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Water Rights, Water Quality & Water Solutions in the West

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WOTUS IN NEW MEXICO

STATE CONCERNS REGARDING NEW WATERS OF THE UNITED STATES RULE

by Rebecca Roose, Water Protection Division Director,
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Editors' Introduction: The following article has been updated from testimony delivered before the US Senate Committee on Environment & Public Works on September 16, 2020 with the much appreciated help of the author and Maddy Hayden, Public Information Officer at the New Mexico Environment Department. The aritcle has been slightly edited to better fit our format and graphics have been added.

Introduction

The New Mexico Environment Department certifies federal Clean Water Act (CWA) permits issued in New Mexico and has primary responsibility for implementing the activities of the New Mexico Water Quality Control Commission, which is the state water pollution control agency for purposes of the CWA.

This article focuses on three primary issues related to the new federal definition of Waters of the United States (WOTUS) that was finalized by the US Environmental Protection Agency (EPA) and Army Corps of Engineers (Army Corps) (collectively the "Agencies") and took effect earlier this year. The new definition has direct effect on the CWA's Navigable Waters Protection Rule (NWPR).

These Primary Issues are:

1) New Mexico's rivers, streams, lakes and wetlands are at risk like never before
2) The NWPR and its implementation by the Agencies leave a huge regulatory gap in New Mexico
3) The NWPR and its implementation by the Agencies fail to deliver on the promise of regulatory certainty and will hurt state and local economies

The stakes in New Mexico are incredibly high as we look to mitigate the of loss of CWA protections for the majority of surface waters, which are relied upon by New Mexicans for drinking water, cultural uses and economic vitality.

The NWPR will have a profoundly adverse effect on water quality in the State. More frequent droughts and shifting precipitation patterns due to climate change result in lower water levels in rivers, lakes, and streams, leaving less water to dilute pollutants. In addition, more frequent and more powerful storms increase polluted runoff from urban and disturbed areas, which transports pollutants from the landscape to nearby waterways. These changes stress aquatic ecosystems and dramatically impact communities throughout the United States, especially in the Southwest. Community impacts include threats to public health, economic strain, and decreased quality of life. In short, our precious surface waters are more in need of protection than ever before. The effects of climate change in New Mexico amplify the complexities of western water management and contribute to greater regulatory uncertainty surrounding CWA jurisdiction under the NWPR.

New Mexico Water Protection

Precipitation Patterns

Drinking Water

Water Resources

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Background: New Mexico Waters

New Mexico is home to high mountains, expansive plains and plateaus, river gorges, and broad valleys. Land surface elevations in New Mexico vary from just under 3,000 feet above sea level at the Texas border to just over 13,000 feet in the northern mountains. New Mexico is the fifth largest of the fifty states, with a total area of 121,607 square miles. Of this, approximately 34% is Federal land, 12% is State land, 10% is Native American land, and 44% is privately owned. New Mexico is also one of the driest states, averaging less than twenty inches of annual precipitation. About half of annual precipitation is received during the summer months with brief but intense, localized summer storms, commonly referred to as "monsoons." Much of the winter precipitation falls as snow in the high mountains and as snow or rain at lower elevations in more widely distributed, regional storm fronts.

Nevertheless, the State is rich with iconic rivers, such as the Rio Grande, Pecos and Gila; stream and acequia networks that support multi-generational farms; and wetlands, lakes and reservoirs that are critical for drinking water supplies, crop production, a vibrant outdoor recreation economy and interstate compact agreements. Table 1 below provides a summary of New Mexico's surface water resources.

Table 1. Summary of New Mexico's Surface Water Resources

Topic	Value
State population	2,096,829
Population dependent on surface water for drinking water	878,765
State surface area	121,607 miles
Total miles of perennial non-tribal rivers/streams	6,362 miles
Total miles of non-perennial non-tribal rivers/streams	88,810 miles
Number of significant public lakes/reservoirs	196
Acres of significant public lakes/reservoirs	89,042 acres
Acres of freshwater wetlands	845,213 acres

NWPR's Harm to New Mexico Waters

The impact of the NWPR on CWA jurisdiction in New Mexico could not be more dramatic. In its review of the National Hydrography Dataset, the Environment Department determined that approximately 89% of the State's rivers and streams are ephemeral, 7% are perennial, and 4% are intermittent. Under the NWPR, none of the ephemeral streams are protected by the CWA. Nearly 90% of New Mexico's rivers and streams are left out of CWA protections even though water quality in these waterbodies is just as important today as it was on June 21, 2020, the day before the NWPR's effective date.

Science clearly demonstrates that ephemeral waters are ecologically and hydrologically significant in the arid southwestern United States. Ephemeral streams are the capillaries of watersheds, recharging aquifers and delivering water downstream for aquatic life, wildlife, and human use. Ephemeral streams may be the headwaters or major tributaries of perennial streams in New Mexico. Over time, pollutant discharges unregulated under CWA Section 402 and development activities unregulated under CWA Section 404 as a result of the NPWR will adversely impact downstream water quality in waters that are jurisdictional. For example, in New Mexico, ephemeral tributaries contribute up to 76% of the stormflow in the Rio Grande after a storm event. Where pollutants can be mobilized, ephemeral stormflows will deliver the pollutants to downstream waters, such as the Rio Grande. The cumulative impacts of these non-jurisdictional ephemeral stormflows will be detrimental to downstream water quality and threaten human health and the environment. This hydrologic and ecologic connection between ephemeral waters and downstream NWPR jurisdictional waters is well-established in EPA's own scientific record, which the Agencies flatly ignored in the final rule that excludes all ephemeral streams from the definition of WOTUS.

Ephemeral flows need CWA protection because when they are functioning properly they provide important hydrologic connections across the landscape and across geopolitical boundaries.

New Mexico Water Protection

Flow Functions

Ephemeral Flow functions include:
- Dissipating stream energy during high flow events to reduce erosion, thus improving water quality
- Recharging aquifers where water can be stored for current and future drinking water supplies
- Transporting, storing, and depositing sediment to help maintain floodplains
- Transporting, storing, and cycling nutrients for vegetation, wildlife and aquatic life
- Supporting and providing migration corridors

Given the distribution of ephemeral streams in New Mexico (89% of streams) and their important hydrological and ecological functions, cumulative impacts of ephemeral streams throughout a watershed must be considered in order to protect and maintain water quality and watershed health. Indiscriminately removing protections from ephemeral streams degrades water quality in the watershed and, most notably, the jurisdictional waters that they feed.

Decreased Wetlands Protection

The NWPR also results in the loss of many wetlands in New Mexico. Saint Mary's University of Minnesota's Geospatial Services, with input from the Environment Department, created a model to evaluate the extent of federally protected wetlands and other surface waters in the Cimarron River Watershed located in northeastern New Mexico.[1] The results of this case study show that by narrowing the scope of federal jurisdiction, the number of wetlands protected by the CWA is substantially decreased, likely leading to a loss of benefits provided by wetlands such as: flood control and attenuation; pollution control; wildlife habitat; and recreation. The Cimarron River Watershed is known for its special trout waters, cross country and downhill skiing, boating, ice fishing, and other recreational opportunities that contribute to an important outdoor recreation economy for the communities in and near the watershed. Depending on how the WOTUS definition in the NWPR is applied, 20-70% of the wetlands in the Cimarron River Watershed lose federal protections, threatening the livelihoods of these small, rural towns.

"Adjacent Wetland"

Because of the ephemeral exemption and new definition of "adjacent wetland," the NWPR creates a significant gap in regulation under CWA Section 402 general permits (i.e., construction and industrial stormwater discharges) and CWA Section 404 dredge and fill permits in ephemeral streams and non-abutting wetlands. The Agencies considered the potential effect of the NWPR on issuance of CWA Section 402 permits for stormwater from construction activities. Overall, the Agencies concluded that the ephemeral exemption would likely change circumstances in arid and semi-arid states where many streams are ephemeral, and CWA protections would be removed from the vast majority of waters in these states.[2]

Stormwater Permits

Development Impacts

The water quality impacts associated with construction and development activities are well-known and firmly established in the scientific record. Excess sediment can smother bottom-dwelling organisms, fill deep pools that are critical refugia during summer and drought, and clog or injure gills of fish. Stormwater also carries other harmful pollutants. Construction, industrial, and urban sites generate pollutants such as phosphorus and nitrogen from the application of fertilizer, bacteria, various metals (arsenic, cadmium, chromium, copper, zinc), acidic wastewaters, pesticides, phenols, paints, solvents, phthalates, petroleum products, and solid wastes that attach to sediment and/or get washed into streams and wetlands during overland stormflows. Sediment loading rates from construction sites are typically 10 to 20 times that of agricultural lands and 1000 to 2000 times that of forest lands. Even a small amount of construction or industrial activity can have a significant negative impact on water quality in localized areas if permits are not required and proper practices are not implemented to reduce or eliminate pollutants in stormwater.

Sediment Loading

Permit Reach

New Mexico has over 1000 facilities covered by CWA stormwater general permits. As a result of the NWPR, we estimate that 25-45% of these facilities are no longer subject to federal stormwater management requirements and, as I explain below, the State does not have an established program to promptly ensure the requisite protections in lieu of EPA and Army Corps permits.

NPDES Program Impacts

The NWPR also creates a significant gap in regulation of individual permits issued by EPA under CWA Section 402 in New Mexico. The Agencies did not sufficiently consider the potential effect of the NWPR on issuance of CWA Section 402 individual permits for discharges to ephemeral or other non-jurisdictional waters under the NWPR. New Mexico currently has 115 individual, EPA-issued NPDES permits in the State, including permits issued in Indian Country. Under the NWPR, Environment Department experts estimate that approximately 50% of these current permittees will no longer be required to obtain an NPDES permit because they discharge to receiving streams that are not within the new narrow WOTUS definition. Examples of facilities in New Mexico that discharge to NWPR non-jurisdictional waters include: municipal and private domestic wastewater treatment plants; tribal and Bureau of Indian Affairs wastewater treatment plants; multiple types of mines, both active and in reclamation (coal, uranium, cement, rock, minerals and metals); national laboratories and other federal facilities; fish hatcheries; and oilfield sanitary waste treatment plants. Eliminating CWA protections and federal regulation of these dischargers degrades water quality of ephemeral receiving streams as well as the downstream Traditional Navigable Waters and other jurisdictional waters that they feed.

Water Quality Degradation

New Mexico Water Protection

Ephemeral Reach

Current Requirements

Pollutants

NWPR Change

Protections Eliminated

"Typical Year"

Pollution Control Lost

Regulatory Uncertainty

Examples of NWPR Impacts

The Rio Grande

Tijeras Arroyo presents an example of the devastating effects of the NWPR on water quality. This waterway winds for 26 miles from its headwaters in the Sandia and Manzano Mountains east of Albuquerque, New Mexico through developed and undeveloped areas of Albuquerque in the foothills, including Kirtland Air Force Base, before entering the Rio Grande. The waterway is perennial in the headwaters but is ephemeral for 11 miles as it flows out of the mountains and into the Rio Grande. Tijeras Arroyo is a major tributary of the Rio Grande in the Albuquerque area and carries stormwater, and any pollutants mobilized by stormwater, to the Rio Grande during significant rain events, but maybe not in a "typical year" as defined in the NWPR.

Tijeras Arroyo is the subject of: 1) a Watershed Restoration Action Strategy under CWA Section 319 to address excess E. coli bacteria and sedimentation through stormwater management and erosion controls; 2) a Total Maximum Daily Load (TMDL) under CWA Section 303(d) to reduce watershed nutrient loading during both low-flow and high-flow events; and 3) federal permits including several CWA Section 404 permits, an individual CWA Section 402 NPDES permit for Kirtland Air Force Base, and the Municipal Separate Storm Sewer System (MS4) permit for the Albuquerque-Bernalillo County area under CWA Section 402. These various permits and requirements limit and/or monitor the discharge of the following pollutants into Tijeras Arroyo: nitrate-nitrogen; ammonia-nitrogen; total nitrogen; total phosphorus; E. coli bacteria; sediment; ethylene dibromide (EDB); heptachlor, per- and polyfluoroalkyl substances (PFAS); total residual chlorine; total suspended solids; biological oxygen demand; and oil and grease. In addition, the Rio Grande downstream of Tijeras Arroyo is impaired for: E. coli bacteria; polychlorinated biphenyls (PCBs) in fish tissue; and dissolved oxygen. Tijeras Arroyo was jurisdictional under the 1980s regulations and the 2008 "*Rapanos* Guidance" but is not jurisdictional under the NWPR.

Surface water quality is also a major concern for the two acequia associations in the Tijeras watershed and the Pueblo of Isleta, which is downstream of Tijeras Arroyo and the City of Albuquerque. Under the NWPR, these CWA protections (*e.g.*, E. coli strategy, TMDL, NPDES permits) are not enforceable as is. Depending on how the NWPR is implemented, they will either be modified to move the point of discharge to a jurisdictional water and consequently change the limitations and requirements, or they will be terminated.

The Pecos River and Rio Ruidoso

The Rio Hondo Watershed in south-central New Mexico is yet another example of the irreparable harm the NWPR will have on New Mexico. As the perennial headwaters of the Rio Ruidoso and Rio Bonito flow downstream, they become interrupted and eventually go underground along several ephemeral segments. Because the ephemeral segments are substantially long (over 50 miles), it is highly unlikely that the Rio Ruidoso, Rio Bonito or upstream portions of the Rio Hondo have a surface connection to the Pecos River (a jurisdictional water) in a "typical year." Therefore, everything upstream of these ephemeral breaks/segments is considered non-jurisdictional under the NWPR.

In this watershed there are several facilities discharging to the river, including the Village of Ruidoso Regional Wastewater Treatment Plant and the Ruidoso Downs Race Track. The Rio Ruidoso already exceeds water quality standards for total nitrogen and total phosphorus, two pollutants that are currently controlled by NPDES permits. Historically, excess nitrogen and phosphorus have negatively impacted downstream irrigation uses, hurting family farms. Further, construction and industrial sites are no longer required to obtain NPDES permit coverage for their stormwater discharges. This means industrial facilities and construction sites could discharge pollutants into the river without consequence under federal law. Loss of federal pollution control for the Rio Ruidoso will result in polluted water conveyed to local farms via the 82 acequias, or community ditches, in this area. Acequias have important historical and cultural value in New Mexico, with many dating to the 17th and 18th centuries, and provide essential water for agriculture. Public health and the environment are directly impacted by the NWPR and unregulated pollutant discharges in the Rio Hondo Watershed.

The Gila River

Another example of the NWPR's harm and regulatory uncertainty is the Gila River, which originates in the Nation's first designated wilderness area (the Gila National Wilderness) and is the last major wild and free-flowing river in New Mexico. The Gila River supports a remarkable abundance of aquatic life and wildlife, provides significant economic value to the region through plentiful outdoor recreation opportunities, and is culturally important to indigenous peoples whose ancestors have lived in southwestern New Mexico for thousands of years.

New Mexico Water Protection

Interstate Water

Under prior definitions of WOTUS, the Gila River was covered by the CWA because it is an interstate water, flowing from New Mexico into Arizona. Some segments of the Gila River in Arizona have been designated as Traditional Navigable Waters, while the Gila River in New Mexico is designated through an Approved Jurisdictional Determination through 2023. New Mexico's Gila River was named by American Rivers as the country's most endangered river in 2019 because of threats from water diversions and climate change.[3] The temporary designation of the Gila River in New Mexico creates uncertainty surrounding federal protection under the CWA that did not exist prior to the NWPR and results in a precarious future for this precious resource.

Regulatory Gap

Existing State Programs Cannot Close The Federal Regulatory Gap

A core argument by those in favor of the NWPR is that it "ensures that America's water protections — among the best in the world — remain strong, while giving our states and tribes the certainty to manage their waters in ways that best protect their natural resources and local economies."[4] However, this promise relies on a false premise that the roll-back of federal jurisdiction will not actually weaken water quality protections at the state, tribal, and local level.

Regulatory Shortfall

In some parts of the country it may be true that states and tribes will pick-up where the CWA leaves off, utilizing existing authorities to close the regulatory gap and retain the critical water quality accomplishments of the past 50 years. Meanwhile, in New Mexico and a number of other states, as well as across tribal lands, it could take years and millions of unavailable, unappropriated dollars to prevent water quality and watershed degradation as the Agencies rush to implement the NWPR coast to coast.

Accelerated Development?

Furthermore, the same federal agency leaders touting the rule as maintaining strong water protections in the US are simultaneously touting the rule for "accelerat[ing] critical infrastructure projects," and "ensur[ing] that land use decisions are not improperly constrained."[5] These purported benefits are actually premised on an assumption that states and tribes will not close the regulatory gap. In other words, the federal agencies cannot take credit for ensuring ongoing strong protections while simultaneously celebrating the lack of those protections.

Implementation Rush

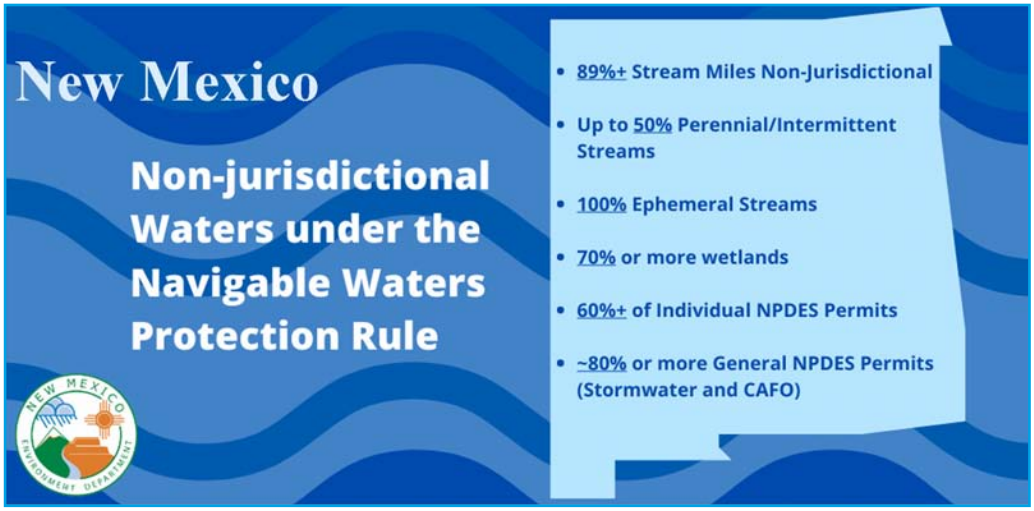
Decisions by the EPA and the Army Corps to begin implementing the narrow definition of WOTUS, regardless of a state's readiness to protect the excluded waters, further undermines the Agencies' assertions that the rule is intended to maintain strong water quality protections. In fact, the NWPR and its early implementation by the Agencies preclude ongoing protection of all surface waters in the State of New Mexico that were jurisdictional under prior WOTUS definitions.

No NPDES Authority

New Mexico cannot, as a practical matter, immediately fill the burdensome federal regulatory gap created by the NWPR. New Mexico is one of only three states without NPDES authority, and the only such state in the arid west. The NPDES program is the primary mechanism under the CWA for regulating and limiting discharges of pollutants into the "waters of the United States." Developing, adopting and implementing such a program requires significant time, funding, and staff. Unlike most states with established NPDES programs, New Mexico does not have the legal and procedural program infrastructure to issue and enforce NPDES-like permits to regulate discharges of pollutants to surface waters of the state that are not WOTUS under the new definition. As laid out above, the Environment Department estimates that 50% of NPDES individual permits and 25-45% of stormwater general permits are no longer required, which could amount to hundreds of unregulated discharges and thousands of pounds of pollutants entering New Mexico's surface waters every year as a result of the NWPR federal rollback.

Unregulated Discharges

Narrowed CWA Jurisdiction



New Mexico Water Protection

Water Quality Funding

New Program Costs

Threatened Programs

Uncertain Enforcement Scope

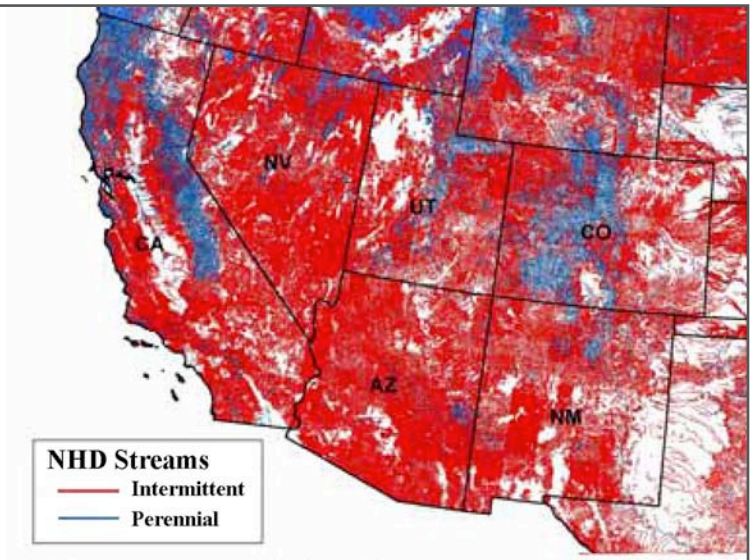
Southwestern Ephemeral Streams

The NWPR imposes significant resource burdens on the Environment Department while putting the health of New Mexico waters and citizens at great risk. The premise that all states are capable of addressing water quality issues in their state is false. Not all states can implement a robust and successful water quality program without significant federal assistance. Recurring federal and state funds need to be identified to support a New Mexico surface water discharge permitting program because reasonable permit fees would not cover the costs of the program in New Mexico. To exacerbate this issue, federal financial support for water pollution control programs has been steadily declining over the past decade, making it more and more difficult to establish an effective and viable permitting program, to the detriment of New Mexico's precious surface waters. Many other states face challenges associated with existing laws that limit those states' ability to protect wetlands, streams and other water resources more broadly than federal law.[6]

A preliminary analysis performed this year by an Environment Department contractor indicates that establishing and operating a surface water discharge permitting program which includes permitting, compliance assistance, enforcement and data management may cost New Mexico taxpayers, including working families and small businesses, in excess of $7.5 million annually. For context, the current budget for all the Environment Department's surface water quality programs is approximately $6.5 million annually. Meanwhile, New Mexico, like many other states, faces a budget shortfall amid the current economic recession.

The NWPR introduces great uncertainty into the Environment Department's regulatory efforts and burdens the Environment Department with the onerous task of interpreting and applying the NWPR. When the NWPR became effective, previous guidance documents, memoranda, and materials were rendered inoperative. In addition, the Environment Department is unaware of a firm commitment by EPA and the Army Corps to provide guidance and training to assist with early implementation of the NWPR. With no new federal or state funding associated with this substantial shift in CWA jurisdiction, any Environment Department involvement in NWPR implementation will strain available resources for other priorities and programs. Threatened programs include: ambient water quality monitoring; assessment and reporting on the status of the State's surface waters; water quality standards revisions; water quality management and watershed-based planning; watershed and wetland restoration; groundwater protection; and program and project effectiveness monitoring. For example, on-the-ground investigations are needed to delineate, for compliance and enforcement purposes, which waters are truly intermittent and which are ephemeral. Considering New Mexico has over 88,000 miles of non-perennial streams, and the vast majority of streams in the State do not have active gages to measure stream flows, these stream-specific investigations will be extremely resource-intensive. The Environment Department already has received inquiries from various stakeholders, including the regulated community, about scope and implementation of the NWPR that cannot be answered due to uncertainties related to jurisdictional interpretation and enforcement.

Arizona	94%
Nevada	89%
New Mexico	88%
Utah	79%
Colorado	68%
California	66%



Map of the Southwestern U.S. showing the National Hydrography Dataset (NHD) intermittent/ephemeral (red) and perennial (blue) streams

Adapted from EPA/600/R-08/134 (Nov. 2008)

New Mexico Water Protection

Downstream Detriment

Regulatory Vacuum

Increased Costs

Water Treatment

Outdoor Recreation Economy

Agricultural Impacts

For decades the Environment Department has relied on close coordination with EPA and the Army Corps on CWA permitting actions in furtherance of our mission to preserve, protect, and improve surface water quality across our state. Simply put, there is no ready substitute under State laws and budgets to maintain the critical surface water protections achieved through CWA Section 402 and 404 permits. The decision of federal agencies to proceed with NWPR implementation without consideration of state and tribal coverage will allow hydrologically connected ephemeral tributaries to be permanently filled or degraded, to the detriment of the downstream jurisdictional waters the NWPR purports to protect.

Polluted Waters Hurt New Mexico's Economy

The value of healthy surface waters in New Mexico is both cultural and economic. New Mexico's diverse waters recharge aquifers, support an amazing variety of wildlife and aquatic life, maintain drinking water resources for over 40% of the population, and sustain critical economic activity. The Environment Department is concerned about the economic costs associated with the regulatory vacuum created by the NWPR for the majority of New Mexico surface waters. Not only are polluted waters costly for drinking water utilities, farmers and the thriving tourism industry, we see implementation of the rule as creating new areas of regulatory uncertainty that will burden New Mexico businesses and communities.

The regulatory gaps created by the ephemeral waters exemption and loss of wetlands protections resulting from the NWPR will result in decreased water quality, as explained above. As a result, the cost to treat drinking water and maintain drinking water infrastructure will increase. The cost to treat surface water to drinking water standards depends on the quality of water coming into the treatment plant, the technologies used, the size of the system, and the energy source. Municipalities will likely need to invest in water treatment infrastructure and other costly technologies, such as desalination and ultrafiltration, to provide clean, safe water for drinking. Degraded water quality coming into the treatment plant, the need for improved and more costly treatment technologies and the less populated, rural nature of New Mexico as a whole will cause water treatment costs to increase substantially for many in the state and may force municipalities to choose lower water quality over necessary investments for clean and safe drinking water. In addition, enhanced treatment to remove pollutants causes increased water loss during treatment, which translates to less potable water in an increasingly arid State.

Outdoor recreation is among New Mexico's largest economic sectors, representing the lifeblood of communities across the state and providing livelihoods for tens of thousands of New Mexicans. More than twice as many jobs in New Mexico depend on outdoor recreation than on the energy and mining sectors combined. The NWPR does not take into account the recreational economy impacts associated with poorer water quality. In addition to tourism dollars spent by New Mexicans in New Mexico, the Tourism Department reports that the State also has a high percentage of out-of-state visitors who come to New Mexico for outdoor recreation activities, such as river rafting, fly fishing, camping, boating and wildlife viewing along the State's scenic waters. Visitors spent $846 million on recreation in the State in 2017, supporting 13,000 direct jobs. In addition, the New Mexico Department of Game and Fish reports there are 160,000 anglers who fish in New Mexico, spending $268 million on their activities annually. The New Mexico Outdoor Recreation Division, created by legislation in 2019, is tasked with increasing outdoor recreation-based economic development, tourism and ecotourism, recruiting new outdoor recreation business to New Mexico, and promoting education about outdoor recreation's benefits to enhance public health. People do not want to recreate on polluted waters that cannot sustain healthy fish, bird, and wildlife populations. The outdoor recreation industry in New Mexico will be adversely impacted by the regulatory gap created by the NWPR, to the detriment of jobs and revenue in New Mexico.

Agriculture is part of New Mexico's cultural and economic identity. We are the top state in the country in chile production, third in pecans, and in the top ten for number of dairy cows. According to the New Mexico Economic Development Department, there are 24,800 farms in the State and agriculture and food products are among the State's top five exports.[7] As a rural state with a poverty rate nearly twice the national average, many family farms grow crops and raise livestock for their own families and neighbors, as well as to contribute to the local economy. The Environment Department's surface water quality programs are designed and implemented to identify waters used for irrigation/irrigation storage and livestock watering and to then take actions to protect and restore those waters to support that use. Based on the scope of the NWPR and New Mexico's inability to close the regulatory gap, waters that farmers rely on to irrigate crops and water livestock to feed New Mexicans and export to other states and nations will be vulnerable to increased pollutant loads from dischargers and detrimental impacts from dredge and fill activities.

New Mexico Water Protection

Limitations: Ephemeral Streams

"Non-Abutting" Wetlands

"Typical Year"

Ignored Costs

Regulatory Baseline Lost

"Typical Year" Undetermined

Jurisdictional Patchwork

RCRA Exemption Lost

To represent benefit-cost analyses of the NWPR, EPA and the Army Corps relied on three case studies in the supporting Economic Analysis, "to explore potential changes and resulting forgone benefits and avoided costs."[8] The case studies focused on three geographical regions — the Ohio River Basin, the Lower Missouri River Basin, and the Rio Grande River [sic] Basin — that intersect ten states. The Rio Grande River Basin was divided into two major watersheds, the Upper Pecos and Lower Pecos River Basins, which contain a combined 44,300 square miles in New Mexico and Texas from east of Santa Fe, New Mexico to the confluence of the Pecos River and Rio Grande at the Texas-Mexico border. This case study found 85% of stream miles within the Upper Pecos River Basin in New Mexico are ephemeral, and 34% of all wetland acres to be "non-abutting" wetlands. These ephemeral waters and non-abutting wetlands in the Upper Pecos River Basin are clearly not federally protected under the NWPR, whereas many other waters in the Upper Pecos River Basin may no longer be protected under the NWPR because they likely do not contribute surface flow to a downstream jurisdictional water in a "typical year."

The cost analysis for the Rio Grande/Pecos River case study shows benefits of the NWPR to be minimal or negligible; however, the Agencies did not quantify or monetize the environmental effects and forgone benefits of the NWPR for this case study, blaming this deficiency on limitations in the data. Again, the Agencies chose to ignore their own research and data by disregarding the 2015 Economic Analysis of the EPA-Army Clean Water Rule, which monetized the ecosystem services and benefits from wetlands.[9] In fact, the estimation of nonmarket environmental values is not new — one notable example is compensation for the 1989 Exxon Valdez oil spill in the Gulf of Alaska. It is well known that wetlands provide many ecological and economic benefits to watersheds, such as: filtering and improving water quality; flood attenuation; erosion control; carbon sequestration; aquifer recharge; and providing fish and wildlife habitat and nurseries.[10] It is also known that ephemeral waters are ecologically and hydrologically significant in arid and semi-arid watersheds of the southwestern United States. Ephemeral waters: transport nutrients and sediment to downstream ecosystems; provide habitat for wildlife; and recharge aquifers used for drinking water.[11] The NWPR fails to account for the economic costs of degraded ephemeral streams and unprotected wetlands.

Regulatory *Uncertainty*

Claims of an era of regulatory certainty made possible by the NWPR are false. First, the NWPR significantly changes the national regulatory landscape, cutting away at the CWA authors' goal of establishing a level playing field to regulate discharges from state to state. In our 21st Century economy, hundreds of businesses that operate in multiple states will have the added burden of navigating state surface water regulatory regimes that once shared a common baseline through CWA program implementation.

Another area of regulatory uncertainty is the reliance in the NWPR on determining whether waterbodies are perennial or intermittent in a "typical year." A lack of connectivity or perenniality today or in a "typical year" is not a suitable feature that EPA, the Army Corps, and New Mexico can rely upon to define a jurisdictional water. Under the NWPR, ephemeral waters — such as the Santa Fe River, Rio Hondo, Jemez River, Rio Puerco, Tijeras Arroyo, and Rio Grande tributaries on the Pajarito Plateau (which contain legacy contamination from the Manhattan Project) — will have severed and interrupted jurisdiction in the middle and lower reaches. This creates a patchwork of jurisdictional and non-jurisdictional segments along the path of a river that make it nearly impossible to implement an effective water quality protection program, and likewise make it difficult for the regulated community to be certain of what is required of them.

Finally, the Agencies failed to address cross-media implications of the NWPR, thereby adding regulatory uncertainty for municipalities and businesses. The federal Resource Conservation and Recovery Act (RCRA) exempts wastewater treatment units from regulation under RCRA if, in addition to a number of other conditions, those units discharge effluent pursuant to an NPDES permit.[12] Under the NWPR in New Mexico, many facilities currently discharging pursuant to an NPDES permit are no longer required to have such a permit due to changed jurisdictional status of the receiving waterbody. As a result, these facilities may be subject to regulation under RCRA for the first time. Such facilities are likely to not have performed an analysis of whether they are subject to RCRA and will likely be operating in violation of RCRA requirements as a result. Given that a number of these facilities are industrial or municipal facilities that have not contemplated regulation as a RCRA treatment, storage, or disposal facility (TSDF), this will present an additional economic hardship on these facilities in New Mexico. If the industrial or municipal facilities discharging to an ephemeral stream lose NPDES permit coverage, these newly regulated TSDFs may also be deemed as land disposing of waste — or hazardous waste — as an implication of WOTUS.

New Mexico Water Protection

Harm Avoidance Precluded

Conclusion

Enactment of the CWA is one of our nation's great successes. Waters that fifty years ago were thick with pollutants from point and nonpoint sources now support thriving recreational and economic activities and improved ecological conditions for aquatic species and wildlife. Our quality of life has improved as a result.

As illustrated by all of the evidence above, the New Mexico Environment Department now faces a perfect storm of water quality devastation and economic harm from the rule itself and its rushed and reckless implementation by EPA and the Army Corps, which precludes any opportunity for New Mexico to cover the regulatory gap before irreversible degradation unfolds.

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Footnotes

1) For details of the Saint Mary's University of Minnesota model, visit https://www.arcgis.com/apps/Cascade/index.html?appid=f3de6b30c0454c15ac9d3d881f18ae33
2) *Economic Analysis for the Navigable Waters Protection Rule: Definition of "Waters of the United States."* U.S. Environmental Protection Agency and Department of the Army (January 22, 2020)
3) *See* https://www.americanrivers.org/2019/04/americas-most-endangered-rivers-of-2019-spotlights-climate-change-threats/
4) EPA Headquarters News Release (January 23, 2020), available at https://www.epa.gov/newsreleases/epa-and- army-deliver-president-trumps-promise-issue-navigable-waters-protection-rule-0
5) *Id*.
6) *State Constraints: State-Imposed Limitations on the Authority of Agencies to Regulate Waters Beyond the Scope of the Federal Clean Water Act* (2013), available at https://www.eli.org/research-report/state-constraints-state- imposed-limitations-authority-agencies-regulate-waters
7) *See* https://gonm.biz/uploads/documents/publications/AgricultureWEB.pdf
8) *Economic Analysis for the Navigable Waters Protection Rule: Definition of "Waters of the United States."* U.S. Environmental Protection Agency and U.S. Department of the Army (January 22, 2020)
9) *Economic Analysis of the EPA-Army Clean Water Rule*. U.S. Environmental Protection Agency and U.S. Department of the Army (May 20, 2015), available at https://www.epa.gov/sites/production/files/2015- 06/documents/508-final_clean_water_rule_economic_analysis_5-20-15.pdffd
10) *See* https://www.epa.gov/sites/production/files/2016-02/documents/wetlandfunctionsvalues.pdf
11) Levick, L., et al. 2008. *The Ecological and Hydrological Significance of Ephemeral and Intermittent Streams in the Arid and Semi-arid American Southwest*. U.S. Environmental Protection Agency and USDA/ARS Southwest Watershed Research Center, EPA/600/R-08/134, ARS/233046, 116 pp.
12) 42 U.S.C. § 6903(27)

LOWER SNAKE RIVER DAMS

FINAL COLUMBIA RIVER EIS CONSIDERS BREACHING FOUR LOWER SNAKE RIVER DAMS

by Stephen J. Odell, Marten Law (Portland, OR)

Lower Snake River Dams

Hydropower Projects

ESA-Listed Fisheries

Dam Breaching Alternative

Consideration Milestone

Fishery Focus

Modeling Reliance

Multiple Models

Purpose & Need

Introduction

Federal agencies recently issued a Final Environmental Impact Statement (FEIS) offering their first comprehensive analysis in 25 years of the effects of Columbia River System Operations (CRSO) pursuant to the National Environmental Policy Act (NEPA). CRSO includes 14 federal hydropower projects.

Prepared in conjunction with Biological Opinions evaluating System operations for compliance with the federal Endangered Species Act (ESA), a principal focus of the CRSO FEIS is how a panoply of various measures and six alternative overall strategies would affect ESA-listed salmon and steelhead.

The CRSO FEIS is noteworthy in large measure because it represents the first time that federal agencies have formally considered an alternative providing for breaching the four Lower Snake River dams that constitute an integral part of the System. The co-lead agencies (the US Army Corps of Engineers, Bureau of Reclamation, and Bonneville Power Administration) considered this dam-breaching alternative primarily in response to the federal district court opinion in which Judge Simon held that the agencies' previous NEPA analyses of System operations were either outdated or too narrow in scope. In dictum, the Judge strongly intimated that any future NEPA analysis that did not address such an alternative in detail would fail to satisfy that statute's requirement to consider a reasonable range of alternatives. *Nat'l Wildlife Federation v. Nat'l Marine Fisheries Service*, 184 F. Supp. 3d 861 (D. Or. 2016)(*NWF v. NMFS*)

While the CRSO FEIS "Preferred Alternative" for the most part tracks the flexible spill strategy the agencies have followed during the remand period following the *NWF v. NMFS* ruling, the detailed consideration of the Lower Snake dam-breaching alternative nevertheless represents a significant milestone. The CRSO FEIS systematically and expressly articulates the essential trade-offs between fish conservation and hydropower generation, reliability, and flexibility that in many respects lie at the heart of the public debate over breaching these dams — a debate that has been raging for decades.

Given the immensity of the CRSO FEIS — the main body of which is nearly 2500 pages and, along with its 24 appendices, runs to nearly 12,000 pages — this article focuses on some of its major features. It also offers a few insights on how a prospective Biden Administration, if elected, might tackle these issues moving forward, particularly in light of the analysis in the new FEIS.

Importance of Modeling to Projecting Effects to Listed Fish Species

The CRSO FEIS breaks down its analysis of effects into 17 categories of natural resources, values, and interests, from Hydrology and Hydraulics to Indian Trust Assets and Tribal Perspectives and Interests. As referenced above, its main focus is the 13 salmon and steelhead species listed under the ESA. The trade-offs reflected in the FEIS largely focus on taking steps to benefit those species vis-à-vis hydropower generation and operations to serve other ends (such as supporting the use of other renewable energy sources that are variable such as solar and wind).

In addressing effects to listed fish species, the co-lead agencies relied heavily on the use of models. This follows in large measure because of the multitude of biotic and abiotic factors and variables that affect the health, distribution, and abundance of species affected by the System at their various life stages. Modeling seeks to account for this complexity by relying on generally observed trends to project, at least in relative terms, how modifying one or more features of System operations might be expected to influence fish viability metrics over time. Unlike inquiries that proceed on the basis of the classic scientific method involving the testing of a discrete hypothesis that can be replicated under tightly controlled conditions and seek to keep all but the independent variable constant, however, using a model to make projections about effects on the life and persistence of species in the natural world is a considerably different exercise. In that light, the CRSO FEIS used multiple models that produced quite different results regarding expected projected benefits to fish species from potential System actions such as increased spill and dam removal, and based its projections of likely effects on a consideration of all such results.

Multi-faceted & Multi-layered Purpose & Need Statement

NEPA's implementing regulations provide that an EIS must include a "Purpose and Need" statement that, as its name implies, "briefly specif[ies] the underlying purpose and need to which the agency is responding in proposing the alternatives including the proposed action." The new version of NEPA implementing regulations that went into effect as of September 14, 2020, retains a similar, but slightly varied, formulation of this duty. 85 Fed. Reg. 43,304, 43,365 (July 16, 2020)(40 C.F.R. § 1502.13). The Purpose and Need Statement is critically important to the scope of any NEPA analysis because it is the filter used to determine which alternatives are worthy of full-blown, detailed consideration.

Lower Snake River Dams

Statutory Authority

Court Rulings

Principal Objectives

Structural Measures

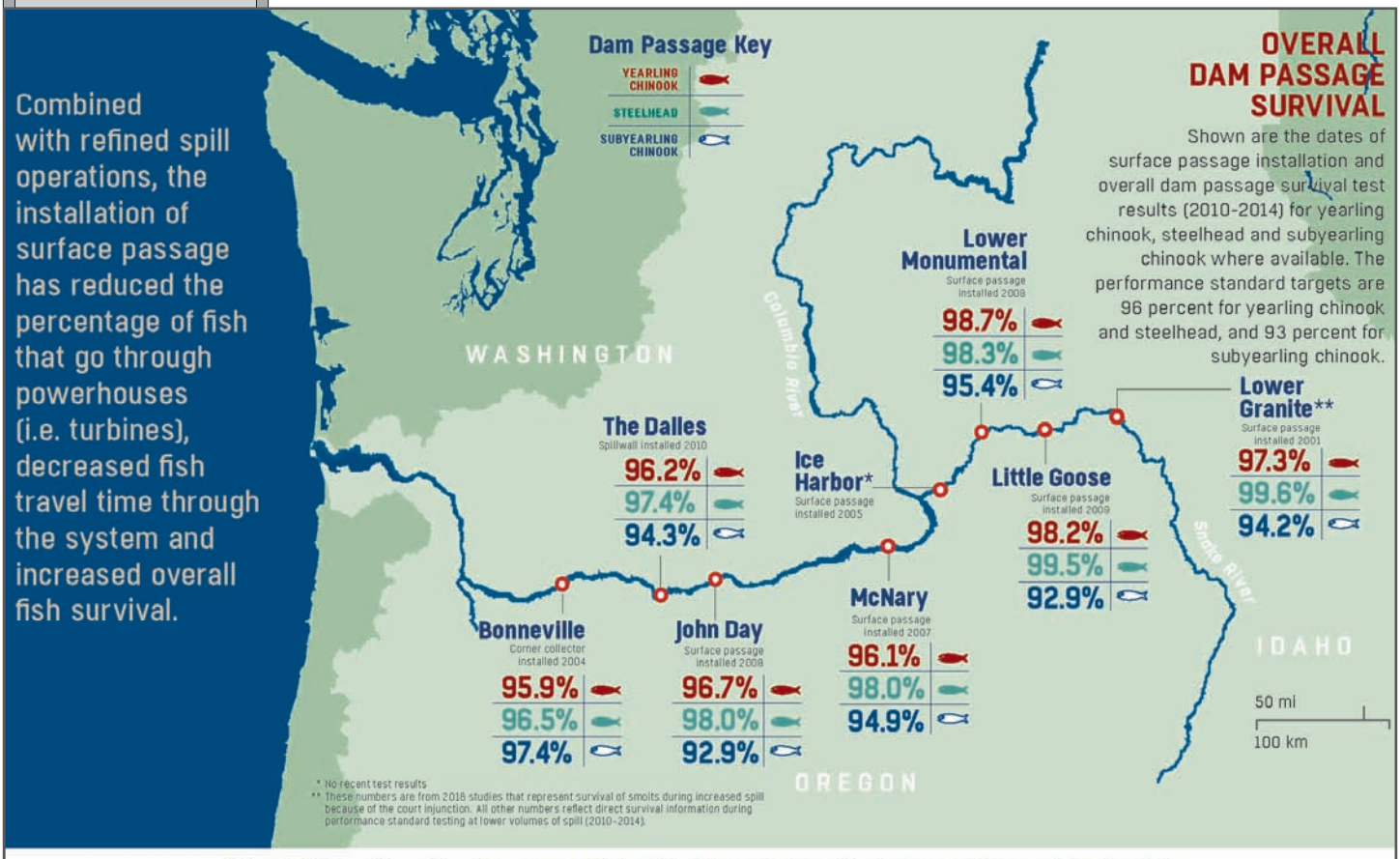
Operational Measures

In addressing the System's primary purposes, the CRSO FEIS looks to the statutory authority under which Congress directed the Corps and Reclamation to construct, operate, and maintain its 14 projects, comprising dams and associated reservoirs across four states (Oregon, Washington, Idaho, and Montana). The FEIS broadly articulates these purposes as flood control, navigation, hydropower production, irrigation, fish and wildlife conservation, recreation, municipal and industrial water supply, and water quality, from which it extrapolates a longer list of 13 more specific purposes. The overarching need to which the co-lead agencies state they are responding is "reviewing and updating the management of the System, including evaluating measures to avoid, offset, or minimize impacts to resources affected by the management of the System."

The FEIS also cites the need to respond to the rulings and observations of the court in *NWF v. NMFS*. The co-lead agencies then took a further step to identify eight principal objectives deriving from the Purpose and Need Statement to be achieved in formulating a strategy for future System operations designed to comply with the ESA, even though such a procedural measure is not prescribed by NEPA's implementing regulations. These objectives then formed the primary criteria against which each of the different action alternatives were evaluated in the FEIS.

Range of Alternatives

The alternatives section in an EIS was long referred to as its "heart" in NEPA's implementing regulations. This characterization is not carried forward in the new version of regulations effective as of September 14, 2020. 85 Fed. Reg. 43,304, 43,365 (July 16, 2020)(40 C.F.R. § 1502.14). In approaching this element for purposes of the CRSO FEIS, the co-lead agencies utilized a systematic process outlined in a 300-page appendix. This process ultimately led to the selection of six alternatives for in-depth consideration, five of which are characterized as Multiple-Objective ("MO") alternatives, including one identified as "Preferred," as well as a "No Action" alternative that by regulation is required to be analyzed in every NEPA document. Each of the MO alternatives in turn consist of a series of measures categorized as either Structural, which involve a physical change to one or more of the 14 System projects, such as installation or modification of a feature in a dam's spillway or fish ladder; or Operational, which involve a change in how water is stored or released at projects, or prescribe methods for transporting juvenile fish making their way downstream to the ocean around one or more projects.



Adapted from Executive Summary: Columbia River System Environmental Impact Statement

Lower Snake River Dams

Action Alternatives

Because operating the System is a quintessential ongoing action, the CRSO FEIS defines the "No Action" alternative as those operations and other measures in effect or planned when preparation of the document commenced in September 2016. The five action alternatives analyzed in detail can be described in shorthand terms as follows:

- Using a Block Spill Design to provide additional benefits to listed fish species (MO1);
- Prioritizing hydropower production and flexibility to prioritize reducing Greenhouse Gas emissions and to rely mostly on structural and transportation measures to benefit fish (MO2);
- Breaching the four lower Snake River Dams per the Court's strong admonition that such an alternative be considered in detail in the CRSO FEIS (MO3);
- Maximizing spill for the benefit of ESA-listed salmonids (MO4); and
- The Preferred Alternative, based on a flexible spill strategy designed to allow for adjusting operations to allow for achieving the best balance among the System's many purposes and objectives based on the dynamic circumstances in real time, as further explicated below.

Dam-Breaching

Dam-Breaching Alternative (MO3)

Because it has never before been considered in detail, and given the intense public interest in and strongly held views on — both pro and con — breaching the four Lower Snake River dams, a few additional remarks about how the CRSO FEIS analyzes MO3 are in order. First, the FEIS explains that new authorizing legislation and appropriations would be required to implement MO3 given that System projects were built and are operated pursuant to statutory direction. As the court noted in strongly urging consideration of the alternative in *NWF v. NMFS*, however, the version of NEPA's implementing regulations under which the CRSO FEIS was prepared provide that reasonable alternatives do not need to be "within the jurisdiction of the lead agency." This is a provision that, again, was not carried forward in the new version of the NEPA implementing rules that went into effect on September 14, 2020. 85 Fed. Reg. 43,304, 43,365 (July 16, 2020)(40 C.F.R. § 1502.14).

Authorizing Legislation

Power Supply Objective

Second, the CRSO FEIS reveals, as was widely expected, that its modeling showed the greatest predicted potential benefits for listed Snake River salmon and steelhead from MO3 among the alternatives considered in detail, but goes on to describe that it would not allow operation of the Lower Snake River dams to fully serve their other congressionally authorized purposes of navigation, hydropower, recreation, and water supply. More specifically, the FEIS explains that MO3 would not satisfy the objective of insuring a reliable and economic power supply for the Pacific Northwest, due in large measure to the reduction in hydropower generation that would result from breaching the dams as well as the loss of storage capabilities that greatly enhance the System's flexibility to readily supply load as needed to help avoid the risk of power shortages.

The "Preferred Alternative"

Balancing Objectives

The CRSO FEIS describes the Preferred Alternative as the one reflecting the best "balance" between the central trade-off presented in operating the System. This balance is comprised of managing the water that flows through it in a manner designed to benefit listed species by, among other things, increasing spill at its multiple dams, while at the same time avoiding unduly undermining the System's other main objectives, including most directly hydropower generation, reliability, and flexibility. The chief premise on which the Preferred Alternative seeks to achieve this balance is a flexible operations strategy that calls for spilling more water for fish passage when hydropower generation is less valuable and spilling less water when it is more valuable. This approach relies heavily on adaptive management and builds on the Flexible Spill Agreement worked out in response to the injunction the court entered following its ruling on the merits in which it ordered the co-lead agencies to seek consensus with the other parties on a plan to provide for increased spill at System projects so as to benefit listed fish species in the specific context of the features and purposes of each project and in light of the other objectives the System is designed to serve.

Operations Strategy

Principal Implications & Prospective Next Steps

Breaching Avoidance

As explained above, the CRSO FEIS evaluates five action alternatives in detail, including for the first time one that would provide for breaching the four Lower Snake River dams, which, as the Court itself openly acknowledged in *NWF v. NMFS*, it has been trying to get the co-lead agencies to consider adopting for decades. The Court described the alternative as one the federal agencies under various administrations "have done their utmost to avoid considering for decades," notwithstanding the Court's having "repeatedly and strenuously encouraged the government to at least study the costs, benefits, and feasibility of such action, to no avail." 184 F. Supp. 3d at 942.

Preferred Alternative

At the same time, it is almost certain the co-lead agencies will go ahead and eventually adopt the Preferred Alternative in their Record of Decision scheduled for issuance by September 30, 2020 (*see* below regarding release of the Record of Decision). This follows for two main reasons. First, the Preferred Alternative forms the basis of the "No Jeopardy" Biological Opinions both NOAA Fisheries and FWS issued (included as Appendices to the CSRO FEIS), and thus confirms the consulting agencies' position that the Preferred Alternative complies with the co-lead agencies' substantive ESA duties. Second, as has

Lower Snake River Dams

Administrative Changes

Super Majority Needed

Upcoming Litigation

Analytic Groundwork

Genie Escapes?

been conclusively established since the Supreme Court's opinion in *Strycker's Bay Neighborhd. Council v. Karlen*, 444 U.S. 223 (1980), NEPA's mandates are procedural in nature only, and merely require federal agencies to consider environmental effects, not give them priority.

Looking a little further ahead, it seems unlikely that a prospective Democratic Administration would come to a different result with respect to potentially preferring or adopting an alternative that would breach the four Lower Snake River dams. As an initial matter, as referenced above, the proposal is one the Court has been unsuccessfully attempting to get the United States to seriously consider for decades now under Administrations of both parties. Indeed, the court previously rejected multiple Biological Opinions issued during the Obama Administration in which Joe Biden served as Vice-President. *See NWF v. NMFS*, 184 F. Supp. 3d 861 (2014 Biological Opinion); 839 F. Supp. 2d 1117 (D. Or. 2011)(2010 Amended Biological Opinion). In addition, as explained above, dam breaching would require affirmative congressional authorization and funding to implement, and thus, it would also almost assuredly require a major shift in the composition of the Congress to the effect that Democrats would need not only to retain control of the US House of Representatives and obtain an effective majority of 50 seats in the US Senate to take control of that chamber as well (given that a Democratic Vice-President could vote to break any ties), but would instead need at least 60 Senate seats (presuming a straight party-line vote in sync with a new Administration) given the Senate's three-fifths rule governing cloture. STANDING RULES OF THE SENATE, S. DOC. NO. 113-18, SENATE RULE XXII.2.

Nevertheless, the detailed consideration of the dam-breaching alternative can be expected to have major repercussions in both the upcoming litigation that is almost certain to ensue upon the agencies' imminently expected final decision as well as on the decades-long debate in the region over the future of hydropower. In the most immediate sense, it makes it considerably more likely the co-lead agencies will be able to prevail on the NEPA claims that will almost inevitably be pursued to challenge that decision, given that they have now done what the court openly acknowledged it has been urging them to do in multiple previous rounds of litigation over System operations — namely to explicitly consider breaching the Lower Snake River dams.

On a broader scale, such consideration lays the analytical groundwork for potential later consideration of a determination to breach one or more of the four Lower Snake River dams. It does so in large measure by systematically laying out the economic costs and other trade-offs associated with such a policy decision. That is, the comprehensive analysis in the CRSO FEIS of the array of likely effects from breaching those dams provides a concrete, explicit rendering of both how that measure would mitigate those dams' undeniable long-standing impacts on listed fish species, while at the same time undermining certain other purposes of the System on which the region has come to depend since its completion. Bringing these trade-offs into even starker relief in the current political milieu are the facts that hydropower is renewable, carbon-free, and well-suited to support and complement other forms of renewable energy that are variable and non-dispatchable such as solar and wind. Finally, simply talking about dam breaching on the Lower Snake River elevates the political discussion around its feasibility, as the "genie is out of the bottle" for such a prospect. Only time will tell whether analysis will ultimately lead to adoption.

[**Editor's Note:** While this article was being edited, the joint Record of Decision (ROD) on the Columbia River System Operation EIS became available, following its signing by the US Army Corps of Engineers, Bureau of Reclamation, and Bonneville Power Administration on September 28, 2020. The ROD documents the Preferred Alternative as identified in the final Environmental Impact Statement, as the Selected Alternative for implementation and the agencies' final decision. The ROD is the final step in the Columbia River System Operations National Environmental Policy Act process. A copy of the ROD is available at: www.nwd.usace.army.mil/CRSO/].

This article is a slightly edited version of an article first appearing in Marten Law Group's very informative newsletter and is reprinted with much-appreciated permission.
See: wwwmartenlaw.com/news-and-insights

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Yakima Plan Dissent

YAKIMA BASIN INTEGRATED PLAN: DISSENT

BAD PRECEDENTS CONTINUE IN THE YAKIMA RIVER BASIN

by Brock Evans, past-President, Endangered Species Coalition,
Karl Forsgaard, past-President, Alpine Lakes Protection Society,
Chris Maykut, President, Friends of Bumping Lake,
& John de Yonge, President, Wise Use Movement

Editors' Note: *The Water Report* (*TWR*) published an overview of the Yakima Basin Plan by two Yakima River Basin Workgroup members in *TWR* #106 (December 15, 2012). *TWR* published a response of concerns in *TWR* #108 (February 15, 2013) by Evans, Forsgaard, Maykut, and Elaine Packard, with a reply from the Yakima Plan proponents. In addition, two perspectives on a Washington State Legislature mandated benefit/cost analysis of the Yakima Plan, prepared by the State of Washington Water Resources Center, and a rebuttal were published in *TWR* #135 (May 15, 2015). *TWR* #186 (August 15, 2019) included: "*Basin-Wide Water Collaboration – The Yakima Basin Integrated Plan At 10 Years: From Inspiration to Implementation*" by Steve Malloch (a Yakima Workgroup participant).

The following article includes what its authors believe to be important concerns regarding the Yakima Plan that have not been addressed by Yakima Plan supporters. It is followed by an article featuring the perspective of two Yakima Plan implementers.

Introduction

Yakima Project

The Yakima Project is a Bureau of Reclamation (Reclamation) federally authorized and funded complex mixture of plumbing from reservoirs and canals in south-central Washington State. It diverts Yakima River Basin water to Yakima irrigation districts. Over the past century, operation of the Project has resulted in significant adverse impacts to instream flows, drastically reducing the numbers of returning anadromous fish, with sockeye, coho, and summer chinook runs totally eliminated. (The Yakama Indian Nation has made efforts in recent years to restore a sockeye run at Lake Cle Elum. *See* below.) Steelhead and bull trout are listed as threatened species under the Endangered Species Act (ESA). No ESA Biological Opinion has ever been issued for Reclamation's existing Yakima Project.

Irrigation Rights

By comparison, in 1945, after years of suing each other in court, the irrigation districts entered into a Federal Court Consent Decree (*see*: *Kittitas Reclamation District v. Sunnyside Valley Irrigation District*, Civil Action No. 21 (Eastern Dist. of Washington, Southern Division, (Jan. 1945)). The Consent Decree provided that during drought years, irrigation districts with claims before 1905 (seniors or nonproratables) would receive 100 percent of their "water entitlements" from the Total Water Supply Available (TWSA). Nonproratable water rights are defined as "Pre-Yakima Project senior water rights related to natural flows that are served first and cannot be reduced until all the proratable rights are regulated to zero." (*See*: *Yakima River Basin Integrated Water Resource Management Plan FPEIS* (March 2012), p. GL-4; Available at www.usbr.gov/pn/programs/yrbwep/reports/FPEIS/fpeis.pdf). Irrigation districts with claims with a 1905 priority date (proratables) would receive a reduced share of water. Proratable water rights are defined as "Newer junior water rights related to storage water that, in water short years, receive less than their full right on a prorated basis." (*Id*.) For example, the Roza Irrigation District and Kittitas Reclamation District have only proratable water rights and are subject to curtailment during a drought year. Other districts such as the Wapato Irrigation Project and the Sunnyside Irrigation District have a mixture of proratable and non-proratable water rights.

Equity?

The Yakima Basin is over-allocated. An equitable solution would have been for *all* irrigation districts to carry out water conservation, water efficiency measures, and water banking to share water during a drought and to provide optimum, rather than minimum in-stream flows.

Dam Sites

Setting a bad precedent, however, Yakima River Basin irrigation districts instead ramped up their efforts to lobby Congress and the Washington State Legislature to build new irrigation dams that resulted in research and rejection of over 30 dam sites as part of the Yakima Plan process. (*See*: *Yakima River Basin Integrated Water Resource Management Plan FPEIS* (March 2012), Table 2-1, pp. 2-43 to 2-44. Available at www.usbr.gov/pn/programs/yrbwep/reports/FPEIS/fpeis.pdf)

Yakima Plan Dissent

Prior Legislation

The summary in the section on Prior Legislation contained in *TWR* #186's article is selective. Despite bills introduced in Congress by Senators Magnuson and Jackson and Representative McCormick during the late 1970s to authorize construction of a new 458,000 acre-foot dam below Bumping Lake, Congress passed the Yakima River Basin Water Enhancement Program in 1979, which did not authorize any new irrigation dams. Rather, it required a feasibility study of the Yakima River Basin Water Enhancement Project, including an analysis by the U.S. Geological Survey of the water-supply data for the Yakima River Basin. (P.L.96-162, December 28, 1979).

Storage Projects

Indeed, when Reclamation released its *Final Planning Report/Environmental Impact Statement Volume 1 Yakima River Basin Water Storage Feasibility Study* nearly 30 years later in December 2008, Reclamation concluded that none of the water storage projects it examined was economically feasible. (Available at: www.usbr.gov/pn/studies/yakimastoragestudy/reports/eis/final/volume1.pdf).

The Yakima Plan Collaboration Narrative is False

OCR Alternative

In response to Reclamation's 2008 negative analysis on new irrigation dams, the Washington State Department of Ecology's (Ecology's) Office of Columbia River (OCR), with the help of consultants, developed a separate Integrated Water Resource Management Alternative in order to "sweeten the pot." This "Alternative" contained proposals for fish passage, structural and operation changes, improvements to the Wapato Irrigation Project, new or expanded storage reservoirs, groundwater storage, fish habitat enhancements, enhanced water conservation, and market-based reallocation of water resources. (*See*: *Final Environmental Impact Statement Yakima River Basin Integrated Water Resource Management Alternative* (June 2009, pages FS-3, S-2, and S-3; Available at: https://fortress.wa.gov/ecy/publications/documents/0912009.pdf).

Collaborative?

The narrative promoted by Yakima Workgroup members, such as Mr. Malloch, that the Yakima Plan was the result of a collaborative effort by all Yakima Workgroup members is simply false. Rather, Reclamation and OCR assembled a Yakima Workgroup for its first meeting in June 2009, and, dominated by irrigation districts, merely rubber-stamped the multi-element plan previously selected and released by Ecology's OCR. Thus, the 2012 "Yakima Plan" assured that during drought years, senior irrigation districts would continue to receive their full entitlement, while proratable districts agreed that they could get by economically with 70 percent (pro-rated) of delivery water. In addition, commitments for new irrigation dams were made while water conservation efforts would continue to be voluntary.

Districts' Entitlement

TWR #186 did not address a *Columbia River Basin Long-Term Water Supply and Demand Forecast 2016 Legislative Report*, which forecasted a *decrease* in out-of-stream demand by 2035:

Demand Decrease

> ...agricultural water demand — which accounts for approximately 79.4% of total out-of-stream demand (agricultural plus municipal) — is forecast to *decrease* by approximately 4.96% (±0.81%) by 2035, across the entire Columbia River Basin. This decrease is somewhat greater within Washington, where it is forecast to reach 6.87% (±0.98%) (Table ES-2).(emphasis added)

Ex. Summary, page x, available at: https://fortress.wa.gov/ecy/publications/documents/1612001.pdf.

This report was submitted to Ecology pursuant to RCW 90.90.040 by: Washington State University, State of Washington Water Research Center, Center for Sustaining Agriculture and Natural Resources, Biological Systems Engineering, Civil and Environmental Engineering, School of Economic Science, Pullman, WA. (*See also: TWR* #187, September 15, 2019).

In spite of a state-wide drought in Washington in 2015, *The Evaluation with Recommendations by the Washington State Academy of Sciences of Interim Report: 2015 Drought and Agriculture, Washington State Department of Agriculture*, (December 2016) found that net farm income for Washington in 2015 was higher than in any of the previous four years by a significant amount:

Net Farm Income Increased

> The economic effects of the 2015 drought described in this interim report are based on gross rather than net revenue lost. This can account for an incongruity between the estimated gross revenue lost stated in this report and the fact that *net farm income* for Washington in 2015 *was higher* than in any of the previous four years by a significant amount. (emphasis added), page 2.

(Available at: https://agr.wa.gov/FP/Pubs/docs/495-2015DroughtReport.pdf).

State and Federal Authorization of Yakima Plan

Benefit/Cost Analysis

Similarly, the *TWR* #186 article fails to mention the results of the 2014 B/C (Benefit/Cost) analysis required by the Washington State Legislature for each of the proposed Yakima Plan projects, nor the fact that despite the proposed Yakima projects costing more than the benefits, the Legislature nonetheless committed the state to fund 50 percent of the entire multi-billion dollar Yakima Plan.

Yakima Plan

Net Benefits

It is bad precedent to support or fund uneconomical water projects. Therefore, it is worth summarizing various benefits/costs points here:

Net benefits (NB) for out-of-stream use of individual water storage projects — implemented with no other projects implemented — are negative, with some exceptions under the most adverse climate and water market conditions. Based on moderate climate and market outcomes, storage infrastructure projects implemented alone (i.e. without proposed Yakima River Basin Integrated Plan (IP or Yakima Plan) instream flow augmentation) result in the following estimated out-of-stream net present value and B/C ratios, none of which passes a B/C test:

- Bumping Lake Expansion: NB = -$371 million; B/C ratio of 0.18
- Cle Elum Pool raise: NB = -$6 million; B/C ratio of 0.62. Under the most adverse climate scenario and moderate market conditions, NB = $5 million with a B/C ratio is 1.35. It is also the most likely of the storage projects to satisfy a B/C test under moderate climate, based on the sum of out-of-stream and instream use value.
- Keechelus to Kachess Conveyance: NB = -$110 million; B/C ratio of 0.20
- Kachess Drought Relief Pumping Plant: NB = -$107 million; B/C ratio of 0.46. Under the most adverse climate considered, Keechelus to Kachess Conveyance Project (K-to-K Project) and Kachess Drought Relief Pumping Plant together provide net benefits of $6 million and a B/C ratio of 1.02. (*Note: Although authorized by Congress, the K-K Conveyance project is no longer being pursued*).
- Passive Aquifer Storage and Recovery: NB = -$82 million; B/C ratio of 0.35
- Wymer Dam and Reservoir: NB = -$1,217 million; B/C ratio of 0.09
- Due to diminishing economic returns to water in the basin, increasing the number of IP storage projects reduces the value of each water storage project implemented.

Yoder, J. et al. *Benefit–Cost Analysis of the Yakima Basin Integrated Plan Projects*, Washington State University Water Research Center, 2014, page 3. (Available at: https://wrc.wsu.edu/documents/2014/12/ybip_bca_execsumm_swwrc_2014.pdf/; *see also TWR* #135).

Limited Testimony

Yakima Plan Subtitle Bill

Efforts to pass a stand-alone Yakima Plan bill in Congress during the 2010's failed. Only a single U.S. Senate Natural Resources Committee hearing was held (July 7, 2015) with only Yakima Plan supporters allowed to testify. No hearings were *ever* held by the companion U.S. House committee. Such an approach sets a bad precedent for authorizing new Reclamation projects. The Yakima Plan bill was then dropped as a subtitle into the 2019 John D. Dingell, Jr. Conservation, Management, and Recreation Act (P.L. 116-9) (Dingell Act). Among its provisions, the Dingell Act authorizes the Secretary of Interior to negotiate a long-term agreement with a "participating proratable irrigation entity in the Yakima River basin for the non-Federal financing, construction, operation, or maintenance of the [Kachess] Drought Relief Pumping Plant or the Keechelus to Kachess Pipeline." (P.L. 116-9, Sec. 8201(c)(1)(A). However, no irrigation district has produced a written commitment to do so. As explained above, the entire cost of the Kachess Pumping Plant to pump up to 200,000 acre-feet of water out of Lake Kachess could be borne by state taxpayers under the 2013 State Yakima Plan authorization (2SSB 5367).

Flawed Process

Furthermore, the purpose of the Federal and State Environmental Policy Acts is to provide decision-makers, including legislators, with an analysis of the environmental impacts and alternatives to projects. Instead, after strong lobbying by the Yakima Workgroup Implementation Committee, which is closed to the public, *both* the Washington Legislature and Congress authorized the Kachess Pumping Plant and Keechelus-to-Kachess Conveyance Project after an inadequate Yakima Plan programmatic EIS was issued and before the full potentially significant adverse impacts were disclosed. Another bad precedent. Yet, now the K-to-K Project has been abandoned (after Congress just authorized it in Sec. 8201(c)!) and no viable or economical Kachess Pumping Plant plan has been produced. Meanwhile, although the Lake Kachess Pumping Plant project is now authorized by Congress, no fish passage at Lake Kachess was included.

Yakima Plan Development

Uneven Implementation

Malloch's narrative in *TWR* #186 that each phase of the Yakima Plan is "designed to move each of the seven elements forward," is also *false*. Although it had little to do with water supply problems in the Yakima Basin, the Washington Legislature's decision to immediately purchase and implement a Teanaway Community Forest in 2013, essentially completed this plan element, leaving other elements, such as aquifer storage far behind. Given the billions of dollars that the Yakima Plan would cost, it is not feasible to move all elements forward "simultaneously."

The Yakima Workgroup and the Department of Ecology has been insistent that in order to hold the group together, all elements were to move forward "simultaneously," even though this is simply not

Yakima Plan

feasible, as documented by the 2013 purchase of the Teanaway Community Forest. Ecology's 2019 Implementation Status Report states: "All projects are associated with one or more of seven essential watershed improvement elements identified in the integrated Plan that workgroup members have committed to moving forward simultaneously." (April 2020 Publication 19-12-005; *see* https://fortress.wa.gov/ecy/publications/documents/1912005.pdf).

New Irrigation Dams are a Bad Precedent

New Dams' Impacts

A new Wymer dam, north of the city of Yakima, would flood critical shrub-steppe habitat used by sage grouse. There is no possible mitigation for the loss of this habitat. In addition, the Water Resources Center's B/C analyses demonstrated that this project does not have a positive B/C ratio (*see* above). A new Bumping Lake dam placed downstream would flood critical habitat for bull trout and ancient forests. The contingency valuation of the ancient forests that would be lost at Bumping Lake has been estimated at $1.85 billion dollars. (*See*: Yoder, J. et al. *Benefit –Cost Analysis of the Yakima Basin Integrated Plan Projects*, pp. 108-109. Available at https://wrc.wsu.edu/documents/2014/12/ybip_bca_swwrc_dec2014.pdf/).

New Storage Proposed

OCR has also been spending money on studying new irrigation storage dams in the Yakima Basin not included in the current Yakima Plan. The Yakima Workgroup's April 2020 Project Activities Update listed two proposed storage projects:

- Upper Yakima System Storage
- N. F. Cowiche Creek Reservoir

Neither of these two proposed storage projects appears in the March 2012 Yakima Plan FPEIS, or in Washington State Legislature or Congressional legislation. It is another bad precedent to allow the Yakima Workgroup to continually add new water storage projects that were not addressed by the Yakima Plan FPEIS.

Impacts to Bull Trout

ESA Issue

The Yakima Plan's Lake Kachess Pumping Plant and new downstream Bumping Lake dam would result in adverse impacts to ESA-listed threatened bull trout. Without an ESA Biological Opinion on Reclamation's existing Yakima Project to establish a baseline, proceeding further with the above projects is another bad precedent. Previous efforts to place plastic and hay bales at the mouth of Box Canyon Creek in Lake Kachess to assist with bull trout passage resulted in failure as the plastic and hay bales were strewn all over the Lake Kachess mud flats. Recent attempts to place woody debris in Box Canyon Creek have likewise been a failure. Proposals to reconfigure Gold Creek above Lake Keechelus to enhance bull trout remain controversial.

Lake Cle Elum Fish Passage

Fish Passage Flows

The $132 million project at Lake Cle Elum is an untried high-tech effort to allow downstream fish passage from a fluctuating irrigation water project. What *TWR* #186's article does not disclose is that temperature blockages in the Columbia River, caused in part by the lower Snake River dams, may prevent sockeye salmon from returning to the Cle Elum River via the Columbia and Yakima Rivers during high summer temperature drought years. This puts at risk the millions of dollars invested in the Cle Elum Dam Fish Passage project. Yet, the Yakima Workgroup has yet to support removal of the lower Snake River dams.

Voluntary Water Conservation is Inadequate

Conservation Targets

As the *TWR* #186 article mentions, the Dingell Act established a goal of 85,000 acre-feet of water conservation by 2029. However, this is hardly the aggressive water conservation program needed in the Yakima Basin. In 1994, P.L. 103-434 (Phase II of the Yakima River Basin Water Enhancement Project - YRBWEP) authorized $23 million for implementation of system improvements to the Wapato Irrigation Project, as well as $8,500,000 for a Yakama Indian Reservation Irrigation Demonstration Project for the construction of distribution and on-farm irrigation facilities, including for irrigation water management and conservation. P.L. 103-434, Sec.1204 (1994).

The 1994 authorized targets are found in Sec. 1201(4):

> (4) to realize sufficient water savings from the Yakima River Basin Water Conservation Program so that not less than **40,000 acre-feet** of water savings per year are achieved by the end of the fourth year of the Basin Conservation Program, and not less than **110,000 acre-feet** of water savings per year are achieved by the end of the eighth year of the program, to protect and enhance fish and wildlife resources; and not less than **55,000 acre feet** of water savings per year are achieved by the end of the eighth year of the program for availability for irrigation; (emphasis added)

Yakima Plan Dissent

Unmet Goals

Water Banking Analysis

In a letter dated September 4, 2015, the Bureau of Reclamation confirmed that of the 165,000 AF water conservation targets, Congressionally authorized in the 1994 YRBWEP II, Yakima irrigation districts had achieved only 40,000 acre feet of water savings for instream flows and 13,000 acre feet for irrigation. In addition, two districts had not installed water measuring devices (available at: http://ucrsierraclub.org/pdf/Yakima_BuRec_accomplishments_YRBWEP_letter_9-4-2015.pdf). According to Malloch in *TWR* #186 (page 10), projects conserving 67,000 AF had been completed as of 2020.

Yakima River Basin irrigators have *still* not achieved the water conservation targets set by Congress over a quarter century ago. In addition, using Reclamation's WaterSMART grant awarded in 2017, Kittitas Reclamation District and partners, Trout Unlimited and Mammoth Trading, continue to merely analyze water banking and market-based reallocation of water within Kittitas County. As noted in the *TWR* #186 article, while Congress has now authorized pumping 200,000 acre-feet of water out of Lake Kachess, the Yakima Plan "is still in the early stages of a study of increasing the role of voluntary transfer in the Yakima basin." (*TWR* #186, page 10). Authorizing billions of dollars for water projects for irrigators, while making water conservation, water efficiency, and water banking voluntary, is yet another bad precedent.

Collaborative Planning Efforts are not a Panacea

"Collaborative" Proponents

Ironically, as fish-killing dams around the Northwest continue to be removed, Ecology's dam-building empire may have come to an end before it could rival that of Reclamation. Ecology was recently involved in controversial proposals for additional water storage projects in Washington's Alpine Lake Wilderness through yet another OCR exclusive, collaborative Icicle Work Group process (*see*: https://www.co.chelan.wa.us/natural-resources/pages/icicle-work-group; and Kaputa, *TWR* #162). Despite Ecology's strong push for a new large flood-control dam in the Chehalis River Basin — also initiated through a "collaborative" Chehalis Basin Work Group— in July 2020, Washington Governor Jay Inslee stepped in and requested development of a basin-wide, non-dam alternative to flood damage reduction that would evaluate the potential to avoid, minimize, and mitigate the impacts of the flood retention and other flood risk reduction projects. Governor Inslee also halted Ecology's EIS process through the end of 2020. (Available at: https://ecology.wa.gov/DOE/files/8d/8d0eb4f5-14aa-45e4-b7c4-6a24854eebae.pdf). Rounding up project proponents in an agency run small "collaborative" planning effort, which excludes other interested parties, remains a bad precedent.

SUMMARY

Impediments

RCW 90.38.100 (2) provides:

> If, after a good faith effort to achieve the water supply facility permit and funding milestone, it appears that the milestone cannot or may not be met, the department [of Ecology], in consultation with the United States bureau of reclamation, the Yakama Nation, Yakima river basin local governments, and key basin stakeholders, shall provide a detailed description of the impediments to achieving the milestone, describe the strategy for resolving the identified impediments, and, if necessary, recommend modifications to the milestone.

Self-Reporting Problems

The Washington Legislature cannot rely on Ecology to self-report problems with the Yakima Plan. In April 2020, Ecology prepared a *2019 Yakima Basin Integrated Plan Implementation Report – Office of Columbia River*; Publication 19-12-005, for the Washington State Legislature which ignored many relevant facts concerning the uneconomical and environmentally damaging projects proposed by the Yakima Plan. (Available at: https://fortress.wa.gov/ecy/publications/documents/1912005.pdf). The Washington State Audit Office needs to prepare a performance audit on the Office of Columbia River's entire Yakima planning process before more bad precedents are set, as outlined in the 2016 Power Consulting Report: "Department of Ecology Office of Columbia River: The Last Ten Years" (Available at: http://ucrsierraclub.org/pdf/OCR-Power-Report_12-3-2016%20.pdf; *TWR* #156, February 15, 2017, page 30).

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Chris Maykut is the President of Friends of Bumping Lake and the fourth generation of his family to recreate and enjoy the area and surrounding William O. Douglas Wilderness. He is a native Seattlite who works to support small family businesses and community non-profits in North Seattle. Chris is an avid outdoorsman and environmentalist who is committed to protecting the biodiverse and unspoiled nature around Bumping Lake for current and future generations to enjoy.

Yakima Plan

YAKIMA BASIN INTEGRATED PLAN

PRAGMATIC PROGRESS IS A GREAT PRECEDENT

by Phil Rigdon,
Superintendent, Natural Resources Department, Confederated Tribes and Bands of the Yakama Nation
& Scott Revell,
District Manager, Roza Irrigation District

Introduction

Collaborative Solutions

Collaborative solutions to complex water resources problems are not a panacea — as Evans et al. point out in their article in this issue. On the other hand, where people with long histories of conflict work together to solve each other's issues, remarkable progress overcoming water resource challenges can be made. The August 2019 edition of *The Water Report* (#186) included an account of many of the projects and processes that we are working on together in Washington's Yakima River Basin. That we represent vastly different interests and perspectives but continue our commitment to the Yakima Basin Integrated Plan (the Integrated Plan), is evidence that working together pragmatically can solve longstanding issues in the Yakima Basin.

Yakima Basin Integrated Plan Narrative

Plan Genesis

Adversaries Cooperate

Evans et al. characterize the genesis of the Integrated Plan as a proposal by Washington State's Department of Ecology that was "rubber-stamped" by a select group of basin interests. That view ignores historical fact. What is now the Integrated Plan began as a proposal by our organizations (two long-time adversaries) — the Roza Irrigation District (Roza) and the Confederated Bands and Tribes of the Yakama Nation (Yakama Nation) — as an attempt to achieve peaceful and pragmatic solutions to Yakima Basin's water wars.

Water & Fishery Issues

In 2008, the US Bureau of Reclamation (Reclamation) was conducting a Planning Report and Environmental Impact Statement for a project to pump water from the Columbia River and store it in the proposed Black Rock Reservoir to supplement Yakima River water supplies. The Yakama Nation opposed Black Rock on many grounds. Roza concluded that its growers could not afford to pay for water supplied by Black Rock. For decades, Roza and the Yakama Nation were adversaries — as one retired Yakama Nation staff member puts it, "even talking to Roza staff was a firing offence." But both Roza and the Yakama Nation needed to find a way to address the water and fishery issues in the Yakima Basin, and Black Rock was not it.

Integrated Approach

Ron Van Gundy, predecessor to one of the co-authors of this article as General Manager of Roza, took a bold step by asking the other co-author, Phil Rigdon, Director of Natural Resources for the Yakama Nation, to discuss solutions to their mutual concerns with Black Rock. Those conversations culminated in a joint letter from the Yakama Nation and Roza to the Washington State Department of Ecology (Ecology), laying out an integrated approach that included six of the seven elements of what eventually became the Integrated Plan.

The Integrated Plan is not something dreamed up by Ecology; it is a thoughtful proposal from diverse and wide-ranging constituencies in the Yakima Basin willing to work with each other and state and federal agencies to solve longstanding problems through new approaches.

Yakama Nation and Environmental Justice

Yakama Nation Interests

Evans et al. not only mischaracterize the origin story of the Integrated Plan, but also continue the much longer tradition of failing to acknowledge and address the interests and actions of the Yakama Nation. With deeply vested interests in both fish and irrigation, the Yakama Nation is central to water issues and solutions in the Yakima River Basin.

Fishery Restoration

The Yakama Nation reserved its rights to hunt, fish, and gather in the usual and accustomed places in its 1855 Treaty with the United States. The Yakima Basin once produced 800,000 or more salmon a year but only a few thousand were returning by the mid 1990's. Sockeye, Coho and Summer Chinook were extirpated. Bull Trout and Mid-Columbia Steelhead were listed under the federal Endangered Species Act. These fish are essential to the Yakama Nation's culture and economy. Since the 1980's the Yakama Nation has led efforts to restore salmon and steelhead in the Basin, taking on countless restoration projects, and reintroducing the extirpated species. Central to fishery restoration is constructing fish passage at Reclamation's five main storage reservoirs, all originally built without fish passage, which would allow access to high-elevation, cold water habitat.

Yakima Plan

BIA Irrigation Project

Fish Passage

Treaty Obligations

Public Benefits

Inactive Storage Access

Climate Change Considerations

Expenditures

Conservation Impediments

Located within the Yakama Reservation is the Wapato Irrigation Project (WIP), the largest federal Bureau of Indian Affairs irrigation project in the country, and the largest holder of irrigation water rights, both senior and proratable, in the Yakima Basin. WIP is in poor condition, with a backlog of more than $138 million in deferred maintenance. The Yakama Nation is leading planning and engineering projects to modernize WIP, increasing water conservation and efficiency as well as ecosystem restoration, benefiting both Tribal members and non-Tribal agricultural producers.

The Integrated Plan addresses the twin stark injustices of fishery degradation and neglect of the Yakama Nation's irrigation project. One fish passage project authorized in 1984 but never built is now under construction, with additional projects in planning. Investments in WIP are being made. The water storage projects attacked by Evans et al. are central to both fishery restoration and irrigation sustainability for the Yakama Nation. There is acute irony in having those who enjoy the recreational and aesthetic benefits of Reclamation reservoirs defending their pristine status when construction and operation of those reservoirs destroyed the salmon fisheries relied upon by the Yakama Nation since time immemorial and promised to the Tribe in treaties.

The Integrated Plan is a means of addressing unfulfilled treaty obligations and providing justice and equity for the Yakama Nation, while respecting the economies and values of the other communities in the Yakima Basin.

Roza Irrigation District and Economic Decisions

A significant portion of Evans et al.'s article is devoted to restating economic analysis by the Washington State Water Research Center of various possible Integrated Plan water storage projects. A core value in the Integrated Plan is considering who is paying for projects — taxpayers and others — and ensuring public investment results in public benefits. Most of those water storage projects are in very early development; as planning continues the economics, financing, and benefits will be evaluated.

One of those projects, however, is well along in planning — i.e., the Kachess Drought Relief Pumping Plant (KDRPP). KDRPP would allow access to up to 200,000 acre-feet of the 586,000 acre-feet of water in inactive storage (water already in storage below the outlet of the Kachess Dam) during declared droughts. Roza is the primary beneficiary of KDRPP and is interested in financing, constructing, and operating the project — a position Roza's Board reiterated on September 23, 2020, when it approved going forward with engineering and the next phase of environmental review for a floating pumping plant.

Among the driving forces behind Roza's decision to invest in KDRPP is a recognition that droughts will continue to occur, and the climate is changing. Many climate change projections for the Pacific Northwest include increased total average precipitation, but also a shift of precipitation to rain rather than snow and earlier snow melt, combining to reduce snowpack storage of water. Further projections are for greater variability in precipitation. Loss of snowpack storage and variability (specifically drought) decrease water available for irrigation during the summer, which is why Roza is interested in increased water storage. From the perspective of Roza and its Board, investing in the estimated $200 million cost of the pumping plant is money well-spent compared to drought impacts, such as the $77 million in crop losses suffered in the district during the 2015 drought. Investing in KDRPP is a checkbook-backed statement of how Roza sees the project economics.

Water Conservation

Water conservation is at the heart of the Integrated Plan — making best use of available water for both out of stream use and instream use is essential when water is in short supply. For example, Roza has spent more than $50 million of grower's money on system conservation projects and estimates on-farm investments at greater than $100 million on water efficiency since 1983.

Evans et al. correctly point out that 1994 federal legislation laid out water savings targets that have not been met. That is not because we are not committed to water conservation. Rather, the *Acquavella* adjudication (*see* sidebar) reduced incentive for some water users to participate in conservation, and the structure of the 1994 targets made only a small portion of potential conservation eligible to be considered. The result was not enough conservation projects to meet the targets. With the trial phase of the adjudication finished and 2019 federal Integrated Plan legislation extending eligibility to conservation throughout the Basin, conservation is now limited by the lack of available funding, not by a lack of willing and eligible participants. We are working together to solve those funding challenges.

Acquavella Adjudication

The historic *Ecology v. James Acquavella, et. al*. adjudication determinedand confirmed all surface water rights in the Yakima River Basin. The court entered a final decree on May 9, 2019. The case prioritized about 2,300 water rights in the Yakima Basin including Benton, Kittitas, and Yakima counties, and a small portion of Klickitat County. In 1977, Ecology filed an action in the Yakima County Superior Court to determine the legality of all claims for use of surface water in the Yakima River Basin. *Acquavella, et. al.* led to a thorough examination of evidence verifying each claim for the right to use surface water in the Basin. Closure of this decades-long adjudication settles old conflicts, reduces future conflicts, protects confirmed rights, and increases value to water right holders. Adapted from Ecology website

Yakima Plan

Adaptive Management

Pragmatic Progress

Adaptive Management

The Integrated Plan is a 30-year effort. While the Programmatic Environmental Impact Statement finalized in 2012 laid out a plan, the Integrated Plan supporters have always recognized that: new problems would arise; new solutions would be developed; creative new projects would be proposed and evaluated; and that conditions would change. In part to make a long process manageable and in part to address the certainty of innovation, the Integrated Plan is being implemented in three 10-year phases. Adaptive management is not an Integrated Plan flaw, it is one of the Plan's strengths.

Conclusion

Pragmatic progress is the touchstone of the Integrated Plan, with collaborative efforts moving projects forward.

Projects that were stalled for decades by conflict are now in progress:

- More water will be stored in Cle Elum Reservoir by 2025 through a project authorized in 1994 because of the Integrated Plan.
- Fish passage is due to be completed in Cle Elum Reservoir by 2025, completing a project authorized in 1984 because of the Integrated Plan. Fish passage projects at other BuRec reservoirs are being planned.
- KDRPP, which will provide drought relief long sought by agricultural producers, is now in design and will shortly commence Tier II environmental review because of the Integrated Plan.
- The over 50,000-acre Teanaway Community Forest acquisition, sought for more than a decade, was realized because of the Integrated Plan.

We recognize that with projects of this scale, complexity and number, there will be some who oppose parts of the Integrated Plan. Our goal is pragmatic progress, not a panacea, and we are achieving that progress together. That is a great precedent.

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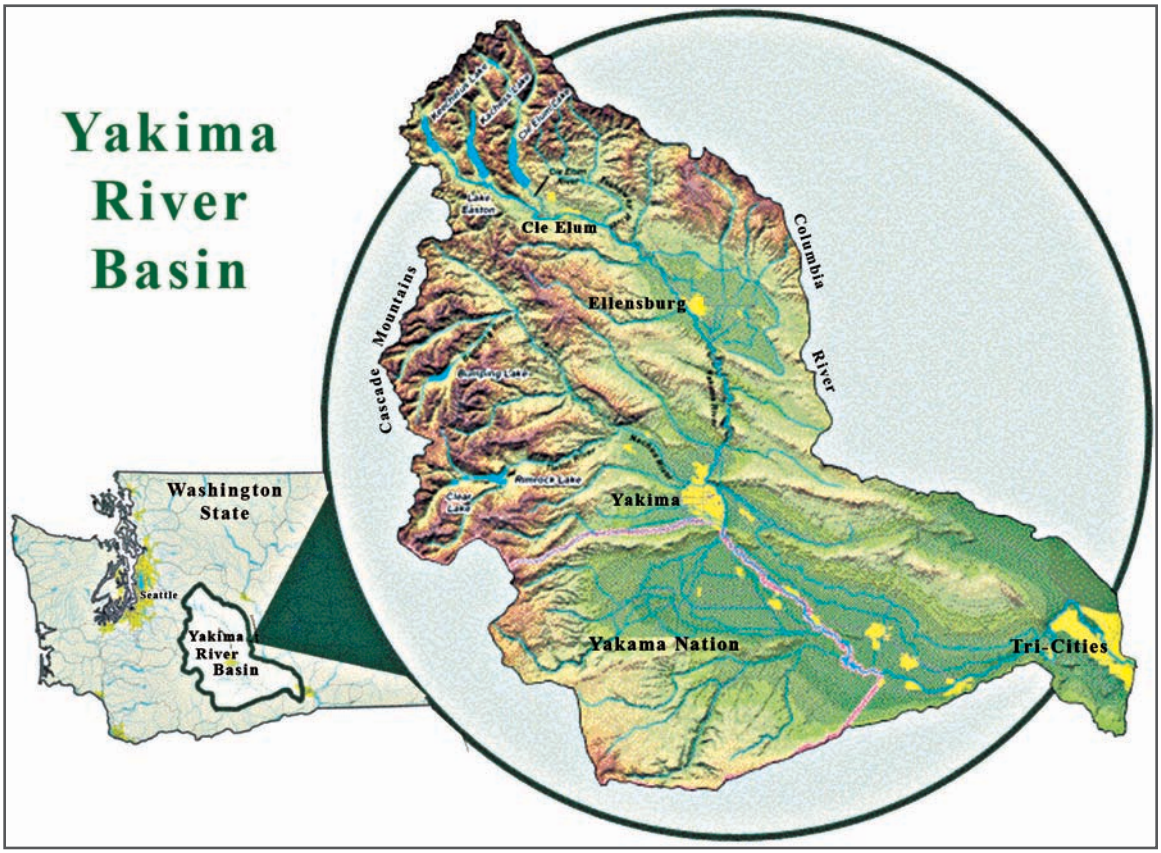

PUBLIC TRUST V. PRIOR APPROPRIATION

PUBLIC TRUST DECISION IN NEVADA: PRIOR APPROPRIATION OVERRIDES

by David Moon, Editor

Water Rights v. Public Trust

Prior Appropriation

Walker Lake

Upstream Appropriations

Walker River Decree

Change Applications

Minimum Flows Requested

Ninth Circuit Questions

Public Trust Doctrine

Decision for Finality

Introduction

A recent decision by the Nevada Supreme Court ruled that the State's adherence to the Prior Appropriation Doctrine takes precedence over the Public Trust Doctrine as applied to the reallocation of adjudicated water rights. The decision has a substantial impact on the use of the Public Trust Doctrine to secure instream flows.

Background

Mineral County in Nevada intervened in long-running litigation over the water rights in the Walker River Basin aimed at protecting and restoring Walker Lake, located in the Walker River Basin.

"The Walker River Basin covers about 4,000 square miles, stretching northeast from its origins in the Sierra Nevada mountain range in California to its terminus, Walker Lake in Nevada. Approximately one quarter of the Basin lies in California, and California accounts for a majority of the precipitation and surface water flow into the Basin." *Mineral County, et al. v. Lyons County, et al*., Case No. 75917 (Sept. 17, 2020), 136 Nev., Advance Opinion 58. *Slip Op*. at 6.

"By 1996, Walker Lake retained just 50 percent of its 1882 surface area and 28 percent of its 1882 volume. Today, Walker Lake suffers from high concentrations of total dissolved solids, such that it has high salt content, low oxygen content, and high temperatures. While the cause of the decline is attributable to multiple factors, including declining precipitation levels and natural lake recession over time, it is clear that upstream appropriations play at least some role." *Id*.

Litigation over water rights in the Walker River Basin began in 1902 (*see Slip Op*. at 7-8 for a more complete litigation summary). "In 1924, the United States brought a case in the United States District Court for the District of Nevada to establish water rights for the Walker Lake Paiute Tribe (the Tribe). The case resulted in the Walker River Decree (the Decree) in 1936, which adjudicated the water rights of various claimants under the doctrine of prior appropriation. …The United States District Court for the District of Nevada has maintained jurisdiction over the Decree since. In 1987, the Tribe intervened in this litigation to establish procedures to change allocations of water rights subject to the Decree. That motion was granted, and since then, the Nevada State Engineer reviews all change applications under the Decree in Nevada in accordance with the states water statutes, subject to the federal district court's review. In 1991, the Tribe sought recognition of additional water rights under the implied federal reserved water right." *Id*. at 7 (citations omitted).

Mineral County moved to intervene in the case in 1994, seeking to modify the Decree to ensure minimum flows into Walker Lake. Its amended complaint requested an allocation of 127,000 acre-feet per year to Walker Lake for minimum flows under the "doctrine of maintenance of the public trust." *Id*. at 8. The US District Court for the District of Nevada dismissed Mineral County's amended complaint and the County appealed to the Ninth Circuit. The Ninth Circuit certified two questions to the Nevada Supreme Court for a decision on the issues under Nevada law: "Does the public trust doctrine permit reallocating rights already adjudicated and settled under the doctrine of prior appropriation and, if so, to what extent?" The second question asks: "If the public trust doctrine applies and allows for reallocation of rights settled under the doctrine of prior appropriation, does the abrogation of such adjudicated or vested rights constitute a 'taking' under the Nevada Constitution requiring payment of just compensation?" *Id*. at 5.

"The public trust doctrine establishes that the state holds its navigable waterways and lands thereunder in trust for the public. *See Ill. Cent. R.R. Co. v. Illinois*, 146 U.S. 387, 452 (1892). The doctrine generally acts as a restraint on the state in alienating public trust resources. *Id.* at 453." *Slip Op*. at 10.

Nevada Supreme Court Rules for Seniority and Finality

The Nevada Supreme Court (Court) ruled on September 17th that the Public Trust Doctrine applies in Nevada and clarified that "the doctrine applies to all waters within the state, including those previously allocated under prior appropriation." The Court, however, also decided that "the public trust doctrine as implemented through our state's comprehensive water statutes does not permit the reallocation of water rights already adjudicated and settled under the doctrine of prior appropriation." *Mineral County, et al. v. Lyons County, et al*., Case No. 75917 (Sept. 17, 2020), 136 Nev., Advance Opinion 58. *Slip Op*. at 5.

Water Rights v. Public Trust

Senior Rights Protection

Broad Scope with Limitation

Narrow Ruling

New Minimum Flow Options

Finality & Clear Language

"Plight" of Walker Lake

Statutes Forbid Reallocation

Certainty & Finality

Coming down vehemently on the side of protecting senior water rights and the fundamental principle of prior appropriation, the Court held that "the state's statutory water scheme is consistent with the public trust doctrine by requiring the State Engineer to consider the public interest when allocating and administering water rights. But in recognizing the significance of finality in water rights, our Legislature has expressly prohibited reallocating adjudicated water rights that have not been otherwise abandoned or forfeited in accordance with the state's water statutes." *Id*. This substantial caveat in the authority under the Public Trust Doctrine imposed by the Court places the Prior Appropriation Doctrine clearly in control and prevents senior water rights from being "reallocated" to provide minimum flows for the river. This "significance of finality" essentially makes the Public Trust Doctrine an inferior or "junior" doctrine by comparison.

Although the Court's decision recognizes a broad scope for the Public Trust Doctrine — stating that it "applies to all waters within the state, including those previously allocated under prior appropriation" — as a practical matter the doctrine is substantially limited by the ruling. Some environmentalists have viewed Public Trust Doctrine as perhaps their most powerful weapon to protect minimum flows. With this decision, any obligation for Nevada to protect minimum flows via the Public Trust Doctrine is effectively eliminated when confronted with senior water rights.

It should be noted, though, that the decision was limited by the Nevada Supreme Court to the issue of whether or not the state has the power to reallocate existing water rights in order to protect minimum flows. The decision does not prevent other innovative approaches to create minimum flows in the future with priority dates that could then be protected under the auspices of the Public Trust Doctrine. Indeed, the Court's admonition that the Doctrine "applies to all waters within the state" and that "the state's statutory water scheme is consistent with the public trust doctrine by *requiring* the State Engineer to consider the public interest when allocating and administering water rights" seems like a push for minimum flow rights going forward. *Id*. at 5 (emphasis added). The Court, in fact, notes that "under the state's statutory scheme" — "[M]echanisms are thus in place to ensure the preservation of water for the future." *Id*. at 21.

The Court's rationale relies heavily on the importance of finality for water rights, as well as the express and clear statutory language that governs the waters of Nevada. One section of the opinion (*Slip Op*. at 22-26) discusses in detail the Court's prime criteria for its conclusion. The section is entitled, "The state's water statutes recognize the importance of finality in water rights and therefore do not permit reallocation of adjudicated water rights."

The importance of finality and certainty of existing water rights drives the Court's decision, despite its recognition of what it calls the "plight" of Walter Lake. "We recognize the tragic decline of Walker Lake. But while we are sympathetic to the plight of Walker Lake and the resulting negative impacts on the wildlife, resources, and economy in Mineral County, we cannot use the public trust doctrine as a tool to uproot an entire water system, particularly where finality is firmly rooted in our statutes. We cannot read into the statutes any authority to permit reallocation when the Legislature has already declared that adjudicated water rights are final, nor can we substitute our own policy judgments for the Legislature's." *Id*. at 25 (footnotes omitted).

Conclusion

The Court summarized the decision in the Conclusion: "In implementing the public trust doctrine, our state's water rights statutes forbid reallocating adjudicated water rights. The public has an interest in the effective use of public trust resources. This requires that allocations of water rights have certainty and finality so that rights holders may effectively direct water usage to its beneficial use, without undue uncertainty or waste. Our state's application of the public trust doctrine thus protects the waters of Nevada in order to maintain them in trust for the use and enjoyment of present and future generations." *Id*. at 26.

The Court's opinion also goes into significant detail about the "statutory water scheme" and "comprehensive water statutes" in Nevada, application of the two doctrines, and other fundamental principles of Nevada's system, including discussions about "waste" of water, beneficial use, and the public interest. The dissenting opinion by Justice Pickering is also recommended reading. The case now goes back to the Ninth Circuit, with the guidance issued by the Nevada Supreme Court.

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Advance Opinion available at: http://caseinfo.nvsupremecourt.us/public/caseView.do?csIID=46155

WATER BRIEFS

INTERSTATE SOLUTIONS US

REPORT ON WATER POLICY

On October 1, the Interstate Council on Water Policy (ICWP) released an updated study that examines ways in which states have organized solutions to water resource management challenges across state boundaries. The report refreshes findings from a 2006 study and provides: new examples of interstate water management initiatives; additional lessons learned; and observations of changes in the federal landscape. "*Interstate Water Solutions: Lessons from the Past and Recommendations for the Future — A Look toward 2050"* (*see* ICWP's website below).

Sue Lowry, ICWP Executive Director, stated: "By updating the 2006 study, we want to ensure that we are making recommendations that accurately reflect current watershed management arrangements. To that end, we have added information on our 'current era' of watershed management, emerging factors that are transforming interstate partnerships, new case studies, and opportunities for improvement, such as the expansion of data technologies and growing recognition of eco-system services."

This study will inform an action agenda to improve water resource policy and management by ICWP in partnership with federal officials and association leaders. The 69-page report provides a thorough history of how multi-jurisdictional organizations have evolved over the past 200 years. A wide variety of forms, functions, and authorities were developed to meet specific needs, ranging from low-budget, ad-hoc arrangements to legislatively based commissions with regulatory authority. The report also looks at federal government involvement in providing scientific information, technical assistance, and funding. Soon to be released is a companion document that will be a primer on the types of interstate arrangements that have been organized between member states.

ICWP is a national organization providing regional, state, and local water resources agencies a voice in helping to shape key water management policies and how they impact real-world issues. Its members directly contribute to development and execution of our nation's water policies and legislation.

For info:
ICWP's website: www.icwp.org

AQUIFER RECHARGE CA

STORAGE & SOURCE OPTIONS

Published in San Francisco Estuary & Watershed, a new study highlights the costs, benefits and obstacles of **m**anaged **a**quifer **r**echarge (MAR). MAR can incorporate co-benefits such as flood control, improved water quality, and wetland habitat protection. The study found the median cost of MAR projects is $410 per acre-foot per year. The median cost of surface water projects is $2,100 per acre-foot.

MAR allows for local water storage, access, and management to a much greater extent than large surface water reservoirs, which are often managed by state and federal entities. Treated wastewater and urban stormwater offer sources for MAR that aren't fully utilized by centralized surface water storage infrastructure. MAR is well suited to more developed areas that can take advantage of large quantities of treated wastewater and collected stormwater for use in recharge. In rural areas, MAR can play an important role in replenishing groundwater basins.

Every year, California lets 1 million acre-feet of treated wastewater flow to the ocean. It would cost the state about $870 million to build the necessary MAR facilities to recover and store this water — much less than the cost and energy required to transport water from large surface water projects or to desalinate ocean water. The study identified costs and benefits of MAR projects around the state by mining applications for general obligation bonds. The researchers identified proposed economic costs and anticipated MAR project benefits. Then, they surveyed the projects' managers to compare initial estimates with actual costs.

It is likely that more water agencies will adopt MAR as a local management tool. Funding is critical to the success of groundwater projects, because communities bear the largest burden for financing water projects, according to the paper. The quantification of capital, operation and maintenance, and total costs of MAR projects will assist communities with long-term planning for funding, and thus, long-term management of their aquifers.

For info: Debra Perrone, Water in the West: 650/ 736-8668, debra.perrone@stanford.edu; Study available at: https://escholarship.org/uc/item/7sb7440w

CANAL CAPACITY CA

SUBSIDENCE REPAIR

The Bureau of Reclamation (Reclamation) in coordination with the Friant Water Authority (FWA), the Operating Non-Federal Entity of the Friant-Kern Canal (FKC), released its plan proposing to restore the capacity of a 33-mile long section (milepost 88 to milepost 121) of the FKC located within Tulare and Kern Counties. Under the Proposed Action, approximately ten miles of the existing canal would be widened and/or raised and approximately 23 miles of the canal corridor would be realigned to newly-constructed canal segments. Under the Proposed Action, Reclamation would provide cost-share funding for the project pursuant to the San Joaquin River Restoration Settlement Act and the Water Infrastructure Improvement for the Nation Act. This 33-mile stretch of canal has lost over half of its original capacity to convey water due to subsidence — i.e., a sinking of the earth due to groundwater extraction.

FKC delivers water to more than one million acres of farmland and 250,000 residents. The diminished capacity in the canal has resulted in up to 300,000 acre-feet of reduced water deliveries in certain water years, with effects most prominent in the middle reach of the canal. The project would restore capacity from the current estimated 1,600 **c**ubic-**f**eet-per-**s**econd (cfs) to the original 4,000 cfs in the most critical area.

The project's final Environmental Impact Statement/Environmental Impact Report considers and addresses all comments received during the draft EIS/EIS public review period and is available at: www.usbr.gov/mp/nepa/nepa_project_details.php?Project_ID=41341. Contact Rain Emerson for a CD copy.

For info: Rain Emerson, Reclamation, 559/ 262-0335 or remerson@usbr.gov

BEAVER HUNTING OR

PETITION FILED TO CLOSE

On September 10, conservation groups filed a petition asking the Oregon Fish and Wildlife Commission (OFWC) to permanently close commercial and recreational beaver trapping and hunting on the state's federally managed public lands and the waters that flow through them. Beavers, Oregon's official state animal, can be legally hunted and trapped with

few limits. Cascadia Wildlands, the Center for Biological Diversity, the Conservation Angler, Defenders of Wildlife, Northeast Oregon Ecosystems, Umpqua Watersheds, WaterWatch of Oregon and Wetlands Conservancy filed this petition along with Suzanne Fouty, a retired hydrologist with the US Forest Service. OFWC discussed this request in June as part of its review of the state's furbearer regulations, but it was rejected then as being outside the scope of that rulemaking notice. The petition initiates a new rulemaking process.

The petitioners' press release noted that beaver-created and maintained habitat improves water quality, decreases the impacts of floods, and restores natural water flows. Beavers play an important role in improving Oregon's water security and minimizing impacts of climate change.

The petition's requested changes wouldn't affect hunting and trapping elsewhere but would allow beavers to thrive on federally managed lands. Beaver populations have been significantly reduced from historic levels through hunting and trapping. These ongoing practices suppress population growth and expansion into large swaths of unoccupied suitable beaver habitat.

For info: www.biologicaldiversity.org/ >> Oregon Beaver Petition

SHASTA DAM CA

RAISE OPPOSED BY AG

California Attorney General (AG) Xavier Becerra sent a comment letter dated October 5th opposing the Trump Administration's effort to raise Shasta Dam by up to 18.5 feet. The AG argues that the proposal by Reclamation relies on an incomplete draft supplemental environmental impact statement. The effort would have a significant negative impact on the McCloud River's fisheries and submerge sacred sites of the Winnemem Wintu Native American Tribe.

The AG asserts that Reclamation can't fast-track the project under the federal Clean Water Act because Congress hasn't authorized the dam raise. Reclamation would also need permits from the California State Water Resources Control Board and other authorities. The letter stresses that the project could degrade habitat for threatened fish in the San Francisco Bay-Delta, including: juvenile salmon; California Central Valley steelhead; longfin smelt; and Delta smelt.

The AG further asserted:

- Reclamation's environmental analysis fails to disclose the degradation to riverfront habitat, which would accelerate the loss of the western yellow-billed cuckoo and Shasta snow-wreath.
- Reclamation must consult with the US Fish and Wildlife Service and the National Marine Fisheries Services before proceeding.
- Reclamation's environmental analysis fails to propose actions to offset environmental damage from the dam raise. It also ignores state-law protections for the McCloud River and the river's wild trout fishery.
- Reclamation must consult with tribes and address impacts to cultural resources. The proposed project would eliminate approximately 20 sacred Winnemem Wintu sites.
- Reclamation failed to address comments submitted by state agencies during earlier iterations of the permitting process under the National Environmental Policy Act.
- Reclamation's environmental analysis lacks meaningful mitigation measures for wetlands impacts.

The 602-foot-tall Shasta Dam and 4.55 million-acre-foot Shasta Reservoir are located on the upper Sacramento River. In February 2020, Reclamation set aside $8 million for preconstruction engineering and design work to raise the dam and enlarge Shasta Reservoir. In June 2020, the Trump Administration requested construction funding in the federal budget to raise Shasta Dam.

For info: AG's website at: https://oag.ca.gov/home

GROUNDWATER STUDY US

USGS DRINKING WATER SOURCES STUDY

Groundwater provides nearly half of the Nation's drinking water. As the US population grows, the importance of (and need for) high-quality drinking water supplies increases. As part of a national-scale effort to assess groundwater quality in **p**rincipal **a**quifers (PAs) that supply most of the groundwater used for public supply, the US Geological Survey National Water-Quality Assessment (NAWQA) Project staff sampled six principal aquifers in the western United States between 2013 and 2017: 1) the Basin and Range carbonate-rock aquifers; 2) Basin and Range basin-fill aquifers; 3) Rio Grande aquifer system; 4) High Plains aquifer; 5) Colorado Plateaus aquifers; and 6) Columbia Plateau basaltic-rock aquifers. These six PAs supply a large part of the Nation's drinking water and cover a large geographic extent of the western conterminous United States. *See*: *Water Quality of Groundwater Used for Public Supply in Principal Aquifers of the Western United States: US Geological Survey Scientific Investigations Report 2020–5078* (website below).

Groundwater samples were analyzed for a large suite of water-quality constituents including: major ions; nutrients; trace elements; **v**olatile **o**rganic **c**ompounds (VOCs); pesticide compounds; radioactive constituents; age tracers; and, in selected PAs, perchlorate. Two types of assessments were made: 1) a status assessment that describes the quality of the groundwater resource at time of collection; and 2) an understanding assessment that evaluates relations between groundwater quality and potential explanatory factors that represent characteristics of the aquifer system. The assessments characterize untreated groundwater quality and are based on water-quality data collected from 352 wells and six springs.

Status assessment results indicated that inorganic constituents more commonly occurred at high and moderate concentrations in the six PAs than organic constituents, and organic constituents predominately occurred at low concentrations. Inorganic constituents that exceeded health-based benchmarks (high concentrations) were present in all six PAs: aquifer-scale proportion were 30% in the Rio Grande aquifer system; 22% in the Basin and Range basin-fill aquifers; 20% in the Basin and Range carbonate-rock aquifers; 19% in the High Plains aquifer; 16% in the Colorado Plateaus aquifers; and 8% in the Columbia Plateau basaltic-rock aquifers. Arsenic, fluoride, manganese, and total dissolved solids were the constituents most commonly present at high concentrations.

Organic constituents with human-health benchmarks (pesticide compounds and VOCs) did not occur at high concentrations and moderate concentrations were infrequent; aquifer-scale proportions ranged from 0 to 5%. Detections of organic compounds at low concentrations, however, occurred in all six PAs, with detection frequencies ranging from 10 to 26% for pesticide compounds and from 10 to 46% for

WATER BRIEFS

VOCs. Specific organic constituents with detection frequencies greater than 10% were four herbicides (atrazine, didealkylatrazine, bromoform, and propazine); one insecticide (propoxur); and two VOCs (the trihalomethanes chloroform and bromodichloromethane). Where collected — in the Rio Grande aquifer system and High Plains aquifer — perchlorate did not occur at high concentrations; moderate aquifer-scale proportions were 3% and 11%, respectively.

The study's results provide important insights into the quality of groundwater that is used for drinking water in the western US, as well as natural and human factors that affect groundwater quality in this region.
For info: Study at: https://pubs.er.usgs.gov/publication/sir20205078

FUTURE ADJUDICATIONS WA AREAS IDENTIFIED

The Washington Department of Ecology (Ecology) in an October 2nd blog entitled "*Next Steps in Managing Water Rights*" recommended two areas for future adjudications: the Nooksack watershed in Northwest Washington and an area around Lake Roosevelt in the eastern part of the state.

For adjudications in Washington, everyone brings their right to a state superior court. The court decides who has a right to water, and how much.

In 2019, the Legislature asked Ecology to identify areas that were its highest priorities for future adjudications. The past year was spent compiling water right records, reviewing adjudication requests and petitions, and meeting with tribes, local governments, and stakeholders. Ecology identified two watersheds in immediate need of adjudication.

The Nooksack watershed (Water Resource Inventory Area (WRIA) 1) faces increasing pressure from water users and instream needs. Nooksack waters provide critical habitat for many species, including Chinook salmon that provide the exclusive diet for southern resident killer whales. It's often difficult to regulate water use in the Nooksack watershed. Water users, including tribes, all face uncertainty about their own legal rights and vulnerability to each other's potential claims. Many water users rely on very old water rights that have not been evaluated or verified.

Lake Roosevelt and Middle Tributaries (WRIA 58) watershed includes the state's largest reservoir, Lake Roosevelt, and its middle segment of tributaries in WRIA 58. This is a rural area made up of public forest lands and some private lands. It also includes Washington's largest Indian Reservation. The area provides valuable habitat to many fish and wildlife species.

An adjudication officially starts when Ecology files a petition in state superior court to sue all users on a water source. This does *not* include water system customers or users who contract with a water purveyor. Permit-exempt well owners follow a simplified process to join to be sure their use is protected. The court reviews everyone's submitted documentation of their water right and water usage, and hears from water right holders. This can be done in phases and can take several years. Finally, the court issues a decree listing all users by priority date, quantity, and purpose of use. Ecology then issues adjudicated certificates which represent the final, legal water right.
For info: Ecology Adjudications website at: https://ecology.wa.gov/Water-Shorelines/Water-supply/Water-rights/Adjudications

SEVERE REPETITIVE LOSS US FLOOD INSURANCE

On September 8, the Inspector General for the Department of Homeland Security (IG) issued a final report entitled, *FEMA Is Not Effectively Administering a Program to Reduce or Eliminate Damage to Severe Repetitive Loss Properties.* **S**evere **r**epetitive **l**oss (SRL) properties are those that flood repeatedly, causing significant difficulties for property owners. The objective of this audit was to determine to what extent the Federal Emergency Management Agency (FEMA) is managing SRL properties covered by the National Flood Insurance Program (NFIP).

The IG found that FEMA has not established an effective program to reduce or eliminate damage to SRL properties and disruption to life caused by the repeated flooding. First, FEMA does not have reliable, accurate information about SRL properties. This deficiency occurred because of ambiguous FEMA forms to request removal of SRL designation, poor organizational structure, and unassigned roles for ensuring data integrity. As a result, FEMA is using inaccurate information to make funding-related decisions, including requesting appropriations from Congress, deciding where to implement large-scale mitigation projects, and determining which residential mitigation projects to fund through the Flood Mitigation Assistance (FMA) grant program. Additionally, not all NFIP policyholders who have mitigated their SRL property have benefited from reduced policy premiums.

Second, FMA, which aims to mitigate flood damage for NFIP policyholders, provides neither equitable nor timely relief for SRL applicants. This inefficiency is attributed to decentralized FMA grant application requirements and inadequate enforcement of grant requirements. FEMA could strengthen its approach to mitigating SRL properties by promoting the use of Increased Cost of Compliance (ICC) coverage, which is included in NFIP flood policies to assist with mitigation, and could make mitigation relief funding more timely and equitable.

The IG made three recommendations to FEMA to ensure accuracy of the SRL list, as well as timely and equitable distribution of mitigation funding, and to promote the use of NFIP Increased Cost of Compliance coverage. FEMA concurred with all three of the recommendations. A copy of FEMA's response in its entirety is included in Appendix B of the report. The report will be posted on the IG's website for public dissemination.
For info: IG's Office of Public Affairs, 202/ 981-6000 or DHS-OIG.OfficePublicAffairs@oig.dhs.gov or OIG website at: www.oig.dhs.gov

WATERSMART FUNDING US WATERSHED MANAGEMENT

Reclamation has published a funding opportunity for the WaterSMART Cooperative Watershed Management Program Phase II. Established watershed management groups may apply to this funding opportunity to implement on-the-ground watershed management projects. Applicants may request up to $300,000 for projects to be completed within two years. A 50% non-federal cost share is required. Applications are due on November 17, 2020. **For info:** WaterSMART website at: www.usbr.gov/watersmart/cwmp/

CALENDAR

October 16 US/WEB
Legal Issues in EPA's Lead & Copper Rule Roundtable, Presented by American Water Works Association. For info: www.awwa.org/Events-Education/Events-Calendar

October 19-20 WEB
Tribal Water in California Seminar - 7th Annual, Virtual Via Interactive Zoom Broadcast. For info: Law Seminars International, 206/ 567-4490, registrar@lawseminars.com or www.lawseminars.com

October 20 US/WEB
Troubled Water Webinar, Part 2: "What's Wrong With What We Drink, and What Can Be Done", 2:00 pm ET; Part 3 on 11/17. Presented by Global Water Works. For info: www.workcast.com/register?cpak=1448147292306883

October 21-23 WEB
Texas Water Conservation Association Virtual Fall Conference, For info: TWCA, 512/ 472-7216, info@twca.org or www.twca.org/events/fallconference

October 24 WEB
WaterWatch of Oregon's 18th Annual Celebration of Rivers, Virtual Event: Details TBA. For info: WaterWatch, 503/ 295-4039 or www.waterwatch.org

October 25-27 FL
2020 Smart Water Summit, Ponte Vedra. Sawgrass Marriot Resort & Spa. Water Utilities Conference & Exhibition. For info: www.smartwatersummit.com

October 26-29 NM/WEB
6th Annual New Mexico Water Conference - Webinar, "Meeting New Mexico's Pressing Water Needs: Challenges, Successes, Opportunities." New Mexico Water Resource Research Institute Event. For info: https://nmwaterconference.nmwrri.nmsu.edu/2020/

October 26-30 WEB
2020 Tribal Data - VIRTUAL Conference, Powered by Tribes in the Exchange Network. Environmental Data Sharing, Management & Analysis through Informational Sessions & Interactive Workshops. For info: www.tribalexchangenetwork.org

October 27-28 WEB
Central/Western Annual US Power Plant Conference - VIRTUAL Event, Latest Techniques, Research, Processes, Approaches, Case Studies, and Practices in Power Plant Water Management. For info: https://lmnpower.com/

October 27-28 US/WEB
Annual US Water Treatment Conference, Latest Techniques, Research, Processes, Case Studies & Practices. Presented by LMN Power. For info: www.lmnpower.com/water-treatment-conference

October 28 WEB
Water Markets, SGMA & California's First Open-Source Water Accounting and Trading Platform Webinar, Register at: https://my.demio.com/ref/cyVGlx58MkJpZURn. For info: www.waterexchange.com

October 28-29 WEB
9th Annual Gulf Coast Water Conservation Symposium - Virtual Event, 9 am - 12:30 pm Central Time. Integrating Water Management on the Texas Gulf Coast: Moving Forward with a One Water Approach. For info: events@harcresearch.org

October 29-30 WEB
PFAS Litigation in the Northeast Seminar - VIRTUAL Event, Virtual Via Interactive Zoom Broadcast. For info: Law Seminars International, 206/ 567-4490, registrar@lawseminars.com or www.lawseminars.com

November 3-4 WA/WEB
Washington Water Code: Law, Policy & Planning Conference, Seattle. Available Via Live Webcast; PROMO Code SPP50 for $50 off for *TWR* Readers. For info: The Seminar Group, 800/ 574-4852, info@theseminargroup.net or www.theseminargroup.net

November 3-13 WEB
2020 Data Academy - Tribal Data, Powered by Tribes in the Exchange Network. Environmental Data Sharing, Management & Analysis through Informational Sessions & Interactive Workshops. For info: www.tribalexchangenetwork.org

November 5 WEB
Eastern Boot Camp on Environmental Law Webinar, Substance & Practice of Environmental Law; Afternoon Sessions on Nov. 5, 12 & 19. Presented by Environmental Law Institute; Registration Required by Oct. 23rd. For info: www.eli.org

November 5-6 OR/WEB
29th Annual Oregon Water Law Conference, Portland. Available Via Live Webcast; PROMO Code SPP50 for $50 off for *TWR* Readers. For info: The Seminar Group, 800/ 574-4852, info@theseminargroup.net or www.theseminargroup.net

November 9-11 WEB
2020 AEP Virtual Conference:Planting the Seeds of Knowledge, Presented by the Assoc. of Environmental Professionals. For info: https://www.califaep.org/2020_aep_virtual_conference.php

November 9-11 US/WEB
American Water Resources Association Annual Conference, For info: www.awra.org

November 10-11 US/WEB
Dam Safety Interactive Course: "What Every Dam Owner Should Know About Dam Safety", Presented by EUCI. For info: www.euci.org

November 12 WEB
Eastern Boot Camp on Environmental Law Webinar, Substance & Practice of Environmental Law; Afternoon Sessions on Nov. 5, 12 & 19. Presented by Environmental Law Institute; Registration Required by Oct. 23rd. For info: www.eli.org

November 12 WEB
Water, Texas Film Awards Virtual Screening, Show @ 7:00 pm CT. Presented by the Texas Water Foundation. For info: www.watertexasfilms.org

The Water Report
Water Rights, Water Quality & Water Solutions in the West
260 N. Polk Street • Eugene, OR 97402

CALENDAR

(continued from previous page)

November 17 US/WEB
Troubled Water Webinar, Part 3: "What's Wrong With What We Drink, and What Can Be Done", 2:00 pm ET. Presented by Global Water Works. For info: www.workcast.com/register?cpak=1448147292306883

November 18-20 SC
NACWA 2020 National Clean Water & Enforcement Seminar, Charleston. Francis Marion Hotel. National Association of Clean Water Agencies Event. For info: www.nacwa.org/conferences-events/events-at-a-glance

November 19 WEB
Water Law Institute Webinar, Presented by the Rocky Mountain Mineral Law Foundation. For info: www.rmmlf.org/conferences

November 19 OR
Wild & Scenic Film Festival, Eugene. MacDonald Theatre. Hosted by the Upper Willamette Stewardship Network. For info: mckenzieriver.org/events

November 19 WEB
Eastern Boot Camp on Environmental Law Webinar, Substance & Practice of Environmental Law; Afternoon Sessions on Nov. 5, 12 & 19. Presented by Environmental Law Institute; Registration Required by Oct. 23rd. For info: www.eli.org

December 3-4 WEB
PFAS Litigation in California Webinar, Virtual Via Interactive Zoom Broadcast. For info: Law Seminars International, 206/ 567-4490, registrar@lawseminars.com or www.lawseminars.com

December 10-11 DC
Natural Resources Damages 9th Annual Advanced Conference on Litigating, Washington. Arnold & Porter Conference Center. For info: Law Seminars International, 206/ 567-4490, registrar@lawseminars.com or www.lawseminars.com

December 13-14 CA
Western Governors' Association 2020 Winter Meeting, Coronado. TBA. For info: https://westgov.org/

December 14-15 TX
Pipeline Leak Detection 2020: Advances in Crude Oil & Gas Pipeline Technology Summit, Houston. Hotel Derek. For info: http://texas.pipeline-leak-detection.com/?join=VR

January 28-29 WA
Endangered Species Act Conference, Seattle. TBA. For info: The Seminar Group, 800/ 574-4852, info@theseminargroup.net or www.theseminargroup.net