Northwest **Power** and **Conservation** Council

September 9, 2015

DECISION MEMORANDUM

TO: **Council members**

FROM: Tony Grover and staff

SUBJECT: Summary of decisions to implement some 2014 Program Priorities

PROPOSED ACTION: Staff will present recommendations and seek Council decisions regarding immediate implementation of three actions regarding the Council's 2014 Fish and Wildlife Program's priorities.

SIGNIFICANCE Supports 2014 Fish and Wildlife Program priority work.

BUDGETARY/ECONOMIC IMPACTS

- Estimated budget impact from the Bonneville Fish and Wildlife FY 2016 budget include $250,000 (potential available BOG funds) for the hatchery asset assessment (see separate decision memo).
- No immediate budget impact for working with Toxics Reduction Work Group to scope of toxic hotspots mapping effort. Any new funds for mapping effort would require a separate Council decision.
- No immediate budget impact for sending letters to the federal agencies regarding quagga and zebra mussel prevention, although the letters request federal funding for states to assist with prevention actions ($1 – $1.6 M between the action agencies).

BACKGROUND

The Council identified seven emerging Program priority areas in the Investment Strategy chapter of the 2014 Fish and Wildlife Program to implement recommended

measures that expand existing work or expands the program in new directions. These are:

1. *Provide for funding long-term maintenance (Appendix P) of the assets that have been created by prior program investments*
2. *Implement adaptive management (including prioritized research on critical uncertainties) throughout the program by assessing the effectiveness of ongoing projects, developing program objectives when appropriate and taking into account the effects of climate change*
3. *Preserve program effectiveness by supporting: (1) expanded management of predators; (2) mapping and determining hotspots for toxic contaminants; and (3) aggressively addressing non-native and invasive species*
4. *Investigate blocked area mitigation options through reintroduction, passage and habitat improvement, and implement if warranted*
5. *Implement additional sturgeon and lamprey measures (passage and research)*
6. *Update the subbasin plans most in need of updates*
7. *Continue efforts to improve floodplain habitats*

In the Program, the Council recognizes that the 2014 Program priorities are a subset of all of the measures in the Fish and Wildlife Program which has many priorities, most of which are being implemented and many have multi-year funding and implementation commitments. The 2014 Program emerging priorities represent important measures that were either not happening or not being implemented to a sufficient extent.

Through the 2014 Program the Council also provides the following guidance to Bonneville, the other federal agencies, and the region in general as to which of these new measures are emerging priorities for implementation in the next five years: “During the course of the next five years, the Council anticipates that Bonneville will take the necessary steps to integrate these priorities into the Program and will report annually to the Council on its progress.” The Program further notes that, “Bonneville should fund any new fish and wildlife obligations from identifying savings within the current Program and as necessary, from additional expenditures. …To the extent that targeted savings are insufficient to meet Bonneville’s financial obligations in this Program, Bonneville should consider increasing expenditures.”

ANALYSIS and RECOMMENDATIONS

The Fish and Wildlife Committee has been discussing implementation of the Program priorities for several months. Staff presented a comprehensive discussion of all program priorities at the August Committee meeting along with options for implementation including new project solicitation options. The staff and Committee discussed a set of possible actions for three implementation timeframes: immediate; near-term; and extended term. These discussion documents can be found in Attachments A, B and C of this memo as well as by clicking on the above links. The Committee is forwarding three specific recommendations to the Council at the September meeting, with more likely to follow in coming months.

The Fish and Wildlife Committee recommends the Council consider the following three actions:

1) A *request for proposals* for commencing immediate (FY 2016) implementation of a hatchery assessment,

2) Language for an email to be sent to EPA's regional Toxics Reduction Work Group to seek their assistance in characterizing and mapping toxic contaminant "hot spots" in the Columbia River Basin, and

3) Draft letters requesting federal funding to assist the states in the protection of Columbia River waters and infrastructure from the introduction of dreissenid mussels.

Each of the three actions is described in detail in following pages:

1. **A *request for proposals* for commencing immediate (FY 2016) implementation of a hatchery asset assessment**

September 9, 2015

DECISION MEMORANDUM

TO: **Council members**

FROM: **Mark Fritsch, project implementation manager**

SUBJECT: **Hatchery Assessment for the O&M Strategic Plan**

PROPOSED ACTION: The Fish and Wildlife Committee recommends that the Council recommend that Bonneville initiate a solicitation to conduct the hatchery assessment as part of the O&M strategic plan. Implementation of this effort will be funded with up to $250,000 from the Fiscal Year 2016 BOG placeholder.

SIGNIFICANCE: The proposed action will initiate action addressing a major component of the highest priority identified in the 2014 Columbia River Basin Fish and Wildlife Program.

BUDGETARY/ECONOMIC IMPACTS
The budget associated with this request for proposals should not exceed $250,000 in expense funds for Fiscal Year 2016. Funds will be addressed through the Fiscal Year 2016 BOG placeholder.

BACKGROUND
The 2014 Columbia River Basin Fish and Wildlife Program (Program), adopted in October 2014, calls for providing funding for the long-term maintenance of the assets that have been created by prior program investments. The Council has been working with the Operation and Maintenance (O&M) Sub-committee, Independent Economic Analysis Board (IEAB), Bonneville staff, the Fish Screening Oversight Committee and

others to develop a long-term O&M strategic plan to ensure the longevity and integrity of the Program's past investments.

The O&M strategic plan will utilize an asset management framework that will provide a long-term maintenance, rehabilitation, and replacement plan for Program investments. The phased approach is based on advice of the IEAB and is similar to assessment processes Bonneville uses for the maintenance of transmission and hydro facility assets. The framework has four phases: Phase 1 is the asset inventory; Phase 2 is the condition assessment; Phase 3 addresses prioritization, and Phase 4 is the strategic plan for implementing priorities over time.

ANALYSIS

Currently, Council and Bonneville staffs have completed the direct Program hatchery list (Phase 1 – Inventory) and are now transitioning to implementation of the condition/asset assessment (Phase 2) needed for the asset management strategy, as part of the O&M Strategic Plan. A Request for Proposals (RFP) seeks to complete Phase 2 of this process.

Phase 1 – Inventory (complete)

The attached table (Table 1) reflects Program funded hatcheries and the projects explicitly linked or associated with them. In order to capture all the sites and facilities associated with certain hatcheries, the table reflects the hatcheries as "facility/program". In addition, the table shows other Program hatchery projects that are dependent on facilities that are not funded by, nor the responsibility of, the Program. The proposed inventory and assessment review focuses on projects that reflect major physical assets and infrastructure.

The facilities/programs warranting an assessment are bricks and mortar structures, not the associated facilities that provide non-Program support for the hatcheries. Of the 39 projects listed, staff recommend 14 facility/programs (involving 23 projects) for an assessment (please see shaded boxes in the table).

Phase 2 – Hatchery Asset Assessment

With the assistance of an independent contractor, the technical work group will define the assessment to meet the Program goals of creating an asset management strategy. Relying on existing information, the assessment will collect enough detail to inform the asset management strategy and provide possible approaches to replacement or repair of capital investments. The burden on hatchery managers should be minimized to complete this work. Therefore the assessment should be based on existing reviewed and recommended project narratives (cbfish.org) and other documents such as Hatchery Genetic Management Plans (HGMP's). In addition, energy efficiency opportunities should be considered.

Following is a *general* outline of the assessment and major physical assets to be reviewed:

Introduction	• *Project Description (include goals and objectives of the review and recommended facility/program)*
Water Supply System	• *Surface* • *Ground* • *Infrastructure*
Trap and Weirs	
Transport	• *Ladders* • *Other*
Adult Holding	
Incubation	
Rearing	• *Rearing/Grow-out* • *Raceways*
Release	• *Volitional* • *Other*
Effluent	
Buildings	• *Hatchery Buildings* • *Housing*
Grounds	• *Access* • *Utilities*
Capital (Support) Equipment	

Expectations for the Hatchery Condition Assessment

1. The assessment is based on existing hatchery goals and objectives as reviewed and recommended through the Fish and Wildlife Program.
2. The assessment is based on existing information available through HGMP's and other planning documents.
3. A technical work group (TWG) chaired by a Council member will oversee this work.

Tasks

1. Develop and create an assessment template for review by the TWG.
2. Describe the collection of information needed for assessment prior to site visits
3. Describe site visits for each of the hatchery programs.
4. Provide an outline of the deliverable; an individual facility assessment.

Deliverable:

Provide a facility assessment for each of the 14 facilities/programs in a final assessment report to the Council.

Budget:

The budget associated with this request for proposals should not exceed $250,000 in expense funds for Fiscal Year 2016. Funds will be addressed through the Fiscal Year 2016 BOG placeholder. In addition, in kind contributions of Council staff time will approach .20 FTE to assist the technical workgroup, O&M Subcommittee, and Council (e.g., coordinate meetings and presentations) and collaboration with the independent contractor (including site visits). Bonneville will provide 1.5 FTE to assist with the condition assessments.

Timeline for completing work:

The tasks and deliverables are to be complete within nine months of contract start date.

RECOMMENDATION

The Fish and Wildlife Committee recommends that the Council recommend that Bonneville initiate a solicitation to conduct the hatchery assessment as part of the O&M strategic plan. Bonneville should initiate the solicitation shortly after this recommendation is completed. Science review of the solicitations will be based on the staff memos associated with the following template and details associated with the hatchery assessment of major physical assets. It is anticipated that the ISRP's review will be brief due to the nature of the RFP. Bonneville should make every reasonable effort to complete the solicitation by December 2015. The selected vendor should then expect to complete the tasks and deliverables within nine months of the contract start date.

Table 1: Direct funded Fish and Wildlife Program hatcheries and facilities and the associated project numbers. Shaded boxes reflect the 14 programs that are proposed to be part of the assessment phase for the O&M strategic Plan. Also identified are the associated facilities that are non-Program that some hatchery projects use are part of their project implementation, but are not the responsibility of the Program.

Direct F&W Program (capital investment)				***Associated Facilities (non-Program)* and Comments**
Facility/Program	**Project #**	**Assessment**	**Facilities**	
Nez Perce Tribal Hatchery	1983-350-00	X	2 rearing sites (NPTH and Sweetwater Springs) and 5 acclimation sites (Cedar Flats, Luke's Gulch, North Lapwai Valley, Newsome Creek, and Yoosa Creek)	
Colville Hatchery	1985-038-00 2008-117-00	X	Colville Tribal hatchery	Project #2008-117-00 (Rufus Woods net pens) is being combined with #1985-038-00
Hood River Production	1988-053-07 1988-053-08	X	2 rearing sites (Parkdale Fish Hatchery and Moving Falls Fish Facility)	*MOU with Oak Springs Hatchery (ODFW), Pelton Ladder and Round Butte Hatchery (PGE/CTWSRO)*. Neal Creek Acclimation is equipment only.
Kootenai River Native Fish Conservation Aquaculture	1988-064-00	X	2 rearing sites (Tribal Sturgeon Hatchery and Twin Rivers Hatchery)	Twin Rivers just came on line and upgrades made to sturgeon hatchery
Umatilla Hatchery	1989-035-00 1983-435-00 1983-436-00	X	Umatilla Hatchery, Thornhollow Satellite Facility, 5 acclimation sites (Bonifer, Minthorn, Imeques C-mem-ini-kem, Thornhollow, and Pendleton) and 3 adult holding sites (Minthorn, Three Mile Dam and South Fork Walla Walla) and Westland Irrigation District Sampling Facility	Adult holding and eggs taken and transferred from Walla Walla
	1988-022-00	NA		Equipment only
Sekokini Springs Westslope Cutthroat Trout Isolation Facility	1991-019-03	X		Continues to be constructed
Lake Roosevelt Resident	1991-046-00 1991-047-00	X	Spokane and Sherman hatcheries. Spokane Hatchery audit is complete.	

	2001-029-00	NA		*MOU Ford Hatchery (WDFW)*
	1995-009-00	NA		Equipment only – 8 Lake Roosevelt net pens
Select Area Fisheries Enhancement	1993-060-00	NA		*MOU, Gnat, Greys and Kaskanine hatcheries.* Equipment only. 5 net pen sites (Deep River, Blind Slough, Tongue Point, Youngs Bay).
Kalispel Tribal Fish Hatchery	1995-001-00	X		This program has been proposed to phase out of LMB to native trout recovery.
Nez Perce Trout Ponds stocking	1995-013-00	NA		Equipment only. Stocking 3 ponds (Mud Creek, Talmaks and Tunnel)
Duck Valley Reservation Fish Stocking	1995-015-00	NA		Equipment only. Stocking 3 reservoirs (Mountain View, Sheep Creek and Lake Billy Shaw)
Lake Roosevelt Sturgeon Recovery	1995-027-00	In Step review		
Mid-Columbia Reintroduction Feasibility Study	1996-040-00	In Step review		
Johnson Creek Artificial Propagation	1996-043-00	NA		*MOU, McCall Hatchery (LSRCP)*. Equipment only.
Cle Elum Supplementation and Research Facility	1997-013-25,	X, And in Step review	3 acclimation sites (Clack Flat, Easton and Jack Creek) and Prosser hatchery and Marion Drain Fish Facility.	Project is comprehensive. Other species are being dealt with in this project and/or other projects (e.g., sturgeon, kelts). Coho in Step review (Holmes Ranch). Prosser Fish Facility and Marion Drain Fish Facility (kelts, sturgeon and fall Chinook). In addition, some activities are mixed with non-Program efforts. Nelson Springs mobile acclimation equipment only. *Roza Adult Trapping Facility (BOR owned--MOA between BOR, WDFW, BPA).*
Klickitat River Operations and Maintenance (O&M)	1997-013-35	X	Castile Falls trap, Lyle Falls trap. Proposed – Wahkiacus acclimation.	*MOU, Klickitat Hatchery (Mitchell Act).* In Step review.
Grande Ronde Supplementation	1998-007-02	X	Lostine River – weir and acclimation	*MOU, Lookingglass NFH (LSRCP)*, Bonneville Hatchery Captive Brood Facility (ODFW).
	1998-007-03		Catherine Creek and Upper GR Rivers - weir and acclimation	

Fall Chinook Acclimation Facilities	1998-010-05	X	3 sites (Captain John Rapids, Pittsburg Landing, Big Canyon)	*MOU, Lyons Ferry NFH (LSRCP)*
Walla Walla Spring Chinook	2000-038-00	In Step review		Current relation with the Umatilla Hatchery program (see above)
Chief Joseph Hatchery	2003-023-00	X	4 acclimation sites (Oroville-Tonasket Irrigation District irrigation ponds, one tribe-owned and two new ponds will be modified and/or constructed)	*MOU, Oroville-Tonasket Irrigation District irrigation ponds*
Lower Granite Dam Adult Trap	2005-002-00	NA		Used for RME & hatchery practices in Snake River. US Army Corps of Engineers
Okanogan Basin Locally Adapted Steelhead Broodstock Step 1 and 2 (Cassimer Bar)	2007-212-00	NA		No activity, in Step review
Develop a Master Plan for a Rearing Facility to Enhance Selected Populations of White Sturgeon in the Columbia River Basin	2007-155-00 (and 2008-455-00)	In Step review		Marion Drain Fish Facility and 1 other site (Ringold, MaNary and Bonneville). Addressed under CRITFC (Objectives 2 and 3) and YN (Objective 1).
Kelt Reconditioning and Reproductive Success Evaluation Research	2007-401-00	NA		Merged from Project #2000-017-00 and 2003-062-00. In evaluation stage in the Columbia plateau ans lower Snake.
Snake River Sockeye Propagation	2007-402-00	X	2 sites (Springfield and Eagle)	*MOU, 2 sites (Manchester and Burley Creek)*
Lamprey - implement an experimental safety-net lamprey artificial production facility for the conservation of the species	2008-524-00 (and 2008-470-00)	In Step review	proposed	Addressed under CRITFC (Objective 6) and YN (Objective 8)
Chum Salmon Restoration in the	2008-710-00	NA/In Step review		Merged from Project #2001-053-00. Also associated with Project #1999-003-00.

tributaries below Bonneville Dam				
Crystal Springs Planning and Operations/Maintenance	2008-906-00,	In Step review	Crystal Springs Hatchery and 2 sites (Yankee Fork and Panther Creek)	*Activities link to LSRCP*
Upper Columbia Spring Chinook & Steelhead Acclimation	2009-001-00	NA		*MOU, acclimation sites in the Wenatchee and Methow PUD's*. Equipment only.

2. Language for an email to be sent to EPA's regional Toxics Reduction Work Group to seek their assistance in characterizing and mapping toxic contaminant "hot spots" in the Columbia River Basin

The Program recognizes that there is a growing concern about toxic contaminants' effects on fish and aquatic life in the mainstem Columbia and Snake rivers and tributaries. Degraded water quality may be having adverse effects on the health of both the native fish and wildlife populations and the ecosystem these populations depend upon, thus impacting mitigation and recovery efforts in the Columbia River Basin. The Program contains a number of measures specifically targeting toxic contaminants, within the Water Quality Strategy. The related Program priority calls for mapping and determining hotspots of toxic contaminants. This is directly addressed by a measure that that calls on the Council to monitor, assess and map high priority toxic contaminant hot spots in the Columbia River Basin and evaluate their relationship, if any, to the development and operation of the hydrosystem (See Attachment A of this memo for additional detail).

This issue was reviewed and discussed by the Fish and Wildlife Committee at its August 27, 2015, conference call meeting. Based on the Committee's direction and for Council consideration, staff prepared draft language to be sent in an email message to EPA's Columbia River Toxics Reduction Working Group.[1] In summary, the message requests the expert assistance of the regional toxics working group to help develop a scope of work regarding the 2014 Fish and Wildlife Program's high priority action to characterize and map toxic contaminant "hot spots" in the Columbia River Basin.

Proposed draft email language to the Columbia River Toxics Reduction Working Group:

One of the program's emerging priorities addresses "preserving program effectiveness by supporting the mapping and determining hot spots for toxic contaminants." (See page 116 of the Council's 2014 Fish and Wildlife Program.) This high priority action was recommended by various parties during the 2013-14 program amendment process and subsequently adopted by the Council into the program.

[1] The Columbia River Toxics Reduction Working Group was formed in 2005 by federal, state, tribal and other entities who desired a coordinating body on toxic contaminants in the Columbia River Basin, as there was no regional coordination on toxics assessment, monitoring and reduction efforts. This is a voluntary, interagency working group that has accomplished a number of coordination and collaboration successes over the years. Presently there is no EPA or any other funding available to support the Columbia River Toxics Reduction Working Group.

Accordingly, the Council requests EPA's Columbia River Toxics Reduction Working Group to address this issue at its next meeting in October 2015 and help develop a scope of work to characterize and map toxic contaminant "hot spots" in the Columbia River Basin. In the Water Quality sub-strategy on page 56 of the Council's program, a measure calls for the federal action agencies to "partner with and support ongoing federal, state, tribal and regional agencies' efforts to … assess and map high priority toxic contaminant hot spots in the Columbia River Basin and evaluate their relationship, if any, to the development and operation of the hydrosystem."

The scope of work for assessing and mapping high priority toxic contaminant hot spots in the Columbia Basin should include, but not be limited to: a) the various sources of existing contaminant and fish health data that could be used to help identify toxic hot spots in the basin; b) identification of any suspected high priority toxic hot spots where there may be key gaps in, or limited, toxics monitoring data; c) a proposed schedule for how long it may take to identify and map such hot spots in the basin; and d) provide an assessment of how the working group proposes to move this process forward.

The Council has asked Jim Ruff of the Fish and Wildlife Division staff to work with and assist the Columbia River Toxics Reduction Working Group in developing this scope of work. Jim will report to the Council on the progress in this matter.

The Council wishes to thank the Columbia River Toxics Reduction Working Group in advance for its consideration of this task and looks forward to a favorable response to our request to help scope this high priority work.

3. **Draft letters requesting federal funding to assist the states in the protection of Columbia River waters and infrastructure from the introduction of dreissenid mussels.**

Non-native and invasive species imperil native species in the Pacific Northwest's ecosystems through predation, competition for food, interbreeding, disease transmission, food web disruption, and physical habitat alteration. The Council acknowledges invasive and non-native species pose direct threats to the Program's fish and wildlife restoration efforts through competition, predation and habitat modification. A significant threat in the Columbia River Basin from aquatic invasive species is introduction into basin waters of zebra or quagga (dreissenid) mussels.

The Program contains several measures that address preventing establishment, removal and eradication of non-native species, reducing competition with native species, and regional coordination.

Each of the four Northwest states have ongoing aquatic invasive species prevention programs and developed management and rapid response plans. The four states are also implementing a network of watercraft inspection stations to help prevent the introduction of aquatic invasive species, particularly dreissenid mussels, into waters of the Columbia River Basin. The federal project operators (e.g., the Corps of Engineers and Bureau of Reclamation) are conducting vulnerability assessments at their hydropower projects, as well as implementing ongoing monitoring programs for invasive species. Bonneville is funding regional coordination efforts through the 100th Meridian Initiative-Columbia Basin Team, as well as some research on dreissenid mussels. A measure that the Committee considered and recommends to the Council is for the Council to call on BPA and other federal action agencies to assist the Northwest states' efforts to prevent the establishment of quagga and zebra mussels (see Attachment A of this memo for additional detail.

Draft letters to Federal Agencies regarding quagga and zebra mussels:

D R A F T
August 31, 2015

Elliot Mainzer, Administrator
Bonneville Power Administration
[address]

Brigadier General Scott A. Spellmon, Commander
Northwestern Division, Corps of Engineers
[address]

Lorri Lee, Regional Director
Bureau of Reclamation-Pacific Northwest Region
[address]

Dear Action Agencies,

The Council adopted a revised Columbia River Basin Fish and Wildlife Program (the program) in October 2014. One of the program's highest priorities addresses "preserving program effectiveness by … aggressively addressing non-native and invasive species."[2] This includes preventing the establishment of quagga and zebra (*Dreissenid* spp.) mussels into the waters of the Columbia River Basin.

The Pacific Northwest is the only region of the western United States and Canada that does not yet have established populations of invasive quagga or zebra mussels. The Pacific Northwest region includes the four U.S. states of Idaho, Montana, Oregon and Washington, as well as the western Canadian provinces of British Columbia, Alberta and Saskatchewan. The estimated costs associated with failing to prevent an invasion of dreissenids in the Northwest states and western provinces exceeds $500 million

[2] See page 116 for a list of program priorities, as well as the sub-strategy on non-native and invasive species on pp. 46-48, of the Council's 2014 Fish and Wildlife Program. http://www.nwcouncil.org/fw/program/2014-12/Program

annually.[3] Based on existing economic analyses, the following industries and programs are at greatest risk of dreissenid mussel establishment, all of which rely heavily on water as a key element of their function:

- Hydropower generation at dams
- Fish passage facilities at dams
- Drinking water systems
- Water management and irrigation structures
- Water diversion intakes
- Fish hatcheries and aquaculture
- Navigation lock operations at mainstem dams
- Boating facilities and boater maintenance
- Recreational fishing and golf courses

Collectively, the four Northwest states are currently spending over $3.35 million annually of their own funds to prevent the introduction of dreissenid mussels and other aquatic invasive species into the waters of the Columbia River Basin. These conservative cost estimates are focused primarily on the states' watercraft inspection and decontamination efforts.[4] Over the past three years, the Northwest states have inspected more than 300,000 boats, and successfully intercepted hundreds of those that were mussel-infested. This track record is all the more admirable considering these stations are underfunded, under staffed, and only operate during portions of the year. There is little doubt, however, that the states' network of regional inspection stations are an important reason why the Northwest is the only area in the western U.S. that continues to be free of zebra and quagga mussels.

A key measure included in the non-native and invasive species sub-strategy of the Council's 2014 Fish and Wildlife Program addresses preventing the establishment of non-native, invasive species such as dreissenids. The measure encourages federal [agencies] … to prevent non-native and invasive species introductions by monitoring and managing the various pathways that could introduce additional aquatic nuisance species into the Columbia River Basin." The prevention measure also states that "BPA and other federal agencies should assist the Northwest states' efforts to prevent the establishment of quagga and zebra mussels."[5]

However, the federal action agencies, who are the federal project operators and the power marketing agency of the most valuable water resources assets in the Northwest, have not assisted the states' watercraft inspection efforts to protect the waters of the Columbia Basin and the federal hydroelectric power facilities. Accordingly, funding support is urgently needed from the federal action agencies to assist the four Northwest states enhance the existing regional network of watercraft inspection and decontamination stations.

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[3] From *Advancing a Regional Defense Against Dreissenids in the Pacific Northwest*, a report prepared by the Pacific Northwest Economic Region and Pacific States Marine Fisheries Commission, August 2015.
[4] These costs do not include funds expended by federal agencies, utilities, academia, and others to implement various mussel monitoring, research, vulnerability assessments at hydropower dams, etc.
[5] See p. 47 in the non-native and invasive species sub-strategy of the 2014 Columbia River Basin Fish and Wildlife Program. http://www.nwcouncil.org/fw/program/2014-12/Program

Specifically, an initial $1-1.6 million is needed in FY 2017 as a federal cost-share to the four Northwest states to augment the existing states' annual commitment of $3.35 million. These additional federal funds will better protect the waters and water-related infrastructure of the Columbia Basin, including FCRPS hydropower dams and federal irrigation projects, from an introduction of dreissenid mussels by helping to create a more robust regional watercraft inspection and decontamination program.[6] It will also help protect recreational use at federal projects, which is a Congressionally-authorized project purpose. By cost-sharing with the Northwest states to prevent the spread of invasive mussels into the Pacific Northwest, the federal government will save several hundred million dollars in capital and annual operation and maintenance costs at its hydropower and irrigation facilities in the basin.[7]

The Council urges an investment of $1-1.6 million in federal funding to assist the states in implementing an identified high program priority. Not only will this funding help protect the valuable federal infrastructure in the Columbia Basin, it will also help maximize the biological response resulting from past and current ratepayer and federal investments in the fish and wildlife program.

Thank you for your attention to this important matter. Please do not hesitate to contact me or Jim Ruff at the Council if you have any questions or concerns.

Sincerely,

Phil Rockefeller, Chair

cc: PSMFC
NOAA Fisheries
USFWS
CRITFC
ISDA
MFWP
ODFW
WDFW
PNWER
UCUTs
USRTs
PNGC Power
PPC

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[6] An enhanced inspection program would also protect the region and Columbia River Basin from many other types of aquatic invasive species.

[7] IEAB 2010-1, *Economic Risk Associated with the Potential Establishment of Zebra and Quagga Mussels in the Columbia River Basin*, Council's Independent Economic Analysis Board, July 2010. http://www.nwcouncil.org/media/30565/ieab2010_1.pdf

Northwest **Power** and **Conservation** Council

D R A F T

September 9, 2015

Ali A. Zaidi, Associate Director for Natural Resource Programs
Office of Management and Budget
Eisenhower Executive Office Building
1650 Pennsylvania Avenue, NW
Room 269
Washington, DC 20502

Dear Mr. Zaidi:

On behalf of the Northwest Power and Conservation Council, I am writing to urge you to include specific line items in the Fiscal Year 2017 budgets for the U.S. Army Corps of Engineers and the Bureau of Reclamation to strengthen the Northwest states' inspection and decontamination programs for invasive zebra and quagga mussels. The Pacific Northwest is the only region of the western U.S. that does not yet have established populations of invasive mussels.

Specifically, we recommend that each agency's budget include $500,000 as a federal cost share to augment the states' existing watercraft inspection and decontamination stations that have been established at key transportation locations in the region. Collectively, the states are committing $3.35 million per year to these activities, and financial participation by the federal agencies is long overdue and sorely needed – especially considering that the highest value assets affected by a future mussel infestation belong to the federal government.

The spread of invasive mussels threatens federal infrastructure investments in hydropower, irrigation, recreation, fish hatcheries, and overall ecosystem health. The threat is particularly acute in the Pacific Northwest, where more than half of our electricity is generated at hydropower dams, and most of that by the Federal Columbia River Power System (FCRPS). The Council's Independent Economic Analysis Board has estimated the cost to clean and control a mussel infestation at FCRPS facilities

would be tens-to-hundreds of millions of dollars annually. And not only is the integrity of the power system at risk, but so are the significant federal investments to rebuild fish and wildlife populations affected by the hydropower system, including ESA-listed species.

Over the past three years, the four Northwest states have inspected more than 300,000 boats, and successfully intercepted hundreds of those that were mussel-infested. This track record is all the more admirable considering these stations are underfunded, under staffed, and only operate during portions of the year. There is little doubt, however, that the states' network of regional inspection stations are an important reason why the waters of the Columbia River Basin continue to be free of zebra and quagga mussels.

While the states' proactive actions to establish inspection and decontamination stations have proven effective in helping prevent an infestation, it is only fair to expect the federal agencies to share in the cost of protecting their own assets. Cost-sharing by the federal agencies will help create a more robust regional watercraft inspection and decontamination program, which will further increase the chances that the Pacific Northwest will continue to be free of these highly destructive, and ultimately expensive, invasive species. Accordingly, the Council urges your assistance in including funds in the Army Corps of Engineers' and Bureau of Reclamation's budgets for Fiscal Year 2017.

Thank you for your attention to this important matter. Do not hesitate to contact me if you desire further information.

Sincerely,

Phil Rockefeller, Chair

cc: PSMFC
NOAA Fisheries
USFWS
CRITFC
ISDA
MFWP
ODFW
WDFW
PNWER
UCUTs
USRTs
PNGC Power
PPC

Fish and Wildlife Committee discussion documents for reference:

Attachment A: Fish and Wildlife Program priorities, related measures, possible Council actions and implementation timeframes

Attachment B: Solicitation Options

Attachment C: Recommended actions, implementation timing (immediate, near term, extended term)

Attachment A.

Implementation of the Northwest Power and Conservations Council's 2014 Fish and Wildlife Program Priorities and Measures

Discussion Draft 8/4/15

The Council's 2014 Fish and Wildlife Program (Program) identifies several areas of emerging priorities. The priorities originate from the Program's various strategies and measures. Some of these measures have immediate implementation opportunities, others will have near or extended term opportunities.

More on Program Measures and Priorities from the 2014 Fish and Wildlife Program:

The Council recognizes that the 2014 Program priorities are a subset of all of the measures in the Fish and Wildlife Program which has many priorities, most of which are being implemented and many have multi-year funding and implementation commitments. The Program emerging priorities represent important measures that were either not happening or not being implemented to a sufficient extent.

In the 2014 Program the Council provided the following guidance to Bonneville, the other federal agencies, and the region in general as to which of these new measures are emerging priorities for implementation in the next five years:

"During the course of the next five years, the Council anticipates that Bonneville will take the necessary steps to integrate these priorities into the Program and will report annually to the Council on its progress."

The Program further notes that, "Bonneville should fund any new fish and wildlife obligations from identifying savings within the current Program and as necessary, from additional expenditures. …To the extent that targeted savings are insufficient to meet Bonneville's financial obligations in this Program, Bonneville should consider increasing expenditures." Following is a discussion of what the Program says about these emerging priorities, what measures in the Program support each of the priorities, what is currently being done, what is needed and when, and rough cost estimates if available. This information is preliminary and will be refined as necessary.

2014 Fish and Wildlife Program Priorities:

1. Provide for funding long-term maintenance of the assets that have been created by prior Program investments
2. Implement adaptive management (including prioritized research on critical uncertainties) throughout the Program by assessing the effectiveness of ongoing projects, developing Program objectives when appropriate and taking into account the effects of climate change
3. Preserve Program effectiveness by supporting: (1) expanded management of predators; (2) mapping and determining hotspots for toxic contaminants; and (3) aggressively addressing non-native and invasive species
4. Investigate blocked area mitigation options through reintroduction, passage and habitat improvement, and implement if warranted
5. Implement additional sturgeon and lamprey measures (passage and research)
6. Update the subbasin plans most in need of updates
7. Continue efforts to improve floodplain habitats

1. Provide for funding long-term maintenance of the assets that have been created by prior Program investments

A. *Fish and Wildlife Program:*

The Council determined that adequate and dependable operation and maintenance support is needed to ensure ongoing proper functioning of past infrastructure investments by Bonneville and the action agencies intended to benefit fish and wildlife in the Columbia River Basin as well as continuing to meet Bonneville's mitigation requirements. There are several types of Program-funded projects that require a long-term financial maintenance plan to ensure their longevity and integrity, including fish screens, fishways and traps, hatcheries, lands, and habitat actions.

B. *Measures addressing Program priorities:*

The Program contains five measures in the strategy for maintenance of Program investments (See Program measures). These measures include 1) calling for the Council to work with Bonneville and others action agencies to ensure that past investments are kept current or properly decommissioned; 2) calling for the Council to convene a work group comprising action agencies and agencies and tribes with expertise in fish screens, fishways and traps, hatcheries, lands, and habitat actions, to define and develop a long-term maintenance plan and process; and 3) the work group to report quarterly on its progress toward developing a long-term plan for protecting fish and wildlife investments. The long-term plans shall be completed at the end of one year from the initial meeting of the work group. The plan will be presented to the Council for review and recommendation to Bonneville and the action agencies. Bonneville shall fund the long-term maintenance plan as reviewed and recommended by the Council.

C. *What is happening now?*

Work began in December of 2014 when the Council began development of a strategic plan. Strategic plan tasks include assessing needs for each category of operation and maintenance in the Program, and preparing an Asset Management Program. The Council formally convened an Operation and Maintenance Subcommittee in January of 2015.

D. *What needs to happen and when?*

Screens: Bonneville is currently reviewing the inventory (Phase 1 and 2) from the Fish Screen Oversight Committee (FSOC) and cross referencing it with existing contract data. Once this review is complete, the Subcommittee will host a meeting with regional sponsors to collaboratively review the inventory in September (Boise) or October (Portland). As part of this meeting there is a need to identify who benefits from the screens and define clear roles and funding responsibilities.

a. The draft product needs to be taken to the Subcommittee for review and discussion (possibly September or October).
b. The draft product needs to be an easily understandable table by sponsor and year.

FSOC meets on July 23rd and Council and Bonneville staff plans on attending to provide an update of the strategic plan and status of the inventory. This will most

likely provide an opportunity to introduce the need to meet and refine the inventory, so that the Council and Bonneville can proceed to Phase 3 (prioritization) of the asset management strategy.

Hatcheries: The direct Program hatchery list is being refined. (Phase 1 should be complete in the near future). Staff recommends moving to Phase 2 (Condition Assessment) through collaborative hatchery assessments.

a. Need to define and detail out the process to conduct the assessments and budget for the direct Program facilities.
b. Develop procurement strategy (with F&W Committee and Council),
c. Form a team with subject matter experts,
d. Sequence hatchery assessments starting with oldest facilities.

The scope of Phase 2 above needs to be taken to the Subcommittee for review and discussion (possibly October). Initiate assessments in October if funds are available.

General Next Steps: There is a need to link this to the next project review cycle. There is an opportunity to conduct the hatchery assessments as part of the O&M strategic plan to the anticipated review associated with wildlife projects, hatchery and screen projects.
The IEAB have a working draft for Task 211(*Approaches to Improve Planning for Long-Term Costs of Fish and Wildlife Projects*). Their next conference call is July 29th. The Council is anticipating their product by late summer or early fall.
Immediate actions: Initiate hatchery condition assessments
Near-term/extended term actions: To be determined based on recommendation of the Operation and Maintenance Subcommittee.

E. What are estimated costs?
Hatchery condition assessment: $16,988/hatchery. Total at $238,000 (14 hatcheries).

Estimated costs for long term (range): To be determined.

2. Implement adaptive management (including prioritized research on critical uncertainties) throughout the Program by assessing the effectiveness of ongoing projects, developing Program objectives when appropriate and

A. Fish and Wildlife Program:

The Council is committed to an adaptive management approach that uses research and monitoring data to understand, at multiple scales, how Program projects and measures are performing, and to assess the status of focal species and their habitat. This information is evaluated to determine if projects and measures are having the intended measurable benefits to fish, wildlife and their habitat, within the context of their status and trend, which are mitigated, enhanced and protected through the Program and enables the Council to determine whether or not progress is being made toward Program goals and objectives.

The adaptive management strategy consists of many measures addressing monitoring, research, evaluation and reporting. Refining objectives for evaluating Program performance is also an important element of implementing adaptive management.

I. Refine Program goals and objectives

B. Measures addressing Program priorities:

The Program calls for the Council, working with others in the region, including the state and federal fish and wildlife agencies and tribes, other federal agencies and the independent science panels, to oversee a regional process to survey, collect, identify, and refine a realistic set of quantitative objectives for Program focal species and their habitat related to the four broad themes and Program goal statements. The objectives should be specific, measurable, attainable, relevant, time-bound, and based on an explicit scientific rationale, as appropriate. The data needed to assess progress should be based on existing monitoring efforts or other publicly available sources of data. The Program calls for the ISAB to review draft objectives for scientific quality and usefulness in tracking progress and adaptively managing Program efforts.

The first objectives under review are the objectives for natural-origin adult salmon and steelhead (see Program language). The Program calls on the Council to work with state and federal agencies and tribes in the region to collect, organize, review, and report on these quantitative objectives by the end of 2015.

C. What is happening now?

In the spring of 2015, a draft compilation of existing salmon and steelhead objectives was completed focusing on natural-origin, adult, anadromous sockeye, chinook, steelhead, coho and chum. On June 3rd 2015, a regional meeting was held to discuss this task and to request input on the draft compilation and its organization. Input was received both during and after the regional meeting related to database improvements and inclusion of additional goals and objectives. The Council continues to collaborate with NOAA to engage in further development and implementation of the NOAA Columbia Basin and Steelhead Goals process

D. What needs to happen and when?

Immediate actions: At present staff is making updates to content and structure of the compilation of existing objectives. Staff will assesses consistency among objectives

and goals within an area, and report findings in a future discussion with the Council's Fish and Wildlife Committee. The Council will continue to collaborate with NOAA on their Columbia Basin and Steelhead Goals process.
Near-term/extended term actions: If necessary, refine Program goals and objectives. Initiate similar process to refine objectives for other anadromous fish, resident fish, ecosystem function, hydrosystem, and public engagement. Continue to collaborate with NOAA on their Columbia Basin and Steelhead Goals process.

E. What are estimated costs?
This priority is being implemented by the Council. No new costs for Bonneville are currently anticipated.

II. Update the Council's Research plan

B. Measures addressing Program priorities:
The Council, with federal and state fish and wildlife agencies and tribes will review and update its research plan every three years beginning in 2014 (see Program measures).

C. What is happening now?
The Council asked the ISAB and ISRP to assist with preparing a list of critical uncertainties and evaluating progress of current research projects. This work is underway. The ISAB and ISRP estimate that their report to the Council will be available in the fall of 2015.

D. What needs to happen and on what timeframe (immediate/near-term/extended term)?
Immediate actions: Upon receipt of the ISAB/ISRP report the Council staff will work with the Council to develop a draft Council research plan that would undergo public review and refinement with the goal of the Council approving a final plan in the spring of 2016. It should be noted that implementation of several Program priorities is linked to the work being done to revise the Council's research plan, as the plan should identify high priority, critical uncertainties for implementation in many topic areas.
Near/Extended term actions: Implement priorities in the approved research plan.

E. What are estimated costs?
This work to revise the research plan will be performed by the Council, in cooperation with others. Costs of implementing the revised Research Plan need to be determined.

[For reference only: staff rough estimate of past spending/yr: research – up to about $15.5M/yr. This is already in the F&W budget, need additional funds if expanded.]

III. Take into account, the effects of climate change

B. Measures addressing Program priorities:
There are more than a dozen measures in the Program's Climate Change Strategy. Many of these are directed towards the federal action agencies, in coordination with others. Implementation of these measures in many cases, is ongoing and does not require direct Council recommended funding at this time (See Program measures). A measure that staff believes is directly applicable and timely is the measure to assess whether climate change effects are altering or are likely to alter critical river

flows, water temperatures or other habitat attributes in a way that could significantly affect fish or wildlife important to the Program. A related measure calls for completing the water temperature modeling in the mainstem from Grand Coulee Dam downstream to McNary Dam.

C. What is happening now?

As the Fish and Wildlife Program is a habitat-based program, that implements land and water acquisitions, habitat restoration and floodplain restoration, it should be noted that all of these actions should have a general ecological benefit that should address some of the impacts of climate change in the basin. At this time modeling associated with climate change is underway and is funded by BPA-Power Supply. Once the hydrologic modeling has provided necessary downscaled hydrologic data (in early 2017) hydrosystem modeling can be done to determine effects on mainstem flows, reservoir refill and the power system. Water temperature modeling can then occur based on those results.

D. What needs to happen and when?

Near/Extended term actions: Temperature analysis and modeling of the Grand Coulee to McNary reach could occur in late 2017.

E. What are estimated costs?

Costs related to this priority for the extended term need to be determined.

[For reference only: staff rough estimate of past spending/yr: climate work – up to $350k, funded by BPA's Power Generation side]

3. Preserve Program effectiveness by supporting: (1) expanded management of predators; (2) mapping and determining hotspots for toxic contaminants; and (3) aggressively addressing non-native and invasive species

I. Predator management

A. Fish and Wildlife Program:

The construction and operation of the Columbia-Snake river hydrosystem, as well as disposal of dredge spoils in the lower Columbia River and estuary, have altered historical habitats and created new, hybrid habitats. These altered habitats support a wide range of predator species including native and non-native predatory fish species, predator birds such as Caspian terns, double-crested cormorants, several gull species, mergansers and pelicans, and marine mammals such as California and Steller sea lions.

B. Measures addressing Program priorities:

There are more than a dozen measures in the Program's Predator Management Strategy (see Program measures). Implementation of several of these measures is ongoing by the ACOE, in coordination with others. Staff suggests that measures that are timely include expanding the northern pikeminnow removal program to other Mainstem dams and supporting a study to evaluate the extent of seal and sea lion predation on salmonids, sturgeon, and lamprey in the lower Columbia River from below Bonneville Dam to the mouth of the river.

C. What is happening now?

Both Bonneville and the Corps, under the Program and NOAA Fisheries' 2014 FCRPS Biological Opinion, are currently funding and implementing predator management measures related to managing or controlling fish, avian and marine mammal predation. In particular, Bonneville is funding and implementing the base northern pikeminnow removal Program. In addition, both the Corps of Engineers and Bonneville are funding research and implementing actions to manage, reduce and control bird predation in the estuary and in inland areas on the Columbia Plateau. The Corps of Engineers is funding annual monitoring of observed pinniped predation on salmon, sturgeon and lamprey below Bonneville Dam. The action agencies are also funding marine mammal hazing and deterrent measures at Bonneville Dam, as well as the states' ongoing trapping and removal efforts under Sec. 120 of the Marine Mammal Protection Act.

D. What needs to happen and when?

Near-term actions: Convene a technical work group to determine the effectiveness of predator management actions, develop a common metric to measure the effects of predation on salmonids, such as salmon adult equivalents to facilitate comparison and evaluation against other limiting factors. The Council could recommend expansion of pikeminnow removal to other mainstem dams.

Extended-term actions: The Council could request a project proposal to address the regional concerns about the lack of fully understanding the magnitude of pinniped predation on salmon below Bonneville Dam. It should be noted that it may be

necessary to support initial research to develop all of the methods necessary to properly implement a comprehensive marine mammal predation study in the lower Columbia River below Bonneville.

E. *What are estimated costs?*

Costs associated with this priority need to be determined.
[For reference only: staff rough estimate of past spending/year: up to $4-5M. Expansion of work under this priority would require additional funds.]

II. Mapping hotspots for contaminants

A. Fish and Wildlife Program:

There is a growing concern about toxic contaminants' effects on fish and aquatic life in the mainstem Columbia and Snake rivers and tributaries. Degraded water quality may be having adverse effects on the health of both the native fish and wildlife populations and the ecosystem these populations depend upon, thus impacting mitigation and recovery efforts in the Columbia River Basin.

B. Measures addressing Program priorities:

The Program contains a number of measures specifically targeting toxic contaminants, within the Water Quality Strategy (see Program measures). The related Program priority calls for mapping and determining hotspots of toxic contaminants. This is directly addressed by a measure that that calls on the Council to monitor, assess and map high priority toxic contaminant hot spots in the Columbia River Basin and evaluate their relationship, if any, to the development and operation of the hydrosystem.

C. What is happening now?

No comprehensive effort to map toxic contaminants in the Columbia Basin is currently underway. The Lower Columbia Estuary Partnership Ecosystem Monitoring Program has collected some information on the presence of certain toxics in the Lower Columbia River, primarily using funds from the Environmental Protection Agency. While not specifically a mapping exercise, the information could be utilized in a mapping effort. The States issue informational bulletins/maps identifying fish and shellfish advisories.

D. What needs to happen and when?

Immediate actions: The Council should work with the regional Columbia River Basin Toxics Reduction Work Group to further scope this measure. Staff suggests that in the near term, this work could focus on using existing contaminant data (such as each state's health authority's Fish Advisory Information bulletins on fish consumption and other existing toxics monitoring data, to develop a map of known hot spots. Based on this information, it might be necessary at a later date to collect new information to fully address this measure but staff suggests initial efforts focus on using existing information. Staff estimates that this work could be completed in 12 months.

Near-term/long term actions? If necessary complete addition monitoring in areas where necessary to fully address the mapping efforts. There is an opportunity to

leverage funds from USDA to partner in addressing toxic contaminants. (RFI in June for 2017 funds).

E. *What are estimated costs?*
Costs for this priority need to be determined and could be developed in a scoping process.
[For reference only: staff rough estimate of past spending/year: $0-$300K/year but current spending is minimal - $0 so mapping hotspots with existing information would require additional funds. Collecting new information would require additional funds.]

III. Address non-native and invasive species

A. *Fish and Wildlife Program:*
Non-native and invasive species imperil native species in the Pacific Northwest's ecosystems through predation, competition for food, interbreeding, disease transmission, food web disruption, and physical habitat alteration. The Council acknowledges invasive and non-native species pose direct threats to the Program's fish and wildlife restoration efforts through competition, predation and habitat modification. A significant threat in the Columbia River Basin from aquatic invasive species is introduction into basin waters of zebra or quagga (dreissenid) mussels. Other major aquatic species threats include hydrilla, silver carp, flowering rush and Eurasian milfoil. Once established in other locales, management actions have shown little success in removing or controlling these invasive, non-native species.

B. *Measures addressing Program priorities:*
The Program contains several measures that address preventing establishment, removal and eradication of non-native species, reducing competition with native species, and regional coordination (see Program measures).

C. *What is happening now?*
A number of these measures are currently being implemented by Northwest states, tribes and federal agencies. Each of the four Northwest states have ongoing aquatic invasive species prevention programs and developed management and rapid response plans. The four states are also implementing a network of watercraft inspection stations to help prevent the introduction of aquatic invasive species, particularly dreissenid mussels, into waters of the Columbia River Basin. The federal project operators (e.g., the Corps of Engineers and Bureau of Reclamation) are conducting vulnerability assessments at their hydropower projects, as well as implementing ongoing monitoring programs for invasive species. Bonneville is funding regional coordination efforts through the 100th Meridian Initiative-Columbia Basin Team, as well as some research on dreissenid mussels. The tribes are implementing monitoring programs on tribal lands and providing information on invasive species to tribal members. In June the Council supported an emergency request to survey Northern Pike from Lake Roosevelt, with further funding contingent on favorable science review.

D. *What needs to happen and when?*

Immediate actions: One measure that could be considered for immediate implementation by the Council calls on BPA and other federal action agencies to assist the Northwest states' efforts to prevent the establishment of quagga and zebra mussels.

Near-term/extended-term actions: The Council could solicit for projects to implement the following measure: The agencies and tribes shall prioritize non-native species control actions to ensure Program funds are spent to address the most significant threats, including predation, competition and hybridization. This could include targeted removal and control of non-native fish species where they are known to adversely impact native species.

E. *What are estimated costs?*

Costs for this priority need to be developed.

[For reference only: Based on 2014-15 data, the four Northwest states are currently spending roughly $3.4 million annually to prevent the spread and introduction of dreissenid mussels and other aquatic invasive species. It is estimated that, in the long-term to successfully implement an aquatic invasive species perimeter defense effort for the Pacific Northwest will require up to an additional $20 million in funding to achieve key priorities, as well as implement an additional set of actions. However, about $4 million in funding is needed immediately to further support Northwest states' watercraft inspection and decontamination stations, build institutional capacity, produce outreach materials, training, signage, monitoring, research, and containment at the source in FY 2016. It is also estimated that the total costs associated with failing to prevent an invasion of dreissenid mussels in the Pacific Northwest exceed $0.5 billion annually to the Northwest states and western Canadian provinces.

Scoping and cost estimates are needed for the near-term/extended-term action concerning non-native fish species removal and control actions.]

4. Investigate blocked area mitigation options through reintroduction, passage and habitat improvement, and implement if warranted

A. *Fish and Wildlife Program:*
For some time, the Program has included a provision calling for investigations into the passage and reintroduction of anadromous fish above Chief Joseph and Grand Coulee dams if, when, and where feasible. The huge loss of salmon capacity and productivity in the upper Columbia has been one of the key drivers of mitigation activities under the Northwest Power Act, and a number of agencies and tribes recommended for this 2014 Program that the region intensify its efforts to explore the possibilities of reintroducing anadromous fish above Chief Joseph and Grand Coulee dams.

B. *Measures addressing Program priorities:*
The emerging priorities in the Program call for an investigation of, "blocked area mitigation options through reintroduction, passage and habitat improvement and implement if warranted" (see Program measure). Phase 1 of this measure has an end date of December 31, 2016. The tasks in phase 1 include: a literature review of passage studies elsewhere in the Basin; investigating habitat suitability and availability above Grand Coulee and the scientific feasibility and cost of upstream and downstream passage; regional discussions regarding the purpose and scope of reintroduction above Chief Joseph and Grand Coulee dams.

C. *What is happening now?*
The Upper Columbia United Tribes (UCUT) released a draft work and coordination plan in January 2015 for public comment. Over 300 comments were received. An updated work plan was released in June 2015. The UCUT now is forming executive, management, science, and public relations workgroups made up of co-managers around the Basin. These workgroups are tasked to create and refine project proposals based on the UCUT work plan.
In July, the UCUTs proposed an administrative statement of work to implement regionally coordinated project proposals for Phase 1 work.
The Spokane Tribe of Indians (STOI) submitted a habitat assessment project proposal with their comments on the draft Program during the 2014 Program amendment process. This project proposal, after some refinement, could be ready by fall 2015.
There is a passage program underway in the Willamette as a part of the Willamette Biological Opinion to address blocked areas. The Corps of Engineers will release its Configurations and Operation Plan in September, outlining some of the costs in that effort. These costs will largely come from Columbia River Fish Mitigation Fund.

D. *What needs to happen and when?*
Immediate actions: Solicit for proposals addressing Phase 1: a habitat assessment, an evaluation of information from passage studies at other blockages and from previous assessments of passage at Grand Coulee and Chief Joseph dams

Near/extended term actions: Continue with Phase 1. Once Phase 1 is complete, and based on results of Phase 1, proceed to Phase 2.

E. What are estimated costs?

Cost estimates need to be determined. The UCUT administrative proposal estimates a budget of $273,339. The habitat assessment project proposal by the STOI submitted in the 2014 Program amendment process estimates an annual budget of $530,000-$650,000 for five years.

[For reference only: staff rough estimate of past spending/yr - reintroduction and passage improvements in other areas has been variable and range from $1.4M-$4M.]

5. Implement additional sturgeon and lamprey measures (passage and research)

A. *Fish and Wildlife Program:*
The Program identifies green and white sturgeon and pacific lamprey as species that are in need additional work in order to increase their abundance and survival and to increase our understanding of how the development and operation of the Federal Columbia River Power System affects their survival and growth.

I. Sturgeon

B. *Measures addressing Program priorities:*
The Fish and Wildlife Program contains a number of measures related to sturgeon. These measures address hydropower dam operations and fish passage, mainstem habitat, predation, monitoring, the use of hatcheries for sturgeon and Upper-Columbia specific population actions (see Program measures).

C. *What is happening now?*
Some measures are being addressed at this time by agencies and tribes and various public utility districts. Current projects are focused on periodic population status assessment monitoring, recruitment indexing in relation to flow and hydropower operations, fishery management to optimize production of impounded populations in the reservoirs, and evaluations of the appropriateness and feasibility of hatchery mitigation in the Federal Columbia River Power System portions of the mid-Columbia and lower Snake River reservoirs.
Several measures are not currently being addressed and could be addressed through Program funding. It should be noted that the Council's revised Research Plan will inform this emerging priority as many of the sturgeon measures are research-based. It is necessary to gain better information about sturgeon in order to rebuild sturgeon populations impacted by the hydrosystem.

D. *What needs to happen and when?*
Near/extended term actions: Solicit for sturgeon proposals that could be implemented in the 1-3 year timeframe.

E. *What are estimated costs?*
Costs estimates for this priority need to be determined.
[For reference only: staff rough estimate of past spending/yr: $2-3M. Expansion may require additional funds.]

II. Lamprey

B. *Measures addressing Program priorities:*
The Fish and Wildlife Program contains a number of measures related to Lamprey. These measures address the hydropower system, mainstem and tributary habitat, predation, research, monitoring, propagation and other miscellaneous measures. (See Program measures)

C. *What is happening now?*

Assessment work for lamprey has been occurring for about ten years. The Council called for a lamprey synthesis report in the Research, Monitoring and Evaluation Category Review in 2011. This was recommended in order to encourage reporting of results on the data gathered so far about the status and trends of lamprey populations, limiting factors, and critical uncertainties and risks. The Council recommended that this synthesis should also prioritize actions based on these conclusions. This will help determine what actions the Council should recommend continue or be expanded. The Council's revised Research Plan will inform this emerging priority as well.

D. *What needs to happen and when?*
   Near/extended term actions: Once the synthesis report is available, solicit for proposals per the measures in the Program.
E. *What are estimated costs?*
   Costs for implementing this priority need to be determined.
   [For reference only: staff rough estimate of past spending/yr: $4.3M-5.3M. Expansion could require additional funds]

6. Update the subbasin plans most in need of updates

A. *Fish and Wildlife Program:*
In 2004-05 and 2010-11, the Council adopted into the Program 59 subbasin management plans developed by subbasin planning entities consisting of state and federal fish and wildlife agencies and tribes (agencies and tribes) and other regional and local organizations. The subbasin plans reflect local policies and priorities while remaining consistent with the Program's basinwide vision, biological objectives, and strategies. The subbasin plans remain a fundamental part of the Program. The ISRP uses subbasin plans to determine if projects support, and are consistent with, the plans and other Program elements.

In the 10 years since subbasin management plans were adopted, continued restoration, recovery, implementation, and planning work has occurred. The Council recognizes that physical conditions and priorities may have changed, such as in areas where dams have been removed or where substantial restoration work has occurred. For the Council, subbasin plans remain the primary planning documents to guide implementation; however, in some areas of the Basin, other plans are more current than subbasin plans. Because subbasin plans are integral to the Program, the Council will identify subbasin plans most in need of an update.
The primary purpose of an update will be to incorporate important aspects of the further planning work that have occurred since the first adoption of the subbasin plans into the Program, including consideration of relevant portions of recovery plans, additional or revised population or environmental objectives, summary tables, and implementation action plans.

B. *Measures addressing Program priorities:*
Update the subbasin plans most in need of updates. (See the Program's Part Five: Subbasin Plans)

C. *What is happening now?*
Nothing is occurring at present.

D. *What needs to happen and when?*
Staff recommends that the Council hold one or more discussions, perhaps as a workshop in conjunction with a regular Council meeting, with interested parties from the region to discuss which subbasin plans need to be updated, how and when.

Near-term actions: Council hold discussions or a workshop with entities in the region to discuss timing and scope of subbasin plan update.
Extended term actions: Update subbasin plans most in need of updates.

E. *What are estimated costs?*
Determine costs estimate after scoping meetings.
[For reference only: staff rough estimate of past spending/yr: $150k per subbasin in 2002, for full plan development]

7. Continue efforts to improve floodplain habitats

A. *Fish and Wildlife Program:*
Habitat mitigation activities are important for off-site mitigation success and are guided by subbasin plans, which have been developed for most of the subbasins and the mainstem reaches in the Columbia River Basin.

B. *Measures addressing Program priorities:*
The Program contains measures that call for reconnecting floodplains through passive and active improvements in channel structure and geomorphology and re-establishing natural river processes in mainstem reaches and tributaries of the Columbia River. Measures call for mainstem efforts to reconnect protected and enhanced lower tributary habitats to protected and enhanced mainstem habitats, especially in the area of productive mainstem populations. Another measure calls for continuing actions to reconnect the river to its floodplains wherever possible in the mainstem, with special emphasis on the estuary and lower Columbia River. (See Program measures)

C. *What is happening now?*
Floodplain reconnection is happening under the Fish and Wildlife Program and biological opinions in various locations throughout the Columbia River basin including the Kootenai River and the Columbia River estuary. This type of work is being seen more and more as beneficial approach to habitat restoration

D. *What needs to happen and when?*
Staff recommends that the Council hold one or more discussions, perhaps as a science – policy forum, to assess and evaluate the status of floodplain reconnection at varying scales in the Columbia River Basin. Staff suggest that interested parties from the region come together to discuss whether this work is being shown to be effective and where there may be additional opportunities.

Near-term action: Council hold science-policy forum to discuss floodplain reconnection with interested entities in the region.
Extended term: Implement floodplain reconnection actions

E. *What are the estimated costs?*
No Bonneville costs anticipated in the immediate or near-term range. Costs associated with expanded implementation in the extended timeframe need to be determined.
[For reference only: staff rough estimate of past spending/yr has been increasing - BPA estimates up $70 million per year now.]

Attachment B

August 4, 2015

DECISION MEMORANDUM

TO: **Fish and Wildlife Committee**

FROM: Lynn Palensky

SUBJECT: **(b.)** Solicitation options to address emerging program priorities

PROPOSED ACTION: Staff seek guidance from the Committee on preferred solicitation options to address emerging program priorities, after discussion and alternatives. Staff will outline the possible solicitation alternatives for Committee consideration and will further develop preferred alternatives based on the Committee's guidance.

SIGNIFICANCE Direct guidance from Council members will help staff further develop the most appropriate process to implement new or expanded work in the priority areas of the fish and wildlife program.

BUDGETARY/ECONOMIC IMPACTS
Any process resulting from this discussion and anticipated decisions would not necessarily require an increase in program funds. If staff are directed to further develop a solicitation process to begin in early FY 2017, the effort would increase staffing level in this area and increase sponsors' attention to and possible level of participation in, the process.

BACKGROUND

The 2014 Fish and Wildlife Program states the following: (also see http://www.nwcouncil.org/fw/program/2014-12/program/partsix_implementation/ii_investment_strategy/)

> ***Bonneville funding for emerging program priorities***
> *Bonneville should fund any new fish and wildlife obligations from identifying savings within the current program and as necessary, from additional expenditures. Savings from the current program should not compromise productive projects that are addressing needs identified in this program. For example, additional funding can be obtained when projects complete their goals, such as a research project, or when a project is no longer reporting useful results. Funding should also be sought in general overhead budgets including Bonneville's overhead for its Fish and Wildlife Division. To the extent that targeted savings are insufficient to meet Bonneville's financial obligations in this program, Bonneville should consider increasing expenditures. Prior to every rate case Bonneville should report to the Council how it plans to budget for implementation of the fish and wildlife program.*

ANALYSIS

A solicitation process to implement new or expanded work includes some key process steps including detailed staff work at the front end to develop clear expectations and criteria. Solicitation processes generally require proposals to be submitted, reviewed by staff, the ISRP and the Council, and followed by a Council recommendation to Bonneville for funding. It's important that such a process be transparent, clear, predictable, consistent, and equitable. The Council and Bonneville have completed targeted solicitations in the past; the last two were the fast-track M&E and the Innovative Category that began in 2007. Our project reviews are similar to a broad solicitation processes in the process steps and length of time it takes to complete. A solicitation for new projects can range from a narrow to broad focus and by invitation to open competitive, which may require federal register notice. Generally, broad and open equates to more time spent on the process.

Cost effectiveness is a function of how much effort will be expended per dollar. Staff recommends a narrowly focused process if less funding is available, so as to reduce process duration and costs and to provide reasonable expectations on the chance for project funding and implementation to proposal sponsors. If more funding is available it makes sense to increase the scope for solicitation.

Key considerations to include in the discussion about the process include:

- the amount of funding available in FY 2016, 2017 and beyond;
- the level of effort required for each alternative (or gradation);
- the timeframe or duration of work;
- expectations of long-term, continued project funding;
- the likelihood of success;
- and perhaps most importantly, how the Council will make decisions on 1) what to target for solicitation and 2) what to recommend to fund at the end of the review process.

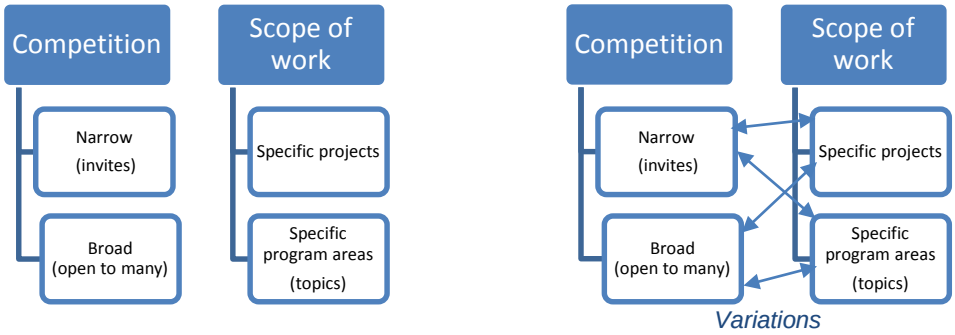
Alternatives:

A. Unique Source Contract

This option might target a specific project that needs to be accomplished in the program, and by using a uniquely qualified implementer. This could be good option if one organization is already doing work in this area or has proposed a specific project and is most suited to continue. An example for when this might be the best option: when the situation calls for a low-cost, short term project with a clear objective and a uniquely qualified provider exists. Bonneville used this approach for the fast-track M&E process.

B. Targeted Solicitations (RFP's narrow, wide, formal)

In a targeted solicitation the *work or the implementers* can be targeted; or both. This option is most useful when funding is limited; say $5 million or less. It may also make sense include an optional pre-proposal step.



Some logical breaking points might be:

<$500,000	Target one or more **specific projects** and limit invitations
$500k - $2 million	Target one or more **projects areas** (very focused)
>$2 million	Narrowly targeted project areas **and** open to anyone

C. Broad Solicitation

This option is most cost effective and useful when higher funding levels (>$5 million) are anticipated. With this option comes longer planning and review times, high staffing levels for Council staff, BPA Staff, ISRP and sponsors, and high expectations. This option is more likely to have an open competitive process. As mentioned above, given the similarity to our typical project category reviews, staff estimate the timeframe to be a minimum of about nine months to complete the process (announcement to final Council recommendations). The planning phase leading up to launch would add 2-3 months minimum. Bonneville requires 90 days to develop new contracts.

A: Open to all the emerging priorities; or
B: Open to all Program priorities

Staff Recommendation:

For FY 2016: Based on the need to move quickly to implementation in FY 2016, staff recommends the Council choose one or two specific tasks and invite logical organizations[8] to submit proposals to implement the work.

For FY 2017: Staff recommends operating under the targeted solicitation model (Option B), with variations depending on funding and the level of specificity of defined work.

Staff recommends work begin on a broad open solicitation (Option C) after the processes described above have been launched. This solicitation should be targeted to elicit proposals for all appropriate elements of the emerging priorities.

[8] Open to non-Accord parties.

Attachment C

Northwest **Power** and **Conservation** Council

August 4, 2015

DECISION MEMORANDUM

TO: **Fish and Wildlife Committee Members**

FROM: Tony Grover, Lynn Palensky, and Patty O'Toole

SUBJECT: **Memo C:** Summary of recommendations to implement emerging program priorities

PROPOSED ACTION: Staff seek guidance from the Committee on preferred alternatives to solicit for proposals to implement emerging program priorities, after discussion of alternatives. A summary of staff recommendations to do this follow.

SIGNIFICANCE Direction from Council members will help staff further develop the most appropriate process to implement selected work in the priority areas of the fish and wildlife program.

BUDGETARY/ECONOMIC IMPACTS
Any process resulting from this discussion and anticipated decisions would not necessarily require an increase in program funds. If staff are directed to further develop a request for proposals or a solicitation process to begin in early FY 2016, the effort would increase staffing level in this area, increase sponsors' attention to, and possible level of participation in, the process.

BACKGROUND
The 2014 Fish and Wildlife Program states the following: (also see http://www.nwcouncil.org/fw/program/2014-12/program/partsix_implementation/ii_investment_strategy/)

The program represents a substantial investment by the ratepayers of the Northwest and the nation's citizens. For example, over the last three decades Bonneville and the other program implementers have made substantial investments in a wide variety of physical structures and land acquisitions to benefit fish and wildlife. There is a growing need throughout the Columbia River Basin to protect or upgrade these investments as facilities age or become obsolete, structural standards change, and extreme-event damages accumulate.

The Council recognizes that ratepayer funding requires some basic controls and that there is not unlimited funding to address every need for fish and wildlife affected by the development of the federal hydrosystem, all at once. At the same time, the Council received recommendations to continue the ongoing work under the program along with recommendations for new or expanded work. Bonneville's existing budget commitments limit its flexibility for funding new work, constrain expansion of ongoing work, may leave unfunded some of the state and federal fish and wildlife agencies' and tribes' priorities, and provide for only limited capacity for maintenance of past investments.

Through a series of principles and by identifying emerging priorities the Council seeks to guide Bonneville's funding and implementation of the fish and wildlife program in a manner that maximizes benefits to fish and wildlife.

ANALYSIS

The Council identified seven emerging program priority areas to implement recommended measures that expand existing work or expands the program in new directions. See the 2014 Fish and Wildlife Program Investment Strategy at page 116*:*

During the course of the next five years, the Council anticipates that Bonneville will take the necessary steps to integrate these priorities into the program and will report annually to the Council on its progress. The Council may adjust the following ordered program priorities:

8. *Provide for funding long-term maintenance (Appendix P) of the assets that have been created by prior program investments*
9. *Implement adaptive management (including prioritized research on critical uncertainties) throughout the program by assessing the effectiveness of ongoing projects, developing program objectives when appropriate and taking into account the effects of climate change*
10. *Preserve program effectiveness by supporting: (1) expanded management of predators; (2) mapping and determining hotspots for toxic contaminants; and (3) aggressively addressing non-native and invasive species*
11. *Investigate blocked area mitigation options through reintroduction, passage and habitat improvement, and implement if warranted*
12. *Implement additional sturgeon and lamprey measures (passage and research)*
13. *Update the subbasin plans most in need of updates*
14. *Continue efforts to improve floodplain habitats*

The Council, working with fish and wildlife managers, the ISRP, Bonneville and others, can expedite the implementation of emerging priorities by conducting targeted RFPs

and solicitations that will result in reviewable project proposals. The Council anticipates recommending some or all of this work to Bonneville for funding and implementation.

Alternatives:

D. Council Solicitations and targeted Request for Proposals

This option is a Council led series of requests for proposals and solicitations to identify specific proposals to implement identified measures immediately in FY 2016, in the near term during FY 2017 and over an extended time period of one to 3 years.

E. Council defers to Bonneville to implement emerging priorities

This option defers to Bonneville to implement the program's emerging priorities over the next three years. Bonneville will report annually to the Council on progress implementing the emerging priorities.

Staff Recommendation:

Staff recommends Alternative A, to be implemented in the following manner:

1) Staff recommends the following tasks be considered for FY 2016 (EP means Emerging Priority):

    a) EP 1 - Initiate hatchery condition assessments.
    b) EP 3 - Work with the Columbia River Basin Toxics Reduction Work Group to scope the toxics mapping and hotspot determination project.
    c) EP 3 – Consider assistance for states' efforts to prevent the establishment of quagga and zebra mussels.
    d) EP 4 - Solicit for proposals addressing Phase 1: a habitat assessment, an evaluation of information from passage studies at other blockages and from previous assessments of passage at Grand Coulee and Chief Joseph dams.

2) Staff recommends the following work on emerging priority areas as appropriate for commencing in FY 2017:

    a) EP 1 – Complete hatchery condition assessments.
    b) EP 1 – Possible initiation of work related to fish screens.
    c) EP 2 – Initiate temperature analysis and modeling in the Grand Coulee to NcNary reach of the Columbia river.
    d) EP 3 – Convene a technical workgroup to determine predator management effectiveness and develop a common metric for predation.
    e) EP 3 - Consider ongoing or additional assistance for states' efforts to prevent the establishment of quagga and zebra mussels.
    f) EP 3 – Expand pikeminnow removal to other mainstem dams.
    g) EP 3 – Initiate toxics mapping and hotspot determination project.

h) EP 4 – Continue with addressing Phase 1: a habitat assessment, an evaluation of information from passage studies at other blockages and from previous assessments of passage at Grand Coulee and Chief Joseph dams.
i) EP 6 - Council hold discussions or a workshop with entities in the region to discuss timing and scope of a subbasin plan update.
j) EP 7 - Council hold a science-policy forum to discuss floodplain reconnection with interested entities in the region.

3) For work to be done in FY 2016: Staff recommends the Council focus on one or two specific tasks as identified in 1), above, and invite logical organizations[9] to submit proposals to implement the work. Staff will seek Committee approval of the specifics at the September 2015 Committee meeting and the full Council in October. The focused process will commence in October.

4) For work to be done in FY 2017: Staff recommends operating under the targeted solicitation model, with variations depending on funding available and the level of specificity of defined work, as described in 2), above. Staff will seek Committee approval of the specifics at the September 2015 Committee meeting and the full Council in October. The targeted solicitation process will commence in October or November.

5) Staff recommends staff work begin on an open solicitation after the processes described in 3) and 4), above, have been launched. Staff will seek Committee approval of the specifics at the December 2015 Committee meeting and the full Council in January 2016. The open solicitation process will commence in Spring 2016 and may include these topics:

a) EP 1 – Complete work related to fish screens.
b) EP 1 – Assess unmet O&M needs of wildlife lands and proceed to work on those unmet needs.
c) EP 2 – Initiate work on new or ongoing priorities identified in the updated Research Plan.
d) EP 2 – Continue temperature analysis and modeling in the Grand Coulee to NcNary reach of the Columbia river.
e) EP 3 – Solicit a research proposal to address regional concerns about the lack of fully understanding the magnitude of pinniped predation on adult salmon from the mouth of the Columbia river to Bonneville Dam.
f) EP 3 - If necessary complete addition toxics monitoring in areas where necessary to fully address this Program measure.
g) EP 3 – Seek regional partners to assist in toxics identification and remediation work.
h) EP 3 - Consider ongoing or additional assistance for states' efforts to prevent the establishment of quagga and zebra mussels.
i) EP 3 – Implement non-native species control actions where they are known to adversely impact native species.

[9] Open to non-Accord parties.

j) EP 4 – Consider proceeding to Phase 2 of reintroduction efforts based on the outcome of Phase 1.
k) EP 5 - Solicit for sturgeon proposals that could be implemented in the 1-3 year timeframe.
l) EP 5 - Once the synthesis report is available, solicit for lamprey proposals per the measures in the Program.
m) EP 6 - Update subbasin plans most in need of updates.
n) EP 7 – Implement new floodplain reconnection actions.

6) Bonneville to present its' first annual report to the Council on how the emerging priorities are being implemented at the March 2016 Council meeting.

7) _____
8) x:\jh\ww\agenda\decision memo for implementing of priorities for council 9 sept 2015.docx