

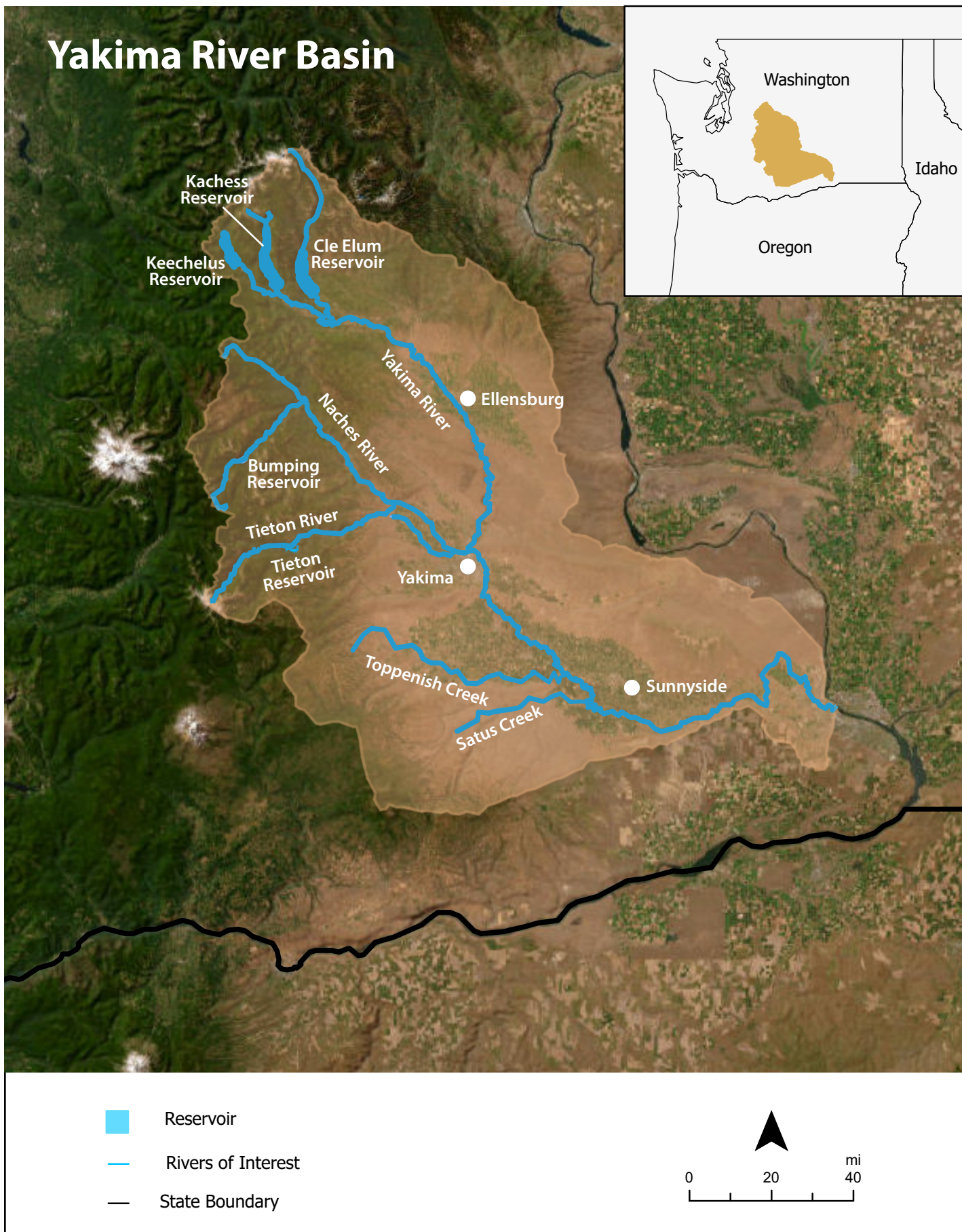
YBIP Highlights

2024

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Yakima River Basin



YBIP Highlights 2024

We thank the visionaries who set this collaborative path in motion. Implementing projects across all seven elements of the plan has created a sustainable future for the basin, improving water supply, fisheries, and habitat.

The Yakima Basin Joint Board (YBJB) fall tour at Valicoff Fruit Company packing center in Wapato, Wash.

In the Yakima basin, we are proud of the resilient, collaborative model built through the Yakima Basin Integrated Plan. By fostering open communication, respectful dialogue, and shared problem-solving, YBIP partners have tackled complex challenges, such as climate-driven droughts, to protect the basin's agriculture, economy, and ecosystem.

The Yakima basin is home to a diverse \$4.5 billion agriculture industry, with apples, cherries, wine and juice grapes, hops, corn, hay, and dairy as top crops produced in the watershed. Internationally recognized, Yakima basin crops contribute greatly to Washington's state and regional economy. A changing climate has forced our basin to face two consecutive droughts over the last five yevars, and we will face even more in the coming years. With almost 450,000 irrigated acres in the Yakima basin, our growers—as well as fish, wildlife, and communities—fared better through these drought conditions than we would have without the Integrated Plan. This is largely due to water conservation efforts and established relationships that allow us to have difficult conversations and figure out how to best use the water we all rely on.

Partners in the Yakima Basin Integrated Plan have left decades of conflict behind and successfully developed a comprehensive understanding of the basin's issues. Through trust, respect, friendships, and collaboration, we created a plan for the Yakima basin that evolves as new information and opportunities emerge. As we implement it, the plan charts a path for a resilient future in the Yakima basin, supporting a strong economy and a healthy ecosystem for people, farms, fish, wildlife, forests, and shrub-steppe. The plan sustains, restores, and supports the recovery of all partners' interests as we directly address the impacts of decreasing snowpack, more erratic weather, and hotter, drier springs and summers.

This progress is only possible thanks to the work of the Integrated Plan. There is more to accomplish, and we're eager to continue fostering the innovative, collaborative process of the Yakima Basin Integrated Plan.



The past five years

Since the Dingell Act passed in 2019, the Yakima Basin Integrated Plan has made significant strides to advance long- and short-term goals, all while navigating challenges from the COVID-19 pandemic. The plan focuses on addressing climate change and preparing for future droughts, including one anticipated in 2025. Key achievements include ecosystem restoration, improved water supply resilience, and fish passage projects at several dams.

A celebration

We celebrated completion of the \$170 million juvenile fish passage project at Cle Elum Dam in a ribbon cutting ceremony on July 24, 2024, attended by Secretary of the Interior Deb Haaland, Interior Assistant Secretary for Water and Science Mike Brain, Washington Governor Jay Inslee, and approximately 300 guests. A groundbreaking ceremony took place the same day for the Cle Elum Dam adult collection facility, with completion expected by 2025. The adult collection facility will aid in the reintroduction of sockeye salmon, an ongoing project with up to 10,000 adults being transported and released annually into the Cle Elum Reservoir. Total estimated cost of the juvenile and adult fish facilities is \$224 million. Other projects, such as the Clear Creek and Tieton Dam fish passages, are also in progress, improving access to key habitats for species like steelhead and bull trout. These efforts are expected to significantly increase fish populations in the basin.



Key achievements include:

- 1 Ecosystem restoration
- 2 Improved water supply resilience
- 3 Fish passage projects at several dams



Bull trout recovery

Bull trout recovery has been a major focus of the plan. The Yakama Nation is leading efforts to rescue stranded juveniles, rear them to larger sizes, and release them into larger habitats. Recent restoration work in the upper Kachess River has already led to a significant increase in bull trout spawning, marking a key step in their recovery. These initiatives align with the Dingell Act's goal of restoring self-sustaining populations of aquatic species throughout the basin.

Ribbon cutting to celebrate the completion of the Cle Elum fish passage facility.

Surface water storage

Water storage is another priority. The Cle Elum Pool Raise project, expected to add 14,600 acre-feet of water for in-stream flows by 2027, represents the first major storage addition in the Yakima basin since 1933. Additionally, the Springwood Reservoir is under feasibility review and could further enhance water supply reliability for agriculture and fish migration. Continued implementation of the Integrated Plan is critical in addressing water, fishery, habitat, and climate variability challenges and for ensuring a robust future for human and natural systems.



Integrated Plan accomplishments

Earlier in 2024, the Bureau of Reclamation submitted a five-year progress report to Congress detailing accomplishments made over the past five years. This year's YBIP Highlights is dedicated to capturing some of those notable accomplishments. The following pages contain stories of success and roadmaps for future progress.

A collaboration

The Yakima basin supports agriculture and wildlife and is home to the Confederated Tribes and Bands of the Yakama Nation. It is also home to numerous aquatic species listed on the Endangered Species Act. Water scarcity has been a long-standing issue, creating tension among agricultural water users and those focused on maintaining in-stream water for fish and other ecological needs.

In 2009, various stakeholders, including governments, farmers, and environmental groups, came together to form a solution. This collaboration led to the creation of the Yakima River Basin Integrated Water Resource Management Plan, which focuses on managing water for the benefit of agriculture and the environment. The plan was further supported by the John Dingell Jr. Conservation Management and Recreation Act in 2019—also known as the Dingell Act—which authorized Phase III of the Yakima River Basin Water Enhancement Program.



The Integrated Plan has become a national model for collaborative water management. The Bureau of Reclamation, Washington State Department of Ecology's Office of the Columbia River, Yakama Nation, and other partners have worked together on projects such as the Cle Elum Fish Passage and Pool Raise, habitat restoration, and the removal of Nelson Dam. These efforts aim to improve water supply, conserve resources, and enhance fish passage and habitats.

Water challenges

The Yakima basin faces ongoing challenges because of declining snowpack, impacting streamflow and irrigation during the spring and summer. This decline is exacerbated by climate change and weather anomalies like El Niño, turning long-term issues into short-term water supply crises. Water users and aquatic species have suffered from decades of over-allocation of water and inefficient use, further strained by warming temperatures. These factors highlight the need for improved water management. The Integrated Plan helps the basin prepare for these challenges, but water shortages may still occur. Solutions must continue to evolve to ensure long-term water security for all.

This basin is continually adapting to the chronic water challenges posed by climate change. Collaboration and communication have played an integral role in the success of a multitude of projects throughout the Yakima Basin Integrated Plan.

Water and conservation efforts in the Yakima basin

The Yakima basin



covers 6,155 square miles
in central Washington.



contributes up to
\$4.5 billion
to the economy.

is home to
370,000 people,
including
10,000 Yakama
Nation enrolled
members.



is one of the state's top
agricultural areas, producing
crops like Timothy hay,
apples, cherries, wine
grapes, and hops.

Goals of the Integrated Plan are as follows:

- Support self-sustaining, harvestable fish populations by providing comprehensive watershed protection and ecological restoration opportunities, which improve in-stream flows, aquatic habitat, and fish passage.
- Improve water supply reliability during drought years for in-stream flow, agricultural, and municipal needs.
- Develop a basin-wide approach for conserving water for irrigated agriculture, municipal, domestic, and power generation uses.
- Improve water managers' abilities to respond and adapt to the potential effects of climate change.
- Contribute to the vitality of the regional economy and restoring the riverine environment.

Developing sustainable water supplies

Water shortages remain a growing issue due to overuse, inefficient water practices, and reduced reservoir storage caused by climate change. The Bureau of Reclamation manages five reservoirs in the basin, but agricultural productivity also depends on snowpack in the Cascade Mountains, which serves as a “sixth reservoir.” Warmer temperatures are leading to less snow and earlier snowmelt, causing water shortages during high-demand periods, especially during droughts. Junior water rights holders—those with rights established after 1905—are often the first to face restrictions.

The Yakima Basin Integrated Plan, now in Phase III, focuses on developing sustainable water supplies for farms, families, and fish. The Integrated Plan is structured as a 30-year plan that will be implemented in three 10-year phases. Projects include improving in-stream water flows for fish and building a new juvenile fish passage at Cle Elum reservoir. Significant investments have also been made in water conservation across the basin to enhance water storage.

The success of the Integrated Plan shows the hard work of partners like Ecology, the Yakama Nation, and other groups in the Yakima River Basin Water Enhancement Program Workgroup. It also highlights the use of creative funding and a flexible management approach.



Federal and Washington state legislation

2013

Washington state passed a law to help federal and state agencies work together on projects that support the environment and local communities.

2019

Congress passed a law that allowed the next phase of the Yakima Basin Water Plan to move forward. This plan focuses on improving water management in the Yakima basin to help water supplies and wildlife.

2029

The Bureau of Reclamation, along with state and Tribal partners, provided a report on the plan's progress this year. The first phase of the plan, originally planned for 2013–2023, has been extended to 2029 because of a delay in passing the federal law.

Reservoir fish passage



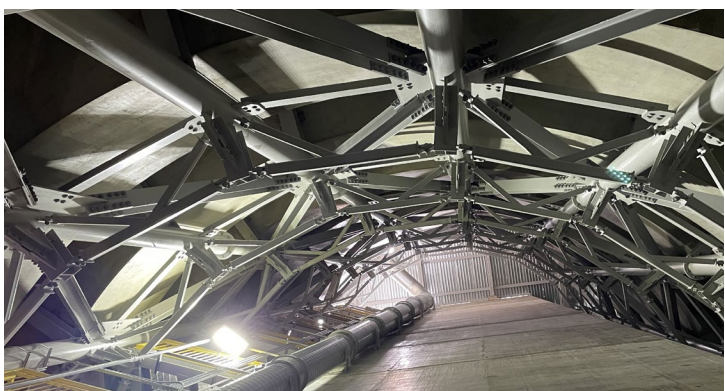
Bull trout collected below Clear Creek by a USFWS employee.

For decades, damming and land development have severely impacted salmon and steelhead, pushing some runs toward extinction. The Yakima River, once a prime salmon habitat in the Columbia Basin, supported Native American fisheries.

To address these declines, the Yakama Nation, Reclamation, Ecology, and the Washington Department of Fish and Wildlife are working to restore fish passage to historic spawning grounds blocked by dams. This includes upgrading fish passage at six key dams, potentially reintroducing sockeye salmon and boosting steelhead, coho, and chinook populations. These efforts align with the Dingell Act's goal of recovering self-sustaining fish populations throughout their historic range. Projects at Bumping Lake and Cle Elum Dam will enhance fish diversity and support the region's fishing economy. Efforts to restore fish populations in the Yakima basin are gaining momentum, with several major fish passage projects underway. These projects aspire to revive anadromous fish species, such as salmon and steelhead, while protecting threatened species like bull trout.



Flow test of water running through the helix for the first time at Cle Elum (25 July 2023).



Completed helix looking up from the bottom of the helix (July 25, 2023).

Another important initiative is the South Fork Tieton Bridge project, which enhances habitat access for bull trout by removing obstacles such as waterfalls and relocating the bridge. This project is slated to start construction in 2025 upon permit approval. It will not only benefit bull trout but also prepare the area for future steelhead and salmon populations by providing access to cooler waters ideal for spawning and rearing. The bridge project is part of a broader collaboration funded by the Bipartisan Infrastructure Law, bringing together multiple agencies and local partners.



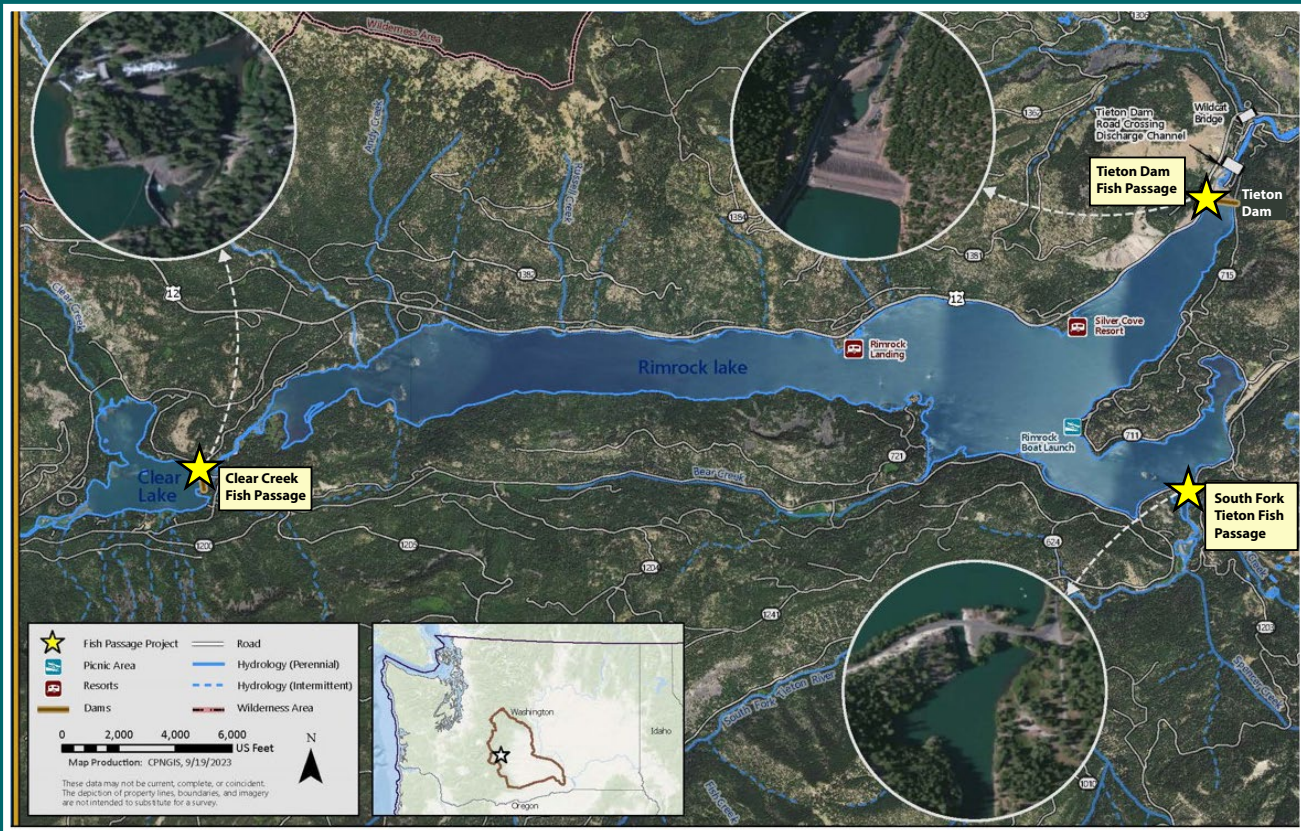
These projects represent a collective effort to restore fish populations in the Yakima basin, balancing environmental recovery with infrastructure improvements. Reclamation's partnerships with local, state, and federal entities underscore the power of collaboration in achieving sustainable solutions for the region's fish and wildlife.



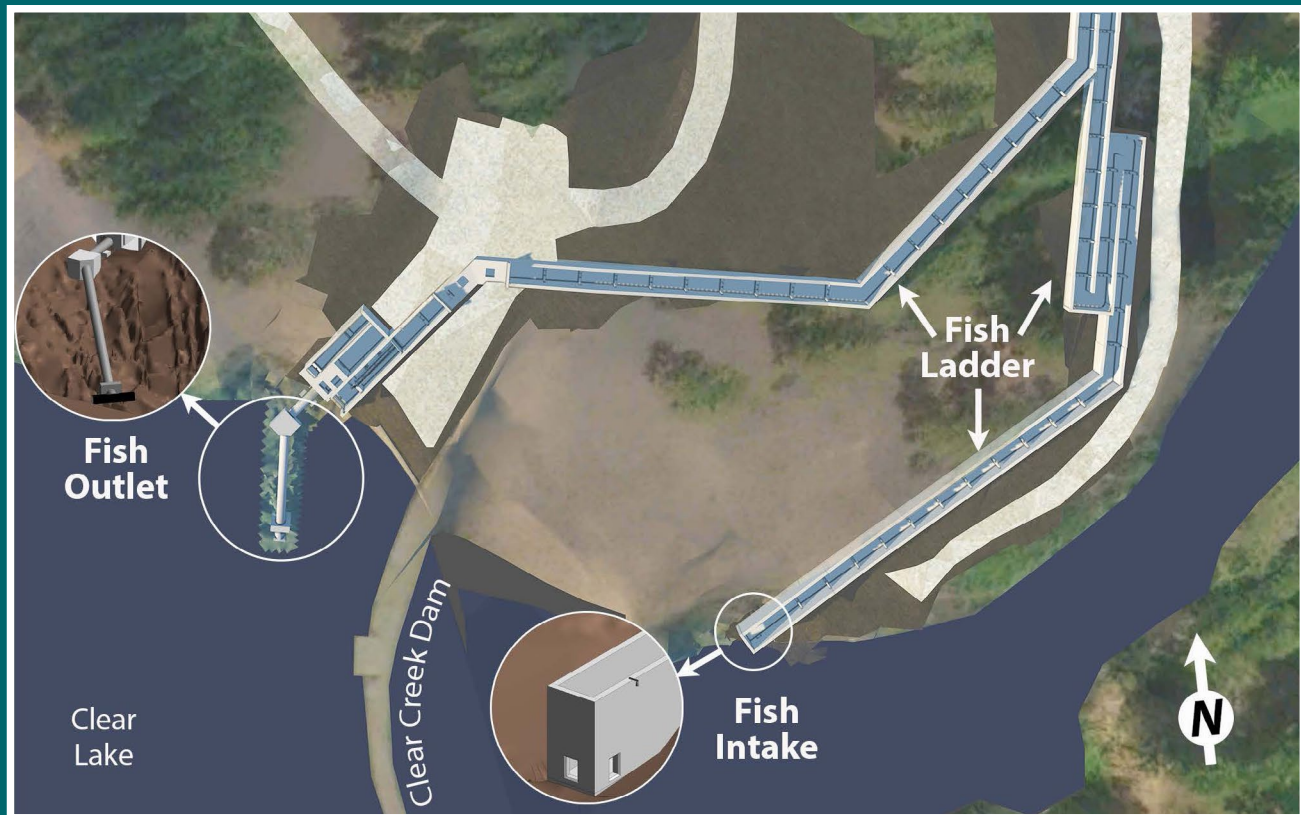
Intake gates at the Cle Elum Fish Passage Facility. These gates will help juvenile fish pass from the reservoir into the Cle Elum River.



The Cle Elum Dam's new juvenile fish passage facility features an innovative eight-story spiraling helix that safely guides young salmon downstream, ensuring fish migrate at the right time to boost their chances of reaching the ocean.

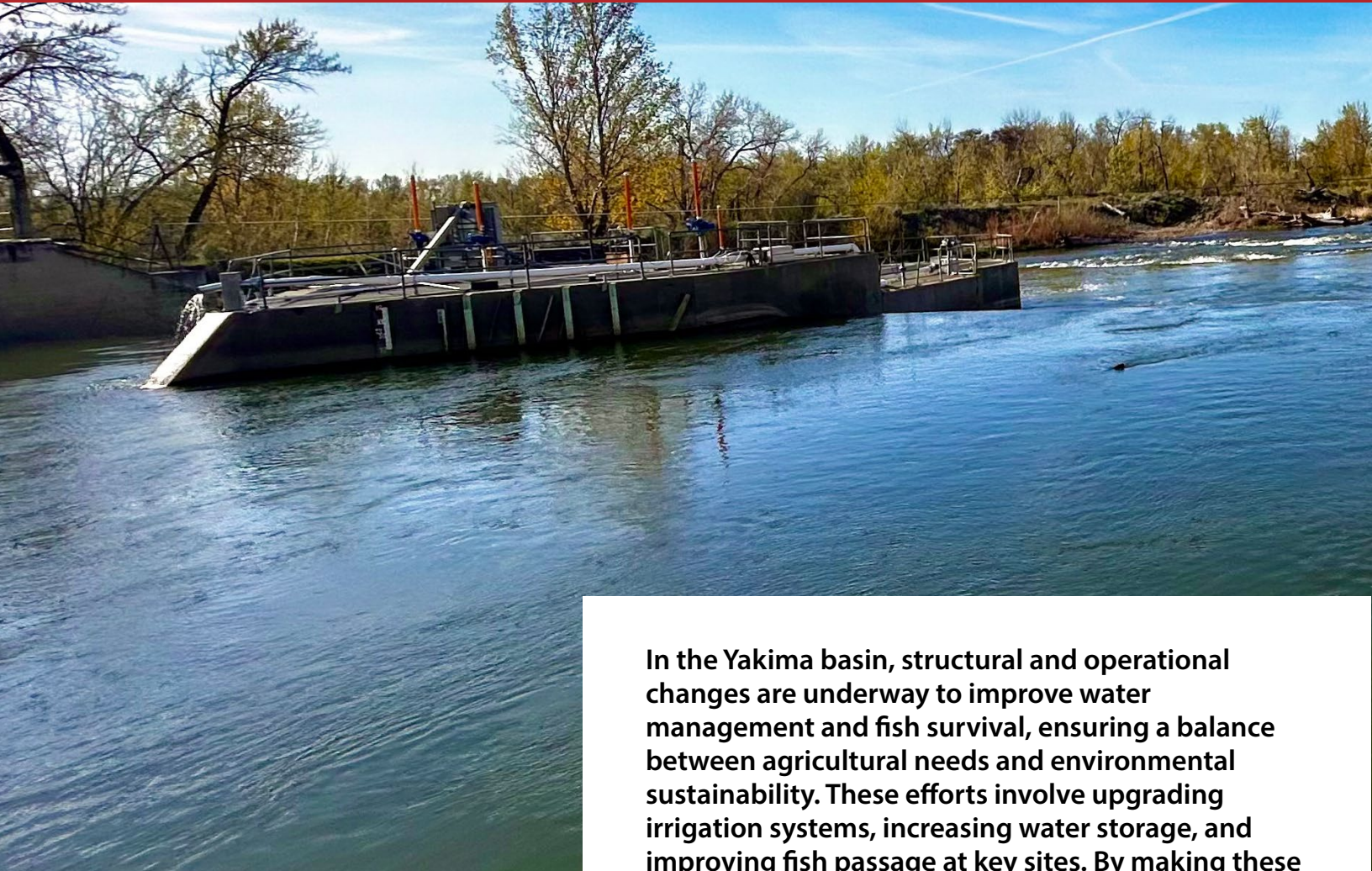


Map showing Tieton Watershed Fish Complex Passage projects. When completed, the Tieton Watershed Fish Passage Complex will help to further restore the bull trout population in the Yakima basin.



Schematic of the Clear Creek Fish Passage Project. The purpose of the CCDFP Project is to improve the long-term viability of the North Fork Tieton bull trout population by allowing bull trout to move freely between spawning and rearing habitat areas.

Structural and operational changes



Wapato Irrigation Project Facility.

In the Yakima basin, structural and operational changes are underway to improve water management and fish survival, ensuring a balance between agricultural needs and environmental sustainability. These efforts involve upgrading irrigation systems, increasing water storage, and improving fish passage at key sites. By making these changes, the Yakima Basin Integrated Plan aims to boost the efficiency of water deliveries while also creating healthier habitats for fish populations.

Cle Elum Pool Raise project

One key initiative is the Cle Elum Pool Raise project, which marks the first major increase in water storage since the Cle Elum Dam was built in 1933. This project added 14,600 acre-feet of water storage by raising the dam's radial gates (a type of movable barrier used in dams and other water control structures to regulate the flow of water), allowing for more water to be available during dry periods. This extra water will help maintain in-stream flows, providing cleaner and cooler water for migrating fish. In addition to the pool raise, there are ongoing efforts to protect the reservoir's shoreline, with several areas scheduled for improvements by 2026. These upgrades will benefit fish and recreation, as local campgrounds and boat launches are enhanced.



Kittitas Reclamation District Tributary Supplementation program

Another project making a significant impact is the Kittitas Reclamation District Tributary Supplementation program. This innovative program uses existing irrigation infrastructure to deliver water to smaller tributaries—Little Creek, Taneum, and Manastash, to name a few—that risk drying up during hot summer months. By directing water to these streams, the program is helping to restore critical salmon and steelhead habitats. Since its launch in 2015, KRD has worked with local partners and the Yakama Nation to expand the project, reintroducing coho salmon to streams that were previously blocked off. The program has been a great example of collaboration, showing how irrigation districts and conservation groups can work together to benefit farming and fish.



Prosser Dam at low flow. Picture taken from the right bank looking upstream at the dam. Fish Ladder entrance left of clump of grass.



One of several shoreline protection projects as part of the Cle Elum Pool Raise project. Pictured is Night Sky.

Manastash Creek Restoration

In addition to these efforts, the Yakima basin has seen success with projects like the Manastash Creek Restoration. The 13.8 Lateral Piping project conserved water and removed fish passage barriers. This project, completed in 2016, is considered a key achievement in helping to recover threatened steelhead populations to their historical spawning grounds in the upper the Yakima basin.

Smolt studies

Meanwhile, researchers have been studying ways to improve smolt survival in the lower Yakima River. A U.S. Geological Survey study—started in 2018—found that higher river flows and cooler water temperatures are vital for fish survival. These findings have guided plans to upgrade fish screening facilities and improve passage at major diversion dams like Wapato, Sunnyside, and Prosser. These improvements hope to reduce the number of young fish getting trapped in irrigation canals, ensuring they can complete their migration to the ocean.

Modernizing facilities

Efforts are also underway at the Wapato Diversion, which is the largest irrigation diversion in the Yakima basin. This diversion supplies water to 136,000 acres of farmland; however, it has also been identified as a significant challenge for fish passage. The Bureau of Indian Affairs is working with local stakeholders to modernize the diversion and improve fish survival, while also ensuring the facility continues to meet irrigation needs and improving tribal fishing opportunities. Similar work is underway at Sunnyside and Prosser dams, where new fish passage systems are being tested and refined to meet the Integrated Plan's goal of self-sustaining harvestable fish populations.

The Wanawish Dam facilities help divert water from the Yakima River, but research over the last decade shows that the dam can delay fish passage and make fish more vulnerable to predators. This increases the death rates of both young fish and adults at the site.

A group of stakeholders, including irrigation experts and fish managers, met to find solutions to these problems. They discussed challenges like the high cost and effort needed to manage water star grass, which clogs up fish screens and ladders, which increase fish mortalities. The group agreed to work together to develop new project ideas, gather funding for research, and create plans that will improve irrigation and help fish survive.

Lower Yakima River Temperature and Dissolved Oxygen Model project

On a broader scale, the Lower Yakima River Temperature and Dissolved Oxygen Model project seeks to improve water quality by developing a tool that helps water managers predict the best times to release cooler reservoir water. This model, which is being developed with the help of several local partners, will play a critical role in maintaining the right conditions for fish migration.



WaterSMART grants

Finally, the Yakama Nation has received several WaterSMART grants totaling about \$10.4 million to support ongoing habitat restoration and fish passage projects throughout the Yakima basin. These funds will be used to enhance fish survival at various sites, including improvements at Prosser Diversion Dam and floodplain restoration projects.

Altogether, these efforts represent a unified approach to managing the Yakima basin's water resources. By focusing on agricultural efficiency and environmental health, the Yakima Basin Integrated Plan is working to create a future where farms and fish thrive.

Sunnyside diversion Dam sluice gate.

Surface water storage

Several projects are underway to enhance surface water storage and management, ensuring a reliable water supply for both agricultural needs and environmental sustainability. These efforts balance out-of-stream uses, such as farming, with in-stream needs for fish migration and habitat restoration. A key focus of these projects is the development of new water storage, which is essential for addressing the basin's current and future demands.

Potential projects include accessing the inactive pool of Kachess Reservoir, expanding the capacity of Bumping Reservoir, and constructing new reservoirs, such as Springwood Reservoir. This expanded storage will provide greater reliability for agricultural water supplies, improve stream flows, and strengthen the basin's economic and environmental resilience. Recent data modeling has informed these efforts, and partners are exploring a combination of surface and groundwater storage alongside enhanced water conservation measures.

Kachess Drought Relief Pumping Plant

The Kachess Drought Relief Pumping Plant is a significant project under consideration. This plant would access up to 200,000 acre-feet of inactive water from Kachess Reservoir during declared droughts. The additional water would be allocated for irrigation, benefiting various irrigation districts and municipalities. Following an environmental impact statement released in 2019, further review of alternatives is underway.



One initiative is Surface Water Storage, which seeks to create an additional 450,000 acre-feet of water storage.



Box Canyon Creek Fish Passage Enhancement project

In conjunction with the KDRPP, the Box Canyon Creek Fish Passage Enhancement project is being developed to improve fish migration, particularly for bull trout. This project addresses obstacles in Box Canyon Creek, aiming to ensure reliable fish passage during critical migration periods. A temporary flume was constructed in 2023 to aid fish during drought conditions, and a permanent solution is being evaluated to replace the flume and ensure consistent passage in the future.

Kachess Reservoir looking downstream at Box Canyon Creek.
Credit: Scott Revell.

Bumping Reservoir expansion

Meanwhile, progress continues with the Bumping Reservoir expansion. The proposed project would increase the reservoir's capacity from 33,700 acre-feet to 190,000 acre-feet, providing a significant boost to water storage in the region. Site evaluations and environmental assessments are ongoing, with the expanded reservoir expected to support both water supply and fish habitat goals.

Additional storage opportunities are also being explored in the upper Yakima basin. One potential site is Springwood Reservoir, located near the Teanaway Community Forest. With a storage capacity of up to 100,000 acre-feet, this reservoir could significantly enhance stream flows and support fish populations in the Yakima River. Currently, a feasibility study is underway to evaluate this project.

Tieton River Restoration and Water Reliability project

In the Tieton River area, the Yakima Tieton Irrigation District is moving forward with the Tieton River Restoration and Water Reliability project. This initiative involves relocating YTID's diversion point about 15 miles downstream, constructing a new pump station and pipeline to improve water management and fish passage. Additionally, the project may include the creation of a reservoir on North Fork Cowlitz Creek, which would increase water storage up to 35,000-acre-feet in the area.

Storage possibilities

Across the mid-lower Yakima basin, Reclamation, Ecology, the Yakama Nation, and the Yakima River Basin Water Enhancement Program Workgroup partners, continue to explore storage possibilities through value planning studies and ongoing modeling. Potential storage sites on the Yakama Reservation are also being considered. These efforts are designed to meet the basin's overall goal of adding 450,000 acre-feet of storage while also securing 50,000 acre-feet specifically for municipal and domestic water needs.

Collectively, these projects reflect a comprehensive strategy to enhance water storage, improve agricultural water reliability, and protect fish populations throughout the basin. Through continued collaboration among local, state, and federal partners, the region is working toward a future where the water demands of both people and the environment are sustainably met.

View of Kachess Reservoir from the Kachess Campground boat ramp.



Map of Kachess Reservoir

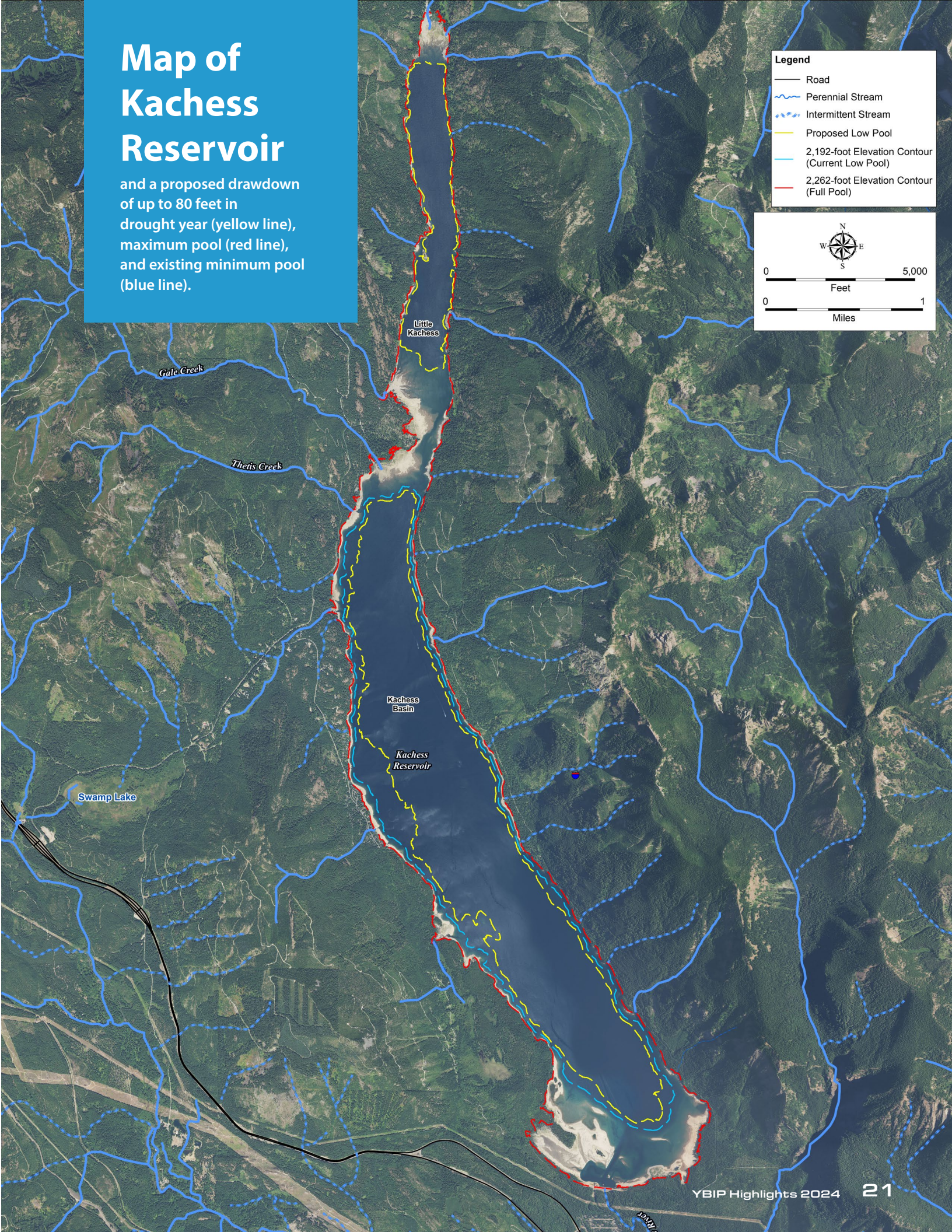
and a proposed drawdown of up to 80 feet in drought year (yellow line), maximum pool (red line), and existing minimum pool (blue line).

Legend

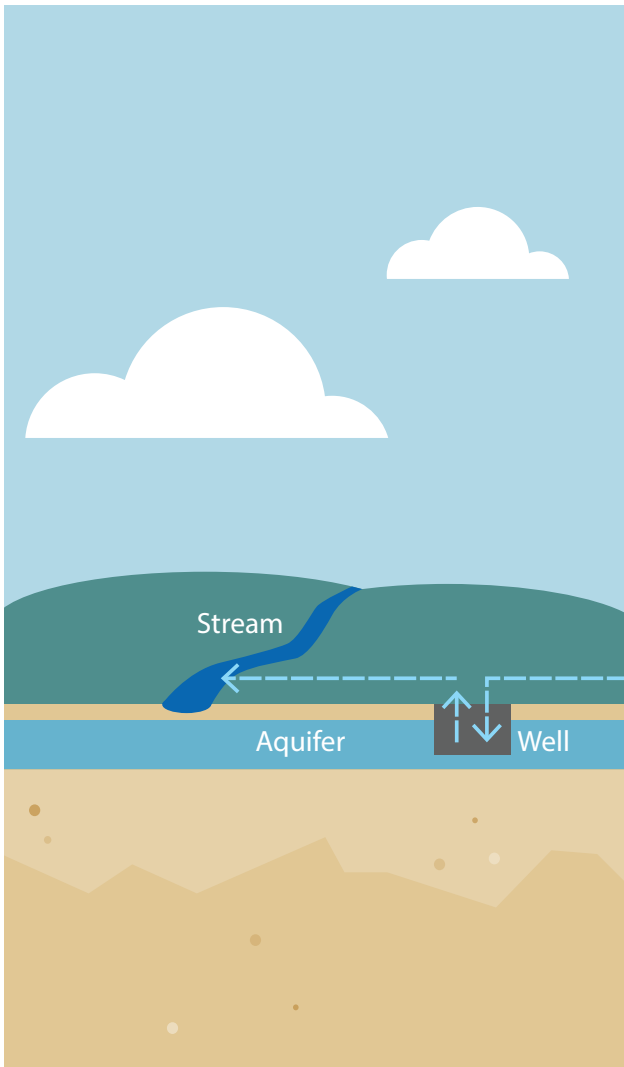
- Road
- Perennial Stream
- - - Intermittent Stream
- Proposed Low Pool
- 2,192-foot Elevation Contour (Current Low Pool)
- 2,262-foot Elevation Contour (Full Pool)



0 5,000
Feet
0 1
Miles



Groundwater storage



Aquifer storage and recovery (ASR): Water is pumped into an underground aquifer and stored, then drawn when it is needed in times of drought.

Yakima River Basin Water Enhancement Program partners are making significant progress in addressing water supply challenges and improving ecosystem health through groundwater storage and habitat restoration. Groundwater storage efforts focus on two primary strategies: aquifer storage and recovery, and managed aquifer recharge. Both strategies help ensure water is available during dry periods, which is critical as the region faces more uncertainty due to climate change.

Aquifer storage and recovery, or ASR, involves injecting treated water into aquifers for future use, while managed aquifer recharge relies on infiltrating water into unconfined aquifers to support stream baseflows. Though ASR is costly and complex, it remains a valuable solution, particularly for municipal water supplies. Over the last five years, the Yakama Nation and partners have advanced ASR and managed aquifer recharge projects that could store up to 100,000 acre-feet of water when fully implemented.

In addition to these advances in groundwater storage, university research has played a crucial role in identifying suitable locations for future projects. Central Washington University conducted a geochemical assessment, identifying potential MAR sites in Roslyn and Badger Pocket. Oregon State University's basin-wide study mapped even more opportunities, helping guide over a dozen feasibility studies now underway in priority areas.

New Wells

One notable project is the city of Yakima's ASR initiative, which has operated since 2015. The city is permitted to recharge up to 14,400 acre-feet of water annually and has stored over 670 acre-feet to date. Although operations paused in 2022–2023 for repairs to a reservoir, storage resumed in late 2023 in preparation for potential water shortages during the 2024 season. The city plans to expand its ASR program by drilling two new wells; pending funding, this program is estimated to commence in 2028.



Groundwater Recharging

In another major effort, the Yakama Nation has been recharging groundwater annually since 2015 through the Toppenish Fan Shallow Aquifer Recharge Project. This project, located near White Swan, recharges water into the shallow aquifer, which in turn supports spring-fed streams like Simcoe and Toppenish Creeks—crucial habitats for salmonid species and biodiversity. Recharge volumes have ranged from nearly 1,000 to over 2,700 acre-feet per year, raising groundwater levels by 5 to 15 feet in the area. The project also plays an important role in restoring the cultural and ecological value of these streams to the Yakama Nation.

The TFSAR project functions through a collaboration between multiple Yakama Nation Programs including Water Code, Fisheries Resource Management, Engineering, Wildlife, and Water Resources. The project is also supported by the Wapato Irrigation District. Funding was provided by the Wapato Irrigation District, Reclamation, and Ecology as part of the Integrated Plan.

Over the past five years, the YRBWEP Groundwater Storage Subcommittee has increased project development across the basin. One key project is at Taneum Creek near Thorp, Washington. In 2020, it was identified as a top site for MAR projects. The Kittitas Reclamation District began a pilot project to monitor water flows and soil conditions, funded by a state grant. In 2023, KRD tested water infiltration using irrigation systems. The cities of Ellensburg and Moxee are exploring ASR projects, using existing wells to store Yakima River water. Central Washington University is also studying potential MAR sites at Rattlesnake Ridge in Yakima County.

Taneum Creek Managed Aquifer Recharge Pilot Testing site.

Habitat and watershed protection and enhancement

Habitat and watershed enhancement is a critical part of the efforts to restore the Yakima basin. The foundation for this work was laid in the Reaches Report, published by river ecosystem scientist Jack Stanford in 2002. Stanford identified the Yakima River as one of the most productive rivers in the Columbia River system, second only to the Snake River, due to its fertile floodplains and upwelling zones that support aquatic life. His report emphasized the importance of restoring floodplain connectivity to maintain healthy fish populations, including sockeye salmon, bull trout named on the Endangered Species Act list, and steelhead.

The Integrated Plan focuses on acquiring land, protecting watersheds, and restoring habitats to ensure the survival of these species. Priority areas are Cle Elum, Kittitas, Naches, Union Gap, and Wapato, as well as the Teanaway River and Toppenish Creek. Over the last five years, the Yakama Nation and other partners have implemented smaller-scale projects, like placing large wood in tributaries and reconnecting floodplains, to complement larger efforts.

Nelson Dam Removal

One significant project under the Integrated Plan is the removal of Nelson Dam on the Naches River, a key fish passage barrier. The City of Yakima and other partners replaced the dam with a modern “nature-like channel” that allows fish to access about 300 miles of habitat. Phase I of this project, completed in 2023, not only benefits fish passage but also reduces flood risks for local communities and improves recreational opportunities. Phase II of this project has received approximately \$5M from Reclamation as part of an \$11M award for the Cowiche Creek Confluence Complex Project, as well as \$7.6M from State of Washington to continue implementation of consolidated diversions. Other potential funding includes \$3M from Senator Patty Murray’s congressionally directed spending request and \$3.25M from State of Washington.



Restoring connection

The Yakima River Gap-to-Gap Ecosystem Restoration project is another major initiative. With a budget of \$12 million, this project aims to restore the river's connection to its historic floodplain by removing levees, realigning spur dikes, and reconnecting 320 acres of floodplains and wetlands. The project, which began in late 2023, will improve ecosystem function in key areas, including Sportsman Island and Blue Slough.

Floodplain restoration

The Schaake Habitat Improvement Project is one of the largest floodplain restoration efforts in the basin. The approximately two-mile stretch of the river, located south of Ellensburg, aims to restore 130 acres of floodplain to improve steelhead and salmon habitats. The project began in 2003, when Reclamation purchased the Schaake property, historically used for cattle farming. Since then, the area has undergone significant restoration, including the removal of levees and the creation of new side channels. In 2023, an additional 75 acres were added to the project, bringing the total restored area to 205 acres.



The Integrated Plan focuses on acquiring land, protecting watersheds, and restoring habitats to ensure the survival of several species.





As climate change continues to impact water resources, these restoration efforts will become even more important in maintaining the health of the Yakima basin.

Restoring habitat for steelhead

In addition to these large projects, the Toppenish Creek Corridor Project focuses on restoring steelhead habitat within the Yakama Reservation. Approved by the Yakama Tribal Council in 2019, this project aims to restore 60 miles of stream and 3,000 acres of floodplains. Significant progress has been made in separating water diverted from the Yakima River and restoring the channels and aquifers of Toppenish and Simcoe creeks. This restoration is vital for both fish populations and the cultural resources of the Yakama Nation.

Land acquisition

In March 2023, Trust for Public Land purchased the 3,600-acre Springwood Ranch property to support storage of water at Springwood. On October 31, 2024, Trust for Public Land transferred ownership to the Confederated Tribes and Bands of the Yakama Nation, Washington Department of Fish and Wildlife, Kittitas County, and Kittitas Reclamation District in four separate parcels using funds from the Washington State Legislature.

Saving the bull trout

Another key component of the Integrated Plan is the Bull Trout Enhancement Memorandum of Understanding, signed in 2015. This MOU outlines actions to improve bull trout populations in the basin that have been near extinction due to habitat degradation. The plan includes rescuing fry from dewatered streams, restoring tributary habitats, and ensuring safe fish passage through reservoirs. Recent efforts, such as restoring habitat in Upper Kachess River, have already shown positive results, with increased spawning activity.



Removing barriers

Finally, attention has shifted to improving fish passage and water quality in the lower Yakima River, particularly at the Yakima River Delta. An earthen causeway connecting the shoreline to Bateman Island blocks cooling water from the Columbia River, creating a thermal barrier for migrating salmon and steelhead. This barrier also enables conditions for non-native fish to thrive and prey on juvenile salmon. The feasibility study and environmental assessment was finalized in October 2024. Total cost of removing the causeway is approximately \$13.2 million. The US Army Corp, under their Continuing Authorities Program and the 1135 Ecosystem Restoration Category, will cover \$10M. The cost share of \$3.2M will be covered by a NOAA fish passage grant secured by the Yakama Nation and YBIP funds. Yakama Nation and WDFW will be co-sponsors for the Design and Implementation phase of the project. Groundbreaking work is expected to begin winter of 2025/2026.

Overall, habitat and watershed protection and enhancement efforts are crucial to restoring the Yakima basin's ecosystems. These projects not only improve fish habitats but also protect water quality, reduce flood risks, and provide long-term benefits for both the environment and local communities.



Enhanced water conservation

The Yakima River Basin Water Enhancement Program Water Use Subcommittee and municipal Subgroup is focused on improving water conservation and ensuring drought resilience in the region. Conservation efforts aim to make water use more efficient by upgrading irrigation systems, promoting water-saving landscaping, and improving water measurement and delivery. These initiatives support better water management, ensuring reliable supplies for communities and preserving in-stream flows critical to fish and wildlife.

**Since 2013 we
have conserved
76,000 acre-feet
of water through
193 projects, with a
total investment of
\$336 million.**

The Yakama Nation and the Bureau of Indian Affairs have made significant progress in this area by replacing old infrastructure with more efficient systems. For example, the L672 pipeline, a 5-mile pressurized PVC pipe, replaced a leaky concrete system, conserving over 1,000 acre-feet of water annually.

Kittitas Reclamation District

KRD also has taken aggressive steps to modernize its water delivery systems. With over \$7.5 million in funding, KRD completed canal lining and piping projects, which increased canal capacity to 26.6 cubic feet per second and annual conserved water savings to 9,450 acre-feet. These efforts improve irrigation efficiency and contribute to increase in-stream flows, benefiting both the environment and endangered fish species like steelhead and bull trout. KRD aims to conserve and store 123,000 acre-feet of water annually through future projects.



Kittitas Reclamation District's South Branch Canal.

Roza Irrigation District

The Roza Irrigation District has invested \$88 million since 1983 in water conservation projects, leading to the annual conservation of over 35,250 acre-feet of water. These efforts include lining or sealing canals, installing automated check structures, and building re-regulation reservoirs. Moving forward, Roza plans to complete its canal enclosure program, which will conserve an additional 5,300 acre-feet.

Kennewick Irrigation District

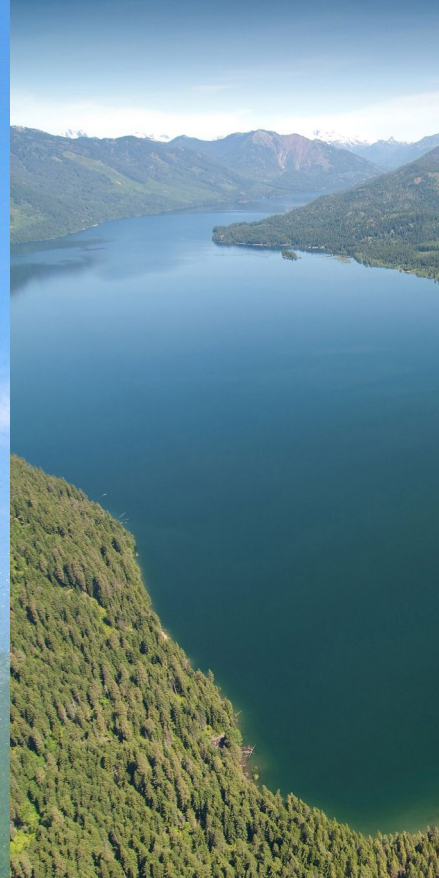
The Kennewick Irrigation District has lined over 50 miles of canals since the 1980s, saving more than 5,000 acre-feet of water annually. In the coming years, KID plans to continue this work and build a 12,000-acre-foot storage reservoir to improve drought resilience for the Tri-Cities area.



A completed irrigation system from the Wapato Irrigation Project.



These water conservation efforts are vital to the long-term sustainability of the basin, ensuring that water is available for communities, agriculture, and the environment, even as the region faces increasing challenges from climate change.





Market reallocation

Market-driven reallocation aims to make water transfers easier between different uses and locations. This allows water to be delivered more effectively while protecting junior and senior water rights. The process helps match willing buyers and sellers of water rights, making water markets more efficient.

Water Markets

Water markets allow people to buy, sell, or lease water, giving farms, families, and fish a way to benefit from more efficient water use. As irrigation systems improve, the conserved water can be sold to others who need it. This helps communities and farmers get through droughts by providing a more reliable water supply. Experts estimate that 30,000 to 60,000 acre-feet of water could be traded in the Yakima basin each year. A smart market strategy could simplify the process, especially during droughts, by using an online system to match buyers and sellers quickly.

Meeting water needs

In September 2022, the Kittitas Reclamation District and Trout Unlimited advanced the market reallocation part of the plan. The goal is to create a “smart” water market, where technology helps match water buyers and sellers efficiently. The system is expected to help provide water for farming and streamflow needs, especially during drought years. The Integrated Plan is building on lessons from the 2023 drought to improve the next steps.

Agency participants, partners, and public engagement



The Yakima River Basin Water Enhancement Project Workgroup was established in 2009 by Reclamation and Ecology to create a comprehensive water resources plan for the Yakima basin. In a 2012 environmental impact statement on the Yakima Basin Integrated Water Resource Management Plan, the Integrated Plan was identified as the most effective strategy to manage and protect water supplies in the basin, with the record of decision signed in 2013. The workgroup includes local, Tribal, state, and federal representatives who work together to improve water resources for fish, families, farms, and forests.

Over the years, the workgroup has made significant progress in key areas such as water conservation, fish passage restoration, and drought resiliency. We have implemented 193 projects so far, saving over 76,000 acre-feet of water and improving water reliability in the basin. These efforts have benefitted both agriculture and the environment.

The Yakama Nation plays a vital role as a leader in salmon restoration efforts. Historically, the Yakima basin supported millions of salmon, but the construction of dams in the early 1900s severely impacted fish populations by blocking access to critical spawning grounds. The Yakama Nation, as a steward of the land and waterways, has partnered with federal and local agencies to restore fish passage, aiming to return fish runs to near historical levels. Projects like the reintroduction of sockeye salmon and habitat enhancements are already showing promise in reviving the basin's ecosystem.

We encourage public participation at our quarterly workgroup meetings, which ensures that diverse voices contribute to the long-term sustainability of the Yakima River basin.



YRBWEP Workgroup Members (September 11, 2024)

Yakima Basin Integrated Plan Committees and Workgroups

- Yakima River Basin Water Enhancement Project Workgroup
- Executive Committee
- Implementation Committee
- Water Use Subcommittee
- Habitat Subcommittee
- Groundwater Subcommittee
- Bull Trout Working Group
- Watershed Lands Subcommittee
- Outreach Working Group
- Economic Subcommittee

D.C. leadership group

The D.C. Leadership Group, led by the assistant secretary of the Interior for Water and Science, collaborates with federal agencies to support the Integrated Plan. The DCLG helps the Yakima River Basin Water Enhancement Program Implementation Committee by offering guidance on national policies, clarifying authority issues, and identifying funding opportunities.

Local and regional leaders work directly with the DCLG to ensure decisions are made in a timely and collaborative way. If any issues can't be solved at the local or regional level, they will be referred to the DCLG for further resolution.

Members of the DCLG

The following agencies or bureaus will be members of the DCLG at a Deputy Director level (or Designee):



US Army Corps
of Engineers®





Coordination and consultation with Tribal governments

The Yakama Nation plays a key role in developing the Integrated Plan. For generations, they have lived in the basin, relying on the land for food, water, shelter, and medicine. They have always been advocates for salmon and the waterways vital to their survival.

Before settlers altered the basin's waterways, salmon runs were in the hundreds of thousands to millions. By the early 1900s, the construction of dams, like those at Cle Elum, Kachess, and Keechelus lakes, blocked access to critical spawning and rearing grounds. The sockeye salmon run was especially impacted by the Bumping Lake Dam, which blocked the last passage.

To restore fish populations to near-historical levels, we must remove barriers to fish passage. The Yakama Nation is leading efforts with federal and local partners to improve fish passage and enhance habitats, along with implementation of system improvements on the Wapato Irrigation Project, ensuring the Yakima basin continues to support people and wildlife for generations.

Building A Future for Water, Wildlife, and Working Lands

Yakima River Basin Integrated Water Resource Management Plan



The seven elements of the Yakima Basin Integrated Plan

The Integrated Plan's seven elements are as follows:

- 1. Reservoir fish passage.** Provide upstream and downstream fish passage at all major Yakima River Basin storage reservoirs.
- 2. Structural and operational changes.** Promote operational efficiency and flexibility and improve fish survival rates at the existing in-basin water supply and conveyance infrastructure facilities.
- 3. Surface water storage.** Develop an additional 450,000 acre-feet of water storage for supporting in-stream and out-of-stream water uses.
- 4. Groundwater storage.** Recharge aquifers with surface water for storage for later withdrawal and use and passive aquifer recharge via groundwater infiltration for improved aquatic habitats.
- 5. Habitat/watershed protection and enhancement.** Protect and enhance critical habitat for anadromous and resident fish and wildlife through acquiring land, protecting watershed, and protecting and/or enhancing habitat.
- 6. Enhanced water conservation.** Aggressively implement water use efficiency measures to improve in-stream flows in critical stream reaches, increase water delivery accuracy, and achieve drought resiliency.
- 7. Market reallocation.** Create conditions and remove barriers to all efficient water rights trading between willing parties to improve water supplies and stream flow conditions.