



**APPENDIX A: RESPONSE OF PARTICIPATING PARTIES TO FOURTEEN QUESTIONS REGARDING  
DEVELOPMENT OF A FISHERY MANAGEMENT PLAN FOR THE LEWIS RIVER BASIN**



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FERC Project Nos. 2111, 2213, 2071, 935

**Appendix**

At the March 30, 2000, ARG meeting during a presentation on the Fish Passage Study, a list of “14 Questions” was formally issued to solicit input from each participant for use in establishing criteria and guiding principles for the study. This was the same list of questions originally presented in the December 3, 1999 Fish Passage Meeting. To date, written responses have been received by the following organizations:

<u>Organization</u>	<u>Author</u>
PacifiCorp/Cowlitz Co PUD	Erik Lesko (compiled licensee’s comments)
WDFW	Curt Leigh
USFS	Steve Lanigan
NMFS	Steve Fransen
USFWS	Eugene Stagner
Yakama Nation	Bob Tuck
10,000 Years Institute	Jennifer Sampson

This document represents a summary of each organization’s response, sorted by question. Copies of the original responses are attached to the end of *this summary*.

Please note that many of these responses have been edited by Harza authors to capture the primary points of the response. This is the initial draft, and the summarized responses have not been checked by the original authors. Should any further edits be desired, please forward your comments to Dana Postlewait at Harza by October 16, 2000.



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1. Define Success.

- a. Goals and Objectives.
- b. Why is the study being conducted?

Participant	Response
PacifiCorp/ Cowlitz Co. PUD	<ul style="list-style-type: none"> <li>a. No impacts to native species and other resources. Passage facilities and costs must maintain the hydro project economics and operational flexibility.</li> <li>b. To determine feasibility of passing native anadromous and resident fish up and downstream through the Lewis River projects.</li> </ul>
WDFW	<ul style="list-style-type: none"> <li>a. Reintroduction of indigenous or locally adapted stock in the historic distribution and diversity, at abundances that fully seed available habitat with substantial harvestable surplus.</li> <li>b. Success criteria will involve; stock composition (individual diversity), distribution, and abundance.</li> </ul>
USFS	<ul style="list-style-type: none"> <li>a. A system that effectively passes fish upstream and downstream to meet fishery management objectives outlined in Forest Plans and other Forest Service administration documents. <i>(See original response for more detail).</i> <ul style="list-style-type: none"> <li>1. Accessible habitat within historic range of species considered. Non-native species considered have no negative impact on native species.</li> <li>2. Sufficient quantity &amp; quality of habitat accessed to result in net population increase.</li> <li>3. Use native origin stocks, wild preferred. Will consider hatchery stocks with wild origin if wild stock population too low. Avoid out-of-basin strays.</li> <li>4. Potential transmission of exotic pathogens or parasites will not result in adverse impacts to endemic fish community</li> </ul> </li> </ul>
NMFS	<ul style="list-style-type: none"> <li>a. Overall goal is to restore self-sustaining anadromous fish populations to formerly productive habitat upstream of dams. Fish passage is a tool to achieve goal. Study will help to quantify options.</li> <li>b. To assess whether fish passage technology will support anadromous fish restoration in upper watershed.</li> </ul>



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1. Define Success (continued).

USFWS	<p>a. Maintain and/or restore aquatic habitat connectivity in the watershed. Restore naturally reproducing stocks of anadromous and resident fish. Develop and implement plan to ensure that future management of the projects supports the recovery plan for bull trout.</p> <p>b. Study is being conducted to help address following issues and concerns of FWS: Loss of anadromous fish above this series of dams. Effects of all Lewis River projects especially concerning bull trout. Mitigate loss or enhance current fish habitat. Protection at the project for bull trout. Impacts to listed and proposed aquatic species due to entrainment at each project. Impacts to Swift bypass reach.</p> <p><i>See original response for more detail.</i></p>
Yakama Nation	<p>a. Provide upstream and downstream passage of anadromous fish at all three projects.</p> <p>b. To determine facilities required with cost estimates to provide fish passage.</p>
10,000 Years Inst.	<p>Specific participant goals are published in the IIP.</p> <p>In general, self sustaining runs of anadromous fish, along with restoration of watershed functions to maximum extent possible.</p> <p>Define goals in terms of desired population dynamics.</p> <p><i>See original response for more detail.</i></p>



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**2. Decision Criteria for Facility/System Selection.**

- a. Biological effectiveness
- b. Costs
- c. Policy
- d. Risks Versus Benefits
- e. Achieves Goals (Performance Measures)

Participant	Response
PacificCorp/ Cowlitz Co. PUD	<ul style="list-style-type: none"> <li>a. Projected survival rates.</li> <li>b. Benefit cost analysis must be conducted. Cost must not preclude implementation proposals.</li> <li>c. Federal and State policies as to which species would be priority for passage and which should be shared with the ARG.</li> <li>d. Passage of any species should not adversely impact existing native stock.</li> <li>e. Provide for healthy, self-sustainable runs of existing native/wild stock.</li> </ul>
WDFW	Biological effectiveness to meet success objectives, including 95% juvenile collection efficiency.
USFS	Defer to the experts at NMFS, USFWS, and WDFW.
NMFS	<ul style="list-style-type: none"> <li>a. Will proposed passage system support self-sustaining populations? What specific or FCE/FGE is necessary for system to work? What are the expected FCE/FGE for the proposed system?</li> <li>b. Economic and policy issue. Cost estimates of proposed systems should be included, but not part of technical analysis.</li> <li>c. Recovery of listed species, and support restoration of other jurisdictional species.</li> <li>d. Analysis should precede a determination to pursue reintroduction and recovery and restoration of anadromous fish upstream of the dams.</li> <li>e. Analysis should be incremental to assess the best combination of possible reintroduction strategies. A matrix of expected outcomes by species and dam/geographic unit might be useful.</li> <li>f. Successful reintroduction self-sustaining or limited supplementation. Meets FCE/FGE needs. Compiles with ESA constraints.</li> <li>g. Inter and intra-species interactions are within biological and managerial limits of acceptability.</li> </ul>



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2. Decision Criteria for Facility/System Selection (continued).

USFWS	<p>a. Will proposed passage system support self-sustaining populations? What FCE/FGE is necessary for the system to work? What are expected FCE/FGE for the proposed system(s)? We expect the objective will be around 95% FCE/FGE downstream and 97% upstream.</p> <p>b. Settlement and policy issue not a technical issue. Estimates of the cost of the various facilities are necessary for those issues, not for the biological analysis.</p> <p>c. Mostly related to ESA listed species recovery but also will need to address trust resources.</p> <p>e. Incremental analysis that will allow group and agencies to assess the best possible mix of facilities.</p> <p>f. Recovered and sustainable populations of fish that can support a harvestable surplus.</p>
Yakama Nation	<p>a. Ability to provide upstream/downstream passage.</p> <p>Shouldn't the first criteria be whether or not a proposed facility achieves an identified goal; closely followed by the biological effectiveness of that facility?</p>
10,000 Years Inst.	<p>State and federal policies probably provide the primary basis for decision criteria, including specifically those policies defined by NEPA, ESA, FPA and the state's wild salmonid policy. Questions of biological effectiveness are the most obvious second step. Costs of each option should be evaluated after and option has been determined to be biologically effective.</p>



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3. Species Priority

- a. Bull trout, Anadromous salmon, lamprey, others?
- b. Priority applies to all facilities?
- c. Preferred facility may be species dependent?

Participant	Response
PacificCorp/ Cowlitz Co. PUD	<ul style="list-style-type: none"> <li>a. Bull trout should be the priority species between Merwin, Yale, and Swift. Native/wild anadromous species should be priority for passage from Merwin to above Swift.</li> <li>b. Priority for bull trout from Merwin to Yale and Yale to Swift. Priority for Native/wild anadromous species from Merwin to above Swift.</li> <li>c. Given need to sort and prioritize species, trap-and-haul seems to be the best option.</li> </ul>
WDFW	Species in historical balance. Bull trout, cutthroat, and listed salmon stocks must all be considered.
USFS	<ul style="list-style-type: none"> <li>a. Winter and summer steelhead, bull trout, spring chinook, sea-run cutthroat, lamprey, coho.</li> <li>b.               <ul style="list-style-type: none"> <li>1. Winter steelhead, reintroduce throughout basin.</li> <li>2. Summer steelhead, reintroduce above Swift and possibly above Yale in Siouxon Creek.</li> <li>3. Bull trout, provide up and downstream passage at all 3 dams.</li> <li>4. Spring chinook, above Swift.</li> <li>5. Sea-run cutthroat, throughout basin.</li> <li>6. Lamprey, throughout basin.</li> <li>7. Coho, late coho throughout the basin, early coho above Swift. Juvenile coho should be collected at each dam and released below the fall chinook spawning area.</li> </ul> </li> </ul>
NMFS	<ul style="list-style-type: none"> <li>a. Extant indigenous species.</li> <li>b. Extirpated, but reintroduceable indigenous species.</li> <li>c. Priority by feasibility, salmonids over lamprey, smelt, and sturgeon.</li> <li>d. Exotics, are lowest.</li> </ul>
USFWS	<ul style="list-style-type: none"> <li>a. ESA listed indigenous species such as bull trout. Indigenous salmonid species. Exotics, like kokanee.</li> <li>b. Yes but for bull trout the most important is inter-reservoir movement.</li> </ul> <p>Note: preferred facility may be species dependent. May provide for species separation and management.</p>



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**3. Species Priority (*continued*)**

Yakama Nation	a. Spring chinook, fall chinook, steelhead, coho, lamprey, bull trout. b. Some facilities may be more important for certain species, depending on location and production goals etc. c. Yes, but each specific facility will have to be biologically effective for all species that pass through that facility.
10,000 Years Inst.	<i>Priority should be based on the biological possibility of successful reintroduction. Planning and design of fish passage should be approached with the goal of maximizing ecological benefits using available technologies.</i> Spring chinook, steelhead, and coho all have potential for successful reintroduction to habitats upstream of Merwin dam. Passage of bull trout among existing habitats is also agreed to be important.





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**4. Anadromous Reintroduction (Yes/No). Why? For what purpose?**

- a. ESA or Harvest (Drives Survival, FGE Targets etc.)
- b. Lamprey? (If Yes-May eliminate screening options)

Participant	Response
PacificCorp/ Cowlitz Co. PUD	Not preferable because of concerns for bull trout survival, low potential for system survival, and lack of successful reintroductions. a. Determined by policy makers and fish managers. b. Lamprey should not be excluded but facilities should not be designed specifically for them since it complicates the handling facility design and protocol.
WDFW	Healthy stocks with self-sustaining run and harvestable surplus. Re-establish distribution system for marine nutrients.
USFS	Yes a. USFS policy is to reintroduce fish where biologically and technologically feasible. b. Would like to see what options exist for reintroducing this species.
NMFS	Yes. a. Survival and FGE targets should be examined with harvest potential in mind. b. Yes – should be examined for feasibility (along with smelt and sturgeon).
USFWS	Yes. a. Priority is to re-establish anadromous fish into upper historical habitat. Includes nutrient cycling, restoration of food chain for predators that utilize salmonids. b. Yes – should be examined for feasibility (along with smelt and sturgeon).
Yakama Nation	Absolutely! To provide resources so Yakama Tribal members can conduct religious and cultural activities in Lewis River Basin. a. Provide harvest for Tribal members at U&A areas in Lewis River Basin. b. Yes!
10,000 Years Inst.	Yes – To reintroduce the estuarine and marine food webs, restore nutrients to terrestrial systems and provide economic and spiritual base for native people.



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5. Species to be Introduced/Protected?

- a. Salmon, lamprey, kokanee, bull trout
- b. Relevant for all facilities?

Participant	Response
PacificCorp/ Cowlitz Co. PUD	a. Yes. b. Yes.
WDFW	Spring/fall chinook, early/late coho, steelhead, chum, cutthroat and bull trout. Can be more flexible with kokanee and rainbow protection.
USFS	Winter and summer steelhead, bull trout, spring chinook, sea-run cutthroat, lamprey, coho.
NMFS	Extant indigenous species. Extirpated, but reintroduceable indigenous species. Priority by feasibility, salmonids over lamprey, smelt, and sturgeon. Exotics, are lowest.
USFWS	a. Yes. b. Yes.
Yakama Nation	a. Spring/fall chinook, coho, steelhead, lamprey and bull trout. b. Not necessarily; depends on location natural production areas, location of facilities, production goals.
10,000 Years Inst.	a. Yes. b. Yes.



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**6. Resident Fish Protection Needed? (yes/no)**

Participant	Response
PacificCorp/ Cowlitz Co. PUD	Yes, bull trout.
WDFW	Yes, cutthroat and bull trout.
USFS	Yes, bull trout.
NMFS	Yes, bull trout.
USFWS	Yes, bull trout and cutthroat.
Yakama Nation	Yes, bull trout.
10,000 Years Inst.	Yes, bull trout.



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7. Policy Constraints?

- a. NMFS, WDFW, USFWS to identify.
- b. Exotics versus natives.
- c. Affects handling protocols, sorting facilities etc.

Participant	Response
PacificCorp/ Cowlitz Co. PUD	a. NMFS, WDFW, USFWS to identify. c. consider Wild Salmonid policy for protocols.
WDFW	Wild Salmonid is not intended to be a constraint, but a guide to stock selection. Upstream reintroduction may lead to further evaluation of tiger musky and rainbow programs, and influence on steelhead. Options include marking and adjusting harvest strategies.
USFS	NMFS, WDFW, USFWS to identify.
NMFS	a. ESA recovery should be considered a mandate. b. WSP seems to be more flexible in Region 5. c. Indigenous species get priority over exotics. d. Handling protocols/sorting facilities – aim to avoid perpetual handling, marking, etc. to facilitate recovery.
USFWS	a. NMFS, WDFW, USFWS to identify. ESA recovery should be considered a mandate. b. Natives get priority over exotics. c. Assume there will need to be sorting, at least initially. In long run we would not want perpetual handling, marking, etc.
Yakama Nation	Agency policy should not be used to prevent or delay reintroduction of anadromous fish above Lewis River projects.
10,000 Years Inst.	Policy guidelines relevant to question 7 should be synthesized and presented coherently, not polled from the ARG.



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**8. Expected Population Size, Geographic Distribution Objectives**  
a. Impacts size of facilities, number of facilities and their location.

Participant	Response
PacificCorp/ Cowlitz Co. PUD	<i>No response.</i>
WDFW	Use model with scientific review.
USFS	Based on production expected from existing habitat.
NMFS	See WDFW handout.
USFWS	See WDFW handout. Suggest including the fish restoration analysis along with the fish passage study, so facility sizes correspond to expected population sizes.
Yakama Nation	Developed through ARG, Results of production models and related inputs.
10,000 Years Inst.	<i>No response.</i>



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9. Stream Reaches

- a. How much habitat and where?
- b. Helps determine the number of fish arriving at each facility.
- c. Affects facility size and FGE requirements.

Participant	Response
PacificCorp/ Cowlitz Co. PUD	<i>No response.</i>
WDFW	a. Should consider the tributaries to each reservoir and mitigation for unavailable habitat using hatchery and other enhancement methods.
USFS	a. Based on results of anadromous habitat inventory and smolt production models.
NMFS	a. See upper basin habitat inventory. b. Yes. c. Yes.
USFWS	See upper basin habitat inventory.
Yakama Nation	Will be developed by ARG, review of maps and other data and on-site reviews of habitat.
10,000 Years Inst.	<i>No response.</i>



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**10. Handling, Sorting And Transport Protocols**

- a. Transport facilities, release sites, outfalls
- b. Anadromous Versus Resident
- c. Bull trout, kokanee, anadromous fish, lamprey

Participant	Response
PacificCorp/ Cowlitz Co. PUD	<i>No Response.</i>
WDFW	a. Will be necessary for both upstream and downstream transport. b. Fall chinook, kokanee, and marked rainbow don't move. c. Bull trout move to next reservoir, up or down.
USFS	Defer to the experts at NMFS, USFWS, AND WDFW.
NMFS	Vary to selected alternative.
USFWS	Vary to selected alternative.
Yakama Nation	Will be developed by ARG, input from agencies, and input from consultants.
10,000 Years Inst.	<i>No Response.</i>



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**11. Disease Protocols**

- a. Needed to protect bull trout, resident fish, or?
- b. Defines type of handling/testing/sorting facilities needed.

Participant	Response
PacificCorp/ Cowlitz Co. PUD	a. Bull trout should receive priority protection followed by cutthroat and whitefish then kokanee. b. Too premature to answer.
WDFW	We have disease transfer guidelines.
USFS	Defer to the experts at NMFS, USFWS, AND WDFW.
NMFS	Need to identify disease issues then address a and b.
USFWS	Need to identify disease issues then address a and b.
Yakama Nation	Will be developed by ARG, input from agencies, and input from consultants.
10,000 Years Inst.	<i>No response.</i>

**12. Monitoring And Evaluation Protocols**

- a. Tag detectors, anesthesia tanks, recovery tanks, space

Participant	Response
PacificCorp/ Cowlitz Co. PUD	a. Too premature to answer.
WDFW	All required for sorting.
USFS	Still to be developed. Depends somewhat on species.
NMFS	Minimum requirements.
USFWS	Minimum requirements.
Yakama Nation	Will be developed by ARG, input from agencies, and input from consultants.
10,000 Years Inst.	<i>No Response.</i>





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**13. Technical Working Group**

- a. Identify participants
- b. Requirements for participation.

Participant	Response
PacifiCorp/ Cowlitz Co. PUD	a. PacifiCorp, Cowlitz PUD, NMFS, USFWS, WDFW, YN b. Engineering and or fish passage experience.
WDFW	Agencies with authority and one representative of the public.
USFS	a. Same as ARG with one person representing each agency/group. b. Aquatic biologist/engineer
NMFS	a. Resource agency representatives, utility, affected tribes. b. Jurisdiction, authority, and ability to add value to the outcome.
USFWS	Support group identified in ARG technical meeting.
Yakama Nation	a. WDFW, USFWS, NMFS, YN, NGO, PacifiCorp, Cowlitz PUD b. Knowledge and experience with fish passage facilities, knowledge of salmonid life history.
10,000 Years Inst.	<i>No Response.</i>



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**14. PDEA Alternatives**

- a. What alternatives will need to be examined in the PDEA?
- b. How much detail?

Participant	Response
PacificCorp/ Cowlitz Co. PUD	<ul style="list-style-type: none"> <li>a. No need to examine ladder alternatives, concentrate on trap-and-haul design from Merwin to above Swift for anadromous fish. Bull trout from Merwin to Yale.</li> <li>b. Enough to show concepts and rough out cost of construction and O &amp; M.</li> </ul>
WDFW	<ul style="list-style-type: none"> <li>a. Trap-and-haul and volitional passage – both with various combinations of ladders, traps and screens. Run of river, dam removal, and upstream transport of surplus hatchery adults with no additional facilities.</li> <li>b. Enough so public will understand reasons for selection or exclusion.</li> </ul>
USFS	<ul style="list-style-type: none"> <li>a. Meeting the passage objectives defined in Question 3.</li> </ul>
NMFS	<ul style="list-style-type: none"> <li>a. Status quo and project decommissioning to establish the range and to best satisfy NEPA. Within range, include passage alternatives for all or selected species above Merwin and Swift Dams. Each alternative should examine: biological, engineering, economic, and operational complexity, and illustrate the: range of costs, risks, and benefits across the range of alternatives                      Strongly opposed to alternatives that compare volitional to non-volitional passage systems in the PDEA, or EIS based on the grounds that it isn't an environmental analysis. At best it's a technical and biological analysis better left (to) the relicensing studies that address reintroduction and fish passage systems.</li> </ul>
USFWS	<p>Not sure why this question is included in fish passage study. Nevertheless, FWS submits the following:</p> <ul style="list-style-type: none"> <li>a. Examine a wide range of alternatives, including dam removal. See FWS comments on scoping document 1.</li> <li>b. Answer is proportional to feasibility.                      Cost estimates and general engineering location and design concept for initial cut. If obvious feasibility problems surface, options can be eliminated or at least not developed to the same detail.</li> </ul>
Yakama Nation	<ul style="list-style-type: none"> <li>a. Ladders, adult trap and haul, screens, surface collectors, locks. Any technique that may offer ability to pass adult and juvenile fish.</li> <li>b. Enough detail to determine probable success or lack thereof, and (to develop) preliminary cost estimates.</li> </ul>
10,000 Years Inst.	<i>No Response.</i>



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**15. Who will author the Fish Management Plan?**

*Note: This was an unsolicited question, presented by the 10,000 Years Institute, as quoted below.*

Participant	Response
PacificCorp/ Cowlitz Co. PUD	
WDFW	
USFS	
NMFS	
USFWS	
Yakama Nation	
10,000 Years Inst.	This question is relevant because the conservation groups feel that the licensees are not sufficiently disinterested in the outcome of the fish management plan to provide an objective analysis. The conservation groups would rather a party not previously involved in the Lewis River relicensing address the questions of the numbers of fish and the sensitivity of the technologies required for a successful fish passage program. The conservation groups ask that this issue be explicitly addressed in the next meeting of the ARG.

