Written Testimony
Submitted to the
United States Senate
Committee on Energy and Natural Resources

On

S. 1694
Yakima River Basin Water Enhancement Project Phase III Act of 2015
July 7, 2015

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Introduction

Chairman Murkowski, Ranking Member Cantwell, and Members of the Committee, thank you for the opportunity to testify and share American Rivers' support for the bill before the Committee – S. 1694, The Yakima River Basin Water Enhancement Project Phase III Act of 2015.

American Rivers is the nation's leading voice for healthy rivers and the communities that depend on them. We believe that rivers are vital to our personal and community health, safety and quality of life. American Rivers mobilizes an extensive network comprised of tens of thousands of members and activists located in every state across the country.

I am Michael Garrity, Director, Rivers of Puget Sound and the Columbia Basin for American Rivers, my office is in Tacoma, Washington. I have worked personally on the longstanding issues of water supply reliability and fishery restoration for the Yakima River for more than {**ten** }years. American Rivers' Northwest Regional Office has worked on these Yakima River issues for more than [**twenty five**]years.

Just as it is for many Western river basins, controversy is no stranger to the Yakima. My organization's long involvement in the Yakima often has been through adversarial relationships with the Bureau of Reclamation, the State of Washington, the irrigation districts and the Yakama Nation – not to mention other stakeholders such as the counties, cities, and interest groups including other environmental groups. And we were not the cause of most of that controversy–everyone was adverse to everyone else.

Today is different – American Rivers joins in the testimony you hear today in strong support of S. 1694. We are not asking you to choose between fishery restoration and water supply in urging you to pass S. 1694. We are asking you to help us work together in executing an innovative, integrated plan to support our fish, farms, families and forests.

The Yakima Bain

The Yakima River is located on the arid east side of Washington State, nestled between the Cascade Mountain crest and the Columbia River. Water development in the basin has worked spectacularly well to grow crops and the Yakima basin's agricultural economy. In the 6,155 square mile basin, there are about 500,000 acres of irrigated land, supporting an agricultural economy valued at $3.4 billion. Average annual water supply is about 3.3 million acre-feet, with deliveries of about 1.7 million acre feet. Notable crops include apples, sweet cherries, most of the hops grown in the U.S. and increasingly well regarded wine grapes, along with a variety of other crops.

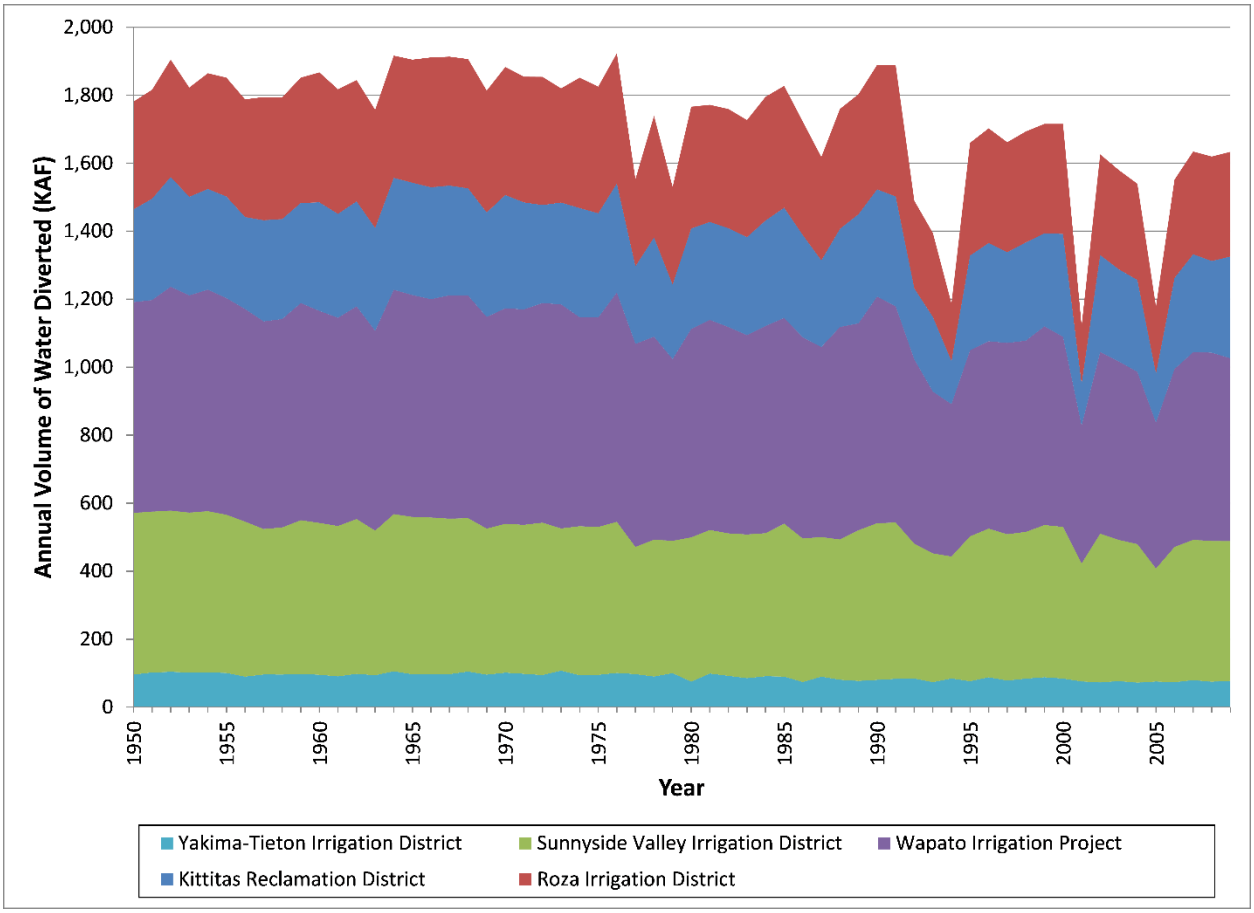
This irrigated economy was based on repeated rounds of irrigation development. Starting in the 1850s, private and then railroad-sponsored irrigation projects were built, which by the turn of the century fully consumed the Yakima River natural flow. The next phase was the 1905 authorization of the Bureau of Reclamation's Yakima Project, claiming all unappropriated water to augment supplies through construction of five main storage reservoirs.

What worked well for the irrigation economy was disastrous for the fish. All the Reclamation reservoirs were built without fish passage, sealing the fate of sockeye salmon which depend on the glacial lakes dammed by Reclamation, and blocking access to higher elevation, cold water spawning habitat for

spring chinook, coho, and steelhead, as well as isolating bull trout populations above or below the dams. Pre-settlement salmon runs are estimated at 300,000 to 960,000, but with irrigation and other development, sockeye, summer Chinook and coho were extirpated, and the average annual returns for all salmonids during the 1980s dropped to as low as 8,000, roughly one percent of pre-development levels.

A 1945 Consent Decree created an unusual water rights structure in the Yakima Basin. Every year Reclamation determines the Total Water Supply Available (TWSA). Pre-1905 rights amounting to about half of the basin's surface water rights receive their full water supply before junior right holders receive any. Next up are users whose rights date to the 1905 Reclamation appropriation. These rights are termed "proratable," and are cut back equally in any shortage. Post-1905 rights receive no water if the proratable rights are shorted and there is a call. Senior rights holders have little concern about their water supplies because they historically have never been shorted. However the largest and most economically productive water districts rely in large part on proratable rights. Until the historic 1977 drought, proration was a modest concern for the Reclamation irrigators – there was rarely a serious shortage of water that resulted in significant proration. Since 1970, there have been eight years, including this year, where proratable rights holders received less than 70% of their water, the threshold irrigators see as causing real economic pain.

The regionally significant 1977 drought prompted renewed interest in new storage to improve the reliability of the proratable supply. Federal legislation in 1979 and then 1984 authorized what is known as the Yakima River Basin Water Enhancement Project (YRBWEP) Phase I, focused on installing fish screens and fish passage at irrigation facilities in the middle and lower parts of the basin. After additional severe droughts in 1992 and 1993, this was followed by YRBWEP Phase II in 1994. Phase II focused on water conservation and efficiency along with some habitat acquisition and restoration. It has resulted in significant system improvements and continues as funding permits. American Rivers strongly supported YRBWEP Phase I and Phase II.



Proponents of YRBWEP Phase I and Phase II envisioned this work as preparing for a Phase III that would include significant additional storage. Congress authorized in 2003 a feasibility study for new surface supplies – a transbasin diversion of Columbia River water into the Yakima Basin coupled with development of a 1.3 million acre-foot off-stream storage facility known as the Black Rock project. The Black Rock proposal foundered in 2008, due to a benefit cost analysis that concluded the project returned only 13 cents on the dollar and had significant potential to speed the movement of radioactive groundwater on the Hanford Nuclear Reservation towards the Columbia River. American Rivers strongly opposed the Black Rock project.

The State of Washington, urged by unusual agreement among stakeholders including the Yakama Nation, irrigation districts and conservation organizations determined that a broader range of alternatives be evaluated. In a state EIS, it developed the nucleus of what became the Yakima Basin Integrated Plan, balancing fishery improvements, better water management, and supply enhancements.

At the same time, concern was growing in the Basin about the effects of climate change on the low to mid-elevation snowpack that both fish and farms rely upon as a so-called "sixth storage reservoir." Due to projected reductions in snowpack and earlier melt-off, and in spite of small expected increases in overall precipitation, modeling conducted by the University of Washington's Climate Impacts Group (CIG) concluded that the Yakima basin will be subject to increasingly severe instream and out-of-stream water shortages as the century moves forward. The CIG study scenarios show the chances of severe

water shortages, now about 14% per year, doubling as soon as 2020 and becoming much higher thereafter.

Those climate change scenarios foreshadowed the water situation for the Yakima in 2015. This winter, the Yakima had near normal precipitation – but a warm winter caused the precipitation to fall as rain and not snow. The Yakima Basin ended the winter with full reservoirs and almost no snow pack. The result was that proratable water users face an irrigation season with 44% of the water they normally receive. 2015 looks very much like a water year from the CIG scenarios deep into the century when climate change profoundly diminishes the snowpack in the region.

For such a thoroughly plumbed river system, the Yakima is surprisingly sensitive to loss of snowpack. This is because compared to other developed agricultural river basins in the West, storage is quite limited compared annual flow -- a condition made possible by the historically reliable and abundant, but now threatened, Cascade snowpack. About 30% of the Yakima's average annual runoff can be stored in reservoirs, much less than major rivers in California where two-thirds to more than two times annual flow can be stored, and far less than the major storage systems of the Colorado River or the Missouri River where several times annual runoff can be stored. (See Table)

Western Rivers
TABLE
Impounded Runoff Index
(Surface storage divided by average annual flow)

Yakima River, WA	30%
Sacramento River, CA	80%
American River, CA	67%
Tuolumne River, CA	194%
Stanislaus River, CA	293%
Yuba River, CA	75%
Feather River, CA	129%
San Joaquin River, CA	120%
Merced River, CA	101%
Trinity River, CA	206%
Missouri River	222%
Colorado River	492%
Columbia River	28%

These themes were tied together under the Federal SECURE Water Act of 2009, which supported the Yakima as one of the first three basin studies selected to look comprehensively at the long term water supply, long term water demands, climate change and environmental issues. Because basin interests recognized that they had to work together and had extensive information developed as a result of the divisive Black Rock project as well as extensive fisheries recovery planning and knowledge of water conservation developed YRBWEP, the Yakima Plan moved quickly to a basic set of agreements hammered out by an unusually broad set of agricultural, tribal, environmental, and governmental (federal, state, and local) stakeholders. The Yakima Basin Study/Proposed Integrated Water Resources

Management Plan was released in April, 2011 followed by a Programmatic Environmental Impact Statement in March 2012 and Yakima River Basin Integrated Water Resource Management Plan: Framework for Implementation in October 2012.

The Yakima Basin Integrated Plan

YBIP at its heart is a set of pragmatic actions that address the major water supply issues and ecosystem restoration of the basin through seven integrated elements. These elements are envisioned to be completed over the next 30 years in a way that carefully orchestrates improving the position of each of the major interests in a balanced fashion. S.1694 authorizes the Initial Development Phase – the projects that make the most sense to do, and are ready to do, in the next 10 years, with more ambitious projects deferred.

Briefly, these elements include:

- Fish passage at all six of the Reclamation reservoirs. None of the Reclamation reservoirs included fish passage when built between 1910 and 1933. Reintroduced sockeye stand to benefit most from fish passage, because they relied upon glacial lakes that were inundated by building of the dams, although other anadromous and resident fish species, including bull trout, are anticipated to greatly benefit from access to good quality habitat on public lands in the higher elevation, cold water areas above the dams.

- Modification to make better use of existing facilities. These changes include: reducing water diversions for hydropower; raising Cle Elum Reservoir by 3 feet; and building the Ketchelus to Kachess Conveyance, a new tunnel that shifts water from a small reservoir on a more productive watershed to a larger reservoir with less flow, to make better use of existing reservoir capacity while reducing flows harmful to juvenile salmon rearing in the mainstem Yakima River.

- Increased surface water storage for both water supply and fisheries. These projects range from expensive to very expensive. Most economical is accessing inactive storage is the Kachess Drought Relief Pumping Plant which taps water below the reservoir outlet so that up to 200,000 acre-feet of water could be used during serious drought (proration greater than 70%). Expansion of Bumping Reservoir by building a new dam downstream is more expensive, and would yield an additional 165,500 acre feet; this project is controversial because it would inundate about 980 acres of old-growth forest, bull trout spawning habitat, and homes on leased U.S. Forest Service land occupied by vocal critics. The most expensive project is construction of Wymer Reservoir, a new off-stream, pumped-storage reservoir in the lower Yakima River canyon. The Wymer Reservoir would allow increased winter flows needed to support the fishery in the upper Yakima Basin to be captured and stored for summer irrigation use. It is a good example of integration in meeting the needs of the fishery and irrigation water supply. Reclamation and Ecology are looking at alternatives to reduce the size and cost of this project. The Bumping and Wymer are not authorized in S. 1694.

- Groundwater storage. Groundwater storage envisioned includes both pumped aquifer storage and recovery, and selective surface infiltration ponds where hydrogeology allows.

- Habitat protection and enhancement. In addition to significant habitat acquisition and restoration in the basin's rivers, streams and floodplains, YBIP included acquisition private forest lands in the tributary Teanaway River basin to support fishery restoration; 50,000 acres of this acquisition has been accomplished by the State of Washington. YBIP also includes targeted land designations to promote the linkage between land management and the water supply and fishery objectives of the plan. These designations include Wild and Scenic Rivers, especially where linked with fishery reintroductions, and designations on federal lands that promote both the goals of YBIP and a robust local economy.

- Enhanced Water Conservation. A major target was conserving up to 170,000 acre-feet annually in wet years through reduction in conveyance and operational losses through lining and piping canals and ditches, and application efficiency. While conservation does not "make new water" and works only when water is available, conservation does allow water to be managed much more effectively, and when water is available, will increase flows for fish.

- Market reallocation of water. Effective water marketing is a bedrock element of YBIP, but one which is a work in progress. Initially the effort will be to make the existing mechanisms more effective. In the process, we anticipate that changes to laws, policies and institutions will be needed to make markets work effectively and comprehensively. Largely because markets did not provide significant relief to junior water rights holders in prior droughts, water district are reluctant to rely heavily on water markets in future droughts.

Goals for YBIP are high. On the fishery side, current annual salmon returns are in the range of 25-40,000 fish; the goal is to expand that tenfold. On the water side, the goal is to meet the 70% proration threshold to the junior, Reclamation, water rights in even the dry years of record, as well as increase supplies for municipal, industrial and domestic use.

American Rivers supports the entire YBIP project; however, we note that some projects will be subject to environmental and economic review that may make them infeasible, or may uncover issues that would cause us to reconsider support for those specific projects.

S. 1694 and the Initial Development Phase of YBIP

The Yakima Basin Integrated Plan stitches together many elements, some previously authorized in federal legislation, and some undertaken by non-federal actors under their own authorities (such as the acquisition of the Teanaway River Basin lands by the State, and many fishery restoration projects by the Yakama Nation, various Districts, and conservation organizations). S. 1694 addresses the parts of the Initial Development Phase (IDP) which require federal authorization and clarifies authority where authorization may be ambiguous.

Some of the most important elements of the Initial Development Phase are:

- Construction of the first two major surface water storage projects – the Kachess Drought Relief Pumping Plant and the Ketchelus to Kachess Conveyance Facility. Both need federal authorization.
- Financing those water storage projects in a new way for federal Reclamation projects that relieves financial responsibility from the federal government – the water users will finance,

construct, maintain and be responsible for these projects, working in cooperation with Reclamation.
- Construction of fish passage projects, both upstream and downstream, at two of the Reclamation Reservoirs. Authorization is clarified for these projects
- Increasing storage at Cle Elum Reservoir by raising its level by three feet; this was previously authorized.
- Continued water conservation and efficiency project that would yield 85,000 acre feet of reduced use.
- Expansion of habitat and conservation projects into the tributaries, where significant fishery improvements can be made.
- Commencement of groundwater recharge programs.
- Adding project purposes to Reclamation's Yakima Project to reflect the new approach of YBIP. These include recovering and maintaining self-sustaining harvestable populations of native fish, both anadromous and resident, throughout their historic distribution.

American Rivers Perspective on S. 1694

American Rivers is an advocate for new ways of doing business that promote healthy rivers in a variety of settings, including hydropower, flood management, storm water management, and water supply. For all of these, our work has common themes, including integrated approaches, viewing problems and solutions from a watershed perspective, and embedding restoration of natural processes and ecosystems into the goals and outcomes of projects. Because YBIP and S. 1694 furthers these new themes and ways of doing business, and promises to achieve good results, American Rivers strongly supports S. 1694.

Integrated approaches: YBIP and S.1694 integrate all of the essential elements of modern water policy, including:
- Making better use of existing infrastructure before building new reservoirs. Three of the initial development phase exemplify this approach. The KDRPP project makes use of existing, but inactive, reservoir capacity. The K-2-K Conveyance helps shift water from one sub-watershed to another. The Cle Elem pool raise adds significant storage with minor investment.

- Using conservation and efficiency to make sophisticated water management possible. Because most water in the Yakima is reused, conservation does not directly yield "new" water. But it does allow less water to be diverted to meet a specified demand. This keeps water in storage or in rivers where it can provide fishery benefit as well as later irrigation benefit. Conservation in the IDP is intended to yield 85,000 acre-feet of water that can be managed more effectively.

- Conjunctive use of ground and surface water. In the IDP, conjunctive use is primarily in the pilot phase. As projects demonstrate how effective conjunctive use can be in this setting, additional or larger scale projects may be developed.

- Economists and conservationists have long argued that water marketing is an effective response to drought. Marketing is an important element of YBIP; with the 2015 drought, efforts to increase marketing are underway.

- Viewing problems and solutions from a watershed perspective is at the core of the YBIP. Actions are programmed from the headwaters in the high Cascade Mountains to the confluence with the Columbia River.

Embedding restoration: YBIP and S.1694 embed restoration of natural processes and ecosystems into the goals and outcomes of the projects:

- Fishery restoration is a co-equal purpose with water supply reliability for YBIP. S. 1694 reflects that in a new project purpose: to recover and maintain self-sustaining harvestable populations of native fish, both anadromous and resident, throughout their historic distribution.

- Flooding is a significant problem in the Yakima Basin, especially near the City of Yakima. In those same areas, expanding the floodplain would benefit anadromous fishery restoration by providing additional habitat for juvenile fish. YBIP solves both problems by promoting setting levees back to allow more room for flood waters and expanded fishery habitat.

- Two fish passage projects are part of the IDP. This will provide fish access above the two reservoirs that have the largest amount of potential habitat among the Reclamation reservoirs.

- Existing programs to restore fishery habitat and improve water management that affects fisheries will be expanded and extended to tributaries.

Innovation: New approaches are needed in solving Western water problems. Among the most interesting of the new approaches in YBIP and S. 1694 are:

- For decades, conservationists, taxpayer advocates and economists have pointedly noted that the original purpose of federal irrigation subsidies have long been accomplished - the West is settled. American Rivers and others have strongly opposed new federal water projects, in part based on opposition to large federal subsides embedded in new projects. To their credit, the Yakima irrigation districts acknowledge the issue and have proposed, and S.1694 authorizes, that they go to the private markets for financing. While there may be further refinements of the details needed through the legislative process, American Rivers strongly supports the approach.

- Linking land conservation with Reclamation water supplies and fishery restoration. While this linkage dates at least to the Forest Service's Organic Act, it is innovative for Bureau of Reclamation projects. The state acquisition and management as a Community Forest of the Teanaway property is one example. Others include proposals for Wild and Scenic River designations. First among those (but not included in S. 1.694) is designation of the Cle Elum River above the reservoir – this is linked with construction of the first fish passage that will allow sockeye salmon restoration. Future proposals will proposals to designate federal lands in ways that help YBIP achieve its goals, and promote a robust recreational economy.

- While the water supply elements of YBIP and S. 1694 are fundamentally designed to be drought responses, they and the entire package are also crafted to address adaptation to climate change. As this year demonstrates with its low snow pack, in the Yakima, actions taken for drought response will also help as the climate warms.

There are a number of details and bill elements that will be refined through the legislative process. We look forward to working with the sponsors and the Committee to finalize S. 1694.

Conclusion

American Rivers is known for leading efforts to remove obsolete and damaging dams from rivers across the nation. We ask you to support S. 1694 and the Initial Development Phase of a plan that we know is designed to lead to expanded or new dams in the Yakima in subsequent phases. To some this may be a contradiction, even heresy. To us it demonstrates a focus on our mission: The Yakima is a working river with both a huge threat from snow pack loss due to climate change, and a huge opportunity in restoration of hundreds of thousands of salmon and steelhead. To be healthy now and in the years to come, for the Yakima River and the communities that depend on it, change is needed.

We believe that S. 1694 embodies a major step towards that change. For that reason, we urge you to support S. 1694 and look forward to working with you on resolving remaining issues in the bill.