

DONALD G. HUGGINS
Curriculum Vitae

Revised March 2013

Director of Central Plains Center for BioAssessment, Univ. of Kansas, Lawrence, KS 66047
Director of Ecotoxicology Program, KS Biological Survey, Univ. of KS
Senior Scientist, KS Biological Survey, Univ. of KS
Courtesy Professor, Dept. of Civil Engineering, Univ. of KS.
Courtesy Professor, Dept. Evolutionary Biology and Ecology, Univ. of KS

PERSONAL:

Born - April 11, 1944, Des Moines, Iowa
2005 - 2010 president of the board of directors for the Lawrence Community Shelter
(a community program for the homeless and under-privileged)
Vietnam Combat Veteran (US Marine Corps)
Recipient of the 2010 KU Research Achievement Award

EDUCATION:

BA, Westmar College, Lemars, IA. 1966. Double major in Chemistry and Biology
MS, Iowa State University, Ames, IA. 1968. Fisheries Biology (Major), Water Resources
(Minor)
PhD, (with Honors), University of Kansas, Lawrence, KS. 1990. Environmental Health Science,
School of Engineering

PROFESSIONAL TRAINING PROGRAMS:

1977 - Current Biological Methodology & Quality Assurance Practices. US EPA, Region VII,
KS
1977 - Bioassay Procedures Workshop. Columbia National Fisheries Research Laboratory,
Columbia, MO
1978 - Basics of Surface-Water Discharge Measurements. US Geological Survey, KS
1986 - Hazard Ranking System of NCP. US EPA, Region VII, KS
1988 - Geographic Information Systems and Digital Data Processing Workshop. CALMIT, Univ.
of Nebraska, Lincoln, NE
2000 – Applied Fluvial Geomorphology. Kansas Water Office and Wildland Hydrology, Salina,
KS
2003 – National Wadeable Streams Assessment, USEPA sponsored field methodologies and
quality assurance training, Lawrence, KS
2007 – National Lakes Assessment Training, USEPA sponsored field methodologies and
quality assurance training, Lawrence, KS

2008 – National Rivers and Streams Assessment (NRSA) Training, USEPA sponsored field methodologies and quality assurance training, May 27-30, 2008, Kansas City, KS

PROFESSIONAL EXPERIENCE:

1965-66 - Student Advisor, Westmar College
1966-68 - Research Assistant, Coop. Fisheries Unit, Iowa State University
1967 - Biological Technician, Wildlife (GS-5), U.S. Fish and Wildlife Service
1969-70 - Agricultural Advisor for MAC-V, U.S. Marine Corps
1973-74 - Limnologist, Center for Northern Studies, Wollcott, VT
1970-77 - Fisheries Biologist, University of Kansas, Lawrence
1977-87 - Tech. Consultant, Kansas Nongame, Threatened and Endangered Species Program, KS. Dept. Wildl. & Parks
1978-87 - "Fish Kill" Investigation Group, Kansas Dept. Health and Environment, KS Wildl. & Parks and Kansas Biological Survey, Lawrence
1979 - Graduate Faculty (Ad hoc), Civil Engineering, Univ. of Kansas
1987-88 - President, Central States Entomological Society
1993 - Development of Coop. Research Agreement with Iowa State Univ., Univ. of Kansas, The Ukrainian Res. Inst. of Agriculture & Luiv Univ. (Luiv, Ukraine)
1994 - Kansas Conservation Partnership Forum, University Panel, Salina, KS
1994 - Sharing Water: Cities, Farms and Ecosystems, National Video Conference, Discussion Panel, University of Kansas, Lawrence

PROFESSIONAL AFFILIATIONS:

North American Benthological Society
Water Environment Federation
Society of Environmental Toxicology and Chemistry
North American Lake Management Society

COMMITTEE WORKGROUP ASSIGNMENTS (since 1975):

1975 - Chairman, Chironomid Studies and Ecology of Stream Invertebrates Session, North American Benthological Society, Annual Mtg.
1975-76 - Committee on Threatened and Endangered Species in Kansas, Invertebrate Work Group, Kansas Dept. Wildl. & Parks
1976-79 - Planning and Policy Advisory Committee - Kansas Water Quality Plan. Kansas Dept. of Health & Environment
1976-79 - Technical Planning Committee (Assessment of streams and lake biosupport capabilities and development of stream and lake fisheries classifications for Water Quality Assessment workplan). Kansas Water Quality Plan. Kansas Dept. of Health & Environment
1977 - Chairman, Search Committee for aquatic invertebrate position, Kansas Biological Survey

- 1977-78 - Technical Advisor, Development of Invertebrate Strategic Plan for the Kansas Endangered Species Program. Kansas Dept. Wildl. & Parks
- 1977-82 - Federal-State Coordinating Committee, Kansas River and Tributaries Bank Stabilization Study, Army Corps of Engineers
- 1978 - Chairman, Search Committee for phycologist position, Kansas Biological Survey
- 1978 - Review Committee on the Directorship of the Museum of Invertebrate Paleontology, University of Kansas
- 1978-79 - Chairman, Kansas Academy of Science Natural History Handbooks Committee, Invertebrate Section, Kansas Acad. Sci.
- 1979 - Chairman, Search Committee for aquatic invertebrate biologist position, Kansas Biological Survey
- 1978-87 - Planning Committee, Nongame, Endangered or Threatened Wildlife. Kansas Dept. Wildl. & Parks
- 1983 - Ecological community advisor, Environmental Defense Fund, Washington, D. C.
- 1984-85 - Surface Water Quality Standards Task Force. Kansas Dept. Health & Environment
- 1985-to-date - Joint Task Group 10500 (Benthic Macroinvertebrates) for prep of *Standard Methods for the Examination of Water and Wastewater*. American Water Works Assn.
- 1985-to-date - Joint Task Group 10900 (Identification of Aquatic Organisms) for prep of *Standard Methods for the Examination of Water and Wastewater*. American Water Works Assn.
- 1986 - Member, Search Committee for Stream Ecologist position with Kansas Biological Survey
- 1986 - Chairman, Aquatic Toxicity Session, North American Benthological Society, Annual Meeting
- 1986-92 - Aquatic Insect Common Names Committee, North American Benthological Society
- 1987 - Planning Committee, Stream Program. Kansas Dept. Wildl. & Parks
- 1990 - Livestock Pollution Control Task Force (tech. subcommittee.), Bureau of Environ. Quality, Kansas Dept. Health & Environment.
- 1990-91 - University Committee on Promotion and Tenure (UCPT). University of Kansas
- 1991-92 - Pesticide/Nitrate Risk Reduction Opportunity Team, U.S. EPA, Region VII
- 1991-93 - General Research Fund Committee, University of Kansas
- 1991-93 - Faculty Senate Research Committee, University of Kansas
- 1992-to-date - Chairman, Joint Task Group 8750 (Toxicity Test Procedures for Aquatic Insect) for prep of *Standard Methods for the Examination of Water and Wastewater*. American Water Works Assn.
- 1995-99 - Project Advisory Team, Clean Water Farms Project, Kansas Rural Center and Kansas Dept. of Health & Environment
- 2006-to date – KBS Executive Committee
- 2008-11 - Sediment Baseline Assessment Workgroup, sponsored by Kansas Water Office

GRANTS AND CONTRACTS (since 1975):

Funded

- 1979-81 - Soldier Creek Water Quality and Conservation Project. Kansas Dept. Health & Environment. (\$15,000)
- 1977-79 - The determination of water quality criteria for the support of aquatic life in two small Kansas streams (C. Burkhead and D. Huggins). Kansas Water Resources Institute. (\$27,607)
- 1981 - Guide to the Freshwater Invertebrates of the Midwest. Office of Surface Mining, Dept. of Interior. (\$1800)
- 1985 - Biological assessment of selected water quality parameters of Prairie Creek and associated contact springs. Stinson, Mag & Frizzell for Waste Management Inc. (\$30,333)
- 1985-86 - Development and maintenance of the Kansas Biotic Index. Kansas Dept. Health & Environment. (\$10,000)
- 1985-86 - Cheyenne Bottoms: An Environmental Assessment, (Project Manager). Kansas Dept. Wildl. & Parks. (\$180,000)
- 1985 - Effects of atrazine concentrations recorded in a large Kansas reservoir on phytoplankton from atrazine-free water (D. Huggins, G. Howick and F. deNoyelles). US Geological Survey. (\$4,993)
- 1985 - Potential for the development of atrazine-resistant phytoplankton communities in contaminated zones of a large Kansas reservoir (D. Huggins, G. Howick and F. deNoyelles). US Geological Survey. (\$4,993)
- 1985 - A preliminary evaluation of the impact of atrazine on the plant community of a large Kansas reservoir (D. Huggins, G. Howick and F. deNoyelles). Kansas Dept. Health & Environment. (\$4,935)
- 1986-87 - Seasonal Stream Water Quality Inventory (D. Huggins and G. Howick). Kansas Dept. Wildl. & Parks. (\$24,212)
- 1986-87 - Milford Hatchery Site Water Quality and Water Management Assessment. (D. Huggins, G. Howick and F. deNoyelles, Jr.). Kansas Dept. Wildl. & Parks. (\$32,743)
- 1986-87 - The Plecoptera Nymphs of Kansas: Their identification, distribution and use in water quality studies. Kansas Dept. Health & Environment. (\$10,000)
- 1986-87 - Proposed Biotic and Habitat indices for use in Kansas Streams. Kansas Dept. Health & Environment. (\$5,000)
- 1987-88 - Biological & engineering contributions to RI/FS at the Arkansas City "superfund" site in SE Kansas (D. Huggins, D. Lane and F. deNoyelles). US Geological Survey. (\$50,000)
- 1985 - Development of experiment lake facility (with others) Res. Improvement Award, University of Kansas. (\$98,199)
- 1987-88 - Field evaluations of the assessment value of a Kansas biotic index on nonpoint source agricultural pollution (D. Huggins, F. deNoyelles, D. Kettle and P. Liechti). Kansas Dept. Health & Environment. \$10,000)
- 1989-90 - Relationships between land use/land cover and nonpoint pollution stream effects within an ecosystem (Project Manager). US EPA, Region VII. (\$173,000)
- 1985 - Data validation for EPA modeling (D. Huggins and M. Johnson). US EPA, Duluth-ORD. (\$7,500)

- 1991-92 - A regionalized assessment of the influences of rural nonpoint source pollution on the ecological integrity of stream ecosystems and evaluation of associated pollution control management. (E. Martinko, D. Huggins and M. Johnson). US EPA. (\$1,250,000)
- 1992-93 - A regionalized assessment of the influences of rural nonpoint source pollution on the ecological integrity of stream ecosystems and evaluation of associated pollution control management (F. deNoyelles, D. Huggins and M. Johnson). US EPA. (\$1,450,000)
- 1993-94 - A regionalized assessment of the influences of rural nonpoint source pollution on the ecological integrity of stream ecosystems and evaluation of associated pollution control management (F. deNoyelles, D. Huggins and M. Johnson). US EPA. (\$1,500,000)
- 1992-95 - An assessment of the effects on nonpoint source pollution on the biotic integrity of Walnut Creek and the role of riparian vegetation in mitigating nonpoint source (D. Huggins, M. Johnson and B. Menzel). US EPA, ERL-Duluth. (\$358,720)
- 1992-93 - Riparian Studies in the Delaware River basin, Kansas. US EPA, ERL-Duluth and US EPA, Region VII co-op grant. (\$25,000)
- 1993-94 - Effects of the structure and function of periodically-flooded wetlands on the degradation of herbicides and their metabolites. Regional Applied Research Effort proposal, US EPA, Region VII and US EPA-ERL, Duluth co-op grant. (\$30,000)
- 1994-95 - Research and Development Fund Grant (F. deNoyelles, D. Huggins, D. Lane and S. Randtke). University of Kansas. (\$35,761)
- 1995-99 - Validation of clean water farms management techniques. Kansas Dept. Health & Environment and US EPA Region VII, 319 grant funding. (\$442,642)
- 1995-96 - Predicting impacts of the conservation reserve program on aquatic ecosystems (D. Huggins and L. Bain). National Biological Service, Ft. Collins, CO. (\$28,000)
- 1995-96 - Macroinvertebrate identifications and verifications for NAWQA Program, US Geological Survey, Arvada, CO. (\$69,600+\$45,240)
- 1995 - Water quality impacts of agricultural activities on small watersheds. Kansas Dept. Health & Environment. (\$30,000)
- 1996-97 - Assessment of the ecological integrity of Soldier Creek drainage basin, Prairie Band of Potawatomi Nation, Mayetta, KS. (\$10,000+\$20,706)
- 1996 - Development of a watershed analysis and management framework, Prairie Band of Potawatomi Nation, Mayetta, KS. (\$16,990)
- 1997-99 - Assessment of Clinton Reservoir and its watershed, Kansas Dept. Health & Environment, Kansas Water Office and US EPA Region VII. (\$220,049)
- 1997-99 - Development of biocriteria metrics for streams of the Western Corn Belt Plains Ecoregion Kansas and adjacent states, (L. Ferrington and D. Huggins). US EPA. (\$30,000)
- 1998 - Baldwin Creek water quality assessment project. Kansas Water Office. (\$15,000)
- 1998 - Small stream crossing impact study. Subcontract with Univ. of California-Davis. (\$6,500)
- 1998-99 - Small stream crossing impact study. Subcontract with Univ. of California-Davis. (\$14,500)
- 1998-99 - Enhancement of research with experimental aquatic ecosystems at the Kansas Ecological Reserves, (C. Annett, S. Dewey, L. Ferrington, D. Graham, D. Huggins, D. Kettle, V. Smith and F. deNoyelles). National Sci. Foundation. (\$13,381)

1999 - Macroinvertebrate identifications. Missouri Dept. of Conservation. (\$1,752)

1999 - Big Soldier Creek Watershed Management Plan, Prairie Band of Potawatomi Nation, Mayetta, KS. (\$7,805)

1999-00 - TMDL supplement data assessment project, (D. Huggins and F. deNoyelles). Kansas Dept. Health & Environment. (\$120,000)

1998-01 - Development of a regional center of bioassessment. US EPA. (\$160,000)

1998-01 - Acquisition and assessment of nutrient data: an ecoregion approach with an emphasis on streams. US EPA. (\$188,729)

2001 - TMDL supplement data assessment project, (D. Huggins). Kansas Dept. Health & Environment. (\$60,000)

2001-03 - Spatial and temporal variability of nutrient limitation on phytoplankton growth in Kansas reservoirs. Kansas Department of Health and Environment. (Co-PI, \$108,308)

2001-03 - Water quality and biological criteria and recommended monitoring approaches relevant to Heartland Network Parks. U.S. National Park Service cooperative grant. (\$169,000)

2001-04 - An Integrated Modeling Approach to Predict the Effects of Watershed Management on the Eutrophication of Reservoirs in the Central Plains. USEPA Region 7. (Co-PI, \$540,000)

2003-05 - Developing Regional Nutrient Benchmark Values for Streams, Rivers, and Wetlands Occurring in USEPA Region 7. USEPA Region 7. (Co-PI, \$80,000)

2004-05 - Assessment of floodplain wetlands of the lower Missouri River using an EMAP study approach. USEPA Region 7. (Co-PI, \$209,481)

2004-05 - Assessment of wadeable streams within the South Central Semi-arid Prairies Ecoregion using an EMAP randomized study design. USEPA, WOWO. (Co-PI, \$401,972)

2004-05 - Defining relationships among indicators of sediment, erosion and ecosystem health in low gradient stream. USEPA Region 7. (Co-PI, \$59,000)

2006-07 - Procurement of Field and Analytical Support for the EMAP-Great Rivers Reference Condition Research on the Missouri River in Kansas. USEPA Region 7. (Co-PI, \$98,000)

2005-07 - Developing Regional Nutrient Criteria for Wetlands of the Central Plains Region. USEPA Region 7. (Co-PI, \$40,000)

2005-07 - Reference Conditions for Wadeable Streams of the Central Plains: Characterizing Minimally Versus Least Disturbed Conditions. USEPA Region 7. (Co-PI, \$30,000)

2005-07 - Identification and Characterization of Reference Conditions within USEPA Region 7 using EMAP methodology. USEPA Region 7. (Co-PI, \$374,000)

2005-07 - Determination of Regional Reference Conditions, Tiered Aquatic Life Applications and Inter-Regional Calibration of Community Assessment Methods. USEPA Region 7. (Co-PI, \$30,000)

2006 - Procurement of Field and Analytical Support for the EMAP-Great Rivers Reference Condition Research on the Missouri River in Kansas. USEPA. (Co-PI, \$98,000)

2007-09 - Assessing the condition of USEPA Region 7's large tributaries of the Missouri River: A probabilistic design approach. USEPA. (Co-PI, \$383,000)

2007-09 - National River and Stream Assessment Survey – 2008 and 2009, TetraTech as

- contractee of USEPA. (Co-PI, \$208,418)
- 2008 - Developing Regional Nutrient Benchmarks for Streams and Wetlands of the Central Plains Region, Great Lakes Environmental Center as a contractee of USEPA. (Co-PI, \$16,000)
- 2008 - Database development for definition and assessment of nutrient levels and their biological effects in the Missouri River, Great Lakes Environmental Center as a contractee of USEPA. (Co-PI, \$15,000)
- 2008-09 - Assessment of Westar Energy Jeffrey Energy Center discharge on Lost Creek: A long-term monitoring/assessment strategy. Westar Energy. (Co-PI, \$153,000)
- 2009-10. - Determining the Utility and Adaptability of Remote Sensing in Monitoring and Assessing Reservoir Eutrophication and Turbidity for TMDL Assessments. USEPA Region 7. (Co-PI, \$75,000)
- 2007-10 - Assessing the condition of USEPA Region 7's large tributaries of the Missouri River: A probabilistic design approach. USEPA, 2 year project with 1 year extension). (Co-PI \$382,674)
- 2010 - Identification of Macroinvertebrates for Fort Riley Military Base. Malcolm-Pirnie Consultants. (Co-PI, \$8,788)
- 2010-15 - Field Sampling Services for National Aquatic Resource Surveys (Tetra Tech, Inc. GSA Schedule GS-10F-0268KRFQ EPA-CPOD-088). USEPA. (\$3,000,000 over 5 years, CPCB is team member)
- 2011 - Assessment of Sunflower Electric Power Corporation's Great Bend Station selenium discharge on a tributary of Dry Walnut Creek (Barton Co., KS). Sunflower Electric Energy Corp. (Co-PI, \$61,000 for about 1 year)
- 2012 – 13 - eDNA sampling as a non-invasive monitoring tool for threatened and endangered species: Experimental studies using Topeka Shiners (*Notropis topeka*). KDWP. (Co-PIs - Huggins, Baker, DeNoyelles, Grose, \$33,996)
- 2012 -.15 - Asian Carp eDNA in the Osage River Basin. USFWS. Co-PIs - Huggins, Baker, Grose, \$29,996)
- 2013 - National Lake Survey – Kansas Lakes. KDHE. (Co-PIs - Huggins, Baker, \$93,950)

PROFESSIONAL CONSULTING (Since 1975):

B. A. Vittor & Associates, Environ. Research & Consulting
 Black and Veatch, Consulting Engineers
 Chadwick & Associates, Consulting Engineers
 Natural Resources Consultants
 Illinois Natural History Survey
 Midwest Aquatic Enterprises
 Waste Management of North America, Inc.
 B. F. Goodrich, Chemical Division
 Blazer, Zeni and Company (Environ. Management Consultants)
 Jacobs Engineering Group, Inc.

RESEARCH INTERESTS:

Population Studies

Aquatic invertebrate and fish responses to perturbations especially sediment and nutrient enrichment.

Community and Ecosystem Level Research

Major research interests are in ecotoxicology and community and/or ecosystem assessment of anthropogenic perturbations. Current research efforts are being directed toward assessment of the effects of watershed-level influences on stream ecosystems. Examination of potential threshold responses in stream ecosystems from sediment and nutrient enrichment is of current interest. Impacts of road networks to the hydrology and ecology of headwater streams is a new area of interest. Use of Structural Equation Modeling (SEM) and piecewise regression in ecosystem studies are of continuing interest and application in examination of population and whole system responses.

TEACHING:

1980, Fall - Aquatic insects, Laboratory and Aquatic Biology (Biol. 418), University of Kansas

1981, Fall - Aquatic biology, Biol. Principles Environ. Eng. Proc. (CE 773), University of Kansas

1981, Spring - Aquatic macroinvertebrate, Stream Ecology (Biol. 661), University of Kansas

1984-92, Spring - Biological monitoring and toxicity testing, Environ. Monitoring (CE 873), University of Kansas

1987, Fall - Biological Assessment of Streams, Stream Ecology (Biol. 661), University of Kansas

1988, 1992, 1994, Spring - Odonata evolution and biology, Aquatic Entomology (Biol. 525), University of Kansas

SEMINARS AND PRESENTATIONS (Since 1975):

1974-84 - Various class presentations on aquatic biology, Lawrence, Topeka, St. Francis, Bonner Springs, Ottawa, Melvern and Shawnee Mission School Districts

1975 - Odonates of Kansas, Part II. Kansas Academy of Science, Ann. Mtg.*

1976 - Invertebrate Stream Biology, Kansas Assoc. Biological Teachers

1977 - Stoneflies of Kansas. Kansas Academy of Science, Ann. Mtg.*

1978 - Surface Mining Stream Investigation Workshop, Office of Surface Mining, US Dept. Interior, Kansas City, KS

1979 - Aquatic Biology Studies in Kansas (invited paper), Kansas Assoc. Biological Teachers, Ann. Mtg.

1980 - Effects of a 24 hour ammonia injection on stream drift and benthic standing crop, Kansas Academy of Science, 112th Ann. Mtg.* (D. Huggins and P. Liechti)

- 1980 - Odonates of southeastern United States (invited paper), special symposia, North Am. Benthological Soc., Ann. Mtg., Savannah, GA *
- 1984 - Emergence Biology of *Anax longipes*, North Am. Benthological Soc., Ann. Mtg., Raleigh, NC (D. Huggins and B. Coler) *
- 1985 - Ecological disturbance: Interaction between aquatic ecosystems and landscapes, Systematics and Ecology Seminar, University of Kansas, Lawrence, KS (September 18)
- 1985 - Special Aquatic Sites. Wetland Protection Workshop (Enforcement Training program), Corps of Eng./US EPA, Region VII, Kansas City, MO
- 1985 - Identifying technical criteria for riparian wetland restoration and protection, a 2-day workshop presentation (Huggins, D., D. Bandi and K. Higgins), Kansas Biological Survey, University of Kansas, Lawrence, KS.
- 1985 - Tri-State nonpoint source pollution assessment project, US EPA - Region VII, 2nd Annual NPS Workshop, US EPA Region VII, Overland Park, KS
- 1985 - Landscape risk-based assessment of nonpoint source pollution and riparian restoration potential, poster presentation, 3rd Ann. Regional Wetland Mtg., US EPA Region VII, Kansas City, MO (D. Huggins and D. Bandi)
- 1985 - Remote Sensing and GIS-based assessment of agricultural nonpoint source pollution (Huggins, D. and P. Liechti). Geography seminar, University of Kansas, Lawrence, October 26.
- 1985 - Use of a GIS approach in assessing the ecological effects of nonpoint source pollution on stream ecosystems, Animal Ecology Seminar, ISU, Ames, IA
- 1986 - Cheyenne Bottoms - Environmental Assessment Study presentation at public meeting, Great Bend, KS
 Cheyenne Bottoms: Environmental Assessment, Kansas Governor Mike Hayden, and Select legislative representatives, Topeka
 Cheyenne Bottoms, Kansas Advisory Council Environ. Education, Topeka
 Cheyenne Bottoms: An Environmental Assessment, KS Dept. Wildlife & Parks Commission, Topeka
 Cheyenne Bottoms, Fish and Wildlife Committee of Kansas Water Office, Topeka
 Cheyenne Bottoms, KS Audubon Council, Kansas City
 Cheyenne Bottoms, Jayhawk Kiwanis Club, Lawrence
- 1986 - New insights into the ecology and systematics of aquatic Lepidoptera, KU Entomol. Seminar, Lawrence
- 1986 - Biological assessment of nonpoint source agricultural pollution, KS Department of Health and Environment, Topeka
- 1986 - Effects of VOC contamination on the stream fish *Pimephales promelas* (Rafinesque), North Am. Benthological Soc., Ann. Mtg., Lawrence, KS. (D. Huggins and G. Welker)*
- 1986 - Aquatic toxicity studies on VOC contamination, Soc. Environ. Toxicol. and Chem., Ozark- Prairie Chapter, Ann. Mtg., Columbia, MO
- 1986 - Reproduction in *Petrophila* (invited paper) (Huggins, D. and A. Brigham). Entomol. Soc. Am., Natl. Conf., Reno, NV *
- 1986 - The Cheyenne Bottoms feasibility study (Hoffman, W. and D. Huggins). Midwest Fish and Wildlife, Natl. Conf. Omaha, NE *

- 1987 - Hydrologic assessment of Cheyenne Bottoms (McClain, T. and D. Huggins). American Geophysical Union, Ann. Mtg., Baltimore, MD *
- 1987 - Evolution of Odonata, Formal Conference on the Aquatic Insects, Entomol. Soc. America, Natl. Conf., Boston, MA*
- 1988 - Cheyenne Bottoms Study (invited paper), 5th Ann. Water and Future of Kansas Conf., Manhattan, KS
- 1988 - Aquatic Lepidoptera (Pyralidae: Nymphulinae) in the Neotropics (invited paper (Huggins, D. and A. Brigham)), Special Symposia, North Am. Benthological Soc., Ann. Mtg., Tuscaloosa, AL *
- 1990 - Impact of livestock confinements on stream water quality, Livestock Pollution Control Task Force, Kansas Dept. Health & Environment, Topeka
- 1990 - Ecological disturbance: interactions between aquatic ecosystems and landscapes, Animal Ecology Seminar, ISU, Ames, IA. (April 29)
- 1990 - The development, utilization and future of biological indicators in ecological risk assessment, Comparative Risk Seminar Series, US EPA, Region VII, Kansas City, KS
- 1990 - Identifying riparian buffers to control nonpoint source pollution impacts, managing ecological risks through riparian protection and restoration, a 2-day workshop, U.S.EPA Wetlands Res. Program & US EPA, Region VIII, Denver, CO.
- 1990 - Nonpoint Source Pollution Effects on Aquatic Ecosystems and Whole System Management (D. Huggins & F. deNoyelles), a workshop for Nebraska extension educators, Coop. Extension, Univ. of Nebraska, July 18, Lawrence, KS.
- 1990 - Aquatic organisms as indicators of stream quality. Kansas Water Environ. Assn., 50th Ann. Conf., Manhattan, KS. (April)
- 1990 - Application of the Habitat Development Index in evaluating insect composition in small streams (Huggins, D., T. Anderson and P. Liechti), North Am. Benthological Soc., Ann. Mtg., Blacksburg, VA *
- 1990 - Invertebrate biomonitoring and habitat assessment (invited paper), Nonpoint Source Pollution Workshop, Center for Field Biology and Tennessee Dept. Health and Environ., Austin Peay St. Univ., Clarksville, TN
- 1990 - Influence of near-stream conditions on NPS pollution (invited paper), Nonpoint Source Pollution Workshop, Center for Field Biology and Tennessee Dept. Health and Environ., Austin Peay St. Univ., Clarksville, TN
- 1990 - Use of remote sensing and GIS in evaluating NPS pollution (invited paper), Nonpoint Source Pollution Workshop, Center for Field Biology and Tennessee Dept. Health and Environ., Austin Peay St. Univ., Clarksville, TN
- 1990 - Nonpoint source pollution and riparian buffers, a wetlands workshop, Kansas Biol. Survey, Lawrence, KS. (April 11- 12)
- 1990 - Direct and indirect effects of atrazine on aquatic fauna. Fish and Wildlife Conf.: "Environmental Health of Kansas", Pittsburg St. Univ., Pittsburg, KS
- 1990 - The effects of atrazine on aquatic ecosystems: an assessment of direct and indirect effects using structural equation modeling (Huggins, D., M. Johnson and F. deNoyelles, Jr.) Soc. Environ. Tox. and Chem. (SETAC), 11th Ann. Mtg. Arlington VA *
- 1990 - Structural equation modeling and ecosystem analysis. (Johnson, M., D. Huggins and F. deNoyelles, Jr.). Soc. Environ. Tox. and Chem. (SETAC), 11th Ann. Mtg. Arlington VA *

- 1990 - Freshwater simulated field studies: A review of surrogate ecosystems designed to simulate the natural environment (deNoyelles, F., S. Dewey, D. Huggins and D. Kettle). Soc. Environ. Tox. and Chem. (SETAC), 11th Ann. Mtg. Arlington VA *
- 1991 - Temporal variation in the response of stream insect composition to extensive basin cultivation in small agricultural streams (D. Huggins and T. Anderson). North Am. Benthological Soc., Ann. Mtg. Santa Fe, NM *
- 1991 - Ecological impacts of NPS pollution/agrichemicals. KS. Water Pollut. Control Assoc., 46th Ann. Conf., Manhattan, KS *
- 1991 - Ecological consequences of the control and elimination of macrophytes in small ponds by atrazine and Grass Carp (Huggins, D. and M. Johnson). North Am. Lake Mgmt. Soc., Region Lake Mgmt. Conf., Des Moines, IA *
- 1991 - Impacts of row crop pollutants on aquatic life (overview paper). Conference on the Status of Row Crop Pollution Control Practices, KSU, Manhattan, KS. (June 20)
- 1992 - The Kansas River system and its biota in transition, 122nd Ann. Mtg., Am. Fish Soc., Rapid City, SD (R. Sanders, D. Huggins and F. Cross)*
- 1993 - Monitoring freshwater communities to integrate environmental stresses, Water and Future of Kansas Conf., 10th Ann. Mtg., Manhattan, KS*
- 1993 - Ecotoxic effects of atrazine and its potential impact on aquatic ecosystem structure, (keynote address). Ozark-Prairie Chapter, SETAC, 8th Ann. Mtg., Ames, IA
- 1993 - Ecological impacts of herbicides - a review. Symposium on agricultural nonpoint sources of contaminants: a focus on herbicides, U.S. EPA and U.S.G.S., Lawrence, KS
- 1993 - The impacts of agricultural non-point source pollution on benthic macroinvertebrates in sixteen Western Corn Belt Plains Ecoregion streams (Lary, M. and D. Huggins). North Am. Benthological Soc. 42nd Ann. Mtg., Orlando, FL
- 1994 - Delaware Riparian Study, Wetland Riparian Areas Project Mtg., Manhattan, KS
- 1994 - Upper Delaware riparian study, Soil Conservation Service, AC - State Staff Conference, Topeka, KS.
- 1994 - Identifying riparian buffers that function to control nonpoint source pollution impacts, *In* The geographic prioritization of ecosystem restoration and protection activities, US EPA sponsored workshop, Lincoln, NE. (Aug 22-23)
- 1994 - The role of macroinvertebrates data in a watershed approach in evaluating nonpoint-source agricultural pollution (Anderson, T. and D. Huggins). Oregon Chapter, Am. Fish. Soc. Ann. Mtg., Sunriver, OR
- 1994 - Differentiation of major periphyton taxonomic groups based on spectral reflectance using close-range remote sensing (Clements, A., Dewey, S. Bergin and D. Huggins). Kansas Academy of Science, 126th Ann. Mtg. *
- 1994 - Differentiation of major periphyton taxonomic groups based on spectral reflectance using close-range remote sensing (Clements, A., S. Dewey, S. Bergin and D. Huggins). North Am. Benthological Soc, Ann. Mgt. *
- 1993- Evaluating biological integrity in watershed monitoring studies in the Midwest (Invited speaker). Ozark-Prairie Chapter, SETAC, 9th Ann. Mtg. Lawrence, KS
- 1994 - Riparian forest impacts on aquatic wildlife (Invited speaker), Great Plains Ag. Council, 46th Ann. Mtg., Forestry Com., Manhattan, KS

- 1995 - Non-point source evaluation of sixteen watersheds. Kansas Water Environ. Assn., 50th Ann. Conf., Manhattan, KS (April)
- 1995 - Northeast Kansas environmental assessment. 12th Ann. Water and Future of Kansas Conf., Manhattan, KS
- 1995 - The impacts of agricultural non-point source pollution on benthic macroinvertebrate trophic structure in the western corn belt plains ecoregion (M. Lary and D. Huggins). 43rd Ann. Mtg., North Am. Benthological Soc., Keystone, CO *
- 1995 - The dragonflies and damselflies (Odonata) and aquatic moths (Lepidoptera: Pyralidae:Nymphilinae) of Colorado (Invited speaker). 43rd Ann. Mtg., North Am. Benthological Soc., Keystone, CO*
- 1995 - Spatial and land use characteristics of small livestock confinements affecting stream water quality (D. Huggins, D. VanSchmus, S. Meador and D. Bandi). Animal Waste and Land-Water Interface, An Interdisciplinary Conference, Fayetteville, AR *
- 1995 - Effects of hydrophyte community structure on atrazine and alachlor degradation in Wetlands (Lee, K., D. Huggins and M. Thurman). *In* Versatility of wetlands in the agricultural landscape. Am. Water Res. Assoc. Conference, Orlando, FL
- 1998 - Temporal and spatial variations in water quality of Clinton Reservoir: preliminary data. Kansas Academy of Science, 130th Ann. Meeting, Kansas Newman College, Wichita, KS. (April 19-20)
- 1999 - Biological assessment of Soldier Creek watershed, Soldier Creek Watershed Partnership Meeting, Prairie Band of Potawatomi Nation. (Sept 29)
- 1999 - Nutrient levels in Midwestern streams and lakes. Breakout session #2, Nutrients, EPA Region 7, 7th Ann. Nonpoint Source Conference and Iowa St. University Conference on global water issues. ISU, Ames, IA. (March 24-26)
- 1998 - Examining the potential enhanced toxicity of atrazine in aquatic ecosystems, Symposium on Kansas Water Resources: Past, Present and Future. Kansas Academy of Science, 130th Ann. Meeting, Kansas Newman College, Wichita, KS. (April 19-20)
- 1999 - Nutrient criteria: National and regional perspectives (D. Huggins, B. Hayford and G. Welker, invited speakers). 49th Ann. Environ. Engineering Conference, Lawrence, KS *
- 1999 - Management and restoration of Midwestern riparian systems*. USDA workshop, 61st Midwest Fish and Wildlife Conference, Chicago, IL.
- 1999 - Water quality issues in reservoirs: Some considerations from a study of a large reservoir in Kansas (deNoyelles, J., S.H. Wang, J.O. Meyer, D. Huggins, J.T. Lennon, W.S. Kolln, S.J. Randtke). Environmental Engineering Conference 83-119, Lawrence, KS.
- 2000 - Functions and values of intermittent streams. Regional Wetlands and Water Resources meeting, Kansas City, MO, (Feb 29 – March 2)
- 2000 - Panelist and presenter, Professional Seminar Series, Environmental Science. Federal Agency Advisory Board and Haskell Indian Nations University, March 30.
- 2004 - Nutrient limitation of primary production in eastern and central Kansas reservoirs (Dzialowski, A., S. Wang, W. Spotts, N.C. Lim, and D. Huggins). North American Lake Management Society Annual Meeting, Victoria, British Columbia, November 2004.
- 2004 - The effects of phosphorus on aquatic environments. Heartland Region Phosphorus Best Management Workshop, Arbor Day Farm Lied Lodge and Conference Center, Nebraska City, NE. Jun 8-10

- 2005 – Region and national nitrogen issues. Heartland Region Nitrogen Best Management Practices Workshop, Arbor Day Farm Lied Lodge and Conference Center, Nebraska City, NE. Jun 7-9
- 2006 - Examining biological integrity and stressor gradients in wadeable streams in the Central Plains (Baker, D., A. Dzialowski, and D. Huggins). Midwest Fish and Wildlife Conference Annual Meeting, Omaha, NE. December 2006. 2007 - Predicting taste and odor events in Kansas reservoirs (Dzialowski, A., D. Huggins, F. deNoyelles, Jr., N.C. Lim and J. Beury). Future and Water in the State of Kansas Ann. Mgt., Topeka, KS. March 2007.
- 2008 - Biological Responses to Nutrient Enrichment in Streams of the Central Plains and Adjacent Regions (Huggins, D. and D. Baker). Iowa Water Conference, 8th Annual “Linking land management and water quality”. ISU, Ames, IA. February 2008.
- 2008 - Predicting Taste and Odor Events: Is it Possible? (Huggins, D. and A. Dzialowski). Kansas Rural Water Assoc., 2008 Conference. Wichita, KS. March 2008.
- 2008 - Impact of Sedimentation on Biological Resources (Huggins, D., B. Everhart [presenter], A. Dzialowski, J. Kriz and D. Baker). *In* Sedimentation in our Reservoirs: Causes and Solutions, A research strategy workshop. Sponsored by KS Water Resources Inst. and KS Water Office, Topeka, KS. March 2008.*
- 2009 – Biological Impacts of Sediment and Sedimentation in Aquatic Ecosystems (Huggins, D. [session moderator and speaker], B. Everhart, A. Dzialowski, J. Kriz and D. Baker), in Session 6, Sediment Loading in Streams and Lakes. Assessing Impacts, 26th Annual Water and the Future of Kansas Conference, Capital Plaza Hotel, Topeka, KS. March 26, 2009.
- 2009 - Using Digital Elevation Data for River Valley Identification and Floodplain Mapping (J. Kastens, K. Dobbs, S. Egbert, D. Huggins, B. Williams, and J. Thorp). A poster presented at the 1st Biennial Symposium of the International Soc. River Science. St. Pete Beach, FL, July 12-17, 2009.
- 2010 - Applications of a GIS Floodplain Mapping Model – valley identification, connectivity indexing, and emergency management (Kastens, Baker (presenter), Huggins, and Dobbs). Missouri River Natural Resources Conference, Nebraska City, NE, March 17-19.
- 2010 – Predicting Taste and Odor Events. *In* Advanced Surface Water Session, 91st Annual Water and Wastewater Operators school and Examinations Program. KDHE and KU Continuing Ed, Lawrence, KS. Aug 3-6 2010.
- 2010 - Some Observations on Water Quality Issues in Kansas: A 40-year Perspective. Water and the Future of Kansas Conference: Sustainable Water Resource Management: Assuring the Future. Topeka, KS. October 26.
- 2011 – Modification of the V* method for estimating sediment in low gradient streams (Everhart, Baker and Huggins). Water and the Future of Kansas Conference, Capital City Hotel, Topeka, KS
- 2011 - Atrazine in Aquatic Ecosystems: A example of complex ecotoxic responses. (D. Huggins). Chemistry Dept. seminar, Jackson State University, Jackson, MS. Mar 25.
- 2011 - Land Management Impacts on Stream Water Quality in Agricultural Watersheds (D. Huggins). 2011 Iowa Water Conference “More Water to Manage”, Ames, IA. Mar 7-8.
- 2011 - Atrazine in Aquatic Ecosystems: a Example of Complex Ecotoxic Responses (D.

- Huggins). Chemistry seminar, Jackson State University, Jackson, MS. Mar 25.
- 2011 – Basics of Bioassessment: the Use of Biological Information in Aquatic Resource Management (D. Huggins and D. Baker). 76th North Am. Wildlife and Natural Res. Conf., Westin Crown Center, Kansas City, MO. Mar 14-19.
- 2011 - Bioassessment Workshops and Training (D. Huggins and D. Baker). 3rd Annual Nebraska Floodplain and Stormwater Managers Assoc. Conf., Mahoney State Park near Ashland, NE. June 23.
- 2011 - Multipurpose Floodplain Mapping (J. Kastens (presenter), K. Dobbs, D. Huggins, D. Baker). 3rd Annual Nebraska Floodplain and Stormwater Managers Assoc. Conf., Mahoney State Park near Ashland, NE. June 23.
- 2011 – Marais des Cygnes aquatic resources and sedimentation. Marais des Cygnes Basin Leadership Institute meeting, Carnegie Cultural Center, Ottawa, KS. July 27.
- 2011 – Land management and streams: Have we made any progress in 30 years? KU Environ. Eng. and Sci. seminar, Oct 25.
- 2011 – What is happening in Kansas reservoirs and reservoirs everywhere/Central Plains Center for BioAssessment (co-presented with J. deNoyelles). 67th Annual Convention, Kansas Assoc. Conservation Districts, Wichita, KS. Nov 20-22.
- 2012 – Land management, habitat improvement, and biological change: time for change? NE Chapter Am. Fish. Soc. Ann. meeting. Schramm Park State Recreational Area, NE. Feb. 14 – 15.
- 2012 – Assessing the health of streams in agricultural landscapes: Impacts of land management change on water quality. 2012 Iowa Water Conference, ISU, Ames, IA. March 6-7.
- 2012 – Land management, habitat improvement, and biological change: time for change? 2012 Iowa Water Conference, ISU, Ames, IA. March 6-7.
- 2012 –Assessing the health of streams in agricultural landscapes: Impacts of land management change on water quality. Three Washington D.C. Venues on March 26:
- 1) National Coalition for Food and Agricultural Research (NC-FAR) 10-11am
 - 2) NC-FAR Lunch and Learn, noon-1pm
 - 3) USEPA, 2:30-3:30pm
- 2013 - Legacy Sediment in Kansas: Understanding the How, When and Where. Brownbag Professional Development Lecture series, Sept 3, KWO conference room.
- 2013 – Legacy Sediment: A problem from the past. Governor’s Conference on the Future of Water in Kansas, Manhattan, KS, October 24-25, 2013.
- 2013 – Hydromodification and legacy conditions: Major challenges to the ecological restoration of streams and rivers of the plains region. 22nd Annual KS Hydrology Seminar, Topeka, KS, November 22, 2013
- 2014 – Large-scale legacy and lag time impacts: selection of natural areas as references for climate change research (Huggins [presenter], baker and Everhart). Symposium on Ecohydrology and Climate Change at Kansas Natural Areas and Research Stations at KS Acad. Sci. annual mgt., Emporia St. University, Emporia, KS. April 5, 2014
- 2014 – Identifying floodplain alluviation form post-settlement land use activities in the Delaware River basin, Kansas (Huggins [presenter] and Bozarth). Sedimentation Research Workshop: Understanding the Sedimentation of Kansas Lakes, Capital City Hotel, Topeka, KS. April 14, 2014

- 2014 – Summary/Lessons learned. Sedimentation Research Workshop: Understanding the Sedimentation of Kansas Lakes, Capital City Hotel, Topeka, KS. April 14, 2014
- 2014 - Reservoir Sedimentation: Acting wisely now to address vanishing resources. (deNoyelles [presenter], Kasten, Jakubauskas, Martinko, Huggins, Liechti, Campbell and Blackwood). 64th Annual Environ. Eng. Conf., University of Kansas, Lawrence, KS. April 16, 2014

* denotes abstracted papers

TECHNICAL REPORTS:

- 1976 - Invertebrates of Woodson County State Fishing Lake and Game Management Area (Huggins, D., P. Liechti, T. Oldham and S. Hamilton). *In* Preliminary Inventory of Woodson County State Lake and Game Management Area. Rpt. State Biol. Surv. Kansas 5: 40-61.
- 1976 - Species accounts of certain aquatic macroinvertebrates from Kansas (Huggins, D., P. Liechti and D. Roubik). *In* New Records of the Fauna and Flora of Kansas for 1975. J. Caldwell, ed. Tech. Publ. State Biol. Surv. Kansas 1:13-77
- 1977 - Unionacean mussels of Kansas (Liechti, P. and D. Huggins). *In* New Records of the Fauna and Flora of Kansas for 1976. J. Caldwell, ed. Tech. Publ. State Biol. Surv. Kansas 4: 17-30
- 1977 - Kansas Plecoptera (Stoneflies) (Stewart, K. and D. Huggins). *In* New Records of the Fauna and Flora of Kansas for 1976. J. Caldwell, ed. Tech. Publ. State Biol. Surv. Kansas 4: 31-40
- 1977 - Additions and corrections to the list of aquatic beetles of the families Dryopidae and Elmidae from Kansas (Brown, H. and D. Huggins). *In* New Records of the Fauna and Flora of Kansas for 1976. J. Caldwell (ed.). Tech. Publ. State Biol. Surv. Kansas 4: 41-44
- 1977 - Records of Megaloptera in Kansas (P. Liechti and D. Huggins). *In* New Records of the Fauna and Flora of Kansas for 1976. J. Caldwell, ed. Tech. Publ. State Biol. Surv. Kansas 4: 45-50.
- 1979 - Kansas leeches (Annelidae; Hirudinea) with notes on distribution and ecology (Klemm, K., D. Huggins and M. Wetzel). *In* New Records of the Fauna and Flora of Kansas for 1978. R. Brooks, ed. Tech. Publ. State Biol. Surv. Kansas 8: 38-46
- 1979 - Fleas in Kansas: Their habits and effects on man (Huggins, D. and T. W. Oldham). Bull. State Biol. Surv. Kansas 6: 1-20
- 1980 - The occurrence of the glass shrimp, *Palaemonetes kadiokensis* Rathbum in Kansas. *In* New Records of the Fauna and Flora of Kansas for 1979. R. Brooks, ed. Tech. Publ. State Biol. Surv. Kansas 9: 12-14
- 1980 - The Spongillafly (Neuroptera: Sisyridae) of Kansas. *In* New Records of the Fauna and Flora of Kansas for 1979 R. Brooks, ed. Tech. Publ. State Biol. Surv. Kansas 9: 67-70
- 1980 - Kansas black flies (Diptera: Simuliidae) with notes on distribution and ecology (Snyder, T. and D. Huggins). *In* New Records of the Fauna and Flora of Kansas for 1979. R. Brooks, ed. Tech. Publ. State Biol. Surv. Kansas 9: 30-34

- 1981 - New state and distributional records for Kansas Plecoptera. *In* New Records of the Fauna and Flora of Kansas for 1980. R. Brooks, ed. Tech. Publ. State Biol. Surv. Kansas 10:65-70
- 1981 - Guide to the freshwater invertebrates of the Midwest (Huggins, D., P. Liechti and L. Ferrington). Tech. Publ. State Biol. Surv. Kansas 11:221 pp.
- 1982 - Notes on the Amphipoda of Kansas (Moffett, M. and D. Huggins). Tech. Publ. State Biol. Surv. Kansas 12:9-12
- 1983 - New Kansas records of Odonata. Tech. Publ. State Biol. Survey Kansas 13: 24-25
- 1983 - Sphaeriacean clams of Kansas (Mackie, G. and D. Huggins). Tech. Publ. State Biol. Survey Kansas 14: 92 pp.
- 1986 - Biological assessment of selected water quality parameters of Prairie Creek and associated contact springs (Huggins, D., P. Liechti, G. Welker, and T. Fraizer). Rpt. No. 30. Kansas Biol. Surv., Lawrence, KS. 92 pp. + Append.
- 1986 - The effects of atrazine on phytoplankton in Tuttle Creek Reservoir (Huggins, D., G. Howick, M. Moffett, F. deNoyelles, Jr.). Rpt. No. 31. Kansas Biol. Surv., Lawrence, KS. 38 pp.
- 1987 - Assessment of the quality of water sources at the Milford Fish Hatchery (Huggins, D., G. Howick, F. deNoyelles, Jr., and M. Moffett). Rpt. No. 33. Kansas Biol. Surv., Lawrence, KS. 49 pp.
- 1986 - Cheyenne Bottoms: An Environmental Assessment. (Project Manager & Author). Rpt. No. 32. Kansas Biol. Surv., Lawrence, KS. 719 pp.
- 1987 - Seasonal stream water quality inventory: Summer 1986 (Huggins, D. and G. Howick). Rpt. No. 34 Kansas Biol. Surv., Lawrence, KS. 30 pp.
- 1988 - An economic impact study of petition for regulatory relief from phosphorus effluent limits, City of Pana. (State of Illinois). R84-44, Dec. 1987, Blazer, Zeni & Co. 63 pp. + Apex.
- 1986 - Cheyenne Bottoms: An Environmental Assessment (Executive Summary). (Project Manager & Author). Report of Kansas Biological Survey and Kansas Geological Survey for Kansas Dept. Wildl. & Parks. 20 Jan. 1987. 29 pp.
- 1987 - Proposed biotic and habitat indices for use in Kansas streams. (Huggins, D. and M. Moffett) Rpt. No. 35. Kansas Biol. Surv., Lawrence, KS. 128 pp.
- 1988 - An economic analysis of proposed amendments to water pollution regulations, phosphorus discharges (State of Illinois). R87-6, March 1988, Blazer, Zeni & Co. 82 pp + Appex.
- 1988 - An ecological and air quality assessment of the Arkansas City, Kansas Superfund Site, Center for Research, Inc. Final report for U.S. Geological Survey (Contract #14-08-0001-A-0335). 13 Jun 1988. Part I, 38 pp; Part 2, 11 pp. + Appex.
- 1989 - Ecological assessment (M. Griffith, D. Huggins and R. Blackburn), pp. 65-101. *In* Remedial Investigation of the Arkansas City Dump Site, Cowley County, South-Central Kansas, Phase IIB. T. Spruill, et al., eds. U.S. Geological Survey Administrative Report, Lawrence, KS.
- 1988 - Field evaluations of the assessment value of a Kansas biotic index on nonpoint source agricultural pollution (D. Huggins, P. Liechti and T. Anderson). Rpt. No. 37. Kansas Biological Survey.

- 1990 - Establishment of empirical relationships between land use/land cover and nonpoint source pollution stream effects within an ecosystem (D. Huggins, M. Johnson, P. Liechti, T. Anderson, S. Meador and J. Whistler). U.S. EPA, Region VII, Office Integrated Environ. Analysis, NPS Analysis Project Rpt. 3. 66 pp.
- 1994- Identifying riparian buffers that function to control nonpoint source pollution impacts to instream communities: Feasibility study in the Delaware River Basin, Kansas (D. Huggins, D. Bandi, and K. Higgins). Rpt. No. 60. Kansas Biol. Surv., Lawrence, KS. 118 pp.
- 1996 - Assessment of the Effects of Nonpoint Source Pollution on the Biotic Integrity of Walnut Creek (Huggins, D., B. Menzel, D. Van Schmus, M. Lary, S.H. Wang, Lian, K. Higgins, D. Bandi, and A. Cordry). Open-file Report No. 73. Kansas Biological Survey, Lawrence, KS.
1998. - Development of biological criteria for macroinvertebrates for streams of the Western Corn Belt Plains Ecoregion (.Donley, S.R., L.C. Ferrington Jr., D. Huggins). Kansas Biological Survey, Lawrence, KS Report No. 90.
- 1998 - Use Attainability Analyses of Baldwin Creek Douglas County, Kansas. U.S.(Welker, G., D. Huggins). Joint Report US EPA Region 7 and Kansas. Biological Survey. 39 pp.
- 1999 - Final assessment of the ecological integrity of Soldier Creek in the Prairie Band Potawatomi National Reservation (Jackson Co., Kansas) (Huggins, D., S. Donley, M. Lary, J. Eggen). Open-file Report No. 92. Kansas Biological Survey, Lawrence, KS. 63 pp.
- 2000 - Assessment of Clinton Lake and Its Watershed: Water Quality and Plankton Communities in Clinton Lake, Kansas, May 1997 Through November 1998 (Wang, S. H., D. Huggins, F. deNoyelles, J.O. Meyer, and J.T. Lennon). Open-file Report No. 96. Kansas Biological Survey, Lawrence, KS. 85 pp.
- 2002 - Use Attainability Analyses of a Main Stem Reach of the Marmaton River - Bourbon County, Kansas and Vernon County, Missouri (Welker, G.E., D.G. Huggins, and C. Goodrich). Open-file Report No. 109, Kansas Biological Survey, Lawrence, KS. 50 pp.
- 2003 - Validation of Best Management Practices on Eight Farms. Participating in the Clean Water Farms Project (Huggins, D., W. Spotts, S. Wang, D. Baker, J. Anderson, and N. Lim) Open-file Report No. 105, Kansas Biological Survey, Lawrence, KS. 88 pp.
- 2003 - Comparison and Analysis of Macroinvertebrate Community Health between the Tyson and Alcan Branches (Pettis Co., Missouri) July 2000 (Bouchard Jr., R.W., D. Huggins, B. Hayford). Open-file Report No. 110. Kansas Biological Survey, Lawrence, KS. 24 pp.
2003. - Variability in nutrient limitation of Kansas reservoirs (Wang, S.H., A. Dzialowski, W.W. Spotts, N. Lim, D. Huggins). Kansas Biological Survey, Lawrence, KS Report No. 120. 45 pp
- 2003 - Cheney Reservoir water quality and it watershed assessment (Wang, S.H, D.G. Huggins, N. C. Lim, D. S. Baker, W. W. Spotts and C. A. Goodrich). Open-file Report No. 112, Kansas Biological Survey, Lawrence, KS. 41 pp.
- 2003 – Production Calculator, Version 1.5 Operators manual (Huggins, D. and J. Anderson).

- Open-file Report No. 131, Kansas Biological Survey, Lawrence, KS. 24 pp.
2003. - GIS interface for AnnAGNPS--ArcView Extension (Vol. 1: Users manual. Vol. 2: Data preparation. Vol. 3: Modified MUUF AnnAGNPS program.) (Wang, S.H., D. Huggins, M. Tsou, G. Misgna, X.Y. Zhan, S. Liu, C. Volkman, L. Frees). Kansas Biological Survey, Lawrence, KS.
- 2004 - Variability in nutrient limitation of Kansas reservoirs (Wang, S.W., A. Dzialowski, W. Spotts, N.C. Lim, and D. Huggins). Rpt No. 201, Kansas Biol. Surv., Lawrence, KS. 45 pp.
- 2005 - Dissolved Oxygen Fluctuation Regimes in Streams of the Western Corn Belt Plains Ecoregion (Huggins, D. and J. Anderson). Open-file Report No. 130, Kansas Biological Survey, Lawrence, KS. 57 pp.
- 2005 - Biological Assessment of Existing TMDL Streams (Huggins, D.G. and N.C. Lim). Open-file Report No. 136. Kansas Biological Survey, Lawrence, KS. 39 pp.
- 2005 - Summary of State and National Biological and Physical Habitat Assessment Methods with a Focus on US EPA Region 7 States (Goodrich, C., D.G. Huggins, R.C. Everhart, E.F. Smith). Open-file Report No. 135. Kansas Biological Survey, Lawrence, KS. 87 pp.
- 2005 - A Review of the Issues Related to Taxonomic Resolution in Biological Monitoring of Aquatic Ecosystems with an Emphasis on Macroinvertebrates (Bouchard Jr., R.W., D.G. Huggins, and J. Kriz). Open-file Report No. 133. Biological Survey, Lawrence, KS. 38 pp.
- 2005 - Sub-sampling Techniques for Macroinvertebrates, Fish and Benthic Algae Sampled in Biological Monitoring of Streams and Rivers (Baker, D.S. and D.G. Huggins). Open-file Report No. 132. Kansas Biological Survey, Lawrence, KS. 26 pp.
- 2005 - Identification and quantification of reference conditions associated with lotic ecosystems of the central plains and surrounding regions: A summary of approaches and factors (Huggins, D. and A. Dzialowski). Final report submitted to the United States Environmental Protection Agency, Region 7, Kansas City, KS. 34 pp.
- 2005 - Predicting the effects of watershed management on the eutrophication of reservoirs in the central plains: an integrated modeling approach (Wang, S., D. Huggins, N.C. Lim, W. Spotts, and A. Dzialowski). Rpt. No. 223. 103 pp.
- 2006 - Wadeable Streams in Kansas, 2000–2001: Chemistry, Physical Habitat, and Fish Communities (Smith, E.F., D.G. Huggins, and D.S. Baker). Open-file Report No. 138. Kansas Biological Survey, Lawrence, KS. 197 pp.
- 2006 - Characterization of reference conditions in wadeable streams of the central plains. (Dzialowski, A., D. Baker and D. Huggins). Final report submitted to the United State Environmental Protection Agency, Region 7, Kansas City, KS. 28 pp.
2007. - An integrated assessment of the effects of internal phosphorus cycling on sediment resuspension on the eutrophication of lakes and reservoirs in the Central Plains Dzialowski, A.R., S. Wang, N.C. Lim, J. Beury, D. Huggins). Kansas Biological Survey, Lawrence, KS 36 pp
- 2007 - The Arkansas River and Shunganunga Creek (Huggins, D., N. Lim). Project final report, Kansas Biological Survey, Lawrence, KS 28 pp
- 2007 - Assessment of Floodplain Wetlands of the Lower Missouri River Using a Reference-based Study Approach (Kriz, J., D. Huggins, C. Freeman, J. Kastens). Open-file Report

- No. 142. Kansas Biological Survey, Lawrence, KS. 63 pp.
- 2007 - Predicting Taste and Odor Events in Kansas Reservoirs - Phase 1 (Dzialowski, A.R., D.G. Huggins, J. deNoyelles, M. Jakubauskas, N.C. Lim, and J. Beury). Open-file Report No. 143. Kansas Biological Survey, Lawrence, KS. 67 pp.
- 2007 - A Watershed Classification System for Tiered Diagnosis of Biological Impairments: A Scalable, Central Plains Focus with National Applicability (Martinko, E., J. Whistler, D. Peterson, J. Kastens, R. Hagen, D. Huggins, M. Jakubauskas). Final Report to the USEPA STAR Program Cooperative Agreement RD-83059701. KBS Report 141. Kansas Biological Survey, University of Kansas Lawrence, 153 pp.
- 2007 - An integrated assessment of the effects of internal phosphorus cycling on sediment resuspension on the eutrophication of lakes and reservoirs in the Central Plains (Dzialowski, A., S. Wang, N.C. Lim, J. Beury and D. Huggins). Final Report submitted to the USEPA Region 7, Kansas City, KS. 36 pp.
- 2008 - Wetlands in Three Ecoregions of the Central Plains (Beury, J.H. , D. Baker, and D. Huggins). Open-file Report No. 147. Kansas Biological Survey, Lawrence, KS. 15 pp.
- 2007 - Impact of Sedimentation on Biological Resources: A Sediment Issue White Paper Report prepared for the State of Kansas(Huggins, D.G, R.C. Everhart, A. Dzialowski, J. Kriz, and D.S. Baker). Open-file Report No. 146. Kansas Biological Survey, Lawrence, KS. 23 pp.
- 2008 - Wetlands in three ecoregions of the Central Plains (Beury, J., D. Baker, D. Huggins). Kansas Biological Survey, Lawrence, KS Open-file Report No. 147:15 pp.
- 2009 - Identification and Characterization of Reference Conditions within USEPA Region 7 using EMAP methodology (Baker, D.S, D.G. Huggins, and R. Everhart). Open-file Report No. 156. Kansas Biological Survey, Lawrence, KS. 77 pp.
- 2009 - Congruence between nutrient water quality parameters and Chironomidae (Diptera) in delineating ecological classifications of Missouri streams at different environmental scales (Hayford, B.L., D.S. Baker, D.G. Huggins, and M. Johnson). Open-file Report No. 1596. Kansas Biological Survey, Lawrence, KS. 19 pp.
- 2009 - Solomon River Basin Selenium Assessment Project (Koontz, J., D.G. Huggins, and N.C. Lim). Final Report. Open-file Report No. 155. Kansas Biological Survey, Lawrence, KS. 31 pp.
- 2009 - Trophic State Analysis of Pottawattamie State Fishing Lake No. 1 (Beury, J.H. and D.G. Huggins). Open-file Report No. 154. Kansas Biological Survey, Lawrence, KS. 8 pp.
- 2010 - Assessment of Floodplain Wetlands of the Lower Missouri River Using an EMAP Study Approach, Phase II: Verification of Rapid Assessment Tools. (J. Koontz, D. Huggins, C. Freeman & D. Baker). Open-file Report No. 165. Kansas Biological Survey, Lawrence, KS. 82 pp.
- 2010 - Final report on the potential effects of Jeffrey Energy Center effluent on the fish community of Lost Creek and unnamed receiving tributary (Huggins, D.G. R.C. Everhart. and A.J. Blackwood). Open-file Report No. 163. Kansas Biological Survey, Lawrence, KS. 30 pp.
2010. Comparison of snag and shoreline macroinvertebrate samples - A bioassessment of the Missouri River (Baker, D.S. and D.G. Huggins). Open-file Report No. 161. Kansas Biological Survey, Lawrence, KS. 16 pp. --DRAFT—

- 2010.-.Determining the Utility and Adaptability of Remote Sensing in Monitoring and Assessing Reservoir Eutrophication and Turbidity for TMDL Assessments (Huggins, D., M. Jakubauskas, D. Baker, T. Hammer). Kansas Biological Survey, Lawrence, KS Report No. 171. 58 pp.
- 2012 - Assessment of the Great Bend Station (Sunflower Electric Power Corporation) Selenium Discharge on a Tributary of Dry Walnut Creek (Barton Co., KS)(Huggins, D., S. Tammareddi, D. Baker). Kansas Biological Survey, Lawrence, KS Report No. 172:44
- 2013 - Plant community effects on atrazine in grassed mesocosms (Yelton, J.P., D. Huggins, S.J. Randtke). KS Biological Survey Report No. 175, Lawrence KS. 59 pp.

PUBLICATIONS:

- 1969 - Mark-and-recapture methods for studying domestic cockroach populations (Huggins D., and F. Bulow). Proc. Iowa Acad. Sci. 75: 447-456
- 1971 - Toad or frog? Iowa Conservationist, Jan 1971. p.7
- 1971 - *Scaphiopus bombifrons* Cope, a species new to Iowa. J. Herpetology 5(3-40): 216
- 1974 - The limnology of the Noatak Drainage Area (J. O'Brien and D. Huggins). *In the Environment of the Noatak River Basin, Alaska*, S. B. Young, ed. Center for Northern Studies, Wolcott, Vermont, 1: 158-223
- 1975 - Primary productive and nutrient limiting factors in lakes and ponds in the Noatak River Valley, Alaska (J. O'Brien and F. deNoyelles, Jr. and D. Huggins). Arch. Hydrobiol. 75: 263-275
- 1975 - Skipjack herring, *Alosa chrysochloris*, in the Missouri River Basin (Cross, F. and D. Huggins). Copeia 2:382-385
- 1975 - Fish population structure in altered and unaltered areas of a small Kansas stream (Huggins, D. and R. Moss). Trans. Kansas Academy Sci. 77: 18-33
- 1976 - The sympatric occurrence of three species of Eubranchipoda in Douglas County, Kansas. The Southwestern Nat., 20: 577-578
- 1976 - Biological notes on *Eupera cubensis* (Bivalvia: Sphaeriidae) from Kansas (Mackie, G. and D. Huggins). Jour. Fish. Res. Bd. Canada 33: 1652-1656
- 1978 - Additional Records of Kansas Odonata. *In New Records of the Fauna and Flora of Kansas for 1977*. R. Brooks & R. McGregor, eds. Tech. Publ. State Biol. Surv. Kansas 6: 1-35
- 1978 - Description of the nymph of *Enallagma divagans* Selys (Odonata: Coenagrionidae). Jour. Kansas Entomol. Soc. 51(1): 140-143
- 1979 - The development of water quality criteria for ammonia and total residual chlorine for the protection of aquatic life in two Johnson County, Kansas streams (Burkhead, C., D. Huggins and R. Hazel). Office of Water Res. and Tech., U. S. Dept. Interior, Dec. 1979. Kansas Water Resources Res. Inst., Cont. No. 209
- 1982 - Odonata (Huggins, D. and W. Brigham), pp. 4.1-4.100. *In Aquatic Insects and Oligochaetes of North and South Carolina*, A. R. Brigham, W. U. Brigham and A. Gnilka, eds. Midwest Aquatic Enterprises, Mahomet, Illinois.
- 1982 - Factors affecting microdistribution of two species of burrowing dragonfly nymphs (Odonata: Gomphidae) with notes on their biology (Huggins, D. and M. DuBois). Odonatologica 11(1): 1-14.

- 1982 - Development of water quality criteria for ammonia and total residual chlorine for the protection of aquatic life in two Johnson County, Kansas streams (Hazel, R., C. Burkhead and D. Huggins), pp. 381-388. *In Aquatic Toxicology and Hazard Assessment*, J. Pearson, R. Foster and W. Bishop, eds. ASTM STP 766, Am. Soc. Test Materials, Philadelphia, PA
- 1983- Description of the nymph of *Somatochlora ensigera* (Scudder). *Jour. Kansas Entomol. Soc.* 56(3):415-419
- 1984 - Description of the nymph of *Enallagma daeckii* (Calvert). *Jour. Kansas Entomol. Soc.* 57(2):190-196
- 1985 - The nymph of *Gomphus (Gomphurus) ozarkensis* Westfall (Odonata: Gomphlidae). *Jour. Kansas Entomol. Soc.* 58 (4): 656-661.
- 1985 - Insects and their relatives, pp. 115-128. *In Natural Kansas*, J. T. Collins, ed. Univ. Press Kansas, Lawrence.
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2011. - Lakes and wetlands of the Great Plains (D. Huggins, M. Jakubauskas, and J. Kastens). N.A. Lake Management Soc., LakeLine 31(4): 20-25.
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SERVICE:

State and National

Since 1974, I have been directing my service related activities toward providing advisory and support services to the Kansas citizenry; local and regional planners; government officials, judiciary, legislature and regulatory agencies; scientists and engineers and special interest groups who are concerned or interested in our aquatic resources and environment with regards to its biota. Many members and groups in our society are fast recognizing the importance of understanding our aquatic biota and their relationship with water quality. I have listed below a selected group of agencies and organizations that have asked for professional assistance in the area of aquatic biota and water quality related subjects.

Kansas Department of Health and Environment
 US Geological Survey
 Kansas Geological Survey
 Kansas Dept. Wildlife and Parks
 Kansas Fish Farmers Association
 Dept. Health & Welfare (State of Idaho)
 Kansas Department of Transportation
 U. S. Department of Army - Ecological Research Unit
 Wichita State University
 Emporia State University
 Kansas State University
 Department of Environment Control (State of Nebraska)
 Illinois Natural History Survey
 University of Missouri
 Missouri Conservation Commission

US Army Corps of Engineers (Kansas City District)
Museum of Natural History (KU)
US Fish and Wildlife Service
US EPA, Region VII
US EPA, ERL-Duluth
US EPA, ERL-Corvallis
University of California, Berkley & Davis
Integrated Laboratory systems, Duluth, MN
Nebraska Extension Educators
The Academy of Natural Sciences, Philadelphia
Haskell Indian Nations University
National Biological Service
Dept. of Entomology, Univ. of Wisconsin

International

1993:

Visit of KU and KBS facilities by Iowa State University and Ukraine representatives was conducted to develop a cooperative research and study agreement (KU, ISU and Ukraine). Efforts were made to facilitate discussions and presentations of capabilities of joint environmental interest between KU, ISU and Ukraine. University of Kansas units represented included International Studies, REES, Center of Environmental Education and Training, KBS and university administration officials. In addition, on behalf of the KBS I hosted agricultural and environmental leaders (i.e. government and university official) from Brazil interested in international "partnerships" and studies.

1994-95:

The aquatic ecotoxicology program facilitated collaborative research between Professor Zhaohui Jin, a visiting scholar from Nankai University, Tianjin, China and myself. Professor Jin was provided salary and laboratory facilities during his one and a half year stay at KU and a long-term research effort was established between KBS and Nankai University. This relationship continues with planned visits by other scholars and staff, as well as, collaborative publications of research done at the University of Kansas.

Current:

Since 1994 I have served and continue to serve as an external thesis examiner (i.e. adjudicator) for a number of educational institutes from India including the University of Kalyani, University of Calcutta and the University of Ankhra. I have established and maintained strong and productive relationships with a number of international higher education institutions due to my long history of research and academic mentoring of foreign students.

University

I have provided direct professional assistance and guidance to eight Masters degree candidates and one Ph.D. candidate within the Environmental Health program in Civil Engineering (KU). I have chaired or co-chaired seven MS committees (S. Meador & K. Higgins both CE honors graduates, K. Segelquist, S. Donley, A. Clements, M. Lary, N. Giron, J. Yelton, N. Lim, W. Spotts, W. Bouchard) and four Ph.D. committees (H. Wang, G. Welker, M. Blackwood, B. Chapin). I have sponsored three post-doctoral students (S. Wang, B. Hayford, D. Bandi, A. Dzialowski) and several national and international visiting scholars. Additionally I have set on five Ph.D. and five MS committees at KU and served as an ad hoc member of both a Master (Univ. Humboldt, CA) and PhD (UMKC) committee from other U.S. universities during the last 5 years. In addition, I have served as a mentor and provided research assistance to over 31 graduate students in numerous departments (e.g. Ecology and Evolutional Biology, Geography, Civil Engineering, Entomology, Architecture & Urban Design, Chemistry and Botany) during my tenure with the University. I have also assisted in the development of numerous MS thesis projects for students at Emporia, Pittsburg and Wichita State Universities, Illinois University, Iowa State University, UC-Davis and other universities.

I currently chair or co-chair three MS (Jason Buery, Geoff Warlick, Jason Koontz) and one Ph.D. (Bob Everhart) committee in either EEB or Civil Engineering.

I am the director of the Central Plains Center for BioAssessment that currently employs four scientists on a full-time basis (M. Blackwood, A. Blackwood, L. Bennett, D. Baker). In addition we normally employ about 2-4 graduate students, 4-6 undergraduate students and provide summer salary for 1-3 KU faculty members. During 2006 we have provided full or partial appointments for 5 graduate and 6 undergraduate students and 3 KU faculty members.
Reviewer (1987-to-date)

- Journal Kansas Entomol. Society
- Universities Council on Water Resources
- Nongame, Endangered or Threatened Wildlife Program, KDWP
- *Standard Methods* reviewer, American Water Works Assoc.
- Chapter 9: Lepidoptera *In* Freshwater Macroinvertebrates of Northeastern North America, Cornell Univ. Press.
- Entomological News
- Hydrobiologia
- Special Publication of Soc. Environ. Toxicol. and Chem. (1993)
- KU, New Faculty Proposals (11)
- Journal of North American Benthological Society
- Journal of American Society of Photogrammetry and Remote Sensing (1993)
- University Press of Kansas (book review, 1995)
- Journal of Insect Behavior (1995)
- Environ. Tox. and Chemistry (1994)
- External thesis examiner, University of Kalyani and Ankhra University, India (1994-95)
- Journal of Environ., Toxicol. and Chem. (1994)
- EPA's Eco-related Life Science Peer Review Panel (Apr 21-23, 1997)

-technical review for EPA of “EMAP Surface Waters Western Pilot Study: Field Operations and Methods for Nonwadeable Rivers and Streams” a EPA technical document (May 9, 2011)