock of phytoplankton at a single station near Two Harbors, Minn., late July to mid-September, 1961.]
269. Rawson, D. S. 1956. The net plankton of Great Slave Lake. J. Fish. Res. Bd. Canada, 13: 53-127. [Makes comparisons with Great Lakes phytoplankton and zooplankton data.]
270. Reighard, J. E. 1893. Some plankton estimates in the Great Lakes. Trans. Amer. Fish. Soc. 22: 112-122. [Net plankton volumes, Lake Michigan and Detroit River.]
271. Reighard, J. E. 1894a. Some plankton studies in the Great Lakes. Bull. U. S. Fish. Comm. (1893), 13: 127-142. [Report of work on Lake St. Clair concentrating on methods. See Reighard (1894b) for the full report.]
272. Reighard, J. E. 1894b. A biological examination of Lake St. Clair. Bull. Mich. Fish. Comm., No. 4, 60 p. [Also in an Appendix to 11th Bienn. Rept., Mich. State Bd. Fish. Comm. (1892-1894) published in 1895. Includes many plankton net hauls in Lake St. Clair and the island region of western Lake Erie.]
273. Reighard, J. E. 1897. Some characteristics of recent work on the biology of fresh waters. Trans. Amer. Fish. Soc., 26: 41-46. [Paper is of historical interest. Discusses establishment of plankton investigations on Lake St. Clair in 1892 and Lake Michigan in 1894.]

274. Reighard, J. 1899. The biology of the Great Lakes. Science, N. S., 9: 906-907. [News article of establishment of a biological station at Put-in-Bay, western Lake Erie.]
275. Reinwand, J. F. 1969. Planktonic diatoms of Lake Ontario, p. 19-26. In: Limnological survey of Lake Ontario, 1964. Great Lakes Fish. Comm., Tech. Rept. No. 14, 59 p. [Lakewide sampling at various depths in September, 1964. Identifications to species.]
276. Ricker, K. E. 1959. The origin of two glacial relict crustaceans in North America as related to Pleistocene glaciation. Can. J. Zool., 37: 817-893. [Discussion includes the Great Lakes; Mysis relicta and Pontoporeia affinis.]
277. Riddle, L. C. 1902. Algae from Sandusky Bay. Ohio Natur., 3: 317-319. [A list of approximately 70 species found in this Lake Erie bay.]
278. Rigler, F. H. and R. R. Langford. 1967. Congeneric occurrences of species of Diaptomus in southern Ontario lakes. Can. J. Zool., 45: 81-90. [Includes discussion of data from Lakes Erie and Michigan.]
279. Robertson, A. 1966. The distribution of calanoid copepods in the Great Lakes. Proc. 9th Conf. Great Lakes Res., Univ. Michigan, Great Lakes Res. Div., Publ. No. 15: 129-139. [Geographical and seasonal distribution of calanoid copepods. Mainly a review article including references to first records of occurrence for each species.]
280. Robertson, A. 1968. Abundance, distribution and biology of plankton in Lake Michigan with the addition of a research ships of opportunity project. Univ. Michigan, Great Lakes Res. Div., Publ. No. 35, 42 p. [Application of the Hardy continuous plankton recorder to plankton studies in Lake Michigan and on a cruise from Detroit, Michigan, to Bilboa, Spain.]
281. Robertson, A. and C. F. Powers. 1965. Particulate organic matter in Lake Michigan. Proc. 8th Conf. Great Lakes Res., Univ. Michigan, Great Lakes Res. Div., Publ. No. 13: 175-181. [Dry weight determinations from 15 stations on 5 cross-lake transects April through November, 1964.]
282. Robertson, A. and C. F. Powers. 1967. Comparison of the distribution of organic matter in the five Great Lakes, p. 1-18. In: Ayers, J. C. and D. C. Chandler, Studies on the eutrophication of Lake Michigan. Univ. Michigan, Great Lakes Res. Div., Spec. Rept. No. 30, 415 p. [Particulate organic matter, dissolved

organic matter, dry weight of zooplankton (collected with a #5 mesh $\frac{1}{2}$ - net vertical hauls), and dry weight of macrobenthos in the five Great Lakes during summer, 1966.]

283. Robertson, A., C. F. Powers, and R. F. Anderson. 1968. Direct observations on Mysis relicta from a submarine. *Limnol. Oceanogr.*, 13: 700-702.
284. Robohm, R. A. and J. T. Graikoski. 1966. Variables affecting enumeration of bacteria in Lake Michigan waters and sediments. *Proc. 9th Conf. Great Lakes Res.*, Univ. Michigan, Great Lakes Res. Div., Publ. No. 15: 140-146. [Samples collected north of Ludington, Michigan, and in Green Bay.]
285. Sars, G. O. 1915. Entomostraca of Georgian Bay. *Contrib. Can. Biol.*, 1911-1914, II: Fresh Water and Lake Biol., Sess. Pap. 39b: 221-222. [Lake Huron, species list from surface tows.]
286. Saunders, G. W. 1963. The biological characteristics of fresh water. *Proc. 6th Conf. Great Lakes Res.*, Univ. Michigan, Great Lakes Res. Div., Publ. No. 10: 236-244. [General paper on biological limnology including some phytoplankton data from Lake Erie.]
287. Saunders, G. W. 1964. Studies of primary productivity in the Great Lakes. *Proc. 7th Conf. Great Lakes Res.*, Univ. Michigan, Great Lakes Res. Div., Publ. No. 11: 122-129. [A review and presentation of heretofore unpublished data for western Lake Erie and northern Lake Michigan.]
288. Saunders, G. W., B. Trama, and R. W. Bachmann. 1962. Evaluation of a modified C-14 technique for shipboard estimation of photosynthesis in large lakes. Univ. Michigan, Great Lakes Res. Div., Publ. No. 8, 61 p. [Includes data from Grand Traverse Bay, Lake Michigan.]
289. Scarce, L. 1962. Bacteriological study of strains present in lactose presumptive tests showing turbidity without gas production. *Pure Water*, 4: 174-176. [Eighteen species representing 5 genera identified from Chicago, Ill., water samples.]
290. Scarce, L. 1953. Common plankton in Lake Michigan water—a technical approach. *Pure Water*, 5: 66-68. [Discusses the diatoms most frequently encountered in routine examinations at Chicago's South District filtration plant.]

291. Scarce, L. 1955. Investigation of bacterial flora in South District filtration plant outlet samples, October, 1954. *Pure Water*, 7: 6-9. [23 bacterial strains identified after a period of heavy rainfalls.]
292. Scarce, L. 1956. Studies in the detection of coliform bacteria combining the techniques of the electron microscope and membrane filter methods of analysis. *Pure Water*, 8: 123-144. [Studies using raw Lake Michigan water in the vicinity of Chicago, Ill.]
293. Scarce, L. 1965. The distribution of bacterial densities in Lake Michigan. *Proc. 8th Conf. Great Lakes Res., Univ. Michigan, Great Lakes Res. Div., Publ. No. 13: 182-196.* [Coliform and fecal streptococcus bacteria and total plate counts. Samples taken all over the lake in 1962.]
294. Scarce, L., S. H. Rubenstein, and S. Megregian. 1964. Survival of indicator bacteria in receiving waters under various conditions. *Proc. 7th Conf. Great Lakes Res., Univ. Michigan, Great Lakes Res. Div., Publ. No. 11: 130-139.* [Survival of coliform and fecal streptococcus bacteria in Lake Michigan water combined with Chicago sewage treatment plant effluent.]
295. Schacht, F. W. 1897. The North American species of *Diaptomus*. *Bull. Ill. State Lab. Natur. Hist.*, 5, Art. 3: 97-207. [Taxonomic study including several species collected from Lakes Michigan and Superior.]
296. Schacht, F. W. 1898. The North American Centropagidae belonging to the genera *Osphranticum*, *Limnocalanus*, and *Epischura*. *Bull. Ill. State Lab. Natur. Hist.*, 5, Art. 4: 225-270. [Taxonomic study including two species occurring in the Great Lakes.]
297. Schenk, C. F. and R. E. Thompson. 1965. Long-term changes in water chemistry and abundance of plankton at a single sampling location in Lake Ontario. *Proc. 8th Conf. Great Lakes Res., Univ. Michigan, Great Lakes Res. Div., Publ. No. 13: 197-208.* [Total plankton data for 1923-1954 from Toronto water intake. Dominant genera of Protozoa, Rotifera, and phytoplankton discussed.]
298. Schmitt, J. A. and E. S. Beneke. 1962. Aquatic fungi from South Bass and neighboring islands in western Lake Erie. 2. Additional biflagellate and uniflagellate phycomycetes. *Ohio J. Sci.*, 62: 11-12. [Aquatic and terrestrial collections, see also Beneke and Schmitt (1961).]

299. Schneberger, E. 1937. The biological and economic importance of the smelt in Green Bay. *Trans. Amer. Fish. Soc.*, 66: 139-142. [Breif account of examination of 3,015 smelt stomachs. Importance of Mysis as food emphasized.]
300. Scott, D. C. 1955. Activity patterns of perch, Perca flavescens, in Rondeau Bay of Lake Erie. *Ecology*, 36: 320-327. [Includes stomach analyses during summer, 1952. Zooplankton treated as cladocerans and other crustaceans.]
301. Segerstrale, S. G. 1962. The immigration and prehistory of the glacial relicts of Eurasia and North America. A survey and discussion of modern views. *Int. Rev. ges. Hydrobiol.*, 47: 1-25. [Includes discussion of Pontoporeia affinis, Mysis relicta and Limnocalanus macrurus in the Great Lakes.]
302. Segerstrale, S. G. 1966. Adaptational problems involved in the history of glacial relicts of Eurasia and North America. *Rev. Roum. Biol.-Zool.* 11: 59-66. [Includes discussion of Pontoporeia affinis and Mysis relicta in the Great Lakes. A concise, up-dated summary of Segerstrale (1962).]
303. Sibley, C. K. 1929. The food of certain fishes of the Lake Erie drainage basin, 180-188. In: A biological survey of the Erie - Niagara system. *Suppl. 18th Ann. Rept. (1928)*. New York State Conserv. Dept., 244 p. [Stomach analysis of 2,010 individuals representing 64 species of fish. Phytoplankton identified to genus and zooplankton to species.]
304. Skerman, V. B. D. 1967. A guide to the identification of bacteria. 2nd Ed., Williams and Wilkins, Baltimore, 303 p. [Standard taxonomic work, not Great Lakes specifically.]
305. Skvortzow, B. V. 1937. Diatoms from Lake Michigan, I. *Amer. Midl. Natur.*, 18: 652-658. [17 species identified from city of Chicago water intake. Samples taken in January, 1936.]
306. Smith, F. 1894. List of the Protozoa and Mollusca observed in Lake St. Clair in the summer of 1893. Appendix I, 42-44. In: Reighard, J. E., A biological examination of Lake St. Clair. *Bull. Michigan Fish. Comm.*, No. 4, 60 p. [Species list with a short phrase on relative abundance of each species.]
307. Smith, G. M. 1950. Freshwater algae of the United States. 2nd Ed., McGraw-Hill, New York, 719 p. [Standard taxonomic treatise, not Great Lakes specifically.]

308. Smith, H. L. 1878. Descriptions of new species of diatoms. Amer. Quart. Microsc. J., 1: 12-18. [Includes two species described from Lakes Erie and Michigan.]
309. Smith, H. L. 1881. Rhizosolenia gracilis n. sp. Trans. Amer. Microsc. Soc., 4: 177-178. [New species described from filterings of Niagara River water at Buffalo, N. Y.]
310. Smith, H. M. 1898. A biological survey of Lake Erie. Science, N. S., 8 (183): 13-14. [News article of work conducted under the direction of J. E. Reighard. See papers by Snow, Pieters, and Jennings for plankton studies published from this survey.]
311. Smith, L. L., Jr. and J. B. Moyle. 1944. A biological survey and fishery management plan for the streams of the Lake Superior north shore watershed. Minn. Dept. Conserv., Tech. Bull. No. 1, 228 p. [Includes phytoplankton and zooplankton species lists for Minnesota streams entering Lake Superior.]
312. Smith, S. H. 1957. Limnological surveys of the Great Lakes — early and recent. Trans. Amer. Fish. Soc., 86(1956): 409-418. [An historical review of limnological surveys in the Great Lakes.]
313. Smith, S. I. 1871a. Preliminary report on the dredgings of Lake Superior. Rept. U. S. Sec. War., Pt. 2: 1-7. [See Smith (1874b) for the most complete account of this work.]
314. Smith, S. I. 1871b. Dredging in Lake Superior under the direction of the U.S. Lake Survey. Amer. J. Sci. Arts., 3rd Ser., 2: 373-374. [See Smith (1874b) for the most complete account of this work.]
315. Smith, S. I. 1872. Dredging in Lake Superior under the direction of the U.S. Lake Survey. Can. Natur. and Quart. J. Sci., N.S., 6: 361-363. [Mysis and Pontoporeia; see Smith (1874b) for a more complete discussion of this work.]
316. Smith, S. I. 1874a. The Crustacea of the fresh waters of the United States. Rept. U.S. Comm. Fish. (1872-1873), Pt. 2: 637-665. [Includes discussion of mysids and gammarids in Lakes Superior and Michigan.]
317. Smith, S. I. 1874b. Sketch of the invertebrate fauna of Lake Superior. Rept. U.S. Comm. Fish. (1872-1873), Pt. 2: 690-707. [Bottom dredgings in August and September, 1871. Includes records of Mysis relicta, several gammarids and cladocerans.]

318. Smith, S. I. 1874c. Food of fresh-water fishes. Rept. U.S. Comm. Fish. (1872-1873), Pt. 2: 708-709. [Notes on stomach contents of a few specimens of whitefish, sucker, yellow perch and sturgeon collected from Lake Superior and Lake Michigan. Includes Mysis and Pontoporeia in diet of whitefish.]
319. Smith, S. I. and A. E. Verrill. 1871. Notice of the Invertebrata dredged in Lake Superior, 1871, by the U.S. Lake Survey under the direction of General C. G. Comstock, S. I. Smith, Naturalist. Amer. J. Sci. Arts., 3rd Ser., 2: 448. [See Smith (1874b) for the most complete account of this work.]
320. Snow, J. W. 1903. The plankton algae of Lake Erie, with special reference to the Chlorophyceae. Bull. U.S. Fish. Comm. (1902), 22: 369-394. [Descriptions of Chlorophyceae collected in the island region of western Lake Erie during summer, 1898. See Pieters (1901) for Desmideae studied during this project.]
321. Snow, P.D. and D. S. Thompson. 1968. Comparisons of hydroxy-apatite saturations and plankton concentrations in Lake Erie. Proc. 11th Conf. Great Lakes Res., Int. Assoc. Great Lakes Res.: 130-136. [Data collected throughout the lake on two synoptic cruises, 22-26 August 1966 and 14-18 November 1966. Plankton samples collected with small No. 20 mesh net. Phosphate and plankton concentrations compared in the three basins of the lake.]
322. Sparrow, F. K., Jr. 1960. Aquatic Phycomycetes. 2nd Ed., Univ. Michigan Press, Ann Arbor, 1187 p. [Standard taxonomic treatise, not Great Lakes specifically.]
323. Stack, J. 1920. Aquatic life, with special reference to Entomostraca. Amer. Midl. Natur., 6: 128-145. [Qualitative net tows made near Cedar Point, Ohio, Lake Erie. Most identifications only to the generic level.]
324. Stehle, M. E. 1923. Surface plankton Protozoa from Lake Erie in the Put-in-Bay region. Ohio J. Sci., 23: 41-54. [Qualitative studies on Protozoa and flagellated phytoplankton during summer, 1920. A comparison of open lake, Hatchery Bay and Terwilliger's Pond samples.]

325. Stimpson, W. 1871. On the deep-water fauna of Lake Michigan. *Amer. Natur.*, 4: 403-405. [First record of Mysis and other Crustacea in deep water of Lake Michigan. Same expedition as Hoy (1872).]
326. Stoermer, E. F. 1967. An historical comparison of offshore phytoplankton populations in Lake Michigan, 47-77. In: Ayers, J. C. and D. C. Chandler. Studies on the eutrophication of Lake Michigan. Univ. Michigan, Great Lakes Res. Div., Spec. Rept. No. 30, 415 p. [Comparison of qualitative aspects of offshore phytoplankton with the study of Ahlstrom (1936). Phytoplankton taken in 158 #20 mesh $\frac{1}{2}$ -m net samples. Identification made to species level.]
327. Stoermer, E. F. 1968. Nearshore phytoplankton populations in the Grand Haven, Michigan, vicinity during thermal bar conditions. Proc. 11th Conf. Great Lakes Res., Int. Assoc. Great Lakes Res.: 137-150. [Vertical #20 net hauls and Nansen bottle casts taken on 28 and 29 April 1967. Qualitative abundance and distribution of planktonic diatoms species emphasized.]
328. Stoermer, E. F. and E. Kopczynska. 1967a. Phytoplankton populations in the extreme southern basin of Lake Michigan, 1962-63, p. 19-46. In: Ayers, J. C. and D. C. Chandler, Studies on eutrophication of Lake Michigan. Univ. Michigan, Great Lakes Res. Div., Publ. No. 30, 415 p. [See Stoermer and Kopczynska, 1967b.]
329. Stoermer, E. F. and E. Kopczynska. 1967b. Phytoplankton populations in the extreme southern basin of Lake Michigan, 1962-1963. Proc. 10th Conf. Great Lakes Res., Int. Assoc. Great Lakes Res.: 88-106. [Nearly 200 samples from 12 stations collected by Nansen bottles, no winter data. Phytoplankton identified to species.]
330. Stone, U. B. 1944. A study of the deep-water cisco fishery of Lake Ontario with particular reference to the bloater, Leucichthys hoyi (Gill). *Trans. Amer. Fish. Soc.*, 74: 230-249. [A brief mention of Pontoporeia and Mysis as dominant food organisms in bloater stomachs.]
331. Streeter, H. W. 1930. Studies of the efficiency of water purification processes, IV. Report on a collective survey of the efficiency of a selected group of municipal water purification plants located along the Great Lakes. U. S. Publ. Health Serv., Bull. No. 193, 100 p. [Data from 13 municipal water intakes on Lake Erie (Ashtabula, Ohio; Cleveland, Ohio; Elyria, Ohio; Sandusky, Ohio; Monroe, Mich.; Wyandotte, Mich.; Detroit, Mich.); southern Lake Michigan (East Chicago, Ind.; Whiting, Ind.; Evanston, Ill.; Winnetka, Ill.) and Lake Huron (Bay City, Mich.). Bacterial plate counts and coliform tests.]

332. Streeter, H. W. 1953. Bacterial and sanitary analyses, p. 29-80. In: Ohio Dept. Natur. Res. Div. Water, Lake Erie pollution survey. Final rept. 201 p. [Includes detailed coliform bacteria data for water intakes, bathing beaches and tributaries in the Ohio waters of Lake Erie.]
333. Sullivan, C. R., Jr. 1953a. A phytoplankton survey of the estuarial portions of ten Ohio streams entering Lake Erie. Unpublished masters thesis, Ohio State Univ., 27 p. [See Sullivan (1953b).]
334. Sullivan, C. R., Jr. 1953b. Survey on the phytoplankton at the mouths of ten Ohio streams entering Lake Erie, p. 152-156. In: Lake Erie pollution survey. Final rept., 201 p. Ohio Dept. Natur. Res., Div. Water. [Quantitative data from 245 samples taken from September, 1950, to August, 1951. Identifications to genus.]
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336. Symons, G. E. and R. W. Simpson. 1939. Bacterial pollution of the Niagara River, Pt. I, Conditions before sewage treatment at Buffalo, N. Y. J. Amer. Wat. Wks. Assoc., 31: 1156-1170. [1936 study of total and coliform bacteria.]
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339. Taft, C. E. 1945. The desmids of the west end of Lake Erie. Ohio J. Sci., 45: 180-205. [Species descriptions and illustrations from the Bass Islands region.]
340. Taft, C. E. 1964. New records of algae from the west end of Lake Erie. Ohio J. Sci., 64: 43-50. [Most species described are from ponds on the islands and not from Lake Erie proper.]
341. Taft, C. E. and W. J. Kishler. 1968. Algae from western Lake Erie. Ohio J. Sci., 68: 80-83. [Most species described are from ponds on the islands and not from Lake Erie proper.]

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343. Tester, A. L. 1932. Food of the small-mouthed black bass (Micropterus dolomieu) in some Ontario waters. Univ. Toronto Stud., Biol. Ser., No. 36, Publ. Ont. Fish. Res. Lab., No. 46: 169-203. [Includes specimens from Lake Nipissing and Georgian Bay, Lake Huron. Also specimens of rock bass, pike-perch, northern pike, and long-nosed gar examined.]
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346. Thomas, N. A. 1940. Taste and odor control on Lake Michigan. J. Amer. Water Wks. Assoc., 32: 1183-1186. [Water intake data from Milwaukee, Wis., during summer, 1939. Data presented as counts of total microorganisms, diatoms, and Dinobryon.]
347. Tidd, W. M. 1928. Zooplankton investigation in the west end of Lake Erie for the spring, summer and fall of 1928. Ohio Div. Fish. Game, 3 p. mimeographed report. [Summary of vertical net haul data. Identifications to genus only.]
348. Tiffany, L. H. 1934. The plankton algae of the west end of Lake Erie. Ohio State Univ., Franz Theodore Stone Lab., Contrib. No. 6, 112 p. [Comprehensive survey of phytoplankton in western Lake Erie.]
349. Tiffany, L. H. 1937. The filamentous algae of the west end of Lake Erie. Amer. Midl. Natur., 18: 911-957. [Mostly benthic forms which may occur as accidental constituents of the plankton. See Tiffany (1934) for planktonic algae of this region.]
350. Tiffany, L. H. and E. H. Ahlstrom. 1931. New and interesting plankton algae from Lake Erie. Ohio J. Sci., 31: 455-467. [New or unusual species from western Lake Erie.]

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357. Turner, C. L. 1921. Food of the common Ohio darters. Ohio J. Sci., 22: 41-62. [Includes collections from Put-in-Bay, Lake Erie. Zooplankton identified only to major groups.]

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359. U.S. Comm. Fish. & Fisheries. 1899. Lake Superior. Rept. U. S. Comm. Fish. (1898), Pt. 24: 142-143. [Short note on the abundance of Diaptomus sp. in deep waters (100-130 fathoms) and possible correlation with abundance of blackfin cisco, L. nigripinnis.]
360. U.S. Federal Pollution Control Administration. 1968. Water quality investigations, Lake Michigan basin—biology. Great Lakes Region, FWPCA, Chicago, Ill., 41 p. [Includes some total phytoplankton counts and list of dominant genera of phytoplankton.]
361. U.S. Public Health Service. 1959. National water quality network. (Suppl. 1). Statistical summary of selected data October 1, 1957 - Sept. 30, 1958. U.S. Publ. Health Serv., Publ. No. 663, 164 p. [Water intake data from all over the United States including the Great Lakes region. Includes plankton data with emphasis on diatoms and rotifers. See also Williams (1962).]
362. U.S. Public Health Service. 1963. Biological investigations. Lake Michigan Study. Great Lakes-Illinois River Basins Proj., Spec. Rept., No. 4, 20 p. [Phytoplankton and bacteria.]
363. U.S. Public Health Service. 1965. Conference in the matter of pollution of navigable waters of the Detroit River and Lake Erie and their tributaries in the State of Michigan. Sec. Session, June 15-18, 1965, Proc., Vol. 1-5, 1668 p. [There are several other proceedings of conferences on water pollution in Lake Erie published by the U.S. Publ. Health Service. This one contains the most biological data consisting of coliform bacteria counts and other observations on pollution biology.]
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367. Vaughn, J. C. 1961. Coagulation difficulties at the South District filtration plant. Pure Water, 13: 45-49. [Turbidity caused by high numbers of concentric diatoms.]
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369. Vaughn, R. D. and G. L. Harlow. 1965. Report on pollution of the Detroit River, Michigan waters of Lake Erie, and their tributaries. U.S. Publ. Health Serv., Region V, Grosse Isle, Mich., 341 p. [Includes some data on total plankton counts and pollution bacteria.]
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373. Verduin, J. 1951c. Photosynthesis in naturally reared aquatic communities. Plant Physiol., 26: 45-49. [Description of pH method of photosynthesis measurement with data from western Lake Erie, 1949.]

374. Verduin, J. 1952. Photosynthesis and growth rates of two diatom communities in western Lake Erie. *Ecology*, 33: 163-168. [*Asterionella-Cyclotella* community near Pelee Island and a *Stephanodiscus* community 20 miles east of the island during spring, 1950. Standing crops and photosynthesis (pH method) measurements.]
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376. Verduin, J. 1954. Phytoplankton and turbidity in western Lake Erie. *Ecology*, 35: 550-561. [Light penetration and phytoplankton standing crop relationships, 1948-1953, at many stations in the Bass Islands area.]
377. Verduin, J. 1956a. Energy fixation and utilization by natural communities in western Lake Erie. *Ecology*, 38: 40-50. [Photosynthesis and respiration as measured by the pH method.]
378. Verduin, J. 1956b. Primary production in lakes. *Limnol. Oceanogr.*, 1: 85-91. [Includes data from western Lake Erie.]
379. Verduin, J. 1957. Daytime variations in phytoplankton photosynthesis. *Limnol. Oceanogr.*, 2: 333-336. [Data from western Lake Erie during July and August, 1954, using the pH method.)
380. Verduin, J. 1959. Photosynthesis by aquatic communities in northwestern Ohio. *Ecology*, 40: 377-383. [Primary productivity comparisons during summer, 1957, using the pH method. Includes data for western Lake Erie and several of its tributaries.]
381. Verduin, J. 1960. Phytoplankton communities of western Lake Erie and the CO₂ and O₂ changes associated with them. *Limnol. Oceanogr.*, 5: 372-380. [Photosynthesis as measured by the pH and oxygen methods using natural population densities during 1957 and 1958. Dominant phytoplankters identified to genus.]
382. Verduin, J. 1962. Energy flow through biotic systems of western Lake Erie, p. 107-121. In: Pincus, H. (ed.), *Great Lakes basin*. AAAS Publ. No. 71. [Includes some photosynthesis data for western Lake Erie.]

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384. Verduin, J., E. E. Whitwer, and B. C. Cowell. 1960. Maximal photosynthetic rates in nature. *Science*, 130: 268-269. [pH method conducted during summer, 1958, near Put-in-Bay, Ohio.]
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386. Vorce, C. M. 1880. The minute forms of life in the waters of the lakes. *Amer. J. Microsc. Pop. Sci.*, 5: 263-265. [Diatoms in water supplies from Lake Erie.]
387. Vorce, C. M. 1881a. Forms observed in water of Lake Erie. *Trans. Amer. microsc. Soc.*, 4: 51-60. [Samples from Cleveland, Ohio, water supply, mainly from winter 1880-81. Discusses Protozoa, Rotifera, zooplankton Crustacea and phytoplankton.]
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390. Vorce, C. M. 1882b. The motion of diatoms. *Amer. Monthly microsc. J.*, 3: 43-45. [Observations on movement in diatoms from "fresh filterings from the water of Lake Erie."]
391. Vorce, C. M. 1885. Remarks on Stephanodiscus niagarae. *Trans. Amer. microsc. Soc.*, 7: 139-141. [A note on cell division in this species of diatom collected from Lake Erie at Cleveland, Ohio.]

392. Vorce, C. M. 1888. Note on a new rotifer, Gamphogaster [sic] areolatus. Trans. Amer. microsc. Soc., 9: 250-253. [Description of a new species from Lake Erie at Cleveland, Ohio. There is a typographical error in the title: Gamphogaster should read Gomphogaster.]
393. Vorce, C. M. 1890. A new Daphnella. Trans. Amer. microsc. Soc., 12: 172-173. [Cladoceran described from Lake Erie specimen taken at Cleveland, Ohio. Probably Diaphanosoma.]
394. Vorce, C. M. 1891a. Additional notes on Gomphogaster. Trans. Amer. microsc. Soc., 12: 174-177. [Additions and corrections to earlier descriptions of a rotifer collected from Lake Erie at Cleveland, Ohio.]
395. Vorce, C. M. 1891b. The classification of diatoms. Amer. Monthly microsc. J., 12: 150. [A note on three genera of diatoms found in Lake Erie.]
396. Wailes, G. H. 1934. Freshwater dinoflagellates of North America. Vancouver, B.C. Museum & Art Notes., 7 (Suppl. No. 11): 1-10. [Species list and illustrations. Includes specimens collected from Lake Michigan by E. H. Ahlstrom.]
397. Walton, L. B. 1915. A review of the described species of the order Euglenoidina Bloch., class Flagellata (Protozoa), with particular reference to those found in the city water supplies and in other localities of Ohio. Ohio State Univ. Bull., 19 (5), Ohio Biol. Surv. Bull., 1 (4): 341-446. [A taxonomic study including samples from Lake Erie at Cleveland, Ohio.]
398. Ward, H. B. 1895. The food supply of the Great Lakes; and some experiments on its amount and distribution. Trans. Amer. microsc. Soc., 17: 242-254. [General discussion including net plankton volume data for Grand Traverse Bay, Lake Michigan; see Ward (1896) for a complete account of this study.]
399. Ward, H. B. 1896. A biological examination of Lake Michigan in the Traverse Bay region. Bull. Mich. Fish. Comm, No. 6, 99 p. [Lake Michigan, the most comprehensive study of the 19th century on the Great Lakes; includes quantitative determinations of plankton from vertical net hauls and appendices on species identification of Protozoa and Rotifera.]

400. Ward, H. B. 1897. The food supply of the fish in the Great Lakes, p. 117-129. In: 12th Bienn. Rept. (Michigan) State Bd. Fish. Comm. (1894-1896), 135 p. [A general discussion on plankton based on the surveys reported in Ward (1896) and Reighard (1894).]
401. Ward, H. B. 1899. Freshwater investigations during the last five years. Trans. Amer. microsc. Soc., 20: 261-336. [An annotated bibliography and summary of limnobiological research conducted in Europe and America. Includes discussion of surveys on Lake St. Clair (Reighard, 1894) and Lake Michigan (Ward, 1896).]
402. Ward, H. B. 1900. A comparative study in methods of plankton measurement. Trans. Amer. microsc. Soc., 21: 227-247. [Retreatment of some of the vertical haul plankton data in Ward (1896); Grand Traverse Bay, Lake Michigan.]
403. Ward, R. H. 1879. Purity of lake water. Amer. Natur., 13: 534-535. [Brief remarks on organisms in Chicago, Ill., water supply in relation to water quality.]
404. Weckel, A. L. 1914. Free-swimming freshwater Entomostraca of North America. Trans. Amer. microsc. Soc., 33: 165-203. [Taxonomic keys to Cladocera, Copepoda, and Ostracoda; not Great Lakes specifically.]
405. Wells, L. 1960. Seasonal abundance and vertical movements of planktonic Crustacea in Lake Michigan. U.S. Fish. Wildl. Serv., Fish. Bull., 60: 343-369. [Quantitative data collected with a Clarke-Bumpus sampler fitted with No. 2 silk net, 6 June-18 November 1954 and 30 June-2 October 1955.]
406. Wells, L. 1968. Daytime distribution of Pontoporeia affinis off bottom in Lake Michigan. Limnol. Oceanogr., 13: 703-705. [Collections during April through August, 1964, off Saugatuck, Michigan.]
407. Wells, L. and A. M. Beeton. 1963. Food of the bloater, Coregonus hoyi, in Lake Michigan. Trans. Amer. Fish. Soc., 92: 245-255. [Stomachs from 1,469 bloaters examined, planktonic Crustacea identified to species.]

408. Whipple, G. C. 1913. Effect of the sewage of Rochester, N.Y. on the Genesee River and Lake Ontario under present conditions. App. V, p. 177-239. In: Fisher, E. A. Report on the sewage disposal system of Rochester, N.Y. Wiley and Sons, New York, 248 p. [Counts of Crustacea and rotifers near the mouth of the Genesee River.]
409. Wickliff, E. L. 1920. Food of young small-mouth blackbass in Lake Erie. Trans. Amer. Fish. Soc., 50: 364-371. [Stomachs of 313 fish (8.5-15 mm) from island region of western Lake Erie. Copepoda and Cladocera lumped quantitatively and identified to species qualitatively.]
410. Williams, L. G. 1962. Plankton population dynamics. Nat. Water Qual. Netwk., U.S. Publ. Health Serv., Publ. No. 663, Suppl. 2, 90 p. [Water intake samples from all over the United States including seven stations on the Great Lakes. Semi-monthly samplings over a 2-year period ending 30 June 1961. Phytoplankton (mainly diatoms) identified to species and rotifers identified to genus. See Williams and Scott (1962), Williams (1964) and (1966) for further treatment of these data.]
411. Williams, L. G. 1964. Possible relationships between plankton-diatom species numbers and water quality estimates. Ecology, 45: 809-823. [Diatom species diversity comparisons of 103 stations on the Great Lakes and major rivers in the United States. Great Lakes stations at: Buffalo, N.Y.; Gary, Ind.; Milwaukee, Wis.; Port Huron, Mich.; Duluth, Minn.; Detroit, Mich.; and Sault Ste. Marie, Mich.]
412. Williams, L.G. 1966. Dominant planktonic rotifers of major waterways of the United States. Limnol. Oceanogr., 11: 83-91. [Niagara R.; Detroit R.; Milwaukee, Wis.; Gary, Ind.; Sault Ste. Marie, Mich.; Duluth, Minn.]
413. Williams, L. G. and C. Scott. 1962. Principal diatoms of the major waterways of the United States. Limnol. Oceanogr., 7: 365-379. [Diatom populations in semi-monthly collections from 73 stations of major waterways in the United States, July 1960 to July 1961. Great Lakes stations are: Buffalo, N.Y.; Milwaukee, Wis.; Detroit, Mich.; Duluth, Minn.; Gary, Ind.; Sault Ste. Marie, Mich.; and Port Huron, Mich. Percentage incidence of four most common species of diatoms presented for each station.]

414. Wilson, C. B. 1929a. The macroplankton of Lake Erie, p. 94-135. In: Preliminary report on the cooperative survey of Lake Erie—season of 1928. Bull. Buffalo Soc. Natur. Sci., 14 (3). [See Fish (1960) for final report.]
415. Wilson, C. B. 1929b. The macroplankton of Lake Erie, p. 67-76. In: A biological survey of the Erie-Niagara system. II. A preliminary report on the joint survey of Lake Erie. Suppl., 18th Ann. Rept. (1928) N. Y. Conserv. Dept., 244 p. [See Wilson (1929a) for a more detailed discussion of this work.]
416. Wilson, C. B. 1960. The macroplankton of Lake Erie, p. 145-172. In: Fish, C. J. Limnological survey of eastern and central Lake Erie, 1928-1929. U.S. Fish. Wildl. Serv., Spec. Sci. Rept., Fish. No. 334, 198 p. [Comprehensive survey of planktonic Crustacea—seasonal distribution and comparison of species in littoral and limnetic areas.]
417. Wisconsin State Comm. on Water Pollution. 1939. Investigation of the pollution of the Fox and East Rivers and of Green Bay in the vicinity of the city of Green Bay. Wis. State Comm. Wat. Poll., Madison, Wis, 242 p. [Includes phytoplankton collections mainly from Green Bay during 1938 and 1939. Identifications to genus.]
418. Wolcott, R. H. 1894. The Insecta and Acarina of Lake St. Clair. A Preliminary report, Appendix 4, p. 55-56. In: Reighard, J. E. A biological examination of Lake St. Clair. Bull. Michigan Fish. Comm., No. 4, 60 p. [Eighteen genera and 36 species of Hydracarina from surface to bottom tows. No identifications mentioned.]
419. Wolfert, D. R. 1965. Food of young-of-the-year walleyes in Lake Erie. U.S. Fish. Wildl. Serv., Fish. Bull., 65 (2): 489-494. [Zooplankton identified mainly to species, western Lake Erie, 1962.]
420. Woltereck, R. 1932. Races, associations, and stratification of pelagic daphnids, in some lakes of Wisconsin and other regions of the United States and Canada. Trans. Wis. Acad. Sci., Arts, Lett., 27: 487-521. [Mentions samples from the Great Lakes, especially Lake Erie, but very little treatment of these data.]
421. Woollett, L. L. 1967. Ecology of yeasts in polluted waters of the Calumet area. Unpublished masters thesis, Department of Biology, Illinois Institute of Technology, Chicago, Ill., 84 p. [Southern Lake Michigan.]

422. Wright, K. J. 1968. Feeding habits of immature lake trout (Salvelinus namaycush) in the Michigan waters of Lake Michigan. Unpublished masters thesis, Michigan State Univ., 42 p. [Stomach analyses of 1,581 lake trout. Pontoporeia and Mysis important food items.]
423. Wright, S. 1932. Plankton and the fisheries. The Fisherman, 1 (7): 3-4, 11. [Popular discussion of plankton in the aquatic food chain as it relates to the chub fishery of the Great Lakes.]
424. Wright, S. 1955. Limnological survey of western Lake Erie. U.S. Fish. Wildl. Serv., Spec. Sci. Rept.--Fish. No. 139, 341 p. [Comprehensive survey of 1928-1930, including quantitative data on horizontal, vertical, and seasonal distribution of phytoplankton (by L. H. Tiffany) and zooplankton (by W. M. Tidd).]
425. Wright, S., and W. M. Tidd. 1933. Summary of limnological investigations in western Lake Erie in 1929 and 1930. Trans. Amer. Fish. Soc., 63: 271-285. [See Wright (1955) for the complete report.]
426. Wujek, D. E. 1967. Some plankton diatoms from the Detroit River and western Lake Erie adjacent to the Detroit River. Ohio J. Sci., 67: 32-35. [Semi-monthly samples from May, 1962, through August, 1963. A species list is presented.]
427. Yeatman, H. C. 1944. American cyclopoid copepods of the viridis-vernalis group (including a description of Cyclops carolinianus (n. sp.)). Amer. Midl. Natur., 32: 1-90. [Includes taxonomic discussion of Great Lakes species, Cyclops bicuspidatus and C. vernalis.]
428. Zacharias, O. 1894. Biologische Untersuchungen in amerikani-schen Seen. Biol. Zentralbl., 14: 605-607. [A news article on the biological surveys of Lake St. Clair and Grand Traverse Bay, Lake Michigan. See Reighard (1894) and Ward (1896).]
429. Zillig, A. M. 1929a. Bacteriological studies of Lake Erie, p. 51-59. In: Preliminary report on the cooperative survey of Lake Erie—season of 1928. Bull. Buffalo Soc. Natur. Sci., 14 (3). [Surface and bottom water samples, collected July-August, 1928.]
430. Zillig, A. M. 1929b. Bacterial studies of Lake Erie, p. 56-58. In: A biological survey of the Erie-Niagara system, II. A preliminary report on the joint survey of Lake Erie. Suppl. 18th Ann. Rept. (1928), N. Y. Conserv. Dept., 244 p. [See Zillig (1929a) for a more extensive discussion of this work.]

APPENDIX

SOURCES OF ADDITIONAL INFORMATION ON GREAT LAKES PLANKTON

I. Great Lakes Bibliography

The Great Lakes Fishery Commission, P. O. Box 640, Ann Arbor, Michigan 48107, maintains a 3x5 card file of references pertaining to all phases of research on the St. Lawrence Great Lakes. Copies of the card file are sent to many libraries and research organizations in the Great Lakes region. It is an extensive bibliography with an author index and many key words listed in the subject index. The sections on plankton are fairly complete and adequately cross-referenced. Use of the Great Lakes Bibliography is an excellent way of obtaining future references on plankton investigations in the Great Lakes. The following is a list of libraries and research organizations which are on the Great Lakes Fishery Commission Bibliography Accessions and Mailing List.

District of Columbia

Branch of Inland Fisheries
Bureau of Commercial Fisheries
Fish & Wildlife Service
Washington, D. C. 20240

Indiana

Indiana Department of Natural Resources
District II Headquarters
Route #4
Columbia City, Indiana 46725

Illinois

Federal Water Pollution Control Administration
Great Lakes Region
Great Lakes-Illinois River Basins Project
1819 West Pershing Road
Chicago, Illinois 60609

Illinois Natural History Survey Division
Natural Resources Building
Urbana, Illinois 61801

Michigan

Institute for Fisheries Research
Museums Annex
University of Michigan
Ann Arbor, Michigan 48104

Great Lakes Basin Commission
2200 North Campus Boulevard
Ann Arbor, Michigan 48105

Van Oosten Library
Bureau of Commercial Fisheries
Research Laboratory
P. O. Box 640
Ann Arbor, Michigan 48107

U. S. Lake Survey
630 Federal Building
Detroit, Michigan 48226

Minnesota

Minnesota Department of Conservation
Section of Research and Planning
390 Centennial Building
St. Paul, Minnesota 55101

University of Minnesota
School of Public Health
Minneapolis, Minnesota 55455

New York

New York Conservation Department
Fisheries Research Station
P. O. Box 292
Cape Vincent, New York 13618

Ohio

Department of Biology
Case-Western Reserve University
Cleveland, Ohio 44106

Botany and Zoology Branch Library
Ohio State University
Columbus, Ohio 43210

Ohio Division of Wildlife
P. O. Box 650
Sandusky, Ohio 44870

Pennsylvania

Pennsylvania Fish Commission
State Office Building
Harrisburg, Pa. 17120

Wisconsin

Technical Library
Southern Area Headquarters
Wisconsin Conservation Department
Route 2
Madison, Wisconsin 53713

Library
University of Wisconsin-Milwaukee
Milwaukee, Wisconsin 53201

Canada

Freshwater Institute
501 University Crescent
Winnipeg, 19, Manitoba

Canada Centre for Inland Waters
867 Lakeshore Road
P. O. Box 5050
Burlington, Ontario

Department of Zoology
University of Guelph
Guelph, Ontario

Fisheries Section
Research Branch
Ontario Department of Lands & Forests
Maple, Ontario

Ontario Department of Lands & Forests
8 Albert Street East
Sault Ste. Marie, Ontario

Library
Great Lakes Institute
Ramsay Wright Zoological Laboratories
University of Toronto
Toronto 5, Ontario

Italy

Fisheries Biology Branch
Food and Agricultural Organization of the
United Nations
Viale delle Terme di Caracalle
Rome, Italy

II. Great Lakes Research Checklist

The Great Lakes Commission, 2200 North Campus Blvd., Ann Arbor, Michigan 48105, periodically distributes a checklist of papers published on all phases of Great Lakes research. In addition, the Commission distributes the Great Lakes Newsletter, which also contains information on publications concerning Great Lakes research. The checklist and newsletter are very useful in obtaining current publication information especially of state and municipal publications which are often difficult to find.

III. Other bibliographies

Hile, R. 1966. U.S. federal research on fisheries and limnology in the Great Lakes through 1964: An annotated bibliography. U.S. Fish Wildl. Serv., Spec. Sci. Rept.--Fish. No. 528, 53 p.
[Includes references on plankton investigations. All pertinent papers have been incorporated into this bibliography.]

Van Oosten, J. 1957. Great Lakes fauna, flora and their environment—a bibliography. Great Lakes Comm., Ann Arbor, Mich., 86 p.
[A comprehensive bibliography on all aspects of Great Lakes biology and limnology through the mid-1950's. References on plankton have been incorporated into this bibliography.]

ACKNOWLEDGEMENTS

I gratefully acknowledge the assistance of Mr. R. Ballard, librarian at the Bureau of Commercial Fisheries Research Laboratory, Ann Arbor, Michigan, and Mrs. H. Broughton of the interlibrary loan office, University of Wisconsin-Milwaukee library for their help in locating many of the papers in this bibliography. Special thanks go to Mr. R. Ristic for drafting the figure and M. Pierce for document preparation.

SUBJECT INDEX

Taxonomy: Taxonomic keys useful in the Great Lakes region and early taxonomic papers on Great Lakes biota. The numbers below refer to bibliographic entries.

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Review: Comprehensive review papers on some aspect of Great Lakes plankton investigations.

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Survey: General limnological surveys of the Great Lakes including plankton investigations.

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Phytoplankton: Includes papers on primary productivity and chlorophyll determinations.

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- Mortimer, C. H. 1968. Internal waves and associated currents observed in Lake Michigan during the summer of 1963. Spec. Rept. No. 1; 24 p., 120 figs.
- Schenker, E. 1968. Effects of containerization on Great Lakes ports. Spec. Rept. No. 2; 45 p., 18 tables, 3 appendices.
- Abstracts, Eleventh Conference on Great Lakes Research, April 1968. Spec. Rept. No. 3; 83 p., 91 abstracts.
- Fee, E. J. 1968. Digital computer programs for the Defant method of seiche analysis. Spec. Rept. No. 4; 27 p., 4 appendices, 3 figs.
- Schenker, E. 1968. Future general cargo traffic and terminal requirements at the Port of Milwaukee. Spec. Rept. No. 5, 13 p.
- Fee, E. J. 1969. Digital computer programs for spectral analysis of time series. Spec. Rept. No. 6, 16 p., 3 appendices, 1 fig.

Gannon, J. E. 1969. Great Lakes plankton investigations: a bibliography. Spec. Rept. No. 7, 65 p. 2 appendices, 1 fig.

Gannon, J.E. and A. M. Beeton. 1969. Studies on the effects of dredged materials from selected Great Lakes harbors on plankton and benthos. Spec. Rept. No. 8, 80 p. , 36 figs.

