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Western Water Law, Policy and Management:
Ripples, Currents, and New Channels for Inquiry
(Martz Summer Conference, June 3-5)

2009

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AGENDA: Western Water Law, Policy and Management: Ripples, Currents, and New Channels for Inquiry

University of Colorado Boulder. Natural Resources Law Center

Western Water Policy Program

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University of Colorado Law School

30th Annual Summer Conference

THE MARTZ CONFERENCE ON NATURAL RESOURCES LAW AND POLICY

[see last page for details]

Western Water Law, Policy and Management:

Ripples, Currents, and New Channels for Inquiry

JUNE 3-5, 2009



UNIVERSITY OF COLORADO LAW SCHOOL
Wolf Law Building — Wittemyer Courtroom
Boulder, Colorado

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Note: Alcohol will be served as part of the Wednesday night reception and is part of the registration fee.

WESTERN WATER LAW, POLICY AND MANAGEMENT: Ripples, Currents, and New Channels for Inquiry

June 3-5, 2009

Natural Resources Law Center, Western Water Policy Program
University of Colorado Law School
Wolf Law Building, Wittemyer Courtroom
Boulder, Colorado

In many pockets of the American West, stresses and demands on water resources are overwhelming our capacity to effectively manage change and accommodate the diversity of interests and values associated with our limited water resources. This event will offer an opportunity for lawyers, policymakers, and water professionals to engage the experts on the challenges and emerging solutions to the most pressing water policy and management issues of the day.

CLE Credits: 18

Wednesday, June 3

- 8:30 – 9:00: **Opening remarks.** **Mark Squillace** (Natural Resources Law Center, Univ of Colorado Law)
Dedication of the annual conference: Tribute to Clyde Martz. **David Getches** (Dean, University of Colorado Law School) and **Howard Boigon** (Hogan and Hartson – Denver)
- 9:00 – 10:00: **Keynote: America's Water Crisis and What To Do About It.**
Robert Glennon (Morris K. Udall Professor of Law and Public Policy, University of Arizona Rogers College of Law)
- 10:00 – 10:30: **MORNING BREAK**

Session 1: Trends & Challenges

- Moderator:** **Jim Corbridge** (University of Colorado Law School Emeritus Faculty)
- 10:30 – 11:15: **Development: Urban Growth & Agricultural Resilience.** **Bill Travis** (CIRES, Univ. of Colorado Dept of Geography; Center for Science & Technology Policy Research)
- 11:15 – 12:00: **Climate Change, the Death of Stationarity, and a New Era for Western Water.**
Steve Gray (Wyoming State Climatologist – Laramie)
- 12:00 – 1:15: **LUNCH** — BBQ provided by the Environmental Law Society)
- 1:15 – 2:00: **Groundwater Declines, Climate Change, and Approaches to Adaptation.**
Kathy Jacobs (Arizona Water Institute, University of Arizona)
- 2:00 – 2:45: **Energy: Is the Energy Boom a Water Bane?** **Bob Wilkinson** (Donald Bren School of Environmental Science & Management, University of California –Santa Barbara)
- 2:45 – 3:15: **BREAK**
- 3:15 – 5:00: **Panel: Environmental Challenges**
Moderator: **Sarah Krakoff** (University of Colorado Law School)
Finding Flows: Fish Still Need Water Every Day.
Melinda Kassen (Trout Unlimited – Boulder, CO: Western Water Project)
Water, Pine Beetles, Fire, and Forest Health. **Rick Cables** (U.S. Forest Service, Rocky Mountain Region)
Oil Shale Water Use — Upsetting the Apple Cart of River Habitat, Irrigation and Existing Water Rights. **Bart Miller** (Western Resource Advocates — Boulder)
Waters at Risk: Clean Water Act Protections Post-Rapanos and the Clean Water Restoration Act.” **Jim Murphy** (Wetlands and Water Resources Counsel, National Wildlife Federation – Vermont)
- 5:00 – 7:00: **RECEPTION** and **POSTER SESSION** in the Law School Café

Note: Alcohol will be served as part of the Wednesday night reception and is part of the registration fee.

Thursday, June 4

Session 2: Charting a Course of Action

- 8:15 – 9:30: *Moderator: Mark Squillace* (Natural Resources Law Center, Univ. of Colorado Law School)
Western Water Issues in the New Administration.
Michael L. Connor (Staff Director of the U.S. Senate Committee on Energy & Natural Resources; Commissioner Designate of Bureau of Reclamation, Washington, DC)
Respondents: Craig Bell (Western States Water Council – Midvale, Utah),
Jennifer Gimbel (Director, Colorado Water Conservation Board – Denver), and
Rebecca Watson (former Assistant Secretary-U.S. Dept of Interior; Hogan & Hartson – Denver)
- 9:30 – 10:00: **Fulfilling Tribal Water Needs: Progress and Opportunities.**
Robert Anderson (Native American Law Center, Univ of Washington Law School)
- 10:00 – 10:30: **BREAK**

Session 3: Opportunities: Hard, Soft and Mixed Pathways

- 10:30 – 12:00: **Panel: Infrastructure, Augmentation, and Great Feats of Engineering**
Moderator: Joe Feller (National Wildlife Federation, Arizona State University)
♦ **California's "New" Peripheral Canal.** *Leo Winternitz* (The Nature Conservancy, California Water Program – Sacramento)
♦ **Colorado's Northern Front Range: NISP/Glade.** *Don Carlson* (Northern Colorado Water Conservancy District)
♦ **Status of the Southern Nevada Water Authority's Third Intake into Lake Mead and Groundwater Project.** *Kay Brothers* (SNWA – Las Vegas)
- 12:00 – 1:30: **LUNCH** — on your own
- 1:30 – 3:00: **Panel: Softer Paths?**
Moderator: Sarah Bates (Public Policy Research Inst., University of Montana)
♦ **Economic Incentives for Demand Reduction:** *Chris Goemans* (Colorado State Univ., Dept of Agriculture & Resource Economics)
♦ **Linking Land and Water: Emerging Innovations.** *Amanda Cronin* (Washington Water Trust – Seattle, WA)
♦ **Thinking About Our Water Footprint.** *Steve Malloch* (Senior Western Water Program Manager, National Wildlife Federation – Seattle, WA)
- 3:00 – 3:30: **BREAK**
- 3:30 – 5:00: **Panel: New Directions in Water Transfers**
Moderator: Doug Kenney (Natural Resources Law Center, CU Law School)
♦ **Conditional Temporary Transfers as a Risk Management Strategy.** *Bonnie Colby* (University of Arizona, Dept. of Agric. & Resource Economics)
♦ **Water Leasing in the Arkansas Valley: The SuperDitch.** *Peter Nichols* (Trout, Raley, Montano, Witwer & Freeman – Denver, CO)
♦ **Markets for Environmental Restoration: The Colorado River Delta.** *Jennifer Pitt* (Environmental Defense Fund – Boulder, CO)
- 5:00 – 7:00: **RECEPTION** at the offices of Western Resource Advocates (*across the street from the Law School*). **All conference attendees invited.**

Friday, June 5

Session 4: Legal Reform

- 8:30 – 9:00: *Moderator: Karin Sheldon* (Western Resource Advocates – Boulder, CO)
Modifying Prior Appropriation: The Spectrum of Experiences.
Adam Schempp (Environmental Law Institute, Washington, DC)
- 9:00 – 9:30: **Groundwater Law & Administration: Recent Developments and Room for Reform.** *Mike Gheleta* (Brownstein Hyatt Farber Schreck – Denver)
- 9:30 – 10:00: **The Missed Opportunity of Public Interest Protections.**
Mark Squillace (Natural Resources Law Center, Univ of Colorado Law School)
- 10:00 – 10:30: **Next Evolutionary Steps in State In-stream Flow Programs.**
Larry MacDonnell (attorney and consultant – Boulder, CO)
- 10:30 – 11:00: **BREAK**

Session 5: Take-Home Lessons

- 11:00 – 12:30: **Grand Concluding Q&A Panel:** *Robert Anderson* (Native American Law Ctr, Univ of Washington Law School); *Justice Greg Hobbs* (Colorado Supreme Court); *Kathy Jacobs* (Arizona Water Institute, University of Arizona), *Ted Kowalski* (Colorado Water Conservation Board); *Larry MacDonnell* (attorney and consultant); and *Kimery Wiltshire* (President and CEO of Exloco)
- 12:30: **Conference adjourns**

To Register on-line:

https://www.regonline.com/63368_696429J

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nrlc@colorado.edu
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The Martz Annual Conference on Natural Resources Law and Policy

The Natural Resources Law Center (NRLC) is pleased to announce that its annual summer conference has been named to honor **Clyde Martz** – a teacher, lawyer, scholar, public servant, and friend who inspired generations of students and young lawyers to study natural resources, mining, oil and gas, and water law. Clyde was author of the very first textbook on natural resources law, *CASES AND MATERIALS ON THE LAW OF NATURAL RESOURCES*, published in 1951, and he was instrumental in founding the Center in 1982. Clyde spent much of his career as a lawyer at the Denver law firm of Davis, Graham, and Stubbs, but he took time off from practice to serve as Assistant Attorney General for Land & Natural Resources at the U.S. Department of Justice (during the Lyndon Johnson administration) and as Solicitor at the U.S Department of the Interior (during the Jimmy Carter administration)..

The NRLC's annual summer conference hosts outstanding faculty, scholars, public officials, and students who gather to discuss the complex and fascinating issues that dominate the field of natural resources law and policy. The NRLC will administer the summer program in a way that honors Clyde's singular contributions to the profession.





2009 Summer Conference

Western Water Law Policy & Management: Ripples, Currents & New Channels for Inquiry

Speaker, Moderator and Panelist Biographies

ANDERSON, ROBERT T. — is an Associate Professor at the University of Washington School of Law where he teaches federal Indian law, property law, water law and public land law. He also serves at the Director of the Law School's Native American Law Center. For twelve years he was a Senior Staff Attorney for the Native American Rights Fund. From 1995 – 2001 he served as an appointee of Interior Secretary Bruce Babbitt first as Associate Solicitor for Indian Affairs and then as Counselor to the Secretary. He provided legal and policy advice on a wide variety of issues, with special emphasis on Indian law, water rights, public land issues, and Alaska matters. He is on the Executive Board of Editors and is co-author of *Cohen's Handbook of Federal Indian Law* (2005 and 2007 supp.) He is also the co-author of Anderson, Berger, Frickey and Krakoff, *American Indian Law: Cases and Commentary* (ThomsonWest 2008). Bob served as the co-lead for the Barack Obama Transition Team for the Department of the Interior in 2009-09. He is a 1983 graduate of the University of Minnesota Law School and a member of the Bois Forte Band of the Minnesota Chippewa Tribe.

BATES, SARAH — has written and spoken extensively on western water law and policy over the past two decades through university research appointments, conservation advocacy positions, and consulting work. She currently serves as Senior Fellow with the Center for Natural Resources & Environmental Policy at the University of Montana (www.umtpri.org), and is affiliated with The Clark Group consulting firm. Sarah is a graduate of the University of Colorado Law School (1988), where she subsequently returned to serve as the associate director of the Natural Resources Law Center from 1991-93. Sarah serves as the vice president of the board of directors of the Montana-based Clark Fork Coalition and is a member of the advisory board of the Ruckelshaus Institute of Environment and Natural Resources at the University of Wyoming.

BELL, D. CRAIG — joined the Western States Water Council in 1974 as Assistant Director, and has been involved in many activities concerning federal/state relations in water law. He has written several briefs which have been endorsed and filed by many of the western states before the United States Supreme Court in water rights litigation. On November 1, 1980, Craig was appointed as Executive Director of the Council where he supervises the staff work of analyzing and evaluating developments in a broad range of water policy issues affecting the eighteen states affiliated with the Council, and responding to those developments as directed by the Council's representatives. Craig graduated with honors from the University of Utah Law School in 1973, where he served as a member of the Board of Editors of the Utah Law Review. He has written numerous articles published in law review journals and other periodicals.

BROTHERS, KAY — serves as Deputy General Manager of Engineering and Operations for the Southern Nevada Water Authority (SNWA). The SNWA is responsible for acquiring, treating and delivering water to local agencies that collectively serve 1.8 million residents and nearly 40 million annual visitors. She oversees the Authority’s Engineering and Resources departments, as well as the Southern Nevada Water System, the community’s primary drinking-water treatment and transmission network. Prior to her appointment as deputy general manager in 2002, Brothers was the Authority’s director of Resources.

Brothers has been with the organization since 1986, beginning her tenure as a hydrologist. Previously, she worked in the petroleum and mining industries overseeing environmental compliance programs and designing groundwater mitigation facilities. Brothers earned a degree in environmental engineering from the New Mexico Institute of Technology.

Among her many professional achievements, Brothers helped develop the country’s largest injection-based groundwater recharge program. Through this innovative program, the Authority has created water reserves totaling approximately 100 billion gallons beneath the Las Vegas Valley. She serves on the board of directors for the Water For the West Foundation. She is also a member of the Colorado River Basin Salinity Control Forum and serves on the advisory board of the UNLV College of Sciences. When not attending to the needs of her three bassett hounds, she enjoys golf, hiking and reading.

CABLES, RICK — became Regional Forester of the Rocky Mountain Region in January 2001. As Regional Forester he is responsible for the administration of over 22 millions acres in 17 National Forests and 7 National Grasslands, and cooperative efforts with state and private landowners in Colorado, Kansas, Nebraska, South Dakota and eastern Wyoming.

Cables was born in Pueblo, Colorado, graduated from Northern Arizona University Forestry School in 1976, and began his forestry career on the Kaibab National Forest in Northern Arizona. After serving on several National Forests in New Mexico and Arizona, he became District Ranger on the Apache–Sitgreaves National Forest. He then served two years in the Washington Office before he was selected to attend the U.S. Army War College in Carlisle, Pennsylvania in 1989-1990. In 1990, Cables was promoted to Forest Supervisor of the White Mountain National Forest in New Hampshire and Maine. In 1995, he became the Forest Supervisor of the Pike and San Isabel National Forests and Comanche and Cimarron National Grasslands in Colorado and Kansas. Before becoming Regional Forester of the Rocky Mountain Region, Cables was Regional Forester of the Alaska Region, covering the Tongass and Chugach National Forests.

CARLSON, DON — serves as Assistant General Manager for the Northern Colorado Water Conservancy District with primary responsibility for district and project operations. He is also involved with both the Windy Gap Firing Project and Northern Integrated Supply Project studies and National Environmental Policy Act (NEPA) processes. His professional experience has included local government water utilities management, state government water quality protection, and consulting water resource, water quality, and environmental engineering. He has a B.S. in Agricultural Engineering and an M.S. in Environmental Engineering, both from Colorado State University. Don is a life-long resident of northern Colorado, having grown up on a family farm in Weld County.

COLBY, BONNIE — is a professor at the University of Arizona, where she has been a faculty member since 1983 in the Departments of Resource Economics, Geography, and Hydrology and Water Resources. Her expertise is resolving disputes over the environment and conflicting uses of natural resources, drought and climate change adaptation, water management, water markets and transactions and water policy.

Dr. Colby has authored over one hundred journal articles and seven books, including *Water Markets in Theory and Practice*; *Arizona Water Policy: Management Innovations in an Urbanizing, Arid Region*; *Braving the Waters: Resolving Dispute Over the Rivers of the American West* and *Negotiating Tribal Water Rights*. She has provided invited testimony on these matters to Native American tribal councils, state legislatures, courts and the U.S. Congress.

Professor Colby has taught at Harvard's Kennedy School of Government, in continuing education programs for U.S. judges and court-appointed water masters and in an intensive leadership training program for conservation advocates from over 30 countries. Over the past 20 years, she has developed dozens of water and habitat acquisition programs and climate change adaptation plans for cities, states, tribes, private firms and non-profit advocacy groups.

CORBRIDGE, JIM — graduated from Brown University with a degree in English literature. After service in the U.S. Navy, he received his law degree from Yale and practiced law in New York City. In 1965 he joined the faculty at the University of Colorado Law School, where he taught for the following 35 years, specializing in natural resources and water law. From 1986 to 1994, he was the Chancellor of the Boulder Campus.

Jim is the co-author, with Dan Tarlock, David Getches, and Reed Benson, of *Water Resources Management*, 6th ed. (2009). He edited, with Teresa Rice, Vranesh's *Colorado Water Law*, revised edition (1999), and has published widely in the water law field.

He is now retired and living in northeastern Oklahoma, where he serves on the board of a foundation promoting water quality in the Grand Lake Watershed, which encompasses 12 million acres in four states. Jim is also president of Lendonwood Gardens, a regional botanical garden.

CRONIN, AMANDA — is Project Manager for Washington Water Trust, which she joined in 2006. Her work focuses on instream flow restoration via water right acquisition, creative water management and waterbanking in eastern and western Washington basins. Prior to the Water Trust, Amanda was the Watershed Program Coordinator for the Moscow, Idaho-based Palouse-Clearwater Environmental Institute, where she managed riparian, floodplain, and wetland stream restoration projects with an emphasis on community involvement.

Amanda holds a B.A. in Biology and Environmental Studies from Whitman College and a M.S. in Environmental Science and Policy from Northern Arizona University. Her Master's research explored the role of tribes in Collaborative Watershed Management in the Desert Southwest and Pacific Northwest United States.

FELLER, JOE — is a Professor of Law at Arizona State University, where he has taught Water Law, Natural Resources Law, Environmental Law, and Property since 1988. Before undertaking the study of law, Professor Feller earned a Ph.D. in physics from the University of California at Berkeley and taught physics at Columbia University. After graduating from Harvard Law School in 1984, Professor Feller served as a law clerk to Judge Joseph Sneed on the U.S. Court of Appeals for the Ninth Circuit and as an attorney for the U.S. Environmental Protection Agency. Since June 2008, Professor Feller has been on leave from Arizona State and serving as Senior

Counsel for the National Wildlife Federation in Boulder, Colorado, and an adjunct professor at the University of Colorado Law School, where he teaches the Natural Resources Litigation Clinic.

Professor Feller's work focuses on public land management and water use in the western United States. He has represented environmental interests in litigation before administrative boards, federal district courts and courts of appeal, and the U.S. Supreme Court. Professor Feller is also an avid runner, hiker, photographer, and cross-country skier, and he served as a coach for the Brazilian national cross-country ski team in 2008.

GETCHES, DAVID — is Dean of the University of Colorado Law School. In his more than two decades at the law school, teaching at Colorado Law before becoming Dean in 2003, Getches has become a national authority on natural resources and Indian law issues. Prior to joining the faculty in 1979, he was the founding Executive Director of the Native American Rights Fund and spent several years in private practice. Professor Getches has had a prolific academic career. He has written casebooks, as well as books intended for a more general audience, and has published numerous articles and book chapters, including some written in Spanish and French. He served as the Executive Director of the Colorado Department of Natural Resources from 1983 to 1987, and was special consultant to the Secretary of the Interior in 1996. His current research focuses on the U.S. Supreme Court's Indian law decision-making, changing patterns of governance in water law, the law of the Colorado River, and indigenous water rights issues in Latin America.

GHELETA, MIKE — is shareholder in Brownstein Hyatt Farber Schreck's Water, Environment and Natural Resources, and Land Use Groups based in Denver. He focuses his practice on water rights, federal reclamation law, public land management, environmental compliance and natural resources litigation. Prior to joining the firm, Mike served for more than 14 years as a trial attorney in the U.S. Department of Justice's Environment and Natural Resources Division, in both Denver and Sacramento. In that capacity, he handled all aspects of natural resources litigation and negotiation in federal and state courts. He has appeared before courts in Alaska, Arizona, California, Colorado, District of Columbia, Florida, Idaho, Nevada, Oregon, Utah, and Washington, as well as a Special Master appointed by the U.S. Supreme Court.

Mike has managed a wide range of natural resources matters on behalf of the U.S. government. He has represented top administration officials, including President Bush and President Clinton, in challenges to the creation of national monuments throughout the West under the Antiquities Act, public land laws and environmental statutes. He has litigated water right and equitable apportionment claims, federal environmental statutes, and the Mexican Water Treaty on the Colorado River in multi-state and international litigation brought by irrigation districts, Native American tribes, environmental groups and Mexican business interests. Mike has served as counsel in an original action before the U.S. Supreme Court and its appointed Special Master brought by Kansas against Nebraska and Colorado over ground and surface water development and compliance with the Republican River Compact. He has overseen resolution of numerous water right claims and disputes under federal and state law involving federal agencies, state agencies and private interests raised in state court general stream adjudications in Colorado, Idaho, Utah, Oregon and California. He has handled compliance of federal reclamation projects with environmental and reclamation laws, including projects located in Colorado, Utah, Nevada, Arizona, California, Oregon, Nebraska and Kansas. He has been involved in challenges to federal public land and water management decisions under NEPA and other environmental compliance

statutes. Mike has also managed affirmative litigation and negotiations concerning protection of water quality and water rights of federal military installations adjacent to developing areas. In addition, he has litigated challenges against the Army Corps of Engineers' implementation of flow regimes for protection of endangered species and flood control in the Florida Everglades.

GIMBEL, JENNIFER — is the Director of the Colorado Water Conservation Board. She is responsible for carrying out the policies and directives of the Board relating to the conservation, development and utilization of the state's water resources, and works closely with the State Engineer, General Assembly, the Executive Director of the Department of Natural Resources, and the Governor on water resource issues for the State of Colorado. She acts as the representative for the state on interstate and intrastate water issues, including issues relating to flood control, water conservation and drought planning, water information, river restoration and environmental aspects of water management. As Director, she is involved with federal and state legislation pertaining to water resources and represents the State of Colorado on commissions and entities such as the Arkansas River Compact Administration, the Upper Colorado River Commission, the Colorado River Basin Salinity Control Forum, the Western States Water Council, and the Missouri Basin States Association.

Jennifer has over 20 years experience as a water attorney, working first for the Wyoming Attorney General and then for the Colorado Attorney General on water, natural resource, and environmental issues. Before accepting the Director position, Jennifer worked for the Department of the Interior and the Bureau of Reclamation on Indian water rights, collaborative efforts on the Middle Rio Grande in New Mexico, and state and federal water rights issues.

GLENNON, ROBERT — is the Morris K. Udall Professor of Law and Public Policy in the Rogers College of Law at the University of Arizona, where he teaches constitutional law, American legal history, and water law. A recipient of two National Science Foundation grants, he serves as Water Policy Advisor to Pima County, Arizona; as a member of American Rivers' Science and Technical Advisory Committee; as a commentator and analyst for various television and radio programs; as an occasional Huffington Post blogger; and as a member of a consulting team that is drafting a water code for Saudi Arabia. Glennon's best-known publication is *Water Follies: Groundwater Pumping and the Fate of America's Fresh Waters* (Island Press, 2002), which received accolades from *Scientific American*, *The Washington Post*, and *The New York Review of Books*. His new book, *Unquenchable: America's Water Crisis and What To Do About It*, has just been published.

Glennon received a J.D. from Boston College Law School and an M.A. and Ph.D. in American History from Brandeis University. He is also a member of the bars of Arizona and Massachusetts.

GOEMANS, CHRIS — is Assistant Professor in the Department of Agriculture and Resources Economics at Colorado State University. His research focuses on the allocation and management of scarce resources, specifically water. Past efforts include studies investigating the impacts associated with water transfers, the relationship between increased climatic variability and the effectiveness of various regional water management schemes, and optimal demand management strategies during periods of drought. More recently his work has dealt with understanding how information affects the decision making of residential water customers, specifically their understanding of their own water use and the rate structures they face. Moving forward he hopes to further investigate how continued population growth and climate change will affect the management of resources such as water.

GRAY, STEPHEN — is the Director of the University of Wyoming’s Water Resources Data System and the Wyoming State Climatologist. Steve’s work explores the interplay between climate variability, climatic change, and natural resource management. Much of his research focuses on drought and climate change impacts in the western United States. His most recent studies include a detailed examination of snow pack variability in the Upper Colorado River Basin, and a review of how changes in ocean circulation patterns can affect precipitation in the West. Steve received the American Water Resources Association’s Henry R. Boggess Award in 2005, and he is a former National Research Council Research Associate with the U.S. Geological Survey. Steve received his Ph.D. from the University of Wyoming in 2003.

HOBBS, JUSTICE GREGORY — received his A.B. in History, graduating Magna Cum Laude, from the University of Notre Dame in 1966. In 1971, he graduated *Order of the Coif* and received his J.D. from the University of California at Berkeley. While at Berkeley he was also Supreme Court Editor, California Law Review.

Justice Hobbs practiced law for 25 years specializing in water, environment, land use, and transportation cases before being appointed to the Colorado Supreme Court on April 18, 1996. He was a former senior partner, Hobbs, Trout & Raley P.C. and a Partner, Davis, Graham & Stubbs. Prior to this, he was a First Assistant Attorney General, Natural Resources Section, State of Colorado; Enforcement Attorney, U.S. Environmental Protection Agency; Law Clerk for Judge William E. Doyle, U.S. Tenth Circuit Court of Appeals. Hobbs taught sixth grade in New York City and served with the Peace Corps in South America.

Justice Hobbs is also Vice-President, Colorado Foundation for Water Education; Co-Convenor, Dividing the Waters (Western Water Judges Project); Former Vice Chair, Colorado Air Quality Commission; Former Member, Regional Air Quality Council, Metropolitan Transportation Development Commission, Governor's Water Roundtable, Governor's Transportation Roundtable, and Wilderness Air Quality Related Values Task Force.

JACOBS, KATHY — is the Executive Director of the Arizona Water Institute, a consortium of the three Arizona universities focused on water-related research, education and technology transfer focused on water supply sustainability. Ms Jacobs is also a professor in the University of Arizona Soil, Water and Environmental Science Department at the UA and an Associate Director of the SAHRA NSF Center. She has more than twenty years of experience as a water manager for the state of Arizona, including 14 years as the director of the Tucson Active Management Area. Her research interests include groundwater management, water policy, connecting science and decision-making, stakeholder engagement, and use of climate change and climate variability information for water management applications. She has worked on climate change related projects since 1997, and wrote the water sector chapter for the US National Assessment of the Impacts of Climate Change. She has served on six National Academy panels, and is currently the chair of the America’s Climate Choices: Adapting to the Impacts of Climate Change panel.

KASSEN, MELINDA — directs Trout Unlimited’s (TU) Western Water Project, whose staff work in the Rocky Mountains and Pacific Northwest to protect, reconnect and restore healthy stream flows primarily through state level advocacy and landowner partnerships. She opened TU’s Water Project with the Colorado office in 1998. Her previous professional experience includes stints: prosecuting domestic violence and other crimes in Los Angeles; representing the Colorado Water

Quality Control Division and Commission, State Engineer and Water Conservation Board with the Colorado Attorney General's Office; handling water— including the Two Forks Dam campaign — and toxics matters at the Environmental Defense Fund; teaching Environmental and Administrative Law at the University of Denver's College of Law; serving as Environmental Counsel to the US House of Representatives Armed Services Committee; and working for ICF Kaiser and Kaiser-Hill on cleaning up and funding federal facilities, primarily the Rocky Flats Plant.

She serves as the Governor's environmental and recreation water user appointee to the Inter-Basin Compact Committee, a legislatively established body whose mission is to foster agreement among Colorado water interests. Previously, she served on the Rocky Flats Citizens Monitoring Council, created by Colorado's Governor and the US Representative for Colorado House District #2. She is a frequent speaker on water and other matters and has published nine articles on water and federal facilities issues.

Raised in Ohio, she received her AB from Dartmouth College *magna cum laude* and her JD from Stanford Law School.

KENNEY, DOUG — is a Senior Research Associate at the Natural Resources Law Center, located within the University of Colorado's School of Law, where he directs the Western Water Policy Program. He has written extensively on several water-related issues, including law and policy reform, river basin and watershed-level planning, the design of institutional arrangements, and alternative strategies for solving complex resource issues. Among his publications are *In Search of Sustainable Water Management: International Lessons for the American West and Beyond* (2005, Edward Elgar Publishing). He is also affiliated with the CU/NOAA Western Water Assessment, exploring the link between climate change/variability and western US water management. Dr. Kenney has served as a consultant to a variety of local, state, multi-state, and federal agencies, including several Interior Department agencies, EPA, the US Forest Service, and special commissions (e.g., the Western Water Policy Review Advisory Commission); the states of Georgia, Alabama and Florida; and national governments and NGOs in Asia, Africa and Latin America. Additionally, he has made presentations in (at least) 17 states, 6 nations, and 4 continents. He has a B.A. in biology from the University of Colorado, a M.S. in Natural Resources Policy and Administration from the University of Michigan, and a Ph.D. in Renewable Natural Resource Studies from the University of Arizona.

KOWALSKI, TED — works for the Water Supply Protection Section of the Colorado Water Conservation Board as a Program Manager. The Colorado Water Conservation Board was established in 1937 to protect and develop Colorado's water resources for the benefit of present and future inhabitants of the State. Ted manages the Platte River Recovery Implementation ESA Program for the State of Colorado and he is a senior negotiator on federal, interstate, and international issues related to the Colorado River. Ted also manages the State of Colorado's Wild and Scenic and Recreational In-Channel Diversion programs. Ted has testified before U.S. Congress and before the Colorado General Assembly. He has also appeared on Rocky Mountain PBS-Colorado State of Mind, presented at dozens of water conferences and seminars, and written articles for the *Denver Water Law Review* and the *Colorado Water Law Benchbook*.

Before working for the Water Supply Protection Section, Ted worked for the Stream and Lake Protection Section protecting Colorado's instream flow water rights. Previously, Ted was employed by the Colorado Office of the Attorney General, as an Assistant Attorney General in the Water Unit where he represented the State Engineer, the Colorado Water Conservation Board, the

Division of Wildlife, and other State agencies. In this regard, Ted appeared before all seven Colorado water courts, the Colorado Supreme Court, the Colorado General Assembly, and various administrative boards and commissions. Ted graduated from the University of Colorado, School of Law, and he obtained his undergraduate degree from Cornell University.

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LAWRENCE J. MACDONNELL — is an attorney and consultant in Boulder, Colorado. His work focuses primarily on water resources and on ways to make natural resource development more environmentally compatible. In August 2009 he will join the full-time faculty at the University of Wyoming College of Law. He was the first director of the Natural Resources Law Center at the University of Colorado Law School, a position he held for 11 years. His publications include books, law review articles, other journal articles, and research reports. He has given over 200 invited presentations. He serves on several boards and committees.

MALLOCH, STEVE — joined the National Wildlife Federation (NWF) in January 2008, as Senior Western Water Program Manager. Steve's responsibility at NWF is creating program that links providing water for fish and wildlife with adapting to climate disruption. Prior to joining NWF, he consulted with foundations and NGO's on water policy and campaigns, served as Executive Director for the Western Water Alliance, and worked as Washington DC counsel for Trout Unlimited's Western Water Project. Before shifting to the non-profit sector, Steve practiced environmental law and litigation in San Francisco with Graham & James, and worked as a hydrogeologist in the Western US. His undergraduate degree in geology and his law degree are from the University of California at Davis, and his Master's in water resources is from the University of Arizona.

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Mr. Miller has written and spoken on many environmental topics, including of water development, federal reserved water rights, the Endangered Species Act, and the interface between water and energy use. Prior to joining WRA in 2000, he spent 4 ½ years as an attorney-advisor in the Solicitors Office in Washington, DC, on the legal staff that advises the many agencies within the United States Department of the Interior.

Mr. Miller graduated *cum laude* from Dartmouth College in 1988 and received his J.D. from the University of Colorado Law School in 1995. He is admitted to the bar in Colorado.

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Nichols is a member of the Colorado Bar and the U.S. Supreme Court, the First, Second, Tenth and Eleventh Circuit Courts of Appeal, and the U.S. District Court for Colorado. Nichols earned a JD from the University of Colorado Law School; he also holds an MPA from CU and a BA from The Colorado College. Prior to practicing law, Peter was an international mountain guide.

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Geographies of the American West, released in 2007, examines the driving forces and patterns of land use and development in the American West. His current projects examine social response to extreme climate change, natural hazards, ecological disturbance. His web page is at: <http://spot.colorado.edu/~wtravis/>.

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Dr. Wilkinson advises businesses, government agencies, and non-governmental organizations on water policy, climate research, and environmental policy issues. He serves on the Task Force on Water and Energy Technology for the California Climate Action Team and as an advisor to state agencies including the California Energy Commission, the California State Water Resources Control Board, the Department of Water Resources, and others on water, energy, and climate issues. He served on the advisory committee for California's 2005 State Water Plan, and he represented the University of California on the Governor's Task Force on Desalination. Dr. Wilkinson advises various federal agencies including the, US DOE National Renewable Energy Laboratory and the US EPA on water and climate research, and he served as coordinator for the climate impacts assessment of the California Region for the US Global Change Research Program and the White House Office of Science and Technology Policy.

In 1990, Dr. Wilkinson established and directed the Graduate Program in Environmental Science and Policy at the Central European University based in Budapest, Hungary. He has worked extensively in Western Europe, every country of Central Europe from Albania through the Baltic States, and throughout the former Soviet Union including Siberia and Central Asia. He has also worked in Australia, New Zealand, Canada, Japan, South Africa, and China.

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For over twenty years, Kimery has been recognized for her expertise and skill in creating and leading partnerships among venture philanthropists, social change organizations, public agencies and corporations, to advance new strategies for a healthy, sustainable and vibrant West.

WINTERNITZ, LEO — has over 30 years of water resource experience in California. He currently works as Director of Delta Projects for The Nature Conservancy. Prior to this position he served as Deputy Director for the CALFED Bay-Delta Program, which focuses on water and environmental management activities in the Sacramento – San Joaquin Bay-Delta Estuary. He also served as Executive Director for the Sacramento Water Forum — a diverse group of 40 stakeholder organizations representing business, agriculture, citizens groups, environmentalists and water managers who have collaboratively negotiated a regional water supply and environmental protection agreement to the year 2030.

With the Department of Water Resources he served as Assistant to Chief Deputy Director working on issues ranging from water project operations to environmental management in the Delta. He has also managed the Department of Water Resources' Sacramento / San Joaquin Delta fish and water quality programs. During the 1980s, Leo worked for the Water Resources Control Board, serving as the staff specialist on Bay-Delta water quality and water right issues. Leo served for eight years as an elected board member to the Arcade Water District, a public water district serving about 100,000 customers in Sacramento. He currently serves as a Director and President of the American River Parkway Foundation, an organization that promotes environmental health and stewardship of the 23-mile-long American River Parkway.