Description

Proposal ID	200751800	**Reviewer**	USFWS CRFPO	**Date**	7/23/07
Brief Title	Evaluation of artificial upwelling to enhance lower Columbia River Gorge chum salmon spawning				
Sponsor	Pacific Northwest National Laboratory				

Technical Criteria

	Y or N
1. Does the proposal demonstrate that the project uses appropriate scientifically valid strategies or techniques and sound principles (best available science)?	Y
2. Are the objectives clearly defined with measurable outcomes and tasks that contribute toward accomplishment of the objectives?	Y
3. Are the resources proposed (staff, equipment, materials) appropriate to achieve the objectives and time frame milestones?	Y
4. Does the proposal include monitoring and evaluation to determine whether objectives are being achieved (including performance measures/methods) at the project level?	Y
5. Will the proposed project significantly benefit the target species/ indicator populations?	N
6. Does the proposal demonstrate that project benefits are likely to persist over the long term and will not be compromised by other activities in the basin?	N
7. Does the proposal demonstrate that all reasonable precautions have been taken, to not adversely affect habitat/populations of wildlife, native resident and anadromous fish?	N
8. Are there explicit plans for how the information, technology etc. from this project will be disseminated or used?	Y

Management Criteria

	Y or N
1. Does the proposed project address fish and wildlife related objectives, strategies, needs and actions with an innovative method or application of technology?	Y
2. Does the project address an urgent requirement or threat to population maintenance and/or habitat protection (i.e., threatened, endangered or sensitive species)?	Y
3. Does the project promote/maintain sustainable and /or ecosystem processes or maintain desirable community diversity?	N
4. Is there cost share for the construction/implementation and/or monitoring and evaluation of the project?	N
5. Will the project complement management actions on private, public and tribal lands and does the project have demonstrable support from affected agencies,	N

tribes and public?	
6. Will the project provide data critical for in season, annual and/or longer term management decisions?	Y
7. Will this project provide or protect riparian or other habitat that may benefit both fish and wildlife?	N
8. Will the project address a lamprey key uncertainty as identified by the lamprey technical working group?	N
9. Does the project address a term and condition of the bull trout FCRPS biological opinion?	N

Category (Urgent, High Priority, Recommended Action, Do Not Fund)

Assignment.	Recommended Action

Brief Description/Rationale:

The proposal presents an innovative approach to evaluate whether chum salmon can be induced to spawn in previously unused areas of the Columbia River through the creation of artificial hyporheic upwelling. If successful, the approach may provide opportunities to increase availability of spawning habitat at appropriate sites in the Columbia River and its tributaries. Because the proposed project would evaluate a method that may directly contribute to improvements in survival or productivity of chum salmon and is an innovative pilot project, it appears to be consistent with all requirements in the FY 2007-09 proposal solicitation. Due to uncertainties with the availability of sources and delivery of hyporheic water, the proposal could be strengthened by further evaluation of the infrastructure reliability to consistently provide water to artificial upwelling areas, especially if chum salmon are induced to spawn. In addition, a consideration of minimizing potential effects of developing a hyporheic water source on its associated habitats and biota (e.g., does diverting water for the project affect a spring or tributary and its community) should be included. A more thorough evaluation of chum salmon response would include an assessment of egg survival at used, unused, and artificial upwelling sites. This could be accomplished through the planting and subsequent retrieval of egg boxes among the three types of sites. Given the nature of the proposal and information it may potentially yield, it should be considered a recommended action.