Guidance for Evaluating Limiting Factor Habitat Functions for FCRPS Biological Opinion Tributary Habitat Actions

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The Action Agencies (BPA and Reclamation) provide funding and/or technical assistance to help implement habitat improvement actions to meet salmon and steelhead survival improvement requirements described in RPA 35, Table 5 of the 2010 FCRPS BiOp. The Action Agencies depend on local watershed partners to help identify, prioritize, and implement habitat improvement actions that address key limiting factors and rely on local expert panels to evaluate effects of these actions on changes to the habitat function of the key limiting factors at Expert Panel workshops convened once every three years.

Habitat function is one of the variables used by the Action Agencies to estimate salmon and steelhead habitat quality/survival improvement for the 2010 FCRPS BiOp (http://www.salmonrecovery.gov/ESADocuments/BiologicalOpinions/FCRPSBiOp.aspx). Habitat function was characterized by participants of the Habitat Collaboration Workgroup that was convened to guide development of the 2007 FCRPS Biological Assessment and 2008 FCRPS Biological Opinion. These initial proceedings are documented in Appendix C to the 2007 FCRPS BiOp Comprehensive Analysis. The remainder of this paper summarizes Habitat Collaboration Workgroup discussions about habitat function definitions and use.

Habitat function is analogous to "proper functioning condition". There are a raft of definitions for proper functioning condition that are used for numerous purposes by various entities and agencies. For example, properly functioning condition can range from zero to 100 by some definitions. Zero would represent a totally non-functional condition for a limiting factor, and 100 could indicate fully natural conditions.

However, there are some nuances that make habitat function, as employed for the 2010 FCRPS BiOp, different from other commonly-used definitions of proper functioning condition. The definitions in this paper are presented as a starting point for considering habitat function values for purposes of the 2010 FCRPS BiOp.

Current habitat function: baseline habitat function initialized at the beginning of the BiOp evaluation period. This value includes effects of existing natural conditions and all habitat improvement actions completed as of the end of the calendar year (December 31) prior to the beginning of the BiOp evaluation period. The beginning of the BiOp evaluation period was January 1, 2007. The evaluation period can change for the following reasons:

- Conformance with Recovery Plans (as happened in the Grande Ronde/Imnaha in 2009/2010)
- Reflect changes due to significant natural events (flood, landslide, fire, etc)
- Reflect changes in understanding based on new scientific information

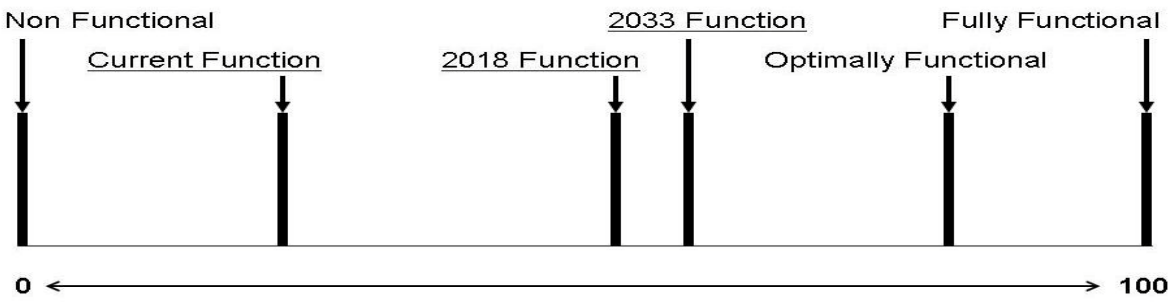
Changes to the current habitat function may or may not result in changes to 2018 or 2033 potential habitat function.

2018 potential habitat function (formerly, 10-year potential habitat function): The 2018 potential habitat function represents the potential habitat function at the end of the 10-year BiOp period (which is the year 2018) that could be obtained from implementing all feasible habitat improvement actions by 2018 (i.e., actions including, but not limited to, actions implemented with funding from BPA and technical assistance from Reclamation). Values of 2018 potential habitat function are intended to represent effects of habitat actions accrued in a relatively short period of time. For example, flow improvement, screen, and access actions would have an immediate effect on habitat function. These types of actions would accrue relatively little, if any, additional improvement to habitat function after they are completed.

2033 potential habitat function (formerly, 25-year potential habitat function): The 2033 potential habitat function represents the potential future habitat function in 2033 that could be obtained from implementing all feasible habitat improvement actions by 2018 (i.e., actions including, but not limited to, actions implemented with funding from BPA and technical assistance from Reclamation). Values of 2033 potential habitat function are intended to represent effects of habitat actions that could affect habitat function by 2018, but also could accrue an improvement to habitat function over a relatively long period of time. For example, riparian improvement actions, such as a riparian planting, could have a relatively small effect on habitat function by 2018 (possibly providing some near-term effects related to sediment reduction as the plantings take hold on the stream bank). However, as the plantings grow and provide shade and cover, additional improvement to habitat function could accrue after 2018.

Current, 2018, and 2033 habitat functions are also referred to as “low” (current) and “high” (2018 and 2033 potential) “bookends” for Action Agency purposes for the 2010 FCRPS BiOp. “Feasible” actions are all actions that could be implemented by 2018 with no limitations on financial, political, or social constraints. Actions with expense or landowner issues are examples of actions that fall in the feasible range if they could be completed before 2018. Complicated actions that might take longer to implement and could not be fully implemented by 2018, such as removing a large dam, relocating an interstate highway, or an airport runway or actions that are planned for implementation in a longer time sequence are examples of infeasible actions.

Figure 1 diagrammatically shows relations where these descriptive habitat function terms fall on a scale of 0 to 100. “Fully functional” may or may not correspond to predevelopment natural conditions. However, “optimally functional” recognizes that post-development circumstances may preclude attainment of predevelopment natural conditions. Terms relating to habitat function, as defined above for purposes of the 2010 FCRPS BiOp, are underlined.



The preceding definitions characterize habitat function bookends.

Expert Panels have three basic functions related to limiting factors and habitat functions:

- Ensure that key limiting factors identified at prior workshops are still relevant
- Ensure that limiting factor bookends accepted at prior workshops are still representative, and
- Evaluate changes in limiting factors associated with actions planned for completion in both the last and next implementation cycles

Local biologists on the Expert Panels have the opportunity to add, modify, or remove relevant limiting factors and make changes to the bookends to represent the latest understanding about the key limiting factors. The Action Agencies accept limiting factor and bookend changes identified by Expert Panels and record the justification for changes provided by expert panel members. Limiting factor and bookend changes are applied to the next implementation cycle (when projects planned for the next implementation cycle are evaluated). That is, projects completed in the last implementation cycle are evaluated with the same limiting factors and bookends established when the projects were planned for implementation at the beginning of the last implementation cycle. This approach is intended to evaluate actions under the same terms in each implementation cycle between Expert Panel workshops.