

# Patrick T. Tyrrell, P.E.

## Wyoming State Engineer

██████████ Cheyenne, WY ████████ | Phone: ██ | Email: ██

### SUMMARY:

Over 25 years as a professional engineer and administrator focusing on water-related issues. Appointed to the position of Wyoming State Engineer and served from January 16, 2001 - present. Worked as a consulting engineer from 1981 to 1991, and 1995 to 2001, on a variety of water projects including design of small dams and pipelines, pipe network analyses, pump and treat systems for contaminated ground water, storm water runoff evaluations, reservoir operation studies, spillway sizing, and municipal and river basin water planning. Responsible for proposals, design reports, plans and specifications, and construction management including as-built drawings.

Worked in industry from 1991-1995 as the regulatory affairs supervisor for the Black Thunder Mine in northeast Wyoming, which at the time was the largest surface coal mine in the country. Represented the mine in industry trade groups, and was responsible for environmental permits needed for operation of the facility, including state permits related to air quality, water quality, land quality, and water rights. Supervised a staff of seven professionals responsible for the above permits plus reclamation planning, site environmental permit-related inspections, annual reporting, and liaison with Bureau of Land Management, U.S. Forest Service, and Office of Surface Mining on issues related to federal permits.

### EDUCATION:

- B.S. Mechanical Engineering (with honors). University of Wyoming, 1979
- M.S. Civil Engineering (emphasis on Water Resources). University of Wyoming, 1982

### PROFESSIONAL EXPERIENCE:

**Wyoming State Engineer, Cheyenne, WY** .....January 2001 – present

Wyoming State Engineer serving from 2001-2019. Directs the State Engineer’s Office, a cabinet-level agency of the State of Wyoming, with 134 employees and an approximate \$30 million biennial budget (2017-2018). The State Engineer oversees the issuance of surface water and ground water appropriative permits, water use policy, water right adjudications, administration of water use under the prior appropriation doctrine, and represents the State of Wyoming on interstate water issues. This position serves on the Wyoming Board of Control and the Board of Professional Engineers and Professional Land

Surveyors. Represents the State of Wyoming on numerous interstate organizations, including the North Platte Decree Committee, Upper Colorado River Commission, Yellowstone River Commission (2001-2012 and 2016-2018), Bear River Commission (2001-2012 and 2016-2018), Colorado River Basin Salinity Control Forum (and its related Advisory Council), Western States Water Council, and the Association of Western State Engineers. As State Engineer, Pat has testified to state legislative committees, and congressional committees, on water-related legislation.

The Wyoming State-Engineer is a cabinet-level position. Pat served under Governors Geringer, Freudenthal, Mead and Gordon. The position requires regular speaking engagements at meetings of civic groups, special districts, and at local and state government functions. It also acts as hearing officer for administrative and contested case hearings. The State Engineer serves as President of the Wyoming Board of Control, the state’s quasi-judicial water rights adjudicatory board.

**Project Manager, States West Water Resources Corp., Cheyenne WY ..... 1995 – 2001**

Managed the preparation of a municipal water master plan for the City of Cheyenne, Wyoming, and the initial Green River Basin Water Plan under the Wyoming Water Development Commission’s Water Planning Program. Oversaw construction of improvements to municipal water supply, storage, and distribution systems for the municipalities of Cheyenne, Carpenter, and Chugwater, Wyoming. Prepared the inflow design flood analysis for the High Savery Dam on Savery Creek in south-central Wyoming.

**Environmental Supervisor, ARCO Coal Company, Wright WY ..... 1991 – 1995**

Managed staff responsible for obtaining and maintaining all environmental permits for the Black Thunder Mine in northeast Wyoming, at the time the largest surface coal mine in the U.S. (as measured by annual production). Oversaw permit compliance inspections by the Wyoming Department of Environmental Quality and the federal Office of Surface Mining.

**Project Manager, Wenck Associates, Inc., Maple Plain MN ..... 1989 – 1991**

Designed and oversaw construction of pump-and-treat ground water cleanup projects in Windom, Minnesota and Colorado Springs, Colorado. Evaluated storm water hydraulics for a part of the Minnetonka Creek watershed, Minneapolis, Minnesota.

**Lecturer, Open Channel Hydraulics Course, Univ. of Wyoming .....Fall, 1983**

**Engineer, Western Water Consultants, Inc., Laramie WY ..... 1981 – 1989**

Performed reservoir operation studies for sites on Gooseberry Creek in Wyoming. Developed ungaged runoff estimates for numerous hydrologic studies around Wyoming. Performed sedimentation and reservoir temperature studies for the proposed Sandstone Reservoir on Savery Creek, Wyoming. Sized an elevated storage tank and water distribution system for the Cathedral Home for Children in Laramie, Wyoming.

**PROFESSIONAL ORGANIZATIONS:**

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Wyoming Water Association (president, 1999-2000)

## **INTERSTATE ORGANIZATIONS AND COMMISSIONS:**

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Upper Colorado River Commission, Wyoming Commissioner, 2003-present

Yellowstone River Commission, Wyoming Commissioner, 2001-2012 and 2016-2018

North Platte Decree Committee, Wyoming Representative, 2002-present  
(Chairman, 2006-2007 and 2010-2011)

Bear River Commission, Wyoming Commissioner, 2001-2012 and 2016-2018

Colorado River Salinity Control Advisory Council, Wyoming Council Member, 2001-present  
(Chairman, 2009-2010)

Colorado River Salinity Control Forum, Wyoming Member, 2001-present  
(Chairman, 2009-2010)

Upper Colorado River Endangered Fish Recovery Program, Wyoming Implementation Committee  
Member, 2001 – 2012

Western States Water Council, Executive Committee Member representing Wyoming, 2001-2018  
(Water Resources Committee chairman, 2009-2010; Treasurer, 2010-2011; Vice Chairman, 2012-2013;  
Chairman, 2014-2016)

## **MISCELLANEOUS ACTIVITIES:**

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- CLE Water Law Symposium, Cheyenne WY, 2004-2013 (numerous years as Keynote Speaker)
- Periodic Guest Lecturer on Water Law, University of Wyoming College of Law, 2004-2013
- Keynote Speaker, H.T. Person Homecoming Lecture in Engineering and Applied Science, University of Wyoming, 2007
- Author of several guest editorial pieces in Wyoming newspapers on topics including groundwater management in Wyoming, drought in the Colorado River Basin, water rights on federal lands, and understanding interstate river basin compacts.
- Principal author, or contributing author, on successful legislation to improve Wyoming's water laws, including updating and clarifying penalty statutes for violations of water laws, clarification of exemptions under the water export statute, creation of a water well drillers and pump installers licensing board, allowing the permitting of multiple water wells with a single permit, and clarifying processes for appeals and hearings within groundwater control areas. Activities included writing, reviewing, and editing statutory language, committee testimony, and shepherding bills through both houses of the Wyoming Legislature.
- Principal author, "Wyoming and the Colorado River: A Report," published in-house, November, 2016.
- Author, "Assuring Water Availability for Oil and Gas Operations," Water Resources IMPACT magazine, published by the American Water Resources Association, Volume 17, No. 2, March 2015.
- Wyoming's representative to the seven Colorado River Basin States in developing the 2007 agreement implementing coordinated reservoir operations (for Lakes Mead and Powell) and lower basin shortage guidelines.

- Prepared report to the Wyoming legislature in 2009 recommending the approval of export of water from the Pathfinder Modification Project for compliance with the Platte River Recovery Implementation Program.
- Testified in the United States Congress on use of the Reclamation Fund (2006), Montana's Compact with the Crow Tribe (2009), funding for the Upper Colorado River Endangered Fish Recovery Program (2009), and EPA's proposed Waters of the US Rules and the USFS Proposed Groundwater Management Directive (2014).
- Represented the State Office Engineer's on two legislatively-authorized task forces (2004 and 2007). Both task forces were mandated to evaluate the effects of, and possible legislative solutions for concerns related to, discharge of water resulting from production of Coal Bed Natural Gas.
- Member of the University of Wyoming, Department of Civil and Environmental Engineering Advisory Board (2009 – 2019)
- Member and Chairman, Wyoming GIS Advisory Board, 2018

## **AWARDS:**

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Upper Missouri Water Association Distinguished Service Award, 2003

Four-States Irrigation Council, Headgate Award (Wyoming), 2011

Selected by Tau Beta Pi, Engineering Honorary at the University of Wyoming, as Wyoming Eminent Engineer, 2016