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June 7, 2022

MEMORANDUM

TO: Council Members

FROM: Patty O'Toole, Fish and Wildlife Division Director

SUBJECT: Discussion of Bonneville's Strategic Asset Management Plans and ties to the upcoming Integrated Program Review

BACKGROUND:

Presenter: Jason Sweet, Executive Manager Bonneville Fish and Wildlife Program

Summary: Bonneville Power Administration (Bonneville) staff will report on the development of the 2022 Strategic Asset Management Plans. This is a revision to the 2018 plans. These plans represent a significant evolution in how Bonneville plans to address the needs of infrastructure associated with our hatcheries, fish screen, and lands in the Fish and Wildlife Program.

Relevance: Implementation of the Council's Columbia River Basin Fish and Wildlife Program requires the build-out of assets, primarily for hatcheries, fish screens and land acquisitions. These assets require regular annual maintenance as well as periodic upgrades and repairs.

Workplan: Program Implementation. Task D: Implement the Asset management strategic plan; Task H: Pursue implementation of 2014 Program and 2020 Program Addendum, including Council Program priorities

Background: Bonneville will provide the Council information related to its updates to its agency-wide Strategic Asset Management Plans or SAMPs. SAMPS are

prepared for the following work categories: Federal hydro, transmission, facilities, Information Technology, Fleet, Environment- Fish and Wildlife.

The SAMPS:

- Describe the current condition, performance and risks of assets funded by BPA
- Outline long-term goals, objectives, and current initiatives
- Use a 5-year planning window, with a 10-year capital projection
- Are refreshed every two years and provide input into the Integrated Program Review budget numbers
- Provide a standard format for all categories of Bonneville assets and are continuously improved.

The Environment, Fish and Wildlife SAMP addresses Fish and Wildlife Program assets and is organized by the same categories as the jointly developed Council/Bonneville Asset Management Strategic Plan: lands, hatcheries, and fish screens.

Bonneville staff will provide the Council with information on the SAMPS, the specific SAMP for Environment, Fish and Wildlife, and its ties to the upcoming Integrated Program Review.

Environment, Fish and Wildlife

BPA Strategic Asset Management Plans (SAMP)

Northwest Power and Conservation Council Members Briefing

Jason Sweet and Rodrigo George

June 14, 2022



Agenda

- ✓ BPA's Asset Management Program
- ✓ BPA Environment Fish & Wildlife Asset Management Program Scope
- ✓ Asset Criticality, Health and Risk (CHR) Assessments (*Hatcheries*)
- ✓ Questions and Discussion
- ✓ Budget Appendices

BPA Strategic Plan - SAMP – Asset Plan Alignment



SAMP: Strategic Asset Management Plans convert the objectives of the organizational strategic plan and asset management policy into high-level, long-term action plans for the assets and or asset systems, the asset portfolios and/or the asset management system.

ASSET PLAN: Documented information that specifies the activities and resources and timescales required for individual assets, or groupings of assets to achieve the organization's asset management objectives.

BPA's Asset Management Program

Group 1 - Strategy & Planning

1. Asset Management Policy
2. Asset Management Strategy & Objectives
3. Demand Analysis
4. Strategic Planning
5. Asset Management Planning

Group 2 - Asset Management Decision-Making

6. Capital Investment Decision-Making
7. Operations & Maintenance Decision-Making
8. Lifecycle Value Realisation
9. Resourcing Strategy
10. Shutdowns & Outage Strategy

Group 3 - Life Cycle Delivery

11. Technical Standards & Legislation
12. Asset Creation & Acquisition
13. Systems Engineering
14. Configuration Management
15. Maintenance Delivery
16. Reliability Engineering
17. Asset Operations
18. Resource Management
19. Shutdown & Outage Management
20. Fault & Incident Response
21. Asset Decommissioning & Disposal

Group 4 - Asset Information

22. Asset Information Strategy
23. Asset Information Standards
24. Asset Information Systems
25. Data & Information Management

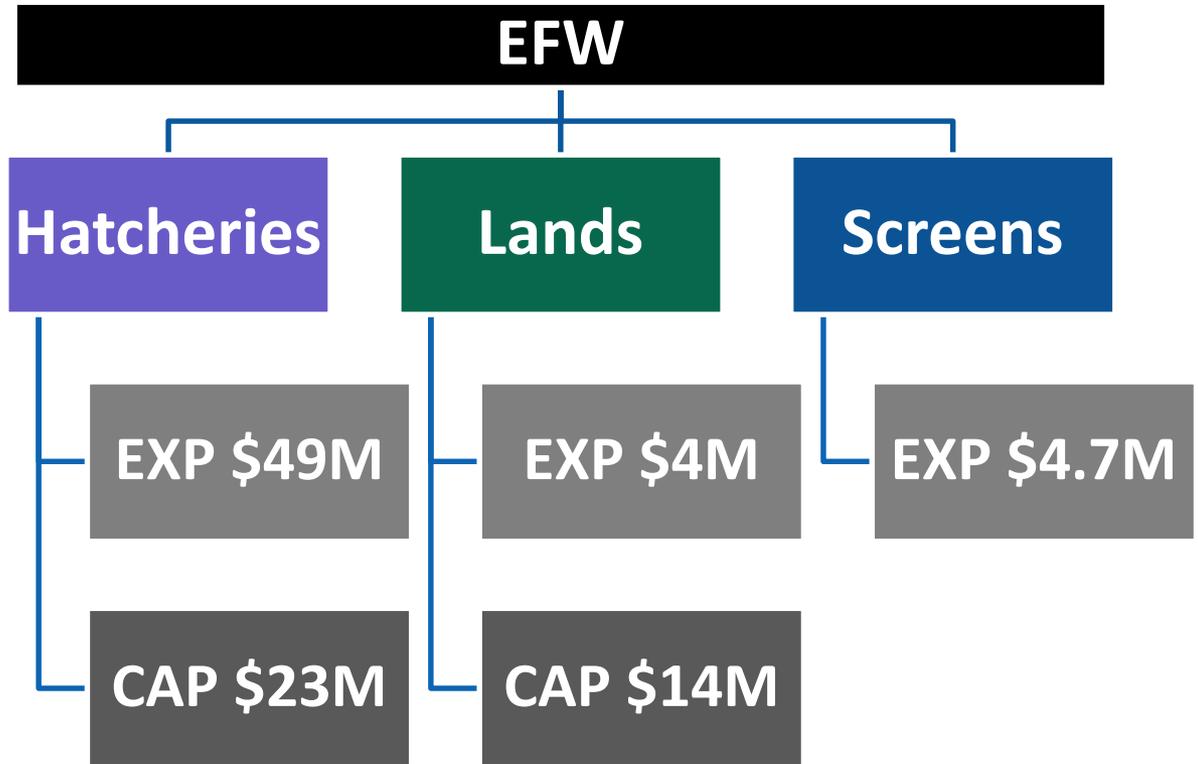
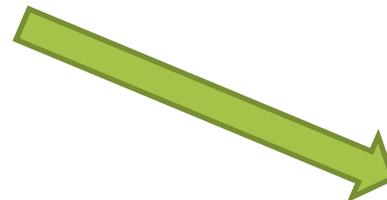
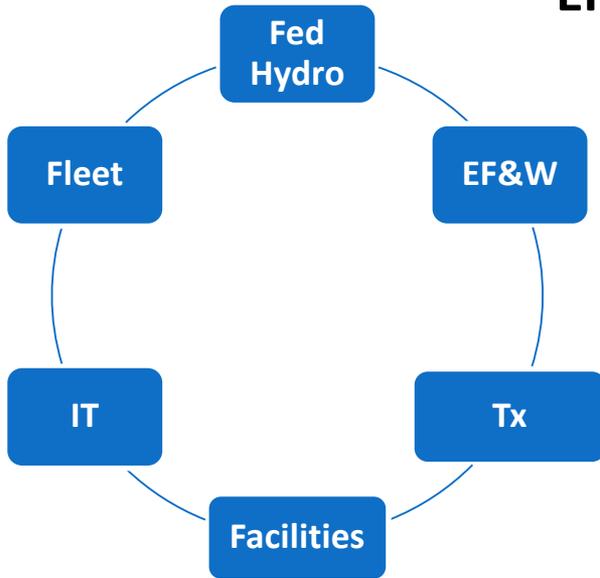
Group 5 - Organisation & People

26. Procurement & Supply Chain Management
27. Asset Management Leadership
28. Organisational Structure
29. Organisational Culture
30. Competence Management

Group 6 - Risk & Review

31. Risk Assessment & Management
32. Contingency Planning & Resilience Analysis
33. Sustainable Development
34. Management of Change
35. Asset Performance & Health Monitoring
36. Asset Management System Monitoring
37. Management Review, Audit & Assurance
38. Asset Costing & Valuation
39. Stakeholder Engagement

EFW Scope of Program (FY24/25)



Goals

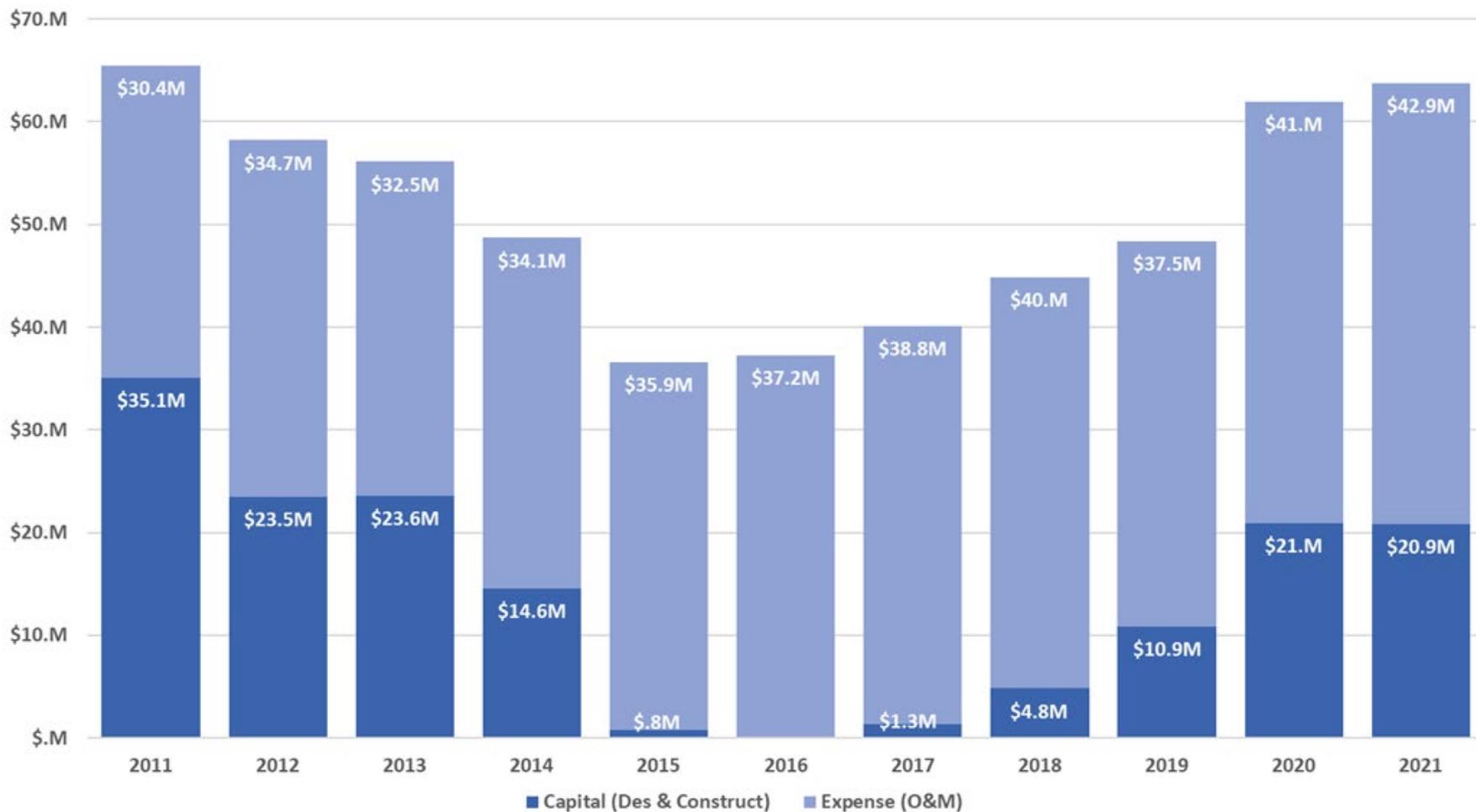
Hatcheries

- Continue to fund the implementation of conservation and supplementation hatchery programs to meet mitigation objectives (ESA, NWPA, Tribal Trust)
- Ensure efficient asset operations through annual O&M funding, address non-recurring maintenance needs
- Utilize regular condition assessments to prioritize and address critical component maintenance and replacement
- Leverage in basin lessons learned from past projects



Hatcheries Historic Actuals (EXP & CAP)

EFW HATCHERIES PROGRAM HISTORICAL ACTUALS 2011-2021



Goals

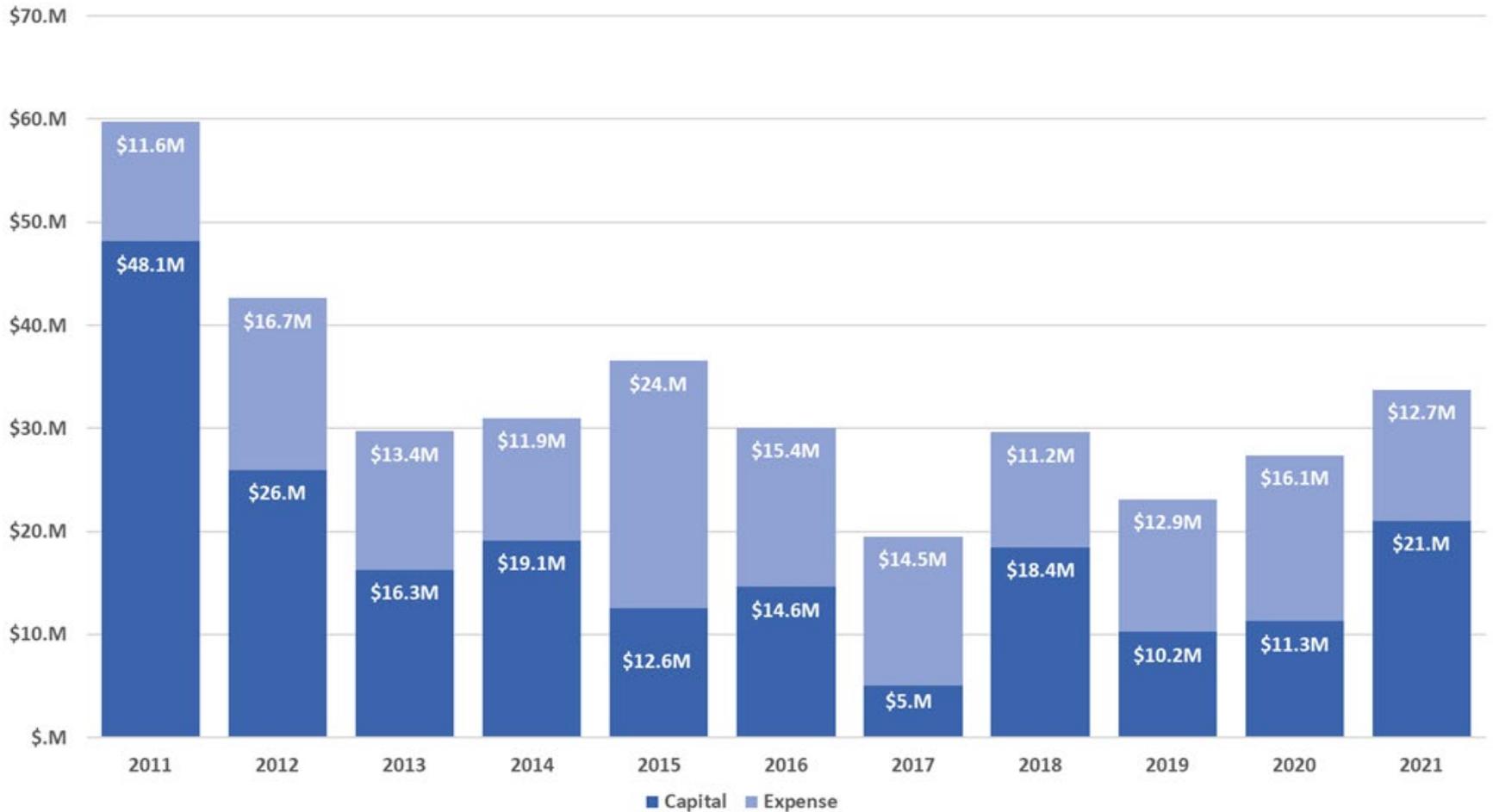
Lands

- Acquire lands to address fish and wildlife habitat mitigation of the hydroelectric system in accordance with provisions of the Northwest Power Act, and to fulfill commitments to comply with the Endangered Species Act
- Assess the feasibility of permanently extinguishing BPA O&M expense obligations through the pursuit of settlements
- Improve compliance and monitoring reporting capabilities



Lands Historic Actuals (EXP & CAP)

EFW LANDS PROGRAM HISTORICAL ACTUALS 2011-2021



Goals

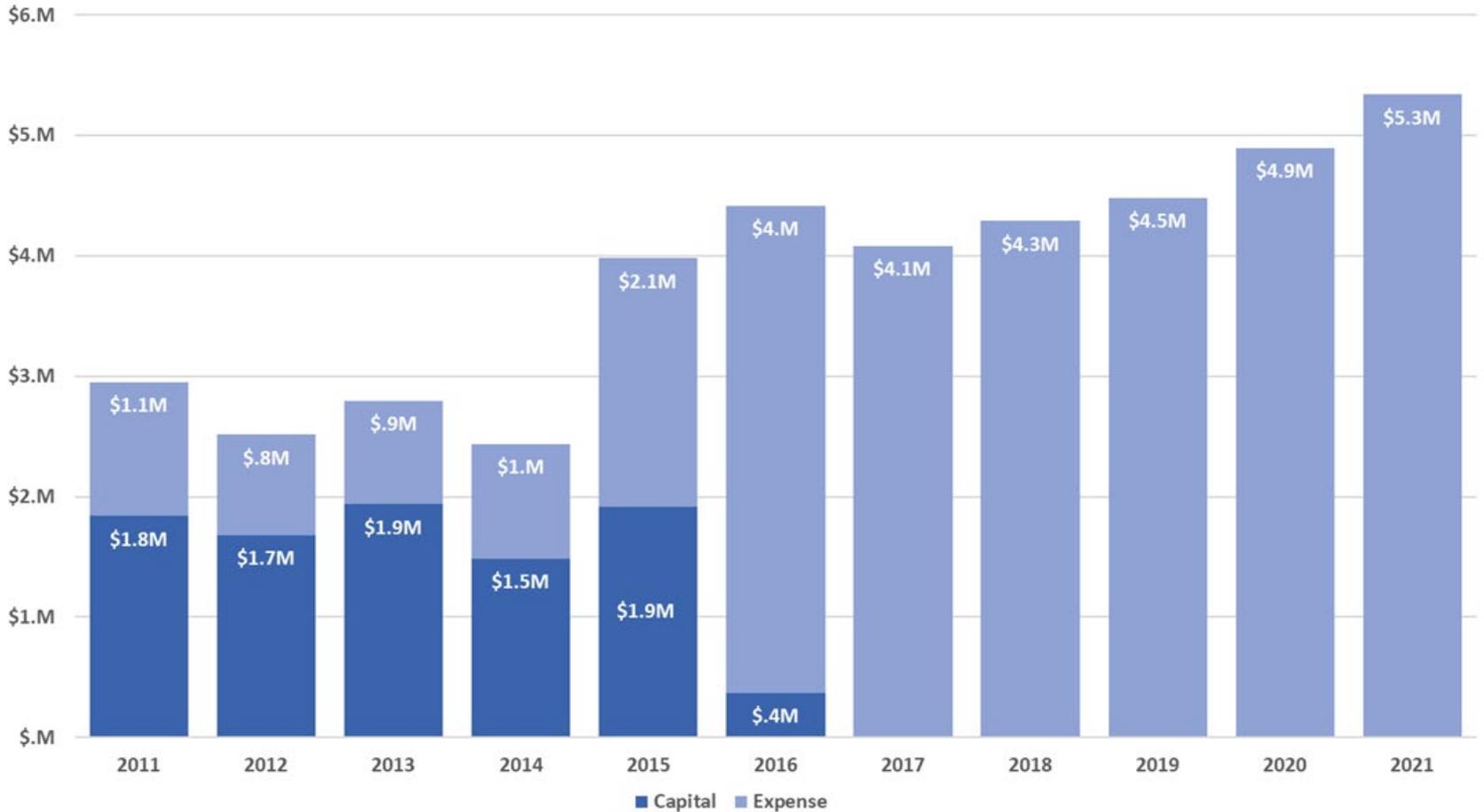
Screens

- Sustain BPA's investments in fish screens to satisfy BPA's mitigation obligations under the Northwest Power Act, Endangered Species Act, and other laws to protect, mitigate, and enhance fish and wildlife affected by the construction and operation of the federal dams in the Columbia Basin
- Reduce mortality of all life stages of salmon, steelhead, and other fish species that are at risk of being diverted into irrigation canals.

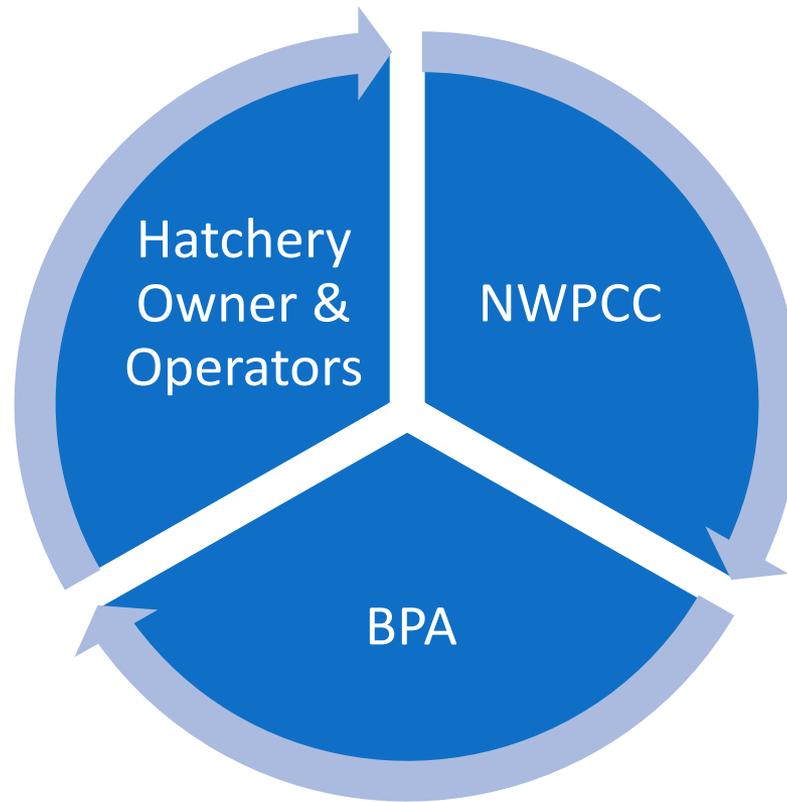


Screens Historic Actuals (EXP & CAP)

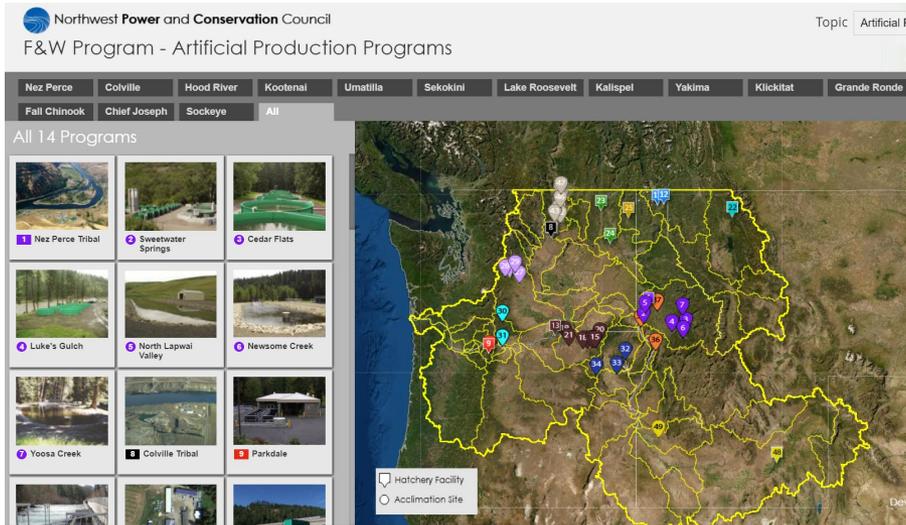
EFW FISH SCREENS PROGRAM HISTORICAL ACTUALS 2011-2021



How the Program is Organized



Asset Criticality



Program Level

1. Safety Net
2. Conservation
3. Supplementation

Asset Level

1. Mission Critical Elements
2. Essential Maintenance/Improvements

Asset Risk Assessment Model

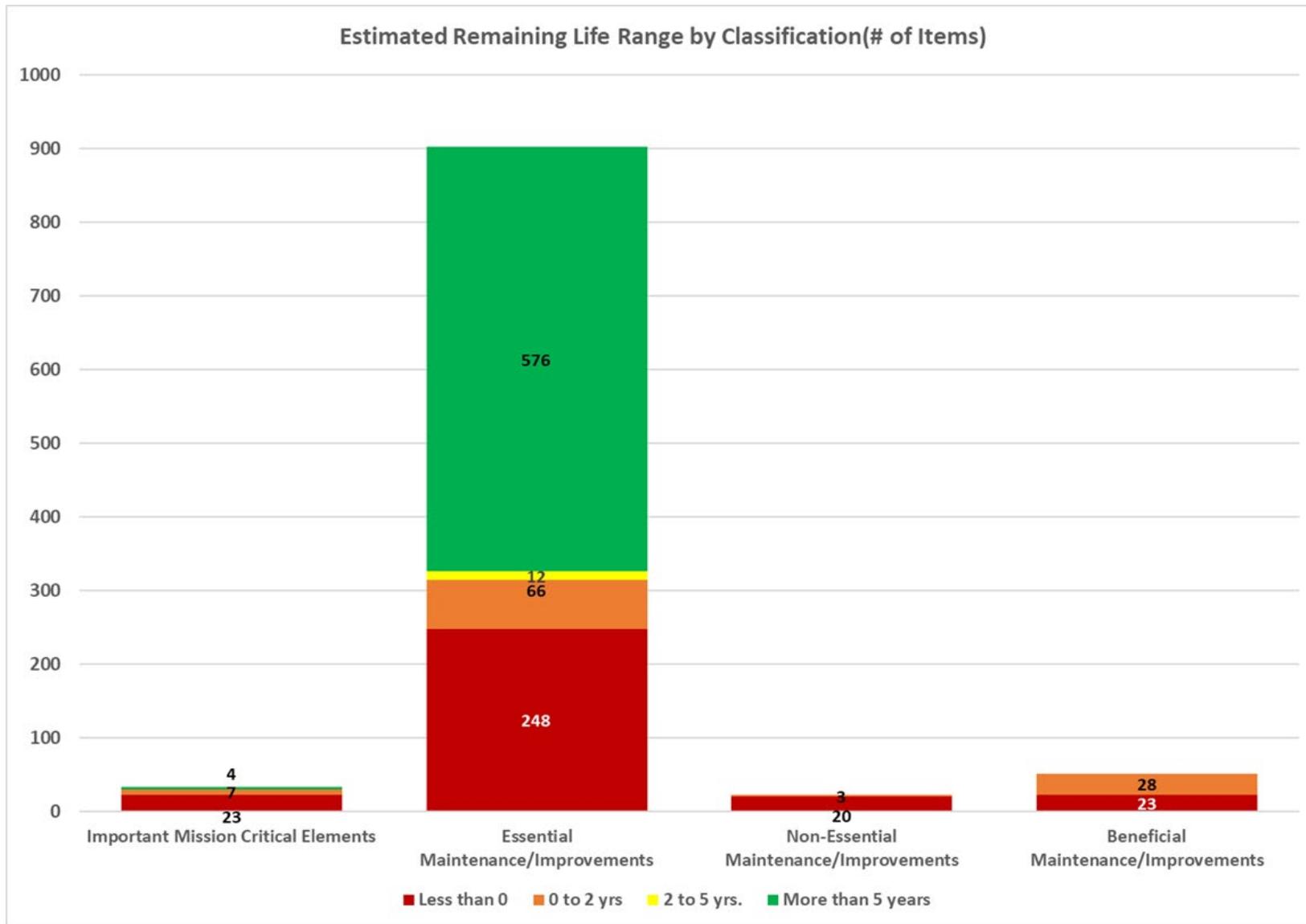


SCORE	PROBABILITY	IMPACT
5	Almost Certain	Extreme
4	Likely	Major
3	Possible	Moderate
2	Unlikely	Minor
1	Rare	Insignificant

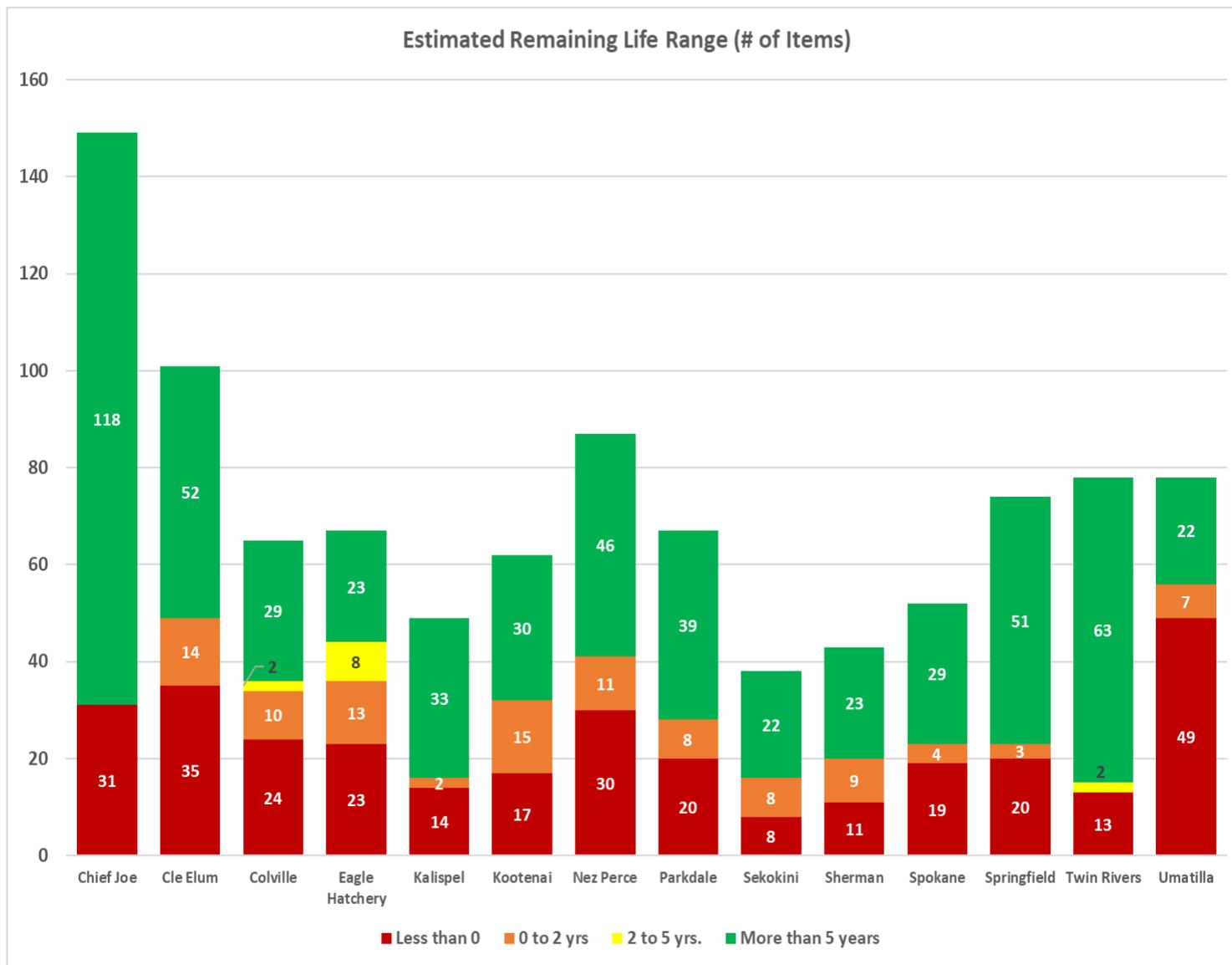
Risk Event Probability Scoring	Rare = .05	Unlikely = .10	Possible = .20	Likely = .40	Almost Certain = .80
Occurrence	0 - 10% Very unlikely to occur This event could occur within the next 100 years	11 - 40% Unlikely to occur This event could occur within the next 50 years	41 - 60% May occur about half of the time This event could occur within the next 13 years	61 - 90% Likely to occur This event could occur within the next 5 years	91 - 100% Very likely to occur This event could occur within the next 2 years

Probability	IMPACT				
(5) = .90	0.05	0.09	0.18	0.36	0.72
(4) = .70	0.04	0.07	0.14	0.28	0.56
(3) = .50	0.03	0.05	0.10	0.20	0.40
(2) = .30	0.02	0.03	0.06	0.12	0.24
(1) = .10	0.01	0.01	0.02	0.04	0.08
	(1) = .05	(2) = .10	(3) = .20	(4) = .40	(5) = .80

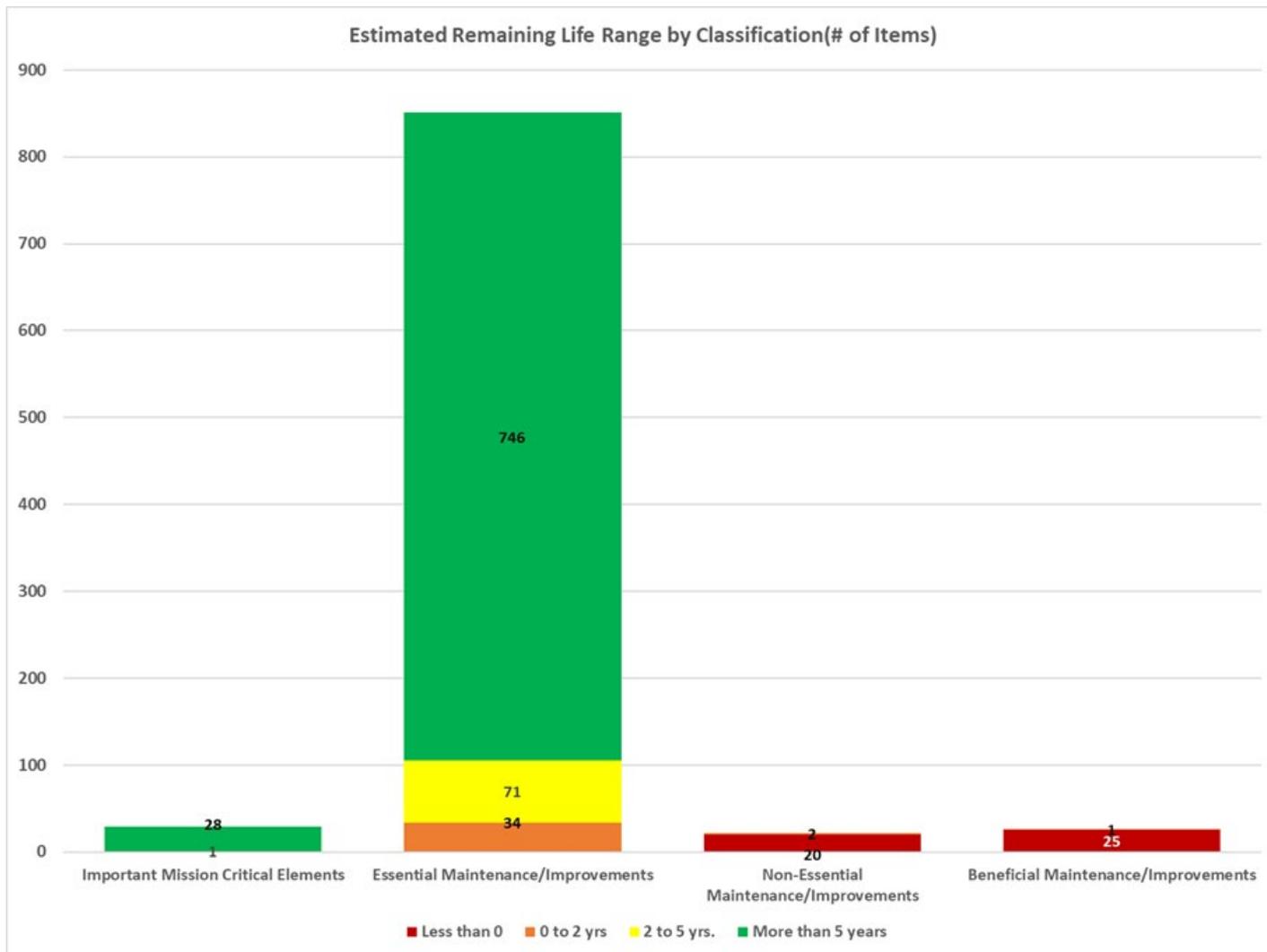
Asset Condition (Portfolio)



Asset Condition (Asset Level)



Recommended Strategy



Questions?

Future Expenditures (IPR 24/25 + beyond)

Program	Rate Case FY's		Future Fiscal Years							
	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
Capital Expand (CapEx)										
Hatcheries	\$22,635	\$22,600	\$10,300	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000
Land Acquisition	\$13,700	\$13,700	\$13,700	\$5,700	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000
Fish Passage	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000
Total Capital Expand	\$41,335	\$41,300	\$29,000	\$15,700	\$15,000	\$15,000	\$15,000	\$15,000	\$15,000	\$15,000
Expense (OpEx)										
Hatcheries O&M	\$48,967	\$50,436	\$51,949	\$53,507	\$55,112	\$56,766	\$58,469	\$60,223	\$62,030	\$63,890
Land Acquisition EXP	\$4,200	\$4,200	\$4,200	\$4,200	\$4,200	\$4,200	\$1,000	\$0	\$0	\$0
Land O&M	\$12,500	\$12,500	\$12,500	\$12,500	\$12,500	\$12,500	\$12,500	\$12,500	\$12,500	\$12,500
Fish Screens	\$4,677	\$4,677	\$4,677	\$4,677	\$4,677	\$4,677	\$4,677	\$4,677	\$4,677	\$4,677
Total Expense	\$70,344	\$70,344	\$70,344	\$70,344	\$70,344	\$70,344	\$67,144	\$66,144	\$66,144	\$66,144

Hatchery Portfolio SAMP Capital Budgets

Accords Program	Hatchery Capital Future Planned Investments				
Capital Expand (CapEx)	2023	2024	2025	2026	2027
Klickitat River Design and Construction- Yakima/Klickitat Fisheries Project (YKFP) – Yakama Nation	\$10,540	\$2,635			
Crystal Springs Hatchery Construction – Shoshone-Bannock Tribes	\$4,000	\$1,500	\$5,500	\$2,300	
CRITFC White Sturgeon Hatchery - Columbia River Tribal Fish Commission (CRITFC)	\$500	\$6,000	\$500		
John Day Mitigation - Columbia River Tribal Fish Commission (CRITFC)	\$4,500				
Kelt Reconditioning and Reproductive Success Evaluation Research - Columbia River Inter-Tribal Fish Commission (CRITFC)	\$1,000				
Natapoc Hatchery - Yakama Nation		\$2,000	\$3,100		
Colville Trout Hatchery - Colville Tribes (CTCR)		\$3,500	\$3,500		
Chief Joe Hatchery - Colville Tribes (CTCR)		\$2,000	\$5,000	\$3,000	
Hatchery Capital Upgrades (FY23/24 Umatilla + NPTH chillers, etc.)	\$5,000	\$5,000	\$5,000	\$3,000	\$5,000
Total Capital Expand	\$25,540	\$22,635	\$22,600	\$10,300	\$5,000

Lands Portfolio SAMP Remaining Balances

Agreement	Account Type	Analysis Timeframe	Budget Total	Payments (Land, Realty, Contracts)	Remaining Balance (Budget - Payments)
Colville	Expense	2008-2022	\$29,097,684	\$9,920,123	\$19,177,561
Idaho	Expense	2008-2022	\$17,569,303	\$15,288,853	\$2,280,450
Umatilla	Expense	2008-2022	\$17,542,321	\$4,389,765	\$13,152,556
Expense subtotal			\$64,209,308	\$29,598,741	\$34,610,567
Sho-Ban	Capital	2009-2022	20,717,070	\$5,663,111	\$15,053,959
Montana	Capital	2008-2022	\$10,000,000	\$0	\$10,000,000
SIWM-Idaho	Capital	2014-2024	\$36,163,750	\$28,217,599	\$7,946,151
Willamette	Capital	2011-2025	\$115,811,141	\$66,023,098	\$49,788,042
Capital subtotal			\$182,691,961	\$99,903,808	\$82,788,152
TOTAL			\$246,901,269	\$129,502,549	\$117,398,719