

CATHERINE VANDEMOER, PH.D

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SUMMARY

- Experienced natural resource management professional with twenty-five year focus on the protection, management, and development of federal reserved water rights and associated resources on American Indian reservations in the western United States
- Specialist in the analysis of water resource laws, policies, and administrative systems to ensure that they are technically and physically-sound, consistent with federal law, legal decrees, state and local water use laws, practices, and policies, and making recommendations for their improvement.
- Skilled and seasoned water resource professional having initiated, designed, and implemented technical studies to characterize federal reserved water rights and associated wildlife, aquatic, and habitat resources
- Skilled negotiator and facilitator of intergovernmental, interagency, inter-tribal, and NGO agreements for the protection of federal reserved water and treaty-based natural resource rights involving fish, wildlife, minerals, and agricultural resources
- Knowledgeable, exacting, and effective analyst of agency and governmental policies, programs, regulations, and activities for their effectiveness in characterizing and protecting federally reserved water resources, advancing natural resource management, and solving complex natural resource issues
- Seasoned, willing, and effective participant in and facilitator of multi-disciplinary teams, developing legal, technical, and management strategies for the resolution of complex natural resource problems on a watershed basis.
- Experienced and effective public speaker on complex natural resource issues before practitioners and policy makers across the United States.


EXPERIENCE

- **WATERSHED RESOURCES INCORPORATED · 1/2003-PRESENT · PRESIDENT & CEO**
 - Company was specifically organized to provide professional services and solutions to natural resource management issues, comprehensive water planning, and federal reserved water rights administration with American Indians and rural communities in the western United States.
 - Initiated and completed a comprehensive analysis of the Wind River Indian irrigation project including water duty, water rights, storage, and irrigation scheduling making recommendations for improvement of federal irrigation management practices
 - Designed a reservation-wide drought management strategy combining federal agency, state, national, and site-specific drought indicators and drought-relief strategies
 - Developed a comprehensive, phased Water Plan for the development of federal reserved water rights on the Wind River Indian Reservation
 - Produced a 50-minute film on reservation water use and priorities called "Our Water, Our Future"
 - Developed a computer model for the tracking of federal reserved water rights in the Wind River basin
 - Analyzed the impact of federal resource management actions on American Indian reserved water rights in Wyoming, Montana and the Dakotas
 - Prepared written materials for use by Tribal governments as testimony before the State legislature and Congressional investigative committees on a variety of natural resource management issues
 - **Represented the Northern Arapaho Tribe on the Missouri River Recovery Implementation Committee**
 - Developed a comprehensive program for the quantification of federal reserved water rights on the Ft. Berthold Indian Reservation, North Dakota, including the technical, regulatory, community education, and administrative components of a strategy involving water and associated mineral, and agricultural resources
 - Developed a Water Code and preliminary reserved water rights management program for the Ft. Berthold Indian Reservation
 - Evaluated landscape stability, soil erosion, and river mechanics on several Indian reservations in South Dakota

EXPERIENCE, CONTINUED

- Conducted numerous community meetings, public speaking engagements, and represented American Indians in federal, state, and local forums throughout Wyoming, Montana, and the Dakotas
- Analyzed scientific and technical information regarding channel changes in the Wind River, Wyoming, and prepared questions for legal examination of expert witnesses

➤ **U.S. DEPARTMENT OF COMMERCE, NATIONAL MARINE FISHERIES SERVICE, PORTLAND, OR. · 9/1999-9/2002 · MID-COLUMBIA RECOVERY COORDINATOR & WATER RESOURCE SPECIALIST · PROTECTED RESOURCES DIVISION & HABITAT CONSERVATION DIVISION · GS-14 SERIES 0480**

- Hearings Officer for several hearings on the implementation of the Endangered Species Act in central and western Oregon and Washington
- Negotiated an ESA-habitat conservation plan for two million acres of farm land involving the Mid-Columbia Consortium of Soil and Water Conservation Districts spanning four counties in Central Oregon
- Wrote a Biological Opinion under Section 7 of the ESA for the conservation of steelhead salmon in the Bureau of Reclamation's Umatilla Project in the Umatilla Basin, east-Central Oregon, considering the water rights and treaty resources of the Confederated Tribes of the Umatilla Indian Reservation, state water uses, and federal program priorities
-  ○ Collaborated with agency scientists to determine and write a technical paper on the water needs of endangered salmonids across eastern Washington and Oregon
- Represented the Habitat Conservation Division in the planning of a watershed-wide program for salmon protection, watershed restoration, and agricultural development in the Walla Walla Basin, Washington involving American Indians, multiple water users, and non-governmental organizations

➤ **U.S. DEPARTMENT OF THE INTERIOR, OFFICE OF THE ASSISTANT SECRETARY FOR INDIAN AFFAIRS, WASHINGTON, D.C. · 9/1994-8/1999 · SPECIAL ASSISTANT TO THE ASSISTANT SECRETARY · GS-15 SERIES 0301**

- Conducted evaluations of and developed recommendations, policies, and interagency agreements for the reconciliation and integration of Indian Affairs programs within the overall natural resource and rights protection programs of the Department of the Interior
- Represented the Assistant Secretary-Indian Affairs (ASIA) in multiple forums and participated in negotiations between Tribal governments, the Department of the Interior- Office of the Secretary, U.S. Fish and Wildlife Service, and the U.S. Department of Commerce producing Secretarial Order 3175, "American Indian Treaty Rights, Federal-Tribal Trust Responsibilities, and the Endangered Species Act" (1997)
- Negotiated the "Columbia River In-Lieu Fishing Sites" agreement with the U.S. Army Corps of Engineers, implementing P.L. 100-581, a sixty million dollar program for the restoration of fishing sites on the Columbia River
- Represented the ASIA in the Secretary's Indian Water Rights Settlement Task Force overseeing and reporting on multiple on-going settlement negotiations and investigating funding sources for water settlements
- Chaired the Taos Pueblo Federal Water Rights Negotiation Team and produced the first settlement assessment document
- Represented the ASIA as Co-Chair of the American Indian & Alaska Native Task Force on the White House Domestic Policy Council, convening a conference between American Indians and agency principals and producing a handbook of government-wide funding sources for Tribal natural resources, environmental, and treaty rights protection programs.
- Represented the ASIA on the intergovernmental panel/effort known as the Clean Water Action Plan and coordinated the development of guidelines for and completion of Tribal Watershed Assessment reports for the panel
- Represented the ASIA on the Western Water Policy Commission, contributing to several chapters of the report describing the distribution and status of Indian water rights across the western U.S.
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EXPERIENCE, CONTINUED

- Provided technical review of and recommendations on Indian Health Service water quality program activities affecting Alaska Natives
- **EASTERN SHOSHONE AND NORTHERN ARAPAHO TRIBES OF THE WIND RIVER INDIAN RESERVATION, WYOMING · 1988-1992 · EXECUTIVE DIRECTOR, WIND RIVER ENVIRONMENTAL QUALITY COMMISSION; TRIBAL WATER ENGINEER**
 - Developed the Wind River Water Code to implement and protect federal reserved water rights awarded to the Tribes in the *Big Horn* Decree; conducted dozens of community educational workshops on the Water Code prior to its adoption by the Tribes
 - Developed, implemented, and scientifically defended the Tribes' first use of its reserved water rights in the form of an instream flow restoring flows to over 50 miles of the Wind River; coordinated with the U.S. Department of Justice in legally defending the Tribes' instream flow dedication
 - Developed the administrative framework, initial funding, and staffing for the Wind River Environmental Quality Commission
 - Conducted environmental research and high-mountain lake sampling under EPA's Clean Lakes program, assessing acid rain problems in the high mountains of the reservation; implemented the reservation's the Underground Storage Tank program and Safe Water Drinking Act programs
 - Established Wyoming's first 'Basin Forum', the Wind River Watershed Forum, consisting of federal, state, Tribal, and local governments and private water users; the forum concept has since expanded to include all watersheds in Wyoming and acts to coordinate water uses on a basin-wide scale
- **MISCELLANEOUS RELATED WATER RESOURCES WORK EXPERIENCE · 1985-1994**
 - *Associate Director, Water Resources Program, American Indian Lawyer Training Program, Oakland, CA, 1985-1987.* Initiated and completed water resource studies for the Nez Perce, Hopi, Tule River, Santa Ysabel and San Luis Rey Indian Water Authority
 - *Water Resource Consultant, Denver, CO., 1984-1989.* Water study and island restoration, Kahoolawe, HI, coordinating a multi-agency and multidisciplinary task force that included the Native Hawaiian community organization, the state of Hawaii, the U.S. Geological Survey, and the U.S. Navy
 - *Hydrologist, Council of Energy Resource Tribes, Denver, CO. 1992-1993.* Indian water rights specialist for marketing of Tribal water, Colorado River
 - *Watershed Management Specialist, Wright Water Engineers, Denver, CO. 1993-1994.* Initiated and coordinated the Pauma Ground Water Study; Havasupai Tribe well development project, and Havasupai falls restoration

ACTIVITIES, AWARDS, AND TRAINING

- American Water Resources Association, 1992-1994
- Board Member, Rivers Foundation of America, Portland, OR., 2001-2002
- Board Member, International Water for Life Foundation, 2006-Present
- Hydrology Instructor, Johns Hopkins University, Washington, D.C., Fall semester 1998
- Specialized Detail as Senior Advisor to the U.S. Environmental Protection Agency, Office of Air and Radiation—Air Quality Issues and Indian Reservation Energy Development, November 1998-June 2009
- National Research Council, Washington D.C.
 - 1990-1992 Board of Environmental Studies & Toxicology, Committee to study the Scientific and Technical Criteria for the Conservation of Federal Lands
 - 1994-1996 Water, Science, and Technology Board, Committee on the Future of Irrigation in the United States
- **Awards:**
 - Assistant Secretary-Indian Affairs Leadership Award for Outstanding Service on Indian Water Rights Issues, 1995, 1996, 1997; "On the Spot" award for research and activities on the Klamath Project, OR, 1997
 - Clean Water Action Plan Principals Award for Interagency CWAP Activities, November 1998 and 1999
 - Environmental Protection Agency, Assistant Administrator's Water Leadership Award, June 1999

- Environmental Protection Agency, Administrator's Bronze Medal Award for commitment to and leadership in clean water activities, May 1999
- Mid-Columbia Consortium of Conservation Districts for Contributions to Soil and Water Conservation in the State of Oregon, November 2001, The Dalles, OR.
- Training:
 - U.S. Environmental Protection Agency, Project Officer Training, Office of Air and Radiation, Certificate, December 1998
 - U.S. Western Management Development Center, Managing Projects Well, Certificate, 2002

EDUCATION

- **The University of Arizona, Tucson, AZ · College of Agriculture · Ph.D. - May 1988**
 - Major: Watershed Management · Minor: Geosciences
- **Antioch University Graduate School, Keene, N.H. · 1981-1982**
 - Graduate Studies in Resource Management
- **Smith College, Northampton, MA · B.A. - May 1977**
 - Major: Geology · Minor: Theater

REFERENCES

- **Ada E. Deer, Assistant Secretary of the Interior for Indian Affairs, 1992-1998 · 608-277-8485**
- Berthenia S. Crocker, Attorney, Baldwin, Crocker & Rudd, Wyoming · 307-332-3385
- Sandra C' Bearing, Chairwoman, Wind River Water Resources Control Board, Wyoming 307-335-8119
- Ronald Graves, District Manager, Wasco County SWCD, The Dalles, Oregon · 541-298-8559 x 114
- Sarah Palmer, Senior Program Manager, U.S. Institute for Environmental Conflict Resolution, Tucson, Arizona 520-901-8556

ATTACHMENT I
PARTIAL LIST OF REPORTS AND PUBLICATIONS
1981-PRESENT

**PARTIAL LIST OF
PUBLICATIONS AND RESEARCH REPORTS
(1981-PRESENT)**

1. Author, 2010: "Quantification of Indian Water Rights, Ft. Berthold Indian Reservation, North Dakota", prepared for the Three Affiliated Tribes of the Ft. Berthold Indian Reservation, August 2010.
2. Author, 2009: "Managing Tribal Water in the Wind River Basin: Opportunities for Federal Collaboration", prepared for the U.S. Bureau of Reclamation on behalf of the Northern Arapaho Tribe, September 2009.
3. Author, 2009: "Investigations on Alternative Water Management and Water Rights Quantification Strategies, Mandan, Hidatsa, and Arikara Nation", Confidential report prepared for the TAT Tribal Council, February, 2009.
4. Author, 2009: "Building a Water and Energy Homeland, Three Affiliated Tribes, Ft. Berthold Indian Reservation, North Dakota", prepared for the Three Affiliated Tribes, January 2009.
5. Author, 2008: "Strategies for Land and Water Management: A Case Study: Wind River Indian Reservation, Wyoming", prepared for the Eastern Shoshone and Northern Arapaho Tribes under a grant from the First Nations Development Institute, December 2008.
6. Author, 2008: "Wind River Bottled Water Study", prepared for the Northern Arapaho Tribe, Ethete, WY, March, 2008
7. Author, 2007: "The Wind River Water Plan", prepared for the Eastern Shoshone and Northern Arapaho Tribes, March 2007
8. Co-Producer, 2005. "Our Water, Our Future", a 58-minute documentary on the water rights of the Eastern Shoshone and Northern Arapaho Tribes, with Video Volunteers, NY, NY.,
9. Author, 2004, "Our Water, Our Future: The Wind River Water Plan", prepared for the Northern Arapaho Business Council, November 2004.
10. Author, 2004, "Managing the BIA Irrigation Project, Wind River Indian Reservation", prepared for the Northern Arapaho Business Council, September 2004.
11. Author, 2004, "Strategies for the Protection of Federal Indian Reserved Water Rights, Wind River Indian Reservation, Wyoming", Prepared for the Northern Arapaho Business Council, May 2004.
12. Contributing Author, 2003, "Streamflow and Salmon Production in the Interior Columbia River Basin", prepared under contract for the U.S. Department of Commerce, NOAA/Fisheries, Habitat Conservation Division, Portland, Oregon, November, 2003.
13. Author, 2003, "Draining the Reserve: Tribal Water in the Wind River Basin", prepared for the Northern Arapaho Business Council, September 2003.
14. Author, 2003, "Wind River Drought Report: Status, Planning and Procedures", prepared by Watershed Resources Incorporated for the Northern Arapaho Business Council, May 2003.
15. Author, 2002, "The Future of Water in Oregon", Keynote Address: 11th Annual Oregon Water Law Conference, Portland, Oregon. November 14-15, 2002.

16. Author, 2001, "The Salmon Symphony: A Systems Mandate for Natural Resources Management in the Pacific Northwest", address delivered at Columbia University, School of International and Public Affairs, New York City, December 13, 2001.
17. Author, 1998, "Preliminary Assessment Report of the Federal Negotiation Team: Taos Pueblo Water Rights Negotiations", Prepared for the Chairman, Interior Working Group on Indian Water Rights, March 1998.
18. Author, 1997, "The Bureau of Indian Affairs, Indian Water Rights, and Western Water Management", Assistant Secretary-Indian Affairs Report to the Western Water Policy Review Commission, September 1997.
19. Author, 1997, "Instream Flows and Lake Levels for Endangered Species and Trust Resource Protection and Recovery: Klamath Project 1997 Operations Planning", Assistant Secretary-Indian Affairs Report, April 1997.
20. Author, 1996, "Environmental Conservation in Indian Country: The Endangered Species Act and Indian Tribes", in, People, Land and Water, U.S. Department of Interior newspaper, August, 1996.
21. Contributing author, 1996, A New Era for Irrigation, National Academy of Sciences, Committee on the Future of Irrigation in the United States, Water, Science and Technology Board, Washington, D.C.
22. Contributing author, 1995, Setting Priorities for Land Conservation, National Academy of Sciences, Committee on Scientific and Technical Criteria for Federal Acquisition of Lands for Conservation, Board on Environmental Studies and Toxicology, Commission on Life Sciences, Washington, D.C.
23. Co-author, 1994, "A Preliminary Analysis of Water Supply Options, Havasupai Bar Four Community Development", prepared for the Havasupai Tribal Council.
24. Co-Author, 1994, "Northern Cheyenne Water Code", prepared for the Northern Cheyenne Tribal Council.
25. Author, 1994, "Northern Cheyenne Quality Assurance Plan for Water Quality Sampling", prepared for the Northern Cheyenne Department of Natural Resources.
26. Author, 1993, "Native Hawaiian Reserved Water Rights: Protecting and Managing the Trust Asset", prepared for the 11th Annual People's Water Conference, Honolulu, Hawaii, February, 1993.
27. Co-author, 1993, "Development of a Wellhead Protection Program and Ground Water Management Strategy, Pueblo of Pojoaque, New Mexico", prepared for the Pueblo of Pojoaque under an EPA grant, August, 1993.
28. Co-author, 1993, "Aggregate Mineral Resource Assessment, Pueblo of Sandia, New Mexico", prepared for the Pueblo of Sandia, March, 1993.
29. Author, 1993, "Jicarilla Integrated Resource Management Plan: Assessment of Environmental Baseline Information", prepared for the Jicarilla Apache Tribe, January, 1993.
30. Co-author, 1992, "A Primer on Radioactive Waste Management in Indian Country", prepared for the Board of Directors, Council of Energy Resource Tribes, October, 1992.
31. Co-author, 1992, "Building Environmental Equity Based Upon Empowering Traditional Community Participation", prepared for the Council of Energy Resource Tribes, August, 1992.
32. Author, 1992, "Environmental Assessment of 240 Acres, Pueblo of Pojoaque, New Mexico", prepared for the Pueblo of Pojoaque Economic Development Department, July, 1992.

33. Author, 1991, "Managing and Using Central Arizona Project, Surface and Ground Water Supplies, Tohono O'odham Nation" prepared for the Tohono O'odham Nation Water Resources Committee, September, 1991.
34. Author, 1990, "Finding a Solution to the Wind River Basin Water Supply Issues", prepared for the Wyoming Water Development Commission, Cheyenne, Wyoming, October, 1990.
35. Author, 1989, Wind River Water Code, prepared for the Joint Business Council of the Shoshone and Arapaho Tribes, August, 1989.
36. Author, 1989, "Kaho'olawe Water Resources Study Final Report: Strategies for the Management of Land and Water resources, Kaho'olawe, Hawai'i, prepared for the State of Hawai'i, Division of Water and Land Development, June, 1989.
37. Author, 1988, "Water Resource Characteristics of the Santa Ysabel Indian Reservation, San Diego County, California", prepared for the Santa Ysabel Band of Mission Indians, April 1988.
38. Author, 1988, Dissertation. "The Hydrogeochemistry of Recharge Processes and Implications for Water Management in the Southwestern United States", The University of Arizona, Tucson, March 1988.
39. Author, 1987, "Managing the San Luis Rey Watershed: A Handbook for Tribal Decision-Makers", prepared for the San Luis Rey Indian Water Authority, June 1987.
40. Contributing author, 1987, Tribal Water Management Handbook, American Indian Resources Institute, April 1987.
41. Co-author, 1987. "A Report to the Hopi Tribe: Water Resources Planning and Management Guide", prepared for the Hopi Tribe, March, 1987.
42. Co-author, 1987, "Nez Perce Tribe Water Resources Planning and Management Guide", prepared for the Nez Perce Tribe, Idaho, May 1987.
43. Author, 1987, "Hydrology and Multiple Use Management of Forested Watersheds", prepared for the Eleventh Annual Inter-tribal Timber Council Meeting, Green Bay, Wisconsin, May 1987.
44. Author, 1986, "Water Supply and Quality Characteristics of the Soda springs, Tule River Indian Reservation" prepared for the Corporation for American Indian Development, San Francisco, August 1986.
45. Author, 1985, "Water Quality Impacts of Recharging CAP Supplies", in Proceedings of the Second Symposium on Artificial Recharge, Phoenix, 1984.
46. Author, 1984, "At the Crossroads: The Development of Indian Water Resources Policy", in Indian Water in the American West, conference proceedings, American Indian Lawyer Training Program, November 29-30, 1984, Scottsdale, Arizona.
47. Co-author, 1984, "Indigenous Response to Water in an Arid Environment: A Papago Case Study", prepared for the John Muir Institute for Environmental Studies, February, 1984.
48. Co-author, 1981, "A Preliminary Development Strategy for the Former Joint Use Area, Navajo Portion", prepared for the Navajo-Hopi Joint Use Commission through a Development Planning class at Harvard University, June, 1981.