

**Yakima River Basin Integrated Water Resource Management Plan  
Yakima River Basin Water Enhancement Workgroup  
June 5, 2013**

**Table 1. Prioritization of Tributary Habitat Enhancement Projects by the Habitat Subcommittee**

<b>Project</b>	<b>Proponent</b>	<b>Description</b>	<b>Benefits</b>
Gap-to-Gap Outfall Relocation	City of Yakima	Move the City of Yakima Regional Wastewater Treatment Plant outfall from the river channel to floodplain area	This project would provide the next step as part of the Gap-to-Gap Levee Setback Project which would lead to over 1,000 acres of floodplain connectivity in the critical Union Gap reach of the Yakima River. The project would increase spawning and rearing habitat for multiple species, improve water quality in a key juvenile and adult migration corridor, reduce river temperatures, reduce nutrient-related water quality problems, and increase floodplain storage of runoff. Multiple fish species would benefit from this project, including mid-Columbia ESU steelhead, mid-Columbia bull trout, spring Chinook salmon, rainbow trout, westslope cutthroat trout, Chinook salmon, sockeye salmon, coho salmon, and Pacific lamprey.
Manastash – Consolidated Pipeline & Manastash Water Ditch Association (MWDA) Pipeline Construction	Kittitas County Conservation District	Replace MWDA earthen ditch with 4 miles of pipeline and remove three unscreened diversions on Manastash Creek	This project would permanently put 1.9 cfs of winter stock water into trust from November to March, increasing instream flows in the lower 5.6 miles of Manastash Creek, benefiting rearing for spring Chinook, steelhead, and coho. The removal of unscreened diversions would be the next step in removing all fish passage barriers in Manastash Creek which would open access to more than 20 miles of habitat.
Toppenish Fan	Yakama Nation	Raise the water table in an area of Toppenish Creek southwest of White Swan by diverting winter flows from Toppenish Creek through existing canals for aquifer recharge	This project would reconnect distributary channels to the Toppenish Creek alluvial fan, increasing the alluvial water table and riparian vegetation along the alluvial fan. The project would also increase summer flows and reduce stream temperatures in Simcoe and Toppenish Creeks, improving habitat for steelhead rearing and migration.
Bateman Island Causeway Modification Conceptual Design	Mid-Columbia Fisheries Enhancement Group	Develop alternatives to allow flow along the south side of Bateman Island near the confluence of the Yakima and Columbia Rivers	This project would identify alternatives to breach a short earthen causeway that could improve salmonid migratory conditions by modifying an existing temperature barrier that can delay adult migration, and by shortening the distance traveled by outmigrating smolts and returning adults. When completed, the project is expected to improve water temperature and water quality and benefit steelhead, spring Chinook, summer Chinook, fall Chinook, coho, and sockeye.
Bull Trout Task Force Habitat Improvements	Mid-Columbia Fisheries Enhancement Group	Address conservation needs for bull trout by implementing actions identified in recent Bull Trout Plans	This project would assist in various projects throughout the Yakima basin focused on the needs of bull trout, one of the ESA-listed fish species in the Yakima basin. Benefits include improving fish passage by removing recreation dams and providing temporary passage improvements during lower flow

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			conditions, and improving understanding of bull trout density and migration timing.
Gold Creek Habitat Assessment and Conceptual Design	Kittitas Conservation Trust	Investigate Gold Creek dewatering causes and associated impacts and produce conceptual designs for bull trout restoration	This project would identify causes of late summer and early fall dewatering in Gold Creek, which is a major bull trout limiting factor for the species in this part of the basin. Once causes are identified, conceptual designs would allow for improvement of bull trout spawning, egg incubation, and juvenile rearing in Gold Creek.
Reed Diversion Removal Design	Kittitas County Conservation District	Design a project that would remove the fish passage barrier at Reed Diversion on Manastash Creek	This project would be the first step in removing the last passage barrier on Manastash Creek, which would allow access to more than 20 miles of habitat in Manastash Creek, improving habitat for fish species including steelhead.
Lower Drainage Improvement District #1 Levee Setback	Yakima County	Construct a setback levee 3,500 feet long and remove 3,000 feet of an existing levee on the Yakima River	This project would open almost 900 acres of floodplain lands acquired by Reclamation and convert it to active floodplain. Benefits include increasing spawning and rearing habitat for multiple species, improving water quality in a key juvenile and adult migration corridor, reducing river temperatures, reducing nutrient-related water quality problems, and increasing floodplain storage of runoff. Multiple fish species benefit from this project, including mid-Columbia ESU steelhead, mid-Columbia bull trout, spring Chinook, rainbow trout, westslope cutthroat trout, Chinook salmon, sockeye salmon, coho salmon, and Pacific lamprey.

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**Table 2. Other Higher Priority Tributary Habitat Enhancement Projects by Habitat Subcommittee**

<b>Project</b>	<b>Proponent</b>	<b>Description</b>	<b>Benefits</b>
Cle Elum River Side-Channel Restoration Project – Phase 2	Kittitas Conservation Trust	Install engineered log jams, gravel bars, and snags on a 2-mile segment of the Cle Elum River	This project would benefit Spring Chinook, Steelhead, Coho, and Sockeye by improving instream habitat in a critical location of the Cle Elum River where complexity has been significantly degraded. The project improves flow in 5 miles of complex side channels, allowing for spawning habitat expansion and juvenile protection from high-velocity irrigation flows in the river, and addressing the primary limiting factor for increasing anadromous fish (suitable rearing habitat). Potential habitat improvements include 20-60 new pools and 240 acres of affected floodplain and side channel areas.
Little Rattlesnake Road Decommission	Mid-Columbia Fisheries Enhancement Group	Decommission 5 miles of Forest Service Road 1501 from its beginning at Forest Service Road 1500 to its junction with Forest Service Road 1503	This project would increase floodplain connectivity by removing aggregate base and roadfill material from road sections and reduce instream scour by removing 13 culverts and 2 bridges. Additionally, plantings in the footprint of the roadbed would increase overhead cover and shade to the stream, improving stream water temperatures. These improvements benefit steelhead, Chinook, coho, bull trout, resident rainbow, and cutthroat species.
Upper Wapato Riparian	Yakima County	Install riparian plants and vertical roughness structures in the Wapato Reach of the Yakima River near Buena	This pilot project is expected to trigger natural processes of channel adjustment, floodplain development, and habitat formation. This would improve spawning for fall Chinook, wintering habitat for steelhead, and migratory habitat for all salmonids and lamprey in a priority reach of the Yakima River.
Naneum, Wilson and Cherry Creek Assessment	Kittitas County	Study existing conditions in Naneum, Wilson, and Cherry Creek watersheds to work toward developing long-term management plans	This project would be the first phase in the development of long-term management plans that have the potential of improving flood conditions and restoring fish passage and habitat for steelhead, spring Chinook, and resident rainbow and coho.
Reed Diversion Barrier Removal	Kittitas County Conservation District	Remove the fish passage barrier at Reed Diversion on Manastash Creek	This project would be the next step (after design – see Table 1 above) in removing the last passage barrier on Manastash Creek, allowing access to more than 20 miles of habitat in Manastash Creek and improving habitat for fish species including steelhead.

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**Table 3. Prioritization of Agricultural Conservation Projects by Out-of-Stream Subcommittee**

<b>Project</b>	<b>Proponent</b>	<b>Description</b>	<b>Benefits</b>
Kennewick Irrigation District (KID) Division IV Lining	Kennewick Irrigation District	Install 1.1 miles of geomembrane canal lining from S. Olympia Street to Olympia Siphon in the City of Kennewick	This project would reduce seepage from the KID and increase flow in the lower 47 miles of the Yakima River, which is listed as priority habitat for ESA-listed mid-Columbia ESU steelhead. There would be an additional 441 acre-feet/year (af/yr) of water in the Chandler Reach (River Mile [RM] 47 to 35.8) and an additional 196 af/yr downstream of Chandler Reach to the mouth of the Yakima River from April to October, benefiting rearing for fall Chinook and migration for spring Chinook, fall Chinook, steelhead, coho, and sockeye species. Additionally, the project would allow for more reliable irrigation delivery and increase public safety by decreasing the likelihood of canal failure.
Wapato Irrigation Project (WIP) Piping Lateral 4-414C	Yakama Nation	Replace earthen Lateral 4-414C with 1.25 miles of pipe along S. Wapato Road in the Wapato Unit	This project would reduce seepage from the WIP and reduce operational spill to Marion Drain, resulting in 2.24 cfs (840 af/yr) of water savings for improved water supply reliability for WIP water users or increased instream flows in the Yakima River from Wapato Dam to Marion Drain (RM 106.7 to 82.8) from April to October. This benefits rearing of fall Chinook and coho and migration for spring Chinook, fall Chinook, steelhead, coho, and sockeye. Additionally, the project would improve water quality by reducing sediment and nutrient load, and improve water management by installing measurement at pipeline turnouts.
Wapato Irrigation Project Piping Satus East Lateral E73	Yakama Nation	Replace earthen Satus East Lateral E73 with 1.5 miles of pipe near Schuster Rd in the Satus Unit	This project would reduce seepage from the WIP and reduce operational spill to Toppenish Creek. 2.5 cfs (890 af/yr) of water would be saved for improved water supply reliability for WIP water users or increased instream flows in the Yakima River from Wapato Dam to Toppenish Creek (RM 106.7 to 80.4) from April to October. This benefits rearing of fall Chinook and coho and migration for spring Chinook, fall Chinook, steelhead, coho, and sockeye. Additionally the project would improve water quality by reducing sediment and nutrient load, and improve water management by installing measurement at pipeline turnouts.

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Manastash Creek, Anderson Diversion Irrigation Water Acquisition	Kittitas County Conservation District	Irrigation water rights off Anderson Diversion would be acquired by Trout Unlimited to provide instream flow in Manastash Creek and remove the unscreened Anderson diversion	This project would permanently put 2.54 cfs (894 af/yr) of water into trust, increasing instream flow from April to October in the lower 5.6 miles of Manastash Creek, a high-priority fish habitat reach. Additionally, an unscreened diversion and seasonal fish passage barrier would be removed. These elements would benefit migration and rearing for steelhead and coho as well as rearing for spring Chinook.
Manastash Creek Sprinkler Conversions	Kittitas County Conservation District	Convert 154 acres of rill irrigation to sprinkler irrigation along Manastash Creek	This project would permanently put 2 cfs (250 af/yr) of water into trust, increasing instream flow from April to October by 150 af/yr from stream mile 5.6 to 1.4 of Manastash Creek and by 250 af/yr in the lower 1.4 miles of Manastash Creek, a high-priority fish habitat area. This conversion and corresponding instream flow increase would benefit migration and rearing for steelhead and coho as well as rearing for spring Chinook.
Yakima-Tieton Irrigation District (YTID) Feasibility Study – Tieton to Ahtanum Exchange	Yakima-Tieton Irrigation District	Study feasibility of an enlarged YTID Main Canal and associated pipeline to carry water to the Ahtanum basin in a water exchange program to enhance instream flows for fish and supply water for irrigation	This project would study the potential of carrying water from the Tieton basin to the Ahtanum basin. Potential benefits of the completed project include increased instream flow in Ahtanum Creek, providing fish benefits to steelhead, bull trout, salmon, and resident trout. It also has the potential of removing stream diversions through upgraded and efficient delivery systems that would enhance habitat in the Ahtanum basin.
Manastash – Consolidated Pipeline & MWDA Pipeline Construction	Kittitas County Conservation District	Replace MWDA earthen ditch with 4 miles of pipeline and remove three unscreened diversions on Manastash Creek	This project would permanently put 1.9 cfs of winter stock water into trust from November to March, increasing instream flows in the lower 5.6 miles of Manastash Creek, benefiting rearing for spring Chinook, steelhead, and coho. The removal of unscreened diversions would be the next step in removing all fish passage barriers in Manastash Creek, which would lead to access to more than 20 miles of habitat.