

5 March 2025 **DRAFT**

The purpose of this table is to document the evaluation criteria utilized in the 2011 Jacobs Alternatives Analysis Report for Lower Granite, and to propose modifications for the current study. The modifications are intended to more accurately reflect current issues and concerns. This criteria will be applied to Lower Monumental, Ice Harbor, McNary and John Day.

Evaluation Criteria (Jacobs, 2011)		Weight	Description	Proposed Modifications for 2025 Study
1	Thermal Performance in Ladder	21	This criterion indicated how well the alternative is perceived to minimize temperature differentials between the forebay water zone and the tailrace water zone of the adult fishway ladder. This criteria was limited to control of water temperatures at the entrance, exit, and within the ladder.	
2	Thermal Performance in Forebay	18	This criterion indicated how well the alternative extends cooler water into the forebay near the fishway exit. A more gradual gradient of water temperatures over a larger area between the fishway exit and forebay is more favorable than a smaller and/or sharper temperature change.	
3	Capital Cost	10	This criterion represented the perceived difference in magnitude of initial capital cost between alternatives.	Combine with No. 10 Minimize Construction Impacts.
4	O&M Cost	17	This criterion represented the perceived magnitude of operating and maintenance costs between alternatives. (Screen maintenance falls under a separate criterion.)	
5	Operational Limits	5	This criterion tried to capture how well the alternative functions under different scenarios. This would include operations under maximum and minimum forebay pool elevations and how well the alternative allows adjustments to the system for temperature control.	Combine with No. 6 Component Reliability and Rename "Operational Flexibility and Reliability."
6	Component Reliability	10	This criterion tried to capture the overall reliability of each alternative. An alternative that has machinery, pumps, and controls is considered less reliable. For example, an alternative that relies on gravity would be considered more reliable.	Combine with No. 5 Operational Limits and Rename "Operational Flexibility and Reliability." Gravity vs. pumped systems are evaluated via No. 4 O&M Cost.
7	Screening/Cleaning Requirements	13	The requirement for an alternative to have screens or not was deemed to be an important evaluation criteria. Screens represent a significant initial cost, require maintenance and additional hardware for removal, and require machinery to raise and lower the screens for maintenance.	Remove this criterion as juvenile fish screens are not proposed for deep water intakes. Approach velocities will meet smolt criteria (0.8 fps). Maintenance associated with trashracks, diffusers, porosity control, etc. will be evaluated via No. 4 O&M Cost.
8	Dam Safety	44	This criterion addressed dam safety from both an operational safety and dam integrity perspective.	Combine with No. 12 Operational Risk – Project Operations.
9	Fish Behavior	33	This criterion was a subjective consideration of impacts to fish behavior. Fish behavior is influenced by temperature differentials, flow rates, weirs, upward-flowing currents, bubbles, structures impeding movement and other considerations. Thermal performance affecting fish behavior was indirectly covered separately under the criteria for thermal performance. Better thermal performance implies improved fish behavior.	Rename "Fish Behavior, Other" or "Fish Behavior, Non Temperature-Related."
10	Minimize Construction Impacts	5	This criterion captured the magnitude of construction impacts to fishway and dam operations. Construction work inside the fishway or at fishway exit would be considered to have less impact than construction occurring in the forebay.	Combine with No. 3 Capital Cost.
11	Permitability	0	This criterion captured the degree of permitting requirements. Alternatives requiring lengthy in-water forebay work would have higher permitting impacts than an alternative modifying just the fish ladder or machinery installations.	Remove this criterion as permitting is anticipated to be similar for each alternative and not a significant differentiator.
12	Operational Risks – Project Operations	40	This criterion tried to capture the risk to the fishway and/or dam operations if an alternative does not perform properly. An alternative that can be quickly repaired, removed or reverted back to current operations is considered less risky than one that has permanent impacts or has delays in reverting back to original operations. An alternative that has machinery, pumps, and controls is considered more risky. Alternatives that could potentially block the intakes for the fishway are considered more risky.	Combine with No. 8 Dam Safety.