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March 6, 2018

DECISION MEMORANDUM

TO: Council members

FROM: Mark Fritsch, project implementation manager

SUBJECT: Council decision to support recommended O&M actions on the use of cost saving funds for FY 2019 and 2020.

PROPOSED ACTION: The Fish and Wildlife Committee recommends the Council support a request, from the O&M Subcommittee, for non-routine maintenance for fish screens and hatcheries in FY2019 and FY2020 is \$589,386 and \$497,475, respectively. Funds for the requests are derived from cost saving from existing projects that had decreasing expenditures or were closing out.

SIGNIFICANCE: Initiating actions to address needs of the Programs past investments, as part of the 2014 Fish and Wildlife Program implementation, an investment strategy is outlined (Part Six; Section II, and Appendix P). Within this strategy long-term maintenance of past investments was prioritized as the highest Program priority.

BUDGETARY/ECONOMIC IMPACTS: Funds associated with the proposed action are derived from cost saving from existing projects that had decreasing expenditures or were closing out.

BACKGROUND

Since the adoption of the 2014 F&W Program in October 2014, the Council staff (State and Central) has been working with Bonneville staff, O&M Sub-Committee, Cost Savings Workgroup, Independent Economic Analysis Board (IEAB), Bonneville staff, Fish Screening Oversight Committee (FSOC), Fish and Wildlife managers, HDR

Engineering Inc., and QW Consulting to develop a long-term operation and maintenance (O&M) plan to address non-routine maintenance needs to ensure the longevity and integrity of the Programs past investments associated with hatcheries, fish screens and wildlife lands. Over the past three years, varying levels of inventories, assessments and prioritization associated with the three categories has occurred.

Hatchery site visits have occurred for the Programs 14 hatcheries by HDR, McMillen and Bonneville engineers. Two hatcheries (programs) will be assessed in the near future to refine the hatchery visit assessments done by Bonneville.

Actions intended to address non-routine needs for the Programs assets was initiated in 2017 in addressing mission critical elements associated with the Program’s hatcheries. In an effort to continue making progress in FY2018 the O&M subcommittee requested the managers and sponsors to assist in prioritizing items for their particular hatchery and screens in FY2018. Funds were identified in collaboration with the cost saving workgroup to address these needs, and in November 2017 the Council confirmed the findings of the O&M Sub-committee and the Fish and Wildlife Committee regarding essential maintenance and improvement needs for the F&W Program hatcheries and fish screens for Fiscal Year 2018 (see attached table for 2018).

Concurrent to the activities above staffs have been working to develop a long-term operation and maintenance (O&M) plan to address non-routine maintenance needs to ensure the longevity and integrity of the Programs past investments made for the benefit fish and wildlife. The plan is intended to define and provide a long-term maintenance, rehabilitation, and replacement system for Program investments associated with hatcheries, fish screens and wildlife lands. This asset management strategic plan is scheduled to be complete by the end on 2018.

In the interim, and to continue progress in addressing the assets needs as was done in 2017, and based on input received from the managers and sponsors the O&M subcommittee requested funds for screens and hatcheries in FY2019 and FY2020 for \$589,386 and \$497,475, respectively. Please note the footnote associated with the placeholder and FY2020. The intent of the placeholder is to provide some flexibility to address some of the outstanding elements that have not been address to date for hatcheries (please refer to the descriptions in the attached spreadsheet).

Category	FY2018	FY2019	FY2020
Screens	\$230,953	\$281,316	\$237,500
Hatcheries	\$238,012	\$308,070	\$159,975

Placeholder¹			\$100,000
Total	\$468,965	\$589,386	\$497,475

On February 14, 2018 the Fish and Wildlife Committee confirmed the findings of the O&M Sub-committee regarding needs for the F&W Program hatcheries and fish screens in Fiscal Year 2019 and 2020.

Please see the attached spreadsheets for the Programs hatcheries and screens that reflect the activities for 2018, 2019 and 2020.

¹ Outstanding mission critical and essential elements that are dependent on further evaluations and discussions at \$351,386 in FY2019, and \$241,125 in FY2020. In addition, these estimates do not include elements that do not have costs estimates assigned.

F&W Program Hatcheries - DRAFT version January 19, 2018

Following is a list of essential maintenance/improvements elements* as identified by 9 of the Programs 14 hatcheries (in 2017) for Fiscal Year 2018, 2019 and 2020. For FY 2018 the listed actions have been taken by the Council and Bonneville. Also listed are outstanding *mission critical elements* from FY 2017. The order of the specific elements were originally prioritized by the managers. Recommended actions for FY 2019 and 2020 are dependent on review (i.e., engineering) and confirmation (e.g., environmental compliance) by Bonneville by the end of March 2018 and 2019, respectively. Also please note shaded cells and the last row of the table that reflects elements that are dependent on further evaluations and discussion (i.e., outstanding *mission critical elements* from FY 2017).

Site - Manager	Essential Element	Estimated Cost by Fiscal Year			Description
		2018	2019	2020	
Sekokini - MFWP	Spring #2 Infiltration Gallery	\$15,000			Implemented - in contracting. Spring 2 infiltration gallery needs maintenance to capture flow that is currently diverted away from the cistern. Large snowpack and runoff this spring have led to even more of the flow being routed past the cistern, reducing flow to the hatchery building.
	French Drain		\$5,000		French drain is needed in front of the isolation building to redirect seepage behind the retaining wall and prevent ice formation in front of the entry way.
	Roof			\$12,000	Metal roof replacement on the original hatchery building (not the expansion building).
	Settle Pond Drain			\$7,000	The concrete outflow structure that controls the elevation of the hatchery's effluent settling pond is crumbling and needs to be replaced.
Lake Roosevelt Resident					
Spokane - STOI	NA				Utilizing BIA O&M funds.
Umatilla**					
Umatilla - ODFW	<u>Mission Critical - Well System</u>	\$20,000	TBD	TBD	<i>Efforts to initiate a comprehensive review of well system is ongoing. All essential needs (listed below) are linked to this review. Determination of path to address needs will be defined by end of calendar year. If emergencies arise, action will be addressed through BOG. Bonneville working with ODFW and CTUIR on urgent electrical issues. <u>\$20,000 allocated</u> to assist in comprehensive review for specialized engineering services. Total cost unknown until a complete evaluation is completed - Well system provides a fraction of the flow the facility was designed for. <u>In the interim and to ensure the production at the hatchery is protected an urgent BOG request, in the first quarter of FY 2018, was approved by the Council and Bonneville to recondition the following 4 wells and correctly size the pumps at \$150,000.</u></i>

ODFW	Pump #3				Estimate at \$50,000. Efforts to initiate a comprehensive review of well system is ongoing. Pump #3 (rewire) and Well#1/pump#5 (rewire) have never been pulled (26years). <i>See Mission Critical item above.</i>
ODFW	Pump #5, Well #1				Estimate at \$20,000. Efforts to initiate a comprehensive review of well system is ongoing. Pump #3 (rewire) and Well#1/pump#5 (rewire) have never been pulled (26years). <i>See Mission Critical item above .</i>
ODFW	Chillers (4) 50 ton				Estimate at \$194,000. Efforts to initiate a comprehensive review of well system is ongoing. Chillers are 25 years old and walls are thin from sand scour. Chillers need to be replaced. <i>See Mission Critical item above .</i>
ODFW	Submersible Pumps (2), 15 HP				Estimate at \$30,000. Efforts to initiate a comprehensive review of well system is ongoing. Rewire pump. <i>See Mission Critical item above.</i>
ODFW	Production Well , 50 HP Submersible				Estimate at \$20,000. Pump equipment condition is good, but well does not produce what it should. Has been rehabilitated, but no lasting benefit. <i>See Mission Critical item above.</i>
ODFW	Production Well #3, 25 HP Submersible				Estimate at \$25,000. Pump equipment condition is good, but well does not produce what it should. <i>See Mission Critical item above.</i>
ODFW	Production Well #4, 60 HP Submersible				Estimate at \$25,000. Pump equipment condition is good, but well does not produce what it should. Has been rehabilitated, but no lasting benefit. Well is degrading further have lost 150gpm since May. <i>See Mission Critical item above.</i>
Acclimation Sites (#8) - CTUIR	NA				In the near future, the CTUIR annual budgets are sufficient to take care of required O&M as identified in the hatchery assessments.
Kootenai - KTOI	NA				At this time KTOI is utilizing BIA Hatchery Cyclical Maintenance Grant.
Snake River Sockeye Propagation - IDFG**					
Springfield	<u>Mission Critical - Chiller system</u>	\$75,000	\$75,000	TBD	<i>Engineering services contracted to develop design and specifications for chilled water delivery system upgrade at Springfield Hatchery (estimated at \$75,000 for 2018 and possibly 2019. In 2019 determination on use of accord funds being discussed). Estimate based on hatchery assessment report and then includes an estimate on installation.</i>
	Concrete Clarifier		\$109,250		<u>Additional needs are deferred until current assessment is completed.</u> Undersized waste removal system necessitates modifications (estimated at \$109,250) - upsize early rearing trough effluent piping to larger size & increase size of effluent clarifier system.

	Early rearing trough effluent piping			\$195,000	Additional needs are deferred until current assessment is completed. Undersized waste removal system necessitates removal of only 1 cleaning standpipe at a time. Modification by increasing the diameter of tough effluent piping (estimated at \$195,000). This in conjunction with increasing the size of effluent clarifier system will allow 500 gpm influent rate. This will also allow inside vat cleaning to be more efficient and will enhance bio-security in the early rearing building and eliminate the multiple removal of sludge from the clarifier on an annual basis. Estimate reflects estimate of modify troughs with large diameter piping and not replacement of troughs.
Eagle	2 Fiberglass Transportation Tanks (250 gallon)	\$16,500			Fiberglass transport tank for hauling sockeye adults from the RFLC trap to Eagle or in some years from Lower Granite Dam to Eagle are at the end of their life expectancy. These tanks have been rebuilt and re-fiberglassed a number of times and continue to leak water. Water is also damaging the internal wooden framework as water is trapped within fiberglassed shell. Price quotes to replace this tank have been requested from JetCo at an estimated cost of \$8,250 each.
	Well #3: VFD Unit	\$11,500			Due to the age of this critical unit, replacement is necessary.
	Well #1: 50 Hp submersible pump		\$9,000		Pump is 5 years old, due to be replaced and refurbished for backup.
	Well #1 & #2 Degassing Tower Water Level Sensor.		\$120,000		Aeration column needs minor modification to improve flow through dispersion plate. This unit has failed in cold damp winter conditions and is bypassed for this reason. <i>(Discussions with an electrician to move this unit into the Well #2 building have been initiated, but no cost estimate at this time)</i>
	Chiller (100 TON)			\$84,500	Adult holding chiller needs to be replaced, old R-22 refrigerant filled chiller. Conversion needed to Freon or replace with new unit, whichever is deemed appropriate.
Colville - CCT	Chiller (15 TON APPROX)				Accord Funded @ \$42,000 in 2018. Leaks Freon, needs to be replaced
	Aluminum Troughs (14), 21' X 2.75'		\$74,200		Inside rearing troughs are corroding and pinhole leaks observed, need to be replaced
	Aluminum Troughs (6), 16' X 1.3'			\$15,000	Inside rearing troughs are corroding and pinhole leaks observed, need to be replaced
Nez Perce Tribal Hatchery - NPT**					
NPTH	<u>Mission Critical - river water filtration system</u>		TBD	TBD	Additional evaluation needed - Relationship of this high priority item, in association to the Snake River Basin Steelhead Kelt Reconditioning Facility Master Plan (Project #2007-401-00). Kelt decision anticipated in 2018.

	<u>Mission Critical - heat exchanger</u>		TBD	TBD	Additional evaluation needed, TBD - Relationship of this high priority item, in association to the Snake River Basin Steelhead Kelt Reconditioning Facility Master Plan (Project #2007-401-00). Kelt decision anticipated in 2018.
	UV Disinfection System		\$92,000		Treatment effectiveness is affected by fine sediment. Estimated @ \$92,000. Link to mission critical element (surface water filtration element)
Yoosa Creek	<u>Mission Critical - Yoosa Creek Intake Bypass Flow</u>		TBD	TBD	The dam structure that impounds water for the intake leaks significantly enough to reduce intake flow. NPT are evaluating the cost benefit of this need as part of hatchery evaluation, TBD.
Lukes Gulch	Paint 20' diameter Aluminum Circular Tanks (16)		\$20,000		Paint is worn through on interior surfaces and faded.
Grande Ronde Supplementation					
Lostine - NPT	Alarm System, Flow Detection	\$8,315			Has been partially damaged by erosion. Needs to be repaired.
Catherine Creek - CTUIR	NA				In the near term, the CTUIR annual budgets are sufficient to take care required O&M as identified in the hatchery assessments.
Upper Grande Ronde - CTUIR	NA				In the near term, the CTUIR annual budgets are sufficient to take care of required O&M as identified in the hatchery assessments.
Fall Chinook Acclimation Facilities - NPT***					
Pittsburg	Water Supply and Drain Hoses		\$27,750		Hoses are getting brittle. Estimate @ \$27,750
	Feed Storage Building			\$5,625	Estimated at \$5,625
	Resident 1, Camp Trailer			\$25,500	21 years old, due for replacement. Estimated @ \$25,500
Big Canyon	Flexible Hoses for Water Supply/Drains		\$27,250		Hoses are getting brittle. Estimated @ \$27,250
	Residence 1, Park Model Trailer			\$25,500	19 years old, due for replacement. Estimated @ \$25,500
Captain John Rapids	Alarm System, Low Water Level and No Flow Detection		\$20,000		Estimated @ \$20,000
	Electrical System Improvements			\$5,000	Generator currently feeds through main breaker, no power to pumps if breaker fails. Estimated @ \$5,000
	Supplemental Oxygen System			\$10,000	Estimated @ \$10,000
Lake Roosevelt Resident**					
Sherman - WDFW	<u>Lake Water Pumps</u>	\$30,000			Move pumps and extend to deeper water to maintain flow during reservoir drawdown. Total costs includes pumps, piping, and ancillary equipment. Subject to engineering and permitting before purchase of equipment.

WDFW	<u>Mission Critical - Net Pens</u>		TBD	TBD	Additional evaluation needed, TBD. Reservoir drawdown causing early release of fish and the effect on program goals, current location does not function during reservoir drawdown.
Kalispel** - KT	<u>Mission Critical - Alarm system</u>				Additional evaluation needed, TBD - Estimated cost @ \$50,000. Original System is non-functional and no longer supported. Activities at the hatchery are dependent on a future review. This item may be funded as part of the ongoing cold-water conversion program upgrades. This program has phased out of LMB and raising triploid trout for put-and-take.
Total		\$176,315	\$228,200	\$118,500	
Variation Expected (+35%) with cost confirmation and installation costs.		\$238,025	\$308,070	\$159,975	
Outstanding mission critical and essential elements that are dependent on further evaluations and discussions.			\$351,250	\$241,125	Totals do not include costs associated with Umatilla, NPTH (heat exchanger, filter and Yoosa Creek Intake Bypass) and Sherman (net pens). In addition, does not include Variance.

* Essential Maintenance/Improvements --These items are considered essential for the facility to continue to perform the mission that was originally identified as the purpose for the facility relative to the relevant BPA Program, but the need is less immediate than mission critical elements.

** Hatcheries facilities that have unresolved Mission Critical Elements that need to be addressed

*** BPA and LSRCP staff are currently working on determining project overlap, items listed under these facilities will be addressed once that exercise is complete.

F&W Program Screens - DRAFT version January 19, 2018

Following is the list of non-recurring maintenance priority needs as identified by 5 of the Programs 14 screen projects (in 2017) for Fiscal Year 2018, 2019 and 2020. For FY 2018 the listed actions have been taken by the Council and Bonneville. All outstanding and remaining needs were shifted to the following year. Recommended actions for FY 2019 and 2020 are dependent on review (i.e., engineering) and confirmation (e.g., environmental compliance) by Bonneville by the end of March 2018 and 2019, respectively.

Manager/Sponsor (number of screens)	Site	Estimated Cost by Fiscal Year			Description
		2018	2019	2020	
Idaho (#255)	L-03AO	\$93,175			Implemented - in contracting. Older 45 degree screen, relocate new screen and bypass. River has moved and screen is not functional.
	L-06			\$7,500	new bypass. Add debris rack and bypass replacement. <i>Shift from 2019 to 2020.</i>
	L-08			\$60,000	new screen. Older 45° screen.
WDFW (#42)	Snipes and Allen	\$97,778			Implemented - in contracting. WDFW proposes to replace the screen material with new fish-friendly perforated plate. In addition, structural fabrication needs for the frames (e.g., original high build epoxy coating is experiencing
	Naches-Cowiche			\$100,000	WDFW proposes to replace the screen material with new fish-friendly perforated plate. In addition, complete refurbish of OU gate, gantry and lighting is needed. <i>Shift from 2019 to 2020.</i>
ODFW (#572)	Beech Cr. NO. 7	\$40,000			Implemented - in contracting. Update Walkways (2); Needs Guards for paddlewheel/Driveline; Gantry replacement; modify bypass trash rack; Sand Blast and paint components or replacement; bearing replacements; seals
	John Day River NO. 06			\$20,000	Update Walkways (2); Needs Guards for paddlewheel/Driveline; Gantry replacement; modify bypass trash rack; update paddlewheel; Sand Blast and paint components; bearing replacements; seals. <i>Shift from 2019 to 2020.</i>
	Westside Diversion			\$10,000	Sand and paint gantries, replace walkways and handrails to meet OSHA standards. Brace Concrete wall and backfill with gravel to prevent freezing weather from moving concrete strait wall. Replace trash Racks.

MFWP (#5)	Grave Creek				Funded through other mechanisms at \$60,000. Replace screen, bypass and headgate severely damaged by tree fall in 2016. Currently the screen is non-
	Libby			\$25,000	armorning/protecting headgate. <i>Shift from 2019 to 2020.</i>
	Deep Phase 2			\$15,000	Infrastructure repair
Westland Irrigation District (#6)	West Extension Irrigation District (WEID) diversion located at Threemile Dam		\$281,316		Outstanding Priroity from 2018 - Refurbish 4 (9' diameter x 12' length)screens to meet NMFS criteria. Current screen material was grandfathered in.
Total		\$230,953	\$281,316	\$237,500	