

2010 Legislation, Use of Conserved Water

“Review of Water Conservation and the Columbia River Program”

Policy Advisory Group
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September 9, 2009

Summary

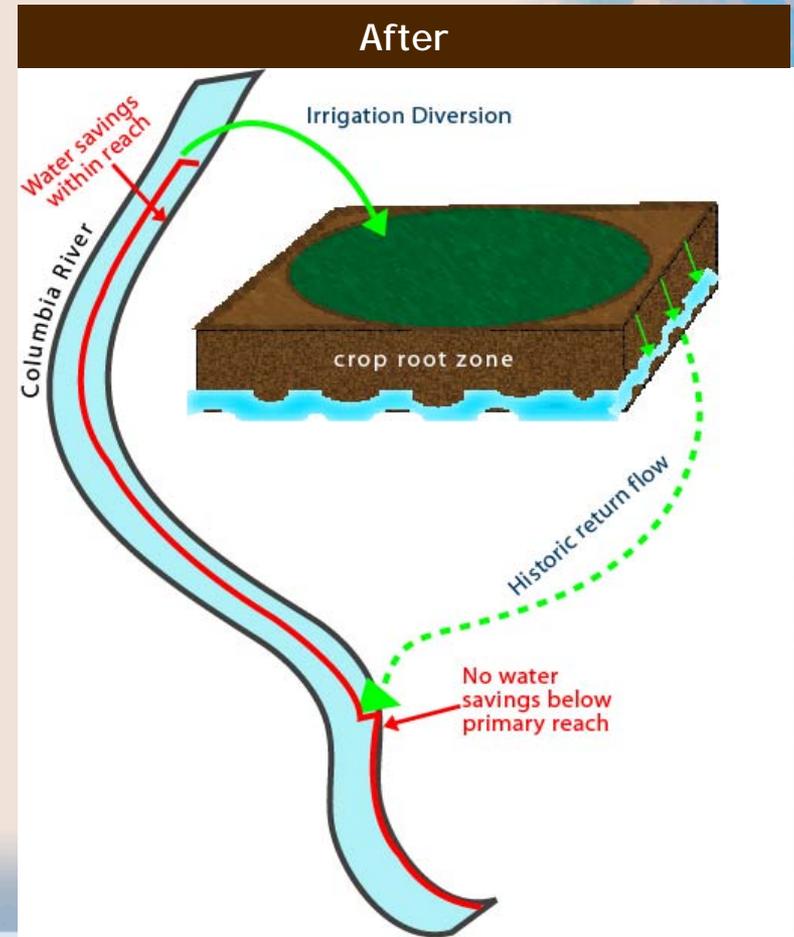
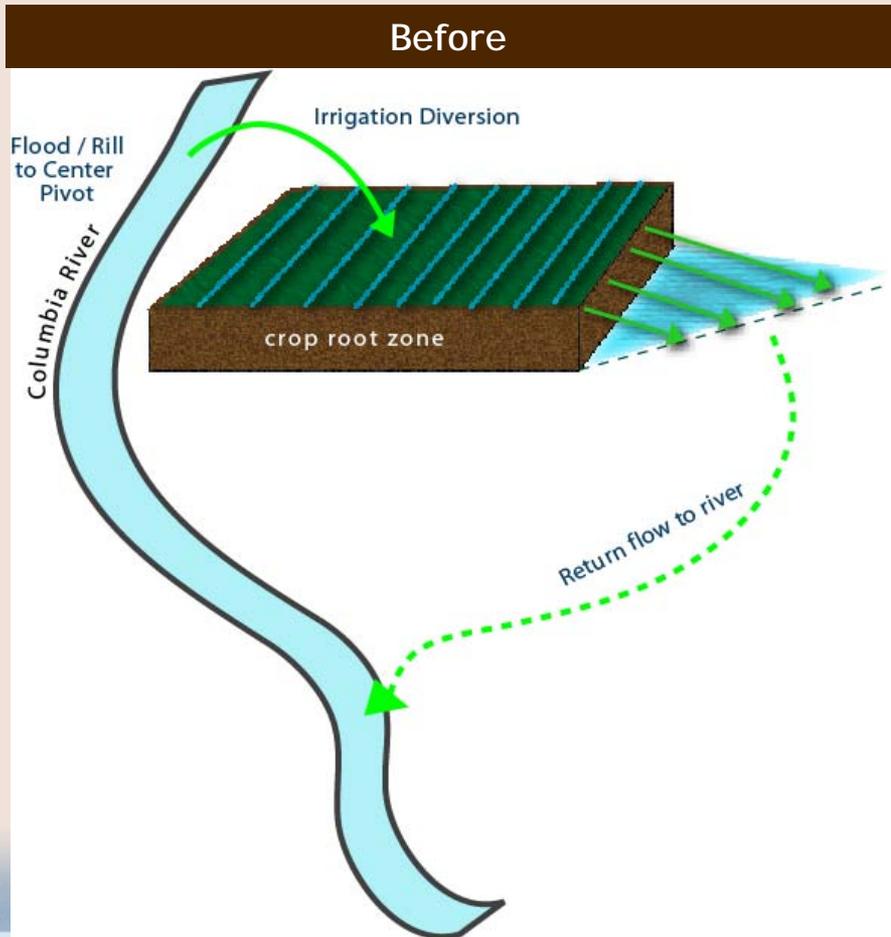
- **Conservation fundamentals.**
- **Effects of Conservation**
- **Conservation potential in the Columbia River basin.**
- **OCR conservation investments.**
- **Conservation proposals in the legislature.**

Conservation Fundamentals

- **Consumptive use**: A use of water whereby there is a diminishment of the water source. WAC 173-500-050(5).
 - **Water that is evaporated or transpired.**
- **Nonconsumptive use**: A type of water use where either there is no diversion from a source body, or there is no diminishment of the source. WAC 173-500-050(9).
 - **Fish hatcheries and hydropower uses.**
 - **Return flows from irrigation and municipal uses.**
- **Timing of returns**: From a short bypass reach in a fish hatchery, to an irrigation return drain, to deep percolation in aquifers, when water returns has an impact on the source.

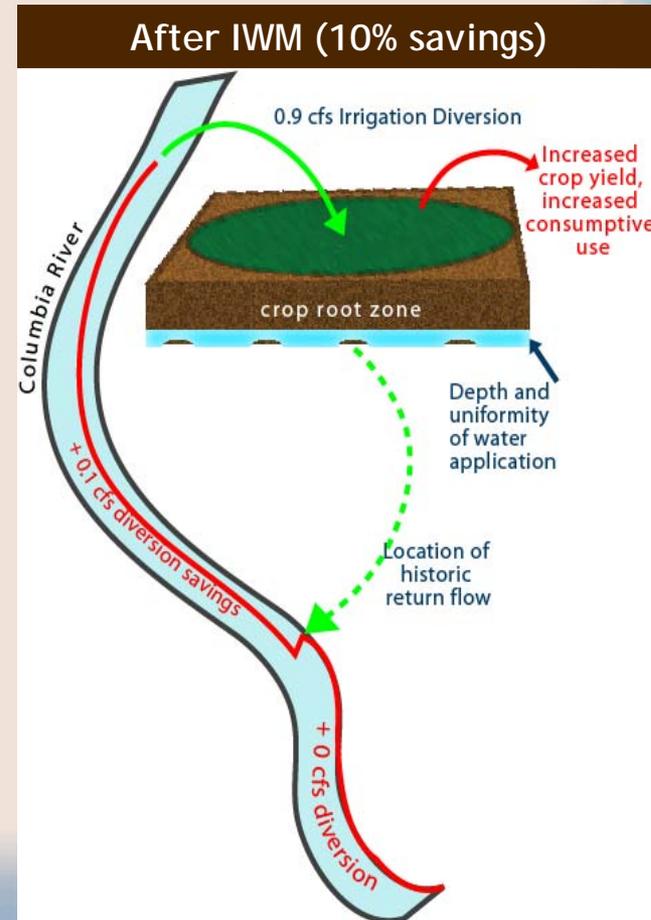
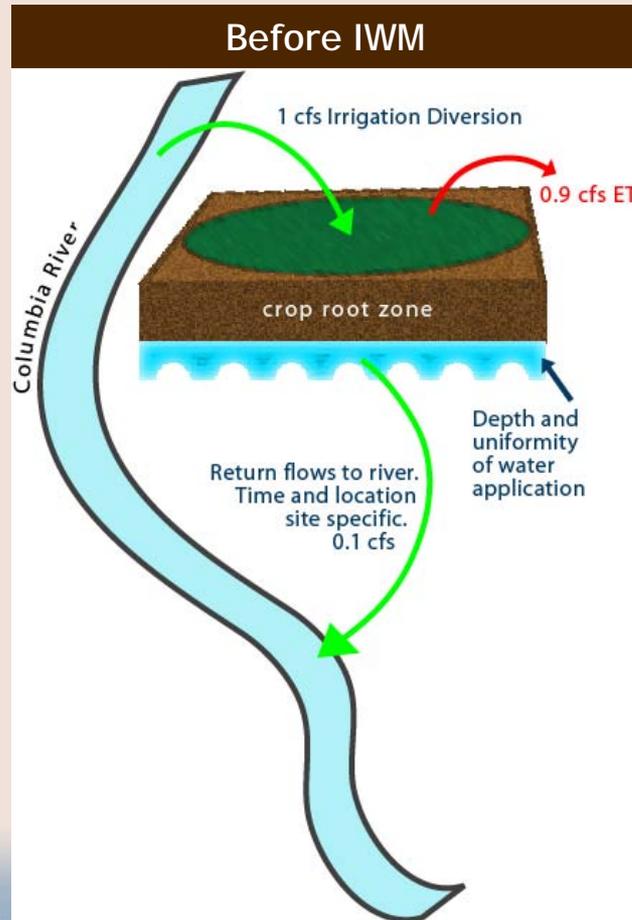
Conservation Fundamentals: Irrigation Efficiency Conservation

With flood irrigation about 50% of the water returns to the river. Converting to a center pivot can improve efficiency to 90-100% (0 to 10% return flow).



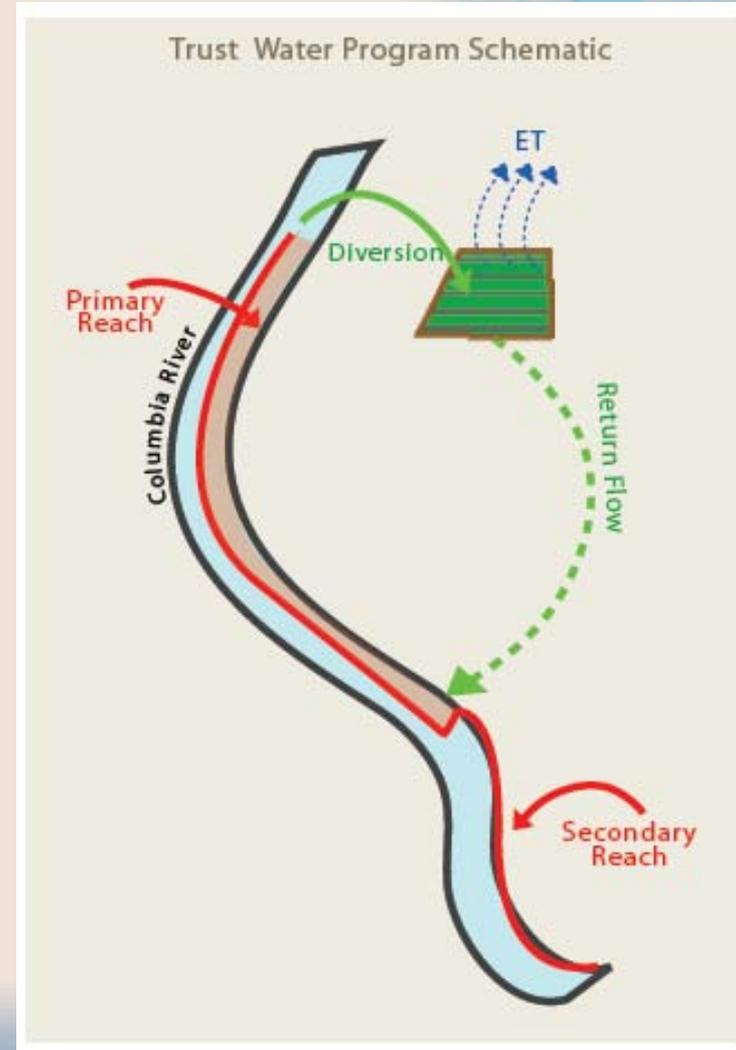
Conservation Fundamentals: Irrigation Water Management

Irrigation Water Management involves scheduling water deliveries and measuring water in the root zone to reduce return flows.



Conservation Fundamentals: Timing Matters

- Depending of the farm from the river and the geology, return flows can come back to the river very quickly (days) or very slowly (years, decades, geologic time).
- **Examples:**
 - Yakima Basin shallow aquifer recharge study showed that most sites studied return significant quantities on the order of weeks.
 - Energy NW Battelle study showed water diverted approximately 1 mile from the Columbia River on the Hanford reservation returned significant quantities on the order of weeks.



Effects of Conservation

Goal	Effect
Reduce gross diversion	Benefits to fish in the primary reach. Below the point where flows historically returned to the river, no new water savings accrue. Ecology has not historically issued permits for new water rights based on conservation savings.
Improve efficiency	Efficiency for efficiencies sake is generally held to be a public value. Moving the hydrograph to the left is not always a good thing for downstream water users or fish.
Improve water quality	Reducing return flows often reduces contaminant loads. Not necessarily true of temperature.
Reduce operational costs	Reduced power costs, reduced labor costs, reduced chemical costs.
Increase crop yield	Increasing crop yield increases consumptive use (more bails of hay, more bushels of wheat, more boxes of apples), which reduces overall availability in the source.

Conservation Potential in the Columbia Basin

- **1.1 million acre-feet of potential conservation savings** (2008 OCR Legislative report).
 - Lining and Piping (478,000 acre-feet)
 - On-farm efficiency (263,000 acre-feet)
 - Irrigation Water Management (243,000 acre-feet)
 - Other (26,000 acre-feet)

- **885,000 acre-feet of potential conservation savings** (2006 CSRIA Conservation Report).

Office of Columbia River Conservation Investments

- **Conservation Commission Pilot Project.** \$1 million to build up to 3 on-farm conservation projects to evaluate retiming of return flows for issuance of new permits.
- **Franklin/Grant CDs IWM Pilot Project.** \$78,000 to evaluate opportunities to enroll farmers in an IWM program in locations where return flows could be retimed and new permits issued.
- **Barker Ranch Piping Project.** \$5.6 million to pipe open canal, saving nearly 6,500 acre-feet in the Lower Yakima River for fish.
- **Manastash Piping Project.** \$376,000 to pipe open canal, saving 454 ac-ft in Manastash Creek for fish.
- **KID Pump Exchange.** \$15 million to save \approx 400 cfs in the Lower Yakima River for fish.

2009 Legislative Cycle: HB 1334

- **Conservation Operation and Maintenance program**
- **Amendments to RCW 90.90, VRAs, allowing 50% of water saved through IWM to be used for spreading to new irrigated lands on a seasonal basis. The other 50% would be trusted with Ecology.**
- **Amendments to RCW 90.14.140, no relinquishment for users doing conservation O&M historically or in the future.**
- **Amendments to RCW 90.03.380, allowing seasonal transfers and spreading of conservation savings without a consumptive use review (ACQ).**
- **Allows the user conserving water to directly benefit from the water savings rather than the oldest person in line.**



Is There An Analogous Program in Washington?

- **Yakima River Basin Water Enhancement Project (YRBWEP)**
- **Provides user with 1/3rd of conservation savings and the river gets 2/3^{rds}. HB 1334 is 50/50.**
- **In YRBWEP and HB 1334, consumptive use can increase. In Yakima, this can occur through drought insurance, whereas in HB 1334 it would be through irrigation of new land.**
- **If YRBWEP savings are “trusted” they are exempt from relinquishment. However, protection is prospective only. In HB 1334, relinquishment protection extended to users who have historically conserved water.**
- **YRBWEP does not require a permitting action by Ecology, whereas HB 1334 would require Ecology to issue seasonal permits.**