

Acknowledgements

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References

- Albert, D. A., G. Reese, S. R. Crispin, M. R. Penskar, L. A. Wilsmann, S. J. Owinga. 1988. A survey of Great Lakes marshes in the southern half of Michigan's Lower Peninsula. Michigan Natural Features Inventory, Report for Coastal Zone Management Program Contract 10C-3, Lansing.
- Anderson, M. R., and J. Kalff. 1986. Nutrient limitation of *Myriophyllum spicatum* growth *in situ*. *Freshwater Biology* 16:735-743.
- Anonymous. 1997. Michigan's experience with the herbicide SONAR, 1987–1996. A report to the SONAR Quality Action Team. Michigan Department of Environmental Quality, Lansing.
- Badra, P. J., and R. R. Goforth. 2002. Surveys of native freshwater mussels in the lower reaches of Great Lakes tributary rivers in Michigan. Michigan Department of Environmental Quality, Coastal Zone Management Program, Report 2002-03, Lansing.
- Baker, R. H. 1983. Michigan mammals. Michigan State University Press, East Lansing.
- Barko, J. W., C. S. Smith, and P. A. Chambers. 1994. Perspectives on submersed macrophyte invasions and declines. *Lake and Reservoir Management* 10:1–3.
- Barnhart, C., F. Riusch, and M. Baird. 1998. Drum is host of the scaleshell, *Leptodea leptodon*. Triannual Unionid Report No. 16, U. S. Fish and Wildlife Service, Asheville, North Carolina.
- Becker, G. C. 1983. Fishes of Wisconsin. The University of Wisconsin Press, Madison.
- Bettoli, P. W., M. J. Maceina, R. L. Noble, and R. K. Betsill. 1993. Response of a reservoir fish community to aquatic vegetation removal. *North American Journal of Fisheries Management* 13:110–124.
- Blankespoor, H. D., and R. L. Reimink. 1991. The control of swimmer's itch in Michigan: past, present, and future. *Michigan Academician* 24:7–23.
- Blankespoor, C. L., R. L. Reimink, and H. D. Blankespoor. 2001. Efficacy of praziquantel in treating natural schistosome infections in common mergansers. *Journal of Parasitology* 87:424–426.
- Boschung, H. T., J. D. Williams, D. W. Gotshall, D. K. Caldwell, M. C. Caldwell, C. Nehring and J. Verner. 1983. The Audubon Society Field Guide to North American Fishes, Whales and Dolphins. Alfred A. Knopf, Inc., New York.
- Bowen, K. L., N. K. Kaushik, A. M. Gordon, E. Mallory, and M. S. Ridgway. 1995. Invertebrate colonization of coarse woody debris in the littoral zone of two oligotrophic lakes. Pages 6–11 *in* Final Program: Aquatic Ecosystem Stewardship, 15th International Symposium on Lake, Reservoir, and Watershed Management. North American Lake Management Society, Merrifield, Virginia.
- Boylen, C. W., L. W. Eichler, and J. D. Madsen. 1999. Loss of native aquatic plant species in a community dominated by Eurasian milfoil. *Hydrobiologia* 415:207–211.
- Brazo, D. C., and C. R. Liston. 1979. The effects of five years of operation of the Ludington Pumped Storage Power Plant on the fishery resources of Lake Michigan (1972–1977). 1977 Annual Report to Consumers Power Company, Volume II, Number 1, Michigan State University, Department of Fisheries and Wildlife, East Lansing.

- Breck, J. E. 2004. Compilation of databases on Michigan lakes. Michigan Department of Natural Resources, Fisheries Technical Report 2004-2, Ann Arbor.
- Bredin, J. 1998. Great Lakes trends: a dynamic ecosystem. Michigan Department of Environmental Quality, Office of the Great Lakes, Lansing.
- Brewer, R., G. A. McPeck, and R. J. Adams. 1991. The atlas of breeding birds of Michigan. Michigan State University Press, East Lansing.
- Brown, E., A. Peterson, R. Kline-Robach, K. Smith, and L. Wolfson. 2000. Developing a watershed management plan for water quality. Michigan Department of Environmental Quality, Lansing.
- Brown, S., C. Hickey, B. Harrington, and R. Gill, editors. 2001. United States shorebird conservation plan, 2nd edition. Manomet Center for conservation sciences, Manomet, Massachusetts.
- Bryan, M. D., and D. L. Scarnecchia. 1992. Species richness, composition, and abundance of fish larvae and juveniles inhabiting natural and developed shorelines of a glacial Iowa lake. *Environmental Biology of Fishes* 35:329–341.
- Burch, J. B. 1982. Freshwater snails (Mollusca: Gastropoda) of North America. U.S. Environmental Protection Agency, Report 600/3-82-026, Cincinnati, Ohio.
- Burch, J. B. 1991. Malacology in Michigan. *Michigan Academician* 24:115–170.
- Burch, J. B. 1994. Mollusks. Pages 395-410 in D. C. Evers, editor. *Endangered and threatened wildlife of Michigan*. University of Michigan Press, Ann Arbor.
- Burch, J. B., and Y. Jung. 1987. A review of the classification, distribution and habitats of the freshwater gastropods of the North American Great Lakes. *Walkerana* 2:233–291
- Burch, J. B., R. Keawjam and Y. Jung. 1991. A checklist and outline of classification of the freshwater snails of the University of Michigan Biological Station area. *Walkerana* 5:207–215.
- Burns, D. C. 1991. American Fisheries Society position statement on cumulative effects of small modifications to habitat. *Fisheries* 16(1):12–17.
- Carlson, R. E. 1977. A trophic state index for lakes. *Limnology and Oceanography* 22:361–369.
- Carpenter, S. R., P. Cunningham, S. Gafny, A. Munoz-del-Rio, N. Nibbelink, M. Olson, T. Pellett, C. Storlie, and A. Trebitz. 1995. Responses of bluegill to habitat manipulations: power to detect effects. *North American Journal of Fisheries Management* 15:519–527.
- Chambers, P. A., J. W. Barko, and C. S. Smith. 1994. Workshop synthesis. *Lake and Reservoir Management* 10:57–59.
- Christensen, D. L., A. M. Bartuska, J. H. Brown, S. Carpenter, C. D'Antonio, R. Fancis, J. F. Franklin, J. A. MacMahon, R. F. Noss, D. J. Parsons, C. H. Perterson, M. G. Turner, and R. G. Woodmansee. 1996a. The report of the Ecological Society of America Committee on scientific basis for ecosystem management. *Ecological Applications* 6:665–691.
- Christensen, D. L., B. R. Herwig, D. E. Schindler, and S. R. Carpenter. 1996b. Impacts of lakeshore residential development on coarse woody debris in north temperate lakes. *Ecological Applications* 6:1143–1149.

Conservation Guidelines for Michigan Lakes

- Clarke, A. H. 1981. The freshwater molluscs of Canada. National Museum of Natural Sciences, National Museums of Canada, Ottawa.
- Comer, E. P., D. A. Albert, H. A. Wells, B. L. Hart, J. B. Raab, D. L. Price, D. M. Kashian, R. A. Corner, and D. W. Schuen. 1995. Michigan's native landscape as interpreted from the General Land Office Surveys, 1816–1856. Michigan Department of Natural Resources, Natural Features Inventory, Report to the U.S. E.P.A. Water Division, Lansing.
- Conant, R., and J. T. Collins. 1998. A field guide to reptiles and amphibians: Eastern and Central North America. Houghton Mifflin Company, Boston.
- Cowardin, L. M., V. Carter, F. C. Golet, and E. T. LaRoe. 1979. Classification of wetlands and deepwater habitats of the United States. U. S. Department of the Interior, U. S. Fish and Wildlife Service, Office of Biological Services, Washington, D.C.
- Crandall, K. A. 2000. State of Michigan– crayfish species checklist. Brigham Young University. Available: <http://crayfish.byu.edu/>. (August 2003)
- Creaser, E. P. 1930. The Michigan decapod crustaceans. Michigan Academy of Science, Arts and Letters 13:257–276.
- Crocker, D. W., and D. W. Barr. 1968. Handbook of the crayfishes of Ontario. University of Toronto, Royal Ontario Museum, Life Sciences Miscellaneous Publications, Ontario.
- Dahl, T. E. 2000. Status and trends of wetlands in the conterminous United States 1986 to 1997. U.S. Department of the Interior, Fish and Wildlife Service, Washington, D.C.
- Duarte, C. M., and J. Kalf. 1988. Influence of lake morphometry on the response of submerged macrophytes to sediment fertilization. Canadian Journal of Fisheries and Aquatic Sciences 45:216–221.
- Durocher, P. P., W. C. Provine, and J. E. Kraai. 1984. Relationship between abundance of largemouth bass and submerged vegetation in Texas reservoirs. North American Journal of Fisheries Management 4:84–88.
- Edsall, T. A., B. A. Manny, and C. N. Raphael. 1988. The St. Clair River and Lake St. Clair, Michigan: an ecological profile. U.S. Fish and Wildlife Service, Biological Report 85 (7.3), Washington D.C.
- Engle, S. 1985. Aquatic community interactions of submerged macrophytes. Wisconsin Department of Natural Resources, Technical Bulletin 156, Madison.
- Engle, S. 1990. Ecosystem responses to growth and control of submerged macrophytes: a literature review. Wisconsin Department of Natural Resources, Technical Bulletin 170, Madison.
- Etnier, D. A., and W. C. Starnes. 1993. The fishes of Tennessee. The University of Tennessee Press, Knoxville.
- France, R. L. 1997. Macroinvertebrate colonization of woody debris in Canadian Shield lakes following riparian tree clear-cutting. Conservation Biology 11:513–521.
- Fuller, S., and I. Brynildson. 1985. Freshwater mussels of the Upper Mississippi River. Wisconsin Department of Natural Resources, Madison.

- Ganon, J. E., editor. 1990. International position statement and guidelines for artificial reefs in the Great Lakes. Great Lakes Fishery Commission, Special Publication 90-2, Ann Arbor, Michigan.
- Goforth, R. R., P. J. Badra, and R. S. Mulcrone. 2000. Evaluation of the current status of freshwater mussels at selected sites in the Grand River, Michigan. Michigan Department of Environmental Quality, Office of the Great Lakes, Report 2000-12, Lansing.
- Goodrich, C., and H. Van Der Schalie. 1939. Aquatic mollusks of the Upper Peninsula of Michigan. University of Michigan, Museum of Zoology, Miscellaneous Publications 43, Ann Arbor.
- Graf, D. L. 1997. Distribution of unionid (*Bivalvia*) faunas in Minnesota, USA. *Nautilus* 110:45–54.
- Guyette, R. P., and W. G. Cole. 1999. Age characteristics of coarse woody debris (*Pinus strobus*) in a lake littoral zone. *Canadian Journal of Fisheries and Aquatic Sciences* 56:496–505.
- Hall, D. J., and E. E. Werner. 1977. Seasonal distribution and abundance of fishes in the littoral zone of a Michigan Lake. *Transactions of the American Fisheries Society* 106:545–555.
- Hanson, D. A., and T. L. Margenau. 1992. Movement, habitat selection, behavior, and survival of stocked muskellunge. *North American Journal of Fisheries Management* 12:474–483.
- Harding, J. H., and J. A. Holman. 1990. Michigan turtles and lizards: A field guide and pocket reference. Michigan State University, Extension Bulletin E-2334, East Lansing.
- Harding, J. H., and J. A. Holman. 1992. Michigan frogs, toads, and salamanders: A field guide and pocket reference. Michigan State University, Extension Bulletin E-2350, East Lansing.
- Harding, J. H. 1997. Amphibians and reptiles of the Great Lakes region. University of Michigan Press, Ann Arbor.
- Harrison, K. G. editor. 2003. State of Michigan's Environment 2003. Michigan Department of Environmental Quality, Second Biennial Report. Special Projects, Lansing.
- Helmets, D. L. 1992. Shorebird management manual. Western hemisphere Shorebird Reserve Network, Manomet, Massachusetts.
- Hay-Chmielewski, E. M., and G. E. Whelan, editors. 1997. Lake sturgeon rehabilitation strategy. Michigan Department of Natural Resources, Fisheries Special Report 18, Ann Arbor.
- Hendendorf, C. E., C. N. Raphael, and E. Jaworski. 1986. The ecology of Lake St. Clair wetlands: a community profile. U.S. Fish and Wildlife Service, Biological Report 85 (7.7), Washington, D.C.
- Herman, K. D., L. A. Masters, M. R. Penskar, A. A. Reznicek, G. S. Wilhelm, W. W. Brodovich, and K. P. Gardiner. 2001. Floristic quality assessment with wetland categories and examples of computer applications for the State of Michigan – Revised, 2nd Edition. Michigan Department of Natural Resources, Wildlife Division, Natural Heritage Program, Lansing.
- Hillegass, K. R., and M. C. Hove. 1997. Suitable fish hosts for glochidia of three freshwater mussels: squawfoot, ellipse and snuffbox. U.S. Fish and Wildlife Service, Triannual Unionid Report 13, Asheville, North Carolina.

Conservation Guidelines for Michigan Lakes

- Hinch, S. G., and N. C. Collins. 1993. Relationships of littoral fish abundance to water chemistry and macrophyte variables in central Ontario lakes. *Canadian Journal of Fisheries and Aquatic Sciences* 50:1870–1878.
- Hobbs, H. H., Jr. 1989. An illustrated checklist of the American crayfishes (Decapoda: Astacidae, Cambaridae, and Parastacidae). *Smithsonian Contributions to Zoology* 480, Smithsonian Institutional Press, Washington, D.C.
- Holman, J. A., J. H. Harding, M. M. Hensley, G. R. Dudderar. 1999. Michigan snakes: A field guide and pocket reference. Michigan State University, Extension Bulletin E-2000, East Lansing.
- Hove, M. C. 1997. Ictalurids serve as suitable hosts for the purple wartyback. U. S. Fish and Wildlife Service, Triannual Unionid Report 11, Asheville, North Carolina.
- Hove, M. C., and T. W. Anderson. 1997. Mantle-waving behavior and suitable fish hosts of the ellipse. U. S. Fish and Wildlife Service, Triannual Unionid Report 11, Asheville, North Carolina.
- Hove, M. C., R. A. Engelking, M. E. Peteler, E. M. Peterson, A. R. Kapuscinski, L. A. Sovell, and E. R. Evers. 1997. Suitable fish hosts for glochidia of four freshwater mussels. Pages 21–25 in K. S. Cummings, A. C. Buchanan, C. A. Mayer, and T. J. Naimo, editors. Conservation and management of freshwater mussels II: initiatives for the future. Proceedings of a UMRCC symposium, 16-18 October 1995, St. Louis, Missouri. Upper Mississippi River Conservation Committee, Rock Island, Illinois.
- Hove, M. C. and J. E. Kurth. 1998. Darters, sculpins and sticklebacks serve as suitable hosts for *Venustaconcha ellipsiformis* glochidia. U. S. Fish and Wildlife Service, Triannual Unionid Report 14, Asheville, North Carolina.
- Janecek, J. A. 1988. Literature review on fishes interactions with aquatic macrophytes with special reference to the Upper Mississippi River System. U.S. Fish and Wildlife Service, Upper Mississippi River Conservation Committee, Rock Island, Illinois.
- Jenkins, R. E., and N. M. Burkhead. 1993. Freshwater fishes of Virginia. American Fisheries Society, Bethesda, Maryland.
- Jennings, M. T., M. A. Bozek, G. R. Hatzenbeler, E. E. Emmons, and M. D. Staggs. 1999. Cumulative effects of incremental shoreline habitat modification on fish assemblages in north temperate lakes. *North American Journal of Fisheries Management* 19:18–27.
- Johnson, R. K., and M. L. Ostrofsky. 2004. Effects of sediment nutrients and depth on small-scale spatial heterogeneity of submersed macrophyte communities in Lake Pleasant, Pennsylvania. *Canadian Journal of Fisheries and Aquatic Sciences* 61:1493–1502.
- Kallemeyn, L. W. 2000. A comparison of fish communities from 32 inland lakes in Isle Royale National Park, 1929 and 1995–1997: U.S. Geological Survey, Biological Science Report USGS/BRD/BSR-2000-0004, Washington, D.C.
- Kaminski, R. M., and H. H. Prince. 1981. Dabbling duck and aquatic macroinvertebrate responses to manipulated wetland habitat. *Journal of Wildlife Management* 45:1–15.
- Keast, A. 1984. The introduced aquatic macrophyte, *Myriophyllum spicatum*, as habitat for fish and their invertebrate prey. *Canadian Journal of Zoology* 62:1289–1303.

- Keddy, P. A., and A. A. Reznicek. 1984. Vegetation dynamics and water level fluctuations on the shorelines of the Great Lakes. Discussion Paper, Wetlands Conference, November 1984, Kellogg Center, Michigan State University, East Lansing.
- Kilgore, K. J., R. P. Morgan II, and N. B. Rybicki. 1989. Distribution and abundance of fishes associated with submersed aquatic plants in the Potomac River. *North American Journal of Fisheries Management* 9:101–111.
- Kushlan, J. A., M. J. Steinkamp, K. C. Parsons, J. Capp, M. A. Cruz, M. Erwin, S. Hatch, S. Kress, R. Milko, S. Miller, K. Mills, R. Paul, R. Phillips, J. E. Saliva, B. Sydeman, J. Trapp, J. Wheeler, and K. Wohl. 2002. Waterbird conservation for the Americas: the North American waterbird conservation plan, version 1. Waterbird conservation for the Americas, Washington, D.C.
- Lindsay, A. R., S. S. Gillam, and M. W. Meyer. 2002. Influence of lakeshore development on breeding bird communities in a mixed northern forest. *Biological Conservation* 107:1–11.
- Linthurst, R. A., D. H. Landers, J. M. Eilers, D. F. Brakke, W. S. Overton, E. P. Meier, and R. E. Crowe. 1986. Characteristics of lakes in the eastern United States. Volume I: Population descriptions and physico-chemical relationships. U.S. Environmental Protection Agency, Office of Research and Development Report, EPA-600/4-86/007a, Washington, D.C.
- MacMillan, P. C. 1981. Log decomposition in Donaldson's Woods, Spring Mill State Park, Indiana. *American Midland Naturalist* 106:335–344.
- Merna, J. W., and M. G. Galbraith, Jr. 1984. Evaluation of the use of Muskegon Reef by fish. Michigan Department of Natural Resources, Study 114 Final Report, Dingle-Johnson Project F-35-R-9, Ann Arbor.
- Michigan State University. 1987. An introduction to Michigan's water resources. Institute of Water Research, Michigan State University, East Lansing.
- Miranda, L. E., and W. D. Hubbard. 1994. Winter survival of age-0 largemouth bass relative to size, predators, and shelter. *North American Journal of Fisheries Management* 14:790–796.
- Monfils, M. J. 1996. Avian breeding use of constructed and established wetlands in Chippewa County, Michigan. Master's thesis. Michigan State University, East Lansing.
- NatureServe Explorer. 2001. An online encyclopedia of life [web application], version 1.6. NatureServe, Arlington, Virginia. Available: <http://www.natureserve.org/explorer> (February 2002).
- Nelson, L. S., C. S. Owens, and K. D. Getsinger. 2003. Response of wild rice to selected aquatic herbicides. U. S. Army Corps of Engineers, Report ERDC/EL TR-03-14, Vicksburg, Mississippi.
- Nichols, S. A. 1994. Evaluation of invasions and declines of submersed macrophytes for the upper Great Lakes region. *Lake and Reservoir Management* 10:29–33.
- NAWMP. 2004. North American waterfowl management plan: strengthening the biological foundation (Implementation Framework). U.S. Department of Interior, Fish and Wildlife Service and Environment Canada, Canadian Wildlife Service.

Conservation Guidelines for Michigan Lakes

- O'Dee, S. H., and G. T. Watters. 2000. New or confirmed host identifications for ten freshwater mollusks. Pages 77–82 in R. A. Tankersley, D. I. Warmolts, G. T. Watters, B. J. Armitage, P. D. Johnson, and R. S. Butler, editors. Freshwater mollusk symposia proceedings. Mussel Symposium, 6–8 March 1998, Columbus, Ohio. Ohio Biological Survey, Columbus.
- Olson, M. H., S. R. Carpenter, P. Cunningham, S. Gafny, B. Herwig, N. Nibbelink, T. Pellet, C. Storlie, A. S. Trebitz, and K. A. Wilson. 1998. Managing macrophytes to improve fish growth: A multi-lake experiment. *Fisheries* 23(2):6–12.
- Pearse, A. S. 1910. The crawfishes of Michigan. Michigan State Biological Survey, Publication 1, Lansing.
- Penskar, M. R., A. A. Reznicek, W. W. Brodovich, G. S. Wilhelm, L. A. Masters, K. D. Herman, and K. P. Gardiner. 2001. Michigan plants database. Appendix C in Herman, K. D., L. A. Masters, M. R. Penskar, A. A. Reznicek, G. S. Wilhelm, W. W. Brodovich, and K. P. Gardiner. 2001. Floristic quality assessment with wetland categories and examples of computer applications for the State of Michigan – Revised, 2nd Edition. Michigan Department of Natural Resources, Wildlife Division, Natural Heritage Program, Lansing.
- Radomski, P., and T. J. Goeman. 2001. Consequences of human lakeshore development on emergent and floating-leaf vegetation abundance. *North American Journal of Fisheries Management* 21:46–61.
- Randall, R. G., C. K. Minns, V. W. Cairns, and J. E. Moore. 1996. The relationship between an index of fish production and submerged macrophytes and other habitat features at three littoral areas in the Great Lakes. *Canadian Journal of Fisheries and Aquatic Sciences* 53:35–44.
- Rasmussen, J. L. 1997. Cumulative effects of small modifications to habitat. American Fisheries Society, Resource Policy Handbook, Bethesda, Maryland.
- Rust, A. J., J. Diana, T. L. Margenau, and C. J. Edwards. 2002. Lake characteristics influencing spawning success of muskellunge in northern Wisconsin lakes. *North American Journal of Fisheries Management* 22:834–841.
- Ruthven, A. G., C. Thompson, and H. T. Gaige. 1928. The herpetology of Michigan. The University of Michigan, Handbook Series Number 3, Ann Arbor.
- Savino, J. F., and R. A. Stein. 1982. Predator-Prey interaction between largemouth bass and bluegills as influenced by simulated, submersed vegetation. *Transactions of the American Fisheries Society* 111:255–266.
- Savino, J. F., and R. A. Stein. 1989. Behavior of fish predators and their prey: habitat choice between open water and dense vegetation. *Environmental Biology of Fishes* 24:287–293.
- Schindler, D. E., S. I. Geib, and M. R. Williams. 2000. Patterns of fish growth along a residential development gradient in north temperate lakes. *Ecosystems* 3:229–237.
- Schindler, D. E., and M. D. Scheuerell. 2002. Habitat coupling in lakes. *Oikos* 98:177–189.
- Schneider, J. C. 1975. Fisheries classification of Michigan Lakes. Michigan Department of Natural Resources, Fisheries Research Report 1822, Ann Arbor.
- Schneider, J. C. 1978. Predicting the standing crop of fish in Michigan lakes. Michigan Department of Natural Resources, Fisheries Research Report 1860, Ann Arbor.

- Schneider, J. C. 1981. Fish communities in warmwater lakes. Michigan Department of Natural Resources, Fisheries Research Report 1890, Ann Arbor.
- Schneider, J. C. 1990. Classifying bluegill populations from lake survey data. Michigan Department of Natural Resources, Fisheries Technical Report 90-10, Ann Arbor.
- Schneider, J. C. 1993. Dynamics of good bluegill populations in two lakes with dense vegetation. Michigan Department of Natural Resources, Fisheries Research Report 1991, Ann Arbor.
- Schneider, J. C. 2000. Evaluation of the effects of the herbicide Sonar on sport fish populations in Michigan lakes. Michigan Department of Natural Resources, Fisheries Technical Report 2000-2, Ann Arbor.
- Schneider, J. C. 2002. Fish as indicators of lake habitat quality and a proposed application. Michigan Department of Natural Resources, Fisheries Research Report 2061, Ann Arbor.
- Schneider J. C., and R. N. Lockwood. 1997. Experimental management of stunted bluegill lakes. Michigan Department of Natural Resources, Fisheries Research Report 2040, Ann Arbor.
- Schlosser, I. J., and L. W. Kallemeyn. 2000. Spatial variation in fish assemblages across a beaver-influenced successional landscape. *Ecology* 81:1371-1382.
- Scott, W. B., and E. J. Crossman. 1973. Freshwater fishes of Canada. Fisheries Research Board of Canada Bulletin 184, Ottawa.
- Shaw, B., C. Mechenich, and L. Klessig. 1996. Understanding lake data. University of Wisconsin Cooperative Extension, Madison.
- Sheldon, S. P., and R. P. Creed, Jr. 1995. Use of a native insect as a biological control for an introduced weed. *Ecological Applications* 5:1127-1132.
- Sheldon, S. P., and L. M. O'Bryan. 1996. The effects of harvesting Eurasian milfoil on the aquatic weevil *Euhrychiopsis lecontei*. *Journal of Aquatic Plant Management* 34:76-77.
- Sherman, R. A. 1997. The freshwater mussels (Bivalvia: Unionidae) of the St. Joseph and Kalamazoo rivers, Michigan. University of Michigan, Museum of Zoology, Ann Arbor.
- Smith, H. S. 1970. Trends in fishery management of the Great Lakes. *In* A century of fisheries in North America. American Fisheries Society, Special Publication 7, Bethesda, Maryland.
- Smith, K. D. 1993. Vegetation-open water interface and the predator-prey interaction between largemouth bass and bluegills: a field experiment. Michigan Department of Natural Resources, Fisheries Research Report 2000, Ann Arbor.
- Sommers, L. M. 1977. Atlas of Michigan. Michigan State University Press, East Lansing.
- Soulliere, G. J. 1995. Munuscong Wildlife Area Management Plan: an ecosystem conservation and user accommodation approach. Michigan Department of Natural Resources, Wildlife Division, Lansing.
- Soulliere, G. J. 2005. Role of the Upper Mississippi River and Great Lakes region Joint Venture and synopsis of bird conservation initiatives. U.S. Fish and Wildlife Service, UMR & GLR Joint Venture Report, East Lansing, Michigan.

Conservation Guidelines for Michigan Lakes

- Soulliere, G. J., and M. J. Monfils. 1996. Waterbird use of a constructed wetland complex in eastern Upper Michigan (year 3). Michigan Department of Natural Resources, Wildlife Division Report 3262, Lansing.
- Steg, M. B., and R. J. Neves. 1997. Fish host identification for Virginia listed Unionids in the Upper Tennessee River drainage. U.S. Fish and Wildlife Service, Triannual Unionid Report 13, Asheville, North Carolina.
- Theiling, C. H. 1990. The relationships between several limnological factors and bluegill growth in Michigan lakes. Michigan Department of Natural Resources, Fisheries Research Report 1970, Ann Arbor.
- Trautman, M. B. 1981. The fishes of Ohio. Ohio State University Press, Columbus.
- Tugend, K. I., M. S. Allen, and M. Webb. 2002. Use of artificial habitat structures in U. S. lakes and reservoirs: A survey from the Southern Division AFS Reservoir Committee. Fisheries 27(5):22–27.
- Turgeon, D. D., J. F. Quinn, Jr., A. E. Bogan, E. V. Coan, F. G. Hochberg, W. G. Lyons, P. M. Mikkelsen, R. J. Neves, C. F. E. Roper, G. Rosenberg, B. Roth, A. Scheltema, F. G. Thompson, M. Vecchione, and J. D. Williams. 1998. Common and scientific names of aquatic invertebrates from the United States and Canada: Mollusks, 2nd edition. American Fisheries Society, Special Publication 26, Bethesda, Maryland.
- U.S. Department of the Interior, U.S. Fish and Wildlife Service and U.S. Department of Commerce, U.S. Census Bureau. 2002. 2001 National Survey of Fishing, Hunting, and Wildlife-Associated Recreation, Washington, D.C.
- Van der Schale, H. 1936. The naiad fauna of the St. Joseph River drainage in Southwestern Michigan. American Midland Naturalist 17:523–527.
- Vincent, R. E. 1992. Biogeographical and ecological factors contributing to the decline of arctic grayling, *Thymallus arcticus* (Pallus), in Michigan and Montana. Doctoral dissertation. The University of Michigan, Ann Arbor.
- Voss, E. G. 1972. Michigan Flora, Part I, Gymnosperms and monocots. Cranbrook Institute of Science Bulletin 55 and University of Michigan Herbarium, Ann Arbor.
- Voss, E. G. 1985. Michigan Flora, Part II, Dicots (Saururaceae–Cornaceae). Cranbrook Institute of Science Bulletin 59 and University of Michigan Herbarium, Ann Arbor.
- Voss, E. G. 1996. Michigan Flora, Part III, Dicots (Pyrolaceae–Compositae). Cranbrook Institute of Science Bulletin 61 and University of Michigan Herbarium, Ann Arbor.
- Washington State Department of Ecology. 2001. Environmental impact statement for freshwater aquatic plant management, final supplement. Water Quality Program, Publication 00-10-040, Lacey, Washington.
- Watters, G. T. 1994. Clubshell (*Pleurobema clava*) and northern riffleshell (*Epioblasma torulosa rangiana*) recovery plan. U.S. Fish and Wildlife Service, Region Five, Hadley, Massachusetts.
- Watters, G. T. 1995. A guide to the freshwater mussels of Ohio, 3rd edition. Ohio Department of Natural Resources, Columbus.

- Watters, G. T. 1996. Hosts for the northern riffle shell (*Epioblasma torulosa rangiana*). U. S. Fish and Wildlife Service, Triannual Unionid Report 10, Asheville, North Carolina.
- Watters, G. T., S. H. O'Dee, and S. Chordas. 1998a. New potential hosts for: *Strophitus undulatus*–Ohio River drainage; *Strophitus undulatus*–Susquehanna River drainage; *Alasimidonta undulata*–Susquehanna River drainage; *Actinonaias ligamentina*–Ohio River drainage; and *Lasmigona costata*–Ohio River drainage. U.S. Fish and Wildlife Service, Triannual Unionid Report 15, Asheville, North Carolina.
- Watters, G. T., S. H. O'Dee, S. Chordas, and J. Rieger. 1998b. Potential host for *Lampsilis reeviana brevicula* and *Obliquaria reflexa*. U.S. Fish and Wildlife Service, Triannual Unionid Report 16, Asheville, North Carolina.
- Weaver, M. J., J. J. Magnuson, and M. K. Clayton. 1997. Distribution of littoral fishes in structurally complex macrophytes. Canadian Journal of Fisheries and Aquatic Sciences 54:2277–2289.
- Werner, E. E., and D. J. Hall. 1977. Competition and habitat shift in two sunfishes (Centrarchidae). Ecology 58:869–876.
- Werner, E. E., D. J. Hall, D. R. Laughlin, D. J. Wagner, L. A. Wilsmann, and F. C. Funk. 1977. Habitat partitioning in a freshwater fish community. Journal of the Fisheries Research Board of Canada 34:360–370.
- Wetzel, R. G. 1975. Limnology. W. B. Saunders Company, Philadelphia, Pennsylvania.
- Wilcox, D. A., and J. E. Meeker. 1992. Implications for faunal habitat related to altered macrophyte structure in regulated lakes in northern Minnesota. Wetlands 12:192–203.
- Wiley, M. J., R. W. Gorden, S. W. Waite, and T. Powless. 1984. The relationship between aquatic macrophytes and sport fish production in Illinois Ponds: A simple model. North American Journal of Fisheries Management 4:111–119.
- Williams, J. D., M. L. Warren, Jr., K. S. Cummings, J. L. Harris, and R. J. Neves. 1993. Conservation status of freshwater mussels of the United States and Canada. Fisheries 18(9):6–22.
- Woodford, J. E., and M. W. Meyer. 2003. Impact of lakeshore development on green frog abundance. Biological Conservation 110:277–284.