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### **Occupational Objective**

Research in natural resource ecology, particularly fish ecology, fisheries biology, and management. Application of mathematical and statistical techniques to ecological systems and problems.

### **Educational Background**

University of Hawaii Honolulu, Hawaii  
Ph.D. 1988. Zoology. Research on the basic and applied aspects of dissolved oxygen dynamics in pond ecosystems. Ecology of patterns of production and respiration in ponds.

University of Michigan Ann Arbor, Michigan  
M.S. 1979. Emphasis on fisheries biology, statistics and mathematical modeling. Skills in FORTRAN, PASCAL, BASIC and ALGOL programming, CALCOMP plotting, linear programming and Monte Carlo simulation.

Rutgers University New Brunswick, New Jersey  
B.S. 1975. Major in aquatic biology. Solid background in ecology and mathematics. Member of Pi Mu Epsilon, mathematics honor fraternity.

### **Occupational Background**

Great Lakes Science Center, U. S. Geological Survey  
Ann Arbor, Michigan

Research Fishery Biologist. 1/92 to present. Research in the following four theme areas: (1) fish community dynamics and native fish restoration in the Laurentian Great Lakes, (2) invasion biology in the Laurentian Great Lakes, (3) evaluation and application of fish bioenergetics models, and (4) contaminant accumulation in fish. Research in theme area 1 is directed at understanding the dynamics of fish populations and fish communities in the Great Lakes and at restoring native fish populations to the Great Lakes. Research in this theme area draws heavily from the annual surveys conducted by the Great Lakes Science Center (GLSC). To track prey fish abundances through time, the GLSC has been performing bottom trawl surveys each year on all five Laurentian Great Lakes from as early as 1973. To complement the bottom trawl surveys, the GLSC has more recently begun to perform hydroacoustic surveys on the lakes each year. In addition, to track progress toward lake trout (*Salvelinus namaycush*) restoration, the GLSC annually conducts gillnet surveys in each of the lakes. For Lake Michigan, the annual gillnet surveys began in 1991 in the Northern Refuge of the lake. The annual bottom trawl surveys are not only essential for understanding the dynamics of the important prey fish species in Lake Michigan, but are invaluable in determining the degree of species interactions between the various species of prey fish. Likewise, the annual gillnet surveys are essential for determining progress toward lake trout restoration in the Northern Refuge of Lake Michigan. In addition, habitat suitability for cisco (*Coregonus artedii*) in Green Bay (Lake Michigan) has been investigated. Various types of both regression modeling and population modeling have also been used to better

understand the dynamics of Great Lakes fish populations and fish communities. Cross-lake comparisons are essential toward understanding prey fish dynamics and impediments to native species restoration in the Great Lakes. Research in theme area 2 is directed at understanding the effects of invasives on native and naturalized fish populations and fish communities and at identifying the important factors controlling the abundance of invasives in the Laurentian Great Lakes. Research in this theme area draws heavily from the annual surveys conducted by the GLSC. In addition, various types of both regression modeling and population modeling are used to better understand effects of invasives on fish communities as well as to assess the importance of various factors on controlling abundance of invasives. Cross-lake comparisons are essential in determining effects of invasives on Great Lakes food webs. Research in theme area 3 is directed at: (a) evaluating the performance of fish bioenergetics models both in the laboratory and in the field, and (b) applying fish bioenergetics models in new and novel ways to better understand feeding ecology of fish. Part of the effort in theme area 3 includes use of polychlorinated biphenyls (PCBs) as tracers for energy flow between prey and predator. Research in theme area 4 is directed at: (a) the sex effect on PCB concentrations in fish, (b) trophic transfer efficiencies of contaminants to fish from their food, and (c) rates of mercury excretion by fish. Bioenergetics modeling is also useful in studying sex differences in PCB concentrations. Laboratory experiments are used to estimate trophic transfer of PCBs, mercury, and other contaminants to fish from their food, as well as to estimate the rate of mercury excretion by fish.

Center for Limnology, University of Wisconsin  
Madison, Wisconsin

Research Associate. 9/90 to 1/92. Research on individual-based modeling of growth of salmonids and of microcontaminant uptake by salmonids in the Great Lakes. Responsibilities included development and exercising of individual-based computer simulation models, and application of the models to determine stocking strategies which minimize concentrations of contaminants in salmonids.

Center for Limnology, University of Wisconsin  
Madison, Wisconsin

Postdoctoral Fellow. 7/89 to 8/90. Research on modeling of growth of young-of-the-year walleye. Responsibilities included development and exercising of individual-based computer simulation models, and application of the models to determine optimum stocking strategies for fingerling walleyes in Lake Mendota (Wisconsin).

Hawaii Natural Energy Institute, University of Hawaii  
Honolulu, Hawaii

Research Associate. 12/88 to 7/89. Research on potential uses of cold-water effluent from expanded OTEC (Ocean Thermal Energy Conversion) operation. Responsibilities included development and exercising of computer simulation models for nutrient cycling and primary production in the cold-water effluent, and investigating the feasibility of enhancing ocean fisheries from artificial upwellings.

Hawaii Institute of Marine Biology, University of Hawaii  
Kaneohe, Hawaii

Graduate Research Assistant. 7/83 to 11/88. Research on dissolved oxygen dynamics in aquaculture ponds. Responsibilities included modeling, writing of computer simulation and parameter estimation programs, statistical analysis of data, report writing, field work, development and maintenance of automated data logger for monitoring dissolved oxygen and meteorological parameters, and lab processing of samples.

Great Lakes Research Division, University of Michigan  
Ann Arbor, Michigan

Research Assistant. 4/78 to 6/83. Research on environmental impacts of several different power plants on fish populations in the respective vicinities of these plants. Responsibilities included computer programming, data base management, data analysis and interpretation, writing sections of impact reports, lab duties and field work (including SCUBA diving). Author of statistical analysis sections of special reports for the J. H. Campbell Power

Plant study.

University of Michigan Sea Grant Program  
Ann Arbor, Michigan

Research Assistant. 4/77 to 4/78. Time series analysis and forecasting of fishery catch and effort. Responsibilities included modeling, interpretation of results and writing of report (M.S. thesis).

### **Teaching Background**

School of Natural Resources, University of Michigan  
Ann Arbor, Michigan

Teaching Assistant. 1/76 to 4/76, 1/77 to 4/77. Introductory applied statistics course. Responsibilities included recitation on problem solving, grading tests, and instruction in FORTRAN and in use of packaged statistical programs.

### **Professional Memberships/Recognition**

Member of the American Fisheries Society.

Member of the International Association of Great Lakes Research.

Member of Board of Directors, International Association of Great Lakes Research, 2006-2009.

Associate Editor for the *North American Journal of Fisheries Management*, 1997-2008.

Associate Editor for the *Journal of Great Lakes Research*, 2001-2006.

Member of Core Group, Sea Lamprey Research Board, Great Lakes Fishery Commission, 2002-2008.

Adjunct Professor to the Department of Evolution, Ecology, and Organismal Biology, Ohio State University, Columbus, Ohio, 1993 to present.

Adjunct Professor to the School of Natural Resources & Environment, University of Michigan, Ann Arbor, Michigan, 1997 to present.

Adjunct Professor to the Department of Fisheries and Wildlife, Michigan State University, East Lansing, Michigan, 2002 to present.

Affiliate to the Quantitative Fisheries Center, Department of Fisheries and Wildlife, Michigan State University, East Lansing, Michigan, 2012 to present.

### **Thesis and Dissertation**

Madenjian, C. P. 1979. Time series analysis and forecasting of fishery catch and effort. M.S. Thesis, Univ. of Mich., Ann Arbor, Mich. 54 pp.

Madenjian, C. P. 1988. Patterns of production and respiration in pond ecosystems. Ph.D. Diss., Univ. Hawaii, Honolulu, Hawaii. 191 pp.

### **Technical Reports**

Jude, D. J., G. R. Heufelder, H. T. Tin, N. A. Auer, S. A. Klinger, P. J. Schneeberger, T. L. Rutecki, C. P. Madenjian, and P. J. Rago. 1979. Adult, juvenile and larval fish in the vicinity of the J. H. Campbell Power Plant, eastern Lake Michigan, 1978. Spec. Rep. No. 73, Great Lakes Res. Div., Univ. Mich., Ann Arbor, Mich. 574 pp.

Jude, D. J., G. R. Heufelder, H. T. Tin, N. A. Auer, S. A. Klinger, P. J. Schneeberger, C. P. Madenjian, T. L. Rutecki, and G. G. Godun. 1980. Adult, juvenile and larval fish populations in the vicinity of the J. H. Campbell Power

Plant, eastern Lake Michigan, 1979. Spec. Rep. No. 79. Great Lakes Res. Div., Univ. Mich., Ann Arbor, Mich. 607 pp.

Jude, D. J., T. L. Rutecki, C. P. Madenjian, G. E. Noguchi, P. J. Schneeberger, S. A. Klinger, G. G. Godun, and M. H. Winnell. 1981. The physical, chemical and biological nature of Pigeon Lake, a Lake Michigan coastal lake. Spec. Rep. No. 78. Great Lakes Res. Div., Univ. Mich., Ann Arbor, Mich. 109 pp.

Jude, D. J., H. T. Tin, G. R. Heufelder, P. J. Schneeberger, C. P. Madenjian, T. L. Rutecki, P. J. Mansfield, N. A. Auer, and G. E. Noguchi. 1981. Adult, juvenile and larval fish populations in the vicinity of the J. H. Campbell Power Plant, eastern Lake Michigan, 1977-1980. Spec. Rep. No. 86. Great Lakes Res. Div., Univ. Mich., Ann Arbor, Mich. 436 pp.

Jude, D. J., C. P. Madenjian, P. J. Schneeberger, H. T. Tin, P. J. Mansfield, T. L. Rutecki, G. E. Noguchi, and G. R. Heufelder. 1982. Adult, juvenile and larval fish populations in the vicinity of the J. H. Campbell Power Plant, eastern Lake Michigan, 1981, with special reference to the effectiveness of wedge-wire intake screens in reducing entrainment and impingement of fish. Spec. Rep. No. 96. Great Lakes Res. Div., Univ. Mich., Ann Arbor, Mich. 516 pp.

Madenjian, C. P., G. L. Rogers, and A. W. Fast. 1985. Microcomputer modeling of nighttime dissolved oxygen dynamics in Hawaiian prawn ponds. Proc. Second International Conference on Warm Water Aquaculture-Finfish. Laie, Hawaii, Feb. 5-8, 1985.

Madenjian, C. P. 1993. Low polychlorinated biphenyl contamination in Lake Michigan rainbow trout due to short exposure time. U.S. Fish and Wildlife Service Research Information Bulletin No. 75, National Fisheries Research Center - Great Lakes, Ann Arbor, Mich.

Madenjian, C. P. 1993. Gear selectivity influences optimal harvest rate estimates. U.S. Fish and Wildlife Service Research Information Bulletin No. 76, National Fisheries Research Center - Great Lakes, Ann Arbor, Mich.

Muth, K. M., D. R. Wolfert, M. T. Bur, and C. P. Madenjian. 1993. Lake Erie fishery research, 1992. Report distributed at the 1993 Annual Lake Erie Committee Meeting.

Muth, K. M., D. R. Wolfert, M. T. Bur, and C. P. Madenjian. 1994. Lake Erie fishery research, 1993. Report distributed at the 1994 Annual Lake Erie Committee Meeting.

Madenjian, C. P. 1994. Algae removal by zebra mussels in western Lake Erie. National Biological Survey Research Information Bulletin No. 16, National Fisheries Research Center - Great Lakes, Ann Arbor, Mich.

Madenjian, C. P., and S. W. Gabrey. 1994. Walleye consume more fish than do birds in the western Lake Erie ecosystem. National Biological Survey Research Information Bulletin No. 53, Great Lakes Science Center, Ann Arbor, Mich.

Madenjian, C. P., D. M. Whittle, J. H. Elrod, R. O'Gorman, and R. W. Owens. 1995. A simulation model looks back at PCB concentrations in alewife. National Biological Service Research Information Bulletin No. 34, Great Lakes Science Center, Ann Arbor, Mich.

Muth, K. M., M. T. Bur, and C. P. Madenjian. 1995. Lake Erie fishery research, 1994. Report distributed at the 1995 Annual Lake Erie Committee Meeting.

Bur, M. T., K. M. Muth, and C. P. Madenjian. 1996. Lake Erie fishery research, 1995. Report distributed at the 1996 Annual Lake Erie Committee Meeting.

Passino-Reader, D. R., R. M. Stedman, and C. P. Madenjian. 1996. Status of forage fish stocks in Lake Michigan, 1995. Report distributed at the 1996 Annual Lake Michigan Committee Meeting.

Madenjian, C. P., R. M. Stedman, T. J. DeSorcie, and D. R. Passino-Reader. 1997. Status of prey fish populations in Lake Michigan, 1996. Report distributed at the 1997 Annual Lake Michigan Committee Meeting.

Madenjian, C. P. and T. J. DeSorcie. 1998. Status of prey fish populations in Lake Michigan, 1997. Report distributed at the 1998 Annual Lake Michigan Committee Meeting.

Madenjian, C. P., T. J. DeSorcie, and J. McClain. 1999. Lake trout rehabilitation in Lake Huron -- 1998 progress report on coded wire tag returns. Report distributed at the 1999 Annual Lake Huron Committee Meeting.

Fleischer, G. W., C. P. Madenjian, L. M. TeWinkel, T. J. DeSorcie, and J. D. Holuszko. 1999. Status of prey fish populations in Lake Michigan, 1998. Report distributed at the 1999 Annual Lake Michigan Committee Meeting.

Madenjian, C. P., T. J. DeSorcie, and J. McClain. 2000. Lake trout rehabilitation in Lake Huron -- 1999 progress report on coded wire tag returns. Report distributed at the 2000 Annual Lake Huron Committee Meeting.

Fleischer, G. W., C. P. Madenjian, T. J. DeSorcie, and J. D. Holuszko. 2000. Status and trends of prey fish populations in Lake Michigan, 1999. Report distributed at the 2000 Annual Lake Michigan Committee Meeting.

Madenjian, C. P., T. J. DeSorcie, and J. McClain. 2001. Lake trout rehabilitation in Lake Huron -- 2000 progress report on coded wire tag returns. Report distributed at the 2001 Annual Lake Huron Committee Meeting.

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Madenjian, C. P., T. J. Desorcie, and J. McClain. 2002. Lake trout rehabilitation in Lake Huron -- 2001 progress report on coded wire tag returns. Report distributed at the 2002 Annual Lake Huron Committee Meeting.

Madenjian, C. P., T. J. Desorcie, and J. D. Holuszko. 2002. Status and trends of prey fish populations in Lake Michigan, 2001. Report distributed at the 2002 Annual Lake Michigan Committee Meeting.

Madenjian, C. P., T. J. Desorcie, and J. McClain. 2003. Lake trout rehabilitation in Lake Huron -- 2002 progress report on coded wire tag returns. Report distributed at the 2003 Annual Lake Huron Committee Meeting.

Madenjian, C. P., T. J. Desorcie, and J. D. Holuszko. 2003. Status and trends of prey fish populations in Lake Michigan, 2002. Report distributed at the 2003 Annual Lake Michigan Committee Meeting.

Madenjian, C. P., T. J. Desorcie, J. McClain, and A. Woldt. 2004. Lake trout rehabilitation in Lake Huron -- 2003 progress report on coded wire tag returns. Report distributed at the 2004 Annual Lake Huron Committee Meeting.

Madenjian, C. P., T. J. Desorcie, and J. D. Holuszko. 2004. Status and trends of prey fish populations in Lake Michigan, 2003. Report distributed at the 2004 Annual Lake Michigan Committee Meeting.

Madenjian, C. P., T. J. Desorcie, J. McClain, and A. Woldt. 2005. Lake trout rehabilitation in Lake Huron -- 2004 progress report on coded wire tag returns. Report distributed at the 2005 Annual Lake Huron Committee Meeting.

Madenjian, C. P., D. B. Bunnell, T. J. Desorcie, J. D. Holuszko, and J. V. Adams. 2005. Status and trends of prey fish populations in Lake Michigan, 2004. Report distributed at the 2005 Annual Lake Michigan Committee Meeting.

- Madenjian, C. P., S. A. Pothoven, P. J. Schneeberger, D. V. O'Connor, and S. B. Brandt. 2005. Preliminary evaluation of a lake whitefish (*Coregonus clupeaformis*) bioenergetics model. *In* Proceedings of a workshop on the dynamics of lake whitefish (*Coregonus clupeaformis*) and the amphipod *Diporeia* spp. in the Great Lakes. *Edited by* L. C. Mohr and T. F. Nalepa. Great Lakes Fish. Comm. Tech. Rep. 66. pp. 189-201.
- Nalepa, T. F., L. C. Mohr, B. A. Henderson, C. P. Madenjian, and P. J. Schneeberger. 2005. Lake whitefish and *Diporeia* spp. in the Great Lakes: an overview. *In* Proceedings of a workshop on the dynamics of lake whitefish (*Coregonus clupeaformis*) and the amphipod *Diporeia* spp. in the Great Lakes. *Edited by* L. C. Mohr and T. F. Nalepa. Great Lakes Fish. Comm. Tech. Rep. 66. pp. 3-19.
- Fleischer, G. W., C. P. Madenjian, R. F. Elliott, and M. L. Toney. 2005. Planktivores. *In* The state of Lake Michigan in 2000. *Edited by* M. E. Holey and T. N. Trudeau. Great Lakes Fish. Comm. Spec. Pub. 05-01, pp. 25-32.
- Madenjian, C. P., T. J. Desorcie, J. McClain, and A. Woldt. 2006. Lake trout rehabilitation in Lake Huron -- 2005 progress report on coded wire tag returns. Report distributed at the 2006 Annual Lake Huron Committee Meeting.
- Madenjian, C. P., D. B. Bunnell, T. J. Desorcie, J. D. Holuszko, and J. V. Adams. 2006. Status and trends of prey fish populations in Lake Michigan, 2005. Report distributed at the 2006 Annual Lake Michigan Committee Meeting.
- Bunnell, D. B., C. P. Madenjian, J. D. Holuszko, T. J. Desorcie, and J. V. Adams. 2007. Status and trends of prey fish populations in Lake Michigan, 2006. Report distributed at the 2007 Annual Lake Michigan Committee Meeting.
- Bronte, C. R., B. Breidert, S. Hansen, D. Hanson, M. Holey, J. Jonas, S. Lenart, C. Madenjian, A. Martell, P. McKee, E. Olsen, P. Peeters, S. Robillard, T. Smigielski, and G. Wright. 2007. Lake Michigan Lake Trout Working Group report. Report distributed at the 2007 Annual Lake Michigan Committee Meeting.
- Claramunt, R. M., B. Breidert, D. F. Clapp, R. F. Elliott, C. P. Madenjian, P. Peeters, S. R. Robillard, D. M. Warner, and G. Wright. 2007. Status of salmonines in Lake Michigan, 1985-2006. Report distributed at the 2007 Annual Lake Michigan Committee Meeting.
- Dettmers, J. M., C. P. Madenjian, P. J. Allen, S. A. Pothoven, and T. F. Nalepa. 2008. Impact of recent invasive species on nearshore fishes. *In* The state of Lake Michigan in 2005. *Edited by* D. F. Clapp and W. Horns. Great Lakes Fish. Comm. Spec. Pub. 08-02, pp. 19-26.
- Madenjian, C. P., D. M. Warner, D. B. Bunnell, R. M. Claramunt, and J. M. Dettmers. 2008. Status of planktivore populations. *In* The state of Lake Michigan in 2005. *Edited by* D. F. Clapp and W. Horns. Great Lakes Fish. Comm. Spec. Pub. 08-02, pp. 49-54.
- Claramunt, R. M., D. F. Clapp, B. Breidert, R. F. Elliott, C. P. Madenjian, D. M. Warner, P. Peeters, S. R. Robillard, and G. Wright. 2008. Status of Chinook salmon. *In* The state of Lake Michigan in 2005. *Edited by* D. F. Clapp and W. Horns. Great Lakes Fish. Comm. Spec. Pub. 08-02, pp. 71-80.
- Madenjian, C. P., D. B. Bunnell, J. D. Holuszko, T. J. Desorcie, and J. V. Adams. 2008. Status and trends of prey fish populations in Lake Michigan, 2007. Report distributed at the 2008 Annual Lake Michigan Committee Meeting.
- Bronte, C. R., B. Breidert, S. Hansen, D. Hanson, M. Holey, J. Jonas, S. Lenart, C. Madenjian, A. Martell, P. McKee, E. Olsen, P. Peeters, S. Robillard, T. Smigielski, and G. Wright. 2008. Lake Michigan Lake Trout Working Group report. Report distributed at the 2008 Annual Lake Michigan Committee Meeting.

Claramunt, R. M., B. Breidert, D. F. Clapp, R. F. Elliott, C. P. Madenjian, P. Peeters, S. R. Robillard, D. M. Warner, and G. Wright. 2008. Status of salmonines in Lake Michigan, 1985-2007. Report distributed at the 2008 Annual Lake Michigan Committee Meeting.

Bunnell, D. B., C. P. Madenjian, J. D. Holuszko, T. J. Desorcie, and J. V. Adams. 2009. Status and trends of prey fish populations in Lake Michigan, 2008. Report distributed at the 2009 Annual Lake Michigan Committee Meeting.

Claramunt, R. M., B. Breidert, D. F. Clapp, R. F. Elliott, C. P. Madenjian, P. Peeters, S. R. Robillard, D. M. Warner, and G. Wright. 2009. Status of salmonines in Lake Michigan, 1985-2008. Report distributed at the 2009 Annual Lake Michigan Committee Meeting.

Madenjian, C. P., D. B. Bunnell, J. D. Holuszko, T. J. Desorcie, and J. V. Adams. 2010. Status and trends of prey fish populations in Lake Michigan, 2009. Report distributed at the 2010 Annual Lake Michigan Committee Meeting.

Madenjian, C. P., B. Breidert, C. Bronte, S. Hansen, D. Hanson, M. Holey, J. Jonas, S. Lenart, A. Martell, P. McKee, E. Olsen, P. Peeters, S. Robillard, T. Smigielski, and G. Wright. 2010. Lake Michigan Lake Trout Working Group report. Report distributed at the 2010 Annual Lake Michigan Committee Meeting.

Claramunt, R. M., B. Breidert, D. F. Clapp, R. F. Elliott, C. P. Madenjian, P. Peeters, S. R. Robillard, D. M. Warner, and G. Wright. 2010. Status of salmonines in Lake Michigan in 2009: a report from the Salmonid Working Group. Report distributed at the 2010 Annual Lake Michigan Committee Meeting.

Bunnell, D. B., C. P. Madenjian, J. D. Holuszko, T. J. Desorcie, and J. V. Adams. 2011. Status and trends of prey fish populations in Lake Michigan, 2010. Report distributed at the 2011 Annual Lake Michigan Committee Meeting.

Madenjian, C. P., B. Breidert, C. Bronte, R. Gordon, S. Hansen, D. Hanson, M. Holey, T. Treska, J. Jonas, S. Lenart, A. Martell, P. McKee, E. Olsen, P. Peeters, S. Robillard, and G. Wright. 2011. Lake Michigan Lake Trout Working Group report. Report distributed at the 2011 Annual Lake Michigan Committee Meeting.

Claramunt, R. M., B. Breidert, D. F. Clapp, R. F. Elliott, C. P. Madenjian, P. Peeters, S. R. Robillard, D. M. Warner, and G. Wright. 2011. Status of salmonines in Lake Michigan in 2010: a report from the Salmoind Working Group. Report distributed at the 2011 Annual Lake Michigan Committee Meeting.

Madenjian, C. P., D. B. Bunnell, T. J. Desorcie, M. A. Chriscinske, M. J. Kostich, and J. V. Adams. 2012. Status and trends of prey fish populations in Lake Michigan, 2011. Report distributed at the 2012 Annual Lake Michigan Committee Meeting.

Madenjian, C. P., B. Breidert, C. Bronte, K. Donner, R. Gordon, S. Hansen, D. Hanson, M. Holey, T. Treska, J. Jonas, M. Holtgren, P. McKee, E. Olsen, P. Peeters, S. Robillard, and G. Wright. 2012. Lake Michigan Lake Trout Working Group report. Report distributed at the 2012 Annual Lake Michigan Committee Meeting.

Bence, J. R., N. E. Dobiesz, C. P. Madenjian, R. Argyle, R. Barbiero, J. N. Bowlby, R. M. Claramunt, R. O'Gorman, and T. Schaner. 2008. Top-down effects of open-water salmonine predators in the Great Lakes. Quantitative Fisheries Center Technical Report T2008-07. Michigan State University.

Claramunt, R. M., D. M. Warner, C. P. Madenjian, T. J. Treska, and D. Hanson. 2012. Offshore salmonine food web. *In* The state of Lake Michigan in 2011. *Edited by* D. B. Bunnell. Great Lakes Fish. Comm. Spec. Pub. 12-01, pp. 13-23.

Bunnell, D. B., C. P. Madenjian, T. J. Desorcie, M. J. Kostich, K. R. Smith, and J. V. Adams. 2013. Status and trends of prey fish populations in Lake Michigan, 2012. Report distributed at the 2013 Annual Lake Michigan Committee Meeting.

Madenjian, C. P., B. Breidert, C. Bronte, K. Donner, R. Gordon, D. Boyarski, D. Hanson, M. Holey, M. Holtgren, J. Jonas, E. Olsen, S. Robillard, T. Treska, and G. Wright. 2013. Lake Michigan Lake Trout Working Group report. Report distributed at the 2013 Annual Lake Michigan Committee Meeting.

Madenjian, C. P., D. B. Bunnell, T. J. Desorcie, M. J. Kostich, P. M. Armenio, and J. V. Adams. 2014. Status and trends of prey fish populations in Lake Michigan, 2013. Report distributed at the 2014 Annual Lake Michigan Committee Meeting.

Madenjian, C. P., D. Boyarski, B. Breidert, C. Bronte, B. Dickinson, K. Donner, M. Ebener, R. Gordon, D. Hanson, M. Holey, J. Jonas, E. Olsen, S. Robillard, T. Treska, M. Williams, and G. Wright. 2014. Lake Michigan Lake Trout Working Group report. Report distributed at the 2014 Annual Lake Michigan Committee Meeting.

Bunnell, D. B., C. P. Madenjian, T. J. Desorcie, M. J. Kostich, W. Woelmer, and J. V. Adams. 2015. Status and trends of prey fish populations in Lake Michigan, 2014. Report distributed at the 2015 Annual Lake Michigan Committee Meeting.

Madenjian, C. P., D. Boyarski, B. Breidert, C. Bronte, B. Dickinson, K. Donner, M. Ebener, R. Gordon, D. Hanson, M. Holey, J. Jonas, E. Olsen, S. Robillard, T. Treska, B. Weldon, and G. Wright. 2015. Lake Michigan Lake Trout Working Group report. Report distributed at the 2015 Annual Lake Michigan Committee Meeting.

Madenjian, C. P., D. B. Bunnell, T. J. Desorcie, M. J. Kostich, M. A. Chriscinske, and J. V. Adams. 2016. Status and trends of prey fish populations in Lake Michigan, 2015. Report distributed at the 2016 Annual Lake Michigan Committee Meeting.

Madenjian, C. P., D. Boyarski, B. Breidert, C. Bronte, B. Dickinson, K. Donner, M. Ebener, R. Gordon, D. Hanson, M. Holey, J. Jonas, E. Olsen, S. Robillard, T. Treska, B. Weldon, and G. Wright. 2016. Lake Michigan Lake Trout Working Group report. Report distributed at the 2016 Annual Lake Michigan Committee Meeting.

Bunnell, D. B., C. P. Madenjian, T. J. Desorcie, M. J. Kostich, P. Armenio, and J. V. Adams. 2017. Status and trends of prey fish populations in Lake Michigan, 2016. Report distributed at the 2017 Annual Lake Michigan Committee Meeting.

Madenjian, C. P., B. Breidert, D. Boyarski, C. Bronte, B. Dickinson, K. Donner, M. Ebener, R. Gordon, D. Hanson, M. Holey, J. Janssen, J. Jonas, M. Kornis, E. Olsen, S. Robillard, T. Treska, B. Weldon, and G. Wright. 2017. 2016 Lake Michigan Lake Trout Working Group Report. Report distributed at the 2017 Annual Lake Michigan Committee Meeting.

Madenjian, C. P., D. B. Bunnell, T. J. Desorcie, P. Armenio, and J. V. Adams. 2018. Status and trends of prey fish populations in Lake Michigan, 2017. Report distributed at the 2018 Annual Lake Michigan Committee Meeting.

Madenjian, C. P., B. Breidert, C. Bronte, B. Dickinson, K. Donner, R. Gordon, D. Hanson, J. Janssen, J. Jonas, M. Kornis, E. Olsen, S. Robillard, L. Schmidt, T. Treska, and B. Weldon. 2018. 2017 Lake Michigan Lake Trout Working Group Report. Report distributed at the 2018 Annual Lake Michigan Committee Meeting.

Bunnell, D. B., H. J. Carrick, C. P. Madenjian, E. S. Rutherford, H. A. Vanderploeg, R. P. Barbiero, E. Hinchey-Malloy, S. A. Pothoven, C. M. Riseng, R. M. Claramunt, H. A. Bootsma, A. K. Elgin, M. D. Rowe, S. M. Thomas, B. A. Turschak, S. Czesny, K. L. Pangle, and D. M. Warner. 2018. Are changes in lower trophic levels



limiting prey-fish biomass and production in Lake Michigan? Great Lakes Fishery Commission Miscellaneous Publication 2018-01.

Bunnell, D. B., C. P. Madenjian, T. J. Desorcie, P. Armenio, and J. V. Adams. 2019. Status and trends of prey fish populations in Lake Michigan, 2018. Report distributed at the 2019 Annual Lake Michigan Committee Meeting.

Madenjian, C. P., B. Breidert, C. Bronte, B. Dickinson, K. Donner, R. Gordon, D. Hanson, J. Janssen, J. Jonas, M. Kornis, E. Olsen, S. Rayford, S. Robillard, L. Schmidt, T. Treska, and B. Weldon. 2019. 2018 Lake Michigan Lake Trout Working Group Report. Report distributed at the 2019 Annual Lake Michigan Committee Meeting.

Bunnell, D. B., D. M. Warner, C. P. Madenjian, B. Turschak, P. Armenio, and T. Desorcie. 2020. Status and trends of pelagic and benthic prey fish populations in Lake Michigan, 2019. Report distributed at the 2020 Annual Lake Michigan Committee Meeting.

Madenjian, C. P., C. Bronte, R. Clark, B. Dickinson, K. Donner, R. Gordon, D. Hanson, J. Janssen, J. Jonas, M. Kornis, S. Lenart, D. Makauskas, E. Olsen, B. Redman, L. Schmidt, J. Smith, and T. Treska. 2020. 2019 Lake Michigan Lake Trout Working Group Report. Report distributed at the 2020 Annual Lake Michigan Committee Meeting.

Tingley, R. W., D. B. Bunnell, D. M. Warner, C. P. Madenjian, and P. Armenio. 2021. Status and trends of pelagic and benthic prey fish populations in Lake Michigan, 2020. Report distributed at the 2021 Annual Lake Michigan Committee Meeting.

Warner, D. M., R. W. Tingley, C. P. Madenjian, B. Turschak, and D. Hanson. 2022. Status and trends of pelagic and benthic prey fish populations in Lake Michigan, 2021. Report distributed at the 2022 Annual Lake Michigan Committee Meeting.

Madenjian, C. P., C. Bronte, R. Clark, B. Dickinson, K. Donner, R. Gordon, D. Hanson, J. Janssen, J. Jonas, M. Kornis, S. Lenart, D. Makauskas, E. Olsen, B. Redman, J. Smith, L. Schmidt, and T. Treska. 2022. 2021 Lake Michigan Lake Trout Working Group Report. Report distributed at the 2022 Annual Lake Michigan Committee Meeting.

Tingley, R. W., III, D. M. Warner, C. P. Madenjian, P. M. Dieter, B. Turschak, and D. Hanson. 2023. Status and trends of pelagic and benthic prey fish populations in Lake Michigan, 2022. Report distributed at the 2023 Annual Lake Michigan Committee Meeting.

Madenjian, C. P., L. Schmidt, C. Bronte, R. Clark, B. Dickinson, K. Donner, R. Gordon, D. Hanson, J. Janssen, J. Jonas, M. Kornis, S. Lenart, D. Makauskas, E. Olsen, B. Redman, and J. Smith. 2023. 2022 Lake Michigan Lake Trout Working Group Report. Report distributed at the 2023 Annual Lake Michigan Committee Meeting.

### **Journal Articles and Book Chapters**

Madenjian, C. P., and D. J. Jude. 1983. Error bounds for estimates of entrained ichthyoplankton. *Canadian Journal of Fisheries and Aquatic Sciences* 40:10-16.

Madenjian, C. P., and D. J. Jude. 1985. Comparison of sleds versus plankton nets for sampling fish larvae and eggs. *Hydrobiologia* 124:275-281.

Madenjian, C. P., D. J. Jude, and F. J. Tesar. 1986. Intervention analysis of power plant impact on fish populations. *Canadian Journal of Fisheries and Aquatic Sciences* 43:819-829.

- Madenjian, C. P., G. L. Rogers, and A. W. Fast. 1987. Predicting night time dissolved oxygen loss in prawn ponds of Hawaii: Part I. Evaluation of traditional methods. *Aquacultural Engineering* 6:191-208.
- Madenjian, C. P., G. L. Rogers, and A. W. Fast. 1987. Predicting night time dissolved oxygen loss in prawn ponds of Hawaii: Part II. A new method. *Aquacultural Engineering* 6:209-225.
- Madenjian, C. P., G. L. Rogers, and A. W. Fast. 1988. Predicting nighttime dissolved oxygen loss in aquaculture ponds. *Canadian Journal of Fisheries and Aquatic Sciences* 45:1842-1847.
- Madenjian, C. P., G. L. Rogers, and A. W. Fast. 1990. Estimation of whole pond respiration rate. *Canadian Journal of Fisheries and Aquatic Sciences* 47:682-686.
- Madenjian, C. P. 1990. Patterns of oxygen production and consumption in intensively managed marine shrimp ponds. *Aquaculture and Fisheries Management* 21:407-417.
- Madenjian, C. P. 1990. Nighttime pond respiration rate: oxygen or temperature dependent? *Canadian Journal of Fisheries and Aquatic Sciences* 47:180-183.
- Fast, A. W., F. M. D'Itri, D. K. Barclay, S. A. Katase, and C. P. Madenjian. 1990. Heavy metal content of coho (*Oncorhynchus kisutch*) and chinook salmon (*O. tshawytscha*) reared in deep upwelled ocean waters in Hawaii. *Journal of the World Aquaculture Society* 21:271-276.
- Rogers, G. L., C. P. Madenjian, and A. W. Fast. 1991. Estimation of oxygen transfer rates for mechanical aerators in brackishwater aquaculture ponds. *Journal of Applied Aquaculture* 1:63-77.
- Madenjian, C. P., and S. R. Carpenter. 1991. Individual-based model for growth of young-of-the-year walleye: a piece of the recruitment puzzle. *Ecological Applications* 1:268-279.
- Madenjian, C. P., B. M. Johnson, and S. R. Carpenter. 1991. Stocking strategies for fingerling walleyes: an individual-based model approach. *Ecological Applications* 1:280-288.
- Madenjian, C. P. 1991. Limits to growth of young-of-the-year walleyes: an individual-based model perspective. *Canadian Journal of Fisheries and Aquatic Sciences* 48:1492-1499.
- Carpenter, S. R., B. M. Johnson, C. Luecke, C. P. Madenjian, J. R. Post, L. G. Rudstam, M. J. Vanni, X. He, Y. Allen, R. Dodds, K. McTigue, and D. M. Schael. 1992. Modeling the Lake Mendota ecosystem: synthesis and evaluation of progress, pages 451-459 In J. F. Kitchell [ed.] *Food web management: a case study of Lake Mendota, Wisconsin*. Springer-Verlag, New York.
- Madenjian, C. P., B. M. Johnson, and S. R. Carpenter. 1992. Individual-based modeling: application to walleye stocking, pages 493-505 In J. F. Kitchell [ed.] *Food web management: a case study of Lake Mendota, Wisconsin*. Springer-Verlag, New York.
- Miller, M. A., C. P. Madenjian, and R. G. Masnado. 1992. Patterns of organochlorine contamination in lake trout from Wisconsin waters of the Great Lakes. *Journal of Great Lakes Research* 18:742-754.
- Madenjian, C. P., S. R. Carpenter, and G. E. Noguchi. 1993. Individual-based model for dieldrin contamination in lake trout. *Archives of Environmental Contamination and Toxicology* 24:78-82.
- Madenjian, C. P., S. R. Carpenter, G. W. Eck, and M. A. Miller. 1993. Accumulation of PCBs by lake trout (*Salvelinus namaycush*): an individual-based model approach. *Canadian Journal of Fisheries and Aquatic Sciences* 50:97-109.

- Madenjian, C. P., and S. R. Carpenter. 1993. Simulation of the effects of time and size at stocking on PCB accumulation in lake trout. *Transactions of the American Fisheries Society* 122:492-499.
- Madenjian, C. P., S. R. Carpenter, and P. S. Rand. 1994. Why are the PCB concentrations in salmonine individuals from the same lake so highly variable? *Canadian Journal of Fisheries and Aquatic Sciences* 51:800-807.
- Madenjian, C. P., and P. A. Ryan. 1995. Effect of gear selectivity on recommended allowable harvest with application to the Lake Erie yellow perch fishery. *North American Journal of Fisheries Management* 15:79-83.
- Madenjian, C. P. 1995. Removal of algae by the zebra mussel (*Dreissena polymorpha*) population in western Lake Erie: a bioenergetics approach. *Canadian Journal of Fisheries and Aquatic Sciences* 52:381-390.
- Madenjian, C. P., and S. W. Gabrey. 1995. Waterbird predation on fish in western Lake Erie: a bioenergetics model application. *Condor* 97:141-153.
- Madenjian, C. P., D. M. Whittle, J. H. Elrod, R. O'Gorman, and R. W. Owens. 1995. Use of a simulation model to reconstruct PCB concentrations in prey of Lake Ontario lake trout. *Environmental Science and Technology* 29:2610-2615.
- Stow, C. A., S. R. Carpenter, C. P. Madenjian, L. A. Eby, and L. J. Jackson. 1995. Fisheries management to reduce contaminant consumption. *BioScience* 45:752-758.
- Madenjian, C. P., J. T. Tyson, R. L. Knight, M. W. Kershner, and M. J. Hansen. 1996. First-year growth, recruitment, and maturity of walleyes in western Lake Erie. *Transactions of the American Fisheries Society* 125:821-830.
- Hansen, M. J., C. P. Madenjian, J. H. Selgeby, and T. E. Helser. 1997. Gillnet selectivity for lake trout (*Salvelinus namaycush*) in Lake Superior. *Canadian Journal of Fisheries and Aquatic Sciences* 54:2483-2490.
- Madenjian, C. P., D. W. Schloesser, and K. A. Krieger. 1998. Population models of burrowing mayfly recolonization in western Lake Erie. *Ecological Applications* 8:1206-1212.
- Madenjian, C. P., G. E. Noguchi, R. C. Haas, and K. S. Schrouder. 1998. Sexual difference in polychlorinated biphenyl accumulation rates of walleye (*Stizostedion vitreum*). *Canadian Journal of Fisheries and Aquatic Sciences* 55:1085-1092.
- Madenjian, C. P., T. J. DeSorcie, and R. M. Stedman. 1998. Ontogenic and spatial patterns in diet and growth of lake trout in Lake Michigan. *Transactions of the American Fisheries Society* 127:236-252.
- Madenjian, C. P., T. J. DeSorcie, and R. M. Stedman. 1998. Maturity schedules of lake trout in Lake Michigan. *Journal of Great Lakes Research* 24:404-410.
- Madenjian, C. P., R. J. Hesselberg, T. J. DeSorcie, L. J. Schmidt, R. M. Stedman, R. T. Quintal, L. J. Begnoche, and D. R. Passino-Reader. 1998. Estimate of net trophic transfer efficiency of PCBs to Lake Michigan lake trout from their prey. *Environmental Science and Technology* 32:886-891.
- Madenjian, C. P., R. F. Elliott, L. J. Schmidt, T. J. DeSorcie, R. J. Hesselberg, R. T. Quintal, L. J. Begnoche, P. M. Bouchard, and M. E. Holey. 1998. Net trophic transfer efficiency of PCBs to Lake Michigan coho salmon from their prey. *Environmental Science and Technology* 32:3063-3067.
- Madenjian, C. P., and D. V. O'Connor. 1999. Laboratory evaluation of a lake trout bioenergetics model.

Transactions of the American Fisheries Society 128:802-814.

Einhouse, D. W. E., M. T. Bur, F. C. Cornelius, R. Kenyon, C. P. Madenjian, P. S. Rand, K. L. Sztramko, and L. D. Witzel. 1999. Consumption of rainbow smelt by walleye and salmonine fishes in eastern Lake Erie, pages 291-303. *In* M. Munawar, T. Edsall, and I. F. Munawar [eds.] *The state of Lake Erie (SOLE) - past, present and future*. Backhuys Publishers, Leiden, The Netherlands.

Edsall, T. A., C. P. Madenjian, and B. A. Manny. 1999. Burrowing mayflies in Lake Erie - a review, pages 219-231. *In* M. Munawar, T. Edsall, and I. F. Munawar [eds.] *The state of Lake Erie (SOLE) - past, present and future*. Backhuys Publishers, Leiden, The Netherlands.

Madenjian, C. P., T. J. DeSorcie, R. M. Stedman, E. H. Brown, Jr., G. W. Eck, L. J. Schmidt, R. J. Hesselberg, S. M. Chernyak, and D. R. Passino-Reader. 1999. Spatial patterns in PCB concentrations of Lake Michigan lake trout. *Journal of Great Lakes Research* 25:149-159.

Madenjian, C. P., and T. J. DeSorcie. 1999. Status of lake trout rehabilitation in the Northern Refuge of Lake Michigan. *North American Journal of Fisheries Management* 19:658-669.

Madenjian, C. P., L. J. Schmidt, S. M. Chernyak, R. F. Elliott, T. J. DeSorcie, R. T. Quintal, L. J. Begnoche, and R. J. Hesselberg. 1999. Variation in net trophic transfer efficiencies among 21 PCB congeners. *Environmental Science and Technology* 33:3768-3773.

Madenjian, C. P., D. V. O'Connor, and D. A. Nortrup. 2000. A new approach toward evaluation of fish bioenergetics models. *Canadian Journal of Fisheries and Aquatic Sciences* 57:1025-1032.

Madenjian, C. P., R. L. Knight, M. T. Bur, and J. L. Forney. 2000. Reduction in recruitment of white bass in Lake Erie after invasion of white perch. *Transactions of the American Fisheries Society* 129:1340-1353.

Madenjian, C. P., R. F. Elliott, T. J. DeSorcie, R. M. Stedman, D. V. O'Connor, and D. V. Rottiers. 2000. Lipid concentrations in Lake Michigan fishes: seasonal, spatial, ontogenetic, and long-term trends. *Journal of Great Lakes Research* 26:427-444.

McCoy, C. M., C. P. Madenjian, J. V. Adams, and W. N. Harman. 2001. The fish community of a small impoundment in upstate New York. *Journal of Freshwater Ecology* 16:389-394.

Krause, A. E., D. B. Hayes, J. R. Bence, C. P. Madenjian, and R. M. Stedman. 2002. Measurement error associated with surveys of fish abundance in Lake Michigan. *Journal of Great Lakes Research* 28:44-51.

Madenjian, C. P., G. L. Fahnenstiel, T. H. Johengen, T. F. Nalepa, H. A. Vanderploeg, G. W. Fleischer, P. J. Schneeberger, D. M. Benjamin, E. B. Smith, J. R. Bence, E. S. Rutherford, D. S. Lavis, D. M. Robertson, D. J. Jude, and M. P. Ebener. 2002. Dynamics of the Lake Michigan food web, 1970-2000. *Canadian Journal of Fisheries and Aquatic Sciences* 59:736-753.

Madenjian, C. P., D. V. O'Connor, D. J. Stewart, M. A. Miller, and R. G. Masnado. 2002. Field estimate of net trophic transfer efficiency of PCBs to Lake Michigan chinook salmon from their prey. *Environmental Science and Technology* 36:5029-5033.

Madenjian, C. P., P. A. Cochran, and R. A. Bergstedt. 2003. Seasonal patterns in growth, blood consumption, and effects on hosts by parasitic-phase sea lampreys in the Great Lakes: an individual-based model approach. *Journal of Great Lakes Research* 29(Supplement 1):332-346.

Madenjian, C. P., J. D. Holuszko, and T. J. Desorcie. 2003. Growth and condition of alewives in Lake Michigan,

1984-2001. Transactions of the American Fisheries Society 132:1104-1116.

Madenjian, C. P., D. V. O'Connor, S. M. Chernyak, R. R. Rediske, and J. P. O'Keefe. 2004. Evaluation of a chinook salmon (*Oncorhynchus tshawytscha*) bioenergetics model. Canadian Journal of Fisheries and Aquatic Sciences 61:627-635.

Madenjian, C. P., T. J. Desorcie, J. R. McClain, A. P. Woldt, J. D. Holuszko, and C. A. Bowen II. 2004. Status of lake trout rehabilitation on Six Fathom Bank and Yankee Reef in Lake Huron. North American Journal of Fisheries Management 24:1003-1016.

Madenjian, C. P. 2004. Role of lake-wide prey fish survey in understanding ecosystem dynamics and managing fisheries of Lake Michigan, pages 293-309 In T. Edsall and M. Munawar [eds.] State of Lake Michigan: ecology, health and management. Aquatic Ecosystem Health & Management Society, Ecovision World Monograph Series, New Delhi, India.

Madenjian, C. P., and D. V. O'Connor. 2004. Trophic transfer efficiency of DDT to lake trout (*Salvelinus namaycush*) from their prey. Bulletin of Environmental Contamination and Toxicology 72:1219-1225.

Madenjian, C. P., T. O. Höök, E. S. Rutherford, D. M. Mason, T. E. Croley II, E. B. Szalai, and J. R. Bence. 2005. Recruitment variability of alewives in Lake Michigan. Transactions of the American Fisheries Society 134:218-230.

Madenjian, C. P., D. W. Hondorp, T. J. Desorcie, and J. D. Holuszko. 2005. Sculpin community dynamics in Lake Michigan. Journal of Great Lakes Research 31:267-276.

Madenjian, C. P., D. V. O'Connor, S. A. Pothoven, P. J. Schneeberger, R. R. Rediske, J. P. O'Keefe, R. A. Bergstedt, R. L. Argyle, and S. B. Brandt. 2006. Evaluation of a lake whitefish bioenergetics model. Transactions of the American Fisheries Society 135:61-75.

Madenjian, C. P., S. A. Pothoven, J. M. Dettmers, and J. D. Holuszko. 2006. Changes in seasonal energy dynamics of alewife (*Alosa pseudoharengus*) in Lake Michigan after invasion of dreissenid mussels. Canadian Journal of Fisheries and Aquatic Sciences 63:891-902.

Bunnell, D. B., C. P. Madenjian, and T. E. Croley II. 2006. Long-term trends of bloater recruitment in Lake Michigan: evidence for the effect of sex ratio. Canadian Journal of Fisheries and Aquatic Sciences 63:832-844.

Stapanian, M. A., C. P. Madenjian, and L. D. Witzel. 2006. Evidence that sea lamprey control led to recovery of the burbot population in Lake Erie. Transactions of the American Fisheries Society 135:1033-1043.

Madenjian, C. P., J. D. Holuszko, and T. J. Desorcie. 2006. Spring-summer diet of lake trout on Six Fathom Bank and Yankee Reef of Lake Huron. Journal of Great Lakes Research 32:200-208.

Pothoven, S. A., T. F. Nalepa, C. P. Madenjian, R. R. Rediske, P. J. Schneeberger, and J. X. He. 2006. Energy density of lake whitefish in Lakes Huron and Michigan. Environmental Biology of Fishes 76:151-158.

Bunnell, D. B., C. P. Madenjian, and R. M. Claramunt. 2006. Long-term changes of the Lake Michigan fish community following the reduction in abundance of exotic alewife (*Alosa pseudoharengus*). Canadian Journal of Fisheries and Aquatic Sciences 63:2434-2446.

Stapanian, M. A., and C. P. Madenjian. 2007. Evidence that lake trout served as a buffer against sea lamprey predation on burbot in Lake Erie. North American Journal of Fisheries Management 27:238-245.

Bronte, C. R., M. E. Holey, C. P. Madenjian, J. L. Jonas, R. M. Claramunt, M. P. Ebener, P. C. McKee, M. L.

- Toneys, M. P. Ebener, B. Breidert, G. W. Fleischer, R. Hess, A. W. Martell, Jr., and E. J. Olsen. 2007. Relative abundance, site fidelity, and survival of adult lake trout in Lake Michigan from 1999-2001: implications for future restoration strategies. *North American Journal of Fisheries Management* 27:137-155.
- Stapanian, M. A., C. P. Madenjian, and J. Tost. 2007. Regional differences in size-at-age of the recovering burbot (*Lota lota*) population in Lake Erie. *Journal of Great Lakes Research* 33(Supplement 1):91-102.
- Pothoven, S. A., and C. P. Madenjian. 2008. Changes in consumption by alewives and lake whitefish after dreissenid mussel invasions in Lakes Michigan and Huron. *North American Journal of Fisheries Management* 28:308-320.
- Hebert, C. E., D. V. C. Weseloh, A. Idrissi, M. T. Arts, R. O'Gorman, O. T. Gorman, B. Locke, C. P. Madenjian, and E. F. Roseman. 2008. Restoring piscivorous fish populations in the Laurentian Great Lakes causes seabird dietary change. *Ecology* 89:891-897.
- Madenjian, C. P., R. O'Gorman, D. B. Bunnell, R. L. Argyle, E. F. Roseman, D. M. Warner, J. D. Stockwell, and M. A. Stapanian. 2008. Adverse effects of alewives on Laurentian Great Lakes fish communities. *North American Journal of Fisheries Management* 28:263-282.
- Madenjian, C. P., B. D. Chipman, and J. E. Marsden. 2008. New estimates of lethality of sea lamprey (*Petromyzon marinus*) attacks on lake trout (*Salvelinus namaycush*): implications for fisheries management. *Canadian Journal of Fisheries and Aquatic Sciences* 65:535-542.
- Madenjian, C. P., D. V. O'Connor, R. R. Rediske, J. P. O'Keefe, and S. A. Pothoven. 2008. Net trophic transfer efficiencies of polychlorinated biphenyl congeners to lake whitefish (*Coregonus clupeaformis*) from their food. *Environmental Toxicology and Chemistry* 27:631-636.
- Höök, T. O., E. S. Rutherford, T. E. Croley II, D. M. Mason, and C. P. Madenjian. 2008. Annual variation in habitat-specific recruitment success: implications from an individual-based model of Lake Michigan alewife (*Alosa pseudoharengus*). *Canadian Journal of Fisheries and Aquatic Sciences* 65:1402-1412.
- Madenjian, C. P., M. P. Ebener, and T. J. Desorcie. 2008. Lake trout population dynamics at Drummond Island Refuge in Lake Huron: implications for future rehabilitation. *North American Journal of Fisheries Management* 28:979-992.
- Madenjian, C. P., and D. B. Bunnell. 2008. Depth distribution dynamics of the sculpin community in Lake Michigan. *Transactions of the American Fisheries Society* 137:1346-1357.
- Madenjian, C. P., and D. V. O'Connor. 2008. Trophic transfer efficiency of mercury to lake whitefish *Coregonus clupeaformis* from its prey. *Bulletin of Environmental Contamination and Toxicology* 81:566-570.
- Stapanian, M. A., C. P. Madenjian, C. R. Bronte, M. P. Ebener, B. F. Lantry, and J. D. Stockwell. 2008. Status of burbot populations in the Laurentian Great Lakes, pages 111-130 *In* V. L. Paragamian and D. H. Bennett [eds.] *Burbot: ecology, management, and culture*. Symposium 59, American Fisheries Society, Bethesda, Maryland.
- Bunnell, D. B., S. R. David, and C. P. Madenjian. 2009. Decline in bloater fecundity in southern Lake Michigan after decline of *Diporeia*. *Journal of Great Lakes Research* 35:45-49.
- Bunnell, D. B., C. P. Madenjian, J. D. Holuszko, J. V. Adams, and J. R. P. French III. 2009. Expansion of *Dreissena* into offshore waters of Lake Michigan and potential impacts on fish populations. *Journal of Great Lakes Research* 35:74-80.

- Madenjian, C. P., P. A. Hanchin, S. M. Chernyak, and L. J. Begnoche. 2009. Sexual difference in PCB concentrations of walleyes (*Sander vitreus*) from a pristine lake. *Science of the Total Environment* 407:4526-4532.
- Krause, A. E., K. A. Frank, M. L. Jones, T. F. Nalepa, R. P. Barbiero, C. P. Madenjian, M. Agy, M. S. Evans, W. W. Taylor, D. M. Mason, and N. J. Leonard. 2009. Adaptations in a hierarchical food web of southeastern Lake Michigan. *Ecological Modelling* 220:3147-3162.
- Madenjian, C. P., D. J. Jude, R. R. Rediske, J. P. O'Keefe, and G. E. Noguchi. 2009. Gender difference in walleye PCB concentrations persists following remedial dredging. *Journal of Great Lakes Research* 35:347-352.
- Stapanian, M. A., V. L. Paragamian, C. P. Madenjian, J. R. Jackson, J. Lappalainen, M. Evenson, and M. D. Neufeld. 2010. Worldwide status of burbot and conservation measures. *Fish and Fisheries* 11:1-23.
- Madenjian, C. P., S. A. Pothoven, P. J. Schneeberger, M. P. Ebener, L. C. Mohr, T. F. Nalepa, and J. R. Bence. 2010. Dreissenid mussels are not a "dead end" in Great Lakes food webs. *Journal of Great Lakes Research* 36(Supplement 1):73-77.
- Madenjian, C. P., D. B. Bunnell, and O. T. Gorman. 2010. Ninespine stickleback abundance in Lake Michigan increases after invasion of dreissenid mussels. *Transactions of the American Fisheries Society* 139:11-20.
- Bunnell, D. B., J. V. Adams, C. P. Madenjian, S. C. Riley, E. F. Roseman, and J. S. Schaeffer. 2010. Population synchrony of a native fish across three Laurentian Great Lakes: evaluating the effects of dispersal and climate. *Oecologia* 162:641-651.
- Madenjian, C. P., C. Wang, T. P. O'Brien, M. J. Holuszko, L. M. Ogilvie, and R. G. Stickel. 2010. Laboratory evaluation of a walleye (*Sander vitreus*) bioenergetics model. *Fish Physiology and Biochemistry* 36:45-53.
- Madenjian, C. P., C. S. Schrank, L. J. Begnoche, R. F. Elliott, and R. T. Quintal. 2010. Sexual difference in PCB concentrations of coho salmon (*Oncorhynchus kisutch*). *Science of the Total Environment* 408:1719-1724.
- Madenjian, C. P., M. J. Keir, D. M. Whittle, and G. E. Noguchi. 2010. Sexual difference in PCB concentrations of lake trout (*Salvelinus namaycush*) from Lake Ontario. *Science of the Total Environment* 408:1725-1730.
- Dobiesz, N. E., R. E. Hecky, T. B. Johnson, J. Sarvala, J. M. Dettmers, M. Lehtiniemi, L. G. Rudstam, C. P. Madenjian, and F. Witte. 2010. Metrics of ecosystem status for large aquatic systems – a global comparison. *Journal of Great Lakes Research* 36:123-138.
- Jacobs, G. R., C. P. Madenjian, D. B. Bunnell, and J. D. Holuszko. 2010. Diet of lake trout and burbot in northern Lake Michigan during spring: evidence of ecological interaction. *Journal of Great Lakes Research* 36:312-317.
- Madenjian, C. P., and T. J. Desorcie. 2010. Lake trout population dynamics in the Northern Refuge of Lake Michigan: implications for future rehabilitation. *North American Journal of Fisheries Management* 30:629-641.
- Vanderploeg, H. A., S. A. Pothoven, G. L. Fahnenstiel, J. F. Cavaletto, J. R. Liebig, C. A. Stow, T. F. Nalepa, C. P. Madenjian, and D. B. Bunnell. 2012. Seasonal zooplankton dynamics in Lake Michigan: disentangling impacts of resource limitation, ecosystem engineering, and predation during a critical ecosystem transition. *Journal of Great Lakes Research* 38:336-352.
- Madenjian, C. P., M. A. Stapanian, L. D. Witzel, D. W. Einhouse, S. A. Pothoven, and H. L. Whitford. 2011. Evidence for predatory control of the invasive round goby. *Biological Invasions* 13:987-1082.
- Madenjian, C. P. 2011. Sex effect on polychlorinated biphenyl concentrations in fish: a synthesis. *Fish and*

Fisheries 12:451-460.

Madenjian, C. P. 2011. Bioenergetics in ecosystems, pages 1675-1680 *In* A. P. Farrell [ed.] Encyclopedia of fish physiology: from genome to environment. Volume 3. Elsevier, Oxford, United Kingdom.

O’Gorman, R., C. P. Madenjian, E. F. Roseman, A. Cook, and O. T. Gorman. 2013. Alewife in the Great Lakes: old invader – new millennium, pages 705-732 *In* W. W. Taylor, A. J. Lynch, and N. J. Leonard [eds.] Great Lakes fisheries policy and management: a binational perspective (second edition). Michigan State University Press, East Lansing, Michigan.

Claramunt, R. M., C. P. Madenjian, and D. F. Clapp. 2013. Pacific salmonines in the Great Lakes basin, pages 609-650 *In* W. W. Taylor, A. J. Lynch, and N. J. Leonard [eds.] Great Lakes fisheries policy and management: a binational perspective (second edition). Michigan State University Press, East Lansing, Michigan.

Bunnell, D. B., C. P. Madenjian, M. W. Rogers, J. D. Holuszko, and L. J. Begnoche. 2012. Exploring mechanisms underlying sex-specific differences in mortality of Lake Michigan bloaters. *Transactions of the American Fisheries Society* 141:204-214.

Pothoven, S. A., D. B. Bunnell, C. P. Madenjian, O. T. Gorman, and E. F. Roseman. 2012. Energy density of bloaters in the Upper Great Lakes. *Transactions of the American Fisheries Society* 141:772-780.

Kwon, S. Y., J. D. Blum, M. J. Carvan, N. Basu, J. A. Head, C. P. Madenjian, and S. R. David. 2012. Absence of fractionation of mercury isotopes during trophic transfer of methylmercury to freshwater fish in captivity. *Environmental Science and Technology* 46:7527-7534.

Madenjian, C. P., S. R. David, and D. P. Krabbenhoft. 2012. Trophic transfer efficiency of methylmercury and inorganic mercury to lake trout *Salvelinus namaycush* from its prey. *Archives of Environmental Contamination and Toxicology* 63:262-269.

Madenjian, C. P., S. R. David, and S. A. Pothoven. 2012. Effects of activity and energy budget balancing algorithm on laboratory performance of a fish bioenergetics model. *Transactions of the American Fisheries Society* 141:1328-1337.

Madenjian, C. P., S. R. David, R. R. Rediske, and J. P. O’Keefe. 2012. Net trophic transfer efficiencies of polychlorinated biphenyl congeners to lake trout (*Salvelinus namaycush*) from its prey. *Environmental Toxicology and Chemistry* 31:2821-2827.

Jacobs, G. R., C. P. Madenjian, D. B. Bunnell, D. M. Warner, and R. M. Claramunt. 2013. Chinook salmon foraging patterns in a changing Lake Michigan. *Transactions of the American Fisheries Society* 142:362-372.

Madenjian, C. P., and C. Wang. 2013. Reevaluation of a walleye (*Sander vitreus*) bioenergetics model. *Fish Physiology and Biochemistry* 39:749-754.

Madenjian, C. P., S. A. Pothoven, and Y.-C. Kao. 2013. Reevaluation of lake trout and lake whitefish bioenergetics models. *Journal of Great Lakes Research* 39:358-364.

Madenjian, C. P., M. A. Stapanian, R. R. Rediske, and J. P. O’Keefe. 2013. Sex difference in polychlorinated biphenyl concentrations of burbot *Lota lota* from Lake Erie. *Archives of Environmental Contamination and Toxicology* 65:300-308.

Muzzall, P. M., and C. P. Madenjian. 2013. Parasites of bloater *Coregonus hoyi* (Salmonidae) from Lake Michigan, U.S.A. *Comparative Parasitology* 80:164-170.



Zhao, Y., P. M. Kocovsky, and C. P. Madenjian. 2013. Development of a stock-recruitment model and assessment of biological reference points for the Lake Erie walleye fishery. *North American Journal of Fisheries Management* 33:956-964.

Stapanian, M. A., C. P. Madenjian, R. R. Rediske, and J. P. O'Keefe. 2013. Sexual difference in PCB congener distributions of burbot (*Lota lota*) from Lake Erie. *Chemosphere* 93:1615-1623.

Stapanian, M. A., and C. P. Madenjian. 2013. Introduction to a special section: ecology, culture, and management of burbot. *Transactions of the American Fisheries Society* 142:1659-1661.

Madenjian, C. P., E. S. Rutherford, C. A. Stow, E. F. Roseman, and J. X. He. 2013. Trophic shift, not collapse. *Environmental Science and Technology* 47:11915-11916.

Madenjian, C. P., N. S. Johnson, T. R. Binder, R. R. Rediske, and J. P. O'Keefe. 2013. Polychlorinated biphenyl concentrations and activity of sea lamprey *Petromyzon marinus* vary by sex. *Archives of Environmental Contamination and Toxicology* 65:693-703.

Pothoven, S. A., and C. P. Madenjian. 2013. Increased piscivory by lake whitefish in Lake Huron. *North American Journal of Fisheries Management* 33:1194-1202.

Madenjian, C. P., N. S. Johnson, M. J. Siefkes, J. M. Dettmers, J. D. Blum, and M. W. Johnson. 2014. Mercury accumulation in sea lamprey (*Petromyzon marinus*) from Lake Huron. *Science of the Total Environment* 470-471:1313-1319.

Collingsworth, P. D., D. B. Bunnell, C. P. Madenjian, and S. C. Riley. 2014. Comparative recruitment dynamics of alewife and bloater in Lakes Michigan and Huron. *Transactions of the American Fisheries Society* 143:294-309.

Bunnell, D. B., R. P. Barbiero, S. A. Ludsin, C. P. Madenjian, G. J. Warren, D. M. Dolan, T. O. Brenden, R. Briland, O. T. Gorman, J. X. He, T. H. Johengen, B. F. Lantry, B. M. Lesht, T. F. Nalepa, S. C. Riley, C. M. Riseng, T. J. Treska, I. Tshaye, M. G. Walsh, D. M. Warner, and B. C. Weidel. 2014. Changing ecosystem dynamics in the Laurentian Great Lakes: bottom-up and top-down regulation. *BioScience* 64:26-39.

Madenjian, C. P., M. A. Stapanian, P. A. Cott, R. R. Rediske, and J. P. O'Keefe. 2014. Polychlorinated biphenyl concentrations of burbot *Lota lota* from Great Slave Lake are very low but vary by sex. *Archives of Environmental Contamination and Toxicology* 66:529-537.

Tshaye, I., M. L. Jones, J. R. Bence, T. O. Brenden, C. P. Madenjian, and D. M. Warner. 2014. A multispecies statistical age-structured model to assess predator-prey balance: application to an intensively managed Lake Michigan pelagic fish community. *Canadian Journal of Fisheries and Aquatic Sciences* 71:627-644.

O'Brien, T. P., W. W. Taylor, E. F. Roseman, C. P. Madenjian, and S. C. Riley. 2014. Ecological factors affecting rainbow smelt recruitment in the main basin of Lake Huron, 1976-2010. *Transactions of the American Fisheries Society* 143:784-795.

Madenjian, C. P., D. L. Yule, S. M. Chernyak, L. J. Begnoche, E. K. Berglund, and E. J. Isaac. 2014. Males exceed females in PCB concentrations of cisco (*Coregonus artedii*) from Lake Superior. *Science of the Total Environment* 493:377-383.

Madenjian, C. P., P. J. Blanchfield, L. E. Hrenchuk, and J. L. A. Van Walleggem. 2014. Mercury elimination rates for adult northern pike *Esox lucius*: evidence for a sex effect. *Bulletin of Environmental Contamination and Toxicology* 93:144-148.

- Rogers, M. W., D. B. Bunnell, C. P. Madenjian, and D. M. Warner. 2014. Lake Michigan offshore ecosystem structure and food web changes from 1987 to 2008. *Canadian Journal of Fisheries and Aquatic Sciences* 71:1072-1086.
- Madenjian, C. P., R. R. Rediske, J. P. O'Keefe, and S. R. David. 2014. Laboratory estimation of net trophic transfer efficiencies of PCB congeners to lake trout (*Salvelinus namaycush*) from its prey. *Journal of Visualized Experiments* 90:e51496.
- Huo, B., C. P. Madenjian, C. X. Xie, Y. Zhao, T. P. O'Brien, and S. J. Czesny. 2014. Age and growth of round gobies in Lake Michigan, with preliminary mortality estimation. *Journal of Great Lakes Research* 40:712-720.
- Huo, B., C. X. Xie, C. P. Madenjian, B. S. Ma, X. F. Yang, and H. P. Huang. 2014. Feeding habits of an endemic fish, *Oxygymnocypris stewartii*, in the Yarlung Zangbo River in Tibet, China. *Environmental Biology of Fishes* 97:1279-1293.
- Stapanian, M. A., C. P. Madenjian, P. A. Cott, R. R. Rediske, and J. P. O'Keefe. 2014. Polychlorinated biphenyl congener distributions in burbot: evidence for a latitude effect. *Environmental Toxicology and Chemistry* 33:2448-2454.
- Bunnell, D. B., J. G. Mychek-Londer, and C. P. Madenjian. 2014. Population-level effects of egg predation on a native planktivore in a large freshwater lake. *Ecology of Freshwater Fish* 23:604-614.
- He, J. X., J. R. Bence, C. P. Madenjian, S. A. Pothoven, N. E. Dobiesz, D. G. Fielder, J. E. Johnson, M. P. Ebener, R. A. Cottrill, L. C. Mohr, and S. R. Koproski. 2015. Coupling age-structured stock assessment and fish bioenergetics models: a system of time-varying models for quantifying piscivory patterns during the rapid trophic shift in the main basin of Lake Huron. *Canadian Journal of Fisheries and Aquatic Sciences* 72:7-23.
- Kao, Y.-C., C. P. Madenjian, D. B. Bunnell, B. M. Lofgren, and M. Perroud. 2015. Temperature effects induced by climate change on the growth and consumption by salmonines in Lakes Michigan and Huron. *Environmental Biology of Fishes* 98:1089-1104.
- Kao, Y.-C., C. P. Madenjian, D. B. Bunnell, B. M. Lofgren, and M. Perroud. 2015. Potential effects of climate change on the growth of fishes from different thermal guilds in Lakes Michigan and Huron. *Journal of Great Lakes Research* 41:423-435.
- Madenjian, C. P. 2015. Bioenergetics modeling of percid fishes, pages 369-397 *In* P. Kestemont, K. Dabrowski, and R. C. Summerfelt [eds.] *Biology and culture of percid fishes - principles and practices*. Springer, Dordrecht.
- Madenjian, C. P., M. A. Stapanian, P. A. Cott, D. P. Krabbenhoft, W. H. Edwards, L. M. Ogilvie, J. G. Mychek-Londer, and J. F. DeWild. 2015. Females exceed males in mercury concentrations of burbot *Lota lota*. *Archives of Environmental Contamination and Toxicology* 68:678-688.
- Peat, T. B., T. A. Hayden, L. F. G. Gutowsky, C. S. Vandergoot, D. G. Fielder, C. P. Madenjian, K. J. Murchie, J. M. Dettmers, C. C. Krueger, and S. J. Cooke. 2015. Seasonal thermal ecology of adult walleye (*Sander vitreus*) in Lake Huron and Lake Erie. *Journal of Thermal Biology* 53:98-106.
- Feiner, Z. S., D. B. Bunnell, T. O. Höök, C. P. Madenjian, D. M. Warner, and P. D. Collingsworth. 2015. Non-stationary recruitment dynamics of rainbow smelt: The influence of environmental variables and variation in size structure and length-at-maturation. *Journal of Great Lakes Research* 41:246-258.
- Madenjian, C. P., J. T. Francis, J. J. Braunscheidel, J. R. Bohr, M. J. Geiger, and G. M. Knottnerus. 2015. Mercury

concentrations of bluegill (*Lepomis macrochirus*) vary by sex. *Environments* 2:546-564.

Madenjian, C. P., D. B. Bunnell, D. M. Warner, S. A. Pothoven, G. L. Fahnenstiel, T. F. Nalepa, H. A. Vanderploeg, I. Tsehaye, R. M. Claramunt, and R. D. Clark Jr. 2015. Changes in the Lake Michigan food web following dreissenid mussel invasions: A synthesis. *Journal of Great Lakes Research* 41(Supplement 3):217-231.

Madenjian, C. P., M. P. Ebener, and M. S. Sepúlveda. 2015. PCB concentrations of lake whitefish (*Coregonus clupeaformis*) vary by sex. *Journal of Great Lakes Research* 41:1185-1190.

Madenjian, C. P., O. P. Jensen, R. R. Rediske, J. P. O'Keefe, A. R. Vastano, and S. A. Pothoven. 2016. Differences in energy expenditures and growth dilution explain higher PCB concentrations in male summer flounder. *PLoS ONE* 11:e0147223.

Madenjian, C. P., M. P. Ebener, and D. P. Krabbenhoft. 2016. Mercury accumulation, and the mercury-PCB-sex interaction, in lake whitefish (*Coregonus clupeaformis*). *Environments* 3:7.

Bence, J. R., C. P. Madenjian, J. X. He, D. G. Fielder, S. A. Pothoven, N. E. Dobiesz, J. E. Johnson, M. P. Ebener, R. A. Cottrill, L. C. Mohr, and S. R. Koproski. 2016. Reply to comments by Riley and Dunlop on He et al. (2015). *Canadian Journal of Fisheries and Aquatic Sciences* 73:865-868.

Hansen, M. J., C. P. Madenjian, J. W. Slade, T. B. Steeves, P. R. Almeida, and B. R. Quintella. 2016. Population ecology of the sea lamprey (*Petromyzon marinus*) as an invasive species in the Laurentian Great Lakes and an imperiled species in Europe. *Reviews in Fish Biology and Fisheries* 26:509-535.

Madenjian, C. P., R. R. Rediske, D. P. Krabbenhoft, M. A. Stapanian, S. M. Chernyak, and J. P. O'Keefe. 2016. Sex differences in contaminant concentrations of fish: a synthesis. *Biology of Sex Differences* 7:42.

Duan, Y. J., C. P. Madenjian, C. X. Xie, J. S. Diana, T. P. O'Brien, Y. M. Zhao, J. X. He, S. A. Farha, and B. Huo. 2016. Age and growth of round gobies in Lake Huron: Implications for food web dynamics. *Journal of Great Lakes Research* 42:1443-1451.

Pothoven, S. A., C. P. Madenjian, and T. O. Höök. 2017. Feeding ecology of the walleye (Percidae, *Sander vitreus*), a resurgent piscivore in Lake Huron (Laurentian Great Lakes) after shifts in the prey community. *Ecology of Freshwater Fish* 26:676-685.

Bunnell, D. B., T. O. Höök, C. D. Troy, W. Liu, C. P. Madenjian, and J. V. Adams. 2017. Testing for synchrony in recruitment among four Lake Michigan fish species. *Canadian Journal of Fisheries and Aquatic Sciences* 74:306-315.

Deslauriers, D., S. R. Chipps, J. E. Breck, J. A. Rice, and C. P. Madenjian. 2017. Fish Bioenergetics 4.0: An R-based modeling application. *Fisheries* 42:586-596.

Clark, R. D., Jr., J. R. Bence, R. M. Claramunt, J. A. Clevenger, M. S. Kornis, C. R. Bronte, C. P. Madenjian, and E. F. Roseman. 2017. Changes in movements of Chinook salmon between lakes Huron and Michigan after Alewife population collapse. *North American Journal of Fisheries Management* 37:1311-1331.

Madenjian, C. P., A. L. Stevens, M. A. Stapanian, S. A. Batterman, S. M. Chernyak, J. E. Menczer, and P. B. McIntyre. 2017. Sex difference in PCB concentrations of a catostomid fish. *Journal of Environmental & Analytical Toxicology* 7:515.

Madenjian, C. P. 2017. Comment on linking the sex difference in PCB concentrations of fish to release of eggs at spawning: time to jettison the dogma. *Oceanography & Fisheries: Open Access Journal* 5:555661.

- Stapanian, M. A., C. P. Madenjian, S. A. Batterman, S. M. Chernyak, W. H. Edwards, and P. B. McIntyre. 2018. Distributions of PCB congeners and homologues in white sucker and coho salmon from Lake Michigan. *Environmental Science and Technology* 52:4393-4401.
- Madenjian, C. P., A. L. Stevens, M. A. Stapanian, D. P. Krabbenhoft, J. F. DeWild, J. M. Ogorek, W. H. Edwards, L. M. Ogilvie, and P. B. McIntyre. 2018. Ratio of mercury concentration to PCB concentration varies with sex of white sucker (*Catostomus commersonii*). *Environments* 5:94.
- Madenjian, C. P., T. A. Hayden, T. B. Peat, C. S. Vandergoot, D. G. Fielder, A. Gorman, S. A. Pothoven, J. M. Dettmers, S. J. Cooke, Y. Zhao, and C. C. Krueger. 2018. Temperature regimes, growth, and food consumption for female and male adult walleye in Lake Huron and Lake Erie: a bioenergetics analysis. *Canadian Journal of Fisheries and Aquatics Sciences* 75:1573-1586.
- Madenjian, C. P., S. E. Janssen, R. F. Lepak, J. M. Ogorek, T. J. Rosera, J. F. DeWild, D. P. Krabbenhoft, S. F. Cogswell, and M. E. Holey. 2019. Mercury isotopes reveal an ontogenetic shift in habitat use by walleye in lower Green Bay of Lake Michigan. *Environmental Science and Technology Letters* 6:8-13.
- Madenjian, C. P., D. J. Dembkowski, D. A. Isermann, S. A. Batterman, S. M. Chernyak, S. F. Cogswell, and M. E. Holey. 2019. Absence of PCB hot spot effect in walleye *Sander vitreus* from lower Green Bay of Lake Michigan. *Archives of Environmental Contamination and Toxicology* 76:442-452.
- Luo, M. K., C. P. Madenjian, J. S. Diana, M. S. Kornis, and C. R. Bronte. 2019. Shifting diets of Lake Trout in northeastern Lake Michigan. *North American Journal of Fisheries Management* 39:793-806.
- Vidal, T., B. J. Irwin, C. P. Madenjian, and S. J. Wenger. 2019. Age truncation of alewife in Lake Michigan. *Journal of Great Lakes Research* 45:958-968.
- Kornis, M. S., C. R. Bronte, M. E. Holey, S. D. Hanson, T. J. Treska, J. L. Jonas, C. P. Madenjian, R. M. Claramunt, S. R. Robillard, B. Breidert, K. C. Donner, S. J. Lenart, A. W. Martell, Jr., P. C. McKee, and E. J. Olsen. 2019. Factors affecting postrelease survival of coded-wire-tagged Lake Trout in Lake Michigan at four historical spawning locations. *North American Journal of Fisheries Management* 39:868-895.
- Lennox, R. J., G. A. Bravener, H.-Y. Lin, C. P. Madenjian, A. M. Muir, C. K. Remucal, K. F. Robinson, A. M. Rous, M. J. Siefkes, M. P. Wilkie, D. P. Zielinski, and S. J. Cooke. 2020. Potential changes to the biology and challenges to the management of invasive sea lamprey *Petromyzon marinus* in the Laurentian Great Lakes due to climate change. *Global Change Biology* 26:1118-1137.
- He, J. X., J. R. Bence, C. P. Madenjian, and R. M. Claramunt. 2020. Dynamics of lake trout production in the main basin of Lake Huron. *ICES Journal of Marine Science* 77:975-987.
- Mehler, K., L. E. Burlakova, A. Y. Karatayev, A. K. Elgin, T. F. Nalepa, C. P. Madenjian, and E. Hinchey. 2020. Long-term trends of Lake Michigan benthos with emphasis on the southern basin. *Journal of Great Lakes Research* 46:528-537.
- Madenjian, C. P. 2020. Males exceeding females in whole-fish polychlorinated biphenyl concentration mainly attributable to higher energy expenditure rate. *Environmental Toxicology and Chemistry* 39:951-952.
- Madenjian, C. P., J. R. Unrein, and S. Pedro. 2021. Trends and biological effects of environmental contaminants in lamprey. *Journal of Great Lakes Research* 47:S112-S128.
- Hume, J. B., P. R. Almeida, C. M. Buckley, L. A. Criger, C. P. Madenjian, K. F. Robinson, C. J. Wang, and A. M.

- Muir. 2021. Managing native and non-native sea lamprey (*Petromyzon marinus*) through anthropogenic change: A prospective assessment of key threats and uncertainties. *Journal of Great Lakes Research* 47:S704-S722.
- Quintella, B. R., B. J. Clemens, T. M. Sutton, M. J. Lança, C. P. Madenjian, A. Happel, and C. J. Harvey. 2021. At-sea feeding ecology of parasitic lampreys. *Journal of Great Lakes Research* 47:S72-S89.
- Madenjian, C. P. 2021. Interaction between sex and contaminant type attributable to males eliminating mercury at a faster rate. *Journal of Marine Biology and Environmental Sciences* 3:112.
- Madenjian, C. P., S. R. Chipps, and P. J. Blanchfield. 2021. Time to refine mercury mass balance models for fish. *FACETS* 6:272-286.
- He, J. X., M. P. Ebener, R. D. Clark, Jr., J. R. Bence, C. P. Madenjian, K. N. McDonnell, M. S. Kornis, and C. R. Bronte. 2022. Estimating catch curve mortality based on relative return rates of coded wire tagged lake trout in US waters of Lake Huron. *Canadian Journal of Fisheries and Aquatic Sciences* 79:601-610.
- Madenjian, C. P. 2022. Response of alewife abundance to the bacterial kidney disease outbreak in the Chinook salmon population of Lake Michigan: importance of predation. *Canadian Journal of Fisheries and Aquatic Sciences* 79:1154-1161.
- Madenjian, C. P., D. B. Bunnell, R. W. Tingley, and P. M. Dieter. 2022. Additional deepwater sampling of prey fish in Lake Michigan annual bottom trawl survey reveals new insights for depth distribution dynamics. *Journal of Great Lakes Research* 48:1288-1297.
- Madenjian, C. P., K. M. Keeler, L. T. Grivicich, P. E. Haver, R. R. Gordon, Jr., D. E. Tillitt, and J. Rinchar. 2022. Egg hatchability and egg thiamine concentrations in lake trout from the Northern Refuge of Lake Michigan. *North American Journal of Fisheries Management* 42:1155-1164.
- Chipps, S.R., D. Deslauriers, and C. P. Madenjian. 2022. Bioenergetics, pages 270-280 *In* T. Mehner and K. Tockner [eds.] *Encyclopedia of inland waters* 2<sup>nd</sup> edition. Vol. 1. Elsevier, Oxford.
- Madenjian, C. P., P. M. Dieter, T. J. Desorcie, S. A. Lengnick, T. P. O'Brien, L. M. Benes, S. A. Farha, and B. S. Leonhardt. 2023. Lake trout population dynamics in the Northern Refuge of Lake Michigan: importance of stocking rate. *North American Journal of Fisheries Management* 43:in press.
- Clark, R. D., Jr., M. P. Ebener, J. R. Bence, M. S. Kornis, C. R. Bronte, T. J. Treska, J. L. Jonas, C. P. Madenjian, and I. W. Tsehaye. 2023. Estimates of adult lake trout mortality from coded-wire tags in a population with developing natural reproduction in southern Lake Michigan. *North American Journal of Fisheries Management* 43:in press.
- He, J. X., C. P. Madenjian, and T. C. Wills. 2023. A generalized application of the catch-curve regression with comparisons of adult mortality and year-class strength between hatchery-stocked and wild-reared lake trout in US waters of Lake Huron. *Canadian Journal of Fisheries and Aquatic Sciences* 80:in press.

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