

ALTERNATIVES

NO-ACTION ALTERNATIVE

The No-action Alternative is presented to show the impacts of not implementing the Icicle Strategy. Under the No-action Alternative, some projects may be developed on separate and different pathways by proponents other than the Icicle Work Group (IWG), although it is unlikely all would be implemented. Funding for projects would be delayed or less competitive without an integrated solution, resulting in slower implementation of projects that proceed without IWG support. Project beneficiaries may be different and not focused on meeting guiding principles. Projects that may be implemented on their own independent timelines, could improve streamflow by approximately 32 cfs and 18,094 acre-feet.

ALTERNATIVE 1 (BASE PACKAGE)

The IWG has identified the first alternative as the Base Package, consisting of 12 elements that work in concert to achieve all of the Guiding Principles. The package is a mix of projects, including automating and optimizing reservoir releases at seven Alpine Lakes; efforts to make hatchery, irrigation, and domestic use more efficient; enhancement of habitat, fish passage, and fish screening; and protection of tribal and non-tribal fisheries. The suite of projects proposed under Alternative 1 (listed in Table 2-1) is estimated to cost \$81.7 million, which includes a 25 percent contingency. These projects are anticipated to provide 89 cfs and 31,958 acre-feet of total water benefit (instream and out-of-stream), of which 88 cfs and 28,458 acre-feet instream flow benefit. This estimate of instream flow benefits includes reach benefit for out-of-stream uses that would occur downstream.

ALTERNATIVE 2

This alternative builds on the foundation of Alternative 1, but replaces the Alpine Lakes Optimization project with the IPID Dryden Pump Exchange project. Alternative 2 is estimated to cost \$91 million, which includes a 25 percent contingency. This alternative would provide 84 cfs and 27,978 acre-feet of total water benefit (instream and out-of-stream), of which 83 cfs and 24,478 acre-feet of instream flow benefit. This estimate of instream flow benefits includes reach benefit for out-of-stream uses that would occur downstream.

ALTERNATIVE 3

This alternative also builds on the foundation of Alternative 1, but focuses on project selection outside the Alpine Lakes Wilderness Area through greater reliance on conservation and pump exchange projects. Because supply and demand cannot be matched well without storage, it also includes a legislative change for instream flow impacts that would occur when conserved water is not able to fully meet demand in-time and in-place. This is a requirement given recent Supreme Court clarity in the Foster/Yelm case. Alternative 3 is estimated to cost \$89 million, which includes a 25 percent contingency. This alternative would provide 71 cfs and 24,378 acre-feet of total water benefit (instream and out-of-stream), of which 70 cfs and 23,578 of instream flow benefit. This estimate of instream flow benefits includes reach benefits for out-of-stream uses that would occur downstream.

ALTERNATIVE 4

This alternative provides a greater emphasis on development of new water supplies, with enhancements to Eightmile Lake and storage improvements at the Upper Klonauqua and Snow Lakes. This alternative was selected to evaluate the value of greater flexibility in shaping water availability to meet future changes in both supply and demand. Alternative 4 is estimated to cost \$96 million, which includes a 25 percent contingency. This alternative would provide 132 cfs and 35,385 acre-feet of total water benefit, of which 131 cfs and 34,585 acre-feet of instream flow benefit. This estimate of instream flow benefits includes reach benefit for out-of-stream uses that would occur downstream.

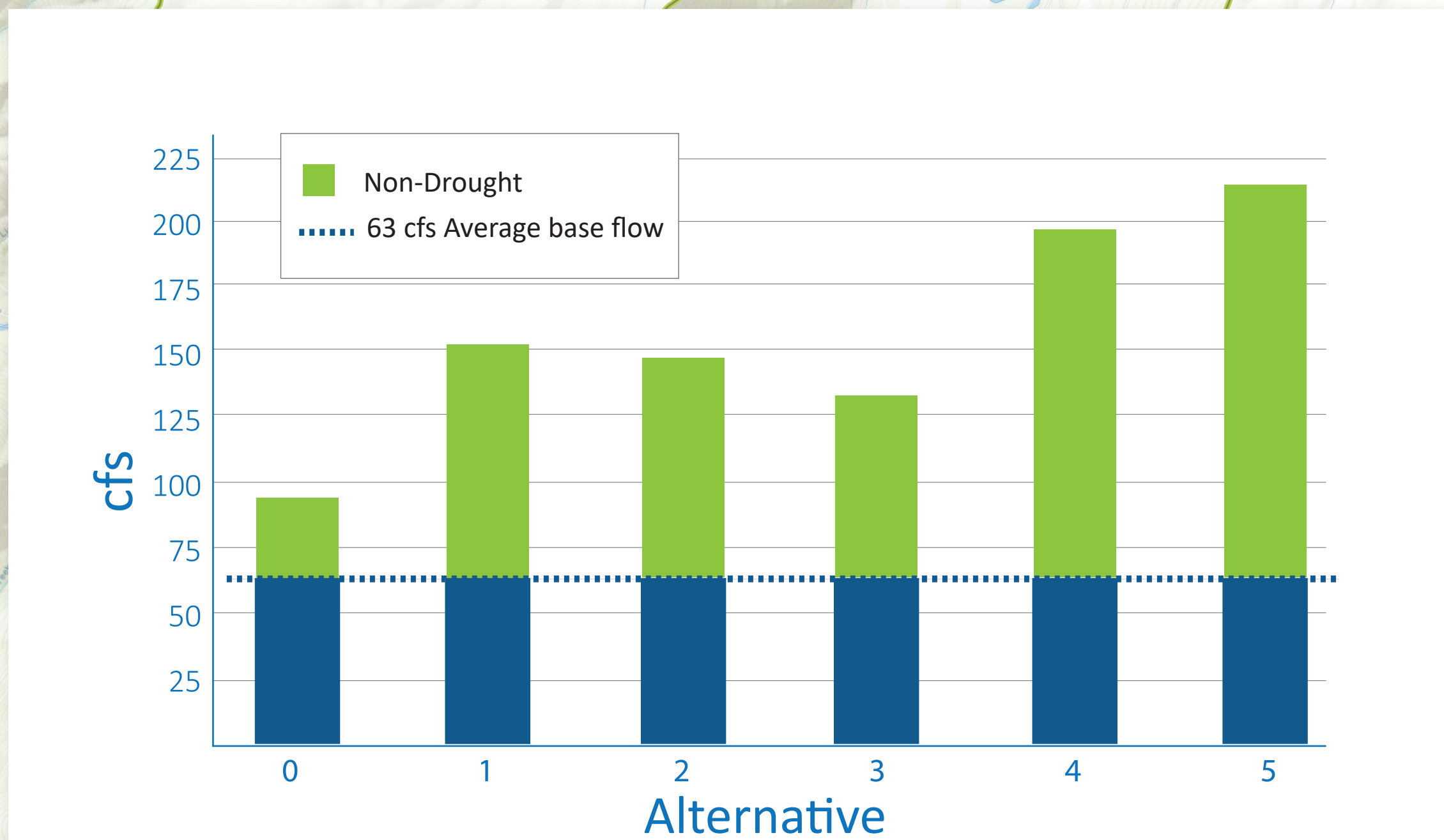
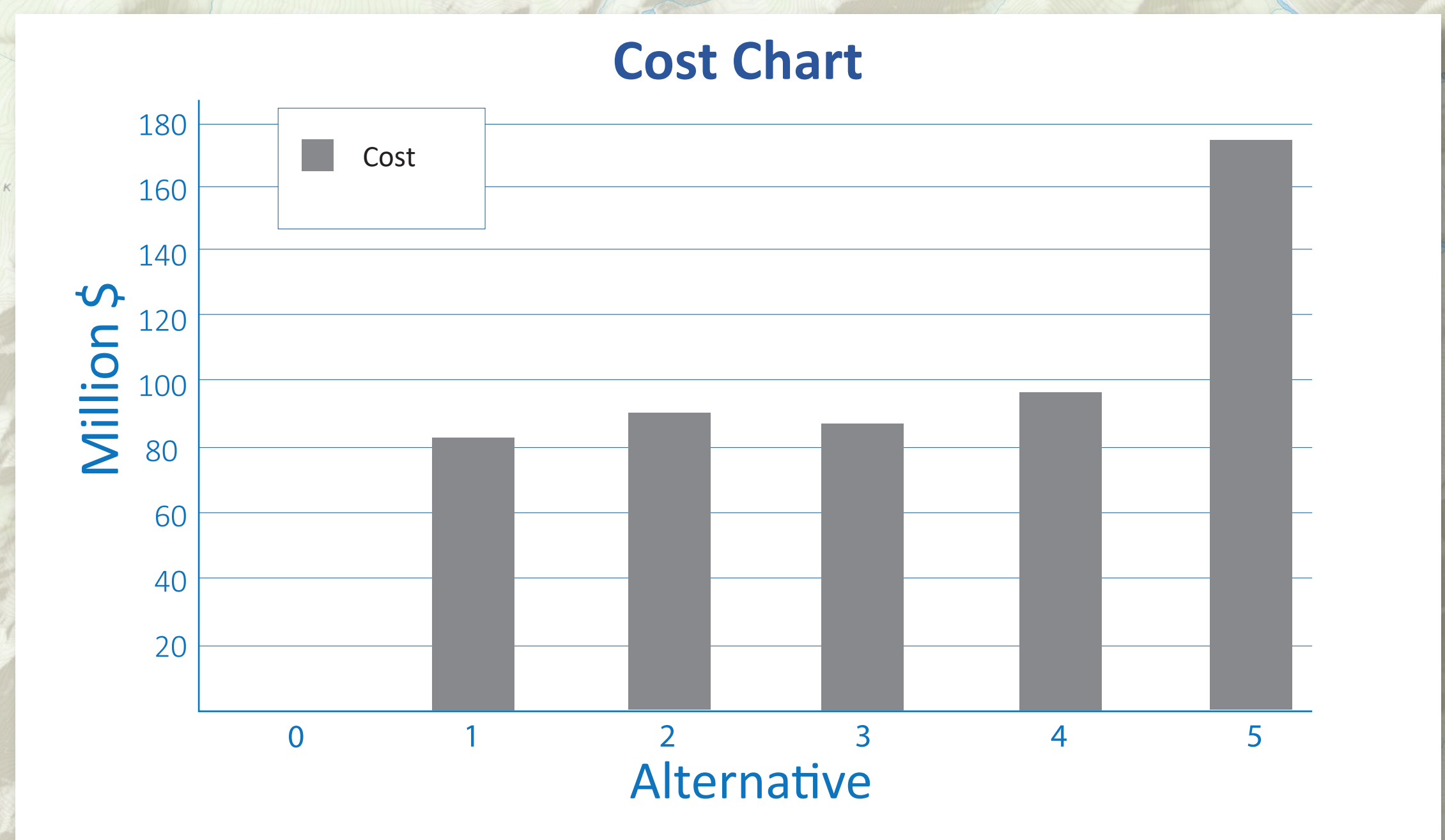
ALTERNATIVE 5

This alternative builds on the foundation of Alternative 1, but provides a greater emphasis on out-of-basin water supplies. Under Alternative 5, the IPID Irrigation Efficiencies element would be replaced with the IPID Full Piping and Pump Exchange. Under the IPID Full Piping and Pump Exchange, the IPID diversion would be completely removed from Icicle Creek, and it would be replaced with three pump stations on the Wenatchee River. The estimated cost, which includes a 25 percent contingency, is \$174.4 million. This alternative would provide 196 cfs and 58,958 acre-feet of total water benefit, and 195 cfs and 55,458 acre-feet of instream flow benefit to Icicle Creek. This estimate of instream flow benefits includes reach benefit for out-of-stream uses that would occur downstream.

Icicle Strategy PEIS Alternatives Table

Projects	Proposed Alternatives					
	No Action Alternative	Alternative 1	Alternative 2	Alternative 3	Alternative 4	Alternative 5
Conservation						
IPID Irrigation Efficiencies	○	●	●	●	●	●
COIC Irrigation Efficiencies (Piping)	●	●	●	●	●	●
Domestic Conservation Efficiencies	○	●	●	●	●	●
LNFH Conservation and Water Quality Improvements	●	●	●	●	●	●
Pump Exchange						
IPID Dryden Pump Exchange	○	○	●	●		
Full IPID Pump Station						●
COIC Irrigation Efficiencies (Pump Exchange)	●	●	●	●	●	●
Modification/Restoration of Existing Storage						
Alpine Lakes Reservoir Optimization, Modernization and Automation	○	●			●	●
Eightmile Lake Storage Restoration	○	●	●	○	●	●
New Storage						
Eightmile Lake Storage Enhancement					●	
Upper Klonauqua Lake Storage Enhancement					●	
Upper and Lower Snow Lakes Storage Enhancement					●	
Habitat/Fisheries Improvements						
Tribal Fishery Protection	○	●	●	●	●	●
Habitat Protection and Enhancement	○	●	●	●	●	●
Fish Passage	●	●	●	●	●	●
Fish Screening	●	●	●	●	●	●
Legislative/Administrative Tools						
Water Markets		●	●	●	●	●
Instream Flow Rule Amendment	○	●	●	●	●	●
OCP legislative fix from instream flow impacts				●		

○ Represents projects that might proceed if funding becomes available. However, under the No-action Alternative, project beneficiaries may be different and project timelines are unknown.
 ● Represents projects that are likely to occur as described, but could be replaced by another project that fulfills the same guiding principles if a design, funding, or permitting fatal flaw is identified.



Ability to Maintain Minimum Flow Target Under 2080 Climate Change Conditions?

	Present	Low Change	Medium Change	High Change
Alternative 0	No	No	No	No
Alternative 1	Yes	Yes	Yes	Yes
Alternative 2	Yes	Yes	Yes	Yes
Alternative 3	Yes	No	No	No
Alternative 4	Yes	Yes	Yes	Yes
Alternative 5	Yes	Yes	Yes	Yes

Note: If guiding principles could be met both in drought and non-drought years per climate change scenario, yes. If guiding principles are not expected to be met in either drought or non-drought years per climate change scenario, no.

