

Draft Work Product for Review by the Icicle Working Group

May 17, 2013

Icicle Integrated Project List, "Base" Integrated Alternative Meeting Guiding Principles

Total Project Benefit ≈69 cfs & 22,500 acre-feet, Total Investment including 25% contingency ≈ \$50 M, cost/acre-foot ≈ \$2,250 / acre-foot

Project Description: This alternative is characterized by a project list targeted at the Icicle Subbasin Guiding Principles with substantive flow benefit in the late summer/early fall in the historic channel. Key features include a pump exchange for a portion of Icicle-Peshastin Irrigation District summer demand, retaining the existing hatchery facilities but with aggressive conservation measures, modernization of the Alpine Lakes with flow benefit to both instream flows and the City of Leavenworth, and habitat/screening projects.

Project Name	Description	Project Cost	Icicle Creek Project Benefit			
Icicle-Peshastin Irrigation District Pump Exchange Project I	Icicle-Peshastin Pump Exchange at Dryden (40 cfs for 8 weeks, 15 cfs to Icicle, 25 cfs to Peshastin).	\$8 M	15	cfs	1,663	ac-ft
Alpine Lakes Optimization, Modernization, and Automation	Automate and optimize releases of the 6 Alpine Lakes (flow benefit estimated over 75 days).	\$1.1 M	14.57	cfs	2,163	ac-ft
Icicle, Peshastin, and Cascade Orchards Irrigation Efficiencies	Update Irrigation Comprehensive Plans and fund efficiency projects (flow benefit estimated over 150 days).	\$7.7 M	10	cfs	3,000	ac-ft
Leavenworth National Fish Hatchery Conservation Improvements	Combination of on-site reuse, effluent pump-back, and/or wellfield enhancements.	\$10 M	20	cfs	14,000	ac-ft
Eight-Mile Lake Restoration	Restore Eight-Mile Lake to normal permitted pool elevation.	\$1.2 M	8.7	cfs	1,300	ac-ft
Habitat improvements in RM 2.7-4.5, land acquisition	Riparian plantings, engineering log jams, conservation easements, and other habitat projects. Land acquisition as part of the Wenatchee Lands Plan in Icicle Basin.	\$2.5 M	2.7	miles	2000	acres
Rehabilitate Leavenworth Hatchery Intake, Passive Flow at Structure 2, Boulder Field Construction Project, Tribal Fisheries Improvements	Replace delapidated sections of intake piping, and improve passage at Boulder Field	\$ 6.5 M	Improve fish passage and hatchery operation			
Leavenworth National Fish Hatchery / Cascade Orchards Screening Improvements, Icicle-Peshastin Irrigation District Screening	Improve existing screens to current standards	\$ 3.6 M	Improve fish passage and hatchery operation			
Instream Flow Rule Amendment	Modify WAC 173-545 Icicle Reserve from interim level of 0.1 cfs to final level of 0.5 cfs	\$ 50 K	0.4	cfs	292	ac-ft