

Structural and Operational Changes Element

Yakima River Basin Integrated Water Resource Management Plan Planning Report/Programmatic Environmental Impact Statement (PR/PEIS)

May 2011

This element identifies activities at existing Yakima Project facilities contained in the System Modifications component of the proposed Integrated Plan.

Cle Elum Dam Pool Raise

The proposed Cle Elum Pool Raise project consists of raising the maximum water level of Cle Elum Lake 3 feet from a current maximum elevation of 2,240 feet to 2,243 feet. The Pool Raise would increase the volume of available storage in Cle Elum Lake by approximately 14,600 acre-feet. Modifications would include radial gate improvements, shoreline protection, and mitigation of upstream inundation and recreation.

Kittitas Reclamation District (KRD) Canal Modifications

The proposed KRD Main Canal and South Branch Canal Modifications project would improve KRD laterals along those canals designed to reduce seepage losses and allow greater flexibility in KRD supply management. The water saved or transferred would be used to enhance instream flows in tributaries to the Yakima River, including Taneum Creek, Manastash Creek, Big Creek, and Little Creek. Specific actions would include:

- Piping of irrigation laterals along the KRD Main Canal and South Branch Canal;
- Construction of a reregulation reservoir to capture KRD operational spills at Manastash Creek; and
- Construction of a pump station on the Yakima River to deliver flows to Manastash Creek water users.

Tributary flow improvements will be coordinated with habitat enhancement actions targeting improving fish passage at KRD canal crossings.

Keechelus-to-Kachess (K-to-K) Pipeline

The purpose of the K-to-K pipeline is to convey water from Lake Keechelus to Lake Kachess to reduce flows and improve habitat conditions during high-flow releases below Keechelus, and provide more water storage in Lake Kachess for downstream needs.

This project would include modifying the existing Lake Keechelus outlet tunnel, installing nearly 5 miles of large-diameter pipe, and installing a new control structure and outfall into Lake Kachess. An evaluation of a new power generation facility at the outfall is also included.

Every effort would be made to coordinate construction of the K-to-K pipeline with ongoing construction on Interstate-90, particularly on the Lake Keechelus end of the pipeline.

Reduce Diversions Devoted to Power Generation

This change would further subordinate water diversions for power generation at Roza Dam and Chandler Power Plant to support outmigration of steelhead, Chinook, sockeye and coho juveniles, recognizing power is already greatly subordinated below what was originally intended when the dams were built. Subordination would be pursued subject to the condition that acceptable mitigation for the loss of generating capacity is agreed upon and approved by Reclamation, Bonneville Power Administration, and either Roza or Kennewick Irrigation District, as applicable.

Wapatox Canal Improvements

The purpose of this project is to reduce or eliminate the carriage water diverted into the canal for Wapatox Ditch Company water users. This includes piping and/or replacing the lining along portions of the existing Wapatox Canal. It would include installing new canal lining from the fish screen midway down the canal and replacing the existing canal from that point downstream with a pipeline, or replacing the entire length of existing canal downstream of the fish screen with a pipeline. This project could consolidate other diversions into the Wapatox Canal such as the Naches-Selah Irrigation District, the City of Yakima Water Treatment Plant, and the Glead Ditch. However, the benefits of consolidating those diversions may not be sufficient when compared to the cost, and those water users may choose not to participate in the project.

Fish Passage Element

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This is the second of two elements contained in the Habitat component of the Integrated Plan. It focuses on restoring anadromous salmonid access to habitat above the five existing large storage reservoirs and providing upstream and downstream passage for bull trout and other resident fish. Providing unimpeded fish migration past the existing storage dams in the Yakima Basin would increase species distribution, allow reintroduction of sockeye runs and expanded migrations, and provide for genetic interchange for listed bull trout and other native fish. Fish passage also provides a means for fish to respond to potential future climate change impacts by providing access to high-quality habitat at higher elevations if lower elevation habitat becomes unsuitable for supporting fish life stages at certain times of year.

Downstream juvenile passage facilities would be installed at Cle Elum Dam and a fish ladder and collection facility would be built to capture and transport fish upstream by tanker truck. At Bumping Dam, upstream and downstream fish passage would be installed as part of the proposed Bumping Lake Enlargement Project, or at the existing dam if the enlargement is not authorized. Upstream and downstream fish passage would also be installed at Tieton, Keechelus, and Kachess Dams, subject to further evaluation to determine the most feasible approach.

In addition, the existing upstream passage facilities would be replaced at Clear Lake Dam and effective passage for pre-spawn adult bull trout would be ensured at Box Canyon Creek (Kachess Lake tributary).

Enhanced Water Conservation Element

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This is the second of four elements contained in the Water Supply component of the proposed Integrated Plan.

Agricultural Conservation

The Enhanced Water Conservation element includes implementing an approximate \$423-million agricultural water conservation program designed to conserve up to 170,000 acre-feet of water in good water years. The agricultural water conservation program includes measures beyond those likely to be implemented in the existing Yakima River Basin Water Enhancement Project (YRBWEP) Phase II conservation program. Agricultural water conservation activities that could be implemented under this program include:

- Lining or piping existing canals or laterals;
- Constructing reregulation reservoirs on irrigation canals;
- Installing gates and automation on irrigation canals;
- Improving water measurement and accounting systems;
- Installing higher efficiency sprinkler systems; and
- Implementing irrigation water management practices and other measures to reduce seepage, evaporation, and operational spills.

This element does not identify specific project activities for implementation. Projects to be implemented would be selected through detailed feasibility studies and evaluation by the existing YRBWEP Conservation Advisory Group. Irrigation districts eligible for project funding include both federally- and nonfederally-served irrigation districts, private irrigation entities, and individual landowners.

Municipal and Domestic Conservation

Municipal and domestic water usage includes water delivered by public water systems regulated by the Washington State Department of Health, water used by individual homeowners served by permit-exempt wells, water used by commercial or industrial facilities, and water delivered by irrigation entities

for purposes of outdoor landscape irrigation in developed areas of the Yakima basin. It includes residential, commercial, industrial, and urban recreational uses of water such as parks, ball fields, and golf courses. This activity would create a \$30-million fund to promote water use efficiency basinwide using voluntary, incentive-based programs. The program would focus on outdoor uses as top priority.

An advisory committee including local and environmental stakeholders would be convened to organize outreach regarding municipal and domestic water conservation to local elected officials and provide liaison with Reclamation, Ecology, and Washington Department of Health. The advisory committee would focus particular attention on:

- Providing education, incentives, and other measures to encourage residential and commercial users to improve efficiency of landscape irrigation where the source of supply is agricultural irrigation canals or ditches;
- Improving the efficiency of consumptive uses;
- Establishing best practice standards for accessing the new supply developed through the Integrated Plan and dedicated to municipal use and municipal/domestic mitigation. The standards will be based on review of evolving practices in similar communities and similar climate zones of the Western United States; and
- Determining appropriate conditions for accessing the new supply that would apply to homeowners or developers seeking mitigation water for homes supplied by individual household wells.

Habitat Protection and Enhancement Element

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This is the first of two elements contained in the Habitat component of the proposed Integrated Plan.

Targeted Watershed Protections and Enhancements

This element furthers watershed, water supply, and ecological restoration goals of the Integrated Plan through the protection and restoration of key land types. The lands where environmental benefits would be greatest are large tracts in the Yakima and Naches watersheds that provide high potential for ecosystem and species conservation and restoration both within and outside the riparian corridor. These lands complement the overall goals of the Integrated Plan by helping to maintain or improve water supply and quality, protecting sources of cold water and cold-water habitat, providing (or providing connectivity to) bull trout and/or salmon and steelhead habitat and spawning grounds, and providing additional floodplain restoration opportunities.

The targeted acquisitions include:

- 46,000-acre tract in the middle and lower Teanaway River Basin comprised of mid- to high-elevation mixed conifer forest and lower elevation grand fir and ponderosa pine;
- 15,000-acre tract in the Yakima River Canyon from the Yakima River to Interstate-82, including the valley bottom and eastern slopes; and
- 10,000 acres at the headwaters of the Little Naches River and lands surrounding the headwaters of Taneum and Manastash Creeks.

If these preferred areas and acreages cannot be acquired, a combination of alternative areas of similar conservation value may be identified for protection that collectively approximate the following orders of magnitude:

- High-elevation watershed enhancement: 45,000 acres;
- Shrub-steppe habitat enhancement: 15,000 acres; and
- Forest habitat enhancement: 10,000 acres.

Additional lands are potentially eligible and/or have already been recommended for Federal Wilderness and Wild and Scenic River designation through other processes. In addition to the conservation targets provided above, protection of the following lands is consistent with values and objectives of the Integrated Plan:

- Wilderness designation would be encouraged for the land around Bumping Lake not inundated by the reservoir expansion.
- Wilderness or other appropriate designation would be encouraged for roadless areas in the Teanaway, in the area between Kachess and Cle Elum Lakes, and in the upper reaches of Manastash and Taneum Creeks in order to preserve headwaters, streams, and forests in their natural condition.
- Wild and Scenic River designation would be encouraged for the American, upper Cle Elum, and Waptus rivers. Other rivers determined eligible and recommended for designation in future forest plans also would be considered.

Fish Habitat Enhancement

The Integrated Plan includes an approximate \$460-million habitat enhancement program to address floodplain restoration priorities and restore fish access to key tributaries through flow restoration, fish barrier removal, and screening diversions. These actions would significantly improve prospects for recovering fish populations to levels that are resilient to catastrophic events and the potential impacts of climate change by accelerating ongoing efforts to protect existing high-value habitats, improve fish passage, enhance flows, improve habitat complexity, and reconnect side channels and off-channel habitat to stream channels.

Fish habitat enhancement actions would help create improved spawning/incubation, rearing, and migration conditions for all salmonid species in the Yakima basin, implement key strategies described in the *Yakima Subbasin Plan*, and complete most of the actions described in the *Yakima Steelhead Recovery Plan*. Early mainstem floodplain improvements could include channel and habitat restoration in the Yakima River near Ellensburg and between Selah and Union Gap, and on the Naches River. Early tributary program actions could include completing screening and passage at diversions in the Yakima basin, completing bull trout habitat improvements and management actions, and implementing the Toppenish Creek Corridor Program.

The implementation approach would be tailored to utilize existing organizations, review processes, and plans, as applicable. Reclamation and Ecology may establish an advisory group similar to the Yakima River Basin Water Enhancement Project Conservation Advisory Group to help develop a more detailed approach for how and when projects would be funded.

Market Reallocation Element

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This is the first of four elements contained in the Water Supply component of the proposed Integrated Plan. Market Reallocation activities would reallocate water resources through a water market and/or water bank to improve water supply in the Yakima River basin. This element consists of recommendations for legislative changes and funding requests to improve the efficiency and flexibility of water transfers. The proposal includes two phases—a near-term effort to build on the existing water market programs and a longer-term effort that requires more substantial changes to existing laws and policies.

The near-term program would continue existing water marketing and banking programs in the basin, but take additional steps to reduce barriers to water transfers.

The long-term program would focus on facilitating water transfers between irrigation districts. This would allow an irrigation district to fallow land within the district and lease water rights for that land outside the district.

To facilitate this process, Agricultural Conservation Program funding would be made available to non-Federal irrigation entities to upgrade conveyance infrastructure in a manner that improves these entities' operational flexibility and ability to lease water to other irrigation districts, including federally-served districts.

Surface Water Storage Element

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This is the third of four elements contained in the Water Supply component of the proposed Integrated Plan. Additional water supply development would be pursued through the following storage activities. Storage enhancements would provide supply for instream flow needs and out-of-stream needs, including municipal and domestic uses. Power generation opportunities at each of these projects would also be evaluated and implemented, if feasible.

The first three surface water storage projects listed below (Wymer Dam, Kachess Inactive Storage, and Bumping Lake Enlargement) reflect the Yakima River Water Enhancement Project (YRBWEP) Workgroup's intent to focus on inbasin solutions to address water supply and aquatic resource problems in the Yakima River basin. Collectively, these projects represent just over 450,000 acre-feet of additional water supply for instream and out-of-stream uses in the basin. If, after concerted effort by the Workgroup to advance these projects, one or more of the three projects fails to receive necessary permits and approvals for implementation, the Workgroup will select a replacement project (or projects) that will supply at least an equivalent quantity of water.

Wymer Dam

Wymer Dam would be located as an off-channel storage facility on Lmuma Creek, approximately 8 miles upstream of Roza Diversion Dam. The storage capacity of the reservoir would be approximately 162,500 acre-feet, with 82,500 acre-feet reserved for a summer water exchange with Keechelus and Cle Elum reservoirs for the benefit of anadromous and resident fishes. From October to May, additional water would be released from Cle Elum and Keechelus Reservoirs to improve winter flow conditions for anadromous salmonid egg incubation and overwintering juveniles in the Keechelus-Easton reach and lower Cle Elum River and pumped into Wymer reservoir. In exchange, that water would be released from Wymer in July and August. This process would result in a reduction in artificially high summer flows in the upper Yakima River, which would benefit anadromous and resident juvenile rearing salmonids.

Two pump station options are being considered on this dam. Option 1 includes a new pump station at Thorp, a new water transmission main from the pump station to an upgraded Kittitas Reclamation District (KRD) North Branch Canal system, and a new tunnel to deliver water to Wymer. Option 2 is a 400-cfs pump station on the Yakima River just upstream of Lmuma Creek with water conveyance to Wymer through a new water transmission main.

Wymer Reservoir releases would pass through tunnels, a siphon, and a hydroelectric powerhouse to the Roza Canal at the existing Roza Canal intake structure. The feasibility of removing Roza Dam would be evaluated as part of implementing this project. The downstream conveyance alignment provides for connection with future potential storage sites within the Burbank and Selah drainages.

Kachess Reservoir Inactive Storage

The Lake Kachess Inactive Storage Project is located just east of Interstate 90 near Easton, Washington. The project involves a lake tap in Lake Kachess that would allow the lake to be drawn down approximately 80 feet lower than the current outlet. The lake tap would provide the ability to withdraw another 200,000 acre-feet of water from the lake when needed for downstream uses during drought conditions. Water would be conveyed either through a pump station and outlet just downstream of the Lake Kachess Dam or through a tunnel outlet to the Yakima River approximately 4.8 miles southeast of the dam.

Bumping Lake Enlargement

The proposed damsite is about 40 miles northwest of Yakima, Washington, on the Bumping River about 4,500 feet downstream of the existing Bumping Lake Dam. The dam would impound approximately 198,000 acre-feet at elevation 3,490 feet with a surface area of 4,120 acres (compared to the present reservoir capacity of 33,700 acre-feet at elevation 3,425 feet with a surface area of 1,300 acres). The existing dam would be breached following construction of the new dam to allow full use of the existing pool. The new dam and reservoir would provide carryover storage against possible shortages of irrigation water for federally-served irrigable lands; it would also provide instream flow and incidental flood-control benefits.

Columbia River Pump Exchange with Yakima Storage

If implementation of the three surface storage projects described above proceeds, appraisal- and feasibility-level work would commence on other water supply enhancements, including the potential for an interbasin transfer from the Columbia River. As inbasin actions are developed and implemented, supply improvements would be measured at least every 5 years as part of a rolling needs assessment against the identified 70-percent proratable supply need for irrigation and other out-of-stream needs, and instream flow objectives. Need for additional water supply enhancements will depend on the effectiveness of projects that are implemented as part of the Integrated Plan, how the basin economy develops over time, as well as the timing of and manner in which climate change affects water supply availability.

An appraisal study for a Columbia River-to-Yakima-basin transfer would be conducted. This would involve the following:

- A detailed analysis of the physical and legal availability of water for diversion from the Columbia River;
- An assessment of alternatives for configuration of pumping, routing, and storing Columbia River water in the Yakima basin as well as options for instream and out-of-stream uses of that water;
- Estimates of capital and operation and maintenance costs for each alternative; and
- An evaluation of allocation of costs for each alternative.

Groundwater Storage Element

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This is the fourth of the four elements contained in the Water Supply component of the proposed Integrated Plan.

Shallow Aquifer Recharge

The objective of groundwater infiltration is to divert water prior to storage control into designed infiltration systems (ponds or canals), and allow withdrawal of the infiltrated water during storage control in lieu of reservoir releases. The timing and scale of surface water diversions would be designed to allow continuation of natural high-flow events that create and sustain aquatic habitat.

There are two phases to the groundwater infiltration program—pilot-scale infiltration testing in two study areas, followed by full-scale implementation. Initially, a limited pilot study would be conducted to verify the feasibility and general design features of groundwater infiltration systems. Pilot testing would take place in two study areas—the Kittitas Reclamation District (KRD) and the Wapato Irrigation Project (WIP). In each study area, two pilot-scale infiltration systems would be constructed, each between 1 and 2 acres in size. The pilot tests would result in recommendations for implementation.

At full-scale implementation, it is anticipated that between 160 and 500 acres of infiltration area would be necessary to achieve a total infiltration capacity of at least 100,000 acre-feet. Total infiltration volumes may vary from year to year, depending on snowpack conditions and reservoir refill requirements. Full-scale infiltration on the KRD system would be dependent on construction of the Thorp Pump Station (part of the proposed Wymer Dam project). During the pilot phase, policy and legal protocols will be developed to ensure water stored through infiltration is not captured by unauthorized users.

Aquifer Storage and Recovery

Aquifer Storage and Recovery involves diverting surface waters during high-flow periods and storing the water in underground aquifers for use during low-flow periods. The timing and scale of surface water diversions would be designed to allow continuation of natural high-flow events that create and sustain aquatic habitat.

The City of Yakima would divert water from the Naches River and treat it at the City's existing water treatment plant. It would then be injected into wells and later pumped out for use by the City's residents and businesses. Aquifer storage and recovery may also be viable for other cities in the Yakima basin.

Why Are We Proposing the Integrated Plan?

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In an environmental impact statement, the **need** for and **purpose** of the proposal are critical in identifying alternatives and helping to ensure that the proposed action has the best chance of achieving its objectives.

The Need for a Comprehensive Approach to Water Supply Management:

To advance a more reliable* and sustainable water supply in the Yakima River Basin for irrigated agriculture, municipal and domestic needs, power generation, and instream flows that anticipates increased demand, variability of supply and uncertainty related to climate change.

*Reliable irrigation water supply during drought years is considered to be a minimum of 70 percent of proratable supply for participating irrigation districts.

The Purposes of the Integrated Water Resource Management Plan:

1. Identify a comprehensive program of water resource and habitat improvements in response to existing and forecast needs of the Yakima River Basin;
2. Develop an adaptive approach for implementing these initiatives and for long-term management of basin water supplies that contributes to the vitality of the regional economy and sustains the health of the riverine environment.

Plan Objectives:

- Improve water supply reliability during drought years to 70 percent of proratable supply for participating irrigation districts;
- Improve the ability of water managers to respond and adapt to potential effects of climate change;
- Provide opportunities for comprehensive ecological restoration and enhancement addressing in-stream flows, aquatic habitat, and fish passage;
- Provide economic stimulus to the Yakima River Basin that will benefit the larger Central Washington area; and
- Develop a comprehensive approach for efficient management of water supplies for irrigated agriculture, municipal and domestic uses, and power generation.

What is a Programmatic Environmental Impact Statement?

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There are two types of environmental impact statements—"programmatic" and "site-specific." These are also sometimes referred to as "planning-level" and "project-level" based on differences in their focus and level of detail. The EIS being prepared for the proposed integrated water resource management plan will be a programmatic EIS (PEIS). A PEIS evaluates the effects of broad proposals or planning-level decisions that may include any or all of the following:

- A wide range of individual projects;
- Implementation over a long timeframe; and/or
- Implementation across a large geographic area.

The level of detail in a PEIS is sufficient to allow informed choice among alternatives and to develop broad mitigation strategies. Collaboration among Federal, State, and local agencies and Tribes is especially important in a PEIS process, as jurisdictional boundary issues are more common in programmatic than in site-specific analyses.

The PEIS does not evaluate site-specific issues such as precise project footprints or specific design details that are not yet ready for decision at the planning level. Instead, a PEIS is an excellent means for examining the interaction among proposed projects or plan elements, and for assessing cumulative effects. Like a site-specific EIS, a PEIS also includes a "no action alternative." The PEIS should explain where and when deferred issues that were raised by the public and/or regulatory agencies will be addressed, and describe the proposed temporal and spatial scales that will be used when analyzing those issues.

Typically, a PEIS will require subsequent project-level, or site-specific, environmental reviews in the form of an EIS, Environmental Assessment, or Categorical Exclusion Checklist, for specific components of the project. When a second-level environmental review is undertaken for a specific component, the stepwise approach to analyses and decisionmaking is called "tiering."

Tiering of environmental impact statements refers to the process of addressing a broad, general program, policy, or proposal in an initial PEIS, and analyzing a narrower site-specific proposal related to the initial program, plan, or policy in a subsequent EIS.

The intent of the tiering concept is to encourage elimination of repetitive discussions and to focus on the actual issues ready for decisions at each level of environmental review. Tiering expedites the resolution of big-picture issues so that subsequent studies can focus solely on project-specific impacts and issues. Those big-picture issues and analyses do not have to be repeated in subsequent tiered environmental reviews, but can simply be referenced from the programmatic document.

Tiering expands the opportunities for public and agency input by breaking the environmental analyses into two levels. Individuals with a strong interest in the overarching big-picture questions can participate extensively at the programmatic level (Tier 1), and those who are more interested in localized impact and mitigation issues can focus their efforts on the specific site-specific (Tier 2) project or projects.

Tiering also allows environmental analyses for each Tier 2 project to be conducted closer in time to the actual construction phase, or as funds become available for construction, thereby improving the usefulness of the studies and reducing the chance that a supplemental EIS would be necessary.

How Can I Provide Input?

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The scoping period for the Yakima River Basin Integrated Water Resource Management Plan PR/PEIS began on April 4, 2011, and will continue through May 19, 2011. As part of the National Environmental Policy Act (NEPA) and the State Environmental Policy Act (SEPA), scoping is conducted to receive public and agency comments on the scope of an upcoming EIS, and may include comments on:

- ✓ **Purpose of and Need for** an Integrated Water Resource Management Plan
- ✓ Recommendations concerning the **proposed plan, program elements, and alternatives**
- ✓ **Substantial issues and concerns** that should be addressed in the PR/PEIS
- ✓ **Potential impacts** (beneficial and adverse, direct, indirect, and cumulative) and **mitigation**
- ✓ **Other major actions** in the Yakima basin and **regulatory requirements** of Federal, State, and local agencies
- ✓ Scope of **program-level environmental studies** to be conducted

We would like your help! There are a variety of ways for you to participate in this process:

- ✓ **Attend** one of four scoping meetings (court reporter will be present to transcribe your comments):
 - **Ellensburg – May 3, 2011, 1:30-3:30 p.m., and 5-7 p.m. at Hal Holmes Center**
 - **Yakima – May 5, 2011, 1:30-3:30 p.m., and 5-7 p.m. at Yakima Arboretum**
- ✓ **Mail** written scoping comments, requests to be added to the mailing list, and/or requests for a scoping document to:

**Bureau of Reclamation, Columbia-Cascades Area Office
Attention: Candace McKinley, Environmental Program Manager
1917 Marsh Road
Yakima WA 98901**
- ✓ **E-mail** comments to yrbwep@usbr.gov; fax to 509-454-5650
- ✓ **Telephone** comments to be recorded at (509) 575-5848, ext. 613

Then What Happens?

- ✓ A **Scoping Summary Document** will address all scoping comments submitted **through May 19, 2011**. The Scoping Summary Document will be made available to those providing comments by the due date, and others may request a copy by one of the means described above.
- ✓ A **Draft PR/PEIS will be released, followed by a 45-day public and agency review and comment period**. Notice of the availability of the Draft PR/PEIS and the public and agency comment period will be published in the Federal Register and local newspapers prior to release of the document, which is anticipated for the fall of 2011.

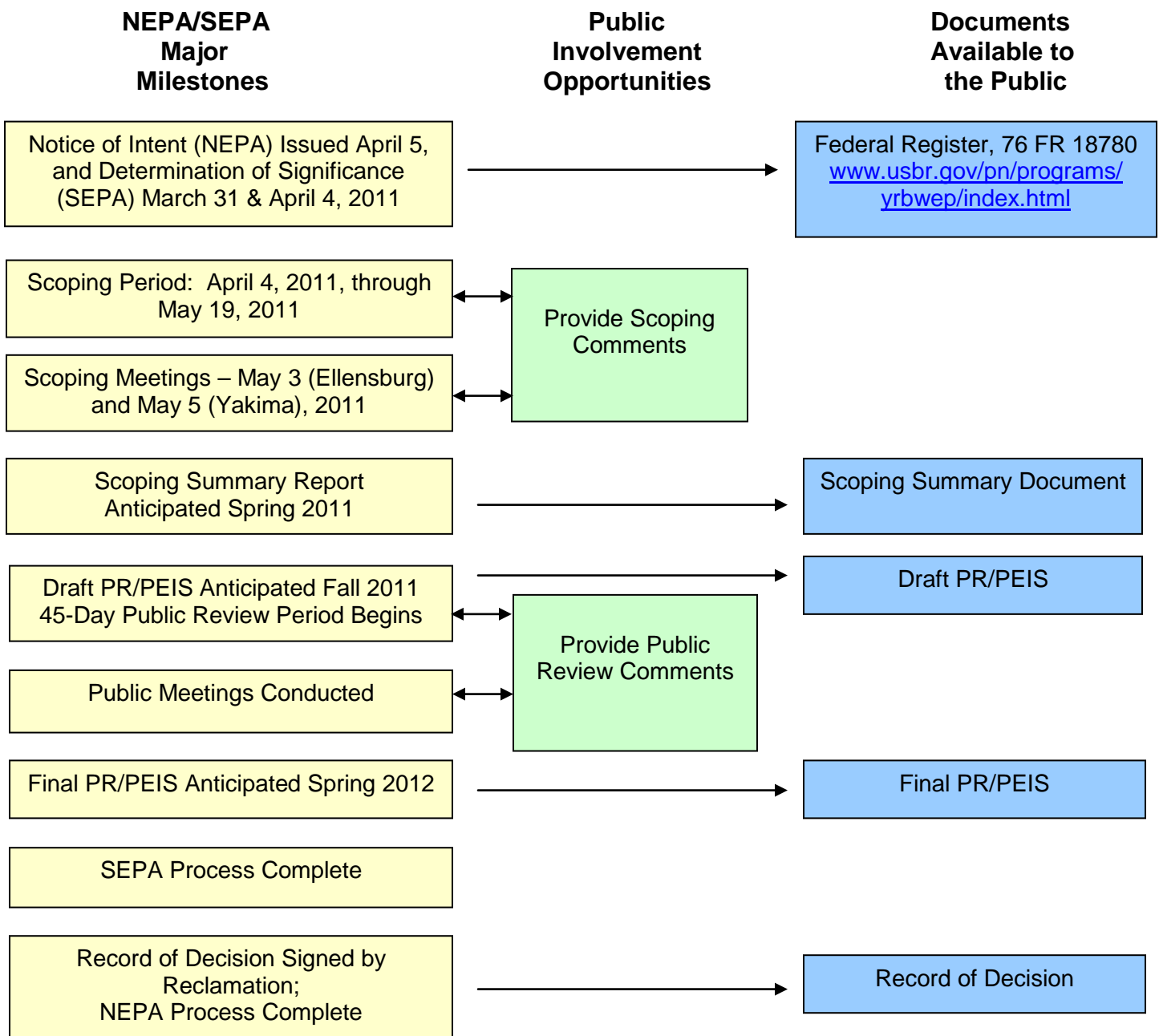
Contact: Candace McKinley, (509) 575-5848, ext. 613

Derek Sandison, 509-457-7120

NEPA/SEPA Process

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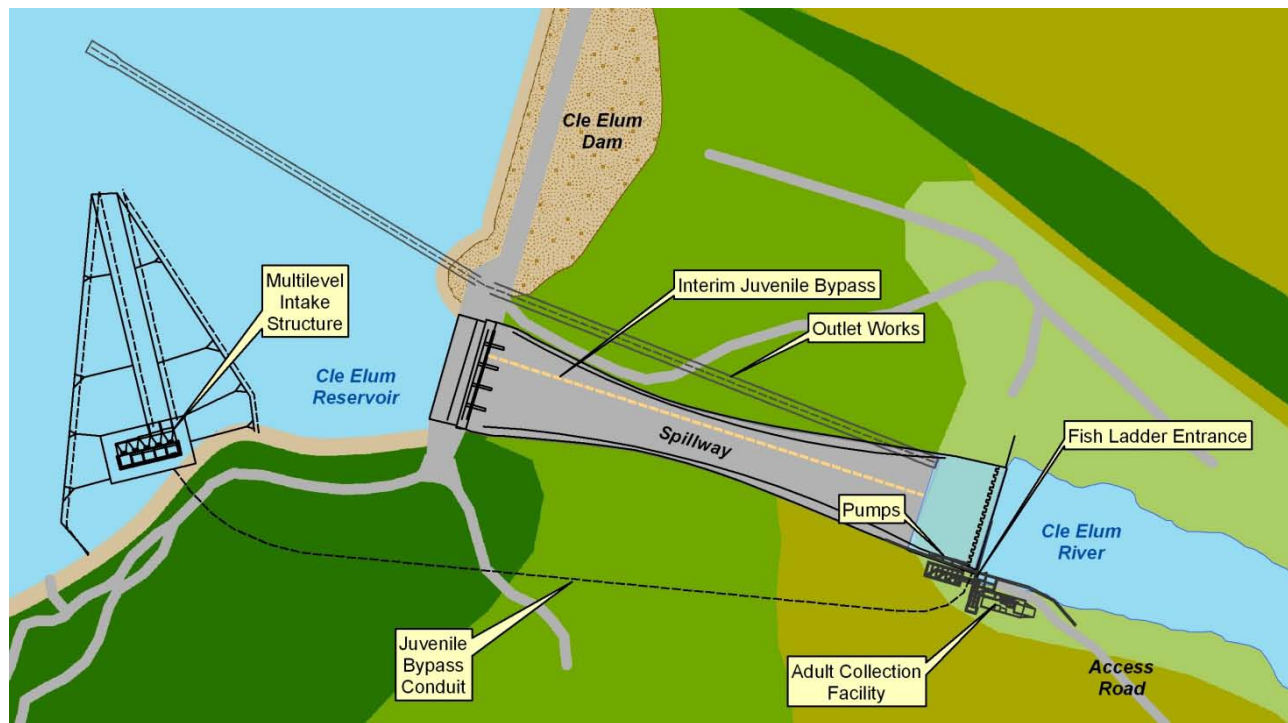
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Cle Elum Dam Fish Passage – Right Bank Juvenile Passage with Right Bank Adult Passage without Barrier Dam

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Alternative 3 involves the construction of both downstream juvenile and upstream adult fish passage facilities. All passage facilities would be located on the right bank. Since the intake structure for the downstream juvenile passage would be located against the right bank, it could be accessed from shore. The 7-foot-diameter, 1,520-foot-long concrete juvenile bypass conduit would be located adjacent to the spillway on the right bank.

Locating the adult collection facility and fish ladder on the right bank places the ladder entrance in an area of calm water at the base of the spillway. The combination of the flow from the downstream juvenile passage conduit and the pumped auxiliary attraction flow would provide adequate flows for adult fish to find the ladder entrance. The upstream adult passage would include a trap-and-haul facility leading to a collection facility. The fish would then be hauled in a fish transport truck for release in the Cle Elum Reservoir or upstream tributaries.

Total contract construction cost for Alternative 3 is estimated at \$84 million (2008 dollars). Construction would require Federal funding authorization.

Bumping Lake Enlargement Q&As

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Background – Yakima River Basin Integrated Water Resource Management Plan

The existing water supply in the Yakima River basin and the limited storage capability does not meet the water supply demands in all years, which results in adverse impacts to the basin's economy and aquatic resources - specifically, anadromous fish and irrigation. Drought conditions have occurred every 4 years, on average, over the last 20 years. Climate change is expected to increase the drought frequency and further reduce water supply.

A Yakima River Basin Water Enhancement Project (YRBWEP) Workgroup composed of representatives of the Yakama Nation; Federal, State, county, and city governments; environmental organizations; and irrigation districts was convened by Bureau of Reclamation (Reclamation) and Washington State Department of Ecology (Ecology) to develop the Integrated Water Resource Management Plan proposal. A large part of the Integrated Plan includes developing additional water supply through a host of actions, one of which is Bumping Lake Enlargement.

Following are some common questions and answers about the Bumping Lake Enlargement proposal.

Question: What is the history of Bumping Lake Dam and Reservoir?

Answer: Bumping Lake Dam was built in 1910 and is one of five major storage reservoirs operated by Reclamation to store water for the Federal Yakima Project. Its storage capacity is approximately 35,000 acre-feet, and its surface area when full is approximately 1,400 acres. Under this proposal, Bumping Lake would be expanded from its current size to 190,000 acre-feet. This size would minimize impacts on prime bull trout spawning areas.

Question: Who owns and operates the Dam and Reservoir?

Answer: The Bureau of Reclamation owns the dam and reservoir. The lands around the reservoir have mutual jurisdiction by Reclamation and the US Forest Service. Reclamation holds the land around the reservoir as "withdrawn land," and it is represented as a strip of land which surrounds the lake 1 mile in width from the normal high water line. The lands around the lake are jointly managed by both agencies, with Reclamation's Yakima Field Office operating the dam and reservoir and the Forest Service managing the recreation and land use around the reservoir.

Question: What is the Yakima Project?

Answer: The Yakima Project was authorized by Congress in 1905 and provides water to approximately 465,000 irrigated acres. The Project's five major reservoirs (Bumping, Kachess, Keechelus, Rimrock, and Cle Elum) have a total capacity of approximately 1,065,000 acre-feet, or approximately 30 percent of the annual basin runoff. The Yakima Project annual total irrigation needs are approximately 2,500,000 acre-feet. These are met by storage releases and streamflows.

Question: How is Bumping Lake a factor in the Yakima River Basin Study?

Answer: As noted above, the Basin Study process is anticipated to result in an Integrated Water Resource Management Plan proposal that would involve at least seven elements—reservoir fish passage; structural and operational changes; surface storage (of which Bumping Lake enlargement is one option); groundwater storage; fish habitat enhancement; enhanced water conservation; and market-based reallocation of water. The proposal will be considered in the next phase.

Question: What happens next?

Answer: Reclamation and the State intend to move the analysis and recommendations of the proposal forward with preparation of a final planning report and concurrent Federal and State environmental reviews. This process will begin this spring and will include public scoping meetings. One of the alternatives to be considered will be the proposed Integrated Water Resource Management Plan. The public will have the opportunity to comment on the proposed alternatives and provide other suggestions for resolving the basin's water resources problems.

The final planning report and associated environmental review documents are intended to be used as a basis of support for Federal and State authorizing legislation leading to implementation of basin solutions.

Question: If Congress authorizes something like the proposed Integrated Water Resource Management Plan, when would the Bumping Lake Enlargement happen?

Answer: If a decision is made to construct, Congress would have to both authorize and appropriate funds for this effort to move forward. The schedule for implementation of elements of the proposed integrated plan shows construction commencing on the Enlargement of Bumping Lake 3 years after congressional appropriation. During the 3-year period, designs would be finalized, permits would be processed, and additional detailed environmental reviews would be conducted to address site-specific environmental impacts and needed mitigation related to the new dam and enlarged reservoir. It is during these reviews that specific effects to recreational access, campground use, marina use, summer housing use, cultural resources, fish and wildlife habitat, land and shoreline use, transportation, etc., would be identified, evaluated, and appropriate mitigation measures defined for implementation prior, during, and after construction.

Question: What specifically is proposed for the expansion of Bumping Lake?

Answer: The proposed integrated water resource management plan identifies expanded reservoir storage of approximately 190,000 acre-feet impounded by a new dam located approximately 4,500 feet downstream from the existing dam. The maximum reservoir elevation would be at 3,490-feet, and the reservoir would have a maximum surface area of approximately 4,100 acres. The existing dam would be breached. A terrain map showing the outline of the proposed reservoir is attached.

Question: What would be the expected impacts to recreation at Bumping Lake?

Answer: Some of the existing recreational facilities would be impacted and potentially relocated or eliminated. All of the lakeshore access and associated facilities, such as boat launches and parking, several campsites, vacation rentals, trails, trailheads, access roads, and other recreational facilities would be inundated. New recreational facilities would likely be constructed after the reservoir expansion has been completed.

Question: What kind of land acquisition would be required and how would residences be affected?

Answer: The Bumping Lake inundation area is owned by Reclamation; no land would need to be purchased. Many of the recreational facilities would likely be unavailable during the construction years and possibly a year or two after construction completion. Privately-owned facilities would have to be acquired or relocated.

Question: What role will the Forest Service have in any decisions that have the potential to affect lands they manage?

Answer: The Forest Service will be invited to participate as a cooperating agency in the upcoming planning report and programmatic environmental review processes. In the 3-year period prior to the start of construction mentioned above, site-specific and detailed environment review processes would be conducted. The Forest Service would be involved with these activities.

Question: How much land would be affected by any type of reservoir enlargement in the Bumping?

Answer: The current reservoir covers approximately 1,400 acres, and the proposed enlarged reservoir would cover approximately 4,100 acres when full. Thus, the proposed reservoir would inundate approximately 2,700 additional acres.

Question: Would there still be access or new access to Granite Lake and other areas such as Lily Lake, Fish Lake Way, the Bumping campgrounds, and trailheads such as Twin Sisters and Mt. Aix?

Answer: Upper and lower Bumping Lake campgrounds along with the boat launch and day use site would be inundated by the enlargement. The access road to trailheads above the reservoir would also be inundated. These impacts would require appropriate mitigation. Mitigation for specific impacts, such as access restrictions, would be addressed by the site-specific and more detailed environmental analysis that would occur before a decision is made to begin construction.

Question: Would this have any effect on Copper City?

The historical remains of Copper City would not be inundated.

Question: Deep Creek and the upper Bumping drainage are two of the few remaining areas that have truly significant old growth. What would happen to these monarchs; would they be harvested?

Answer: The mouth of Deep Creek would be inundated with the enlargement and subject to fluctuations. The old growth trees would be harvested in areas where they would be inundated by water

or conflict with the location of the new dam and related features. Mitigation measures would be needed. (NOTE: Though portions of Deep Creek would be inundated, there would be continued access to the reservoir for bull trout.)

Question: What would happen to the summer homes on Bumping Lake? What about Bumping Lake Marina?

Answer: Summer homes would be subject to in-kind exchange or an offer of a similar lot elsewhere. The marina would be inundated and potentially relocated.

Question: If the lake is enlarged, what impact would it have on the Wilderness Area boundary accessibility to the public?

Answer: The enlarged reservoir level would remain outside the Wilderness Area boundary and would not be affected. However, some access points to the Wilderness Area might be affected, and this could be mitigated by providing replacement access. Such impacts would be identified and evaluated during the site-specific and more detailed environmental reviews that would occur before a decision is made to begin construction of a new dam.

Question: The Bumping watershed is an extremely popular hunting area. If the lake is enlarged, what effect would this have on hunters accessing areas to hunt and what effect would it have on wildlife populations?

Answer: Wildlife habitat would be lost due to the additional inundation and potential loss of hunting access may need to be mitigated. Such impacts would be identified and evaluated during the site-specific and more detailed environmental reviews that would occur before a decision is made to begin construction of a new dam.

Question: Where would the materials for building a new dam come from?

Answer: It is expected that such materials would come from within the area to be inundated by the new dam and existing quarry sites.

Question: If there is a decision to build or expand the dam, what effect would this have on local recreational activities and traffic along SR-410, Chinook Pass? Would construction crews be working during the winter and, if so, what would this do to winter recreation in the area?

Answer: Construction of the new dam would cause increased traffic on roadways with worker traffic and equipment material hauling, which could have minor, short-term impacts on SR-410 and National Forest Development Road 1800. Construction activities would likely proceed, but at a lower level, during the winter. Traffic would increase on Highway 12. Effects on local recreation, including winter recreation and use of campgrounds along area roads, would be determined and appropriate mitigation measures identified during the site-specific and more detailed environmental analysis conducted before the start of construction. The construction contract would include any identified mitigation measures that may be related to daily construction activities.

Question: What would become of cultural and historical sites?

Answer: Reclamation would comply with Section 106 of the National Historic Preservation Act.