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Education

Ph.D., Civil Engineering, University of Washington, December 1986
M.A., Geography, University of Washington, 1983
BSCE, Civil Engineering, University of Washington, 1983
BA with honors, Regional Planning and International Relations, University of Delaware, 1979

Current Position

Director, Center for Watershed Sciences, University of California - Davis
Ray B. Krone Professor of Environmental Engineering, Department of Civil and Environmental Engineering. Research and teaching specialties are integrated engineering of water resource and environmental systems at regional, utility, and household scales, employing ideas from economics and operations research. Member: Civil and Environmental Engineering, Geography, Hydrologic Science, and International Agricultural Development graduate programs.

Work Experience

Director, Center for Watershed Sciences, University of California, Davis, 2009– present; Associate Director 2007-2008, Co-Director 2008-2009
Ray B. Krone Professor of Environmental Engineering, Department of Civil and Environmental Engineering, University of California, Davis, February 2008 – 2013
Professor and occasional Vice Chair, Department of Civil and Environmental Engineering, University of California, Davis, July 1996 - present
Visiting Professor, Valencia Polytechnic University, Spain, Summer 2007
Visiting Researcher, CEMAGREF, Bordeaux, France, August 2000 – June 2001
Associate Professor, Department of Civil and Environmental Engineering, University of California, Davis, July 1991 - June 1996
Hydraulic Engineer, Hydrologic Engineering Center and Institute for Water Resources, U.S. Army Corps of Engineers, September 1993 – September 1994
Assistant Professor, Department of Civil Engineering, University of California, Davis, January 1987 - June 1991
Visiting Researcher, Department of Water Resources Engineering, University of Lund, Lund, Sweden, September 1985 - May 1986
Research Assistant, Civil Engineering Dept., Univ. of Washington, Sept. 1983 - June 1985
Teaching Assistant, Geography Dept., University of Washington, September 1979-March 1981
Planning Assistant and Librarian, Wm. J. Cohen & Assoc., Summer 1979
Transportation & Air Quality Intern, WILMAPCO, Wilmington DE, Summer 1978

Professional Honors

Julian Hinds Award, American Society of Civil Engineers/Environment Water Resources Institute, 2011
Editor's Choice Award, *Water Resources Research*, 2010
Hugo B. Fischer Award, California Water and Environmental Modeling Forum, 2008
American Society of Civil Engineers/Environment Water Resources Institute, Planning and Management Council Service to the Profession Award, 2007
William R. Boggess Best Paper Award, *J. of the American Water Resources Association*, 2006
Award for outstanding service to the California Water and Environmental Model Forum, 2006
George E. Brown Award for Best Collaborative Proposal, UCMEXUS, 2005

Journal of Environmental Engineering Editor's Award for Service, 2004
International Water Academy, Member, #143, 2002
Walter L. Huber Civil Engineering Research Prize, American Society of Civil Engineers, 1996
Best Practice-Oriented Paper, *Journal of Water Resources Planning and Management*, 1996
Tau Beta Pi (Engineering), Phi Beta Kappa (Liberal Arts), Chi Epsilon (Civil Engineering), Omicron Delta Epsilon (Economics), Pi Kappa Alpha (Political Science), Valle Scholar, Engineer-in-Training (Washington State)

Professional Societies and Activities

Past-President, President, President-Elect, Universities Council on Water Resources, 2007 – 2010; Board of Directors, 2005 - 2010
Adjunct Fellow, Public Policy Institute of California, San Francisco, CA, 2008 – 2012
Editor, 1997 – 2000, Associate Editor 2000 – 2010, *Journal of Water Resources Planning and Management*, ASCE
Editorial Board, *Advances in Water Resources*, 2009 – present
Editorial Board, *Water*, 2012 – present
Editorial Board, *Civil Engineering and Environmental Systems*, 2003 – present
California Water Resources Center Archives, Board of Directors, 2006 – present
Convener, Past-Convener, Vice Convener, California Water and Environment Modeling Forum, 1995 – 1999, Steering Committee 1995 – 1999, 2002 - present
Advisory Committee, *California Water Plan Update*, 1995 - 1998, 2001 – 2005
Editorial Board, *Water International*, IWRA, 1998 – 2006
Associate Editor, *Water Resources Research*, AGU, 1990 – 1997
Editorial Advisory Board, *Municipal Solid Waste Management*, 1990 - 1996
National Research Council, Committee on Hydrology, Ecology, and Fishes of the Klamath River Basin, 2006 – 2007
Hydrology Section Policy Sciences Chair, American Geophysical Union, 1996 – 1999
National Academy of Sciences, Water Management in Uzbekistan and Turkmenistan, 1994-1995
Control Group of ASCE Water Resources Systems Committee, 1996 - 1998
Member, American Society of Civil Engineers (ASCE), American Geophysical Union, American Water Works Association, American Water Resources Association, International Water Resources Association, American Society for Engineering Education, California Water and Environment Modeling Forum
Reviewer for: *Journal of Water Resources Planning and Management, Water Resources Research, Climatic Change, Journal of Environmental Engineering, Journal of Computing in Civil Engineering, Journal of Irrigation and Drainage, Journal of Infrastructure Systems, and Journal of Hydraulics; Canadian Journal of Civil Engineering, Civil Engineering Systems, Journal of the American Water Resources Association, Water International, Stochastic Hydrology and Hydraulics, Transportation Research Record, Institute of Industrial Engineers Transactions, Journal of the American Water Works Association, Journal of Environmental Management, Journal of Industrial Ecology, Journal of Environmental Economics and Management, Journal of Agricultural Economics, Management Science, Environmental Science and Technology, Journal of Air and Waste Management, Fuzzy Sets and Systems, Contemporary Economic Policy*, National Science Foundation, U.S. Environmental Protection Agency, various state Water Resources Centers, MIT Press, RFF Press, McGraw-Hill, University of California Press, and others.

Books

4. Hanak, E., J. Lund, A. Dinar, B. Gray, R. Howitt, J. Mount, P. Moyle, and B. Thompson, *Managing California's Water: From Conflict to Reconciliation*, Public Policy Institute of California, San Francisco, CA, 500 pp., February 2011.

3. Lund, J., E. Hanak, W. Fleenor, W. Bennett, R. Howitt, J. Mount, and P. Moyle, *Comparing Futures for the Sacramento-San Joaquin Delta*, University of California Press, Berkeley, CA, February 2010.

2. National Research Council Committee on Hydrology, Ecology, and Fishes of the Klamath River, *Hydrology, Ecology, and Fishes of the Klamath River Basin*, National Academy Press, Washington, DC, November 2007. (One of 14 authors)

1. Lund, J., E. Hanak, W. Fleenor, R. Howitt, J. Mount, and P. Moyle, *Envisioning Futures for the Sacramento-San Joaquin Delta*, Public Policy Institute of California, San Francisco, CA, 300 pp., February 2007.

Refereed Journal Publications

100. Lund, J.R., "Flood Management in California," *Water*, Vol. 4, pp. 157-169; doi:10.3390/w4010157, 2012.

99. Cahill, R. and J.R. Lund, "Residential Water Conservation in Australia," *Journal of Water Resources Planning and Management*, ASCE, in press.

98. Olivares, M. and J.R. Lund, "Representing Energy Price Variability in Long- and Medium-term Hydropower Optimization," *Journal of Water Resources Planning and Management*, in press.

97. Hanak, E. and J.R. Lund, "Adapting California's Water Management to Climate Change," *Climatic Change*, DOI: 10.1007/s10584-011-0241-3, Vol. 111, No. 1, pp. 17-44, 2012.

96. Connell-Buck, C.R., J. Medellín-Azuara, J.R. Lund, and K. Madani, "Adapting California's water system to warm vs. warm-dry climates," *Climatic Change*, in press.

95. Madani, K. and J.R. Lund, "California's Sacramento-San Joaquin Delta Conflict: from Cooperation to Chicken," *Journal of Water Resources Planning and Management*, in press.

94. Null, S.E. and J.R. Lund, "Fish Habitat Optimization to Prioritize River Restoration Decisions," *River Research and Applications*, DOI: 10.1002/rra.1521, 2011.

93. Tanaka, S.K., C. Buck, K. Madani, J. Medellin-Azuara, J. Lund, E. Hanak, "Economic Costs and Adaptations for Alternative Regulations of California's Sacramento-San Joaquin Delta," *San Francisco Estuary and Watershed Science*, Vol. 9, No. 2, 28 pp., July, 2011.

92. Willis, A.D., J.R. Lund, E. S. Townsley, and Beth Faber, "Climate Change and Flood Operations in the Sacramento Basin, California," *San Francisco Estuary and Watershed Science*, Vol. 9, No. 2, 18 pp., July, 2011.

91. Madani, K. and J.R. Lund, "A Monte-Carlo Game Theoretic Approach for Multi-Criteria Decision Making under Uncertainty," *Advances in Water Resources*, Vol. 34, pp. 607–616, 2011.

90. Madani, K. and J.R. Lund, "Estimated Impacts of Climate Warming on California's High Elevation Hydropower," *Climatic Change*, Vol. 102, No. 3-4, pp. 521–538, October 2010.

89. Moyle, P.B., W.A. Bennett, W.E. Fleenor, and J.R. Lund, "Habitat Variability and Complexity in the Upper San Francisco Estuary", *San Francisco Estuary and Watershed Science*, Volume 8, No. 3, 24 pp., September 2010.

88. Chen, W-H, K. Haunschild, J.R. Lund, and W. Fleenor, "Current and Long-Term Effects of Delta Water Quality on Drinking Water Treatment Costs from Disinfection Byproduct Formation," *San Francisco Estuary and Watershed Science*, Volume 8, No. 3, 21 pp., September 2010.

87. Suddeth, R., J.F. Mount, and J.R. Lund, "Levee decisions and sustainability for the Sacramento San Joaquin Delta", *San Francisco Estuary and Watershed Science*, Volume 8, No. 2, 23pp, August 2010.

86. Harou, J.J., J. Medellin-Azuara, T. Zhu, S.K. Tanaka, J.R. Lund, S. Stine, M.A. Olivares, and M.W. Jenkins, "Economic consequences of optimized water management for a prolonged, severe drought in California," *Water Resources Research*, doi:10.1029/2008WR007681, Vol. 46, 2010 (2010 *Water Resources Research* Editor's Choice Award)

85. Vicuna, S., J.A. Dracup, J.R. Lund, L.L. Dale, and E.P. Maurer, "Basin Scale Water Systems Operations under Climate Change Hydrologic Conditions: Methodology and Case Studies," *Water Resources Research*, Vol. 46, W04505, DOI:10.1029/2009/WR007838, 2010.

84. Marques, G.F., J.R. Lund, and R.E. Howitt, "Modeling Conjunctive Use Operations and Farm Decisions with Two-Stage Stochastic Quadratic Programming," *Journal of Water Resources Planning and Management*, Volume 136, Issue 3, pp. 386-394, May/June 2010.

83. Null, S.E., M.L. Deas, and J.R. Lund, "Flow and Water Temperature Simulation for Habitat Restoration in the Shasta River, California," *River Research and Applications*, Vol. 26, pp. 663-681, 2010.

82. Hanak, E., J. Lund, A. Dinar, B. Gray, R. Howitt, J. Mount, P. Moyle, and B. Thompson, "Myths of California Water – Implications and Reality," *West-Northwest Journal of Environmental Law and Policy*, Vol. 16, No. 1, Winter 2010.

81. Madani, K. and J.R. Lund, "Modeling California's High-Elevation Hydropower Systems in Energy Units," *Water Resources Research*, Vol 45, W09413, doi:10.1029/2008WR007206, 2009.

80. Harou, J.J., M. Pulido-Velazquez, D.E. Rosenberg, J. Medellin-Azuara, J.R. Lund, and R.E. Howitt, "Hydro-economic Models: Concepts, Design, Applications, and Future Prospects," *Journal of Hydrology*, Vol. 375, Iss. 3-4, 15 September, pp. 627-643, 2009.

79. Medellín-Azuara, J., L.G. Mendoza-Espinosa, J.R. Lund, J.J. Harou, R. Howitt, "Virtues of simple hydro-economic optimization: Baja California, Mexico," *Environmental Management*, Vol. 90, August, pp. 3470-3478, 2009.

78. Woodall, D.L. and J.R. Lund, "Dutch Flood Policy Innovations for California," *Journal of Contemporary Water Research and Education*, Issue 141, March, 2009.

77. Medellín-Azuara1, J., R. Howitt, C. Waller-Barrera, L.G. Mendoza-Espinosa, J.R. Lund, J.E. Taylor, "A Calibrated Agricultural Demand Model For Three Regions in Northern Baja California," *Agrociencia*, Vol. 16, pp. 83-96, March 2009.

76. Zhu, T. and J.R. Lund, "Up or Out? - Economic-Engineering Theory of Flood Levee Height and Setback," *Journal of Water Resources Planning and Management*, ASCE, Vol. 135, No. 2, March 1, 2009.

75. Rosenberg, D.E. and J.R. Lund, "Modeling Integrated Decisions for a Municipal Water System with Recourse and Uncertainties: Amman, Jordan," *Water Resources Management*, Volume 23, Number 1, pp. 85-115, January, 2009.

74. Rosenberg, D.E., S. Talozi, H. Abu Qdais, and J.R. Lund, "Intermittent Water Supplies: Challenges and Opportunities for Residential Water Users in Jordan," *Water International*, Vol. 33, No. 4, pp. 488 – 504, December, 2008.

73. David Rosenberg, Richard Howitt, and Jay Lund, "Water Management with Water Conservation, Infrastructure Expansions, and Source Variability in Jordan," *Water Resources Research*, Vol. 44, doi:10.1029/2007WR006519, 2008.

72. Harou, J.J. and J.R. Lund, "Ending groundwater overdraft in hydrologic-economic systems," *Hydrogeology Journal*, Volume 16, Number 6, September, pp. 1039–1055, 2008.

71. Medellin-Azuara, J., J.J. Harou, M.A. Olivares, K. Madani-Larijani, J.R. Lund, R.E. Howitt, S.K. Tanaka, M.W. Jenkins, and T. Zhu, "Adaptability and Adaptations of California's Water Supply System to Dry Climate Warming," *Climatic Change*, Vol. 87, Sup.1, March, pp. S75-S90, 2008.

70. Madani, K. and J.R. Lund, "Aggregated Modeling Alternatives for Modeling California's High-elevation Hydropower with Climate Change in the Absence of Storage Capacity Data," *Hydrological Science and Technology*, Vol. 23, No. 1-4, pp. 137-146, 2007.

69. Medellín-Azuara, J., J.R. Lund, and R.E. Howitt, "Water Supply Analysis for Restoring the Colorado River Delta, Mexico," *Journal of Water Resources Planning and Management*, ASCE, Vol. 133, No. 5, pp. 462-471, September/October 2007.

68. Heinz, I, M. Pulido, J.R. Lund, and J. Andreu, "Hydro-economic Modeling in River Basin Management: Implications and Applications for the European Water Framework Directive, *Water Resources Management*, Vol. 21, No. 7, pp. 1103-1125, July 2007.

67. Rosenberg, D.E., T. Tarawneh, R. Abdel-Khaleq, and J.R. Lund, "Modeling Integrated Water-User Decisions in Intermittent Supply Systems," *Water Resources Research*, Vol. 43, No. 7, July 2007.

66. Zhu, T., J.R. Lund, M.W. Jenkins, G.F. Marques, and R.S. Ritzema, "Climate Change, Urbanization, and Optimal Long-term Floodplain Protection," *Water Resources Research*, Vol. 43, No. 6, June 2007.

65. Medellín-Azuara J., Mendoza-Espinosa L. G., Lund, J. R. and Ramírez-Acosta R. J., "The application of economic-engineering optimization for water management in Ensenada, Baja California, Mexico," *Water Science & Technology*, Vol. 55, No. 1-2, pp. 339-347, 2007.

64. Medellín-Azuara, J. and J.R. Lund, "Applying Economic-Engineering Systems Analysis to the Colorado River Delta," *Pacific-McGeorge Global Business & Development Law Journal*, Vol. 19, No. 1, pp. 99 – 114, Fall 2006.

63. Garcia Alcubilla, R. and J.R. Lund, "Derived Willingness-To-Pay for Household Water Use with Price and Probabilistic Supply," *Journal of Water Resources Planning and Management*, Vol. 132, No. 6, pp. 424-433, November/December 2006.

62. Marques, G.F., J.R. Lund, M.R. Leu, and M.W. Jenkins, "Economically-Driven Simulation of Regional Water Systems: Friant-Kern, California," *Journal of Water Resources Planning and Management*, Vol. 132, No. 6, pp. 468-479, November/December 2006.

61. Lund, J.R., "Drought Storage Allocation Rules for Surface Reservoir Systems," *Journal of Water Resources Planning and Management*, Vol. 132, No. 5, pp. 395 - 397, September 2006.

60. Hollinshead, S.P. and J.R. Lund, "Optimization of Environmental Water Account Purchases with Uncertainty," *Water Resources Research*, Vol. 42, No. 8, W08403, August 2006.

59. Paredes, J. and J.R. Lund, "Refill and Drawdown Rules for Parallel Reservoirs: Quantity and Quality," *Water Resources Management*, Vol. 20, N. 3, pp. 359 – 376, June 2006.

58. Tanaka, S.K., T. Zhu, J.R. Lund, R.E. Howitt, M.W. Jenkins, M.A. Pulido, M. Tauber, R.S. Ritzema and I.C. Ferreira, "Climate Warming and Water Management Adaptation for California," *Climatic Change*, Vol. 76, No. 3-4, pp. 361-387, June 2006.

57. Null, S. and J.R. Lund, "Re-Assembling Hetch Hetchy: Water Supply Implications of Removing O'Shaughnessy Dam," *Journal of the American Water Resources Association*, Vol. 42, No. 4, pp. 395 – 408, April 2006.

56. Rosenberg, D. and J.R. Lund, "Derived operating rules for storage and recovery in multiple, unconnected aquifers," *Journal of Water Resources Planning and Management*, Vol. 132, No. 1, January 2006.

55. Zhu, T., M.W. Jenkins and J.R. Lund, "Estimated Impacts of Climate Warming on California Water Availability," *Journal of the American Water Resources Association*, Vol. 41, No. 5, pp. 1027 – 1038, October 2005.

54. Marques, G.F., J.R. Lund, and R.E. Howitt, "Modeling Irrigated Agricultural Production and Water Use Decisions under Water Supply Uncertainty," *Water Resources Research*, Vol. 41, No. 8, August 2005.

53. Ferreira, I.C., S.K Tanaka, S.P. Hollinshead, and J.R. Lund, "Musings on a model: CalSim II in California's water community," *San Francisco Estuary and Watershed Science*, Vol. 3, Issue 1, Article 1, March 2005.

52. Jenkins, M.W., J.R. Lund, R.E. Howitt, A.J. Draper, S.M. Msangi, S.K. Tanaka, R.S. Ritzema, and G.F. Marques, "Optimization of California's Water System: Results and Insights," *Journal of Water Resources Planning and Management*, Vol. 130, No. 4, pp. 271-280, July 2004.

51. Pulido-Velázquez, M., M.W. Jenkins, and J.R. Lund, "Economic Values for Conjunctive Use and Water Banking in Southern California," *Water Resources Research*, Vol. 40, No. 3, March 2004.

50. Van Lienden, B. and J.R. Lund, "Spatial Complexity and Reservoir Optimization Results," *Civil and Environmental Engineering Systems*, Vol. 21, No. 1, pp. 1-17, March 2004.

49. Draper, A.J. and J.R. Lund, "Optimal Hedging and Carryover Storage Value," *Journal of Water Resources Planning and Management*, Vol. 130, No. 1, pp. 83-87, January 2004.

48. Tanaka, S.K. and J.R. Lund, "Effects of Increased Delta Exports on Sacramento Valley's Economy and Water Management," *Journal of the American Water Resources Association*, Vol. 39, No. 6, pp. 1509-1519, December 2003.

47. Draper, A.J., M.W. Jenkins, K.W. Kirby, J.R. Lund, and R.E. Howitt, "Economic-Engineering Optimization for California Water Management," *Journal of Water Resources Planning and Management*, Vol. 129, No. 3, pp. 155-164, May 2003.

46. Jenkins, M.W., J.R. Lund, and R.E. Howitt, "Economic Losses for Urban Water Scarcity in California*," Journal of the American Water Works Association,* Vol. 95, No. 2, pp. 58-70, February 2003.

45. Lund, J.R., "Floodplain Planning with Risk-Based Optimization," *Journal of Water Resources Planning and Management*, Vol. 128, No. 3, pp. 202-207, May/June 2002.

44. Newlin, B.D., M.W. Jenkins, J.R. Lund, and R.E. Howitt, "Southern California Water Markets: Potential and Limitations," *Journal of Water Resources Planning and Management*, Vol. 128, No. 1, pp. 21-32, January/February 2002.

43. Lund, J.R. and J.P. Byrne "Leonardo Da Vinci's Tensile Strength Tests: Implications for the Discovery of Engineering Mechanics," *Civil and Environmental Engineering Systems*, Vol. 18, No. 3, pp. 243-250, 2001.

42. Kalman, O., J.R. Lund, D. Lew, and D.L. Larson, "Benefit-Cost Analysis of Stormwater Quality Improvements," *Environmental Management*, Vol. 26, No. 6, pp. 615-628, December 2000.

41. Jenkins, M.W. and J.R. Lund, "Integrated Yield and Shortage Management for Water Supply Planning," *Journal of Water Resources Planning and Management*, Vol. 126, No. 5, pp. 288-297, September/October 2000.

40. Needham, J., D. Watkins, J.R. Lund, and S. Nanda, "Linear Programming for Flood Control on the Iowa and Des Moines Rivers," *Journal of Water Resources Planning and Management*, Vol. 126, No. 3, pp. 118-127, May/June 2000.

39. Lund, J.R., "Power Production and Energy Drawdown Rules for Reservoirs," *Journal of Water Resources Planning and Management*, Vol. 126, No. 2, pp. 108-111, March/April 2000.

38. Israel, M.S. and J.R. Lund, "Priority Preserving Unit Penalties in Network Flow Modeling," *Journal of Water Resources Planning and Management*, Vol. 125, No. 4, pp. 205-214, July/August, 1999.

37. Lund, J.R. and J. Guzman, "Some Derived Operating Rules for Reservoirs in Series or in Parallel," *Journal of Water Resources Planning and Management*, Vol. 125, No. 3, pp. 143-153, May/June 1999.

36. Anex, R.P., J.R. Lund, and R. Grant, "A Maximum Entropy Approach to Estimating Emissions," *Journal of the Air and Waste Management Association*, Vol. 49, No. 8, p. 943, August 1999.

35. Anex, R.P. and J.R. Lund, "Bayesian Estimation of Volatile Organic Emissions from Wood Furniture Coating," *Journal of Environmental Engineering*, Vol. 125, No. 1, pp. 92-96, January 1999.

34. Wilchfort, O. and J.R. Lund, "Shortage Management Modeling for Urban Water Supply Systems," *Journal of Water Resources Planning and Management*, Vol. 123, No. 4, July 1997.

33. Lund, J.R. and I. Ferreira, "Operating Rule Optimization for the Missouri River Reservoir System," *Journal of Water Resources Planning and Management*, Vol. 122, No. 4, pp. 287-295, July/August 1996.

32. Anex, R.P., R.A. Lawver, J.R. Lund, and G. Tchobanoglous, "GIGO: Spreadsheet Based Simulation for MSW Systems," *Journal of Environmental Engineering*, Vol. 122, No. 4, pp. 259-263, April 1996.

31. Lund, J.R. and R.U. Reed, "Transferable Rations for Drought Management," *Journal of Water Resources Planning and Management*, ASCE, Vol. 31, No. 6, pp. 429-437, November 1995.

30. Lund, J.R., "Derived Estimation of Willingness-to-Pay to Avoid Probabilistic Shortage," *Water Resources Research*, Vol. 31, No. 5, pp. 1367-1372, May 1995.

29. Israel, M. and J.R. Lund, "Recent California Water Transfers: Implications for Water Management," *Natural Resources Journal*, Vol. 35, pp. 1-32, Winter 1995.

28. Lawver, R.A. and J.R. Lund, "Least-Cost Replacement Planning for Modular Construction of Landfills," *Journal of Environmental Engineering*, Vol. 121, No. 3, pp. 203-213, March 1995.

27. Johnston, R., J.R. Lund, and P. Craig, "Capacity Allocation Methods for Reducing Traffic Congestion," *Journal of Transportation Engineering*, Vol. 121, No. 1, pp. 27-39, Jan-Feb 1995.

26. Lund, J.R. and M. Israel, "Water Transfers in Water Resource Systems," *Journal of Water Resources Planning and Management*, ASCE, Vol. 121, No. 2, pp. 193-205, March-April 1995. [Re-published in Spanish in *Ingeniería del Agua*, Vol 2, No. 3, September 1995]

25. Lund, J.R. and M. Israel, "Optimization of Transfers in Urban Water Supply Planning," *Journal of Water Resources Planning and Management*, Vol. 121, No. 1, pp. 41-48, Jan.-Feb. 1995.

24. Lund, J.R. and P.L. Mokhtarian, "Telecommuting and Residential Location: Theory and Implications for VMT in the Monocentric Metropolis," *Transportation Research Board*, No. 1463, December 1994.

23. Lund, J.R., "Utility Theory Violations by Multi-Criteria Hierarchical Weighting Methods," *Civil Engineering Systems*, Vol. 11, pp. 197-207, 1994.

22. Lund, J.R., G. Tchobanoglous, R.P. Anex, and R.A. Lawver, "Linear Programming for Analysis of Material Recovery Facilities," *Journal of Environmental Engineering*, Vol. 120, No. 5, pp. 1082-1094, September-October 1994.

21. Lund, J.R., "Transaction Risk versus Transaction Costs in Water Transfers," *Water Resources Research*, Vol. 29, No. 9, pp. 3103-3107, September 1993.

20. Englehardt, J.D. and J.R. Lund, "Information Theory in Risk Analysis," *Journal of Environmental Engineering*, ASCE, Vol. 118, No. 6, pp. 890-904, Nov.-Dec. 1992.

19. Andrews, E.S., F.I. Chung, and J.R. Lund, "Multi-layered, Priority-based Simulation of Conjunctive Facilities," *Journal of Water Resources Planning and Management*, Vol. 118, No.1, pp. 32-53, January 1992.

18. Lund, J.R., "Benefit-Cost Ratios: Failures and Alternatives," *Journal of Water Resources Planning and Management*, Vol. 118, No.1, pp. 94-101, January 1992.

17. Lund, J.R., "The Decision to Haul Versus Resuspend for Hopper Dredging," *Journal of Waterway, Port, Coastal, and Ocean Engineering*, Vol. 117, No. 6, pp. 599-609, Nov. 1991.

16. Lund, J.R., "Dredged Material Disposal Economics," *Journal of Waterway, Port, Coastal, and Ocean Engineering*, Vol. 117, No. 4, pp.390-408, July 1991.

15. Lund, J.R., "Random Variables Versus Uncertain Values: Stochastic Modeling and Design," *Journal of Water Resources Planning and Management*, Vol. 117, No. 2, pp. 179-194, March 1991.

14. Enright, C. and J.R. Lund, "Alternative Water District Organization: A Screening Level Analysis," *Journal of Water Resources Planning and Management*, Vol. 117, No. 1, pp. 86-107, January 1991.

13. Englehardt, J.D. and J.R. Lund, "Economic Analysis of Recycling for Small Municipal Waste Collectors," *The Journal of Resource Management and Technology*, Vol. 18, No. 2, pp. 84-96, October 1990.

12. Lund, J.R., "Pricing Solid and Hazardous Waste Landfill Capacity," *Journal of Urban Planning and Development*, Vol. 116, No. 1, pp. 17-33, May 1990.

11. Lund, J.R., "The Location of Closed Watersheds for Urban Water Supplies: A Theoretical and Historical Analysis," *Environment and Planning A*, Vol. 22, No. 5, pp. 667-682, May 1990.

10. Lund, J.R., "Scheduling Maintenance Dredging on a Single Reach With Uncertainty," *Journal of Waterway, Port, Coastal, and Ocean Engineering*, Vol. 116, No. 2, pp. 211-321, March 1990.

9. Lund, J.R., "Least-Cost Scheduling of Solid Waste Recycling," *Journal of Environmental Engineering*, Vol. 116, No. 1, pp. 182-197, February 1990.

8. Lund, J.R., "The Value and Depreciation of Existing Facilities: The Case of Reservoirs," *The Engineering Economist*, Vol. 35, No. 1, pp. 1-24, Fall 1989.

7. Lund, J.R., "Metering Public Utilities: Evaluation and Maintenance," *Water Resources Research*, Vol. 24, No. 6, pp. 802-816, June 1988.

6. Lund, J.R., "Regional Water Supply Development in South Sweden," *Journal of Urban Planning and Development*, Vol. 114, No. 1, pp. 14-33, June 1988.

5. Lund, J.R., "Metropolitan Water Market Development: Seattle, Washington, 1887-1987," *J. of Water Resources Planning and Management*, Vol. 114, No. 2, pp. 223-240, March 1988.

4. Lund, J.R., "Evaluation and Scheduling of Water Conservation," *Journal of Water Resources Planning and Management*, Vol. 113, No. 5, pp.696-708, September 1987.

3. Lund, J.R. and R.N. Palmer, "Subjective Evaluation: Linguistic Scales in Pairwise Comparison Methods," *Civil Engineering Systems*, Vol. 3, No. 4, pp. 182-186, December 1986.

2. Palmer, R.N. and J.R. Lund, "Drought and Power Production," *Journal of Water Resources Planning and Management*, Vol. 112, No.4, pp. 469-484, October 1986.

1. Palmer, R.N. and J.R. Lund, "Multiobjective Evaluation with Subjective Information," *Journal of Water Resources Planning and Management*, Vol. 111, No. 4, pp. 399-416, October 1985.

Book Chapters, Proceedings, and Other Publications

122. Lund, J.R., "Provoking More Productive Discussion of Wicked Problems," *Journal of Water Resources Planning and Management*, editorial, Vol. 138, May/June, 2012.

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2. Lund, J.R., "The Development of Metropolitan Water Markets, Seattle Washington, 1887-1987," in D.D. Baumann and Y.Y. Haimes (eds.) *The Role of Social and Behavioral Sciences in Water Resources Planning and Management*, Proceedings of an Engineering Foundation Conference, ASCE, N.Y., July 1988.

1. Lund, J.R., "Least-Cost Scheduling of Advance Maintenance Dredging," *Proceedings of the 15th ASCE Water Resources Planning and Management Specialty Conference*, N.Y., June 1988.

Technical Reports

66. Harter, T., J. R. Lund, J. Darby, G. E. Fogg, R. Howitt, K. K. Jessoe, G. S. Pettygrove, J. F. Quinn, J. H. Viers, D. B. Boyle, H. E. Canada, N. DeLaMora, K. N. Dzurella, A. Fryjoff-Hung, A. D. Hollander, K. L. Honeycutt, M. W. Jenkins, V. B. Jensen, A. M. King, G. Kourakos, D. Liptzin, E. M. Lopez, M. M. Mayzelle, A. McNally, J. Medellin-Azuara, and T. S. Rosenstock. Addressing Nitrate in California's Drinking Water with a Focus on Tulare Lake Basin and Salinas Valley Groundwater. Report for the State Water Resources Control Board Report to the Legislature. Center for Watershed Sciences, University of California, Davis. 78 p., 2012.

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Nitrate in California's Drinking Water with a Focus on Tulare Lake Basin and Salinas Valley Groundwater. Report for State Water Resources Control Board Report to the Legislature. University of California, Davis, Center for Watershed Sciences.

64. Dzurella, K. N., J. Darby, N. De La Mora, A. Fryjoff-Hung, T. Harter, A. D. Hollander, R. Howitt, V. B. Jensen, K. Jessoe, A. M. King, J. Lund, J. Medellín-Azuara, G. S. Pettygrove, and T. S. Rosenstock. 2012. Nitrogen Source Reduction to Protect Groundwater. Technical Report 3 in Addressing Nitrate in California's Drinking Water with a Focus on Tulare Lake Basin and Salinas Valley Groundwater. Report for the State Water Resources Control Board Report to the Legislature. University of California, Davis, Center for Watershed Sciences.

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61. Fleenor, W.A, W. Bennett, P. Moyle, and J. Lund, On Developing prescriptions for freshwater flows to sustain desirable fishes in the Sacramento-San Joaquin Delta, UC Davis Center for Watershed Sciences, Davis, CA, Submitted to the State Water Resources Control Board regarding flow criteria for the Delta necessary to protect public trust resources, February, 2010.

60. Lund, J.R., S.M. Scheierling, and G. Milne, *Modeling for Watershed Management: A Practitioner's Guide*, Water Working Note No. 27, World Bank, Washington, DC, June 2010.

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58. Medellin-Azuara, Josue, Mendoza-Espinosa, L.G., Lund, J.R., Waller, C. Howitt, R.E., *Water Supply for Baja California: Economic-Engineering Analysis for Agricultural, Environmental and Urban Demands*, A Report Prepared for the Border Affairs Unit of the California Environmental Protection Agency, Department of Civil and Environmental Engineering, University of California Davis, January, 2009.

57. Harou , J.J. and J.R. Lund, Representing Groundwater in Water Management Models - Applications to California, California Energy Commission, PIER Energy - Related Environmental Research Program, CEC-500-2008-092, Sacramento, CA, 2008.

56. Hanak, E. and J. Lund, *Adapting California's Water Management to Climate Change*, Public Policy Institute of California, San Francisco, CA, November 2008.

55. Lund, J., E. Hanak, W. Fleenor, W. Bennett, R. Howitt, J. Mount, and P. Moyle, *Comparing Futures for the Sacramento-San Joaquin Delta*, Public Policy Institute of California, San Francisco, CA, July 2008.

54. Hanak, E. and J. Lund, "Policy and Regulatory Challenges for the Delta," Appendix A to *Comparing Futures for the Sacramento-San Joaquin Delta*, Public Policy Institute of California, San Francisco, CA, August 2008.

53. Suddeth, R., J. Mount, and J. Lund, "Levee Decisions and Sustainability for the Sacramento-San Joaquin Delta," Appendix B to *Comparing Futures for the Sacramento-San Joaquin Delta*, Public Policy Institute of California, San Francisco, CA, August 2008.

52. Fleenor, W., E. Hanak, J. Lund, and J. Mount, "Delta Hydrodynamics and Water Quality with Future Conditions," Appendix C to *Comparing Futures for the Sacramento-San Joaquin Delta*, Public Policy Institute of California, San Francisco, CA, July 2008.

51. Bennett, W., E. Hanak, J. Lund, and P. Moyle, "An Expert Survey on the Viability of Delta Fish Populations," Appendix E to *Comparing Futures for the Sacramento-San Joaquin Delta*, Public Policy Institute of California, San Francisco, CA, August 2008.

50. Tanaka, S., C. Connell, K. Madani, J. Lund, and E. Hanak, "Economic Costs and Adaptations for Increasing Delta Outflows and Reducing or Ending Delta Exports," Appendix F to *Comparing Futures for the Sacramento-San Joaquin Delta*, Public Policy Institute of California, San Francisco, CA, July 2008.

49. Lund, J., "Peripheral Canal Design and Implementation Options," Appendix G to *Comparing Futures for the Sacramento-San Joaquin Delta*, Public Policy Institute of California, San Francisco, CA, July 2008.

48. Chen, W-H, K. Haunschild, and J. Lund, "Delta Drinking Water Quality and Treatment Costs," Appendix H to *Comparing Futures for the Sacramento-San Joaquin Delta*, Public Policy Institute of California, San Francisco, CA, August 2008.

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46. Lund, J., E. Hanak, W. Fleenor, W. Bennett, R. Howitt, J. Mount, and P. Moyle, "Decision Analysis of Delta Strategies," Appendix J to *Comparing Futures for the Sacramento-San Joaquin Delta*, Public Policy Institute of California, San Francisco, CA, July 2008.

45. Madani, K. and J.R. Lund, *Adaptability Of California's High-Elevation Hydropower Generation To Climate Warming*, Project Completion Report, California Energy Commission, Sacramento, CA, 36 pp., April 2007.

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41. Ford, D., L. Grober, T. Harmon J.R. Lund (Chair) and D. McKinney, *Review Panel Report, San Joaquin River Valley CalSim II Model Review*, CALFED Science Program – California Water and Environment Modeling Forum, Sacramento, CA, January 2006.

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32. Howitt, R.E., J.R. Lund, K.W. Kirby, M.W. Jenkins, A.J. Draper, P.M. Grimes, M.D. Davis, K.B. Ward, B.D. Newlin, B.J. Van Lienden, J.L. Cordua, and S.M. Msangi, *Integrated Economic-Engineering Analysis of California's Future Water Supply*, completion report to The California Resources Agency, Sacramento, CA, August 1999.

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29. Lund, J.R., M. Jenkins, and O. Kalman, *Integrated Planning and Management for Urban Water Supplies Considering Multiple Uncertainties*, University of California Water Resources Center No. 205, Davis, CA, May 1998.

28. Wilchfort, O., J.R. Lund, D. Lew, and D.M. Larson, *An Economic Valuation of Stormwater Quality Improvement for Ballona Creek, California*, Center for Environmental and Water Resources Engineering Report No. 97-2, Department of Civil and Environmental Engineering, University of California, Davis, CA, May 1997.

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25. Lund, J.R. and J. Guzman, *Developing Seasonal and Long-term Reservoir System Operation Plans using HEC-PRM*, Technical Report RD-40, Hydrologic Engineering Center, U.S. Army Corps of Engineers, Davis, CA, June 1996.

24. Lund, J.R., *Sedimentation and Control Depth Uncertainty: Quantification for Risk Analysis of Maintenance Dredging*, Project Completion Report for the U.S. Army Corps of Engineers, Institute for Water Resources, Alexandria, VA, February 1996.

23. Lund, J.R. and K.W. Kirby, *Preliminary Operating Rules for the Columbia River System from HEC-PRM Results*, Technical Report No. PR-26, Hydrologic Engineering Center, U.S. Army Corps of Engineers, Davis, CA, June 1995.

22. Anex, R.P. and J.R. Lund, *Household Hazardous Waste Management: Qualitative Assessment of Alternative Policies*, Center for Environmental and Water Resources Engineering Report No. 94-2, Department of Civil and Environmental Engineering, University of California, Davis, CA, November 1994.

21. Brumbaugh, R., W. Werick, W. Teitz, and J. Lund, *Lessons Learned from the California Drought (1987-1992): Executive Summary*, IWR Report 94-NDS-6, Institute for Water Resources, U.S. Army Corps of Engineers, Alexandria, VA, October 1994.

20. Ferreira, I.C.L. and J.R. Lund, *Operating Rules from HEC-PRM Results for the Missouri River System: Development and Preliminary Testing*, Technical Report No. PR-22, Hydrologic Engineering Center, U.S. Army Corps of Engineers, Davis, CA, May 1994.

19. USACE, *Columbia River Reservoir System Analysis: Phase II*, Technical Report No. PR-21, Hydrologic Engineering Center, U.S. Army Corps of Engineers, Davis, CA, December 1993. (one of several authors)

18. M.R. Jensen and J.R. Lund, *WATSUP: A Simulation Model for Water Supply Costs and Reliability*, project completion report to the California Department of Water Resources, Sacramento, CA, June 1993.

17. Lund, J.R., *Water Supply Facilities in California: Prospects and Problems for Delta Water Management*, subcontractor project completion report to the Western Consortium for Public Health, Berkeley, CA (a contractor to U.S. EPA), 42 pp, May 1993.

16. Lund, J.R., one of 26 authors, *Water Conservation at UC Davis*, Center for Environmental and Water Resources Engineering Report No. 92-2, Department of Civil and Environmental Engineering, University of California, Davis, CA, November 1992.

15. Lund, J.R., M. Israel, R. Kanazawa, *Recent California Water Transfers: Emerging Options in Water Management*, U.S. Army Corps of Engineers Hydrologic Engineering Center Report No. RD-38 (December 1992) and UC Davis Center for Environmental and Water Resources Engineering Report No. 92-1, November 1992.

14. Lund, J.R., *Developing Operation Plans from HEC Prescriptive Reservoir Model Results for the Missouri River System: Preliminary Results*, Report No. PR-18, U.S. Army Corps of Engineers Hydrologic Engineering Center, March 1992.

13. Israel, M. and J.R. Lund, *Managing Existing Reservoirs to Meet New Challenges*, Project completion report, U.S. Army Corps of Engineers Hydrologic Engineering Center, Nov. 1991.

12. Lund, J.R. and R.D. Charney, *Economic Optimization of Advance Maintenance Dredging II: An Application Guide and Demonstration*, Phase II project report to U.S. Army Corps of Engineers Waterways Experiment Station, April 1991.

11. Moser, D.A., T. Denes, J.R. Lund, and K.I. Rubin, *A Risk-Based Decision Support System for Maintenance Dredging: Stage 1 - Conceptual Design*, Project completion report for the U.S. Army Corps of Engineers New Orleans District, May 1990.

10. Lund, J.R., *Economic Optimization of Advance Maintenance Dredging I: Optimization and Economic Theory*, Phase I project report to U.S. Army Corps of Engineers Waterways Experiment Station, September 1989.

9. Lund, J.R., *The Value and Depreciation of Existing Facilities: The Case of Reservoirs*, Tech. Paper No. 126, U.S. Army Corps of Engineers Hydrologic Engineering Center, April 1989.

8. Lund, J.R., *Pricing Reallocated Reservoir Storage*, Project Report for the U.S. Army Corps of Engineers Hydrologic Engineering Center, May 1988.

7. Lund, J.R., *Reservoir Value and Depreciation*, Project Report for the U.S. Army Corps of Engineers Hydrologic Engineering Center, April 1988.

6. Lund, J.R., *Metering Utility Services: Theory and Water Supply Applications*, Civil Engineering Ph.D. thesis and Water Resources Technical Report No. 103, Department of Civil Engineering, University of Washington, December 1986.

5. Lund, J.R., *Regional Water Supply Development in South Sweden*, Technical Report No. 3110, Department of Water Resources Engineering, University of Lund, Lund, Sweden, May 1986.

4. Lund, J.R. and R.N. Palmer, *System Cooperation in Regional Water Supply Planning*, Water Resources Series Technical Report No. 95, Department of Civil Engineering, University of Washington, July 1985.

3. Mar, B.W., D.P. Lettenmaier, R.R. Horner, J.S. Richey, R.N. Palmer, S.P. Millard, M.C. MacKenzie, S. Vega-Gonzalez, and J.R. Lund, *Sampling Design for Aquatic Ecological Monitoring*, EA-4302, Volumes 1-5, Electric Power Research Institute, Palo Alto, CA, 1985

2. Lettenmaier, D.P., R.N. Palmer, K.M. Leytham, J.R. Lund, and S.J. Burges, *Strategies for Coping with Drought, Phase II*, Project Report for the Electric Power Research Institute, December 1984.

1. Lund, J.R., *Living Aboard as an Element of an Urban Landscape*, M.A. thesis, Department of Geography, University of Washington, Seattle, August 1983.

Classes Taught

Undergraduate Classes
Deterministic Optimization and Design
Water Resources Simulation
Water Resources Engineering Planning
Hydraulic Engineering
Hydraulic Engineering Laboratory
Engineering Hydrology
Coastal Engineering
Civil Engineering Planning
Freshmen Honors Seminar – Privatization
Freshmen Seminar – Great Engineers and Engineering

Graduate Classes
Water Resources Management
Water Resources Systems Engineering
Probabilistic Design and Optimization
Infrastructure Economics
Advanced Water Resources Management
Water Resources Planning Laboratory
Integrated Solid Waste Management
Water System Economics (Valencia Polytechnic University, Spain)
Strategic Planning for Water Demand Management (Jordan University of Science & Technology)

Graduate Students Completed (21 PhD and 69 Masters, 11 faculty at research universities)

2012
Canada, Holly, MS, "Risk analysis of point of use treatment for nitrates in drinking water," California Department of Water Resources, Sacramento, CA.

2011

Patrick Ji, PhD, “Reservoir Re-operation, Risk, and Levee Failure Analysis: Mokelumne River Case,” Alameda County Flood and Water Conservation District, California.

David E. Rheinheimer, PhD, “Modeling Multi-Reservoir Hydropower Systems in the Sierra Nevada with Environmental Requirements and Climate Warming,” post-doctoral scholar, Wuhan University, China.

Eleanor Bartolomeo, MS, “Economic Responses to Water Scarcity in Southern California,” engineer, State Water Resources Control Board, Sacramento, CA.

William Sicke, MS, “Economic Adaptation of San Francisco Bay Area Water Supplies to Climate Change,” engineer, David Ford and Associates, Sacramento, CA.

Scott Ligare, MS, “Changes to Whitewater Recreation in California’s Sierra Nevada from Regional Climate Warming,” engineer, State Water Resources Control Board, Sacramento, CA.

Sachi De Souza, MS, “Evaluating Water Recycling in California,” engineer, Australia.

Kevin Fung, MS, “Assessment of Channel Routing for WRIMS CalLite Application: North of the Sacramento Delta,” engineer, California Department of Water Resources, Sacramento, CA.

Katherine M. Maher, MS, "Potential Use of Real-time Information for Flood Operation Rules for Folsom Reservoir," engineer, Sacramento, CA

Kristin L. Honeycutt, MS, “Alternative Water Supply Options for Nitrate Contamination in California’s Tulare and Salinas Groundwater Basins,” engineer, California Department of Water Resources, Sacramento, CA.

Nathan R. Burley, MS, “Reducing Flood Storage Space at Reservoirs: A Benefit Cost Analysis for the Mokelumne River System, California,” PhD student in Civil and Environmental Engineering, University of California – Davis.

Ryan J. Cahill, MS, “Household Water Use and Conservation Models using Monte Carlo Techniques for the East Bay Municipal Utility District,” engineer, US Army Corps of Engineers, Portland, OR.

2010

Matthew Bates, MS, “Energy Use in California Wholesale Water Operations: Development and Application of a General Energy Post-Processor for California Water Management Models,” engineer, US Army Engineer Research and Development Center, Risk and Decision Science Focus Area, Concord, MA.

Natalie (Ergish) King, MS, "Flood Frequency Analysis for Regulated Watersheds," engineer, David Ford and Associates, Sacramento, CA.

Daphne Korthamar, MS, “Evaluating Cargill Saltworks Water Supply Alternatives in Redwood City, CA,” engineer, URS Corporation, San Francisco, CA.

2009

Kaveh Madani, PhD, "Climate Change Effects on High-Elevation Hydropower System in California," Assistant Professor, Department of Civil, Environmental, and Construction Engineering, University of Central Florida, Orlando, FL.

Christina Connell, MS Hydrologic Science, “Bring the Heat, but Hope for Rain – Adapting to Climate Warming in California,” PhD student, Hydrologic Science, University of California, Davis.

Cherry Zamora, MA Geography, “Estimating the Benefits of Forest Conservation on Pollutant Loading and Water Quality at the Late Tahoe Basin using GIS,” environmental scientist, Sacramento, CA.

Angela M. Carmi-Duren, MS Hydrologic Science, “A Characterization of the Non-Analytical Solution of the Downstream Control Operating Rule in HECResSim,” hydrologist, US Army Corps of Engineers, Sacramento, CA.

Woodrow Fields, MS, “Reservoir Operations for Improving Establishment of Riparian Vegetation,” engineer, US Army Corps of Engineers Hydrologic Engineering Center, Davis, CA.

2008

David E. Rosenberg, PhD, "Integrated Water Management and Modeling at Multiple Spatial Scales," Assistant Professor, Department of Civil and Environmental Engineering, Utah State University, Logan, UT.

Marcelo A. Olivares, PhD, “Optimal Hydropower Reservoir Operation with Environmental Requirements,” Assistant Professor, Department of Civil Engineering, University of Chile, Santiago, Chile.

Sarah Null, PhD Geography, “Improving Managed Environmental Water Use Efficiency: Shasta River Flow and Temperature Modeling,” Assistant Professor of Watershed Sciences, Utah State University, Logan, UT.

Dana Progar (Woodall), MS/MBA, “Integrating Dutch Flood Policy Innovations into California Flood Policy,” officer, US Coast Guard, Seattle, WA.

Rhodora Biagtan, MS/MBA, “Economic Evaluation for Water Recycling In Urban Areas of California,” Senior Engineer, Dublin-San Ramon Services District, CA.

Rachael Hersh-Burdick, MS, “Effects of Groundwater Management Strategies on the Greater Sacramento Area Water Supply,” engineer, US Army Corps of Engineers, Sacramento.

Ann Fissekis (Willis), MS, “Climate Change Effects on the Sacramento Basin’s Flood Control Projects,” engineer, Watercourse Engineering, Davis, CA.

2007

Stacy K. Tanaka, PhD, “Modeling to Improve Environmental System Management: Klamath River Thermal Refugia and the Sacramento-San Joaquin Delta,” senior engineer, Watercourse Engineering, Davis, CA.

Ines C.L. Ferreira, PhD, “Deriving Unit Cost Coefficients for Linear Programming-Driven Priority-Based Simulation,” Senior engineer, California Department of Water Resources, Sacramento, CA.

Julien J. Harou, PhD, “Representing Groundwater in Hydro-economic Models,” Lecturer, Environment Institute and Department of Civil, Environmental and Geomatic Engineering, University College London, UK.

Randi C. Field, MS, “Multi-Objective Optimization of Folsom Reservoir Operation,” engineer, Central Valley Project Operations, US Bureau of Reclamation, Sacramento, CA.

Tomohide Tsukasaki, MS, “Energy and Cost Analysis of Rainwater Storage Tanks in Tokorozawa City, Saitama Prefecture, Japan,” engineer, Japan.

2006

Josué Medellin-Azuara, PhD Ecology, “Economic-Engineering Analysis of Water Management for Restoring the Colorado River Delta,” Assistant Project Scientist (professional researcher), UC Davis.

2005

Matthew J. Brown, MS, “Priority Based Reservoir Optimization using Linear Programming: Application to Flood Operation of the Iowa/Des Moines River System,” engineer, SAIC, Denver, CO.

Sarah (Hollinshead) Sigman, MS, "Optimization of Environmental Water Account Purchases with Uncertainty," environmental lawyer, San Francisco, CA.

Lee Bergfeld, MS, “Conjunctive Use of Ground and Surface Waters for the Stony Creek Fan, California,” engineer, MBK Engineering, Sacramento, CA.

2004

Guilherme Marques, PhD, “Economic Representation of Agricultural Activities in Water Resources Systems Engineering,” Professor, Civil Engineering, Federal Center for Technology Education CEFET– Minas Gerais, Brazil.

Shumin Liang, PhD Geography, “Modeling Urban Growth in California’s Central Valley: A Neoclassic Economic Approach,” Professor, Institute of Agricultural Economics and Development, Chinese Academy of Agricultural Sciences, Beijing, China.

Tingju Zhu, PhD, “Climate Change and Water Resource Management: Adaptations for Flood Control and Water Supply,” Senior Scientist, International Food Policy Research Institute, Washington, D.C.

Matthew D. Davis, MS, “Comparative Environmental Risk Assessment of the Operation of Auckland City's Drainage System,” engineer, Auckland, NZ.

Jeff Malinowski, MA Geography, “Water Supply and Prospects for Baja California,” Sacramento Fire Department, Sacramento, CA.

2003

Sarah E. Null, MA Geography, “Re-Assembling Hetch Hetchy: Water Supply Implications of Removing O'Shaughnessy Dam,” Assistant Professor of Watershed Sciences, Utah State University, Logan, UT.

Javier Paredes, MS, “Spill-Minimizing Rules for Parallel Reservoirs: Quantity and Quality,” Assistant Professor, Department of Hydraulics and Environmental Engineering, Universidad Politecnica de Valencia, Spain.

David E. Rosenberg, MS-International Agricultural Development, "Derived Operating Rules for Storage and Recovery in Multiple, Unconnected Aquifers," and MS-Civil and Environmental Engineering "Simulation of Cooperative Water Supply and Flood Operations for Two Parallel Reservoirs on the Feather and Yuba Rivers, California," Assistant Professor, Department of Civil and Environmental Engineering, Utah State University, Logan, UT.

2002

Manuel Pulido Velazquez, MS, "Conjunctive Use Opportunities in Southern California," Associate Professor, Department of Hydraulics and Environmental Engineering, Universidad Politecnica de Valencia, Spain.

Roberto Garcia Alcubilla, MS, “Derived Willingness-to-Pay for Water: Effects of Probabilistic Rationing and Price,” engineer, Paris, France.

Randall S. Ritzema, MS, "Water Management Strategies for the San Joaquin Valley and San Francisco Bay Area: an Engineering-Economic Optimization Study," PhD Candidate, Department of Agricultural and Biological Systems, University of California, Davis.

2001

Andrew J. Draper, PhD, “Implicit Stochastic Optimization with Limited Foresight for Reservoir Systems,” Senior engineer, Montgomery-Watson-Harza, San Francisco, CA.

Stacy Tanaka, MS, “Effects of Increased Delta Exports on Sacramento Valley's Economy and Water Management,” Senior engineer, Watercourse Engineering, Davis, CA.

Pia Grimes, MS, “Urbanization and Water Supply in the San Joaquin Valley,” deceased.

Mary J. Briant (Jimenez), MS, “HEC-FDA Sensitivity and Uncertainty Analysis,” Senior Engineer, Montgomery-Watson-Harza, Folsom, CA.

Mark R. Leu, MS, “Economics-Driven Simulation of the Friant Division of the Central Valley Project, California,” engineer, CH2M-Hill, Sacramento, CA.

Lisa A Maddaus, MS, “Effects of Metering on Residential Water Demand for Davis, California,” engineer, Brown and Caldwell, Sacramento, CA.

Karen Sayer, MS, "Hydraulic and Hydrologic Analysis for Planning and Development of Ecosystem Restoration Projects," project engineer, USAID, Kenya.

2000

Orit Kalman, PhD, "Stormwater Quality Management: Evaluation, Optimization, and Maintenance," independent consultant, Davis, CA.

Kenneth W. Kirby, PhD, "Modeling and Policy in Water Resources Management," independent consultant, Davis, CA.

Bradley D. Newlin, MS, "Southern California Water Markets: Potential and Limitations," engineer, URS Corporation, PA.

Brian Van Lienden, MS, "Spatial Complexity and Reservoir Optimization Results," engineer, CH2M-Hill, Sacramento, CA.

Allison Dvorak, MS Hydrologic Science, "Central Valley Groundwater Bank Operations: Hydrology, Groundwater Operating Rule, and System Operating Rule Effects on Yield," hydrologist, State Water Project Contractors, Sacramento, CA.

1999

Dustin Jones, MS, "Modeling Flood Control in the Sacramento Valley using Linear Programming," engineer, California Department of Water Resources, Sacramento, CA.

Cameron Ackerman, MS, "Linking Geographic Information Systems (GIS) with Hydraulic Modeling using ARC/INFO and HEC-RAS," engineer, Hydrologic Engineering Center, US Army Corps of Engineers, Davis, CA.

1998

Marion W. Jenkins, PhD, "Sanitation Promotion in Developing Countries: Why the Latrines of Benin are so Few and Far Between," Lecturer, London School of Hygiene and Tropical Medicine and Associate Research Engineer (professional researcher), Department of Civil and Environmental Engineering, University of California, Davis.

Catherine Crossett Avila, MS, "Managing Impacts of Gravel Mining on Bridges in California," engineer, Avila and Associates Consulting Engineers, Inc., Walnut Creek, CA.

Brian K. Currier, MS, "Evaluation of Stormwater Management Practices for Mountain Highway Applications," engineer, Sacramento State University Stormwater Project, Sacramento, CA.

Jason Needham, MS, "Linear Programming for Flood Control on the Iowa and Des Moines Rivers," engineer, U.S. Army Corps of Engineers Hydrologic Engineering Center, Davis, CA.

1996

Morris S. Israel, PhD, "Modeling Water Resources Management Institutions: An Application to the Truckee-Carson River System", US Agency for International Development, La Paz, Bolivia.

Anthony P. Pulokas, MS, "Analyzing Risk in a Reservoir System with Applications to Riparian Vegetation and Maintenance Drawdowns," engineer, Hydrologics, Inc., Portland, OR.

Nicole Murk, MS, "Application of HEC-PRM for Seasonal Reservoir Operation of the Columbia River System," engineer, HDR, Phoenix, AZ.

1995

Robert P. Anex, PhD, "Systems and Economic Analysis of Municipal Solid and Hazardous Waste Management," Professor, Department of Biological Systems Engineering, University of Wisconsin, Madison.

Michael E. Lindquist, MS, "Estimating Expected Annual Damage Based on Uncertain Estimators of the Contributing Random Variables," facilities engineer, University of California, Davis, CA.

Orit Wilchfort (Kalman), MS, "A Shortage Management Model for Urban Water Supply Systems," independent consultant, Davis, CA.

1994

Paul Hutton, PhD, "A Mathematical Framework for Predicting THM Formation Potential and Simulated Distribution System Concentrations in Drinking Water Sources," Senior Engineer, Water Resource Management Group, Metropolitan Water District of Southern California, Sacramento, CA.

Mark R. Jensen, MS, "WATSUP: A Simulation Model for Water Supply Costs and Reliability," hydraulic engineer, U.S. Army Corps of Engineers Hydrologic Engineering Center, Davis, CA.

Kenneth W. Kirby, MS, "Resolving Conflict over Reservoir Operation: A Role for Optimization and Simulation Modeling," independent consultant, Davis, CA.

Jeffrey A. Kuypers, MS, "Compost Modeling for Municipal Waste Management," engineer, Phase Three Environmental Management, El Dorado Hills, CA.

Kathy Petersen, MS Hydrologic Science, "An Evaluation of Sedimentation Mitigation at Hydropower Reservoirs," hydropower supervisor, South Feather Water & Power, Oroville, CA.

1993

Michael L. Anderson, MS, "Stormwater Runoff from the City of Davis as a Water Source for the Proposed Davis Wetland," consulting engineer, Sacramento, CA.

Inês C.L. Ferreira, MS, "Development and Testing of Detailed Operating Rules for the Missouri River System from Deterministic Optimization Results," Senior engineer, California Department of Water Resources, Sacramento, CA.

Stephen McGoff, MS, "Risk-Based Analysis for Levee Design," engineer, State of Nevada, Carson City, NV.

Troy Nicolini, MS, "Flood-Runoff Analysis for a Basin with some Streamflow Gages: A Parameter Detective Story," hydrologic engineer, National Weather Service, Arcata, CA.

Laszlo Saska, MS, "MRFSIM: A Spreadsheet Program for Simulation of Material Recovery Facilities," environmental engineer, Department of Health Services, Sacramento, CA.

1992

Doreen Brown Salazar, MS, "Water, Sanitation, and Disease Transmission," consulting engineer, Washington, DC.

Jean Takeuchi, MS, "An Introduction to Low-Flow Hydrology," engineer, San Jose, CA.

1991

James D. Englehardt, PhD, "Economic and Risk Analysis of Industrial Hazardous Waste Reduction," Professor of Civil and Architectural Engineering, University of Miami, Coral Gables, Florida.

Marion W. Jenkins, MS, "Yolo County, California's Water Supply System: Conjunctive Use without Management," Associate Research Engineer (professional researcher), Dept. of Civil and Environmental Engineering, University of California, Davis.

1990

James O. Anderson, MS, "Climate Change Impacts on Snowmelt Runoff," environmental engineer, UNOCAL, Arroyo Grande, CA.

Robert U. Reed, MS, "Transferable Allocations in Urban Water Management: Short and Long Term," Principal, The Reed Group, Sacramento, CA.

Maureen E. Sergent, MS, "Water Transfers: The Potential for Managing California's Limited Water Resources," engineer, California Department of Water Resources, Sacramento, CA.

1989

Elizabeth S. Andrews, MS, "Simulation of Kern County, California's Conveyance System, Including Groundwater Recharge," Program Manager, ESA-PWA, San Francisco, CA.

Christopher S. Enright, MS, "Alternative Water District Organization and Efficient Water Allocation: Water Pricing and Water Transfer Policies," Senior Engineer, Delta Science Program, Delta Stewardship Council, Sacramento, CA.

Consulting Clients

US District Court, Eastern District of California, Fresno, CA
World Bank, Washington, DC
Hydrologic Engineering Center, U.S. Army Corps of Engineers, Davis, CA
Institute for Water Resources, U.S. Army Corps of Engineers, Washington, DC
US Army Corps of Engineers, Baltimore District
National Risk Management Research Lab., U.S. Environmental Protection Agency
California Department of Water Resources, Sacramento, CA
CALFED Science Program, Sacramento, CA
Texas Higher Education Coordinating Board, Austin, TX
Academy for Educational Development, Washington, DC
Planning and Management Consultants, Inc., Carbondale, Illinois
Western Consortium for Public Health, Berkeley, California
El Dorado Irrigation District, California

Languages

English (native), French (workable), some Swedish, very little Russian

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Major Leadership, Management, and Policy Experience

Academic (UC Davis)

Director, Center for Watershed Sciences, University of California, Davis 2009 - present, Associate Director 2007 – 2008, Co-Director 2008-2009
Chair, Committee to establish a Master of Science program in Environmental Policy and Management, 2004 – 2010
Vice-Chair and Graduate Advisor, Department of Civil and Environmental Engineering, 2002-2004
Campus General Education Committee (Chair, Co-Chair, or Task Force Member), with accompanying membership on campus Undergraduate Council and campus Committee on Computing, 2002-2008
Committee Member, Campus Environment Initiative, actively helped revise and extend the campus Environment Initiative, 2000
Lead Coordinator, Review of Ecosystem Restoration Proposals for CALFED Bay-Delta Program, organized review of 140 full proposals over three months with about 300 reviewers and 50 panelists. About 75 proposals were allocated $104 million, 2000.
Member, Network 21 Policy and Oversight Committee, committee oversaw rehabilitation and expansion of the campus' computer network infrastructure, a $23 million project, 1994-1999
Chair, Sub-Committee on Finance of Operations and Maintenance for the Campus Network Infrastructure, developed multi-million dollar funding method for campus computer networks, 1996-97
Chair, Sub-Committee on Network Electronics, oversaw evaluation, recommendation, and presentation of major backbone electronics investments for the new campus network, 1997
Chair, Sub-Committee on Network Operations, developed first campus policies on network security, 1998
Graduate Advisor, Geography Graduate Group, helped rehabilitate the curriculum and graduate program for graduate geography after dissolution of the geography department, 1995-1998
Vice-Chair, Department of Civil and Environmental Engineering, 1995-96

Research

Research advisor for about 12-17 graduate students annually since 1996

Lead organizer of a group of 7 core multi-disciplinary faculty and researchers and many students on California's Sacramento-San Joaquin Delta, over, 2006 – present, $2,000,000+ budget.

Lead developer for large-scale optimization model of California's water supply system, with co-PI Richard Howitt, 30+ students, 2 post-docs, and $1,000,000+ budget, 1998 - present

Leader of large six-investigator multi-disciplinary proposal to Caltrans for integrated environmental remediation analysis for Lake Tahoe basin stormwater quality, $200,000 Caltrans budget for proposal and background, $2.4 million proposal, 1998

Professional

Co-Chair, Delta Science Conference, Sacramento, CA, over 900 attendees, 2010

Expert Testimony for various California State Assembly and State Senate committees on various water issues related to climate change, California water infrastructure, Hetch Hetchy, and the Sacramento-San Joaquin Delta, 2003 - present

Advisory Committee, *California Water Plan Update*, 1995 – 1998 and 2001 – 2006

Co-Chair, Committee on Long-term Analytical Tool and Data Development, California Water and Environmental Modeling Forum, results published as part of the *California Water Plan Update* 2005

Chair of CALFED Science peer-review panel for CalSim II model of San Joaquin Valley, 2005

Organizer and Member of CALFED Science peer-review panel for CalSim II model of CVP and SWP system, 2003

Special Technical Witness to US District Court Judge in Fresno, case concerned implementation of the federal Central Valley Improvement Act involving 800,000 acre ft./year of water; appointed by the court based on consensus of all parties, interviewed technical experts from all parties, and provided a technical report, extensive deposition, and testimony which became a major foundation for the judge's ruling, 2000

Editor-in-Chief, *Journal of Water Resources Planning and Management*, ASCE, a bi-monthly journal with about eight active associate editors reviewing about 100 papers/year, 1997-2000

Associate Editor, *Water Resources Research*, AGU, 1990 - 1997

Past-Convener, Convener, Vice Convener, Bay-Delta Modeling Forum, a consensus-based professional organization with about 110 individual and 35 organizational members concerned with reducing technical conflict for California's water problems, expanded activities and hired senior professional staff as Convener, 1995 – 1999

College Sports

Commodore, University of Washington Yacht Club, 250 members, 6 part-time staff, 50 boats, complete shop, and $40,000/year budget, 1982-83

Vice Commodore, University of Washington Yacht Club, 12 volunteer instructors, 1981-82

Governing Board Member, University of Delaware Sailing Association, 80 members, 1978-79

Vice Commodore, University of Delaware Sailing Association, 1977-78