



COLUMBIA BASIN FISH AND WILDLIFE AUTHORITY

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Coordinating and promoting effective protection and restoration of fish, wildlife, and their habitat in the Columbia River Basin.

The Authority is comprised of the following tribes and fish and wildlife agencies:

Burns Paiute Tribe

Coeur d'Alene Tribe

Confederated Salish and Kootenai Tribes of the Flathead Reservation

Confederated Tribes of the Colville Reservation

Confederated Tribes of the Umatilla Indian Reservation

Confederated Tribes of the Warm Springs Reservation

Confederated Tribes and Bands of the Yakama Nation

Idaho Department of Fish and Game

Kootenai Tribe of Idaho

Montana Fish, Wildlife and Parks

National Marine Fisheries Service

Nez Perce Tribe

Oregon Department of Fish and Wildlife

Shoshone-Bannock Tribes of Fort Hall

Shoshone-Paiute Tribes of Duck Valley

U.S. Fish & Wildlife Service

Washington Department of Fish and Wildlife

Coordinating Agencies

Columbia River Inter-Tribal Fish Commission

Upper Columbia United Tribes

Compact of the Upper Snake River Tribes

October 8, 2009

Mr. Bill Booth, Chairman
Northwest Power and Conservation Council
851 SW Sixth Avenue, Suite 1100
Portland, OR 97204-1348

Dear Chairman Booth:

This letter presents our recommended methodology to calculate the amount of resident fish habitat that has been inundated by the construction of the Federal Columbia River Power System. The inundation methodology will serve as the foundation for future identification of operational losses.

The Northwest Power and Conservation Council's (NPCC) amended Fish and Wildlife Program (Program) provides for resident fish mitigation "where construction and inundation losses have been assessed and quantified by the appropriate agencies and tribes, mitigation should occur through the acquisition of appropriate interests in real property at a minimum ratio of 1:1 mitigation to lost distance or area."

As the Program states, resident fish habitat loss assessments have generally been quantified in terms of acres or stream miles of key habitat, for [native] focal species, inundated or blocked. The Program further provides that losses are most effectively mitigated by acquiring interests in real property for the primary purpose of preserving, enhancing, restoring, and/or creating fish and wildlife habitat equal to the quantity and quality of habitat lost.

Despite the mitigation provisions, the Program does not prescribe specific methodology for the calculation of lost resident fish habitat due to construction and inundation. Because of this omission, resident fish managers (i.e., Columbia Basin Fish and Wildlife Authority's (CBFWA) members and non-members) in the Columbia River Basin, working through the CBFWA Resident Fish Advisory Committee, developed the following methodology to quantify inundated resident fish habitat.

The CBFWA recommends that the length or area of the natural aquatic habitat, inundated following impoundment, should be calculated using GIS technology or stream surveys. Waterway length or area inundated should be measured to the full pool elevation. In addition, if a road system was built, in association with the construction of the reservoir, a survey of culverts and bridges must be performed to ensure they provide for adequate passage. If the culverts or bridges function as barriers to passage and there is no natural barrier between the full pool elevation

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and the culvert/bridge, then that length of stream above the culvert and below any natural barrier should be included in the survey.

The selection of a method (i.e., area or length) should be at the discretion of the entities involved in performing the survey; however, to standardize the process and ensure a consistent level of accuracy across the basin, the following two steps should be included in all surveys: 1), GIS surveys performed at a scale of 1:12,000 and 2) stream order identified for all waterways inundated. For smaller streams (e.g., mainstem tributaries), length inundated, by stream order, should be identified and then summed to provide total length of a specific stream order lost due to inundation. For mainstem sections (i.e., Columbia River, Snake River, etc), length or area could be used to quantify inundation losses. To calculate area lost in the tributaries or mainstem, average width along with the length of the mainstem section inundate should be used to calculate the acreage of inundated aquatic habitat.

We look forward to working closely with the NPCC to ensure that the methods we have presented are recognized by the NPCC as the accepted methodology for quantifying inundated resident fish habitat. In addition, we have begun to explore methods to assess operational losses, as provided in the "Resident Fish Losses" section of the amended Program. We will be providing the operational loss methodology to you in the near future.

Sincerely,



Elmer Ward, Chairman
Columbia Basin Fish and Wildlife Authority

cc: NPCC Members and staff
CBFWA Members