

Projects Proposed in the Integrated Water Resource Management Alternative

WATER SUPPLY AND FLOW TRACK

Ground Water Storage Element

Municipal ASR, City of Yakima
Municipal ASR, City of Kennewick
Agricultural ASR at Roza Irrigation District
Agricultural ASR at Kittitas Reclamation District
Surface infiltration at suitable areas (e.g. KRD, WIP, Moxee)

Enhanced Water Conservation Element

Municipal and Industrial Water Conservation (Municipal Water Law/Water Use Efficiency Rule)
Kittitas Reclamation District—Replace areas of Main Canal with concrete liner
Westside Irrigation—Pipe 2 miles of canal and convert 3,300 acres from rill irrigation to sprinkler irrigation
Ellensburg Water Company—Convert 7,100 acres from rill irrigation to sprinkler irrigation
Cascade Irrigation District—Pump return flows from Johnson Drain into canal for reuse, install VFD on two pumps at head of canal, and convert 9,000 acres from rill irrigation to sprinkler irrigation
Bull Canal Company—Pipe 4,800 feet of canal and convert 680 acres from rill irrigation to sprinkler irrigation
Union Gap Irrigation District—Pipe approximately 4 miles of canal
Wapato Irrigation Project—Install water measuring devices, construct re-regulation reservoir, provide assistance to growers for irrigation and land improvements, line or pipe over 200 miles of canals, and replace check structures with mechanical gates
Sunnyside Valley Irrigation District—Pipe 5 miles of canal in former Outlook Irrigation District
Kiona Irrigation District—Convert to a complete pressurized system
Nile Valley Ditch Association—Pipe delivery for approximately 385 acres
Naches-Selah Irrigation District—Construct re-regulation reservoir, line or pipe approximately 25 miles of canal
South Naches Irrigation District—Convert to pressurized distribution system
Gleed Ditch Company—Pipe 6.5 miles of ditch
Yakima Valley Canal Company—Pipe 15 miles of ditch
Naches and Cowiche Canal Company—Pipe 5.5 miles of ditch

Modifying Existing Structures and Operations Element

Complete Wapatox conveyance modifications
Subordinate power at Roza Dam during spring
Subordinate power at Chandler during spring
Kennewick Irrigation District pump exchange
Kittitas Reclamation District Main Canal and South Branch Canal Modifications
Pump Station on Yakima River to serve KRD or Manastash Creek Water Users
Roza Dam Roller Gate Modifications (in process)
Keechelus to Kachess pipeline – This project would allow water to be delivered from Keechelus Reservoir to Kachess Reservoir, improving the water supply for Kachess and bypassing the upper reach of the Yakima River between the reservoirs, which could improve flow conditions for fish.
Modify Flip Flop – This is more of a goal than a project as substantial investments in structural improvements to storage and conveyance of water through the Yakima River system would be required to substantially modify flip flop.
Utilization of Dead Storage Pumping from Kachess and Cle Elum – This project would pump from dead storage in the two reservoirs in drought years to supply additional water. The dead storage would be refilled in the following year or during wet years.
Gravity feed from Cle Elum to downstream (Roza) – This project is similar to the Wymer storage project with direct feed from Cle Elum Reservoir. If a tunnel was constructed from Wymer Reservoir to Roza Dam or to another reservoir in Burbank Canyon and then to Roza Canal then Roza Dam may be taken out and flows from Cle Elum Dam to Yakima would be reduced in summer time.
Lower outlet pipe at Cle Elum – This project appears to be similar to the utilization of dead storage at Cle Elum. A lower outlet would allow gravity flow from dead storage.

New Surface Storage and Transfer Element

Wymer Dam:
 With Thorp Pump Station Feed
 With Cle Elum Gravity Feed
 With Yakima Canyon Pump Feed
Bumping Lake Enlargement, Small (250,000AF)
Cle Elum Dam 3' Pool Raise
Other Naches Basin Storage Projects
Pine Hollow Off-channel Storage and Watershed Restoration Program
Direct pump with storage facility in the Yakima basin
Direct pump without storage to an irrigation canal

Market-Based Reallocation of Water Resources Element

Short-term Options—Improve the efficiency of water transfers to markets and water banks to increase the flexibility of voluntary reallocation of water by taking additional steps to reduce impediments to transfers.

Long-term Options—Change state and Reclamation law to create more open water transfers and banks.

FISH PASSAGE TRACK (Element)

Cle Elum Lake
Bumping Lake
Keechelus Lake
Kachess Lake
Tieton Dam/Rimrock Lake
Clear Lake

HABITAT ENHANCEMENT TRACK (Element to be addressed with programmatic approach)

General restoration projects include:

- Reconnecting side channels and off-channel habitat to stream channels;
- Restoring wet meadows;
- Reconnecting floodplains to river channels;
- Relocating or improving floodplain infrastructure and roads;
- Placing stable wood and other large organic debris in stream banks;
- Restoring natural channel form;
- Restoring natural riparian vegetative communities; and
- Developing grazing strategies that promote riparian recovery.

Reach specific projects include:

Yakima River—Keechelus Dam to Roza Diversion

- Reconnect the Interstate 90 ponds at mile 101;
- Reclamation's Schaake levee pullback near Ellensburg;
- Restore sites associated with the Interstate 90 improvements above Easton;
- Actions throughout the reach that target opportunities to set back abandoned railroad levees and flood control levees on public lands;
- Protect and restore floodplain, riparian, and in-channel habitats; and
- Set back other levees in the area.

Yakima River—Roza Diversion to Prosser Dam

- Restore floodplain function via the proposed Gap to Gap dike setback and associated projects;
- Protect and restore mainstem and floodplain habitats below Sunnyside Dam with an emphasis on restoring floodplain function in the Wapato

reach where instream flows are not currently limited by severely altered flow and temperature regimes;
Protect and restore mainstem and off-channel habitats between the Toppenish and Satus Creek confluences;
Improve flows below Parker through irrigation system improvements; and
Restore the gravel pits and Taylor ditch in the Selah area to more pre-development conditions.

Yakima River—Prosser Dam to Columbia River Confluence

Protect and restore mainstem and off-channel habitats, particularly in floodplain reaches and documented cool water refuge areas; and
Improve flows via irrigation system improvements (e.g., KID and Benton pump exchange proposals).

Naches River—Bumping Dam to Tieton River Confluence

Protect habitat in Naches River mainstem upstream of the Tieton River confluence;
Protect habitat in the Oak Flats and Nile areas; and
Restore historic off-channel habitat by increasing floodplain function where feasible.

Naches River—Tieton River Confluence to Yakima River

Protection and restoration of complex floodplain habitats (e.g., across from Naches Wonderland within and downstream of Eschbach Park and Buckskin Slough); and
Improve floodplain function and sediment transport by modifying Nelson and Gleed diversion dam structures and reconfiguring levees such as near Eschbach Park/Yakima Water Treatment Plant and the Powerhouse Road crossing.

Tributary Habitat Improvements

Fish passage at Swauk, Taneum, Jack Indian Manastash, Reecer, Wilson, Naneum, Cowiche, and Ahtanum Creeks
Instream flow improvements at Big, Swauk, Taneum, Manastash, Wilson, Naneum, Nile, Rattlesnake, Cowiche, Ahtanum Toppenish and Satus Creeks and Teanaway and Tieton Rivers
Floodplain/Side Channel Reconnection at Swauk, Jack Reecer, Nile, Rattlesnake, Cowiche, Ahtanum, Toppenish, and Satus Creeks and Cle Elum, Teanaway, Tieton and Little Naches Rivers
Riparian Habitat Enhancement/Restoration at Swauk, Taneum, Jack, Manastash, Reecer, Wilson, Naneum, Nile, Rattlesnake, Cowiche, Ahtanum, Toppenish, and Satus Creeks and Cle Elum, Teanaway, Bumping, Tieton and Rivers
Channel Complexity at Swauk, Taneum, Reecer, Wilson Naneum, Nile, Rattlesnake, Cowiche, Ahtanum, Toppenish and Satus Creeks and Cle Elum, Teanaway, Bumping, Tieton, and Little Naches Rivers

Diversion Screening at Taneum, Manastash, Reecer, Nile, Rattlesnake,
Cowiche, Ahtanum, and Toppenish Creeks and Bumping River