

Testimony of Tom Myrum  
House Water & Power Subcommittee

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Testimony  
Before the Committee on Resources  
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United States House of Representatives

Environmental Regulations and Water Supply Reliability  
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**Testimony of Thomas G. Myrum:  
Environmental Regulations and Water Supply Reliability**

Mr. Chairman, and members of the Committee, thank you for this opportunity to provide you with testimony on the important topic of environmental regulations and water supply reliability. My name is Tom Myrum and I am the Executive Director of the Washington State Water Resources Association (WSWRA) based in Olympia, Washington. The WSWRA represents all irrigation districts in Washington State. Our members provide water to over 1.1 million acres of irrigated agriculture in the state. Our membership includes Reclamation's Yakima and Columbia Basin Projects, dozens of districts organized under state law and several private ditch companies. The bulk of the WSWRA member irrigation districts are located on the east side of Washington State, a rain shadow desert of the Cascade Mountains. Water is the most vital economic driver in Eastern Washington. Impacts on present water supplies as well as the future availability of water for all uses are of prime interest to our members.

**Washington's Water Budget**

The State of Washington is blessed with considerable water resources that can be utilized to drive the state's agricultural and industrial economy, provide recreation for millions and pure clean drinking water to its citizens. In Washington State, precipitation accounts for 129 billion gallons or 397 thousand acre-feet (KAF) of fresh water each day, another 141 billion gallons or 433 KAF of surface water flow into Washington from adjacent states and Canada each day. The total water budget for Washington State is approximately 98 trillion gallons per year or 158 million acre-feet (MAF) per year. One acre-foot is the amount of water needed to fill an acre of land to the depth of one foot and is equal to 325,000 gallons.

Of this 270 billion gallons of water available each day, 45 billion gallons of water are lost to evaporation and evapotranspiration, about 1 billion gallons of water recharges the aquifer, 219 billion gallons of water flows out of the state in the form of surface water, leaving 4.7 billion gallons of water as the state's consumptive use each day. This consumptive use represents a mere 2% of the total water budget, whereas evaporation and evapotranspiration accounts for a 17% depletion of the water budget. By comparison, California's consumptive water use is 12% of their total water budget. Colorado's consumptive water use is 5.6% of their total water budget and Idaho's consumptive use is 4.3% of their total water budget.<sup>1</sup> While I may have confused you with the numbers all you need to remember is that there is plenty of water to meet present and future water supply demands on the Columbia River. So why is there a water supply shortage in Washington State? Because of the Endangered Species Act's impact on the judgment of bureaucrats and judges on the available water supply of the mighty Columbia.

## **The Columbia River**

The Columbia River and its numerous tributaries supply the bulk of the water supply in Eastern Washington. Some of the Columbia's major tributaries are the Yakima, Okanogan, Wenatchee, Spokane and Snake Rivers. The Columbia River is the fourth largest river in North America. Its average annual flow at Grand Coulee Dam is 77 MAF or about 107,000 cubic feet per second (cfs), 160 MAF at the Dalles Dam on the lower Columbia River and about 200 MAF return to the Pacific Ocean. The Columbia River experiences about 6% depletion as a result of consumptive use each year. In contrast, the Colorado River collects on average about 15 MAF of water annually. About 11.8 million acre-feet of this water is used in the lower basin states of California, Nevada and Arizona. Between 1996 and 2000 the consumptive use of the Colorado River was 19 MAF annually or 126% of the annual supply. Only the considerable water storage capacity on the Colorado River saved the lower Colorado states from a severe drought scenario.<sup>ii</sup> The Colorado River Storage Project will hold nearly 34 MAF of water, that's more than twice the annual yield of the river.<sup>iii</sup>

## **Irrigation in the Columbia River Basin**

While water is the Pacific Northwest's most important natural resource, irrigation is its most important industry, utilizing the water resources to produce food for the US and abroad. In 1989-1990 the irrigated acreage in the Columbia River Basin was about 7.3 million acres or approximately 4% of the region's total acreage.<sup>iv</sup> In Washington State there is almost 1.8 million acres of irrigated agriculture or 26% of the regions irrigated acreage.<sup>v</sup> Crop production values vary between \$6,000 per acre for apple orchards and grape vineyards to \$150 per acre of meadow hay.<sup>vi</sup> Presently, it is accepted that irrigated agriculture generates \$1,900 to \$2,500 in income generation per acre. This means that irrigated agriculture in Washington State generates between \$3.6 - \$4.5 billion dollars of direct and secondary income in a single year.<sup>vii</sup> The Columbia Basin Project (CBP) EIS, for further development of the CBP, envisioned bringing into production another 87,000 acres of irrigated agriculture.<sup>viii</sup> The irrigators who pump directly from the Columbia River estimate that they could quickly add another 25,000 acres of production if they could get a water right for it. The potential income effect of bringing these acres into agricultural production is \$212 – \$268 million dollars. These few examples highlight the fact that the Endangered Species Act laws and regulation not only impact current water supply but they also stifle future appropriations and the attendant economic and social opportunities they represent.

## **Columbia and Snake River Federal Dams**

There are 14 Federal dams in the Columbia River Basin. These large water projects provide many public benefits including clean hydroelectric power generation, recreation, irrigation water, navigation and wildlife habitat. Mainstem dam building began in 1933 and continued until 1975, most of the dams were built between the 1950's and the 1970's.<sup>ix</sup> The Bonneville Power Administration, the US Army Corps of Engineers and the US Bureau of Reclamation each have a role in coordinating the

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Columbia River System. One of the key components of the Columbia River dam is water storage. The total water storage capacity on the Columbia River is 55 MAF, of which 42 MAF are available for coordination between the agencies.<sup>x</sup> From the inception of dam building there have been debates about how to provide for the continued existence of anadromous salmonids, how to provide for passage and how to mitigate for fisheries losses. The BPA's Fish and Wildlife program provides for the largest amount of funding for these mitigation efforts.

### **Bonneville Power Administration Fish and Wildlife Program**

BPA invests approximately \$500 million annually to mitigate, protect, enhance, and recover fish and wildlife populations and their habitat in the Columbia Basin. To support this on-going investment in our environmental heritage, BPA implements an Integrated Fish and Wildlife Program to address our responsibilities under the Northwest Power Act, the Federal Endangered Species Act, and Tribal obligations.<sup>xi</sup> The program costs are outlined as follows:

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Integrated Program and Other Expenses: <sup>1</sup>	\$145.8
F&W expenses of other entities: <sup>2</sup>	\$57.2
Capital Repayments: <sup>3</sup>	<u>\$85.4</u>
Subtotal:	<b>\$288.4</b>
<b>Hydro Operations:</b>	
Power Purchases: <sup>4</sup>	\$191.0
Lost Opportunity Costs: <sup>5</sup>	<u>\$21.7</u>
Subtotal:	<b>\$212.7</b>
<b>Total F&amp;W Investments:</b>	<b>\$501.1</b>

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The enormous cost of BPA's fish and wildlife program threatens the economic livelihood of the Pacific Northwest as electrical rates begin to rise. However, the current flow augmentation regime allegedly designed to aid juvenile salmonid travel through the dams has effectively put a lid on future water appropriation in the Columbia River Basin.

### **Columbia River Flow Augmentation**

One of the US Bureau of Reclamation's overriding concerns for future development of the CBP and other federal projects on the Columbia and Snake Rivers was their duty under the ESA to consult with the federal fisheries services regarding the environmental impact of the federal action such as the withdrawal of water from the river. The fisheries agencies were well on the way to establishing a summer flow target that would effectively put a lid on new water appropriations from the Columbia by 1993. Noted fisheries scientist Jim Anderson described the NOAA Fisheries flow augmentation program in a paper he published in 2002,

“Flow augmentation and flow targets have been central programs in Columbia River salmon management for more than twenty years. Over this time, water requests have increased from 3.75 MAF in 1983 when the Water Budget was established (NPPC 1983) to between 13 and 16 MAF in the 1995 and 2000 NMFS Biological Opinions (NMFS 1995a; NMFS 2000a). Over the same period, the body of science on the effects of flow grew from a single graph between smolt survival and Snake River flow, to a body of information involving the tagging of a million smolts with survivals measured over the entire salmon life cycle. Whereas the growing body of scientific evidence indicates that variations in flow have no measurable effect on survival of juvenile salmon and steelhead through the mainstem of the Columbia and Snake, the fish managers continue with their policy of augmenting to these flows and have effectively halted further withdrawals of water from the mainstem of the system.”<sup>xiii</sup>

### **NOAA’s No Net Loss Policy**

The demand by NOAA for increased summer flows in the Columbia and Snake Rivers has led to the imposition of a “no net loss” or “zero net loss” policy for future water appropriations. Dr. Anderson explains this concept in his article “Columbia River Water, Salmon and Water Rights”,

“Realizing that water demand for irrigation and municipalities is increasing, NMFS adapted (sic) a ‘zero net loss policy’ in which no further water from the Columbia/Snake River mainstem, tributaries and related groundwater sources can be withdrawn. This policy challenges state authority to grant future water rights by calling for a review of existing water withdrawals. Under the NMFS policy future water allocations from within the Columbia River basin are to be used solely for in-stream fish flows. This policy will effectively stop expansion of irrigated farming in the Columbia and Snake River basins. In addition, it will limit the population growth of the Northwest Inland Empire. It is not unreasonable to expect that in the 21st century the effect of this policy on the west may be as significant as the rural electrification and water projects were to the early 20th century.”<sup>xiv</sup>

This “zero net loss” or “no net loss” policy has been in essence adopted by the Washington State Department of Ecology, the agency responsible for issuing new water rights. The policy calls for any new water right to be mitigated by a return of a like amount of water from a different source. An example of this would be for a city on the mid-Columbia to withdraw water from the Columbia and at the same time seek water from upstream to buy or lease to replace the water they have withdrawn downstream. These transactions must be done on a “bucket for bucket” basis. Adoption of the “no net loss” policy for new water rights out of the Columbia and Snake Rivers has spawned much litigation. In an effort to deal with ESA/Flow Augmentation concerns when issuing new water rights the Department of Ecology launched the “Columbia River Initiative”.

### **Columbia River Initiative**

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Assistant Attorney General Alan Reichman, in a memo to Governor Gregoire's natural resources policy advisor estimated that given the current legal climate an application to withdraw water from the Columbia River could take between 24-79 months to clear the administrative and legal process.<sup>xv</sup> Even after all that there is no guarantee that the water right will be granted. The Department of Ecology's controversial Columbia River Initiative (CRI) is aimed at addressing the concerns for issuing water rights in an expedited manner with a greater degree of certainty that the water right will be approved. However, this process advances the "no net loss" policy in a significant way.

The CRI contains several programs for moving forward on water rights issues while still being responsive to the flow augmentation issues on the Columbia River. The most controversial aspects of the CRI is its "no net loss plus" program for mitigation of water withdrawals. Ecology proposes that mitigation water be held in a water bank. Ecology would require that for every two buckets of water taken out of the river, three buckets would be put into the river from the water bank. Thus, the "no net loss plus" name, the withdrawn water is not only fully mitigated but an extra bucket of water is put back into the river as a precautionary measure.<sup>xvi</sup>

I have outlined Ecology's CRI "no net loss plus" policy to demonstrate how extreme the issue of Columbia River instream flows has become. Not only is it necessary to mitigate for impacts, the water right applicant must demonstrate measurably improved conditions to pass muster with Ecology and the Services. What more will be asked in the future to avoid perceived, but immeasurable, impacts to the Columbia River?

### **Irrigation Districts Moving Ahead Despite Water Supply Uncertainty**

I have spent a considerable amount of time describing the insanity and uncertainty that surrounds Columbia River water resources so that you could have an appreciation for what irrigation districts are doing in spite of the chaos of the regional water policies. Irrigation districts have made significant moves forward in recognition that their future needs must be addressed in the present. These actions often require a courage that is not easily recognized but is essential to water resources planning in these uncertain times.

The CBP irrigation districts recently signed a Memorandum of Understanding (MOU) between themselves, the US Bureau of Reclamation and the Washington State Department of Ecology. The purpose of the MOU is partially stated in section 3 of the document, "The parties will use their best efforts in working collaboratively and in good faith to secure economic and environmental benefits from improved water management both within the federal Project and along the mainstem of the Columbia River by advancing the actions described in this MOU."<sup>xvii</sup> This MOU is tied to the state's CRI, however, the districts specifically do not adopt the "no net loss plus" policy in Section 34 of the agreement.<sup>xviii</sup> Instead the districts are interested in moving forward on actions to begin to get new water into the eastern sections of the CBP where groundwater wells are depleting the aquifer. The districts are also interested in studies that would address infrastructure issues related to moving new water into the project. This renewed activity

may or may not follow the path anticipated by the Phase I expansion EIS that called for water supplies to an additional 87,000 acres, but it does signal a commitment by the parties to solving very difficult issues.

The MOU also commits the parties to investigating water storage projects to further the goals of the agreement.<sup>xix</sup> I pointed out earlier in this testimony that there is only 55 MAF of storage on the Columbia and Snake Rivers while 180 MAF returns to the Pacific Ocean. New storage has a potential for providing an abundance of new water that could be used to solve the contentious salmon recovery and economic development issues related to new water withdrawals.

### **The Yakima River Basin Enhancement Project – Sunnyside Valley Irrigation District Rehabilitation Project**

In 1994 Congress passed the Yakima River Basin Water Enhancement Project Act. Congress authorized funding 65% of conservation elements in exchange for getting a like percentage of the conserved water returned to the river for in-stream flow benefits. The Sunnyside Division is currently a participant in that program with the planned construction of three re-regulation reservoirs, construction and automation of 26 check structures and the implementation of a System Control and Data Acquisition (SCADA) system.

The estimated \$40 million project when complete, will operate more efficiently, provide more reliable service and return approximately 20,000 acre-feet to the Yakima River for in-stream flows. The first of these conservation elements, a 300 acre-foot re-regulation reservoir is nearing completion and is expected to be operational for the final months of this irrigation season. The entire project is expected to be complete in 5-7 years.

Conservation efforts such as this one are often potentially in conflict with measures implemented under the Endangered Species Act. For example, the designation of Critical Habitat in wasteways and drains is in conflict with efforts to minimize operation spills and to re-capture and re-use irrigation return flow to improve irrigation system efficiencies. Despite the potential for conflict the SVID and its partners are forging ahead with the belief that the improvements to the irrigation system are the economically and environmentally responsible choices to make.

### **The Comprehensive Irrigation District Management Plans (CIDMP)**

CIDMP is a pioneering effort that provides guidance to irrigation districts and/or other agricultural and domestic water purveyors or users to develop management plans for simultaneously meeting the requirements of the Clean Water (CWA) and Endangered Species (ESA) Acts.

This groundbreaking process integrates these acts through a voluntary, incentive-based approach and is endorsed by all of the participating agencies including the state and

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federal environmental, fish and wildlife agencies. It does not establish a set of mandatory regulations or standards to be inflexibly applied. Instead, the guidance manual outlines an agreed upon process that is open to refinement and adaptation in accordance with the needs of the CIDMP proponents, agency representatives and other participating in management plan development.

The ultimate goal of the process is to maintain agricultural viability, protect and enhance our state's natural resources and help in the recovery of salmon, bull trout and other listed species while providing the proponents assurances that completion of their management plans will allow them to achieve compliance with the ESA and CWA.

There are presently six CIDMP pilot projects active in the state. These pilot project are taking place from the Olympia Peninsula in Northwestern Washington to the Walla Walla River Basin in Southeastern Washington.

**Dungeness Water Users Association (DWUA) Pilot CIDMP: Sequim-Dungeness Valley Agricultural Water Users Association (WUA)**

The WUA has long been engaged with other Dungeness River stakeholders in a long-term, multiparty watershed planning and water resource management process. In 1994, Dungeness River irrigators joined these stakeholders as part of a Regional Planning Group that issued the Dungeness-Quilcene Water Resources Management Plan. As a result of the DQ planning effort the irrigators formed the WUA and negotiated a Trust Water Agreement substantially reducing the face value of their water rights, and agreed not to divert more than half of the river's flow irrespective of their water rights. A Comprehensive Water Conservation Plan (Referendum 38) was completed in 1999. Their CIDMP document was completed last summer and in the past nine months the DWUA and their counsel have been negotiating an implementation agreement for a Habitat Conservation Plan (HCP) approved by the NOAA Fisheries and US Fish and Wildlife Service. When approved, the HCP will be the first in Washington State to involve an irrigation district.

**Walla Walla Basin/ Walla Walla County: Gardena Farms Irrigation District**

The Gardena Farms Irrigation District CIDMP is being viewed as a subset of the Walla Walla HCP planning effort, as it will establish an ESA compliance approach for irrigation systems and direct diverters in the Walla Walla basin, which is part of the HCP scope. A Planning Unit has been organized to oversee development of the Water Resources Inventory Area 32 Watershed Plan, and a Bi-State HCP Coordinating Committee has been organized to coordinate the development of the HCP. The CIDMP will be conducted under the umbrella of the County's watershed planning and HCP planning efforts. Ultimately the CIDMP(s) developed under this project, along with compliance plans developed by other parties for other potential ESA "take" activities will be incorporated into the Bi-State HCP, and Clean Water Act Total Maximum Daily Load (TMDL) processes. The CIDMP(s) will receive National Environmental Policy Act (NEPA) review as a part of the larger HCP.



The pilot effort is a multi-phased approach. Phase 1 will address GFID No. 13 water conservation plan. Phase 2, will be applied to local private property owners, including possible small “ditch” operators. In recent Washington Department of Transportation environmental planning exercises, the GFID piping project has rated the 2<sup>nd</sup> best project for mitigating WSDOT road building activities.<sup>xx</sup>

The CIDMP planning process has other pilot projects in the Yakima Valley, the Skagit Valley, and the Nooksack River Basin. The broad support for this process indicates both the utility of the process and the fact that it successfully crosses geographic and political boundaries.

### **ESA, the 2004 Columbia River Biological Opinion and the Courts**

On May 26, 2004 , U.S. District Court Judge Redden issued a ruling in the 2004 FCRPS Biological Opinion Litigation. In this ruling, the Court concluded that the 2004 BiOp was legally flawed for four reasons. The Court concluded that: (1) the 2004 BiOp's attempt to limit consultation to an analysis of the impacts of discretionary FCRPS operations (excluding nondiscretionary operations) was inconsistent with the ESA; (2) the 2004 BiOp's analysis of the environmental baseline conditions was inadequate; (3) the 2004 BiOp's critical habitat analysis was inadequate as to addressing the short and long term recovery needs of ESA listed species; and (4) the 2004 BiOp jeopardy analysis inadequately considered the recovery requirements for ESA listed species.

This decision adds more confusion regarding the process for withdrawing new water from the Columbia and Snake Rivers. Now there is no valid Biological Opinion and the Federal District Court in Portland will decide how the Columbia River will be managed in the absence of an approved BiOp. Judge Redden has indicated that the Snake River Dams will have to cease power generation during the summer months in favor of water spilled to assist salmon migration. This loss of power revenue will add further cost to the BPA Fish and Wildlife program.

### **Conclusion**

“To intervene on the Columbia in the name of nature, to eliminate artifacts of our previous interventions, is still an intervention. Some species will prosper; others will decline.” Dr. Richard White, Professor of History xxi

The unrealistic and unsupportable flow targets placed on the Columbia River under the guise of science and the validation of the agencies that administer the Endangered Species Act have been successful in creating a reality where all those who seek new appropriations from the Columbia must bow to the flow targets and seek mitigation for immeasurable impacts to the salmonid habitat. This situation should serve as a warning to all who manage water resources anywhere in the United States that the ESA taken to the extreme could turn a flood into a drought by the mere stroke of a pen

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declaring it so. Water resources managers operating within the confines of this Columbia River fiction must move forward in the interest of those they serve.

Washington irrigation districts that rely on water from the Columbia River understand that needs change over time whether they are needs of the natural environment or the needs of the people who occupy that environment. The districts will continue to move forward to address these twin goals while all the while managing their water resources in a responsible manner. Congress should recognize and reward foresighted water resources managers with the necessary laws and appropriations to spark progress.

Based on our experiences with the ESA in the Columbia River Basin, the ESA needs to be improved to allow for more cooperative agreements between government and resource users and a more prescriptive route to the courthouse for those supposed stakeholders who choose litigation over cooperation. Do we really want a federal court judge running the river as if by remote control? No, we want control of the river by those who really know the river, who work on the river, who depend on the river? It is only then that water supply reliability for all is achieved.

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<sup>i</sup> Source: The National Water Summary 1987, USGS Water Supply Paper 2350.

<sup>ii</sup> Source: The Colorado River: Has it run out of Water. By Lawrence J. MacDonnell, Porzak, Browning and Bushong. Published in "The Water Report", Issue #16, June 15, 2005.

<sup>iii</sup> See, Colorado River Storage Project, USBR website at

<http://www.usbr.gov/dataweb/html/crsp.html#general>

<sup>iv</sup> Columbia River System Operations review, Appendix F, page 2-1. Prepared by the US Army Corps of Engineers and the US Bureau of Reclamation, 1995.

<sup>v</sup> Id.

<sup>vi</sup> Id.

<sup>vii</sup> John Day Pool Drawdown study, 2000 and other IMPLAN modeling estimates.

<sup>viii</sup> In 1993 the Bureau of Reclamation placed a moratorium on further development of the Columbia Basin Project by letter from the USBR Upper Columbia Area Manager Jim Cole. In 2003 the moratorium was rescinded by letter from USBR Commissioner John Keys III. The Columbia Basin Project irrigation districts are still interested in pursuing some additional development in the eastern parts of the project but at this time are waiting to see what happens to the ESA mandated biological opinion for the Federal Columbia River Power System.

<sup>ix</sup> Columbia River System Operations Review, 1995, p.3-1.

<sup>x</sup> Id. p.3-4.

<sup>xi</sup> BPA website information, [www.efw.bpa.gov/integrated\\_fish\\_and\\_wildlife\\_program](http://www.efw.bpa.gov/integrated_fish_and_wildlife_program).

<sup>xii</sup> BPA website information, [www.efw.bpa.gov/Fish\\_and\\_Wildlife\\_program/morehome.aspx](http://www.efw.bpa.gov/Fish_and_Wildlife_program/morehome.aspx)

<sup>xiii</sup> The Flow Survival Relationship and Flow Augmentation Policy in the Columbia River Basin; Prepared By: James J. Anderson, Columbia Basin Research School of Aquatic and Fishery Sciences University of Washington Seattle, Washington September, 2002

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<sup>xiv</sup> Columbia River Water, Salmon and Water Rights, by James J. Anderson , University of Washington School of Fisheries, February 2,1998, p.1.

<sup>xv</sup> Memo from Alan Reichman, Assistant Attorney General re: “Assessment of Potential Timelines for Resolution of Columbia River Water Rights Through Litigation” to Keith Phillips, Office of the Governor, March 18, 2005.

<sup>xvi</sup> For more information on Ecology’s Columbia River initiative go to

<http://www.ecy.wa.gov/programs/wr/cr/crhome.html>

<sup>xvii</sup> Memorandum of Understanding Concerning the State of Washington’s Columbia River Initiative, Purpose and Objectives, Section 3, p.1. For a copy of the MOU go to

<http://www.ecy.wa.gov/programs/wr/cr/crhome.html>

<sup>xviii</sup> Id, Section 34, p. 8.

<sup>xix</sup> Id. Sections 5-8, p. 2-3.

<sup>xx</sup> The GFID project was listed by the WSDOT’s Transportation Permit Efficiency and Accountability Committee (TPEAC) as a good site for highway building mitigation. The TPEAC is developing a model process for matching WSDOT environmental mitigation responsibilities with local land use planning and environmental planning efforts.

<sup>xxi</sup> Reading on the Columbia River , Remarks by R. White ,Seattle University, February 2, 1998 See [http://www.columbiariver.org/main\\_pages/readings/su/white.htm](http://www.columbiariver.org/main_pages/readings/su/white.htm)