Michael L. Deas

Watercourse Engineering, Inc.
133 D Street, Suite F
Davis, CA 95616
530-750-3072
mike.deas@watercourseinc.com

QUALIFICATIONS

Michael Deas has over 15 years of problem-solving experience. Dr. Deas analyzes surface water systems, quantifies physical, chemical, and biological processes in aquatic systems as they effect water quality, and evaluates surface water quality for environmental, industrial, and municipal supplies. He is a recognized expert on water quality issues in Northern California and Central Valley systems.

Michael Deas:

- Conducts surface flow and quality assessments.
- Develops conceptual models, identifying the interactions between/among aquatic systems, inputs and outputs, as well as processes taking place within the systems themselves.
- Develops and applies analytical tools as well as complex numerical models to evaluate flow and the fate and transport of physical and chemical constituents in aquatic systems.
- Provides technical presentations, both orally and in writing, for diverse audiences.

EDUCATION

Doctor of Philosophy, Civil Engineering
University of California, Davis
Year Received: March 2000
Major: Environmental Fluid Mechanics
Minor: Water Resources Management
Dissertation: Application of numerical models in ecological assessment

Master of Science
University of California, Davis
Year Received: March 1989
Major: Water Resources Management
Master's Thesis: A finite element model of groundwater flow on shallow layer and perched aquifers

Bachelor of Science
University of California, Davis
Year Received: June, 1986
Major: Civil Engineering

PROFESSIONAL EXPERIENCE

Consulting Engineer, 1/98 – Present

Provided professional engineering services for water quantity and quality issues associated with river and reservoir systems. Typical tasks include system definition, monitoring (including development and implementation of Quality Assurance Project Plans), numerical model construction and/or application, and analysis of system response to alternative management conditions. Projects include

- Basin-scale flow and water quality modeling for river and reservoir reaches in the Klamath River basin (PacifiCorp)
- Physical characterization of spatial and temporal variability of flow and temperature within thermal refugia for over-summering anadromous fishes on the Klamath River (U.S. Bureau of Reclamation in cooperation with the Yurok Tribe).
- Water quality modeling training program (State Water Resources Control Board)
- Recreation of historic flow and water temperature conditions on the Upper Sacramento River: 1970 to 2001 (United States Geological Survey)
- Shasta River flow and temperature modeling for anadromous fish restoration (United States Fish and Wildlife Service and California Department of Fish and Game)
- Water quality model application to assess eutrophication potential within the Crystal Springs Reservoir complex (City of San Francisco for Merritt Smith Consulting)
- Central Valley water temperature modeling review (Bay Delta Modeling Forum)
- Review of Truckee River Operations Agreement (G.T. Orlob and Associates for the United States Department of Justice)
- Klamath River water quality monitoring and modeling for anadromous fish restoration (U.S. Bureau of Reclamation)
- Trinity Reservoir temperature monitoring/modeling and carry-over studies (Trinity County)
- Yuba River temperature studies (United States Fish and Wildlife Service)

Senior Engineer, Earth Science Associates, 1992-93.

Designed, constructed, tested, and applied a monthly operations model of the Los Angeles Department of Water and Power Mono Basin – Owens Valley Aqueduct System (Los Angeles Aqueduct Simulation Model). Implemented a long-term computer model maintenance program. Performed water supply analysis for various clients.

Consulting Engineer, Los Angeles Department of Water and Power - 1991, 1993.

Co-managed Mono Basin – Owens Valley computer modeling project. Formulated and implemented system operation model for Los Angeles' eastern Sierra Nevada water gathering facilities. Participated in a UCLA-Mono Basin public policy program mediation effort, and served on technical advisory committees for the State Water Resources Control Board (State Board) water rights re-issuance hearings for Los Angeles. Testified before the State Board concerning predictive computer models for the Mono Basin and Owens River Basin.

Assistant Engineer, Aqueduct Division, Los Angeles Department of Water and Power, 1989-90.
Revamped and expanded the Mono Basin computer model from a spreadsheet to a FORTRAN program capable of assessing a wide range of scenarios. Conducted various studies examining the impact of alternative operations and hydrologic conditions on Mono Lake surface elevations and water supply to Los Angeles. Reviewed water rights issues and made recommendations to legal staff.

Civil Engineer, Hydrologic Engineering Center, U.S. Army Corps of Engineers, 1987.
Researched and formulated a report on the Corps responsiveness to the 1986 drought in the southeastern United States. The report, titled "Lessons Learned from the 1986 Drought" compiled information learned from the drought and presented specific recommendations for drought contingency planning.

RESEARCH EXPERIENCE

Project Manager, Klamath River water temperature and water quality modeling project. University of California, Davis. (United States Fish and Wildlife), 6/95 – 12/99.
Application of hydrodynamic and water quality models to analyze water quality control alternatives designed to improve anadromous fisheries in the Klamath River downstream of Iron Gate Dam. Simulated dissolved oxygen, temperature, nutrients, and algal dynamics. Alternative included varying timing and quantity of reservoir releases as well as retrofitting outlet works to allow selective withdrawal for downstream temperature control.

Project Manager, Shasta River Flow and Temperature Modeling Project. University of California, Davis. (California State Water Resources Control Board, 205(j) Clean Water Act Grant Program, 3/95 – 6/98.
Project included modeling flow and water temperature on the Shasta River for anadromous fish restoration efforts. Subtasks included hydrology, meteorology, water temperature data inventory and woody riparian vegetation inventory. Modeling included examining the impact of spring flow accretions, diversions, return flow, and riparian shading on this small river system. Designed and implemented temperature monitoring program.

Project Manager, Sacramento River Temperature Modeling Project. University of California, Davis. (California State Water Resources Control Board, 205(j) Clean Water Act Grant Program, 3/95 - 3/97.
Managed a team of engineers to implement and apply computer models to analyze the potential for temperature control in reaches critical for salmon reproduction downstream of Central Valley Project (CVP) reservoirs. Project team completed application of finite difference models of major CVP reservoirs – Lake Shasta and Trinity Lake; and implemented, calibrated, and verified one-dimensional finite element hydrodynamic and water temperature models for Keswick Reservoir, and the Sacramento and Feather Rivers.

Research Engineer, Putah Creek Coarse Sediment Evaluation below Monticello Dam (University of California, Davis Public Service Research Program), 6/95-8/96
Designed and completed field monitoring program to examine morphological changes to Putah Creek. Field work and associated research revealed that direct

effects of Monticello Dam include creek aggradation due to tributary sediment contributions, as well as tributary down-cutting due to reduced post-project stream levels.

Project Manager, Willits Bypass Floodplain Study. University of California, Davis. (California Department of Transportation), 4/94 - 6/95.

Applied a two-dimensional finite element hydrodynamic model to an inundated floodplain with coalescing streams in Little Lake Valley near Willits, California. Verified and applied model for 100-year flood event to examined impacts of alternative freeway alignments on floodplain dynamics. Determined over-crossings (bridge) and drainage requirements to maintain backwater effects to less than 1.0 feet, where possible.

TEACHING EXPERIENCE

Associate Instructor, Department of Civil and Environmental Engineering, University of California, Davis, Spring 1999, Spring 2001.
Environmental Quality Modeling (Civil and Environmental Engineering 244) – Instructor for graduate course addressing mathematical modeling of environmental water quality. Subject matter focused on structure, capabilities/limitations, sensitivity and reliability of water quality models as analytical tools.

Lecturer, U.S. Army Corps of Engineers. July 1999, July 2000.
Water and the Watershed – Hydrologic, Environmental, and Ecological Modeling. Provided lecture and materials to Corp of Engineers' planners, economists, and biologists from district offices nationwide. Topics include fundamentals critical to computer modeling at the watershed level as well as case studies.

Associate Instructor, Department of Civil and Environmental Engineering, University of California, Davis, Fall 1997.
Unsteady Flow in Surface Waters (Civil and Environmental Engineering 277) – Instructor for graduate course covering topics of unsteady flow. Subjects included long waves in surface flow, St. Venant equations, method of characteristics, explicit and implicit finite difference methods, stability of numerical schemes, and flood routing techniques.

Teaching Assistant, University of California, Davis, 1986-88, 1993, 1996.
Duties included preparing lectures, designing homework assignments, administering and grading tests, evaluating student performance, and assigning grades. Classes include:

- Engineering 3: Introduction to Engineering (lab)
- Engineering 35: Statics (discussion)
- Civil and Environmental Engineering 10: Introduction to Surveying (lab)
- Civil and Environmental Engineering 141L: Hydraulics (lab)
- Civil and Environmental Engineering 145: Design of Open Channel Structures (class)
- Civil and Environmental Engineering 152: Civil Engineering Planning (class)
- Civil and Environmental Engineering 271: Water Resources Planning Lab (class)

PROFESSIONAL AWARDS AND ACTIVITIES

Chairman: Peer Review Panel for setting temperature objectives for anadromous fish in the Stanislaus River (2003-present)

Member: Levee Risk Assessment Team (CALFED) (2004)

California Water and Environmental Modeling Forum Steering Committee member (2002-present)

Nathaniel Bingham Memorial Award, U.S. Fish and Wildlife (2001)

Causative Factors Analysis ad hoc committee: Shasta River anadromous fisheries restoration (1999)

Water Quality Modeling Panel (1998), Klamath River Technical Working Group

Mono Lake Technical Advisory Group (1992-93), State Water Resources Control Board

Mono Lake Public Policy Program (1991); City of Los Angeles, UCLA.

Peer Reviewer for Processional Journals (ongoing)

- Water Resources Research
- American Society of Civil Engineers: Journal of Water Resources Planning and Management

PROFESSIONAL SOCIETIES, AFFILIATIONS, AND LICENSES:

Sigma Chi – Member

American Society of Civil Engineers

American Water Resources Association

American Geophysical Union

Registered Professional Civil Engineer, State of California (1990)

Michael L. Deas
Principal (Aug/05)
Watercourse Engineering, Inc.
133 D Street, Suite F
Davis, CA, 95616
(530) 750-3072
mike.deas@watercourseinc.com

PUBLICATIONS

Reports

Tanaka, S.K., M.L. Deas, S. Null. 2005. *STREAM and LAASM: Models for Mono Basin Operations* (Draft). Prepared for the Los Angeles Department of Water and Power. July.

Vaughn, J., and M.L. Deas. 2005. *Shasta River Algae Model*. (Draft) Prepared for the Information Center for the Environment, Department of Environmental Science & Policy, University of California, Davis, and the North Coast Regional Water Quality Control Board. July.

Vignola, A., and M.L. Deas. 2005. *Lake Shastina Limnology*. Prepared for the Information Center for the Environment, Department of Environmental Science & Policy, University of California, Davis, and the North Coast Regional Water Quality Control Board. April.

Deas, M.L. 2005. *Klamath Basin Water Quality Group: Charter* (Draft). Prepared for the Klamath River Water Quality Coordination Group – jointly sponsored by the North Coast Regional Water Quality Control Board and U.S. EPA Region IX, as well as other basin stakeholders. March.

Watercourse Engineering, Inc. 2005. *Trinity River Flow and Temperature Modeling Conceptual Framework*. Prepared for Trinity County Planning Department Natural Resources Division. January.

Deas, M., J. Bartholow, C. Hanson, C. Myrick. 2004. Peer Review of Water Temperature Objectives Used as Evaluation Criteria for the Stanislaus – Lower San Joaquin River Water Temperature Modeling and Analysis. Prepared for AD Consultants under CALFED – CBDA Project Number: ERP-02-P08. June.

Deas, M.L. 2004. Anderson Reservoir Re-operation Study: Water Quality Assessment. Prepared with Merritt Smith Consulting. Submitted to the Santa Clara Valley Water District. March.

Watercourse Engineering, Inc. 2004. *Klamath River Modeling Framework to Support the PacifiCorp Federal Energy Regulatory Commission Hydropower Relicensing Application (including Appendices).* Prepared for PacifiCorp. March 9.

Deas, M.L., 2004. Technical Memorandum: Review of *Blue River Reservoir Temperature Modeling with HEC-5Q* September 2003 prepared by Resource Management Associates, Inc, for the U.S. Army Corps of Engineers, Portland District and the U.S. Army Corps of Engineers, Hydrologic Engineering Center, Sacramento District. February 10.

San Francisco Public Utilities Commission (SFPUC). 2004. *Preliminary Review Draft: Interim Operations Plan for Calaveras Reservoir*. Prepared with Weiss and Associates, Merritt Smith Consulting, and Entrix.

Deas, M.L., and S.K. Tanaka. 2003. *Scott River Water Balance Study: Data Analysis and Model Review*. Prepared for the Scott River Watershed Council. June.

San Francisco Public Utilities Commission (SFPUC). 2003. *Initiative to Raise and Maintain Lake Level and Improve Water Quality, Lake Merced: Task 3 Technical Memorandum - Lake Setting, Alternative Lake Levels and Supplemental Water Requirements, Supplemental Water Sources, Lakeside Vegetation*. Prepared with EDAW, Inc.. Talavera and Richardson, Merritt Smith Consulting, Hydroconsult Engineers, Hagar Environmental Science, Ward and Associates, Yuki Kawaguchi. August.

San Francisco Public Utilities Commission (SFPUC). 2003. *Initiative to Raise and Maintain Lake Level and Improve Water Quality, Lake Merced: Task 4 Technical Memorandum - Impacts to Water Quality, Vegetation, Wildlife, and Beneficial Uses*. Prepared with EDAW, Inc.. Talavera and Richardson, Merritt Smith Consulting, Hydroconsult Engineers, Hagar Environmental Science, Ward and Associates, Yuki Kawaguchi. November.

San Francisco Public Utilities Commission (SFPUC). 2003. *Initiative to Raise and Maintain Lake Level and Improve Water Quality, Lake Merced: Task 4 Technical Memorandum – Adaptive Management Monitoring Plan*. Prepared with EDAW, Inc.. Talavera and Richardson, Merritt Smith Consulting, Hydroconsult Engineers, Hagar Environmental Science, Ward and Associates, Yuki Kawaguchi. December.

San Francisco Public Utilities Commission (SFPUC). 2002. *SFPUC Reservoir Water Quality Management Plan*. Prepared with Merritt Smith Consulting. March.

Watercourse Engineering, Inc. 2003. *Klamath River Water Quality Studies 2000:- Attached Algae Modeling Literature Review*. Sponsored by the U.S. Bureau of Reclamation, Klamath Falls Area Office. January 25.

Watercourse Engineering, Inc. 2003. *Klamath River Water Quality 2000 Monitoring Program: Project Report*. Sponsored by the U.S. Bureau of Reclamation, Klamath Falls Area Office. January 25.

Deas, M.L. and A.G. Abbott.2003. *Shasta River Field Monitoring Report*. Prepared for the Klamath River Basin Fisheries Task Force and the United States Fish and Wildlife Service. In draft.

Deas, M.L. A.G. Abbott, and A.E. Bale. 2003. *Shasta River Flow and Temperature Monitoring Report*. Prepared for the Klamath River Basin Fisheries Task Force and the United States Fish and Wildlife Service. In draft.

Sutton, R, M.L. Deas, M.R. Belchik, S.M. Turo. 2002. *Klamath River Thermal Refugia Study, Summer 2002*. Prepared for the US Bureau of Reclamation. December 9.

City of Santa Rosa. 2002. *Technical Memorandum 16: City of Santa Rosa Incremental Recycled Water Program—Water Balance Modeling Summary*. Prepared with Merritt Smith Consulting. December 2.

Deas, M.L. 2002. *Trinity Reservoir Inflow Temperature Monitoring Study*. Prepared for Trinity County Planning Department. June..

Watercourse Engineering, Inc. 2002. *Surface Water Quality Modeling: An Introduction*. Prepared for the State of California, State Water Resources Control Board. April.

Watercourse Engineering, Inc. 2002. *Historic Flow and Temperature Modeling of the Sacramento River Period of Simulation: 1970-2001*. Prepared for Unites States Geological Survey Biological Resources Division Mid-Continent Ecological Science Center. March 28.

Deas, M.L. 2001. *Bahia Lagoon Water Quality Assessment* (Technical Memorandum). Prepared for Northwest Hydraulic Consultants. December 6.

Deas, M.L. and C.L. Lowney. 2001. *Water Temperature Modeling Review: Focusing on California's Central Valley.* Bay Delta Modeling Forum Technical Publication 01-2.

San Francisco Public Utilities Commission (SFPUC). 2001. *Water Quality Investigation and Assessment Report: Potential Water Quality Effects in Lake Merced from Enhanced Ammonia Inputs*. Prepared with Merritt Smith Consulting. October.

San Francisco Public Utilities Commission (SFPUC). 2001. *Phase 2b Report Water Quality Investigation and Assessment: Algal Growth Potential in Lower Crystal Springs Reservoir with Enhanced Ammonia Inputs*. Prepared with Merritt Smith Consulting. March.

Deas, M.L., 2001. *Technical Memorandum - Washoe Creek Hydraulic Evaluation.* Prepared with Merritt Smith Consulting. October.

Deas, M.L. and G.T. Orlob. 1999. *Klamath River Modeling Project*. United States Fish and Wildlife Service, Klamath River Basin Fisheries Task Force. Project 96-HP-01. December.

Deas, M.L. 1999. *Yuba River Temperature Monitoring Project*. Prepared for the United States Fish and Wildlife Service, Sacramento/San Joaquin River Fishery Restoration Office. February.

Deas, M.L., and G.T. Orlob. 1998. *Shasta River Hydrodynamic and Temperature Modeling Project Report*. Clean Water Act 205(j) Grant Program, California State Water Resources Control Board and the Shasta Valley Resources Conservation District. June.

Deas, M.L., 1998. *Trinity Reservoir Water Temperature Simulation Model*. Prepared for Trinity County Planning Department, Natural Resources Division. August, 1998.

Deas, M.L., 1998. *Trinity Reservoir Carryover Analysis*. Prepared for Trinity County Planning Department, Natural Resources Division. August, 1998.

Deas, M.L. and G.T. Orlob. 1997. *Shasta River Data Inventory*. Clean Water Act 205(j) Grant Program, California State Water Resources Control Board and the Shasta Valley Resources Conservation District. June.

Deas, M.L., J. Haas, and G.T. Orlob. 1997. *Shasta River Woody Riparian Vegetation Inventory*. Clean Water Act 205(j) Grant Program, California State Water Resources Control Board and the Shasta Valley Resources Conservation District. June.

Deas, M.L., G. K. Meyer, and C.L. Lowney. 1997. *Sacramento River Temperature Modeling Project*. Clean Water Act 205(j) Grant Program, California State Water Resources Control Board and Trinity County Planning Department. January.

Deas, M.L., C.L. Lowney, and R.B. Krone. 1996. *Evaluation of Coarse Sediment Sources and Transport in Putah Creek below Monticello Dam - Observations of a Managed Water Resources System.* Public Service Research Program, UC Davis, Bioregion Grant Category A: Natural resources and biological problems in the Putah Creek watershed. August.

King, I.P. and M.L. Deas. 1995. *Willits Bypass Floodplain Study*. UC Davis for California Department of Transportation, District 1. Grant No. 01E675.

Los Angeles Aqueduct Simulation Model. 1993. Prepared in cooperation with the Los Angeles Department of Water and Power, Aqueduct Division - Operations Section. September.

Coufal, E.L. and M.L. Deas. 1990. *Mono Lake Water Balance Model (LADWP90).* Los Angeles Department of Water and Power, Aqueduct Division - Hydrology Section. June.

Johnson, W.K. and M.L. Deas. 1987. "Lessons learned from the 1986 drought." *IWR Policy Study 88-PS-1*, Water Resources Support Center, U.S. Army Corps of Engineers, Fort Belvoir, VA.

Proceedings

Deas, M.L. and G.T. Orlob. 1997. Iterative calibration of hydrodynamic and water temperature models – application to the Sacramento River." *Proceedings Water for a Changing Global Community.* 27th Congress of the International Association for Hydraulic Research and hosted by the American Society of Civil Engineers Water Resources Division, August 10-15, San Francisco, CA, 1997.

Deas, M.L. and J. Schuyler. 1994. "The development and application of a large computer model – an example utilizing the Los Angeles Aqueduct System." *Proceedings, Computers in the Water Industry*, American Water Works Assc., April 10-13, Los Angeles, CA, 1994. pp. 523-534.

Deas, M.L. 1992. "Computer Modeling Responsibilities For Municipalities, Case Study: Water Supply For The City of Los Angeles - Mono Lake, CA." *Proceedings, Water Resources Sessions at Water Forum '92*, M. Karamouz, ed., 338-343, ASCE, New York, NY.

Doctoral and Masters Theses

Deas, M.L. 2000. *Application of numerical models in ecological assessment.* Doctorate of Philosophy Dissertation, UC Davis, March.

Deas, M.L. 1989. *Finite element model of groundwater flow on shallow layer and perched aquifers.* Master of Science Thesis, UC Davis, March.

PRESENTATIONS AND POSTERS

Deas, M.L. "Klamath River Flow and Water Quality Modeling Framework." Poster presented at the California Water and Environmental Modeling Forum, Asilomar, California. March 2005.

Deas, M.L. "Klamath River Benthic Algae Monitoring Iron Gate Dam to Turwar: 2004." Presented to the Klamath River Water Quality Coordination Group – jointly sponsored by the North Coast Regional Water Quality Control Board and U.S. EPA Region IX, as well as other basin stakeholders. February 8, 2005.

Tanaka, S.K. and M.L. Deas. Klamath River Thermal Refugia Study: flow and temperature characterization. Poster presented at the California Water and Environmental Modeling Forum, Asilomar, California. March 2005.

Deas, M.L. "Historic Temperature Modeling of the Sacramento River: 1970-2001." Poster presented at the California Water and Environmental Modeling Forum, Asilomar,California. February 2004.

Deas, M.L., Watercourse Engineering, Inc., J. Bartholow, United States Geological Survey, C. Hanson, Hanson Environmental, C. Myrick, Colorado State University. A. Dotan, Project Manager, AD Consultants (CALFED – CBDA Project Number: ERP-02-P08). "Peer Review of Chinook Salmon Water Temperature Objectives Used as Evaluation Criteria for the Stanislaus – Lower San Joaquin River Water Temperature Modeling and Analysis." Poster presented at the Third Biennial CALFED Science Conference, Sacramento, CA. October 4-6, 2004Deas, M.L. "Sources and Uses of Flow and Water Quality Data from Klamath Reservoirs and River." Presented at the Lower Klamath Basin Science Conference. U.S. Department of the Interior: U.S. Geological Survey, U.S. Fish and Wildlife Service, Bureau of Reclamation, Klamath River Fisheries Task Force. U.S. Department of Commerce: NOAA Fisheries. Eureka, CA. June 7-10, 2004.

Deas, M.L. "Overview of the Klamath Basin Physical Environment: Hydrology, Geomorphology, and Water Quality." Presented at the Lower Klamath Basin Science Conference. U.S. Department of the Interior: U.S. Geological Survey, U.S. Fish and Wildlife Service, Bureau of Reclamation, Klamath River Fisheries Task Force. U.S. Department of Commerce: NOAA Fisheries. Eureka, CA. June 7-10, 2004.

Deas, M.L. "Klamath River Water Quality: Link Dam to the Pacific Ocean." Presented at the Presented at the Upper Klamath Basin Science Conference. Hosted by U.S. Department of the Interior: Geological Survey Fish and Wildlife Service Bureau of Reclamation Bureau of Land Management. Klamath Falls, OR. February 3-6, 2004.

Deas, M.L. "Longitudinal Water Quality Characteristics of the Klamath River from Iron Gate Dam to the Trinity River." Presented at the American Fisheries Society. Redding, California, April 22-24, 2004.

Deas, M.L. "Limnology of the Klamath River." Presented at the American Fisheries Society. San Diego, California, April 14-17, 2003.

Deas, M.L. and G.T. Orlob. “Application of flow and temperature models to the Shasta River, CA.” Presented at the Klamath River Restoration Conference Klamath Falls, OR. March 9-11, 1999.

Deas, M.L. and G.T. Orlob. “Sacramento River Temperature Modeling Project: Application Hydrodynamic and Temperature Models.” Presented at the American Geophysical Union, Fall Meeting, December 8-12, 1997, San Francisco, California. December 10, 1997.

Deas, M.L. and G.T. Orlob. “Sacramento River Temperature Modeling Project: Challenges in Watershed Modeling.” Presented at the State of the Watershed Symposium, Sacramento River Watershed Program, California. October 8, 1997.

Deas, M.L. C.L. Lowney, and G.T. Orlob. “Sacramento River Temperature Modeling Project.” Poster presented at the California Watershed Symposium, Sacramento, California, April 23, 1997.

Deas, M.L. and G.T. Orlob. “Application of computer models for assessing temperature control alternatives in the Sacramento River system.” Poster presented at the Center for Ecological Health Research annual meeting, University of California, Davis. March 17, 1997.

Deas, M.L. and G.T. Orlob. “Assessment of Alternatives for Flow and Water Quality Control in the Klamath River below Iron Gate Dam.” Presented at the Klamath River Restoration Conference, Yreka CA. March 11-13, 1997.

Haas, J., M.L. Deas, and G.T. Orlob. “Preliminary Riparian Vegetation Evaluation for the Shasta River, California.” Presented at the Klamath River Restoration Conference, Yreka CA. March 11-13, 1997.

Lowney, C.L., M.L. Deas, and G.T. Orlob. “Longitudinal Temperature Characteristics of the Klamath River below Iron Gate Dam.” Presented at the Klamath River Restoration Conference, Yreka, CA. March 11-13, 1997.

Deas, M.L., J.F., DeGeorge, A.E. Bale, and C. Saviz. “Modeling Combined Stresses on Ecosystems.” Poster presented at the Center for Ecological Health Research annual meeting, University of California, Davis. March, 1995.

Deas, M.L., J. Schuyler. “The development and application of a large computer model - an example utilizing the Los Angeles Aqueduct System.” Presented at Computers in the Water Industry, American Water Works Association, April 10-13, Los Angeles, CA, 1994.

Deas, M.L. “Computer Modeling Responsibilities for Municipalities, Case Study: Water Supply For The City of Los Angeles - Mono Lake, CA.” Presented at Water Resources Sessions at Water Forum '92, American Society of Civil Engineers, New York, NY, 1992.