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February 9, 2022

MEMORANDUM

TO: Council Members

FROM: Erik Merrill, Independent Science Manager

SUBJECT: ISRP Final Report: Review of Anadromous Fish Habitat and Hatchery Projects

BACKGROUND:

Presenters: Stan Gregory, ISRP Chair, and Richard Carmichael

Summary: The presentation will summarize the Independent Scientific Review Panel's (ISRP) findings from its *Final Report: Review of Anadromous Fish Habitat and Hatchery Projects*. The report is due and will be distributed to the Council and posted to the [ISRP's webpage](#) on February 10, 2022 (ISRP 2022-1). It will provide the ISRP's final comments and recommendations on [122 proposals](#) submitted for the [Anadromous Fish Habitat and Hatchery Review](#). The report will also provide a discussion of programmatic issues regarding habitat restoration monitoring and evaluation and future project review processes.

Relevance: Section 4(h)(10)(D) of the Northwest Power Act guides the Council in recommending projects to implement the Fish and Wildlife Program. Project reviews increase Program accountability and transparency; improve project design, implementation, and overall effectiveness; help track project and program performance; and facilitate information sharing and adaptive management.

Workplan: Project reviews are an integral part of the Fish and Wildlife Program's workplan.



FINAL REPORT:
Review of Anadromous Fish
Habitat and Hatchery Projects

INDEPENDENT SCIENTIFIC REVIEW PANEL

ISRP 2022-1 FEBRUARY 10, 2022

ISRP

Presentation to the
Northwest Power and
Conservation Council,
February 16, 2022

ISRP and Peer Review Group (PRG)

- ***Independent Scientific Review Panel***

- Richard Carmichael, M.S.
- Patrick Connolly, Ph.D.
- Kurt Fausch, Ph.D.
- Kurt Fresh, M.S.
- Stan Gregory, Ph.D.
- Dana Infante, Ph.D.
- Josh Korman, Ph.D.
- Thomas P. Quinn, Ph.D.
- Kenneth Rose, Ph.D.
- Thomas Turner, Ph.D.
- Alisa Wade, Ph.D.

- ***Peer Review Group***

- John Epifanio, Ph.D.
- Dave Heller, M.S.
- Alec Maule, Ph.D.
- Robert Naiman, Ph.D.
- Greg Ruggerone, Ph.D.
- Steve Schroder, Ph.D.
- Desiree Tullos, Ph.D.
- Chris Wood, Ph.D.

- ***Independent Science Manager***

- Erik Merrill, J.D.

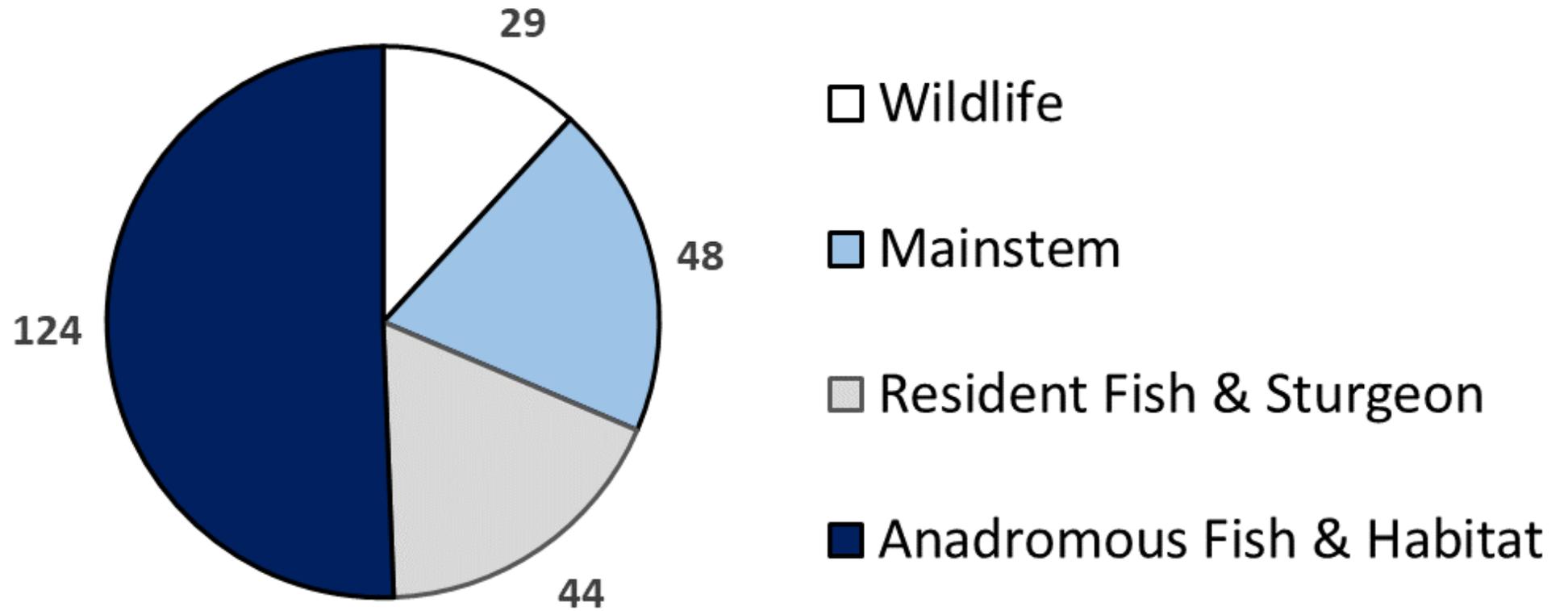


Category Reviews — 2016 to 2022

The Category Reviews of Fish and Wildlife Program included 245 projects in 4 categories:

- 2016-2017 Wildlife 29 projects
- 2018-2019 Mainstem and Program Support 48 projects
- 2019-2020 Resident Fish and Sturgeon 44 projects
- 2021-2022 Anadromous Fish Habitat and Hatchery 124 projects

Category Reviews



Anadromous Salmonid Species

- Chinook Salmon



- Coho Salmon



- Sockeye Salmon



- Steelhead Trout



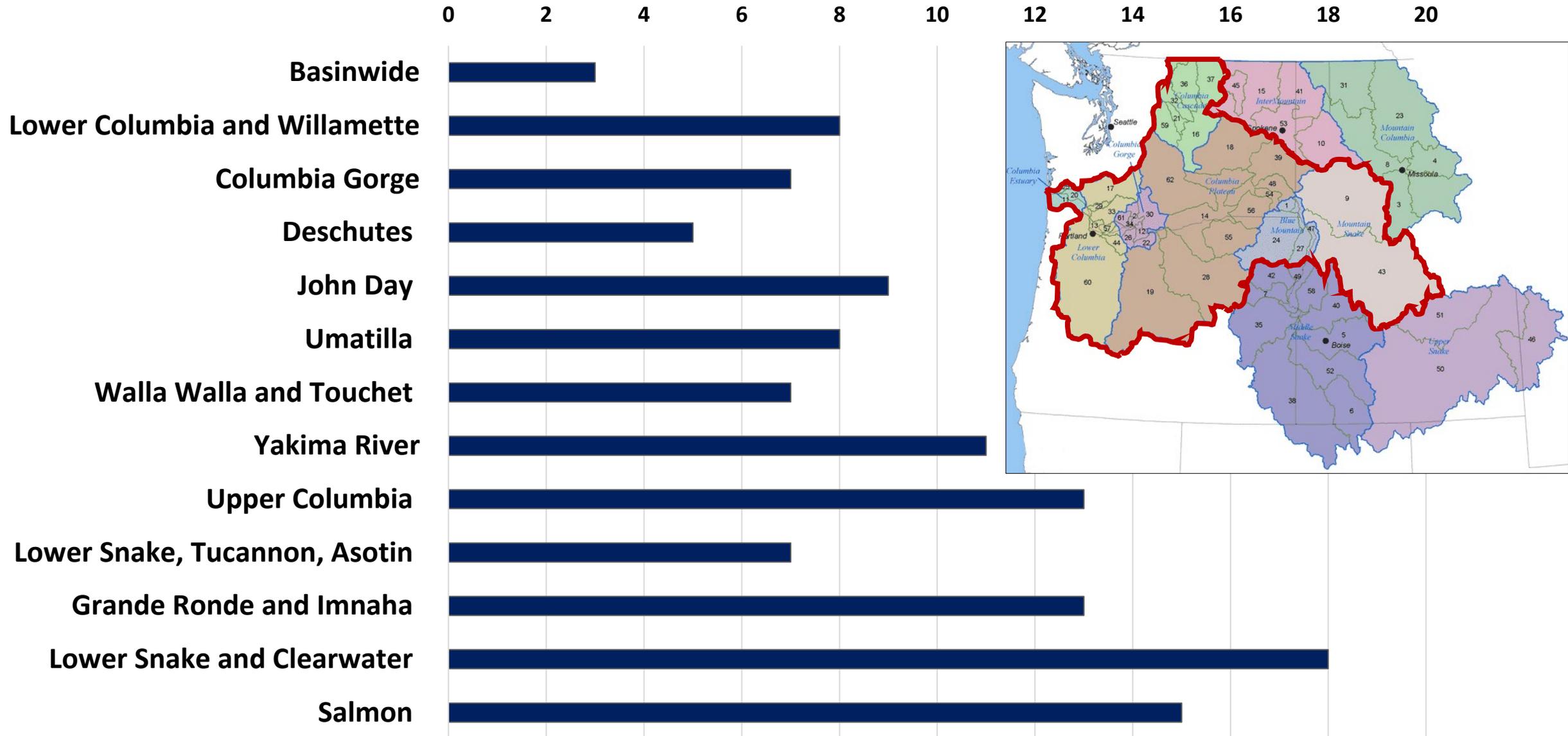
- Chum Salmon



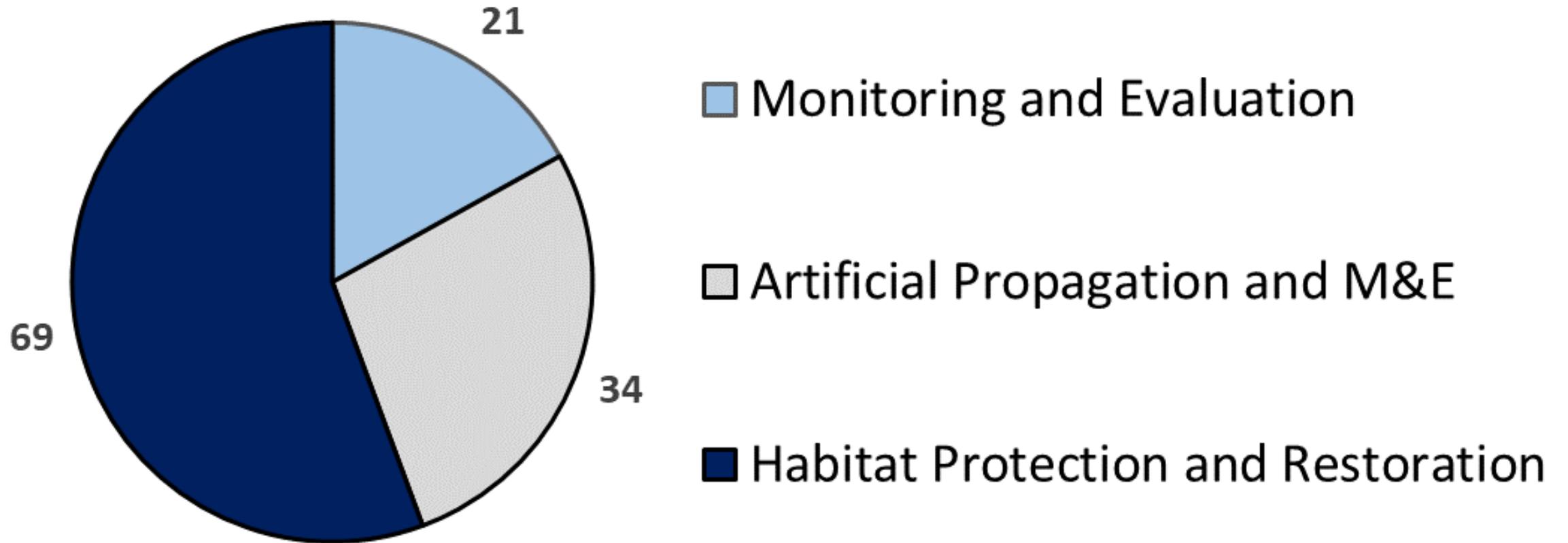
- Sea-run Cutthroat Trout



Number of Projects by Major Geographic Areas



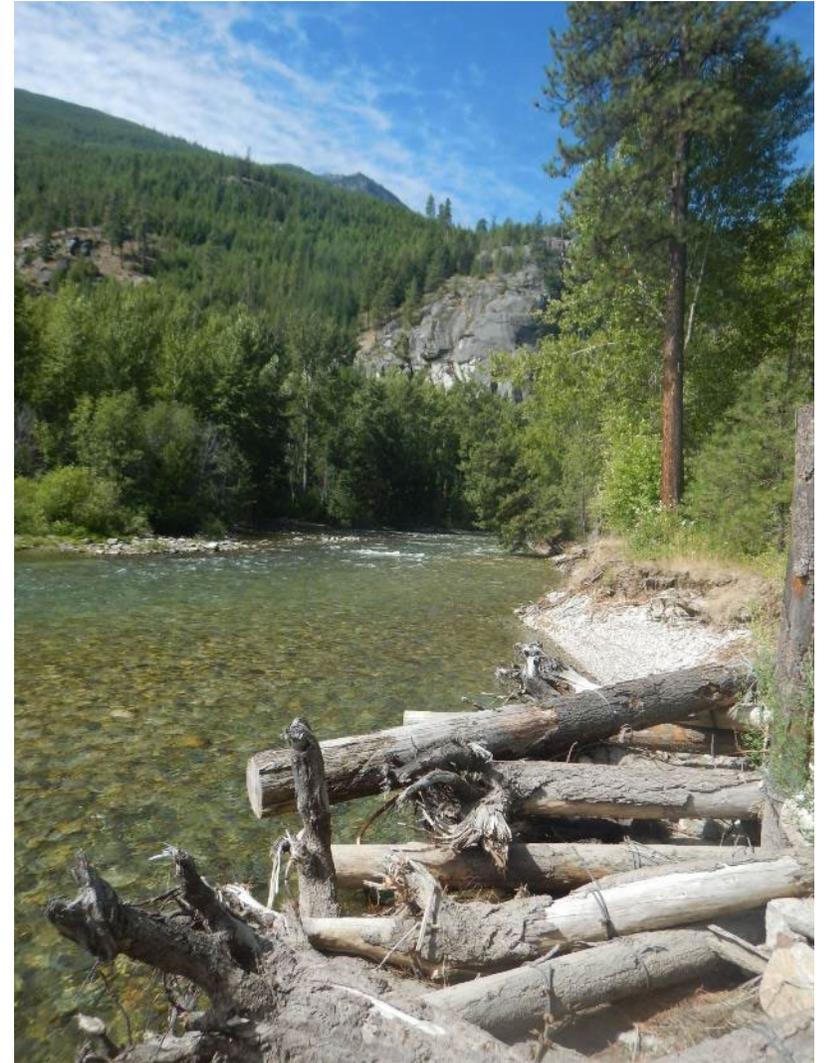
General Primary Purposes of Projects Reviewed



ISRP Review Criteria from 1996 Amendment to NW Power Act

Consistency with the Council's F&W Program

- Based on sound science principles
- Benefit fish and wildlife
- Clearly defined objectives and outcomes
- Provisions for monitoring and evaluation of results



Council Guidance for ISRP Review

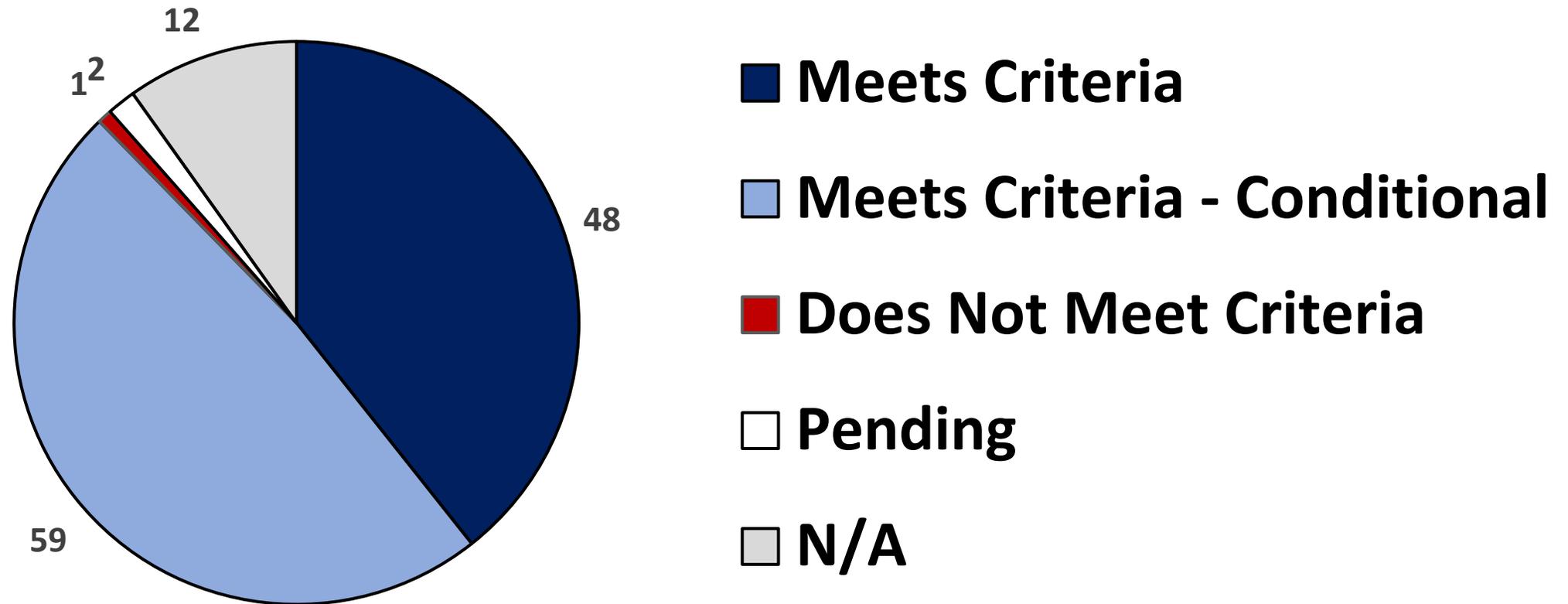
Focus on:

- Success in achieving objectives
- Accomplishments and results
- Objectives, actions, and methods reflect new information from results
- Progress towards completion



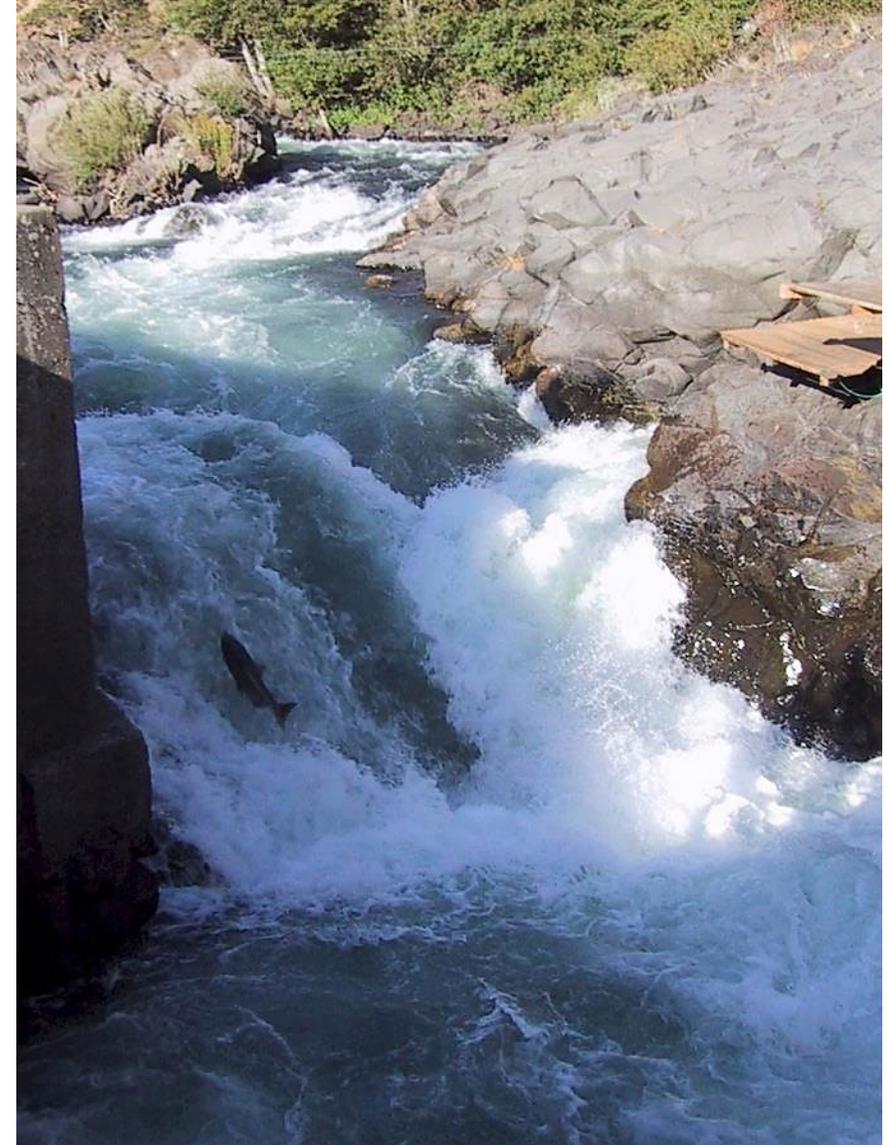
Anadromous Fish Habitat and Hatchery Review

- 122 proposals reviewed
37 requested to respond to questions



Accomplishments

- Impressive depth and breadth of accomplishments illustrated by individual projects and integrated project programs
- A wealth of new information and knowledge
- Extensive contributions to the Program's goals and numerous Tribal, State, and Federal Recovery and Management Plans
- Challenging to compile the combined achievements of F&W Program from individual project proposals



Common Features

Exemplary Projects

- Continuity and connectivity of problem, goals, and smart objectives
- Effective partnerships and collaboration
- State of the art approaches with innovation
- Integrated habitat and/or hatchery production with M&E
- Project adjustment and higher-level adaptive management decision frameworks
- Information sharing



Project Accomplishments

Exemplary Projects – Artificial Propagation

- Steelhead Kelt Reconditioning and Reproductive Success Evaluation Project - Columbia River Inter-Tribal Fish Commission, Yakama Nation, Nez Perce Tribe, and U of I
- Mid-Columbia Coho Reintroduction Project - Confederated Tribes and Bands of the Yakima Nation
- Johnson Creek Artificial Propagation Enhancement Project - Nez Perce Tribe
- Chief Joseph Hatchery Program - Confederated Tribes of the Colville Reservation

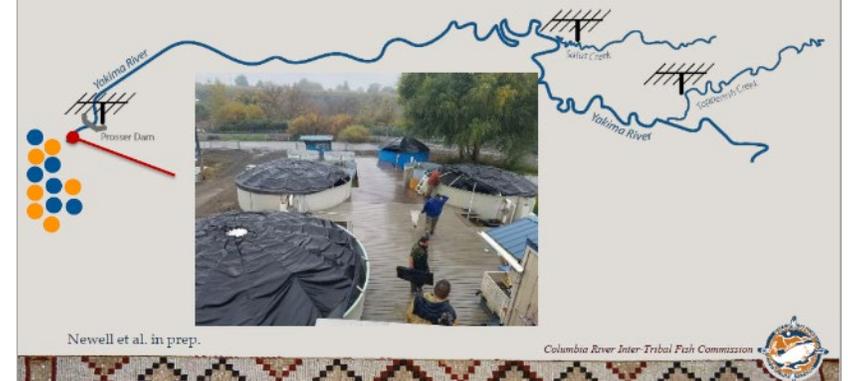


Steelhead Kelt Reconditioning and Reproductive Success - CRITFC

- Underway for slightly over a decade
- Developed successful strategies for collection through release and spawning
- Effective RM&E to resolve critical uncertainties
- Multi-agency effort
- Developed a relatively uncertain approach into a sound viable management alternative in a short period of time
- Future focus shifting to implementation on a broader production and management scale



Out of 137 kelts, every fish returned to its maiden stream



Project Accomplishments

Exemplary Projects – Habitat Protection and Restoration

- Columbia Land Trust Estuarine Restoration Project - Columbia Land Trust
- Wind River Watershed Project – U.S. Forest Service, Underwood Conservation District, WDFW, U.S. Geological Survey
- John Day Watershed Restoration Project - Confederated Tribes of the Warm Springs Reservation of Oregon
- Umatilla Anadromous Fish Habitat Project - Confederated Tribes of the Umatilla Indian Reservation



Wind River Watershed Restoration – U.S. Forest Service, Underwood Conservation District, WDFW, and U.S. Geological Survey

- Whole-watershed restoration and RM&E approach directed at steelhead
- Strong partnerships
- Work guided by strategic restoration and recovery plans
- Impressive range of accomplishments
- Fully integrated RM&E with restoration actions within an Intensively Monitored Watershed framework
- Commended for efforts to understand how habitat restoration affects steelhead viability and close coordination between practitioners and researchers



Umatilla Anadromous Fish Habitat – Confederated Tribes of the Umatilla Indian Reservation

- Project focus is to protect and restore watershed processes to provide sustainable and healthy habitat for first Foods species
- Proposal integrates traditional ecological knowledge and western science approaches and is well guided by holistic River Vision, Upland Vision and First Foods strategies
- Strong partnerships and collaboration
- Impressive accomplishments
- This project along with the Shoshone-Bannock Tribes Supplementation Projects were commended for integration of traditional ecological knowledge and western science



Project Accomplishments

Exemplary Projects – Monitoring and Evaluation

- The John Day River Salmonid Monitoring to Inform Recovery Project – Oregon Department of Fish and Wildlife
- The Idaho Genetic Monitoring of Snake River Steelhead and Chinook Salmon Project – Idaho Fish and Game
- Response to Conservation Measures and Environmental Stressors in the Columbia River Basin Project – Columbia River Inter-Tribal Fish Commission
- Upper Columbia Spring Chinook Salmon and Steelhead Juvenile and Adult Abundance, Productivity and Spatial Structure Monitoring – Washington Department of Fish and Wildlife



The John Day River Salmonid Monitoring Project – Oregon Department of Fish and Wildlife

- Status and trends study with positive ISRP reviews since its inception
- Effective data storage and sharing
- Following BPA cuts, they obtained alternative funding to continue population and habitat monitoring for Chinook salmon
- Provides critical data for regional management and habitat restoration projects
- Matrix and summary for M&E are an outstanding example of collaborative monitoring and evaluation for a subbasin



Goal 2: Juvenile Abundance, Habitat, Distribution, and Movement Patterns



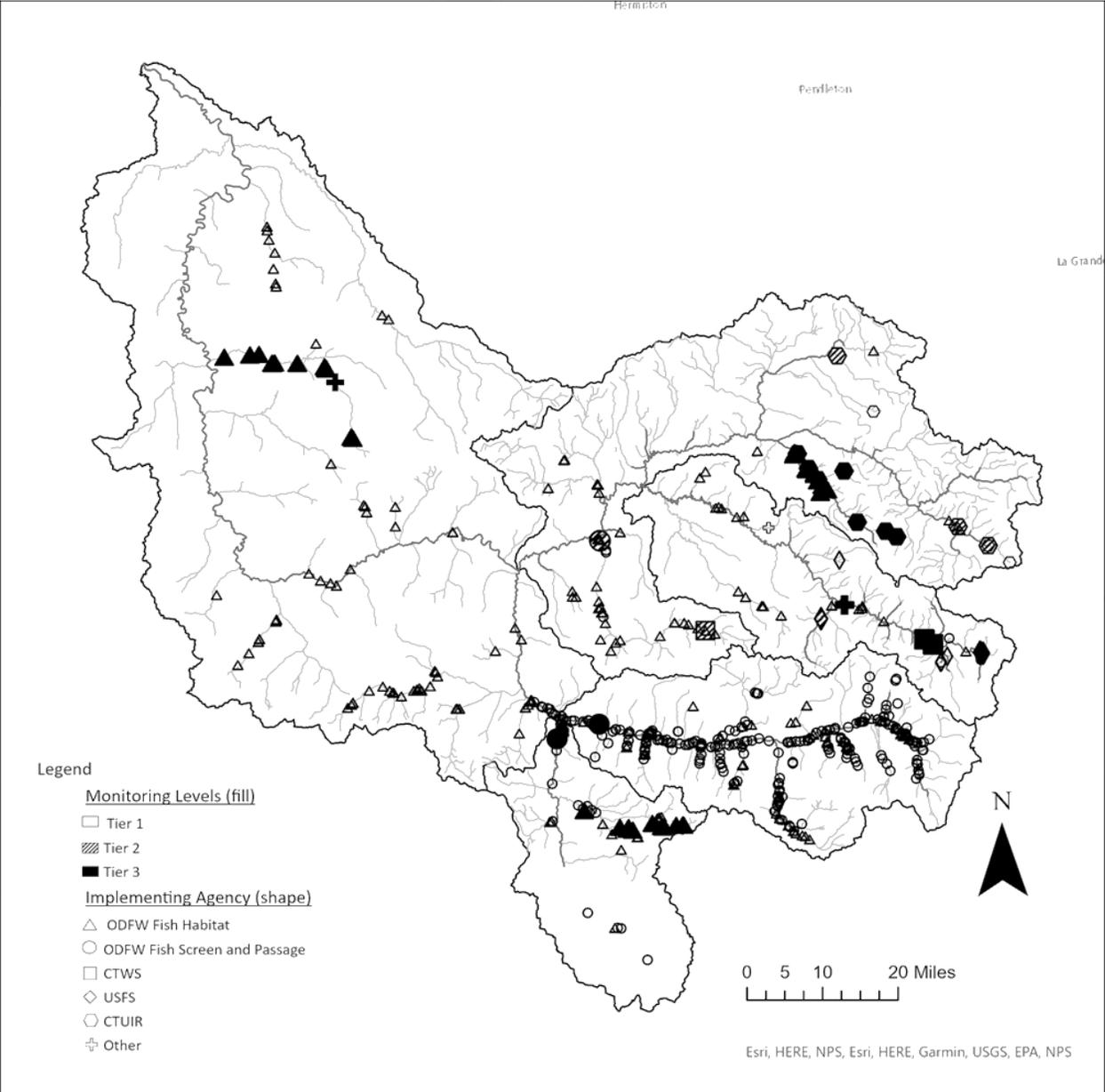
2018
Post
Fencing

Programmatic Comment on Monitoring and Evaluation

- The 1996 Amendment to the Northwest Power Act requires provisions for M&E of results and benefits to fish and wildlife.
- Artificial production and M&E proposals contained thorough descriptions of M&E
- Extensive ISRP questions about M&E for half of the habitat restoration proposals



Programmatic Comment on Monitoring and Evaluation



Example from John Day Matrix and Summary

Programmatic Comment on Monitoring and Evaluation

Comprehensive assessment of benefits to fish and wildlife based on integration of RM&E with habitat and hatchery projects :

- habitat conditions
- limiting factors
- restoration effectiveness
- status and trends of fish populations
- life cycle modeling



ISRP Recommendations for Monitoring and Evaluation

- Representative Subbasins with Assessment of Benefits to F&W Based on RM&E Integrated with Restoration and Artificial Production

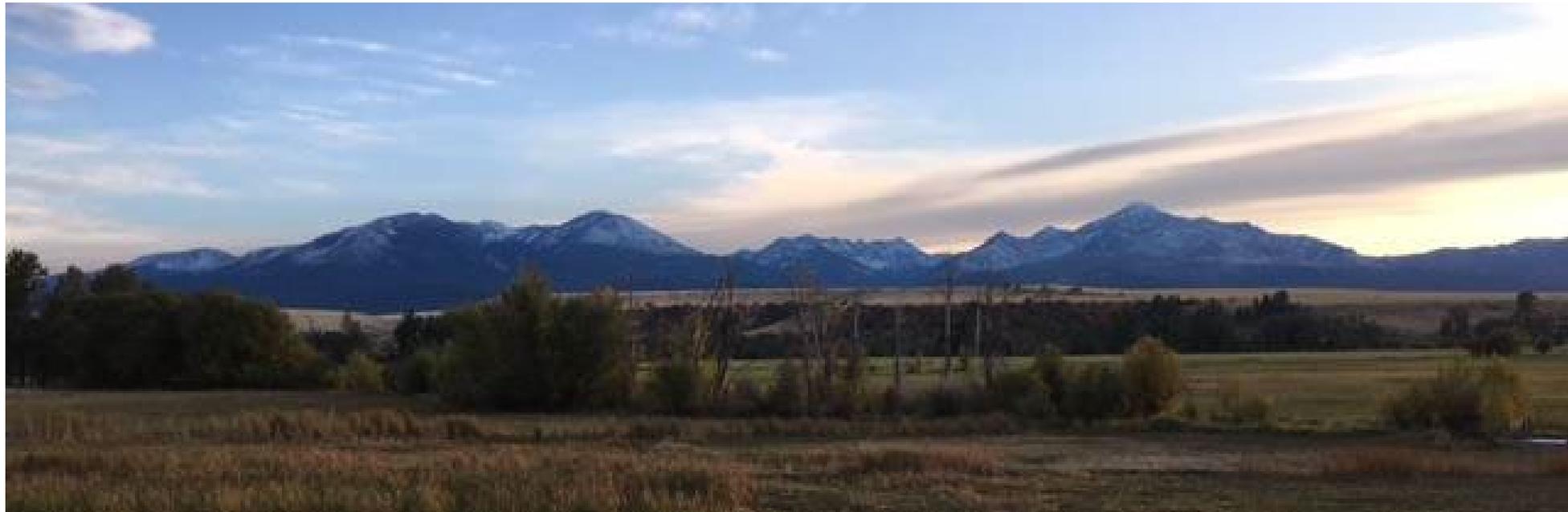


Programmatic Comment on Monitoring and Evaluation

- M&E matrices & summaries in 6 of the 10 geographic areas
- Four major thorough and informative M&E matrices and summaries with supporting tables and maps
- Two provided much of the information requested
- Four projects did not have adequate time or funding to develop M&E summaries

ISRP Recommendations for Monitoring and Evaluation

- Guidance for Individual Projects
- Summaries and Matrices of Monitoring and Evaluation within Subbasins or Geographic Areas



ISRP Recommendations for Monitoring and Evaluation

- A Regional Framework to Integrate RM&E Across Different Scales



Programmatic Comment on Future Reviews

- Build on strengths of current process
- Focus on discrete sets of projects
- Foster synthesis reports
- Improve communication



Additional Programmatic Issues



Acknowledgements

The ISRP appreciates the dedication of the proponents to protect and restore the natural resources of the Columbia River Basin and strengthen the Fish and Wildlife Program.

We also appreciate the constructive exchange of information by both proponents and ISRP reviewers during the Response Loop.

We look forward to learning how our scientific reviews and programmatic comments inform Council decision and subsequent project implementation and improvement by BPA and the project proponents.

We welcome ongoing dialogue if you or others have any questions about our review.

