CURRICULUM VITA

Name: Isaac J. Schlosser

Present Position: Professor

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Education:

Illinois Central College, E. Peoria, Illinois (1967-1969)
Illinois State University, Normal, Illinois (1969-1973)
1971 - B.S. With High Honors (Major: Biology)
1973 - M.S. (Major: Biology)
University of Washington, Seattle, Washington (1975-1976)
(Major: Fisheries)
University of Illinois, Champaign, Illinois (1976-1981)
1981 - Ph.D. (Major: Ecology)

Awards and Fellowships:

National Science Foundation Traineeship (1971-1973)
University of Illinois Graduate Fellowship (1976-1978)
Special recognition by the North Central Division of the American Fisheries Society for paper presentations (1978 and 1979)
Special recognition by the Board of Directors of the American Water Resources Association for the paper entitled "Water quality in agricultural watersheds: Impact of riparian vegetation during base flow."
Published in the Water Resources Bulletin (1981)
Best paper award, North Central Division of the American Fisheries Society, Des Moines, Iowa. Paper entitled "Evaluation of an index of biotic integrity: Temporal variability and regional applications" (December 1982)
Smithsonian Institution Short-term Fellowship (1987)
Burlington Northern Faculty Achievement Award for Excellence in Teaching, Research and Creative Activity, and Service at the University of North Dakota (1993)
Sigma Xi Award for Outstanding Scientific Research at the University of North Dakota (1993)
Chester Fritz Distinguished Professor - University of North Dakota (2002)

Positions held:

Illinois State University:
Teaching Assistant (1972), General Physiology
Instructor (1973-1975), General Biology
University of Illinois:
Teaching Assistant (1976), Fish and Wildlife Ecology
University of North Dakota:
Assistant Professor (1981-1986), teaching responsibilities primarily in the area of introductory biology, aquatic ecology, and fish ecology. Courses taught include General Biology (for majors and non-majors), Limnology, Aquatic Ecology, Stream Ecology, Fish Ecology, Conservation of Water Resources, and Research Proposal Preparation
Associate Professor (1986-1991)
Virginia Polytechnic Institute and State University
Visiting Associate Professor (1989)
U.S. Forest Service, Pacific Southwest Experiment Station,
Fisheries Research Biologist (Sept. 1991- May 1992)
University of North Dakota:
Associate Professor (May 1992 - 1993)
Professor (1993 - 2002)
Chester Fritz Distinguished Professor (2002 - present)
University of Wisconsin, Madison, Center for Limnology,
Visiting Research Fellow (August - December, 1997)
U.S. Forest Service, Pacific Northwest Experiment Station,
Visiting Scientist (January - July, 1998)

Departmental and University Service at the University of North Dakota:

Academic Programs and Student Awards Committee (1981-1983; Chairman 1983)
Undergraduate Advisor (1981-present)
United Way College of Arts and Sciences Representative (1982)
Coordinator, Departmental Data Analysis Room (1982-1985)
University Coordinating Committee for the North Dakota Academy of Science Annual Meeting (1983)
Ecology Search Committee (1983)
Field Stations Committee (1984-1986)
Departmental Research Committee (1985-1989; chairman 1987-1989)
Fish Biology Search Committee (1986)
Executive Committee (1988-1991; chairman 1991)
Vertebrate Behavior Search (1991; chairman)
Departmental Research Committee (1992-1993)
Seminar Program Coordinator (1993)
Executive Committee (1993-1996, chairman 1996)
University Awards Committee (1993-1995)
University Research Committee (1993-1996)
Population Biology Search Committee (1994; chairman)

Ecology Search Committee (1996; chairman)
Executive Committee (1997 - 1999, chair 1999)
University Promotion Committee (1998)
Selection Committee for Faculty Summer Graduate Research Professorships (1998-1999)
Biology Research Committee (2000-present)
Disease Biology Search Committee (2002-2003)
Executive Committee 2003-2005)

Professional Society Memberships:

American Society of Ichthyology and Herpetology
American Society of Limnology and Oceanography
American Society of Naturalists
American Fisheries Society
Ecological Society of America
International Society of Theoretical and Applied Limnology
North American Benthological Society
North Dakota Academy of Sciences
Phi Sigma
Sigma Xi

Professional Activities:

Editor, Ecology and Ecological Monographs (1990 - 1993)
Technical reviewer for the following scientific journals: American Midland Naturalist, The American Naturalist, Annals of the Entomological Society of America, Canadian Journal of Fisheries and Aquatic Sciences, Canadian Journal of Zoology, Copeia, Ecological Applications, Ecology, Ecology of Freshwater Fish, Fisheries Management and Ecology Freshwater Biology,Ecological Monographs, Environmental Biology of Fishes, Environmental Management, Hydrobiologia, Journal of the North American Benthological Society, North American Journal of Fisheries Management, Limnology and Oceanography, Oecologia, Oikos, Polish Archives fur Hydrobiology, Redaktion Aquatic Sciences (Switzerland), Southwestern Naturalist, Transactions of the American Fisheries Society, Tropical Ecology, and Water Resources Research,Fish Biology, Ecosystems, Journal Of Aquatic Ecosystem Stress and Recovery, Journal of Animal Ecology
Technical reviewer, United States Environmental Protection Agency
Technical reviewer, United States Office of Technology Assessment
Technical reviewer, National Science Foundation proposals in the Ecology Program, Ecosystem Program, Population Biology and Physiological Ecology Program, Graduate Fellowship Program, Cooperative Science Program with Western Europe, Environmental Engineering Program, Geography Program, International Program for Scientists and Engineers, Animal Behavior Program, and Biological Field Stations and Labs
Technical reviewer, "Long term experimental evaluation of

the effect of flow regime manipulations on stream fishes." Pacific Gas and Electric Co., San Francisco, CA

Technical reviewer, United States - Israel Binational Science Foundation

Oversight Committee, Garrison Diversion Unit Interbasin Water Transfer Studies Program. Appointed by the Governor of North Dakota

Technical reviewer, the "Ecological Research Plan for Surface Waters," United States Environmental Protection Agency, Duluth, MN

Technical reviewer, Natural Sciences and Engineering Research Council of Canada

Awards Committee, North Central Division of the American Fisheries Society, 1989 - 1991

Technical reviewer, Leopold Center for Sustainable Agriculture, Ames, Iowa

Technical reviewer, Nevada Agriculture Experiment Station, Reno, Nevada

Technical reviewer, Natural Environment Research Council, United Kingdom

Technical reviewer, California Department of Forestry, Sacramento, CA

Technical reviewer, Electric Power Research Institute Program in Compensatory Mechanisms in Fish Populations, San Ramon, CA

Member, Technical Review Panel for the Nature Conservancy of Texas. "Ecosystem Management in the Edwards Aquifer."

Member, External CSRS Review Team for the Department of Biology and Microbiology, South Dakota State University (1994)

Member, National Science Foundation Panel, Collaborative Research at Undergraduate Institutions (1994)

Technical Reviewer - Nature Conservancy's Ecosystem Research Program

Technical Reviewer - United States Army Corp of Engineers

Technical Reviewer - Great Lakes Fishery Commission, Ann Arbor, MI

Member UNESCO Man and the Biosphere Program Working Group on "Fish and Land/Inland Water Ecotones" (1989 - 1995)

Technical Reviewer - United States Geological Survey Water Resources Competitive Grants Program

Technical Reviewer - Review of "Restoration of Salmonid Fishes in the Columbia River Basin" for the Independent Scientific Group of the Northwest Power Planning Council, Portland, OR

Co-organizer - Workgroup examining the application of a scientific principles to the management of Atlantic Salmon. International Workshop entitled “Scale-dependent processes and Atlantic Salmon.” March 10-13, 1997, Aberdeen, Scotland.

Member, National Science Foundation Panel, Ecology Program (1998 - 2002).

<u>Research Experience and Grants</u>:(Includes 5 individual grants

totaling >$700,000 and 4 group grants totaling >$1,750,000)

Illinois State University (1971-1973) - National Science Foundation Trainee. Energetics and population dynamics of the yellow fever mosquito, Aedes aegypti, in domestic and natural habitats

University of Illinois (1976) - Alternative policies for controlling nonpoint agricultural sources of water pollution

University of Illinois (1977-1978) - Use of nearstream vegetation to improve water quality. Office of Water Resources Grant ($20,000; P.I., J.R. Karr)

University of Illinois (1978-1981) - Habitat structure and fish communities in warmwater streams. United States Environmental Protection Agency Grant ($200,000; P.I., J.R. Karr)

University of North Dakota (1981) - Intramural Funding ($8,000)

University of North Dakota (1982) - Flow regime manipulations and population dynamics of stream fishes: A pilot study. University of North Dakota Faculty Research Grant ($1,500)

University of North Dakota (1984-1987) - The influence of flow regime and biological interactions on fish community structure in small lotic ecosystems. National Science Foundation Ecology Program ($50,022; P.I., I.J. Schlosser)

University of North Dakota (1984) - Upgrading computer equipment for an NSF funded study. Office of Research and Program Development, University of North Dakota ($847)

University of North Dakota (1986-1991) - Senior Research Associate; Experimental Program to Stimulate Competitive Research (EPSCoR) in Biotic Resources. National Science Foundation ($435,000; P.I., M. Auerbach)

University of North Dakota (1987) - Smithsonian Institution Short-term Fellowship ($2,000)

University of North Dakota (1987) - Experimental evaluation of flow regime effects on small lotic ecosystems. Office of Research and Program Development, University of North Dakota ($4,180)

University of North Dakota (1988) - Stream fish ecology. National Science Foundation EPSCoR Program ($15,000; P.I., I.J. Schlosser)

University of North Dakota (1988) - Upgrading laboratory space and computing capabilities for an NSF funded study. Office of Research and Program Development, University of North Dakota ($3,500)

University of North Dakota (1989) - Research experience for undergraduates on NSF project BSR 8804926. National Science Foundation Ecology Program ($5,000; P.I., I.J. Schlosser)

University of North Dakota (1989) - Developmental leave supplement. Office of Instructional Development, University of North Dakota ($2,418)

University of North Dakota (1988-1992) - The effects of stream flow and predation on trophic interactions among juvenile cyprinid and centrarchid fishes below beaver ponds. National Science Foundation Ecology Program ($169,000; P.I., I.J. Schlosser)

University of North Dakota (1992-1995) - Population change and genetic diversity. National Science Foundation EPSCoR II Program ($1,200,000; Focus Group Director A. Ashworth)

University of North Dakota (1992-1993) - Genetic structure and ecological adaptation in fish populations: the role of hybridization and landscape heterogeneity. National Science Foundation EPSCoR II Program ($56,000; Subcomponent P.I., I.J. Schlosser)

University of North Dakota (1993-1994) - Genetic structure and ecological adaptation in fish populations: the role of hybridization and landscape heterogeneity. National Science Foundation EPSCoR II Program ($73,545; Subcomponent P.I., I.J. Schlosser)

University of North Dakota (1993) - Development of a computer laboratory for enhancement of undergraduate instruction. University of North Dakota Computer Center ($4,000; With J. Laduke and S. Kelsch).

University of North Dakota (1994-1995) - Genetic structure and ecological adaptation in fish populations: the role of hybridization and landscape heterogeneity. National Science Foundation EPSCoR II Program ($79,593; Subcomponent P.I., I.J. Schlosser)

University of North Dakota (1994) - North Dakota EPSCoR REU program ($3,000).

University of North Dakota (1995-1998) - Genetic distinctiveness of three cyprinid fish species from Isle Royale and Voyageurs' National Parks. National Park Service ($45,000; P.I. I.J. Schlosser, Co PI, J.F. Elder).

University of North Dakota (1998) - Integration of fish ecology into conceptual models of landscape management. Pacific Northwest Research Station, U.S. Forest Service. ($7,000).

University of North Dakota (1998) - Automated DNA Sequencer for the Department of Biology, ND EPSCoR ($63,500; with 6 others, P.I. J. LaDuke).

University of North Dakota (2000-2003) - Dispersion and ecological interactions of clonal and sexual fish in a successional landscape. National Science Foundation, Ecology Program ($220,000;PI I.J. Schlosser).

University of North Dakota (2002) - Dispersion and ecological interactions of clonal and sexual fish in a successional landscape. National Science Foundation, Ecology Program, REU Supplement($6,000;PI I.J. Schlosser).

University of North Dakota (2002) Infrastructure for the Biocomplexity cluster. NSF North Dakota EPSCoR. ($30,000; PI I.J. Schlosser)

University of North Dakota (2002-2005) Biocomplexity in North Dakota. NSF North Dakota EPSCoR ($550,000; Cluster Director 2002-2003 I.J. Schlosser)

University of North Dakota (2005). Instructional Development Summer Fellowship. Office of Instructional Development, University of North Dakota. $3,000.

Graduate Students Supervised at the University of North Dakota:

Johnson, S.R. (Masters) - Effects of organic enrichment and artificial aeration on walleye fry, *Stizostedion vitreum vitreum*, growth and survivorship

Ebel, K.K. (Doctoral) - The influence of flow regime on colonization of natural substrates by macroinvertebrates below a beaver pond

Stock, J.D. (Masters) - Influence of disturbance on short-term colonization of a headwater stream by invertebrates and fishes

Doeringsfeld, M. (Masters) - Niche relationships and morphology of coexisting northern redbelly and finescale dace with their hybrids

Hahn, M.(Masters) - Spatial variation in parasite loads of clonal and sexual fish across a successional landscape

Doeringsfeld (Doctoral) - Ecological interactions of clonal And sexual fish across a successional landscape (in progress)

I have served on 27 other graduate student committees while at the University of North Dakota.

Primary Publications - Refereed articles:

Schlosser, I.J. and J.D. Buffington. 1977. The energetics of r- vs K-selection in two African strains of *Aedes aegypti*. Annals of the Entomological Society of America 70:196-202.

Karr, J.R. and I.J. Schlosser. 1978. Water resources and the land-water interface. Science 201: 229-234.

Schlosser, I.J. and J.R. Karr. 1981. Water quality in agricultural watersheds: Impact of riparian vegetation during base flow. Water Resources Bulletin 17:233-240.

Schlosser, I.J. and J.R. Karr. 1981. Riparian vegetation and channel morphology impact on spatial patterns of water quality in agricultural watersheds. Environmental Management 5: 233-243.

Schlosser, I.J. 1982. Fish community structure and function along two habitat gradients in a headwater stream. Ecological Monographs 52: 395-414.

Schlosser, I.J. 1982. Trophic structure, reproductive success, and growth rate of fishes in a natural and modified headwater stream. Canadian Journal of Fisheries and Aquatic Sciences 39: 968-978.

Schlosser, I.J. and L.A. Toth. 1984. Niche relationships and population ecology of rainbow (Etheostoma caeruleum) and fantail (E. flabellare) darters in a temporally variable environment. Oikos 42: 229-238.

Schlosser, I.J. 1985. Flow regime, juvenile abundance, and the assemblage structure of stream fishes. Ecology 66: 1484-1490.

Karr, J.R., K.D. Fausch, P.L. Angermeier, P.R. Yant, and I.J. Schlosser. 1986. Assessing biological integrity in running waters: A method and its rationale. Illinois Natural History Survey Special Publication No. 5. 28pp.

Schlosser, I.J. 1987. A conceptual framework for fish communities in small warmwater streams. Pages 17-24 In: "The ecology and evolution of North American stream fish communities." W.J. Matthews and D.C. Heins (eds.). University of Oklahoma Press, Norman, Oklahoma.

Schlosser, I.J. 1987. The role of predation in age- and size-related habitat use by stream fishes. Ecology 68: 651-659.

Karr, J.R., P.R. Yant, K.D. Fausch, and I.J. Schlosser. 1987. Spatial and temporal variability of the index of biotic integrity in three midwestern streams. Transactions of the American Fisheries Society 116: 1-11.

Angermeier, P.L. and I.J. Schlosser. 1987. Assessing biotic integrity of the fish community in a small Illinois stream. North American Journal of Fisheries Management 7: 331-338.

Schlosser, I.J. 1988. Predation rates and the behavioral response of adult brassy minnows (Hybognathus hankinsoni) to creek chub and smallmouth bass predators. Copeia 1988: 691-697.

Schlosser, I.J. 1988. Predation risk and habitat selection by two size classes of a stream cyprinid: Experimental test of a hypothesis. Oikos 52: 36-40.

Schlosser, I.J. and K.K. Ebel. 1989. Effects of flow regime and cyprinid predation on a headwater stream. Ecological Monographs 59: 41-57.

Angermeier, P.L. and I.J. Schlosser. 1989. Species-area relationships for stream fishes. Ecology 70:1450-1462.

Schlosser, I.J. and P.L. Angermeier. 1990. The influence of environmental variability, resource abundance, and predation on juvenile cyprinid and centrarchid fishes. Second International Symposium on the Ecology of Lotic Fishes. Polish Archives fur Hydrobiologie 37:267-286.

Schlosser, I.J. 1990. Environmental variation, life history attributes, and temporal variation in community structure of stream fishes: Implications for environmental management and assessment. Environmental Management 14:621-628.

Stock, J.D. and I.J. Schlosser. 1991. Short-term effects of a catastrophic beaver dam collapse on a stream fish community. Environmental Biology of Fishes. 31:123-129.

Johnson, S.R. and I.J. Schlosser. 1991. Effects of organic enrichment on cladoceran abundance and walleye fry growth and survival in rearing ponds. Journal of Freshwater Ecology 6:315-321.

Schlosser, I.J. 1991. Stream fish ecology: A landscape perspective. BioScience 41:704-712.

Karr, J.R., M. Dionne, and I. Schlosser. 1992. Bottom-up versus top-down regulation of vertebrate populations: Lessons from birds and fish. Pages 243-286 In: "Effects of resource distribution on animal-plant interactions." M.D. Hunter, T. Ohgushi, and P.W. Price (eds.). Academic Press, Orlando, FL.

Schlosser, I.J. 1992. Effects of life history attributes and stream discharge on filter-feeder colonization. Journal of the North American Benthological Society 11:366-376.

Schlosser, I.J. 1993. From local habitat patches to landscapes in stream fish ecology. Pages 17-30 In: A.F. Scott and E.W. Chester (eds.). Fifth Symposium on the Natural History of the Lower Tennessee and Cumberland

River Valleys. Austin Pea State University, Clarksville, TN.

Schlosser, I.J. 1995. Critical landscape attributes that influence fish population dynamics in headwater streams. Hydrobiologia 303: 71-81.

Williams, B., J. Elder, and I.J. Schlosser. 1995. Recovery of high quality DNA from archived allozyme samples. Biotechniques 18:219-220.

Schlosser, I.J. 1995. Dispersal, boundary processes, and trophic level interactions in streams adjacent to beaver ponds. Ecology 76:908-925.

Elder, J.F. and I.J. Schlosser. 1995. Extreme clonal uniformity of Phoxinus eos/neogaeus gynogens among variable habitats in northern Minnesota beaver ponds. Proceedings of the National Academy of Sciences 92:5001-5005.

Schlosser, I.J. and P.L. Angermeier. 1995. Spatial variation in demographic processes in lotic fishes: conceptual models, empirical evidence, and implications for conservation. American Fisheries Society Symposium 17:392-401.

Angermeier, P.L. and I.J. Schlosser. 1995. Conserving aquatic biodiversity: beyond species and populations. American Fisheries Society Symposium 17:402-414.

Schlosser, I.J. 1998. Fish recruitment, dispersal and trophic interactions in a heterogeneous lotic environment. Oecologia 113:260-268.

Schlosser, I.J., M.R. Doeringsfeld, J.F. Elder, and L. Arzayus. 1998. Niche relationships of clonal and sexual fish in a heterogenous landscape. Ecology. 79:953-968.

Schlosser, I.J. and 7 others. 1998. The application of science to the management of Atlantic salmon: integration across scales. Canadian Journal of Fisheries and Aquatic Sciences 55:303-311.

Schlosser, I.J, J. D.Johnson, L. K. Knotek, and M. Lapinska. 2000. Climate variability and size-structured interactions among juvenile fish along a lake-stream environmental gradient. Ecology 81:1046-1057.

Schlosser, I. J. and L. K. Kallemeyne. 2000. Spatial variation in fish assemblages across a beaver-influenced successional landscape. Ecology 81:1371-1382.

Schlosser, I.J. 2000. Fish, beavers, and sexual deception in A wilderness landscape. Bioforum. California Academy of Sciences, San Francisco, CA. Electronic publication (http://www.calacademy.org/education/bioforum2000/schlosser.html) 11 pp.

Magalhaes, M.F.,I. J. Schlosser and M. J. Collares. 2003. The role of life history in the relationship between environmental variability and fish population dynamics in a Mediterranean stream. Journal of Fish Biology 63:300-317.

Doeringsfeld, M.R., I.J. Schlosser, J. F. Elder, and D. P. Evenson. 2004. Phenotypic consequences of genetic variation in a gynogenetic complex of Phoxinus eos-neogaeus clonal fish (Pisces: Cyprinidae) inhabiting a heterogeneous environment. Evolution 58:1261-1273.

Magalhaes, M.F., P. Beja, I.J. Schlosser, and M. J. Collares Pereira. 2007. Effects of multi-year droughts on fish assemblages of seasonally drying Mediterranean streams. Freshwater Biology, in press.

Angers, B. and I. J. Schlosser. In review. The origin of Phoxinus eos-neogaeus unisexual hybrids. Molecular Ecology

Schlosser, I.J., V. Tkach, M. L. Hahn, and M.D. Doeringsfeld. In preparation. Host-parasite interactions in clonal and sexual fish in a successional landscape. For submission to Ecology.

Publications - Technical Reports:

Karr, J.R. and I.J. Schlosser. 1977. Impact of nearstream vegetation and stream morphology on water quality and stream biota. Ecological Research Series, United States Environmental Protection Agency, Athens, GA. USEPA--600/3-77-097. 90 pp.

Schlosser, I.J. and J.R. Karr. 1980. Determinants of water quality in agricultural watersheds. Office of Water Resources Research Report No. 47. Champaign, Illinois 75 pp.

Karr, J.R. and I.J. Schlosser. 1980. Best management statement for using riparian vegetation to improve water quality. In: Buffer strips, resources, and agricultural development in the Guanare-Masparro region of Venezuela. Published by the Organization of American States.

pp. 78-82.

Karr, J.R., P.L. Angermeier, and I.J. Schlosser. 1983. Habitat structure and fish communities in warmwater streams. Final report, United States Environmental Protection Agency, Environmental Research Laboratory, Corvallis, OR. EPA-600/0-83-094. 6pp.

Karr, J.R., P.R. Yant, K.D. Fausch, and I.J. Schlosser. 1984. Evaluation of an index of biotic integrity: Temporal variability and regional applications. United States Environmental Protection Agency, Environmental Research Laboratory, Corvallis, OR. EPA-600/D-84-053. 7 pp.

Karr, J.R., K.D. Fausch, P.L. Angermeier, P.R. Yant, and I.J. Schlosser. 1985. Assessment of biological integrity in running waters: A method and its rationale. United States Environmental Protection Agency Workshop Report. Leesburg, VA. 106 pp.

Schlosser, I.J. 1990. A pluralistic view of factors influencing warmwater stream fishes: Implications for environmental management. Pages 14-15 in M.B. Bain, ed. Ecology and assessment of warmwater streams: Workshop synopsis. U.S. Fish and Wildlife Service, Biological Services Report 90 (5).

Schlosser, I.J. 1991. Effects of ecotones associated with beaver ponds on the structure and function of headwater fish communities. Pages 45-49 in M. Zalewski, J.E. Thorpe, and P. Gaudin (eds.). Land/inland water ecotones. UNESCO MAB, University of Lodz, Lodz, Poland.

Schlosser, I.J. and six others. 1994. Potential influence of rainbow smelt (Osmerus mordax) on the Voyageurs National Park ecosystem. 6 pp. Voyageurs National Park.

Publications - Book Reviews:

Schlosser, I.J. 1986. A northern prairie stream. North Dakota Quarterly 4:258-260.

Schlosser, I.J. 1988. Tropical fish ecology. Ecology 69:300.

Schlosser, I.J. 1993. Biology of freshwater pollution. Quarterly Review of Biology 68:291-292.

Schlosser, I.J. 1995. Aquatic Ecology: scale, pattern, and process. Transactions of the American Fisheries Society. 124: 644.

Schlosser, I.J. 1998. The raptor and the lamb. Quarterly Review of Biology 73:342.

Presentation of Scientific Papers and Abstracts:

60 presentations, including 30 invited papers and 12 at international symposia