

Focus 2028

Fish and Wildlife Overview

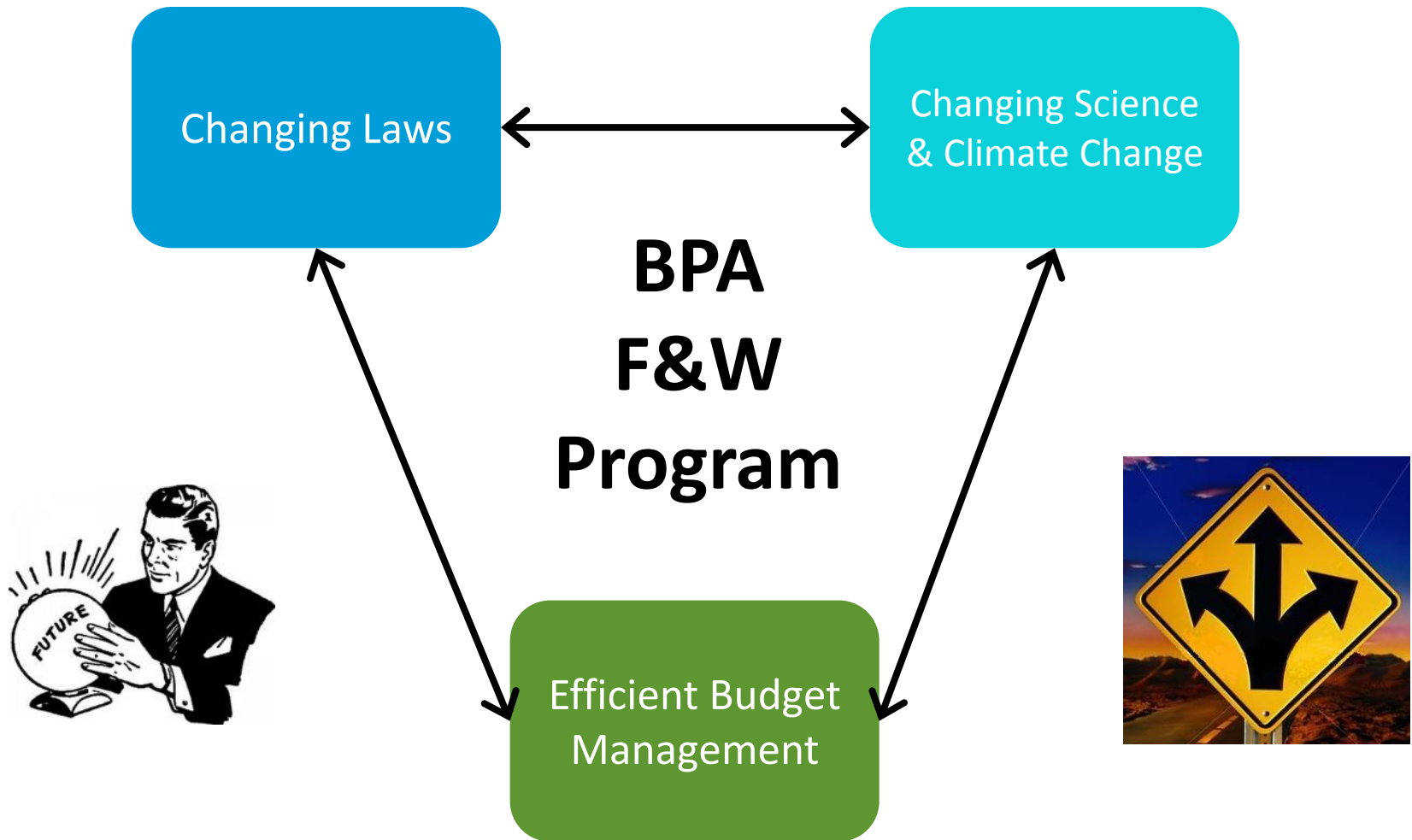
February 11, 2016
Rates Hearing Room



Lorri Bodi, Vice President of Environment, Fish and Wildlife

LOOKING AHEAD TO 2028

F&W 2028 : Dynamic and Demanding



F&W Overview

- How did we get here?
- What is happening now?
- What results are we achieving?
 - Hydro
 - Habitat
 - All H
- How are we managing budgets for efficiency?
- What does this mean for 2028?



Bill Maslen, Director, Fish and Wildlife

HOW DID WE GET HERE?

Columbia Basin Fish and Wildlife Program

- The largest ecosystem recovery effort in the nation
- Uses an “All-H” lifecycle approach
- Focus on salmon & steelhead, but includes wildlife, lamprey, sturgeon, bull trout, and other resident fish
- BPA electric ratepayer funding of approximately \$500M per year



Legal Framework



1980 NORTHWEST POWER ACT

“The Administrator shall use the Bonneville Power Administration Fund to protect, mitigate, and enhance fish and wildlife affected by the FCRPS.”



ESA listed salmon and steelhead



Listed and unlisted resident fish



Wildlife



ENDANGERED SPECIES ACT, FCRPS BIOLOGICAL OPINIONS

“Each federal agency shall... insure that any action authorized funded, or carried out by such agency is not likely to jeopardize continued existence... of any endangered species.”



TRIBAL TRUST & TREATY PROVISIONS

BPA will consult with the Tribal governments prior to BPA taking actions, making decisions, or implementing programs that may affect Tribal resources.

Where We Work



- | | | |
|------------------|----------------|----------------|
| Federal Dams | Chinook Salmon | Chum Salmon |
| Non-Federal Dams | Steelhead | Coho Salmon |
| | Sockeye Salmon | White Sturgeon |
| | Bull Trout | |

F&W Legal and Cost Drivers

Northwest Power Act

- Protect, mitigate, and enhance fish and wildlife, including related spawning grounds and habitat, on the Columbia River and its tributaries.
- Equitable treatment of F&W with other purposes.
- Consistency with the Columbia Basin F&W Program.

Endangered Species Act

- Avoiding jeopardy to listed fish and wildlife.
- Avoiding adverse modification of critical habitat.
- Biological Opinions.

Tribal Treaty and Trust Responsibilities

- The right to take fish at usual & accustomed places.
- Government to Government consultations.

Clean Water Act

- Address Water Quality Standards adopted by States & Tribes.

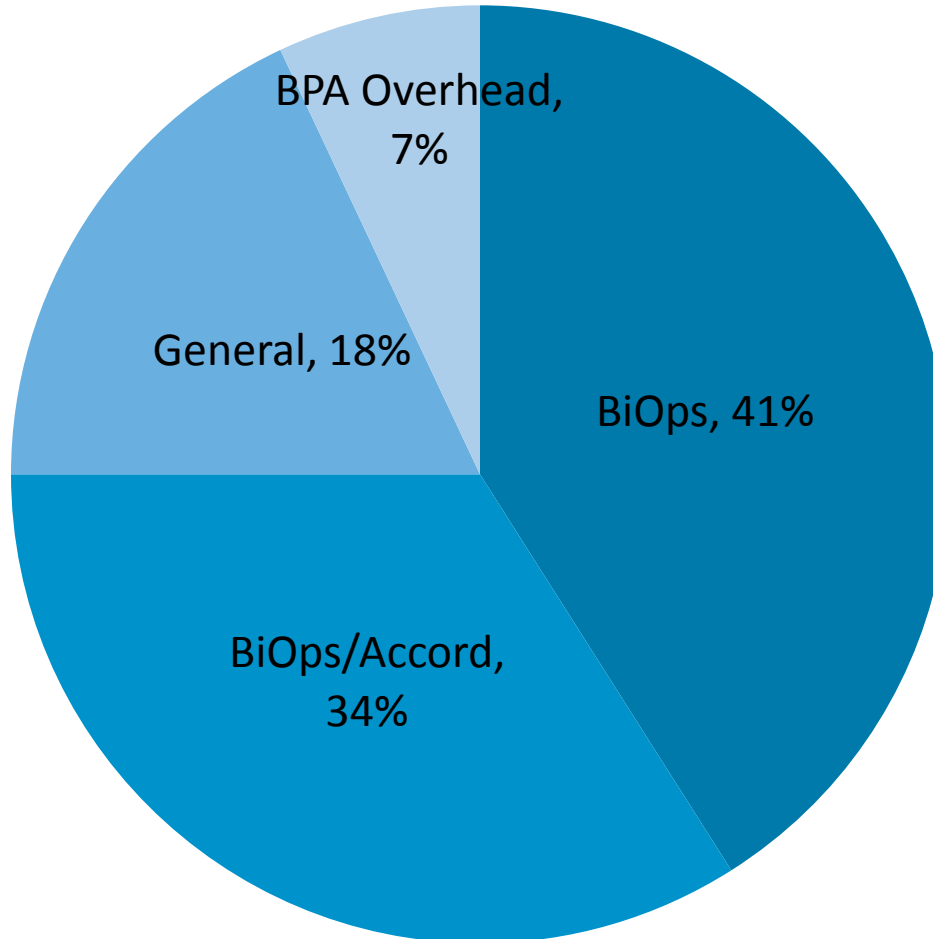
National Environmental Policy Act

- Assess major federal actions that may significantly affect the environment.

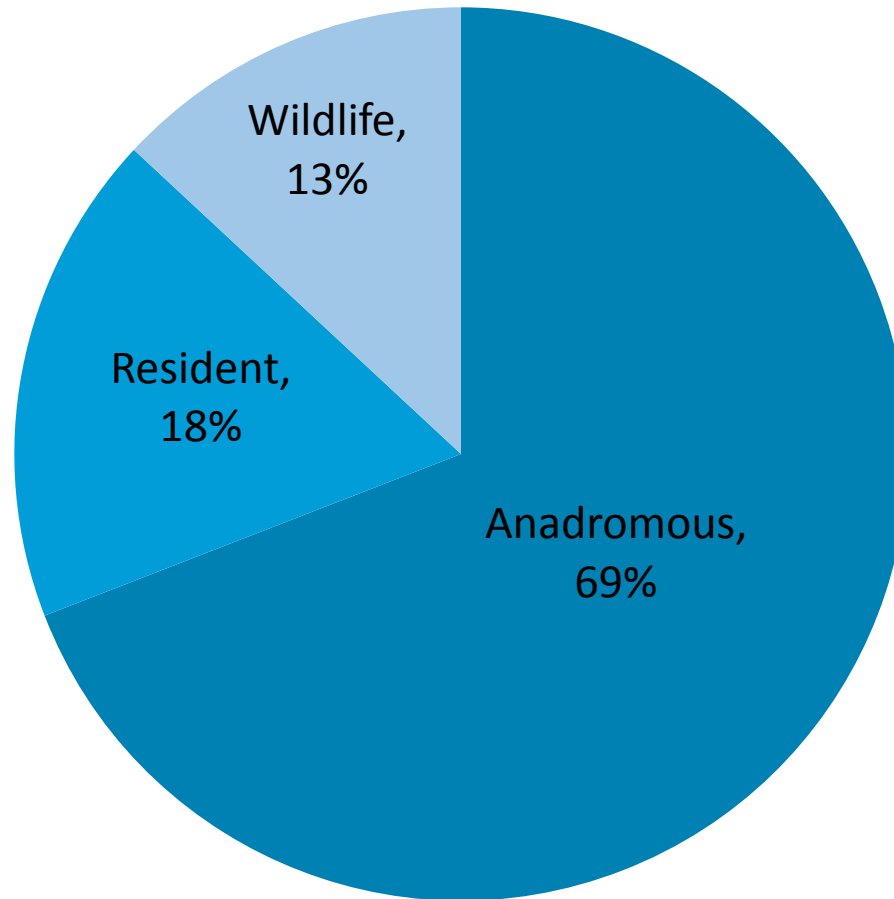
National Historic Preservation Act

- Assess federal undertakings that may adversely affect historic and cultural resources.

F&W Costs Related to Legal Compliance



F&W Costs by Type of Species

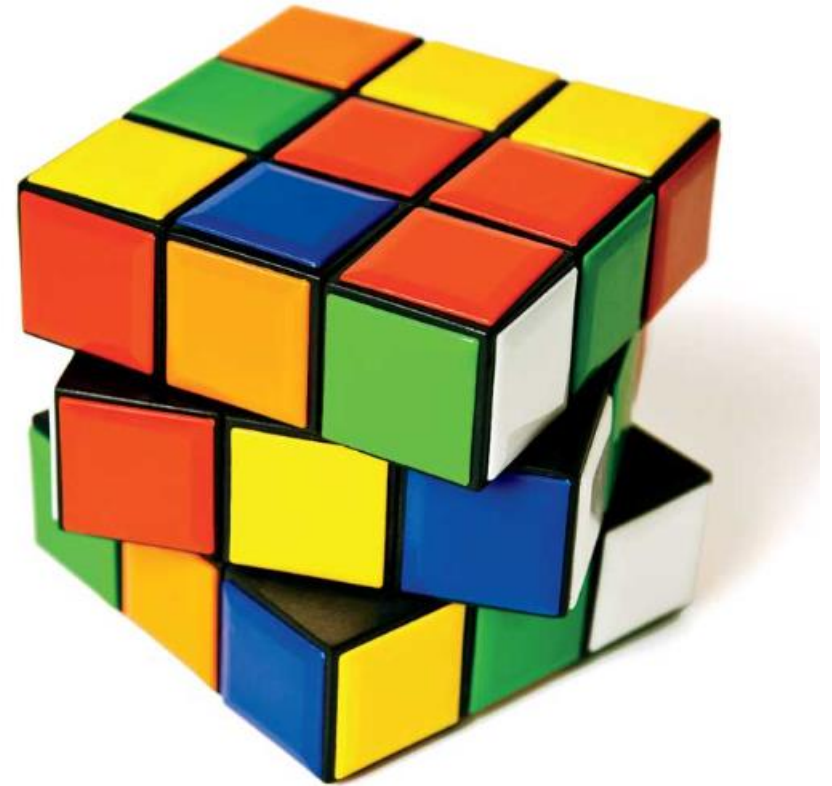


Lydia Grimm, Senior Policy Advisor

WHAT IS HAPPENING NOW?

What is Happening Now?

- BiOps/ESA
- Fish Accords
- Council Processes
- Columbia River Treaty
- Clean Water Act issues
- Climate Change adaptation
- Litigation



Questions?



Jason Sweet, Supervisory Fishery Biologist

John Barco III, Manager, Policy and Planning

WHAT RESULTS ARE WE ACHIEVING?

All-H for Salmon and Steelhead

Hydro: Achieve 96% dam survival for migrating spring fish and 93% for summer fish (juvenile fish swimming downstream to ocean)

Habitat: Restore high priority habitat in tributaries and the estuary (over \$60M annually)

Hatcheries: Produce fish to support, and not impede, the recovery of listed fish

Harvest: “Companion” BiOps with abundance-based sliding-scale harvest numbers

Predator management: Managing predation by fish, birds, and marine mammals

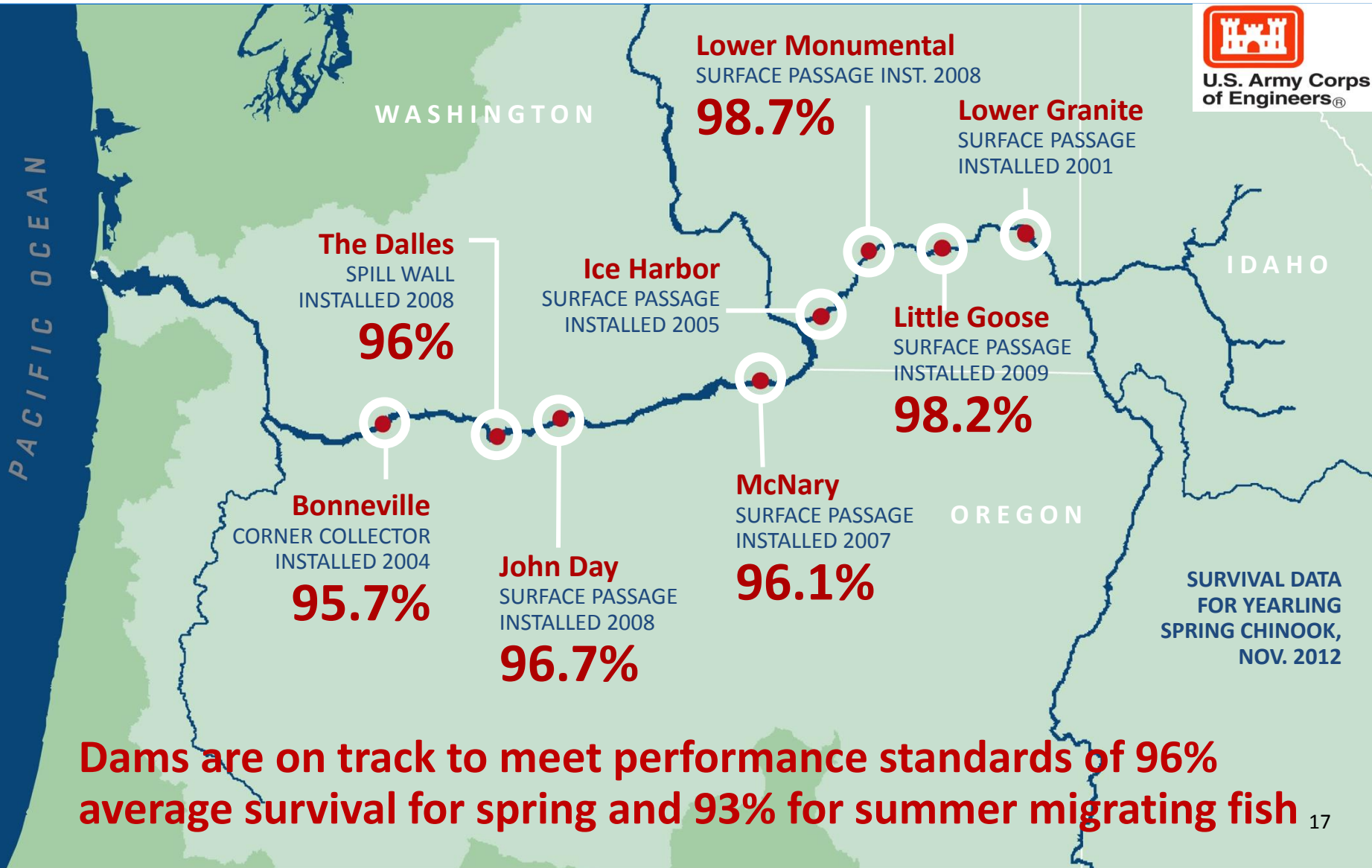


GOAL: Rebuild Columbia Basin fish stocks

Results For The Fish: Optimizing Fish Passage



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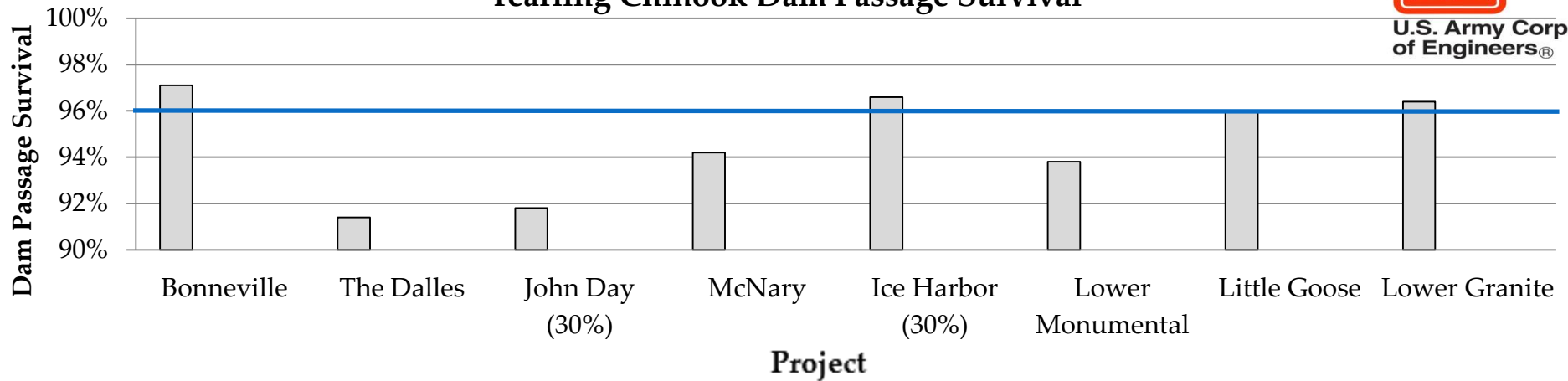
Dams are on track to meet performance standards of 96% average survival for spring and 93% for summer migrating fish

Juvenile Dam Passage Survival Performance Standards Spring

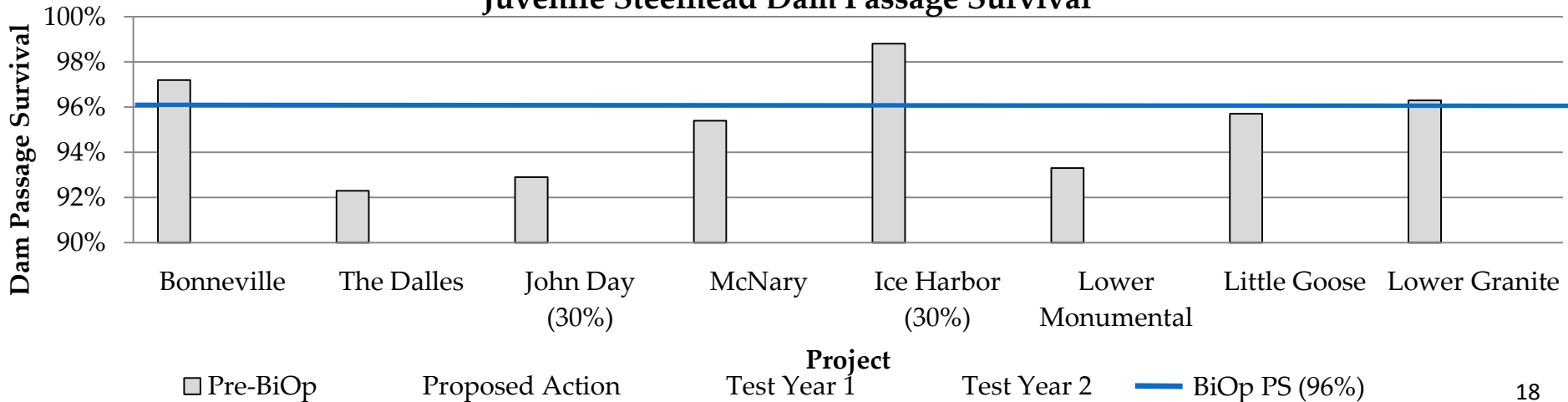


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Yearling Chinook Dam Passage Survival



Juvenile Steelhead Dam Passage Survival

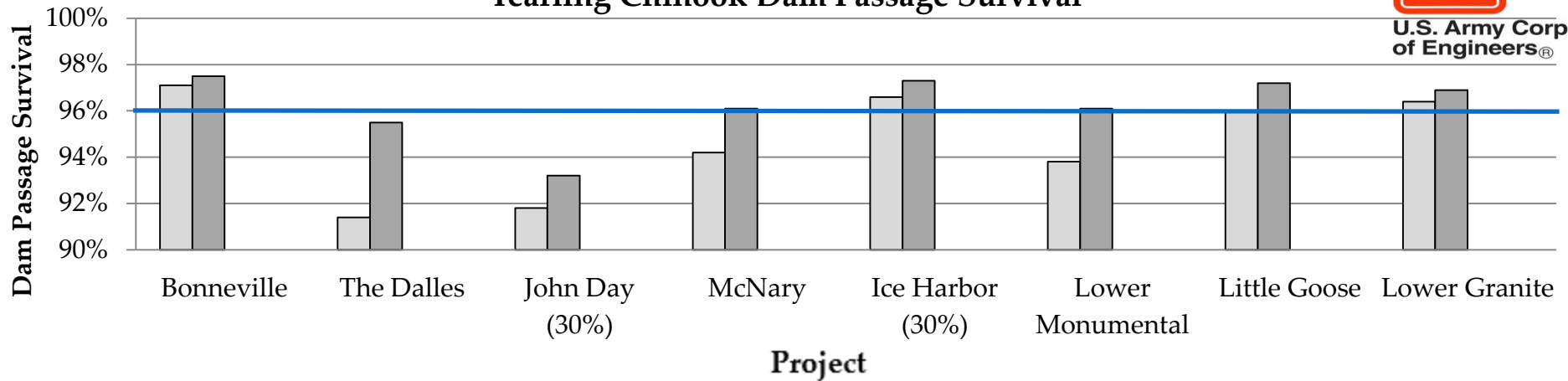


Juvenile Dam Passage Survival Performance Standards Spring



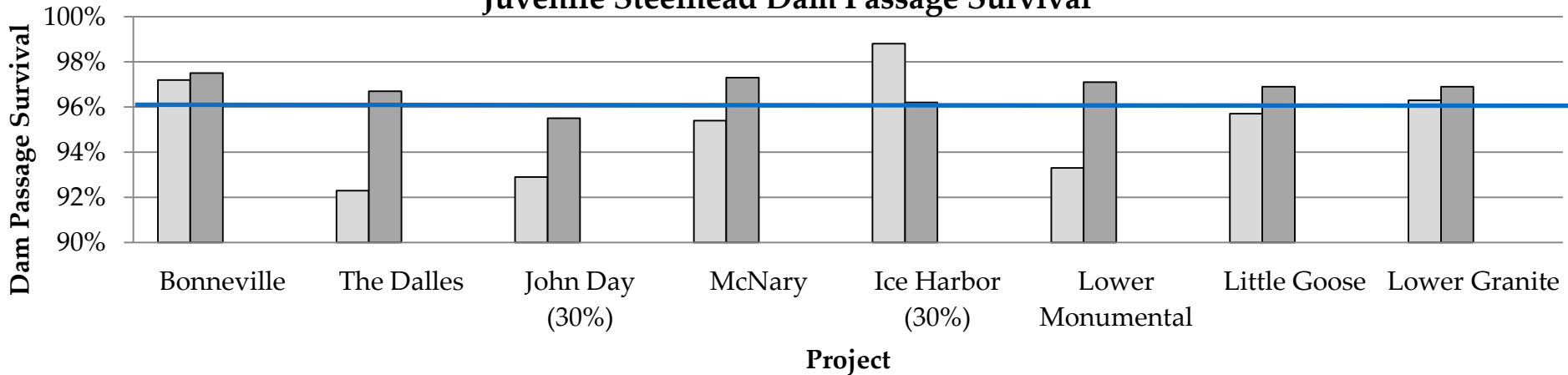
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Yearling Chinook Dam Passage Survival



Pre-BiOp
 Proposed Action
 Test Year 1
 Test Year 2
 BiOp PS (96%)

Juvenile Steelhead Dam Passage Survival



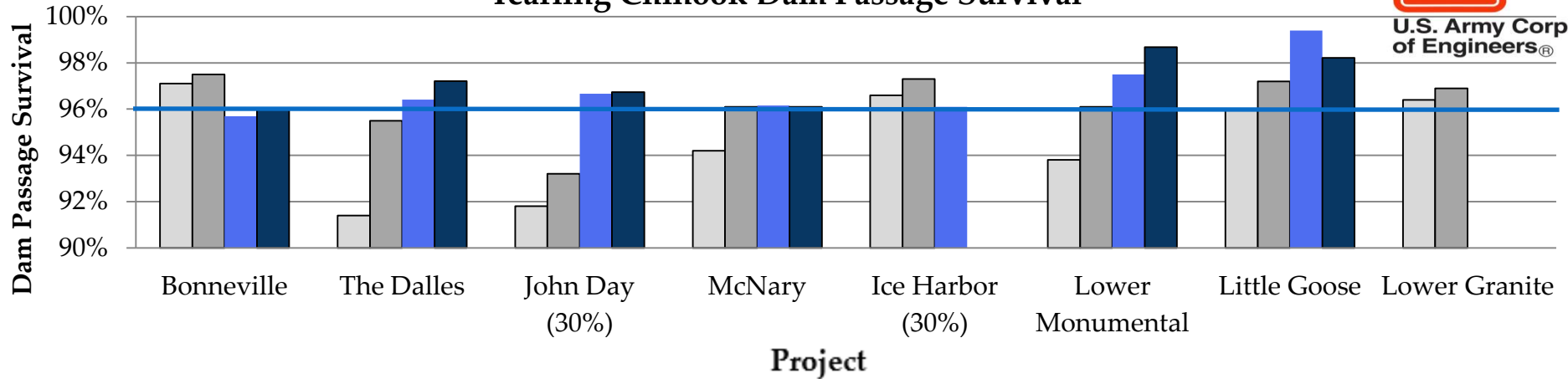
Pre-BiOp
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Juvenile Dam Passage Survival Performance Standards Spring

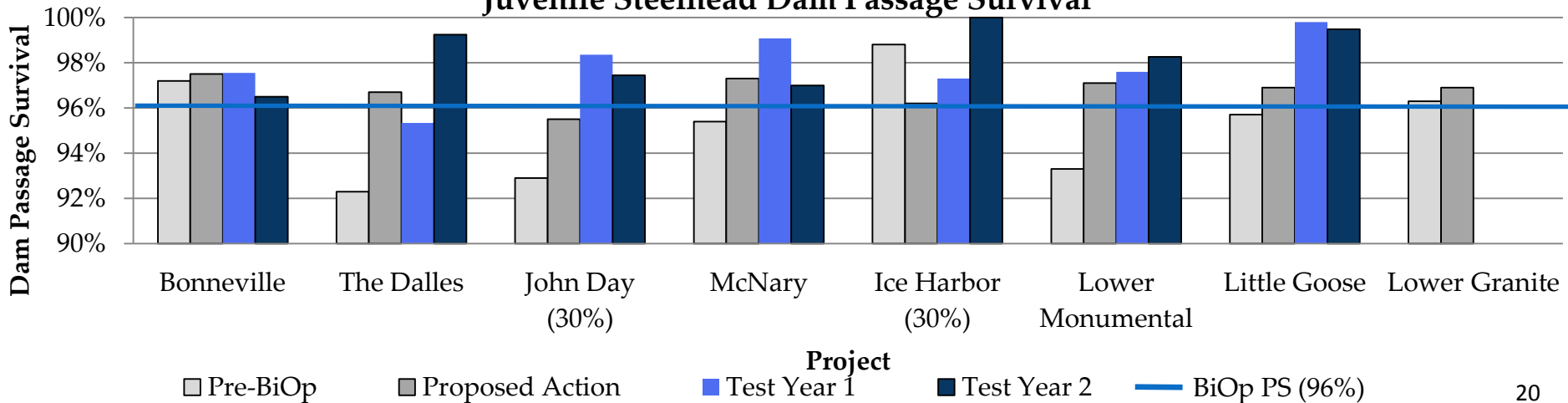


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Yearling Chinook Dam Passage Survival

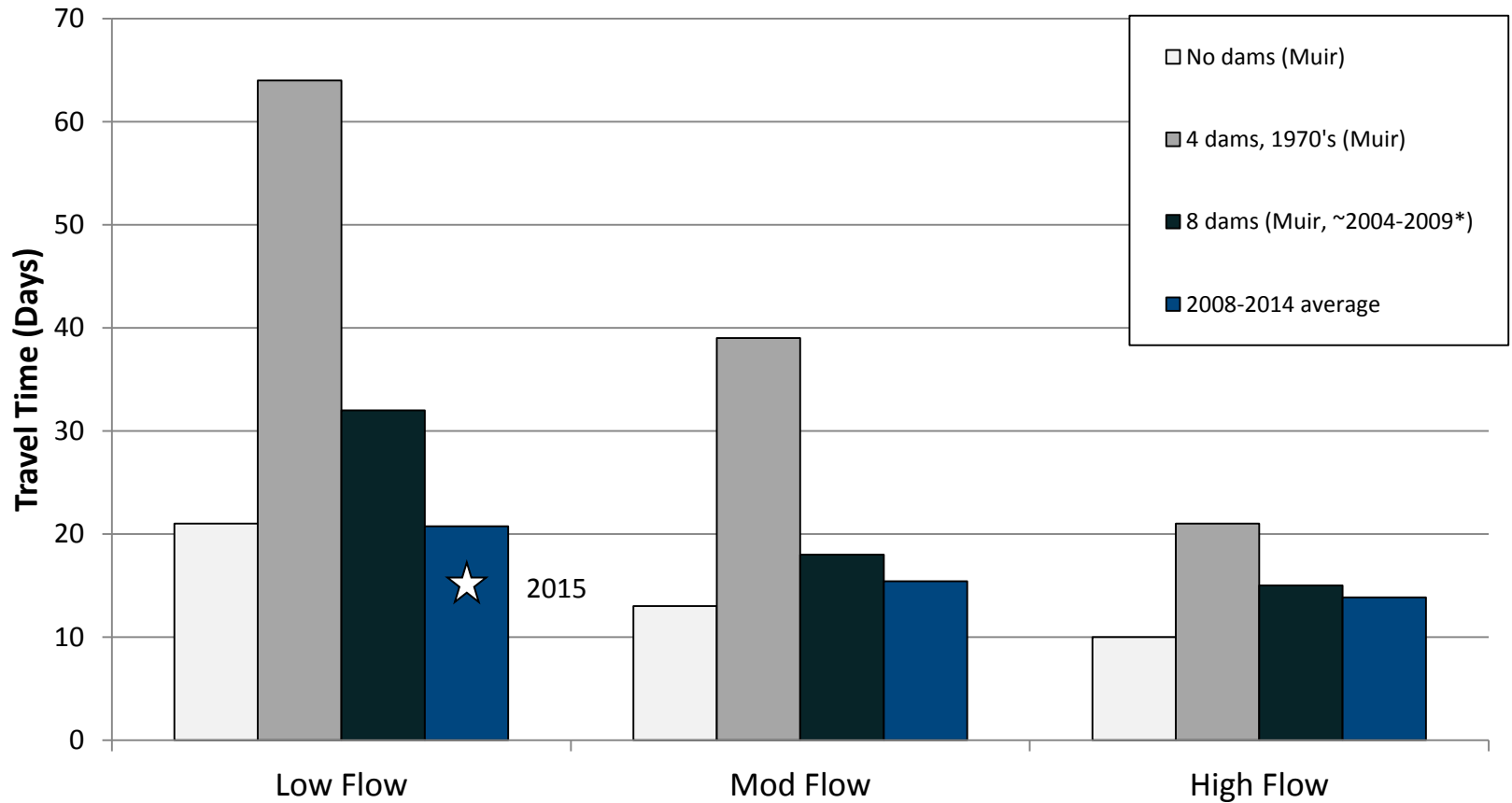


Juvenile Steelhead Dam Passage Survival



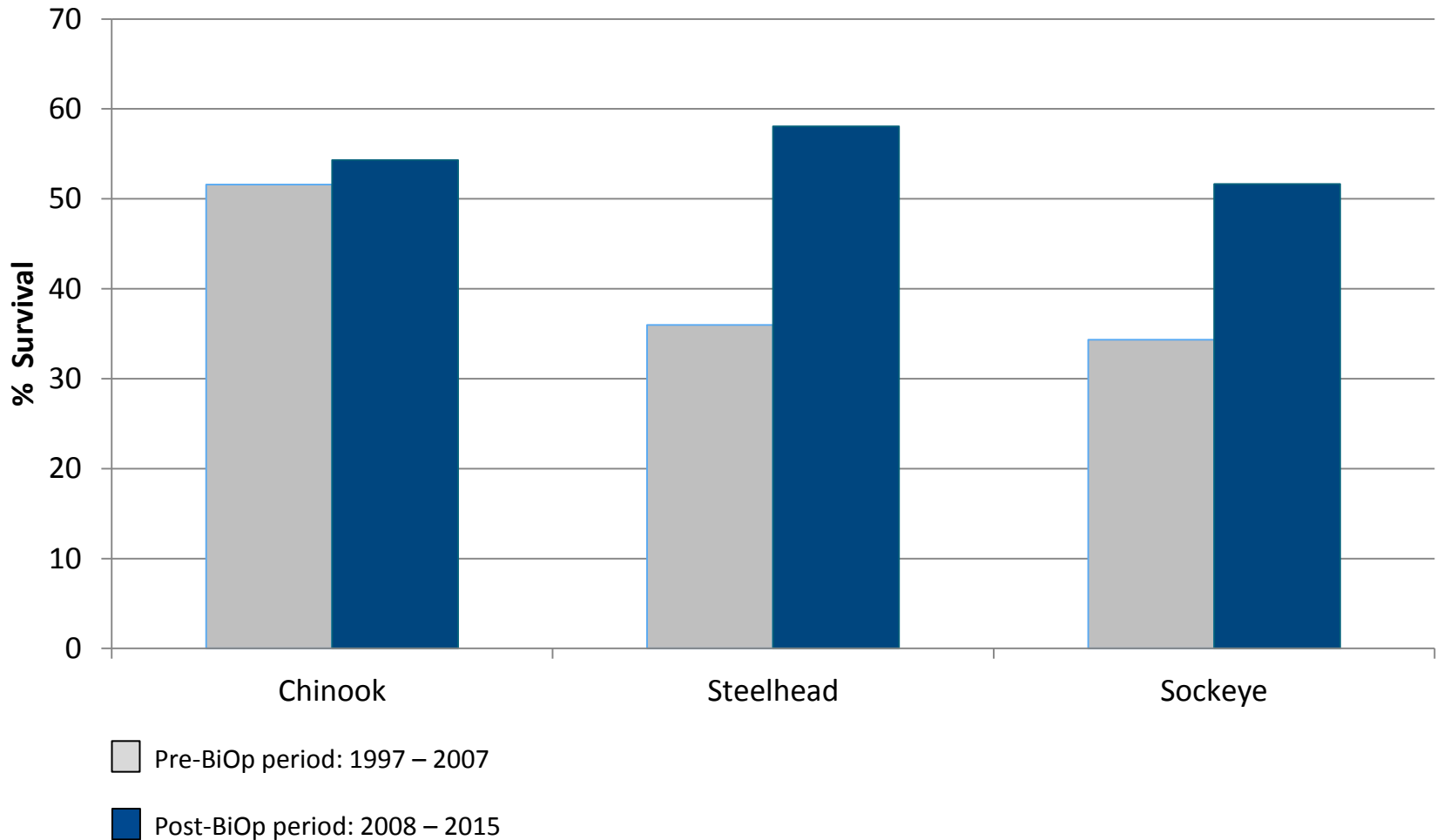
Juvenile Fish Travel Time Through the FCRPS

Lower Granite to Bonneville Dam Fish Migration Travel Time Under 3 Flow Conditions (low, moderate, high)



In-river Juvenile Fish Survival Lower Granite Dam to Bonneville Dam

Pre-BiOp vs. Post-BiOp



Results For The Fish: Tributary Habitat

From 2007 to 2015:

- Protected over 373,000 acre feet of water
- Opened access to over 3,304 miles of fish habitat
- Restored 400 miles of stream habitat complexity



Results For The Fish: Estuary Habitat

From 2007 to 2015:

- Protected or restored over 7,760 acres of estuary floodplain by purchase or lease, including 1,321 acres in 2015
- Restored or enhanced over 42 miles of estuarine tidal channels



More Accomplishments For Fish

Hatcheries

- Conservation hatcheries for sockeye
- Reintroduction where fish had been extirpated: spring chinook in the Okanogan, coho in the Yakima River
- Hatchery management reforms expected to benefit wild fish
- Support both conservation and harvest

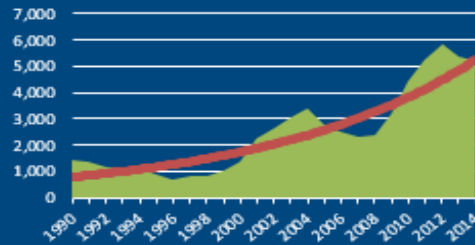
Predator Management

- Sea lions: harassment, lethal take and proposed legislation
- Birds: Caspian tern relocation and cormorant management plan
- Fish: Northern Pikeminnow; Northern Pike

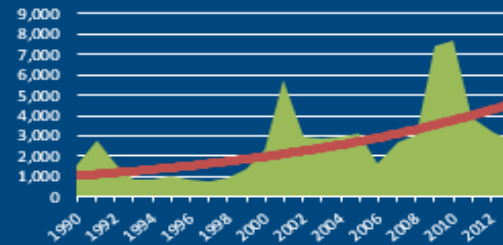


How Are The Fish Doing? Abundance Of Wild Salmon and Steelhead

Mid-Columbia River Steelhead*

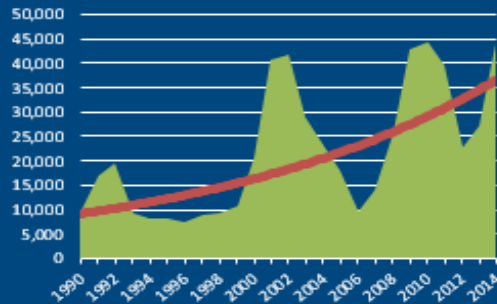


Upper Columbia River Steelhead

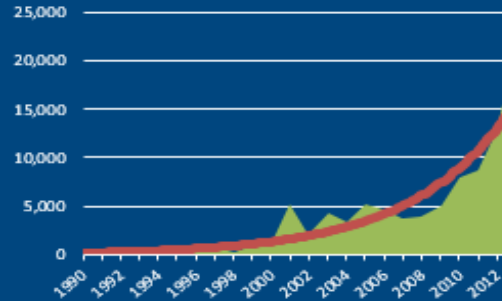


Trend

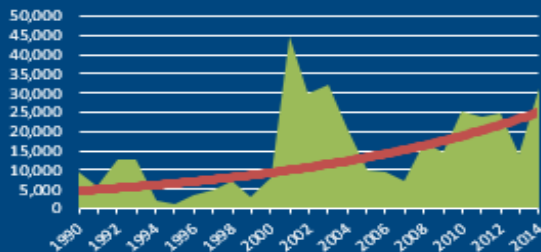
Snake River Steelhead



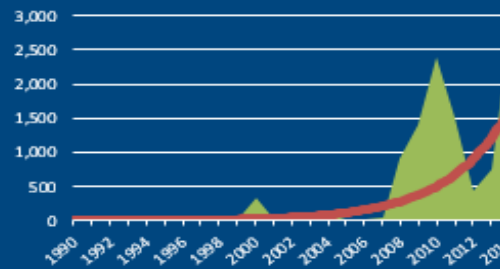
Snake River Fall Chinook



Snake River Spring/Summer Chinook



Snake River Sockeye



Questions?



Bryan Mercier, Manager, Business Operations Support

HOW ARE WE MANAGING BUDGETS FOR EFFICIENCY?

Total Annual Average Cost of BPA Fish & Wildlife Actions

Percentage of Spending
Categories Allocated to F&W

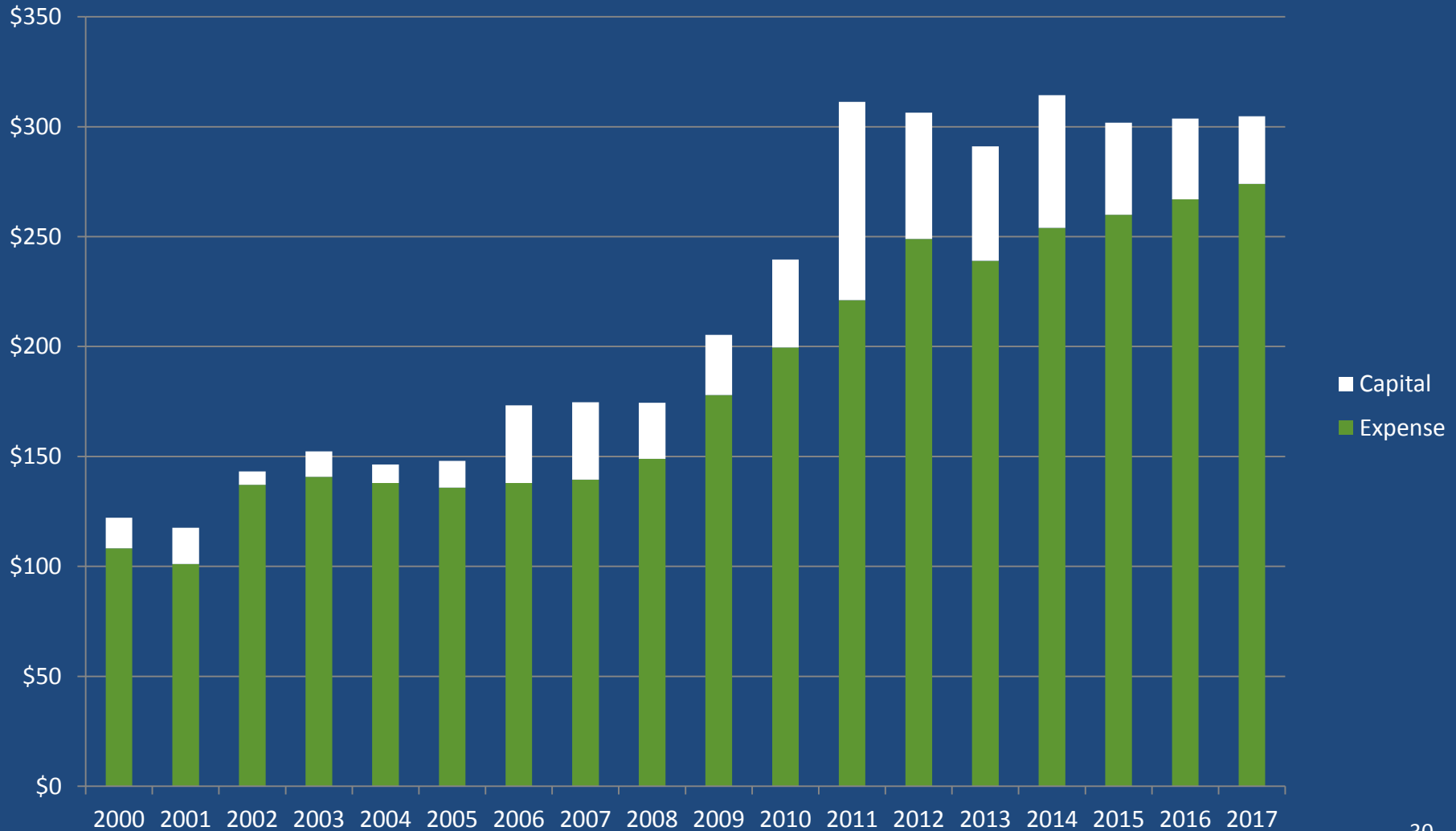
FY 2012-2013
Actuals
(\$ in Millions)

FY 2014-2015
BP-14 Final
Proposal
(\$ in Millions)

FY 2016-2017
BP-16 Final
Proposal
(\$ in Millions)

Category	Percentage of Spending Categories Allocated to F&W	FY 2012-2013 Actuals (\$ in Millions)	FY 2014-2015 BP-14 Final Proposal (\$ in Millions)	FY 2016-2017 BP-16 Final Proposal (\$ in Millions)
Integrated Program	100%	244	257	271
NWPCC – Annual Average	50%	5	5	6
US Fish & Wildlife Service – Annual Average Lower Snake Compensation Plan	100%	25	31	33
Corps of Engineers O&M – Annual Average	~19%	39	45	49
Reclamation O&M – Annual Average	~4%	6	6	6
UNSLICED Annual Average Hydro Operations Effects (Power Purchases & Foregone Revenues)		206	260	200
Depreciation & Interest on COE / Reclamation / USF&WS Capital F&W Investments (based on Plant in Service)		138	175	171
Depreciation & Interest on BPA Direct Program Capital F&W Investments		662	779	736
Total \$		662	779	736

Fish & Wildlife annual expenditures



Managing F&W Budgets for Efficiency

- **Financial Efficiency and Biological Effectiveness**
- **Budget and Operational Certainty**
- **Cost Management Tools**
- **Asset Management**



Managing F&W Budgets for Efficiency cont'd

Financial Efficiency and Biological Effectiveness

- Performance metrics for the all-H approach
- Fiscal discipline and budget prioritization
- Ongoing initiative: Continuous program evaluation to increase value and meet emerging requirements

Budget and Operational Certainty

- Set and manage to fixed multi-year budgets
- Long term agreements establish certainty
- Ongoing initiative: Consideration of post-2018 BiOps, Accords and other potential long term agreements

Managing F&W Budgets for Efficiency cont'd

Cost Management Tools

- Ensure FCRPS nexus.
- BPA F&W manages 600+ deliverable-based contracts; not grants
- Strong controls and systems
- Robust engagement with partners during project development
- Ongoing initiative: Optimize research and monitoring projects
- Ongoing initiative: Maximize and leverage cost share opportunities

Asset Management

- Land Monitoring – Conservation easements and stewardship funds
- Lower Snake River Compensation Plan asset management
- Ongoing initiative: Assessments of F&W Program hatcheries and fish screens for strategic O&M plan

Emerging Issues

- ESA Biological Opinions, NEPA, and potential Accords and settlements
- Climate change/Ocean conditions
- Predator management
- Columbia River Treaty
- Proposals for increased spill
- High head dam passage
- Hatchery consultations/reforms
- Bull trout consultation
- Lamprey conservation
- NPCC initiatives (toxics, invasives, etc.)



What Does This Mean For 2028?



Financial Disclosure

This information has been made publicly available by BPA on February 11, 2016 and contains information not reported in BPA's financial statements.