

BIOGRAPHY

NAME: Vladimir Novotny

OFFICE ADDRESS:
 Northeastern University
 Department of Civil and
 Environmental Engineering
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CITIZENSHIP: Naturalized U.S. Citizen (1983), Czech Republic (dual citizenship)

EDUCATION:

<u>Institution Degree</u>	<u>Conferred</u>	<u>Year</u>	<u>Discipline</u>
Tech. Univ. of Brno, Czechoslovakia	Diploma Engineer	1963	Sanitary Engineering
Tech. Univ. of Brno, Czechoslovakia	Candidate of Science	1968	Sanitary & Water Resources
Vanderbilt Univ. Nashville, Tenn.	Ph.D.	1971	Environmental & Water Resources Engineering

[Employment History and Qualification](#)

[Honors and Invited Keynote Presentations](#)

[Conference and Workshop Organization, Lectures](#)

[Research](#)

[Complete List of Publications](#)

[Students](#)

[Consulting](#)

POSITIONS HELD SINCE COMPLETION OF BACCALAUREATE:

<u>Position</u>	<u>Years</u>	<u>Principal Responsibilities</u>
Northeastern University Boston, Massachusetts CDM Chair Professor of Environmental Engineering	2002-2009	Teaching and Research
Director Center for Urban Environmental Research	2004-present	Directing interdisciplinary research
Institute of Chemical Technology, Prague	2009	Visiting professor and Fulbright fellow
Department of Biology and Aquatic Resources University of Texas – San Mateo	2007 – present	Adjunct Faculty Member Serving on doctoral and MSc committees
Capital Normal University Beijing, PR China Visiting Chair Professor	2007-2009	Lecturing and Research
Marquette University, Milwaukee, WI Professor Emeritus Professor of Environmental and Water Resources Engineering Director	2003 - present 1983-2002 1999-2002	Teaching and Research Instit. for Urban Env. Risk Management
President, AquaNova International Mequon, WI and Newton, MA	1990-2005	Consulting
Senior Scientist, International Institute for Applied System Analysis Laxenburg, Austria	1994-1995	Research
Visiting Professor University of Venice, Italy	Spring 1987	Lecturing
Fulbright Research Fellow University of Padova, Italy	Spring 1987	Research
Assoc. Professor Civil Engineering Marquette University	1977-1983	Teaching and Research
Director, Water Resources Management Practicum, Institute of Environmental Studies, University of Wisconsin, Madison, Wisconsin	1981	Teaching and conducting practicum
Visiting Assoc. Professor Water Resource Center, University of Wisconsin, Madison, Wisconsin	Summer 1978 till 1980	Research

Assistant Professor Civil Engineering Marquette University	1973-1977	Teaching and Research
Associated Water & Air Resources Engineers, Nashville, TN	1971-1973	Senior Consulting Engineer
Vanderbilt University	1969-1971	Research Assistant
Hydraulic Research Institute, Brno, Czechoslovakia	1962-1969 1966-1967	Research Engineer Acting Head of Branch Institute

LANGUAGE PROFICIENCY:

English and Czech (fluent), French, Italian, Russian, Polish (advanced spoken and reading), German (basic conversation, reading)

PROFESSIONAL SOCIETIES:

American Academy of Environmental Engineers
International Water Association
Water Environment Federation
American Water Resources Association
Czech and Slovak Society of Arts and Science
Fulbright Academy

PROFESSIONAL REGISTRATION:

Registered Professional Engineer, State of Wisconsin - 1974 to date

ADVISORY BOARD MEMBERSHIP

Member of the International Steering Committee on “Cities of the Future”, International Water Association
Member of the Technical Advisory Council, CDM Corporation, Cambridge, MA 2006 – 2009
Member of the Committee to Select the Best Civil Engineering Projects, Boston Society of Civil Engineers, 2005
Chair, Subcommittee for the Jones Island Treatment Plant, Milwaukee Water Pollution Abatement Plan, 1978-1980

HONORS AND INVITED/KEY NOTE PRESENTATIONS:

Invited participation and key note - presentation: Water Energy Nexus- towards Zero Pollution and GHG Emission Effect of Future (Eco) cities, International Conference on Sustainable Water Infrastructure for Cities and Villages of the Future (SWIF2009), Beijing (China), November 6-10, 2009

Invited participation and key note presentation :Water centric ecocities and urban ecoregions, UCOWA/NIWR 2009 Annual Conference, University Council on Water Resources, Chicago, IL, July 7-9, 2009

Received Fulbright five year award to become a Senior Fulbright Scholar, 2008 – 2012. This award provides funding for up to two long term trips as an expert to a foreign country (in 2009 Czech Republic China).

Invited keynote presentation*: “Sustainable water management,” International Conference on "Water and urban development paradigms: Towards an integration of engineering, design and management approaches", 15-19 September 2008, Leuven, Belgium

Invited participation and presentation: Oxford Round Table on “Sustainability: The Ultimate Quest”. The title of the accepted presentation is “*A New Paradigm of Integrated Sustainable Urban Drainage and Water Management*”, Oxford University, UK, August 10-15, 2008

Invited key note lecture*: “Sustainable urban water infrastructure,” Urban Sustainability Forum, The Academy of Natural Sciences in Philadelphia and Department of Civil and Environmental Engineering, Drexel University, Philadelphia, June 19, 2008

Invited key note lecture*: “Monitoring and Controls of Urban Nonpoint Pollution,” International Conference on Nonpoint Source Pollution Monitoring and Control Measures, Environmental Science Department, Konkuk University, Seoul, Korea , May 15-16, 2008

Invited Presentation⁺: “Integrated watershed solutions,” National Policy Forum on Wet Weather Management Futures, Water Environment Federation, Baltimore, MD January 22-23, 2008

Diplomate of the American Academy of Environmental Engineers, certified by Eminence by the Board of the Academy, April 2005

Elected **Member of The International Water Academy**, Oslo, Norway, January, 2002



Received ASam Jenkins Medal@ the highest award from International Water Association at the World water Congress in Berlin, 2001

Invited keynote lecture*: “ The new paradigm of integrated urban drainage and diffuse pollution abatement in the Cities of the Future” 11th International Conference on Diffuse Pollution and the 1st Joint Meeting of the IWA Diffuse Pollution and Urban Drainage Specialist Groups, Belo Horizonte, Brazil, August 25-31, 2007

Invited keynote lecture* “ Diffuse Pollution Abatement – a Key Component in the Integrated Effort towards Sustainable Urban Basins,” 10th International Specialist IWA Conference on Diffuse Pollution and Sustainable Basin Management, Istanbul, Turkey, September 18-22, 2006

Invited key note presentation⁺: International Conference on Reservoir Limnology and Water Quality “Reservoirs – Establishing the Balance Between Human Use and Biotic Integrity”, Brno, Czech Republic, August 26-September 2, 2006

Invited presentation⁺: AWWA Annual Conference, June 12-14, 2006, “Can future cities become ecologically and hydrologically sustainable?” San Antonio, TX,

Invited key note presentation*: “Agricultural diffuse pollution: Are we on the right track to successful abatement?” at the IWA Leading Edge Conference on Managing Rural Diffuse Pollution, Edinburgh, Scotland, April 2-3, 2006.

Invited keynote presentation*: “TMDL and Water Framework Initiatives” Scottish Water Quality Management Workshop, Edinburgh, Scotland, April 4, 2006.

Invited introductory keynote lecture*: “Diffuse pollution from Agriculture in the World” at the European Community International Workshop on Where do fertilizers go? EC Research Facility Ispra, Belgrate, Italy, June 28-29, 2005

Invited keynote lecture*: “Present and future problems and solutions of diffuse pollution” at the 8th International Conference on Diffuse/Nonpoint Pollution, Kyoto, Japan, October 24-29, 2004

Milan Straskraba Memorial Lecture (invited)⁺: “Watershed/Water Body Vulnerability Assessment – A Tool in Watershed Management” Czech Academy of Sciences and University of Southern Bohemia, June 28, 2004

Invited keynote opening lecture: “The Next Step - Incorporating Diffuse Pollution Abatement into Watershed Management,” 7th International IWA Conference on Diffuse Pollution and Catchment Management, Dublin, Ireland, August 17-22, 2003

Invited keynote lecture*: Diffuse Pollution and Watershed Vulnerability at the European Conference of Coastal Zone Research: an ELOISE Approach, Gdansk, Poland, March 24-27, 2003

Fellow of the Czech and Slovak Society of Arts and Science, October, 2003

Invited lecture⁺: “Urban Diffuse Pollution and Its Abatement,” Venice Academy of Sciences, Arts and Letters, Italy, June 2001

Invited keynote presentation⁺: "Integrated Approach to Water Quality Management," Proc. of the Internatl. Symposium on Integrated Approaches to Water Pollution Problems, IWRA, Lisbon, Portugal, June 19-23, 1989

Outstanding Researcher Award - Marquette University College of Engineering – 1997

Nominated by the Senate of the University of Venice (Italy) for Visiting Professorship, Spring 1987

Received Fulbright Fellowship for lecturing and research at the Universities of Venice and Padova, Italy and lecturing at the Mohamadia Technical University of Rabat, Morocco – 1987

Listing in *Who is Who in America* and several other biographic publications

Founder and Chairman of the International Specialist Group on Diffuse Pollution and Eutrophication-International Water Association, (formerly IAWQ) - 1991 – 1999

CONFERENCE AND WORKSHOP ORGANIZATION



Wingspread, Racine, WI, July 12-14, 2006

Member of the International Steering Committee on Cities of the Future, International Water Association, London 2009 - 2012

Organizer and Co-chair, International Conference on "Sustainable Water Infrastructure for Cities and Villages of the Future" November 6-9, 2009 Beijing, China

Organizer and Chairman, Wingspread Conference on A Cities of the Future - Blue Water in Green Cities, sponsored by National Science Foundation, The Johnson Foundation, CDM, and International Water Association,

Member of the Scientific Committee, 10th IWA International Conference on Diffuse Pollution and Sustainable Basin Management, September 18-22, 2006, Istanbul, Turkey

Member of the Organizing Committee and Key Note lecture presenter – The 5th International Conference on Reservoir Limnology and Water Quality, August 27-September 2, 2006, Brno, Czech Republic

Program Committee Member - 8th International Conference on Diffuse/Nonpoint Pollution, Kyoto, Japan October 24-29, 2004

General Chairman, 5th IWA International Conference on Diffuse/Nonpoint Pollution and Watershed Management, Milwaukee, WI, June 2001

Program Committee Member and Co-Chair, 4th International IAWQ Conference on Diffuse Pollution, Bangkok, Thailand, January 2000

Co-chairman of the Third International IAWQ Conference on Diffuse Pollution - Edinburgh, Scotland, September 1998

Member of Program Committee, International Workshop on Integrated Management of Water Quality, Teolo, Veneto, Italy- May 11 - 16, 1997

Program Committee Member, RIVERTECH 96 Conference, International Water Resources Association, Chicago, Ill., September 1996

Organizer and Co-chair, International Workshop on Diffuse Pollution, February 19-24, 1996, IAWQ and National Environmental Engineering Research Institute, Nagpur, India

Member of the Program Committee, Second International Conference on Diffuse Pollution - Brno-Prague, Czech Republic, August, 1995

Director - NATO Advanced Research Workshop "Remediation and Management of Degraded River Basins with Emphasis on Central and Eastern Europe," Laxenburg, Austria, June 13-16, 1994

Chairman and Organizer of the First International IAWQ Conference on Diffuse Pollution - Chicago, IL, September 1993

Organizer and Lecturer, Technology Transfer Workshop, Abatement of Nutrients from Diffuse Sources, Venice, Italy, December 1989

Member of the Scientific Organizing Committee of the International Symposium on the Integrated Approaches to Water Pollution Problems, sponsored by IWRA, Lisbon, Portugal, June 19-23, 1989.

Chairman - Nonpoint Pollution Symposium - 1988, American Water Resources Association Annual Conference and Symposia - Milwaukee

Member of Organizing Committee - ISEM 6th International Conference, State of the Art of Ecological Modeling, Venice, Italy, 1987

Chairman, 2nd Nonpoint Pollution Conference, sponsored by Bradley Institute of Marquette University, USEPA, MMSD, and Water Resources Center, University of Wisconsin, 1987

Chairman, 1st Nonpoint Pollution Conference sponsored by U.S. EPA, Wisconsin DNR and Milwaukee Metropolitan Sewerage District, 1985

CONTINUING EDUCATION, SEMINARS AND LECTURES:

Seminar "Cities of the Future", Massachusetts Institute of Technology, Boston, September 25, 2009

Presentation on "Impact of agricultural chemicals on environment in China, India, The Philippines and Thailand," Beijing Academy of Agricultural and Forestry Sciences, November 14, 2008

Invited seminar on "The fifth paradigm of integrated urban watershed management," to the Department of Civil and Environmental Engineering, University of California in Los Angeles, May 6, 2008

Invited presentation and workshop at the US Environmental Protection Agency Atlantic Research Laboratory, Narragansett (RI) "Relation of Indices of Biotic Integrity to Environmental and Land Use Variables - Knowledge Retrieval, Multimetric Clustering and Predictive Models," January 30, 2008

Invited presentation at the Environmental Research Seminar, on "Linking Indices of Biotic Integrity to Environmental and Land Use Variables – Multimetric Clustering and Predictive Models" , U.S. Environmental Protection Agency, Region I, Boston, MA, October 24, 2007

Distinguished (Chair Professor) lectures and graduate seminars, Capital Normal University, Beijing, China, May 16 – 30, 2007

Workshop, Effluent Dominated Streams. Beijing Hydraulic Research Institute, Beijing Water Department, May 25, 2007



Workshop, Can future cities be ecologically and hydrologically sustainable? Tsinghua University, Beijing, China, May 29, 2007

Lecture, From Wingspread to Sustainable Urban Watersheds, Chinese Academy of Sciences, Beijing, May 28, 2007

Graduate seminar presentations: Tufts University, February 2007; University of Wisconsin-Milwaukee, June 2004; Vanderbilt University, Nashville, TN, March 2003; University of Minnesota, April 2002

Distinguished lecturer - presented two invited lectures

at the Ritsumeikan University, Kyoto, Japan, October 28 - 29, 1999

Lecturer - International Winter Environmental School - Environment Management Industry Association of Australia and University of Queensland, Brisbane, Australia, Workshop on Diffuse (Nonpoint) Pollution: Identification and Management, June - July, 1993 and July 1996

Lecturer, Benicassim (Spain) Workshop on the Impact of Urban Drainage and CSOs on Receiving Waters in Tourist Sensitive Areas, Politechnic University, Valencia, Spain, November 1995

Director of the Workshop and Lecturer - NATO Advanced Research Workshop "Remediation and Management of Degraded River Basins with Emphasis on Central and Eastern Europe," IIASA, Laxenburg, Austria, June 13-16, 1994

Lecturer - European Community Post-graduate Program in Watershed Management, University of Parma, (Italy), April 1994

Director and Lecturer - Design and Operation of Activated Sludge Plants and Water Quality Management, Department of Cont. Education and Conferences, Marquette University, Milwaukee, WI, May 1994.

Lecturer - Design and Operation of Activated Sludge Plants, Department of Cont. Education and Conferences, Marquette University, Milwaukee, WI, November 1991.

Fulbright Lecturer, Mohamadian University of Technology, Environmental Department, Rabat, Morocco, April, 1987

Novotny, V., "Water quality impact of nutrients on water bodies," Proc. of a technology transfer seminar Abatement of Nutrients from Diffuse Sources, Venice, Italy, December 1989

Novotny, V., "Use of wetlands and aquaculture," Proc. of a technology transfer seminar Abatement of Nutrients from Diffuse Sources, Venice, Italy, December 1989

Lecturer - Nonpoint Pollution Abatement, Dept. of Hydrology and Water Resources, University of Arizona, Tucson, AZ, February 1986.

Lecturer - Low cost urban runoff control measures - A two part minicourse International Symposium on Urban Hydrology, Hydraulics, and Sediment Control, University of Kentucky, Lexington, KY, July 1983 and November 1983, Milwaukee, Wisconsin.

FUNDED RESEARCH (Northeastern University):

Development of Risk Propagation Model for Estimating Ecological response of Streams to Anthropogenic Watershed Stresses and Stream Modifications - USEPA/NSF/USDA STAR Watershed Program, US Environmental Protection Agency, Washington, DC, \$ 745,000 - 2003 - 2007

Wingspread Workshop ACities of the Future - Getting Blue Water for Green Cities@, May-June 2006. Funding received from National Science Foundation (\$35,866), CDM Corporation (\$25,000), Northeastern University (in-kind), and The Johnson Foundation (significant in-kind)

Enviropolis (Dr. Ferdi Hellweger, PI), H. Thoreau Foundation, Boston, 2006 and 2008, \$ 25,000 each

Research funding derived from the endowment of the CDM Chair (\$25,000 annually) 2002 - 2008

FUNDED RESEARCH (Marquette University):

Two awards) from the Wisconsin Foundation of Independent Colleges and S.C. Johnson Foundation to conduct studies on the Root River (WI) (\$10,000 each) - 2000-2003

Risk Based Urban Watershed Management - Integration of Water Quality and Flood Control Objectives - Primary Investigator - EPA/NSF/USDA Star Research Program, U.S. Environmental Protection Agency, Washington, DC - \$ 826,000 - 1997 - 2001

Development of the Real Time Control System for the Milwaukee Metropolitan Sewerage District Central Control System - Phase III - \$ 65,000 - 1997 - 1998

Development of an Adaptive Methodology for On-line Computerized Modeling and Real Time Control of Wastewater Treatment Facilities - Exploratory Research Grant, U.S. Environmental Protection Agency, Washington, DC - \$ 305,000, 1994 - 1998

Support of the activities of the International Specialists Group on Diffuse Pollution - U.S. Department of Agriculture, Water Quality Initiative, Washington D.C. Conferences on Diffuse Pollution -\$ 15,000, 1992 - 1998

Development of the Real Time Control System for the Milwaukee Metropolitan Sewerage District Central Control System - Phase II - \$ 80,000 - 1994 - 1995

Received a grant from the National Research Council, Washington, DC, to support a Russian Scientist at Marquette University, \$9,000 - 1996

Development of algorithms for control of urban sewer systems - Milwaukee Metropolitan Sewerage District - Phase I - \$ 60,000 - 1992 - 1993

Sediment - Water Quality Interactions - Milwaukee River - Milwaukee Metropolitan Sewerage District, \$75,000 - 1991-1993.

Nonpoint Pollution of the Lagoon of Venice - Venezia Nuova - \$48,000, 1987-1989.

Transmission of Pollutants from Nonpoint Sources - National Nonpoint Pollution Institute, Madison, \$57,000, 1986-87.

Received grant awards from the Bradley Institute for Democracy and Public Values to organize conferences and panels, \$18,000 (1987) and \$3,000 (1988)

Received grants from U.S. Environmental Protection Agency, Region V Chicago, IL. for organization of Nonpoint Pollution Abatement Conference and preparation of conference proceedings -\$ 5,000 - 1985; \$ 5,000 - 1987.

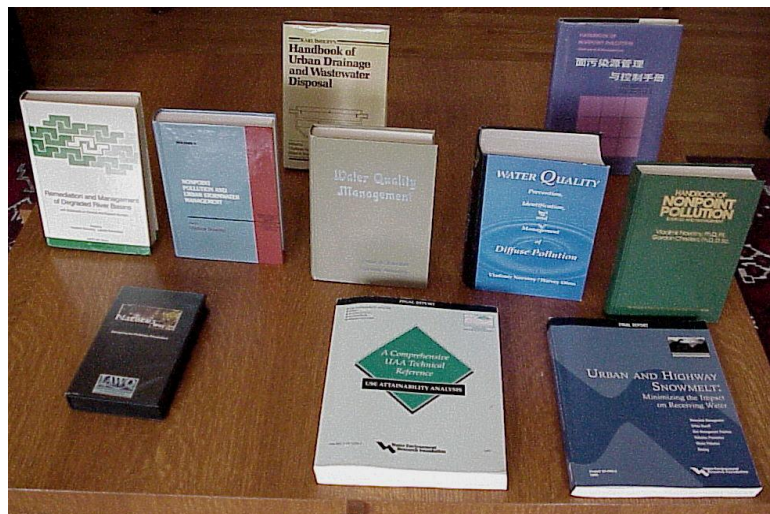
Received an award from the Milwaukee Metropolitan Sewerage District for the Nonpoint Pollution Abatement Conference, \$ 5,000 - 1985.

Effect of Pollutants from Snow and Ice on Quality of Water from Urban Drainage Basins, National Science Foundation Grant. \$91,000 - 1983 to 1986.

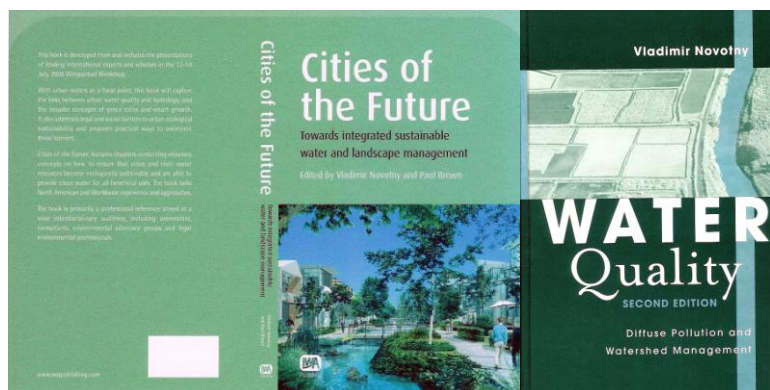
Development of Methodology for Identifying Critical Nonpoint Pollution Areas in Agricultural Watersheds (Co-principal investigator), OWRT - Water Resources Research Allotment Grant No. ORWT A-082-w15, \$11,000 - 1979-1980.

Modeling of Land Use Practice Effects on Water Quality - International Joint Commission and U.S. EPA, \$100,000 - 1975 to 1978

PUBLICATIONS:



was ranked by *Best Web Buys* as #1 bestseller in the field of Water Pollution



6. Novotny V. and L. Somlyódy, *Remediation and Management of Degraded River Basins*, Springer Verlag, Heidelberg, Germany, 1995. This book was ranked by *Best Web Buys* as #31 bestseller in the field of Water Pollution
7. Novotny, V. (ed.), *Nonpoint Pollution and Urban Stormwater Management*, TECHNOMIC Publ. Co., Lancaster, PA, 1995
8. Novotny, V., and H. Olem, *WATER QUALITY: Prevention, Identification and Management of Diffuse Pollution*, Van Nostrand-Reinhold Publ., New York, NY, 1994, J.Wiley & Sons, New York, 1997
9. Novotny, V., K. R. Imhoff, M. Olthof and P. S. Krenkel, *Handbook of Urban Drainage and Wastewater Disposal*, J. Wiley Publishers, New York, 500 p., 1989.
10. Novotny, V., and G. Chesters *Handbook of Nonpoint Pollution: Sources and Management*, Van Nostrand-Reinhold, New York, NY, 555 pp., 1981. This book was also translated into Chinese and published in the Peoples Republic of China by the Science Dissemination Publishing Company in 1988.
11. Novotny, V. (ed.) *Political Institutional and Fiscal Alternatives for Nonpoint Pollution Abatement Programs*, Marquette University Press, Milwaukee, WI, 1988
12. Krenkel, P.A., and V. Novotny, *Water Quality Management*, Academic Press, New York, N.Y., 1980, 671 pp., 1980
13. Novotny, V., Diffuse sources of pollution by toxic metals and impact on receiving waters . In *Heavy Metals: Problems and Solutions* (W. Salomons, U.Förstner, and P. Mader, eds.) p. 33-52, Springer-Verlag, Berlin, 1995

Books

1. Novotny, V., J.F. Ahern, and P. Brown (publishing date Spring 2010) *Water Centric Sustainable Urbanism*, J.Wiley & Sons, Hoboken, N.J.
2. Novotny, V., and P. Brown (eds.) *CITIES OF THE FUTURE: Towards Integrated Sustainable Water, Landscape and Infrastructure Management*, IWA Publishing Co., London, 2007
3. Novotny, V., *WATER QUALITY: Diffuse Pollution and Watershed Management*, J. Wiley & Sons, New York, NY, 2003. This book
4. Campbell, N., B. D=Arçy, A. Frost, V. Novotny, A. Sanson, *Diffuse Pollution: An Introduction to the Problem and Solutions*, IWA Publishing, London, UK, 2005 , also to be published in Spanish Language in 2007
5. National Research Council (co-author) (2001) *Assessing the TMDL Approach to Water Quality Management*, Committee to Assess the Scientific basis of the Total

Edited Proceedings and Nationwide Manuals

1. Novotny, V., and B. D=Arçy (editors) *Diffuse Pollution III*, Proceedings of the Edinburgh IAWQ Conference Special issue of *Water, Science and Technology*, Elsevier, 1999
2. Novotny, V. *et al.*, *Use Attainability Analysis: A Comprehensive UAA Technical Reference*, (Novotny V. et al.), Water Environment Research Foundation, Alexandria, VA, 1997 (Nationwide Manual, republished in 2005)
3. Novotny, V. *et al.*, *Urban and Highway Snowmelt: Minimizing the Impact on Water Quality*, (Novotny V. et al.) Water Environment Research Foundation, Alexandria, VA, 1999 (Nationwide Manual)
4. L.A. Roesner et al., *Urban Runoff Quality Management*, WPCF (No.23) - ASCE (No. 87) Manual of Practice, Co-author and member of the Coordinating Committee, Water Environment Federation, Alexandria, Va, 1998
5. Smolen, M. D., G. D. Jennings, R. L. Huffman, V. Novotny, R. H. Cohen, and J. Gorman. 1990. Critical Literature Review: Nonpoint Source Impact Assessment. Water Pollution Control Federation Research Foundation RP No. 90-5, Alexandria, VA
6. Novotny, V. (ed.) *Nonpoint Pollution 1988 - Policy, Economy, Management and Appropriate Technology*, Proc. of Symposium, Amer. Water Resources Assoc., Washington, DC, 1988. (Editor)

Journal Articles and Chapters - Peer Refereed

1. Novotny, V., Development in water quality of surface waters in the middle and lower watershed of the Morava River (in Czech), *Vodní Hospodá=ství*, (Prague), No. 12, 1966
2. Novotny, V., Mechanical Aeration of Surface Waters, (in Czech) *Vodohospodá=ský =asopis*, Vol. XIV, No. 2, pp. 229-248, 1966
3. Novotny, V., Boundary Layer Effect on the Course of the Self-Purification of Small Streams, Proceedings of Fourth International Conference on Water Pollution Research, Sec. 1, Paper 3, Prague, Czechoslovakia, *Advances in Water Pollution Research*, Pergamon Press, pp. 001-012, Sept. 1968
4. Novotny, V. , On the Diffusion Phenomena in Boundary Layers of Turbulent Flow And its Influence on the Course of the Self-purification of Small Streams, *Water Research*, Vol 2, No 1, P 6-8, 1968.
5. Novotny, V., A Contribution to the Correlation Dependence of the Water Quality in Streams on Discharges (in Czech), *Vodní Hospodá=ství*, (Prague), No. 9, pp. 1-4, 1969
6. Novotny, V. and I. Schmidtova, Spectral Analysis of Water Quality Fluctuations, (in Czech) *Vodní Hospoda=ství*, (Prague), No. 9, pp. 247-255, 1969
7. Novotny, V. and Krenkel, P., Simplified Mathematical Model of Temperature Changes in Rivers, *Journal of Water Pollution Control Federation*, No. 45, pp. 240-248, 1973
8. Novotny, V. Mathematical modeling of water quality changes in a river basin, *Advances in Water Pollution Research*, (S.H. Jenkins and B.A. Southgate, eds.), pp. I-5/1-7, Pergamon Press, London, 1973
9. Novotny, V., and Englande, Jr., A., Equalization Design Techniques for Conservative Substances in Wastewater Treatment Systems, *Water Research*, Vol. 8, No. 6, pp. 325-332, 1974
10. Adams, C., Eckenfelder, W. and Novotny, V., "Equalization and Biological Treatment Techniques for a

- High Salinity, Complex Organic Wastewater, *Progress in Water Technology*, Vol. 1, No. 2, 12 pp., 1975. Also presented at the 7th Internat.Conf. on Water Pollution Research, Paris, Sept. 9-13, 1974
11. Novotny, V., Response of First Order Biological Treatment Processes to Time Variable Inputs, *Progress in Water Technology*, No. 8, Vol. 1, Pergamon Press, pp. 15-26, 1975. Also invited paper, International Conference on Effluent Variation from Wastewater Treatment Processes and Its Control, " New Orleans, LA., Dec. 2-4, 1974
 12. Novotny, V., Krenkel, P., A Waste Assimilative Capacity Model for a Shallow, Turbulent Stream, *Water Research*, Vol. 9, No. 7, pp. 233-241, 1975
 13. Novotny, V., Stein, R., Equalization of Time Variable Waste Loads, *Journal of the Environmental Engineering Division*, Vol. 22, No. EE3, pp. 613-625, June 1976
 14. Novotny, V., Englande, A., and Mojgani, P., Effluent Variability Estimation from Complete Mix-Activated Sludge Treatment Systems, *Water Research*, Pergamon Press, pp. 699-709, 1976
 15. Novotny, V., Design Approach for Effluent Variability Removal in Wastewater Treatment System, *Progress in Water Technology*, Pergamon Press, Vol. 3, pp. 411-426, 1977. Also paper 31 presented at the 8th Conference of IAWPR, Sydney, Australia, Oct. 17-22, 1976
 16. Novotny, V., Comparative Assessment of Pollution Loadings from Non-point Sources in Urban Land Use, paper presented at the 9th Conference of IAWPR, Stockholm, Sweden, June 11-16, 1978. *Progress in Water Technology*, Pergamon Press, Vol. 10, No. 5/6, pp. 775-785
 17. Novotny, V., Tran, H., Simsiman, G., Chesters, G., Mathematical Modeling of Land Runoff Contaminated by Phosphorus, *Journal WPCF*, 50, 1, pp. 101-112, 1978
 18. Novotny V. and Joeres, E., "Planning and Financing Water Resources Development With Emphasis on Water Pollution Control and Sanitation," a report to the IVth World Congress on Water Resources, IWRA, *Water for Human Consumption*, Tycooly International Publishing, Ltd., Dublin, Ireland, 1982.
 19. Novotny, C., Delivery of Suspended Sediment and Pollutants from Nonpoint Sources During Overland Flow, *Water Resources Bulletin*, Vol. 16, No. 6, pp. 1057-1065, 1980
 20. Novotny, V., Identification and Management of Nonpoint Sources of Pollution, *Environmental Protection Engineering (Poland)*, Vol. 6, No. 3., pp. 301-317, 1980
 21. Novotny, V., and Kincaid, G., Acidity of Urban Precipitation and its Buffering During Overland Flow, In *Urban Stormwater Quality, Management and Planning* (B.C. Yen, ed.), Water Resources Publications, Littleton, CO, 1982
 22. Novotny, V., Sung H.M., Bannerman, R., and Baum K., Estimating Nonpoint Pollution from Small Urban Watersheds, *Journal WPCF*, Vol. 57, No.4, pp. 339-348, 1985
 23. Novotny, V., A review of hydrologic and water quality models used for simulation of agricultural pollution, in *Agricultural Nonpoint Source Pollution: Model Selection and Application* (A. Giorgini and F. Zingales, eds.), Elsevier, Amsterdam, 1986
 24. Novotny, V., "Urbanization and Nonpoint Pollution (in Chinese), *Water Resources Assessment in China*, journal published by the Water Resources Office of the Ministry of Water Conservation and Electric Power, Beijing, PRC, pp. 42-48, December 1986
 25. Novotny, V., Modelli idrologici e di qualita dell'acqua per la simulazione dell' inquinamento di origine agricola, *Ingegneria Ambientale*, (Milan) Vol. 17, No. 1, pp. 5-17, 1988
 26. Novotny, V., Diffuse (Nonpoint) Pollution - A Political, Institutional and Fiscal Problem, *Journal WPCF*, Vol. 60, No. 8, pp. 1404-1413, 1988
 27. Novotny, V., Modeling Urban Runoff Pollution during Winter and Off-Winter Periods, presented at the 6th Internatl. Conference on Ecological Modeling, Venice, Italy, June 22-26, 1987. In *Advances in*

- Environmental Modeling* (A. Marani, ed.), pp. 43-58, Elsevier Publishing Co., Amsterdam, 1988
28. Novotny, V., "Nonpoint Pollution - A Classic Case of External Diseconomics," In *Political Institutional and Fiscal Alternatives for Nonpoint Pollution Abatement Programs*, (V. Novotny, ed), Marquette University Press, Milwaukee, WI, December 1988
 29. Novotny, V., "Modeling of Sewer Flow Quality," In *Proceedings of the U.S.-Italy Bilateral Conference on Urban Runoff Drainage*, Cagliari, Italy, July 1988
 30. Novotny, V. and S. Zheng, Rainfall-Runoff Transfer Function by ARMA Modeling, *Journal of Hydraulic Engineering*, ASCE, Vol. 115, No. 10, pp. 1386-1400, October 1989
 31. Novotny, V. and G. Chesters, Delivery of Sediments and Pollutants from Nonpoint Sources, *Journal of Soil and Water Conservation*, Vol. 44, No. 6, pp. 568-577, 1989
 32. Novotny, V. and G. Bendoricchio, "Water Quality - Linking Nonpoint Pollution and Deterioration," *Water, Environment and Technology*, (WPCF), Vol. 1, No. 3, pp. 400-407, November 1989
 33. Capodaglio, A. G., S. Zheng, V. Novotny and X. Feng, Stochastic System Identification of Sewer Flow Models, *Journal of Env. Eng. Div.*, ASCE, Vol. 116, No. 2, pp. 284-298, 1990.
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 35. Capodaglio, A. G. and V. Novotny, Modello di Simulazione dell'inquinamento diffuso di origine urbana per il bacino della Laguna di Venezia, *Ingegneria Ambientale*, (Milano), October 1990
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20. "The Assimilative Capacity of the South Fork Holston River and Holston River Below Kingsport, TN.," for Eastman Kodak, Kingsport, TN., (with P. A. Krenkel), 1972
21. "The Assimilative Capacity of the Scioto River near Circleville, Ohio," for Container Corp. of America, Circleville, Ohio, (with P. A. Krenkel), 1974
22. "Hydrological and Hydraulic Conceptual Models Applicable to Overland and River Transport Modeling," a report to IJC USA-Canada, Water Resources Center, Madison, WI., 1976.
23. "Statistical Approach to Sampling," EPA Guidelines on Monitoring, Environmental Protection Agency, Report by Envirex, Inc., Milwaukee, WI., 1976.
24. "Developments at Eighth International Conference on Water Pollution Research," Sydney, Australia, a report prepared for the Office of Research and Development, U.S. EPA, by U.S. National Committee to the IAWPR, contributing author, 1976
25. "Description and Calibration of a Pollutant Loading Model-LANDRUN," Vol. 4, Menomonee River Pilot Watershed Study, International Joint Commission, Windsor, Ont., Canada, U.S. EPA-905/4-79-029-D, 1978
26. "Developments at Ninth International Conference on Water Pollution Research," Stockholm, Sweden, a report prepared for the U.S. EPA by the U.S. National Committee to the IAWPR, contributing author, 1978
27. "Simulation of Pollution Loading and Runoff Quality," - Vol. 5, Menomonee River Pilot Watershed Study, International Joint Commission, Windsor, Ont., Canada, U.S. EPA - 905/4-029-E, 1978
28. Resource Description of the Upper Mississippi River System, "An Annotated Bibliography of Nonpoint Source Pollution: Emphasis on the Upper Mississippi River System," Water Resources Center, University of Wisconsin, Madison, June 1981
29. Resource Description of the Upper Mississippi River System, "Volume 3 -Water Quantity and Quality," (with G. Chesters, G. V. Simsiman, T. Danovich, T. Larewski, G. Stout and V. Aluvian), Water Resources Center, University of Wisconsin, June 1981

30. Upper Koshkonong Basin Management Plan, Water Resources Management Practicum Report, Institute of the Environmental Studies, University of Wisconsin, Madison, Wisconsin, Director of the Project, 1981
31. Novotny, V., "Model of Nonpoint Pollution of Eight Small Watersheds in Milwaukee County," A report to Wisconsin DNR, Novotny Associates, Milwaukee, Wisconsin, 1983
32. Novotny, V., "Sprinkler Systems Hydraulics-Model and Estimator. A computer model and manual to GRUNAU Co., Novotny Associates, Milwaukee, Wisconsin 1983
33. "Effectiveness of Low Cost Practices for Urban Runoff Pollution Control," Continuing Education Manual, Department of Civil Engineering, Marquette University, Milwaukee, WI, 1983
34. "Effect of Pollutants from Snow and Ice on Quality of Water from Urban Drainage Basins," A report submitted to the National Science Foundation, Washington, DC, also published as a NTIS Report, 1986
35. Novotny, V., and G. Chesters, "Delivery of Sediments and Pollutants from Nonpoint Sources - A Water Quality Perspective," Report #1, Milwaukee River Nonpoint Source Abatement Research Project, Marquette University and University of Wisconsin, 1986
36. Novotny, V., and S. Zheng, "Water Quality Impact of Nonpoint Pollution," Report #2, Milwaukee River Nonpoint Source Abatement Research Project, Marquette University and University of Wisconsin, 1987
37. Novotny, V., S. Zheng, B. Miller, and A. Capodaglio, "Wet Weather (Diffuse) Urban Pollution of the Lagoon of Venice," Report to Venezia Nuova, Dept. of Civil Engineering, Marquette University, Milwaukee, WI, 1989
38. Novotny, V. and A. Capodaglio "Model of urban runoff and sewer flow (MOURSEF)," AquaNova International Ltd., Mequon, WI 1, 1990
39. Novotny V. *et al.* "Efficiency of Best Management Practices for Control of Pollution by Priority Pollutants with Emphasis on Army Operations," A report by AquaNova International, Ltd. to US Army CERL, Champaign, IL, 1992
40. Capodaglio, A. and V. Novotny, "*Carichi inquinanti diffusi di origine urbana generati nel bacino scolante,*" A report prepared for Venezia Nuova by Novotny Associates, 1993
41. Windstrup, K. and V. Novotny, "*Sediment - water interactions of toxic metals - Milwaukee River at North Avenue Dam,*" Marquette University College of Eng. Research Foundation, Milwaukee WI, 1993
42. R. Schonter and V. Novotny, "*Background water quality of the Milwaukee River, Wisconsin within an ecoregional context,*" AquaNova International Ltd., Mequon, WI, 1993
43. P.Hajda and V. Novotny, "*Milwaukee River North Av. WASP EUTRO Model,*" AquaNova International, Ltd. and Marquette University College of Engineering Research Foundation, 1993
44. *Identification and Evaluation of Use Attainability Methodologies for Aquatic Ecosystems,* (V. Novotny et. al.), a report to the Water Environment Research Foundation prepared by AquaNova, International., Ltd., Mequon, WI, 1995
45. Hajda, P. and V. Novotny *Optimization of the Central Control System - Phase II Pilot Testing.* Report submitted to MMSD, Milwaukee, Dept. Of Civil and Env. Eng., Marquette University, 1995
46. Novotny, V. *Impact of stormwater discharges from Army installations on ecology of receiving waters.* A report submitted to the U.S. Army Corps of Engineers, CERL, Champaign, Il., AquaNova International, Ltd., Mequon, WI, 1995
47. Bartošová, A., D. Clark, V. Novotny, and K. Taylor (1999) *Using GIS to Evaluate the Effects of Flood Risk on Residential Property Values.* Technical Report, US EPA/NSF/USDA STAR Watershed program, Institute of Urban Environmental Risk Management, Marquette University

48. O'Reilly, N. and V. Novotny (1999) *Water Quality, Ecological, and Flood Risks to Receiving Waters due to Urban Runoff and Urbanization*. Technical Report, US EPA/NSF/USDA STAR Watershed program, Institute of Urban Environmental Risk Management, Marquette University
49. O'Reilly, N. and V. Novotny (1999) *Water Quality, Ecological, and Flood Control Benefits of Urban Stormwater Management Practices*. Technical Report, US EPA/NSF/USDA STAR Watershed program, Institute of Urban Environmental Risk Management, Marquette University
50. Hajda, P., A. Bartošová, and V. Novotny (1999) *Estimating Effects of Urbanization on the Discharge Frequency Relationship of the Menomonee River and Oak Creek*. Technical Report, US EPA/NSF/USDA STAER Watershed program, Institute of Urban Environmental Risk Management, Marquette University
51. Bartošová, A., V. Novotny, and P. Hajda *Evaluation of Water Quality and Ecological Risks*. Technical Report, US EPA/NSF/USDA STAR Watershed program, Institute of Urban Environmental Risk Management, Marquette University. 2000
52. Novotny, V. and G. Bendoricchio *Urban Diffuse Pollution Control in the Watershed of the Lagoon of Venice*. A report submitted to the Department of Environment, Region of Venice, Italy, 2001
53. Alamilla, A., V. Novotny and A. Bartošová *GIS based Approach to Floodplain Delineation and Flood Risk Estimation Applied to the Oak Creek Watershed*. Technical Report, US EPA/NSF/USDA STAR Watershed program, Institute of Urban Environmental Risk Management, Marquette University, 2001
54. Novotny, V. et al. *Risk Based Urban Watershed Management- Integration of Water Quality and Flood Control Objectives*, Final Report, US EPA/NSF/USDA STAR Watershed program, Institute of Urban Environmental Risk Management, Marquette University, 2001
55. Alp, E. and V. Novotny (2001) *Hydrologic Impact of Urbanization on the Root River in Racine*, Report No 10, Institute for Urban Env. Risk Management, Marquette University, Milwaukee, WI
56. Alp, E., D. Clark, C.S. Melching and V. Novotny (2002) *Application of Benefit Transfer with Contingent Valuation Method to the Root River Watershed*, Technical Report # 12, Institute for Urban Env. Risk Management, Marquette University, Milwaukee, WI
57. Novotny, V. et al. (2002) *Evaluation of the Impact of Discharge if Higher Concentration of Ammonia on Outer harbor and Lake Michigan*, a report submitted by AquaNova International, Ltd. to the Metropolitan Milwaukee Sewerage District, November 2002
58. *Lower Des Plaines River Use Attainability Analysis*, Primary Investigator, Report submitted to the Illinois Environmental Protection Agency by AquaNova International, Ltd., and Hey and Associates, Springfield, IL, 2003
59. Todesco, D., C.S. Melching, and V. Novotny *Analysis of a simple distributed sediment and pollutant models within ArcView GIS environment*. Technical Report #13, Institute for Urban Env. Risk Management, Marquette University, Milwaukee, WI, 2003
60. Novotny, V. *Linking Pollution to water Body Integrity - Literature Review*. Tech. Rep. #1, Center for Urban Environmental Studies, Northeastern University, Boston, MA (www.coe.neu.edu/environment), 2004
61. Beach, D.N. and V. Novotny *Modeling Variability of In-stream Nitrogen concentrations based on Watershed Characteristics using Principal Component Analysis* - Technical Report #2, Center for Urban Environmental Studies, Northeastern University, ww.coe.neu.edu/environment, 2005
62. Brooks, J. and V. Novotny *Evaluating Single and Multiple Stressors in Watershed Risk Assessment* B Technical Report # 3, Center for Urban Environmental Studies, Northeastern University, ww.coe.neu.edu/environment, 2005

63. Virani, H., E. Manolakos and V. Novotny *Self Organizing Feature Maps Combined with Ecological Ordination Techniques for Effective Watershed Management* - Technical Report # 4, Center for Urban Environmental Studies, Northeastern University, ww.coe.neu.edu/environment, 2005
64. Kandiah, R., A. Bartošová, and V. Novotny *Development of a Relational Database for Studying Ecological Response of Streams to Anthropogenic Watershed Stresses and Stream Modifications*. Technical Report # 5, Center for Urban Environmental Studies, Northeastern University, 2005 ww.coe.neu.edu/environment
65. Novotny, V. and K. Ahern, Sustainable urban waters and watersheds - the fifth paradigm of urbanism, Proc. of the Massachusetts Water Resources Conference, University of Massachusetts, Amherst, MA April 9, 2007
66. Novotny, V. *et al.* Developing of Risk Propagation Model for Estimating Ecological Responses of Streams to Anthropogenic Watershed Stresses and Stream Modifications, Final Report US EPA STAR Project No. R83-0885-010, Center for Urban Environmental Studies, Northeastern University, <http://eee.coe.neu.edu/environment> , 2007
67. Bedoya, D., E. Manolakos and V. Novotny (2009) *Biological Response to Environmental Stress. Environmental Similarity and Hierarchical, Scale-dependent Segregation of Biotic Signatures for Prediction Purposes*, Technical Report # 16, Center for Urban Env. Studies, Northeastern University, Boston, MA www.coe.neu.edu/environment

REVIEWS

Reviewed manuscripts of technical books in water resources area for John Wiley & Sons publishers and Academic Press.

Reviewed and evaluated scientific research proposals for National Science Foundation, U.S. Environmental Protection Agency, U.S. Geological Survey and Sea Grant.

Reviewed prospective papers for Water Resources Bulletin (AWRA), Journal of Environmental Engineering division (ASCE), Journal of Hydrological Engineering (ASCE), Water Research (IAWPRC), Water Resources Research, Water Environment Research, Water, Soil and Air Pollution, and The Environmental Professional.

STUDENTS

GRADUATE STUDENTS AND POST DOCTORAL FELLOWS

Guidance of Doctoral Candidates

	PhD Degree Awarded
Dr. Shuhai Zheng, Hydrologist, Nebraska Natural Resources Commission	1990
Dr. Andrea Capodaglio, Professor, University of Pavia, Italy	1992
Dr. Harold Jones, Vice-president, Environment and Safety, GE, Cincinnati, OH	1992
Dr. William Gonwa, Triad Engineering, Milwaukee, WI	1994
Dr. Pavel Hajda, Baxter Woodman, Crystal Lake, IL	1997
Dr. Alena Bartošová, Illinois Water Survey, University of Illinois, Urbana, IL	2002
Dr. Neal O'Reilly, Vice-president, Hey and Associates, Brookfield, WI	2007

Dr. David Bedoya



Guidance of Msc Theses in the last 5 years:

Joseph Farah,	2008
Kevin McGarvey	2007
Hardik Virani (committee member and research sponsor)	2005
Jessica Brooks	2005

Daniel Nathan Beach 2005
 Daniela Todesco 2003

Hosting Faculty and Post - doctoral Fellows

Professor Xiaoyan Wang, Capital Normal University, Beijing, China	2007
Dr. Ramanitharan Kandiah	2004-2006
Dr. Laurel Schaider, Harvard University	2003-2005
Professor Atsushi Ichiki, Ritsumeikan University, Kyoto, Japan	2000-2001
Professor Alessandro Muraca, University of Brescia, Italy	2001
Professor Kiyoshi Yamada, Ritsumeikan University, Kyoto, Japan	1998-1999
Professor Andrea Capodaglio, University of Pavia, Italy	1992- 1994
Dr. Alexander Gelfan, Water Resources Institute, Academy of Sciences, Moscow	1996
Dr. Pavel Hajda	1998-1999

PRIVATE CONSULTING ACTIVITIES

1. Preparation of a manual on sustainable Cities of the Future and CDM University presentations, CDM Cambridge, Massachusetts, 2008 – to date (also a contract for a book from J. Wiley and Sons)
2. Bay Area Clean Water Agencies (BACWA) Stormwater Diversion White Paper, Carrollo Engineers, Walnut Creek. CA , 2009
3. Worldwide evaluation of emerging ecocities, Steve Moddemeyer Company, Seattle , December 2008 – 2009
4. *Pollution from Massachusetts Highways*, Expert Report and Testimonies, Conservation Law Foundation vs. Deval Patrick (Department of Transportation) , Boston, MA, May, 2007 – May 2008
5. *Agricultural Pollution in Asia* – Report for Green Peace, London, May – submitted August 2007
6. Evaluation and Review – *Amendment to the Water Quality Control Plan for the Sacramento River and San Joachim River Basins – The Control of Nutrients in Clear Lake* (Central Valley Regional Control Board) and *Total Maximum Daily Load for Nutrients in Clear Lake, Lake County California* by Tetra Tech., February 2006



AquaNova International, Ltd. Projects

7. Evaluation of the Modeling Effort for the 2020 Master Plan, Sacramento Regional County Sanitation District and Carollo Engineers, February 2003
8. Des Plaines River Use Attainability Study - Illinois Environmental Protection

Agency, Springfield, Illinois - December 2000 - December 2003

9. Hampshire (IL) waste water disposal, Hey and Associates, Brookfield (WI) – 2004
10. Environmental Protection Agency - Venice Region, Italy - Master plan 2000 - Regional plan to clean up the Lagoon of Venice March - July 2001
11. Evaluation of the Impact of Discharge of Higher Concentrations of Ammonia from the Milwaukee=s Jones Island WWTP on the outer harbor - Milwaukee Metropolitan Sewerage District - July - 2000 - 2002
12. Water Quality of New York City water supply reservoirs. Total Maximum Daily Load. Expert witness for Natural Resources Defense Council, New York, 1996-2000. (NRDC vs. Fox + several other reports on the TMDLs for the NY City reservoirs)
13. Flood control management and water body restoration plan of Lincoln Creek, Milwaukee Wisconsin - Subcontractor to CH2M-Hill, Milwaukee, WI - 1996.
14. Evaluation and expert witness on stormwater discharges from the Town of Grand Chute, WI. Bell, Gierhart & Moore, S.C., Madison, WI (Butte des Morts vs. Town of Grand Chute) 1997-1998
15. Stormwater Management Plan for Oak Creek, WI - R.A. Smith, Inc. and Hey and Associates, Brookfield, WI - 1996 -97
16. PCB transport by runoff and flood flow from contaminated site into Sheboygan River - Piette & Jacobson, Milwaukee WI, 1995-1997. Expert witness (Tecumseh Co. vs Travelers Insurance Co. et al.).
17. Understanding the Impact of Snowmelt on Urban Receiving Waters - Water Environment Research Foundation, Alexandria, VA, 1996-1998
18. Evaluation of Stormwater Drainage of Little Chute, WI - Axley Brynelson, Madison WI, 1994 - 1995 Anderson et al. vs. Village of Little Chute
19. Organization and management of the Advanced Research Workshop "Remediation and Management of Degraded River Basins with Emphasis on Central and Eastern Europe," Laxenburg, Austria, June 13-16, 1994, and preparation of a manual published by Springer Publ. Co. for the North Atlantic Treaty Organization (Brussels)
20. Manual and report on Use Attainability Analysis, case studies of four water bodies throughout the US - Water Environment Research Foundation (Alexandria, VA) - 1992 – 1995
21. Modeling of water and sediment contamination of Milwaukee River North Av. Dam Impoundment - Woodward and Clyde (Madison, WI) - 1993 - 1994



22. Diffuse (nonpoint) pollutant loads to the Lagoon of Venice (Italy), Venezia Nuova, Venice, Italy - 1990 – 1993
23. Efficiency of Best Management Practices for priority pollutants with emphasis on army operations, U.S. Army Corps of Engineers, Civil Engineering Research Laboratory, Champaign, Ill. – 1993
21. Development and evaluation of stormwater quality management plan, Merck & Co., Rahway, NJ. - 1993

WJK Environmental Systems, Inc. projects (acquired by AquaNova International in 1989)

22. Phase II of "Optimization of Wastewater Treatment Systems to Accommodate Transient Conditions of Wastewater Strength and Volume," National Science Foundation grant to WJK Environmental Systems,

co-investigator, 1987-1989.

23. Optimization of Wastewater Treatment Systems to Accommodate Transient Conditions of Wastewater Strength and Volume - National Science Foundation Grant to WJK Associates, Ltd. - Small Business Innovation, prepared the proposal and consultant to the project - 1985

Other Consulting Activities:

24. Developed heat transfer model for BEAK Consultants in Toronto and Montreal which was used for evaluation of thermal discharges of St. Lawrence River, 1974-1975.
25. Developed a nonpoint pollution simulation model LANDRUN which is used by the Wisconsin DNR, Water Resources Center of University of Wisconsin-Madison, Ontario, Department of Environment in Toronto and other institutions in Great Lakes region, 1974
26. Developed a water quality model for the Broad River in Georgia and evaluated a water quality impact by a proposed paper mill, Georgia Kraft, Co., 1978.
27. Consultant to ENVIREX, Inc., Milwaukee on mathematical modeling. The Storm Water Management Model by EPA was applied to combined sewer overflows in Racine, Wisconsin, 1974-1975.
28. Special consultant to the Wisconsin Department of National Resources, responsible for development and conceptual design of methods to evaluate best management practices in the National Urban Runoff Project (NURP sponsored by the Environmental Protection Agency, 1980-82.
29. Consultant to Grunau Company, Inc., Milwaukee, WI. Developed a computer hydraulic model for design and evaluation of sprinkler systems, 1981 - 1986.
30. Consultant to Wisconsin DNR - Milwaukee; prepared nonpoint pollution loading estimates to seven urban lakes throughout the Milwaukee County, 1982.
31. In charge of treatability studies and conceptual design of treatment for high salinity wastewater with Eckenfelder, Distinguished Professor of Environmental Engineering, Vanderbilt University. Sea water bacteria were used for the first time to remove BOD of CIBA-Geigy plant in McIntosh, AB, 1971-1973.