



# **PARTNER WORKSHOP**

**Fish Passage Opportunities through  
the Bipartisan Infrastructure Law**

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*VOLUME 1: JULY 2022 MEETING SUMMARY*

# PARTNER WORKSHOP 2022: MEETING SUMMARY



## WORKSHOP SUMMARY

The U.S. Fish and Wildlife Service (USFWS), in partnership with the Association of Fish and Wildlife Agencies (AFWA) and The National Fish Habitat Partnership (NFHP), convened a two-and-a-half-day meeting of federal, state, and tribal agency representatives, as well as non-governmental organizations (NGOs), to discuss the Fish Passage opportunities under the Bipartisan Infrastructure Law (BIL), also referred to as the Infrastructure Investment and Jobs Act (IIJA). The meeting took place at the National Conservation Training Center (NCTC) in Shepherdstown, West Virginia, and had the following objectives:

- Achieve a greater understanding of federal agency and non-federal partner goals, activities, and timelines.
- Identify collaborative opportunities to improve fish passage through the IIJA.
- Explore opportunities to identify and advance shared ecological and socioeconomic goals and measures of success.

- Identify future needs and mechanisms for communication, collaboration, and coordination.

Throughout the workshop, attendees had the opportunity to hear from representatives from all of these sectors about the work that they are doing, the challenges they face, and the opportunities to maximize the impact of BIL funds. Several plenary sessions on Monday provided valuable context for an interactive Tuesday, where participants spent the entire day in dialogue during seven breakout sessions. On Wednesday, attendees heard a synthesis of the ideas discussed in the breakout sessions. In the afternoon, the federal agency representatives had an opportunity to meet and discuss immediate next steps.

A copy of the meeting agenda can be found in Appendix A. A full list of workshop participants can be found in Appendix B. Below is a session-by-session summary; copies of the presentations can be found in Attachment A: Compiled Presentations by Session.



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## DAY 1: MONDAY, JULY 20, 2022

### Leadership Welcome

The Leadership Welcome included an address by Director Martha Williams of the U.S. Fish and Wildlife Service, Mr. Tony Wasley, President of the Association of Fish and Wildlife Agencies, and Minnesota Division of Fish and Wildlife Deputy Director Patrick Rivers, who represented the National Fish Habitat Partnership. These speakers addressed the historic opportunity that this funding represents and affirmed their enthusiasm and commitment to working together across agencies and the public and private sectors to do the best possible work with the dollars available. They stressed that achieving this will require a commitment to guard against fragmentation of objectives among this group of partners and to always be mindful of the common set of objectives and values. With its combined knowledge and expertise, with clear communication this group is well positioned to complete projects where they matter most.

### Panel Presentation: Perspectives on the Challenge and Opportunity of Fish Passage

- **George Pess, NOAA's Northwest Fisheries Science Center** provided an overview of how barriers impact fish populations, the main types of barriers encountered, and the scale, severity, and distribution of these barriers. His presentation focused on dams and emphasized that removing these dams can restore critical habitats that will provide both essential ecosystem services to the watershed and social, economic, and cultural benefits to the people living there.
- **Paul Ward, Columbia River Inter-tribal Fish Commission (CRIFTC)** opened by describing the inseparable relationship many tribes have with fish both culturally and as a “first food.” He then provided an overview of how tribes of the Pacific Northwest have been regional leaders in protecting the aquatic ecosystem in the Columbia River Watershed through long-term planning at the basin level that also protects tribal treaty fishing rights. The CRIFTC has a plan in the basin that aims to restore fish through the entire life cycle, which in turn better supports the surrounding ecosystem.
- **Kayed Lahkia, Federal Emergency Management Agency (FEMA)** discussed aging dam infrastructure in the nation and the issues around rehabilitating and removing that infrastructure. He also discussed the National Dam Safety Program’s role in improving fish passage. The program received funding under IIJA specifically for removing High Hazard Potential Dams.
- **Brian Graber, American Rivers** provided an overview of American Rivers’ work and the role it can play in relationship building, training, and advocacy. American Rivers focuses on multi-benefit restoration projects where fish passage is a benefit alongside habitat restoration, improvements in water quality, public safety, and job creation, among others. Mr. Graber focused on dam removal, emphasizing that the National Inventory of Dams (NID) does not reflect many small structures such as culverts, bridges, and fords that make up the vast majority of fish passage barriers. American Rivers advocacy through the Uncommon Dialogue on Hydropower,



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River Restoration, and Public Safety has helped develop the 21st Century Dams Act, which, if passed, would fund \$7.5 billion for dam removal.

## DISCUSSION

*Question: In the 21st Century Dams Act, there was language establishing an interagency coordinating entity to address dam removal and federal investments in developing guidance for dam removal. It was not included in IIJA. Is this an oversight?*

- **Brian Graber:** The 21st Century Dams act has the language including both federal agencies and other stakeholders around dam removal funding. It was not included as we were directed to consider removing language unrelated to an existing program.

## Panel Presentation: Scope and Scale of Fish Barriers in the United States

- **Dan Wieferich, U.S. Geological Survey (USGS)** provided an overview of available data and databases (at the state, regional, and national level) detailing the location and severity of fish barriers. Mr. Wieferich presented data collection methods and the barrier types that they cover. Many federal datasets contain only one kind of barrier, such as the NID or the National Inventory of Low Head Dams. In contrast, some state databases may include data on multiple barrier types or more minor barriers such as culverts, which are difficult to collect on the national scale. He then discussed decision support tools, or prioritization tools, and concluded with strategies to build on current and past efforts: use common reference datasets, common data standards, and

terminology, increase understanding of shared or supporting priorities for decision support, and share resources such as code and documentation.

- **Kat Hoenke, Southeast Aquatic Partnership (SARP)** followed with an overview of the SARP Aquatic Barrier Inventory and Prioritization tool. While this tool covers only the geographic extent of the southeastern United States, it is regarded as one of the best resources of its kind. Importantly, it includes unregulated dams – while the NID contains 40,000 dams for this region, the SARP inventory includes 146,000. SARP relies heavily on partners to help locate low head dams, which are the largest data gap in the NID. The Inventory includes 25,000 assessed road-stream crossings, collected using a SARP-developed protocol for rapid assessment using ArcGIS Survey123. Ms. Hoenke ended by describing how SARP has six active connectivity teams composed of partners from all sectors who work together on project selection and management, regulatory streamlining, and community education and outreach.
- **Cathy Bozek, U.S. Fish and Wildlife Service (FWS)** outlined how the FWS identifies, prioritizes, and selects the best projects for support. The criteria considered include ecological importance, community importance, design quality and sustainability, and project support and readiness logistics. Overall, there is no one-size-fits-all approach to project prioritization, and many sources of information need consideration when analyzing project viability and selection.

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## DISCUSSION

*Question: On the FWS resilience criteria, can you go into more detail about how you define “climate change resilience”?*

**Cathy Bozek:** We have not refined exact quantitative measures, but we are looking at how the resilience of the habitat and species improves when a barrier is removed. We define resilience as the ability to recover from or persist through changes due to climate change. For example, if a barrier removal opens access to cold water refugia in the headwaters, that can help improve brook trout resilience to increasing temperatures. Other barrier removals could reduce the risk of habitat-damaging flooding and erosion that is otherwise increasing with climate change.

*Question: Part of the purpose of this meeting is pulling together in the same direction to create the best conservation benefit. Dan, in one of your slides, you showed all the different organizations and the criteria they consider in funding decisions. Where are the commonalities in those criteria, and how can we bring those together to provide the most significant benefit and transparency?*

**Dan Wieferich:** There is a lot of discussion going on around that, and hopefully, it is something we can better tune into during the workshop. There are some national datasets that we could utilize – T&E species and SGCN species. Some of the big issues that we face are the lack of uniformity in our fish passage information across the US. There is a wide range of information that can and is being used in different regions.



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*Question: What are the barriers and opportunities to bring to a national, standardized setting?*

**Kat Hoenke:** When it comes to a national standard, the region's differing criteria are true, but there are multiple standardization efforts, especially with the standardization of the road crossing barriers. There are efforts to take the North Atlantic Protocol and expand it west. There are a handful of standards that make sense for the nation, both for road crossing and dams. There are significant data gaps in finding structures; if we could combine efforts to find everything, partners could work together to address it. But addressing the fragmentation comes first.

*Question: When you looked at barriers, you indicated mostly physical structures. Have you considered including things like concrete channels or streams that are in culvert systems? Have you considered water quality and quantity, which are key barriers to fish movement, and have you started inventorying those?*

**Kat Hoenke:** We have started to do that. Some state agencies, such as Washington and Oregon, have temperature and flow barriers datasets. Collecting data for each type is important to understand how they impact connectivity fully. One of the topics raised previously is the incorporation of water diversions. That type of information is something we have begun tracking, identifying channels that are causing downstream issues. We have some interest from a Montana partner on tracking temperature data next.

**Dan Wieferich:** At the national scale, the USGS is also launching national water quality modeling. Some of those efforts are just kicking off and should be available in the next 3-4 years.

*Question: We heard Brian talk about being transformational and not just moving money out the door. How much time is needed to be "ready" if we will be transformational in the later years of the IJA?*

**Cathy Bozek:** The criteria I talked through was prioritizing projects in terms of providing funding for on-the-ground construction that won't hit substantial roadblocks. Stepping back and planning proactively will be important to think big picture.

## **Panel Presentation: What Does a High Quality Barrier Removal Look Like?**

- **Bjorn Lake, National Oceanic and Atmospheric Administration (NOAA)**, provided an overview of a watershed approach to fish passage.
- **Eric Rahm, Missouri Department of Conservation**, described Missouri's state-level prioritization and implementation of an Aquatic Organism Passage (AOP) project.
- **Therese Thompson, Western Native Trout Initiative (National Fish Habitat Partnership)**, presented examples of projects in the Bear River Watershed and the challenges they faced during the implementation of barrier removal projects.
- **Sara Gottlieb, The Nature Conservancy (TNC)**, reviewed TNC's Best Practices for Dam Removal, emphasizing the importance of a multi-benefit approach.



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- **Nat Gillespie, U.S. Forest Service (USFS)**, described best practices in culvert design for AOPs, specifically the Stream Simulation Design approach. Typical approaches constrict the natural channel, and rigid structures are not flexible to stream changes. The Stream Simulation approach accounts for floodplain conveyance, most geomorphic processes, and all aquatic passage needs. The design components include a minimum bankfull width that can accommodate 100-year flood recurrence with room for debris, a natural stream bottom based on reference reach, and a life span of 50-75 years. This approach has also proven to be very flood resilient, highlighting the close connection between enhanced ecological connectivity and flood resilience.
- **Mindy Simmons, U.S. Army Corps of Engineers (USACE)**, discussed the Corps' Aquatic Ecosystem Restoration (AER) mission, its budget, and what it can and cannot fund. She included examples of fish passage projects at dams, partnership projects in Oregon, and upcoming investments under IIJA.

## DISCUSSION

*Question: Did you quantify the changes in the culverts you fixed over time to understand the proportion that changed and became barriers again?*

**Nat Gillespie:** Hydraulic culverts I showed are part of an assessment to identify barriers, and yes, we were able to track them. It was fortunate that we were able to track the culverts because usually, you cannot. We dedicated Federal Highway Administration (FHWA) funding to monitor the stream simulation design. When built correctly, culverts continue to pass fish.

*Question: Everyone mentioned trust as a big hurdle between government agencies and on-the-ground partners. Has anyone “formalized” the “support group” concept to connect partners who have completed projects with potential partners who want to get projects done?*

**Eric Rahm:** In our work with two counties, we invited neighboring counties to construction sites to show them the process. Over time, the counties call us with information about a crossing, and they ask for help in the design and funding. I speak with counties frequently to build relationships and trust.

## Overview of Federal Efforts Under the IIJA

The first day concluded with a federal agency rundown, in which representatives of all agencies present provided a “lightning talk” that highlighted the funding received under IIJA for fish passage, the existing programs and programs under development, challenges and limitations of those programs, funding opportunities, and avenues for partnership within and outside of the federal family. Summaries of national agency efforts for fish passage under IIJA are included in Appendix C: Federal Summaries.

## DISCUSSION

**Comment:** Section 247 of the BIL was awarded \$550M to improve resiliency, dam safety, and environmental improvements, including fish passage at FERC licensed projects. Currently, there is a Request for Information about prioritization and implementation of the funding, including a 38-question survey, which closes in September. It will influence the funding distribution in 2023. If you have partners who



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are FERC-licensed, encourage them to apply. It is unclear whether the funds can be used on dams where fish passage is not part of the license.

*Question: Are there any limitations on where the FWHA culvert grant funds can be spent? Do the projects need to be on FWHA-managed roads, federally managed roads, state, private, etc.?*

**Joe Krolak, FWHA:** The statute guides the removal, repair, and restoration of culverts and weirs for anadromous fish species. Weirs can be widely interpreted; they may include dam removal, if it is acting as a weir, or could also be a fish ladder. There are three eligible entities – states, including state DOTs and other state agencies, local government units, and tribes. Projects do not have to be on a managed road – if entities propose a grant that meets those priorities, it would be an eligible use of funds.

*Question: A new migration crossing highway program provides authorizing language for aquatic connectivity. How might that be used in FHWA fish passage efforts?*

**Joe Krolak:** There is a wildlife crossing safety program that includes a \$70 million pilot per year. There are certainly overlaps in terrestrial and aquatic passage. This is an inflection point for us, and we are looking to change the state of practice for highways. This grant program is specific to wildlife, but aquatics should also be considered.

*Question: What are the discussions around benefitting resilient populations and mitigating the impacts of climate change?*

**Joe Krolak:** There are both cross benefits and resilience benefits for AOPs and other crossings. USFS mentioned the stream simulation approach, which has both climate change and resiliency benefits. The prioritization process talks about climate resilient fish stocks – that is part of the consultation process we are engaging with FWS and NOAA Fisheries.

*Question: You mentioned that the fish passage program money was not allowed to be used for monitoring. Is that unique to that program, and why? Does it apply to other programs?*

**Janine Harris, NOAA:** We will fund implementation monitoring and sometimes fund effectiveness monitoring through other mechanisms. We will run out of time to fund good effectiveness monitoring in projects where we are already funding feasibility, stakeholder engagement, and planning. We expect to see it over time but not in the current fiscal year funding opportunity.

*Question: does the construction of something on USACE property to get fish to pass around it count as an impact on operations on that project?*

**Amy Babey, USACE:** Yes, existing USACE projects are not budgeting nor funding for that under the IIJA. Instead, that is under regular operations and maintenance (O&M). The Continuing Authorities Program 206 carveout would not be used for an existing USACE project. A change in operations could happen through a request to fund through O&M budget processes.



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*Question: You mentioned that the nonfederal sponsor must submit a Letter of Intent, sign a cost share agreement, and then fund the project O&M in perpetuity. Is it true that after the barrier is removed, is the nonfederal partner still responsible for O&M?*

**Amy Babey:** Yes, at the end of the project, we will provide an O&M manual, and the nonfederal sponsor will be required to conduct the O&M in that manual in perpetuity. Hopefully, for barrier removal, the O&M should be minor.

*Question: Are you interpreting your funding as project dollars or technical assistance and capacity building? We have a session tomorrow on capacity building to do all of this work. The dollars coming through FWHA, is your assumption that most of the funding will go to projects already identified, or can some be allocated to partners to identify and develop projects?*

**James Demby:** Funding goes towards rehabilitation projects. FEMA has state assistance grant money through the National Dam Safety Program that builds capacity in state dam safety offices, but the grant is set up for the rehabilitation and removal of dams, including project scoping, preconstruction, and construction.

**Joe Krolak:** The language in the statute says projects. We are still open to the idea that the grant could be for a component to get to a place in the project delivery process to help facilitate it or help a partner get to a place to start or carry a project forward in subsequent years. There are sections of the omnibus on March 15, 2022, that specify that funds may be applied only for the purposes of this program. Other US Department



of Transportation BIL-related programs with AOP and crossings may not be as prescriptive as this program, and additional funds for capacity building may be available.

## **Closing Remarks, Pat Rivers, National Fish Habitat Partnership**

The day closed with remarks from Pat Rivers calling for focus during Tuesday's breakout session on keeping the energy behind this effort going beyond the lifetime of the funding opportunity. During the sessions, it is important to keep in mind that the BIL will not provide complete funding for new projects but provides the impetus to start many new projects and continue working with important partners to make good work great.

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## DAY 2: TUESDAY, JULY 21, 2022

### Opening Remarks, Gregg Smith, Oregon Department of Fish and Wildlife Fish Passage Coordinator

Before the breakout sessions, Gregg Smith provided opening remarks about Oregon's investment in resilient rivers, forests, coasts, and landscapes to protect healthy fish populations. He highlighted working with the state DOT as an important partner in identifying impactful project areas that have achievable outcomes under the available funding. He highlighted a four-dam removal in the Klamath river, as well as work with irrigation districts to purchase in-stream water rights to protect the flows of the Rogue river. Overall, Oregon has done significant outreach on the BIL since many partners are not aware of the specifics of the law and the opportunities it presents, and is a good example to follow as outreach will be an integral component of executing the BIL funds moving forward.

### Breakout Sessions

The entirety of Tuesday was devoted to small group discussion in seven breakout sessions:

1. Identifying Fish Barriers and Prioritizing Projects
2. Collaborating to Make the Whole Larger Than the Parts
3. Addressing the Capacity Challenge
4. Frameworks for Collaboration/Implementation
5. Developing an Inclusive Approach to Fish Passage
6. Monitoring and Measuring Success
7. Making Fish Passage a More Mainstream Concern



The breakout sessions had the following goals:

- Encourage cross-organizational orientation and understanding of capabilities and programs;
- Collect information about resources in an as efficient way as possible;
- Collect information regarding ideas of collaboration or implementation effectiveness;
- Identify implementation opportunities or gaps not yet considered; and
- Collect information on which to develop next steps for interagency coordination and on-the-ground implementation.

Each breakout room had a facilitator and a “dedicated listener” who took detailed notes and listened for themes to assist with developing the synthesis for Wednesday's whole group discussion. Participants contributed ideas to every breakout session by rotating between them. Detailed notes from each of the breakout sessions, as well as the prompt questions, can be found at the end of this summary in Appendix D: Breakout Summaries.

Following the breakout sessions, the facilitators and dedicated listeners synthesized what they heard and packaged those takeaways into a presentation delivered on Wednesday morning. Following the presentation, there was a large group discussion on the takeaways.

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## DAY 3: WEDNESDAY, JULY 22, 2022

### Opening Remarks

- **Jim Fredericks, Idaho Department of Fish and Game** focused on the state perspective and the extent to which projects are driven by local knowledge and involve heavy public input. While the focus on large dam removal is appreciated, there are many states (particularly in the West) where small diversions are more common, and thus fish passage projects are often a part of improving irrigation infrastructure. Since many of these smaller projects are partnership-driven, the challenge in the coming years will be building capacity both within the government and in existing partnerships by developing strategies to deliver federal funds on a massive scale to local efforts.
- **Serena McClain, American Rivers**, focused on watershed projects, highlighting the example of Bloede Dam removal in Maryland.

Two dams upstream were removed in 2010 and 2011, followed shortly after that by the Bloede removal. Ms. McClain highlighted that tracking the project's benefits through monitoring has allowed American Rivers to leverage the project to help regulators understand the riverine process and add to the broader scientific knowledge around the country about river systems following multiple dam removals.

Following the opening presentations, the dedicated listeners from Tuesday's breakout sessions reported on each breakout session's key themes and takeaways.

### Synthesis 1: Implementation Models of Success

#### KEY TAKEAWAYS

The key takeaways of this breakout were to be strategic (or creative) and inclusive. Several agencies have funding sources beyond IJJA that may have nexus with fish passage, such as how



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to streamline the distribution of funds within legislative/regulatory sideboards and how to be creative about using existing coordination mechanisms to meet future coordination needs. To improve inclusivity, a better understanding of stakeholders is needed; grow the table and bring in non-traditional organizations and stakeholders throughout the project process. Federal agencies can do a lot to connect partners and collaborate across regions.

Many groups noted that not all stakeholders care about fish and that these communities vary widely. These groups must be approached equally, using appropriate approaches to garner community support. It will be important to seek direct input from partners and stakeholders about what synergies exist between stakeholders' priorities, needs, and concerns and project criteria, evaluation, and expected benefits.

There is no one-size-fits-all approach. Partnering with and adjusting the approach as necessary to understand the audience is integral to directing benefits to tribes and underserved communities. Communities will respond differently to different techniques and forums for sharing information, which must be considered.

## **POSSIBLE ACTIONS**

Where possible existing mechanisms, partnerships, forums for collaboration, engagement, and community support should be leveraged. In many cases this should occur at the state or local level, where expertise on topics such as biological knowledge and landowner relationships can be leveraged for the success of fish passage projects. In other cases, networks such as the National Fish Habitat Partnership and various Watershed

Councils can assist. Leveraging these relationships and resources can inform the implementation of projects beyond what is stated in the IJA expenditure guidelines.

Mechanisms for action can include Intergovernmental Personnel Act agreements (IPAs), Memoranda of Understanding (MOUs), and Interagency Agreements (IAAs). Untapped networks such as AmeriCorps and college interns can provide staffing resources. Non-profit organizations can play a role in communicating with the community, generating stakeholder support, advocating, and lobbying for fish passage funding in policy changes and appropriations. Nonprofit organizations can operate with more flexibility than governmental agencies. The federal government can help support nonprofits in these endeavors, especially in their work with underserved communities.

Actions that can be taken in the short term include:

- Identify IJA nexuses across agencies and communicate this information to stakeholders, potential applicants, and partners.
  - Possible result: a funding opportunity matrix for BIL fish passage funds.
- Develop top-line messaging across federal and state agencies to amplify goals.
- Reduce burdens on applicants and agencies, recognizing consultation fatigue on tribes, and improve grant administration and processes overall.
- Prioritize effective engagement and coordination within organizations – if it is not a priority for agencies to do good stakeholder



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engagement, how can it be made a priority? Establishing processes for engagement and collaboration are necessary to:

- Engage early and often with stakeholders.
- Engagement throughout the planning process, including following project completion.
- Utilize local information – partnership is a two-way street.
- Incorporate community concerns into decisions.
- Develop and use visuals
- Be transparent
- Focus on positive messaging
- Focus on economic value and ecosystem services to tell the story
- Proactively identify partners and stakeholders
  - Bring in non-traditional organizations and stakeholders into this effort (and engage them throughout the process). Incorporate Traditional Ecological Knowledge and consider the cultural importance of projects.
  - Federal agencies can connect partners and collaborate across regions, providing a national perspective.

## DISCUSSION

The presentation prompted a discussion on improving the grant process, specifically around the idea of a single application clearinghouse. The following ideas were proposed during the conversation:

- Create a centralized, common application for multiple grants. There was consensus that this would require a high level of coordination

and collaboration but that it would be one of the most effective ways to aid partners in accessing BIL funds.

- This would be one of the most impactful ways to increase the flow of funds to underserved communities experiencing severe capacity constraints.
- An unintended consequence might be that agencies spend time screening proposals they cannot fund, as different agencies have different selection criteria.
- This would also require a set of common metrics for evaluating proposals. What would that include? Upstream miles affected by barrier removal is not always the best metric when applied across the country due to different geographic and habitat contexts.
- Where possible, it would be beneficial to pool applications for multiple small projects in the same watershed to create a single application and a single grant to manage.
- Create a pre-screening process with an initial query that applicants could make after searching for the types of projects they think they want to apply for. Following that could be a proposal period where they submit to opportunities identified in the query results.
  - A few potential filters identified included: what type of barrier does the project involve? If it is a dam, is it a high-hazard dam? Is the project on public or private land?
  - Any pre-application process would need to be designed in a way sensitive to tribal sovereignty. Sometimes grants require a tribal sovereignty waiver – which many tribes will not do – but the waiver is not



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until the end of the application process thus resulting in a waste of limited time and resources. Since grants require a contract with the federal government, tribes want agreements to be set up so that the federal government does not insert itself in managing the grant dollars.

- Create a process to pool funding/create funding collaboration between agencies for watershed projects could be an ambitious way to execute BIL funds.
  - This would create a question of which agency oversees the project and how that would be determined. By percent of funding committed?
  - Alternatively, create a selection committee for incoming proposals that could identify and share applications that meet the criteria for multiple funding streams through BIL.

*For example, if NOAA receives a proposal about a high-hazard dam, pass it to FEMA, and they can work with that applicant.*

- Consider connections to the overall ecosystem health components, especially when prioritizing a watershed approach.
  - Identify other programs/networks that can be tapped into, such as the National Estuary Program, or geographic programs in the Chesapeake Bay & Puget sounds, and EJ small grants programs like Urban Waters that may already be involved with fish passage work and could be potential partners.
- An example of a new type of approach was shared by a representative from the state of California: counties voted to tax themselves to create a fund for projects regarding access

to the bay, climate resilience, and ecosystem restoration. Multiple agencies have sent representatives to work with applicants to ensure they meet all agency requirements to address regulatory concerns. Through this system, projects are progressing faster than ever before.

## Synthesis 2: Project Prioritization and Talking with Communities

### KEY TAKEAWAYS: INVENTORY AND PRIORITIZATION

The breakout sessions asked whether the lack of data limits the ability to improve aquatic connectivity. There are many barrier inventories for different types of barriers on varying geographic scales and they were developed to serve different purposes. No single barrier inventory is complete, but there is an opportunity to build off each other's data in areas of geographical overlap. An integrated inventory like SARP is valuable for projects and as a best practice example of methodology and process.

Dozens of criteria for developing priority lists were identified during the breakout sessions. The most frequently mentioned criteria were human health and safety, ecological/species conservation, and synergy with other activities to make the project multi-benefit. These conversations also acknowledged that barrier removal might not be the best solution for every project. Furthermore, multiple criteria sources are often combined to determine action plans, while partnerships must integrate the priorities of multiple organizations into projects. The funding source can also affect prioritization, as project proposals are selected to match specific RFP criteria.



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## *POSSIBLE ACTIONS: INVENTORY AND PRIORITIZATION*

From the breakout discussion, several actions for project inventory and prioritization emerged:

- Continue to develop ways to layer and integrate priority areas and criteria.
- Develop and expand partnerships to represent a broad range of benefits and build support.
- Identify and pursue opportunities where AOP may not be the primary benefit but is a “co-benefit.”
- Funding entities develop and communicate clear priorities for grant programs.

## *KEY TAKEAWAYS:*

- Efficient allocation of BIL funds to happy local recipients will result in additional funding.
- Once barriers are removed, habitat is opened, and species become present upstream. This can result in increased numbers of fish in self-sustaining fisheries, delisting species from the endangered species list, and preventing other species from becoming threatened.
- Barrier removal can result in preserving temperature-sensitive fish native fish and preventing invasive fish species from establishing populations.
- Normalizing fish passage and AOPs with non-traditional partners—making it the go-to tool in the toolbox.
- Demonstrate greater and sustained collaboration among agency partnerships.

## *POSSIBLE ACTIONS: TALKING WITH COMMUNITIES*

- Develop a coordination mechanism to increase the interagency coordination, resulting in joint technical guidance, leveraging of authorities, streamlined permitting, and sharing of agency expertise.
- Identify community-based champions to talk about successes. Use different messengers to reach different audiences.
- Create good stories via identifying memorable tag lines, charismatic species, before and after photos of demonstration projects that showcase agency coordination and include a clear economic benefit message that focuses on the benefits of fish passage specific to the target audience.
- Get the message out early in education and early, multi-disciplinary career training. Incorporate AOP in “Engineering 101.”
- Celebrate the 2026 World Fish Migration Day Party by recognizing the work that has been done and invite Congressional Delegates and elected officials at all levels.

## *DISCUSSION*

- Many inventory lists might not include nontraditional passage projects such as irrigation/diversion structures, thermal barriers, and water quality barriers. Water quantity is a barrier as well and it is not well identified. Concrete flood control structures in urban areas are barriers as well.
- EPA has the ATTAINS database, where states input data on water quality assessments and try to identify the cause of water quality impairments. The EPA Healthy Watershed Tool is a resource as well.



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- BLM has the Habitat Monitoring Program, which records dry streams. This data could be incorporated into Western states' fish passage barrier databases.
- States tend to use their own databases on water quality and historical knowledge about watersheds to prioritize projects. Because the state data can be much more relevant to their work, some state representatives questioned the value of a national database as it might not be localized enough for their needs.
- Increased coordination with state Departments of Transportation (DOTs) was identified as an opportunity for engagement and coordination to document barriers.
- Increased coordination with state Dam Safety Offices could expand access to BIL fish passage funds:
  - These would be primarily multi-benefit projects, as dams that are removed are typically removed due to public safety concerns. A more cohesive national story on fish passage benefits could help push for more dam removals by making it a valuable side-benefit.
  - Dam removal has only just begun to be a mitigation option and the old mindset of keeping infrastructure in place is still strong. The paradigm is shifting but will take time and a more focused narrative.
- In Washington state, a tribal injunction compelled the state to correct fish passage barriers, and now the state is mandated to do so in a specific timeline. After that ruling, counties and cities are proactively looking to remove barriers to avoid legal disputes and are trying to access funding.
- Through strategic storytelling and shifting the narrative and dialogue around AOP, smaller counties and cities are seeing savings in maintenance costs. High-quality videos that emphasize the human connection to the land have been helpful.
  - The Fish Habitat Partnership has been working to create a film festival to share the stories of its practitioners.
  - Freshwaters Illustrated could be another partner in developing a video on AOP and flood resiliency.
- The Dirt and Gravel Roads Program in Pennsylvania is a model program. Counties are incentivized to do environmentally conscious maintenance by providing access to program funding. The program works collaboratively with the townships and partners in the Pennsylvania Department of Conservation and Natural Resources to improve road projects by incorporating AOP projects into culvert replacements, for example. Water Conservation Officers are partnering with counties to help facilitate these projects.
- While this workshop focuses on Fish Passage, non-fish bearing streams should not be forgotten. In forested landscapes with high stream density, non-fish bearing stream crossings can represent 80-90% of the road/stream crossings on the landscape. Most of these have far exceeded their designed lifespan and are failing catastrophically during minor storm events. These failures deliver tens of thousands of cubic yards of sediment downstream to fish-bearing streams, thus falling within the scope of fish passage work.



# PARTNER WORKSHOP 2022: MEETING SUMMARY



## Synthesis 3: Developing Capacity and Measuring Success

### KEY TAKEAWAYS: CAPACITY

Capacity concerns are shared by all entities involved in funding and implementing BIL. Capacity issues exist for all barrier removal program development and implementation phases. Typical capacity issues include the availability of personnel, funding, and supplies. For natural resource entities, capacity concerns include scaling up existing efforts rather than building new skillsets. An overarching concern is balancing speed versus effectiveness. Another overriding concern is how to hire experienced personnel with time-limited funding and political/bureaucratic constraints.

Eight capacity concerns emerged during the breakout discussions:

- Ensuring benefits flow to underserved communities.
- Conducting community outreach on barrier removal, especially talking about dam removal.
- Supporting and providing technical assistance to Tribes (esp. USDOT culvert program).
- Balancing efficiency and effectiveness in achieving environmental compliance goals.
- Engaging experienced and effective project managers.
- Growing grant writing and grant management capacity.
- Implementing appropriate project design and conducting design reviews promptly.
- Lack of funding to investigate unresolved and unknown scientific and technical issues.

### ACTIONS TO ADDRESS CAPACITY CONSTRAINTS INCLUDE:

- Leveraging partners' strengths through MOUs, personnel agreements, developing a library of experts, centralized teams, or using existing guidelines for design or communications.
- Centralizing training, combined with tailored training for underserved entities.
- Maximizing contractor expertise and resources.
- Develop Standard Operating Procedures for program-level environmental compliance efforts.
- Develop single points of application for grant processes, reducing match requirements, streamlined/ centralized reporting. Centralize grant eligibility information.

# PARTNER WORKSHOP 2022: MEETING SUMMARY



- By preparing public works agencies to replace infrastructure with AOP structures post-emergency
- Partner with community influencers, leaders, and champions to support outreach and engagement.

Short-term actions should include cross-walking IJJA authorities pertaining to allowable activities and timeframes to support various proposed efficiencies, ensuring the ongoing discussions with the federal family include further discussion on capacity building, and convening a workgroup on coordination, personnel training, and development.

## **KEY TAKEAWAYS: MONITORING**

Discussions focused on the difference between performance and effectiveness monitoring. Performance monitoring is conducted to ensure project performance and facilitate adaptive management. Effectiveness monitoring is scalable and can include a broader range of metrics depending on the complexity of

the project and the availability of resources. Monitoring should consist of collecting baseline data and post-project monitoring to assess project success. Participants cataloged various types of monitoring and discussed potential socioeconomic metrics, as well as other ecosystem services.

The key constituencies for effectiveness monitoring are Congress, taxpayers, communities, and landowners. Agencies are expected to show a return on investment (e.g., restore fish populations). However, monitoring protocols can prioritize different types of effectiveness monitoring for projects. Significantly, non-fish passage programs such as NRCS for dam removal, or EPA grants can be leveraged to support effectiveness monitoring.

The following questions regarding effectiveness monitoring should be considered by the federal family moving forward:

- Which agency authorities allow award recipients to pay for effectiveness monitoring?



# PARTNER WORKSHOP 2022: MEETING SUMMARY

- What is the appropriate time scale to implement effectiveness monitoring?
- How can we identify the projects where effectiveness monitoring should be stipulated?
- Does the literature include monitoring templates for discreet ecosystem types?
- Can federal agencies coordinate on language in opportunity announcements to ensure that effectiveness monitoring is included?
- Would applicants agree to conduct effectiveness monitoring beyond the completion of the project?
- Should effectiveness monitoring be prioritized where watershed level impacts can more readily be observed?

Next steps for monitoring include developing a crosswalk of all federal authorities to fund effectiveness monitoring, convening an interagency team to discuss the goals for monitoring protocols (beyond performance monitoring) under IIJA and how those may differ, and exploring to enhance the datasets pertaining to fish passage effectiveness within existing data collection efforts/tools.

## DISCUSSION

- While contractors have relationships with private landowners and may play a role in bringing the landowner on board with a project, however, they may expect to be hired to do the work despite OMB requirements that projects need to be competitively bid.
  - Sometimes, an agency waiver to bypass the lowest bidder can be an option based on the contractor's past performance. Best Value contracting allows consideration of

background and relationships along with cost.

- Contractors may bring projects to a review board and then that project becomes their intellectual property. They receive mitigation funding related to a permit, and when the contractor brings a proposal, the DEP gives them a small seed grant, making it their intellectual property and sole source.
  - OMB guidance and criteria on sole source could be a valuable topic for conversation regarding “creative contracting.”
- While there is a need for personnel with expertise, there is also a huge need for young professionals to grow careers within the federal family. BIL's funding focus on senior staff might be shortsighted when standing up programs for young people and mentoring them through their careers is more valuable to the mission.
- Engineering and design is a bottleneck that projects reach very quickly. It needs to be elevated in the next steps after the workshop and part of the interagency coordination discussion. Is there a possibility for an interagency-funded think tank focused on fish passage design? USFS has an AOP team training program that teaches their standards of design and could do a lot of good if given a broader mandate.
  - Bob Gubernick, Mark Weinhold, Dan Cenderelli, and Erica Borum are conducting seven week-long trainings in 2023, open to all free of charge.  
<https://www.fs.fed.us/biology/nsaec/>  
<https://www.fs.fed.us/biology/education/workshops/aop/index.html>

# PARTNER WORKSHOP 2022: MEETING SUMMARY



## WORKSHOP WRAP-UP

To close out the workshop, attendees heard from Kurt Thiede, Association of Fish and Wildlife Agencies (AFWA), and Rick Jacobson, US Fish and Wildlife Service (USFWS), on the importance of expanding the conservation community and embracing a transformational approach to fish passage under this unprecedented funding opportunity. They emphasized that the combined knowledge and experience in the group present is not to be underestimated and that there are tried and true existing partners to leverage while embracing a hybrid approach that supports both current regional priorities and watershed goals. In this effort, perfect does not have to be the enemy of the good – while new tools, processes, and goals are developed, it is time to start working with the tools and resources already available.

Engaging with tribes and underserved communities is a growing priority in executing the BIL funding, which means changing how business is usually done and spending twice as much time listening as talking when engaging with these communities. Mr. Jacobson ended his remarks by emphasizing the importance of guarding against fragmentation of the federal approach and creating a unified national message on fish passage to ensure the work remains relevant beyond IJA. Leadership is paying attention, and this gives the fish passage effort momentum.

DJ Monette, Associate Native American Advisor at USFWS, closed the meeting with a prayer “Rising Spirit” by Chief Evon Peter, First Chief of Arctic Village Alaska.

# PARTNER WORKSHOP 2022

## MEETING SUMMARY: APPENDIX A



### MEETING OBJECTIVES

**ACHIEVE** greater understanding of federal agency and non-federal partner goals, activities, and timelines.

**IDENTIFY** collaborative opportunities to improve fish passage through the Infrastructure, Investment, and Jobs Act (IIJA - also referred to as the Bipartisan Infrastructure Law).

**EXPLORE** opportunities to identify and advance shared ecological and socioeconomic goals and measures of success.

**IDENTIFY** future needs and mechanisms for communication, collaboration, and coordination.

### LOGISTICS

All plenary sessions will be held in the auditorium located next to check in.

Dress is casual. It is a walking campus, so please wear comfortable shoes.

### MONDAY JULY 18, 2022

- 8:00 am**      **CHECK IN BEGINS**
- 9:00 am**      **WELCOME** (*Auditorium*)
- **Steve Chase**, *Director of the National Conservation and Training Center*
- 9:10 am**      **LEADERSHIP KICKOFF – FOCUS ON COORDINATION**
- **Martha Williams**, *Director of the U.S. Fish and Wildlife Service (virtual)*
  - **Tony Wasley**, *President of the Association of Fish and Wildlife Agencies (virtual)*
  - **Pat Rivers**, *National Fish Habitat Partnership*
- 9:30 am**      **LOGISTICS AND AGENDA REVIEW**
- **Linda Manning**, *Council Oak (facilitator)*
- 9:40 am**      **PANEL: PERSPECTIVES ON THE CHALLENGE AND OPPORTUNITY OF FISH**
- **George Pess**, *National Oceanographic and Atmospheric Administration* will provide an overview of how barriers impact fish populations (historically and currently), the main types of barriers encountered, and the scale, severity, and distribution of these barriers.
  - **Paul Ward**, *Columbia River Inter-Tribal Fish Commission* will discuss the importance of fish to tribal peoples, describe long term advocacy for barrier removal, and restoration and tribal trust resources.
- 10:10 am**      **BREAK**

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### MONDAY JULY 18, 2022

10:40 am

#### CONTINUED: PERSPECTIVES ON THE CHALLENGE AND OPPORTUNITY OF FISH PASSAGE

- **Kayed Lakhia**, *Federal Emergency Management Agency* will discuss issues relating to aging dam infrastructure.
- **Brian Graber**, *American Rivers* will discuss co-benefits of improving fish passage, including flood risk management, infrastructure resiliency, public safety, and the *Uncommon Dialogue* that, in part, led to today's focus to address fish passage.
- **Q&A**

11:15 am

#### PANEL: SCOPE AND SCALE OF FISH BARRIERS IN THE UNITED STATES

- **Daniel Wieferich**, *U.S. Geological Survey* will provide an overview of available data regarding location and severity of fish barriers.
- **Kat Hoenke**, *Southeast Aquatic Resource Partnership* will introduce their geospatial inventory and prioritization tool and discuss its use and value to the partnership.
- **Cathy Bozek**, *U.S. Fish and Wildlife Service* will discuss criteria commonly considered when prioritizing and selecting projects.
- **Q&A**

12:00 pm

#### LUNCH

1:00 pm

#### PANEL PLENARY: WHAT DOES A HIGH QUALITY BARRIER REMOVAL LOOK LIKE?

- **Bjorn Lake**, *National Oceanographic and Atmospheric Administration* will discuss approaches for watershed-scale restoration, including the importance of collaboration.
- **Eric Rahm**, *Missouri Department of Conservation* will provide state-level examples of collaborative watershed-scale restoration and community engagement.
- **Therese Thompson**, *Western Native Trout Initiative (National Fish Habitat Partnership)* will provide an overview of how WNTI engages in watershed-scale restoration.
- **Sara Gottlieb**, *The Nature Conservancy* provide will provide an overview of best practices for dam removal.
- **Nat Gillespie**, *U.S. Forest Service* will provide an overview of best practices in culvert design for aquatic organism passage.
- **Mindy Simmons**, *U.S. Army Corps of Engineers* will discuss opportunities and challenges with integrating fish passage into the Corps' mission areas, including aquatic ecosystem restoration.
- **Q&A**

# PARTNER WORKSHOP 2022

## MEETING SUMMARY: APPENDIX A



**MONDAY** JULY 18, 2022

**2:30 pm**

**BREAK**

**2:45 pm**

### **OVERVIEW OF FEDERAL EFFORTS UNDER IIJA**

Each federal agency that has received funding related to fish passage under the Infrastructure Investment and Jobs Act will provide an overview of the authority, funding, and key activities of their efforts or planned efforts.

- Federal Highway Administration, **Joe Krolak**
- Federal Emergency Management Administration, **James Demby**
- National Oceanographic and Atmospheric Administration, **Janine Harris**
- U.S. Army Corps of Engineers, **Amy Babey**
- U.S. Fish and Wildlife Service, **Mike Bailey**
- Environmental Protection Agency, **Richard Mitchell**
- National Fish and Wildlife Foundation, **Amanda Tipton Bassow**
- Bureau of Land Management, **Sharmila Premdas**
- Bureau of Reclamation, **Genevieve Johnson**
- Department of Energy, **Brian Bellgraph**
- Natural Resources Conservation Service, **Gene W. Kim** (*virtual*)
- U.S. Forest Service, **Kimberly Conley** (*virtual*)

**4:45 pm**

### **DAY ONE CLOSING INSPIRATION: THE OPPORTUNITY AHEAD**

- **Pat Rivers**, *National Fish Habitat Partnership*

**5:00 pm**

**ADJOURN DAY ONE**

**5:15 pm**

### **FEDERAL AND STATE AGENCY QUICK TOUCH BASE**

- **Federal Agencies** (*Instructional East, Room 201*)
- **State Agencies** (*Instructional East, Room 105*)

# PARTNER WORKSHOP 2022

## MEETING SUMMARY: APPENDIX A



### TUESDAY JULY 19, 2022

8:30 am

#### DAY TWO OPENING INSPIRATION: STRATEGIC FRAMEWORK FOR IJA IMPLEMENTATION

- **Kregg Smith**, Oregon Department of Fish and Wildlife

8:45 am

#### AGENDA REVIEW AND MORNING BREAKOUT SESSION INSTRUCTIONS

- **Linda Manning**, Council Oak (facilitator)

Participants will rotate to all three breakout sessions to provide feedback, ideas, and information on the following topics. The facilitator stays with their topic area and is supported by a “listener” who will assist in synthesizing information for Wednesday morning’s report out and discussion session.

- **Rotation One** – 9:00 to 10:00
- **Break** – 10:00 to 10:15
- **Rotation Two** – 10:15 to 11:15
- **Rotation Three** – 11:20 to 12:15
- **Virtual Participants** will meet as a group and discuss all three topics. Please see your email for Teams Meeting log-in. Information will be incorporated into in-person feedback.

**Session One: Identifying Fish Barriers and Prioritizing Projects** (Instructional East, Room 114). This breakout will focus on collecting information and best practices regarding existing barrier inventories and project prioritization systems at various scales (national, watershed, regional, state). It will also focus on understanding the criteria used to evaluate the severity of barriers and the importance and readiness of projects. The following questions will guide the conversation:

1. List known barrier **inventories** and discuss scope/scale of that inventory (watershed, national, regional, state). Please discuss criteria that is used to assess, sort, and prioritize barriers.
2. List known **barrier removal project lists** and discuss scope/scale. What criteria are used to prioritize projects? What are the fish/conservation criteria? Are there other criteria helpful for implementation? What other project prioritization criteria are helpful for success in implementation?
3. Discuss any existing efforts that attempt to develop a national inventory of barriers or projects. Would a national list of barriers or projects be helpful? If so, how should it be approached? What should be included?



# PARTNER WORKSHOP 2022

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**TUESDAY** JULY 19, 2022

### **Session Two: Collaborating to Make the Whole Larger Than the Parts**

(Instructional East, Room 201). The IIJA funding represents an unprecedented, national-scale focus on improving fish conservation and recovery. It brings together the existing public and non-profit conservation sectors and specifically includes in a significant way agencies responsible for water resources and transportation infrastructure. This breakout session aims at collecting information that federal agencies can use to improve collaboration with each other, and with tribes, states, and the non-profit sectors. The following questions will guide the conversation:

1. *What are the most important roles that the federal government can play in improving fish passage/removing barriers (e.g., communication, measuring success, training, etc.)?*
2. *What are the specific needs/contributions of tribes?*
3. *What are the specific needs/contributions of states?*
4. *What are the specific needs/contributions of the non-profit sector?*

### **Session Three: Addressing the Capacity Challenge**

(Instructional East, Room 105). The IIJA effort will require a large scale-up across the public, private, and non-profit sectors. This breakout will focus on identifying where capacity will most need to be increased or developed and brainstorm some ideas to accomplish it. The following questions will guide the conversation:

1. *What are the biggest capacity concerns(e.g., project design, project management, engineering and project implementation, specific technical skills, community engagement, permit review)? Please be specific.*
2. *Which skills sets might be the most critical?*
3. *What are some specific ideas for developing capacity (e.g., trainers, boots-on-the-ground, information, technical assistance)?*
4. *How might we involve/targeted disadvantaged communities in employment, training, or other opportunities at the national or local level?*

**12:15 pm**

**LUNCH**

# PARTNER WORKSHOP 2022

## MEETING SUMMARY: APPENDIX A



**TUESDAY** JULY 19, 2022

**1:15 PM**

### AFTERNOON BREAKOUT SESSIONS

Participants will rotate to four breakout sessions to provide feedback, ideas, and information on the following topics. The facilitator stays with their topic area and is supported by a “listener” who will assist in synthesizing information for Wednesday morning report out and discussion session.

- **Rotation One:** 1:15 to 1:55
- **Rotation Two:** 2:00 to 2:40
- **Break:** 2:40 to 3:00
- **Rotation Three:** 3:00 to 3:45
- **Rotation Four:** 3:50 to 4:35
- **Virtual Participants** will meet as a group and discuss all four topics. Please see your email for Teams Meeting log-in. Information will be incorporated into in-person feedback.

**Session Four: Frameworks for Collaboration/Implementation** (Instructional East, Room 201). Fish passage and barrier removal work is conducted at a variety of scales and across many different types of public, private, and non-profit entities. This session will explore opportunities to develop new, or expand existing, frameworks for collaboration to support IJJA implementation. The following questions will guide the conversation:

1. Describe existing national, state, or regional frameworks for collaboration. How might federal agencies with IJJA funding participate in these frameworks (e.g., FEMA, USACE, FHWA)?
2. To what degree can these frameworks be replicated or used elsewhere?
3. What are the pros/cons of expanding existing frameworks to support IJJA implementation?
4. Are there other approaches to a collaborative framework for IJJA fish passage funding that could be considered?
5. What tools exist, or should be developed, to support collaborative implementation?

**Session Five: Developing an Inclusive Approach to Fish Passage** (Instructional East, Room 105). For the most part, fish passage projects exist in the landscape alongside other human and community needs. To ensure that barrier removal, fish passage, and aquatic connectivity are viewed as positive, engaging in meaningful dialogue with communities to understand their interests is helpful. The following questions will guide the conversation:

1. What are common community concerns regarding fish passage projects? Who tends to have these concerns (e.g., homeowners, community officials, businesses, other interests)? Do we understand the concerns of disadvantaged communities?
2. What are some models or examples of how concerns have been addressed (especially for disadvantaged communities)?

# PARTNER WORKSHOP 2022

## MEETING SUMMARY: APPENDIX A



**TUESDAY** JULY 19, 2022

3. *What benefits might you articulate to communities from fish passage/barrier removal projects (e.g., access to nature, fishing, recreation, etc.)*
4. *How might we better engage disadvantaged communities in fish passage work?*

**Session Six: Monitoring and Measuring Success** (Instructional East, Room 111). This breakout will focus on better understanding existing methods for monitoring success of fish passage projects and the role monitoring and assessment could play in improving barrier removal techniques. The following questions will guide the conversation:

1. *What are some current ways that people measure success for barrier removal? Consider ecological and socioeconomic factors.*
2. *How well do we understand the effectiveness of current barrier removal techniques/efforts?*
3. *What does/should a good monitoring or maintenance effort look like?*
4. *How should we best conduct monitoring efforts to better understand effectiveness of fish passage efforts to improve techniques and understand overall success? Project-by-project? Landscape scale?*

### **Session Seven: Making Fish Passage a More Mainstream Concern**

(Instructional East, Room 114). To increase the likelihood that fish passage efforts live beyond the IJJA effort, they must be shown to be valuable and its efforts successful. This breakout aims to gather ideas about what a successful effort looks like and how to build momentum for future successes. The following questions will guide the conversation:

1. *What does success look like for this effort at a national level (long term goal, short term measures)?*
2. *How can federal agencies, states and communities take steps to routinely consider fish passage in infrastructure and land use projects/actions?*
3. *How can we prevent future barriers from coming onto the landscape?*
4. *How might the power of this collaborative work to make fish passage a more mainstream community concern (e.g., messages, mechanisms)?*
5. *Would there be/what would be the benefit(s) of a coordinated communication/education approach?*

**4:45 pm**

### **DAY TWO CLOSING INSPIRATION: FISH PASSAGE AND CLIMATE CHANGE**

- **Keith Curley**, *Trout Unlimited*

**5:00 pm**

### **ADJOURN DAY TWO**

# PARTNER WORKSHOP 2022

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### WEDNESDAY JULY 20, 2022

- 8:30 am**      **DAY THREE: AGENDA REVIEW**
- **Linda Manning**, Council Oak (facilitator)
- 8:35 am**      **DAY THREE OPENING INSPIRATION: CHALLENGES AND VISION OF SUCCESS**
- **Jim Fredericks**, Idaho Department of Fish & Game – *Related Water Topics and Challenges*
  - **Serena McClain**, American Rivers – *Insight Into A Successful Dam Removal*
- 9:00 am**      **SYNTHESIS/DISCUSSION: IMPLEMENTATION MODELS FOR SUCCESS**
- Summary of key points from the following breakout sessions followed by full group discussion:
- *Collaborating to Make the Whole Larger than the Parts*
  - *Frameworks for Collaboration/Implementation*
  - *Developing an Inclusive Approach to Fish Passage*
- 10:00 am**      **BREAK**
- 10:30 am**      **SYNTHESIS/DISCUSSION: PROJECT PRIORITIZATION AND TALKING WITH COMMUNITIES**
- Summary of key points from the following breakout sessions followed by full group discussion:
- *Identifying Fish Barriers and Prioritizing Projects*
  - *Making Fish Passage a More Mainstream Concern*
- 11:15 am**      **SYNTHESIS/DISCUSSION: DEVELOPING CAPACITY AND MEASURING SUCCESS**
- Summary of key points from the following breakout sessions followed by full group discussion:
- *Addressing the Capacity Challenge*
  - *Monitoring and Measuring Success*
- 12:00 pm**      **WORKSHOP WRAP UP AND NEXT STEPS**
- **David Miko**, U.S. Fish and Wildlife Service
  - **Kurt Thiede**, Association of Fish and Wildlife Agencies
- 12:30 pm**      **ADJOURN WORKSHOP**
- Note: Federal Agency follow-up coordination session will take place from 1:30-4:30.*

# PARTNER WORKSHOP 2022

## MEETING SUMMARY: APPENDIX B



### MEETING PARTICIPANTS

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## MEETING SUMMARY: APPENDIX B



### MEETING PARTICIPANTS

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# PARTNER WORKSHOP 2022

## MEETING SUMMARY: APPENDIX B



### MEETING PARTICIPANTS

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# PARTNER WORKSHOP 2022

## MEETING SUMMARY: APPENDIX B



### MEETING PARTICIPANTS

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# PARTNER WORKSHOP 2022 MEETING SUMMARY: APPENDIX C



## FEDERAL SUMMARIES

### BIPARTISAN INFRASTRUCTURE LAW FISH PASSAGE AT-A-GLANCE

#### *Federal Highway Administration (FHWA)*

PURPOSE	ACTIVITIES
<ul style="list-style-type: none"> <li>▪ The BIL (Section 21203) establishes the National Culvert Removal, Replacement, and Restoration Grant program (Culvert AOP Program) to provide funding for projects that would meaningfully improve or restore passage for anadromous fish (anadromous fish species are born in freshwater such as streams and rivers, spend most of their lives in the marine environment, and migrate back to freshwater to spawn).</li> </ul>	<ul style="list-style-type: none"> <li>▪ Grants for the replacement, removal, and repair of culverts or weirs that would meaningfully improve or restore fish passage for anadromous fish; and with respect to weirs, may include infrastructure to facilitate anadromous fish passage around or over the weir and weir improvements.</li> <li>▪ Technical assistance to Indian Tribes and underserved communities to assist in their project design and grant process and procedures.</li> </ul>
FUNDING	LIMITATIONS
<ul style="list-style-type: none"> <li>▪ Authorized \$800M by BIL and appropriated \$200M every FY from FY22-26</li> <li>▪ FY22: \$200M</li> <li>▪ FY23: \$200M</li> </ul>	<ul style="list-style-type: none"> <li>▪ Determinations on funding limitations are still under discussion.</li> </ul>

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## BIPARTISAN INFRASTRUCTURE LAW FISH PASSAGE AT-A-GLANCE

### *Federal Highway Administration (FHWA)*

#### OPPORTUNITIES/PLANS FOR WITHIN AGENCY COORDINATION

- Alignment with Administration Policy Criteria: climate Change and resilience; aquatic and terrestrial passage, equity and environmental justice, and safety.
- Relation to other BIL programs at DOT, for example the Bridge Improvement Program, PROTECT, Wildlife Crossing Safety/Wildlife-vehicle Collision Research

#### OPPORTUNITIES/PLANS FOR EXTERNAL COORDINATION

- Consult with the NOAA Administrator and USFWS Director to create the annual competitive grant program.
- Consult with NOAA and USFWS to:
  - Develop a new process to provide technical assistance to tribes and underserved communities to assist in the project design and grant process and procedures.
  - Establish a procedure to prioritize awarding grants.
  - Establish a process for determining criteria for awarding grants.

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PARTNER WORKSHOP: Fish Passage through Bipartisan Infrastructure Law, July 2022

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### BIPARTISAN INFRASTRUCTURE LAW FISH PASSAGE AT-A-GLANCE

#### *Federal Emergency Management Agency (FEMA)*

PURPOSE	ACTIVITIES
<ul style="list-style-type: none"> <li>IIJA includes an unprecedented injection of funding for the National Dam Safety Program to reduce dam safety related risk through national leadership, training, technical assistance, research, public outreach, and financial assistance.</li> </ul>	<ul style="list-style-type: none"> <li>Financial assistance for technical, planning, design, and construction activities toward the repair, removal, or structural or nonstructural rehabilitation of eligible high hazard potential dams.</li> <li>Financial assistance to states to maintain and improve their regulatory dam safety programs</li> <li>Implement development and delivery activities, such as training, research, technical assistance, and public awareness and to reduce dam-related risks nationally.</li> </ul>

FUNDING	LIMITATIONS
<ul style="list-style-type: none"> <li>IIJA funding for fish passage is implemented through the National Dam Safety Program (NDSP).</li> <li>The NDSP received \$800M under IIJA.</li> <li>\$67M to non-grant O&amp;S available for five years.</li> <li>\$733M to Federal Assistance (FA) available until expended, of which \$75M is for the removal of dams.</li> </ul>	<ul style="list-style-type: none"> <li>Funding for the removal of dams is granted to States pursuant to Section 8A of the National Dam Safety Act.</li> <li>There are several requirements for dams to receive HHPD funding (see "useful links")</li> <li>The following dams are not eligible for HHPD funding: federally-owned dams, a hydropower project with an authorized installed capacity of greater than 1.5 megawatts, and dams built under the authority of the Secretary of Agriculture.</li> </ul>

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PARTNER WORKSHOP: Fish Passage through Bipartisan Infrastructure Law, July 2022

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## BIPARTISAN INFRASTRUCTURE LAW FISH PASSAGE AT-A-GLANCE

### *Federal Emergency Management Agency (FEMA)*

#### OPPORTUNITIES/PLANS FOR WITHIN AGENCY COORDINATION

- Opportunity to coordinate across the various programs within DHS and FEMA to develop an enterprise approach for identifying, analyzing, and managing dam related risks and hazards.
- Opportunity to improve FEMA's decision-making processes to better inform investments that improve the nation's capability to prepare for, respond to and mitigate dam related hazards and risks.

#### OPPORTUNITIES/PLANS FOR EXTERNAL COORDINATION

- Will work with other federal agencies to understand potential opportunities to coordinate, align and leverage federal investments to achieve mutual and/or complementary outcomes.

#### USEFUL LINKS

- Rehabilitation of High Hazard Potential Dam (HHPD) Grant Program:  
<https://www.fema.gov/emergency-managers/risk-management/dam-safety/rehabilitation-high-hazard-potential-dams>

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### BIPARTISAN INFRASTRUCTURE LAW FISH PASSAGE AT-A-GLANCE

#### *National Oceanic and Atmospheric Administration (NOAA)*

PURPOSE	ACTIVITIES
<ul style="list-style-type: none"> <li>▪ Support fish passage for native migratory and sea-run fish in coastal ecosystems, including the Great Lakes.</li>   <li>▪ Tribal Fish Passage funds are specifically to provide federal financial and technical assistance to Indian tribes and tribal commissions or consortia to remove barriers to fish passage.</li>   <li>▪ The PCSRF (Pacific Coastal Salmon Recovery Fund) supplements State and Tribal programs for Pacific salmon and steelhead recovery and conservation.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Projects and technical assistance through cooperative agreements. Specifically, dam, culvert and fish passage barrier removal, including project development and feasibility studies; engineering, design and permitting; implementation monitoring; stakeholder engagement, education and outreach; and building capacity of new and existing restoration partners.</li>   <li>▪ The Tribal Fish Passage opportunity will fund the same types of activities as the Fish Passage funds, including specifically building tribal organization capacity.</li>   <li>▪ For PCSRF include direct and pass-through grants for habitat restoration and acquisition; restoration planning &amp; assessments; research, monitoring, and evaluation; hatcheries and harvest management; public outreach, education, and landowner recruitment.</li> </ul>

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## BIPARTISAN INFRASTRUCTURE LAW FISH PASSAGE AT-A-GLANCE

### *National Oceanic and Atmospheric Administration (NOAA)*

FUNDING	LIMITATIONS
<ul style="list-style-type: none"> <li>▪ Implementation of this funding is through existing programs.</li> <li>▪ Fish Passage: The BIL provides \$400 million over 5 years for restoring fish passage by removing in-stream barriers. Up to 15% is reserved for Indian Tribes.                             <ul style="list-style-type: none"> <li>▪ NOAA's Restoring Fish Passage Through Barrier Removal opportunity in FY22 will provide up to \$65 Million for projects that can be from \$1 million to \$15 million over the award period.</li> <li>▪ The Restoring Tribal Priority Fish Passage Through Barrier Removal opportunity in FY22 will provide up to \$12 Million for projects that can be from \$300K to \$5 Million over the award period.</li> </ul> </li> <li>▪ PCSRF: The BIL provides \$172 million over 5 years to supplement the appropriated funds to PCSRF. PCSRF FY22 appropriated funds were \$65 million.</li> </ul>	<ul style="list-style-type: none"> <li>▪ For FP and TFP funds, there are no match requirements (cost-share is included in evaluation criteria) but current ineligible project types include activities required by a local, state, or federal consent decree, court order, license condition, statute, or regulation; and effectiveness monitoring and research.</li> <li>▪ For PCSRF:                             <ul style="list-style-type: none"> <li>▪ 33% cost-share requirement (states only)</li> <li>▪ 10% monitoring requirement (state and tribal commissions/consortia only)</li> <li>▪ 3% maximum for direct administrative expenses (states and tribal commissions/consortia only)</li> </ul> </li> <li>▪ There are no prohibitions for individual tribe applicants.</li> </ul>

### OPPORTUNITIES/PLANS FOR WITHIN AGENCY COORDINATION

- Coordinated with Restoration and Resilience Funding: <https://www.fisheries.noaa.gov/feature-story/two-habitat-restoration-and-coastal-resilience-funding-opportunities-open-under>
- Coordinated Tribal Engagement (<https://www.noaa.gov/sites/default/files/2022-05/IJATribalProvisionsNOAAExecutiveSummaryandResponse.pdf>)

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## BIPARTISAN INFRASTRUCTURE LAW FISH PASSAGE AT-A-GLANCE

### *National Oceanic and Atmospheric Administration (NOAA)*

#### OPPORTUNITIES/PLANS FOR EXTERNAL COORDINATION

- New Anadromous Salmonid Fish Passage Guidance  
<https://www.fisheries.noaa.gov/resource/document/anadromous-salmonid-passage-facility-design>
- Programmatic environmental compliance (e.g., MSA, ESA, NEPA)
- Regional coordination
- Bureau of Indian Affairs (BIA) communications

#### USEFUL LINKS

- NOAA BIL website with all BIL funding opportunities (not specific to Fish Passage):  
<https://www.noaa.gov/infrastructure-law>
- NOAA Fisheries Funding Opportunities: <https://www.fisheries.noaa.gov/funding-opportunities/open-opportunities>
- PCSRF FY22 NoFO: <https://www.fisheries.noaa.gov/grant/pacific-coastal-salmon-recovery-fund>
- PCSRF Story Map:  
<https://storymaps.arcgis.com/stories/d9a81c21abef4c5bb590301e230548b6>
- NOAA Fish Passage NoFO: <https://www.fisheries.noaa.gov/grant/restoring-fish-passage-through-barrier-removal-grants>
- NOAA Tribal Fish Passage NoFO: <https://www.fisheries.noaa.gov/grant/restoring-tribal-priority-fish-passage-through-barrier-removal-grants>
- Resources for NOAA Restoration Center Applicants:  
<https://www.fisheries.noaa.gov/national/habitat-conservation/resources-noaa-restoration-center-applicants>

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### BIPARTISAN INFRASTRUCTURE LAW FISH PASSAGE AT-A-GLANCE

#### *U.S. Army Corps of Engineers (USACE)*

PURPOSE	ACTIVITIES
<ul style="list-style-type: none"> <li>▪ Restore fish and wildlife passage by removing in-stream barriers</li> <li>▪ Provide technical assistance to non-federal interests carrying out such activities</li> <li>▪ USACE Aquatic Ecosystem Restoration mission: restore degraded ecosystem structure, function, and/or dynamic processes to a more natural condition</li> </ul>	<ul style="list-style-type: none"> <li>▪ USACE partners with a non-Federal sponsor for one or more of the following:               <ul style="list-style-type: none"> <li>▪ Technical assistance</li> <li>▪ Feasibility</li> <li>▪ Design/Implementation (i.e., construction, which includes monitoring and adaptive management until ecological success is achieved)</li> </ul> </li> </ul>

FUNDING	LIMITATIONS
<ul style="list-style-type: none"> <li>▪ \$115M of non-expiring funds (IIJA/BIL only) – periodic allocation of funds to projects</li> <li>▪ Funding specifically for In-stream Barrier Removal is “carved out” of the funding provided for the Continuing Authorities Program (Section 206 - Aquatic Ecosystem Restoration). Some existing CAP 206 projects can now be funded via the “in-stream barrier removal carve-out” as they move into a new phase</li> <li>▪ Unlike the traditional CAP 206 program, the barrier removal funding is               <ul style="list-style-type: none"> <li>○ 100% Federally funded (vs cost-shared 65/35)</li> <li>○ Has no per-project cost limit (vs. \$10M limit for “normal” CAP project)</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>▪ While projects are 100% federally funded, the non-federal partner must:               <ul style="list-style-type: none"> <li>▪ Submit letter of intent (LOI) through local USACE district office</li> <li>▪ Sign a cost-share agreement for study and design/implementation</li> <li>▪ Acquire/purchase Lands, Easements, Rights of way, Relocations, and Disposal areas (LERRDS) (i.e., cannot remove a dam that USACE owns)</li> </ul> </li> <li>▪ Address any HTRW issues</li> <li>▪ Fund Operations and Maintenance of the project</li> <li>▪ Does not provide authority to remove, breach, or otherwise alter operations of a Federal hydropower dam</li> </ul>



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## BIPARTISAN INFRASTRUCTURE LAW FISH PASSAGE AT-A-GLANCE

### *U.S. Army Corps of Engineers (USACE)*

#### OPPORTUNITIES/PLANS FOR WITHIN AGENCY COORDINATION

- Numerous opportunities to leverage other USACE aquatic ecosystem restoration projects and programs and support America the Beautiful
- Could complement fish passage efforts underway at USACE dams by opening up additional habitat in those watersheds
- Synergies with the Sustainable Rivers Program, a partnership with The Nature Conservancy, which enhances environmental conditions related to operation of USACE dams and locks (e.g., by providing improved flows downstream)
- Potential use of the Corps Water Infrastructure Financing Program (CWIFP, Federal Loan program similar to EPA's WIFIA) that provides low-cost loans to enable local investment in non-Federal dam safety projects with cost > \$20M (see separate one-pager, link). Eligible purposes for projects:
  - Reduce flood damage
  - Restore aquatic ecosystems
  - Improve navigation
- Army Engineer Research and Development Center (ERDC) has conducted and partnered on extensive research related to fish passage (particularly at large dams), dam removal, and aquatic habitat connectivity prioritization. Their efforts will be useful not only to USACE, but to others implementing fish passage and barrier removal projects.
- Opportunities to expand our partnerships with agencies that support fish passage research and system-wide monitoring, like USGS Science Centers.

#### OPPORTUNITIES/PLANS FOR EXTERNAL COORDINATION

- All projects require a non-Federal partner to sign a cost-sharing agreement
- External entities will have opportunity to participate in project scoping and review of recommended plans

#### USEFUL LINKS

- [Sustainable Rivers Program](#)
- [Corps Water Infrastructure Financing Program \(CWIFP\)](#)
- [ERDC Ecosystem Management and Restoration Research Program \(EMRRP\)](#)

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**PARTNER WORKSHOP:** Fish Passage through Bipartisan Infrastructure Law, July 2022

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### BIPARTISAN INFRASTRUCTURE LAW FISH PASSAGE AT-A-GLANCE

#### *U.S. Fish and Wildlife Service (USFWS)*

PURPOSE	ACTIVITIES
<p>The National Fish Passage Program (NFPP)</p> <ul style="list-style-type: none"> <li>▪ Works on a voluntary basis to restore rivers and conserve our nation's aquatic resources by removing or bypassing in-stream barriers.</li> <li>▪ Benefits both fish and people by removing obsolete and dangerous dams, permanently eliminating public safety hazards, and by restoring water quality, recreation opportunities, and river ecosystems.</li> </ul>	<p>Voluntary, nonregulatory program implemented at USFWS field stations in coordination with partners including:</p> <ul style="list-style-type: none"> <li>▪ Project development and implementation</li> <li>▪ Technical assistance</li> <li>▪ Financial assistance</li> <li>▪ Coordination support</li> </ul>

FUNDING	LIMITATIONS
<ul style="list-style-type: none"> <li>▪ \$200 million over 5 years (\$40 million annually)</li> </ul>	<ul style="list-style-type: none"> <li>▪ NFPP funding is available to most entities (States, Tribes, local governments, NGOs, etc.).</li> <li>▪ The IIJA does not provide NFPP any new authority to remove, breach, or otherwise alter the operations of a Federal hydropower dam.</li> <li>▪ Dam removal projects under IIJA must include written consent of the dam owner if ownership is established.</li> </ul>

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## BIPARTISAN INFRASTRUCTURE LAW FISH PASSAGE AT-A-GLANCE

### *U.S. Fish and Wildlife Service (USFWS)*

#### OPPORTUNITIES/PLANS FOR WITHIN AGENCY COORDINATION

NFPP has historically and continues to coordinate across USFWS programs to implement fish passage projects strategically and effectively. NFPP is excited about the potential to leverage new opportunities such as America the Beautiful, other funding opportunities provided through the IIJA (e.g., Culvert Program, Bridge Investment Program, etc.), as well as existing programs (e.g., NFHP), to restore and maintain aquatic connectivity across the landscape.

#### OPPORTUNITIES/PLANS FOR EXTERNAL COORDINATION

NFPP relies heavily on a vast network of internal and external partners to successfully develop and implement projects. NFPP intends to continue coordinating, as well as improve coordination with partners to strategically implement fish passage projects across the country.

#### USEFUL LINKS

- NFPP BIL geospatial dashboard:  
<https://www.arcgis.com/apps/dashboards/99040e452de9487f80d9f5748f717880>
- NFPP BIL web page including links to project specific web pages:  
<https://www.fws.gov/story/2022-04/fish-passage-restores-rivers-protects-wildlife-and-rebuilds-economies>
- FWS press release covering the release of NFPP BIL FY 2022 project list:  
<https://www.fws.gov/press-release/2022-04/biden-harris-administration-announces-38-million-bipartisan-infrastructure>

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### BIPARTISAN INFRASTRUCTURE LAW FISH PASSAGE AT-A-GLANCE

#### *Environmental Protection Agency (EPA)*

PURPOSE	ACTIVITIES
<ul style="list-style-type: none"> <li>▪ IIJA funds mostly tied to Clean Water Act Implementation which can include support for living resources.</li> <li>▪ Existing programs have flexibility to support fish passage (antidegeneration, temperature, nonpoint source, etc.)</li> <li>▪ Example: EPA’s Region 10 drinking water program provides funds for fish passage with nexus for drinking water quality improvements in partnership with Forest Service, Bureau of Land Management, and the States of Oregon and Washington.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Grants to States, Tribes, and other partnerships.</li> <li>▪ Technical assistance.</li> <li>▪ Forums for coordination at watershed levels.</li> </ul>

FUNDING	LIMITATIONS
<ul style="list-style-type: none"> <li>▪ EPA received \$50B to improve Nation’s drinking water, wastewater, and stormwater infrastructure mostly through State Revolving Funds.</li> <li>▪ EPA received \$1.7B for Geographic Programs.</li> <li>▪ EPA received \$132M for National Estuary Program.</li> </ul>	<ul style="list-style-type: none"> <li>▪ EPA received no new authorities under IIJA for fish passage.</li> <li>▪ For most EPA programs, projects need to demonstrate water quality benefit and/or implement a watershed plan.</li> <li>▪ IIJA does not include CWA 319 grants for nonpoint source.</li> </ul>

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### BIPARTISAN INFRASTRUCTURE LAW FISH PASSAGE AT-A-GLANCE

#### *Environmental Protection Agency (EPA)*

##### OPPORTUNITIES/PLANS FOR WITHIN AGENCY COORDINATION

- EPA work on fish passage through existing programs that can be leveraged. For example, NPS CWA 319 has awarded grants to 47 dam removal projects since 2021 (\$7.8M/\$19M total)
- Many existing EPA partnerships are already working on fish passage.

##### OPPORTUNITIES/PLANS FOR EXTERNAL COORDINATION

- NEP partnerships: 365 fish passage projects since 2006 (\$2.7M/\$885M total)
- Geographic Programs are typically partnerships with states, feds, and others working in collaboration with other agencies on fish passage.

##### USEFUL LINKS

- National Estuary Programs: <https://www.epa.gov/nep>
- Nonpoint source programs: <https://www.epa.gov/nps>
- State Revolving Funds: <https://www.epa.gov/cwsrf>
- National Aquatic Resource Surveys (e.g., National Rivers and Stream Assessment and National Lakes Assessment): <https://www.epa.gov/national-aquatic-resource-surveys>
- Healthy Watersheds: <https://www.epa.gov/healthywatersheds>
- Recovery Potential Screening Tool: <https://www.epa.gov/rps>

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### BIPARTISAN INFRASTRUCTURE LAW FISH PASSAGE AT-A-GLANCE

#### *National Fish and Wildlife Foundation (NFWF)*

PURPOSE	ACTIVITIES
<ul style="list-style-type: none"> <li>Funding for Aquatic Organism Passage is available through several existing programs.</li> </ul>	<ul style="list-style-type: none"> <li>America the Beautiful Challenge – activities targeting at risk species, habitat connectivity, corridors, migration, ecosystem services, resilience, public access, and community engagement.</li> <li>National Coastal Resilience Fund activities are nature-based coastal resilience projects that reduce exposure for communities and enhance habitat for fish and wildlife.</li> <li>Chesapeake SWG and WILD</li> <li>Delaware Watershed Conservation Fund activities are primarily habitat restoration and protection.</li> </ul>

FUNDING	LIMITATIONS
<ul style="list-style-type: none"> <li>America the Beautiful Challenge – grants of \$200k - \$5M (~\$85M available in 2022)</li> <li>National Coastal Resilience Fund – grants of \$100k - \$10M (~\$40M available in 2021 and \$140M in 2022)</li> <li>Chesapeake SWG and WILD – grants of \$50k - \$500k (estimate \$10.3M available in 2021 and \$38.5M in 2022)</li> <li>Delaware Watershed Conservation Fund – grants of \$75k - \$1.5M (~\$11.4M in 2021 and \$16M in 2022)</li> <li>All programs except for America the Beautiful are longstanding programs administered by NFWF with new, dedicated IJJA funding.</li> </ul>	<ul style="list-style-type: none"> <li>America the Beautiful funding is limited to state agencies, tribes, and territories. Projects must support implementation of a landscape conservation plan. Matching requirements range from zero to 50%.</li> <li>National Coastal Resilience funding limited to planning, design, and implementation activities and projects must have resilience benefit to communities.</li> <li>Chesapeake funding is for capacity building, planning, design, and implementation, and projects must be consistent with the Chesapeake Bay Watershed Agreement, especially to benefit eastern brook trout, river herring, and other at-risk or listed species in State Water Action Plans.</li> <li>Delaware funded activities are capacity building, planning, design, and</li> </ul>

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### BIPARTISAN INFRASTRUCTURE LAW FISH PASSAGE AT-A-GLANCE

#### *National Fish and Wildlife Foundation (NFWF)*

	implementation of projects consistent with Delaware River Basin Restoration Partnership and Program Framework. Matching requirement is 20% for capacity building and 50% for implementation.
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#### OPPORTUNITIES/PLANS FOR WITHIN AGENCY COORDINATION

- These efforts are already funded in partnerships both internal and external to the federal government.

#### OPPORTUNITIES/PLANS FOR EXTERNAL COORDINATION

- America the Beautiful Challenge is funded through several federal agencies including DOI, USDA, and DOD, as well as Native Americans in Philanthropy.
- National Coastal Resilience Fund is funded through partnerships between NOAA, DOD, Occidental, Shell, and TransRe.
- Chesapeake SWG and WILD are funded by a partnership of EPA, USFWS, USFS, NRCS, and Altria.
- Delaware Watershed Conservation Fund is funded in partnership with USFWS, William Penn Foundation, and AstraZeneca.

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### BIPARTISAN INFRASTRUCTURE LAW FISH PASSAGE AT-A-GLANCE

#### *Bureau of Land Management (BLM)*

PURPOSE	ACTIVITIES
<ul style="list-style-type: none"> <li>▪ Use IIA funds to fund projects through the existing Ecosystem Restoration (ER) program (Title VIII – Section 40804 – Ecosystem Restoration).</li> <li>▪ Ecosystem Program dollars will be invested strategically, justly, and efficiently to improve the functioning, resilience, and ecological adaptability of ecosystems. Program investments will be planned and implemented collaboratively across the DOI and with communities when appropriate, while improving job opportunities and equitable access to healthy ecosystems for Americans.</li> <li>▪ BLM is coordinating fish passage efforts through the Aquatic Resources Program and the Engineering Program.</li> </ul>	<ul style="list-style-type: none"> <li>▪ The Aquatic Resources Program and the Engineering program will work closely to ensure that structures meet current standards. There will be an effort to boost the training of biologists, hydrologists, and engineers in fish passage design and an expansion of the available training opportunities for Stream Simulation. Some specific activities will include:               <ul style="list-style-type: none"> <li>▪ Activity 1a: Contracts to Restore Ecological Health</li> <li>▪ Activity 2: Good Neighbor Authority (grants to States or Tribes for restoration projects)</li> <li>▪ Activity 10: USDA Collaborative Aquatic Landscape Restoration.</li> </ul> </li> </ul>

FUNDING	LIMITATIONS
<ul style="list-style-type: none"> <li>▪ Overall funding for fish passage structures within the BLM comes from Deferred Maintenance funds and the Great American Outdoors Act. The IIA does not directly fund fish passage structures for BLM, however, BLM would like to work with USDA and other DOI agencies to help restore connectivity and fish passage under the IIA.</li> <li>▪ Activity 1a: Funding has been moved out to FY23; ~\$4.7M expected. Implemented via stewardship contracts or agreements.</li> <li>▪ Activity 2: Received over \$4.7M in FY22 and funded over \$1.3M in fish passage projects. Implemented via Good Neighbor and Tribal Forest Protection Act agreements.</li> <li>▪ Activity 10: No funds received in FY22. No specified implementation mechanisms.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Activity 1a: Only Federal Lands, Tribal Forests, and Rangelands qualify</li> <li>▪ Activity 2: Only Federal Lands qualify</li> <li>▪ Activity 10: Only Federal Lands, Tribal Forests, and Rangelands qualify</li> </ul>

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# PARTNER WORKSHOP 2022 MEETING SUMMARY: APPENDIX C



## BIPARTISAN INFRASTRUCTURE LAW FISH PASSAGE AT-A-GLANCE

### *Bureau of Land Management (BLM)*

#### OPPORTUNITIES/PLANS FOR WITHIN AGENCY COORDINATION

- Landscape-level approach (includes watersheds) that considers and informs management decisions at multiple scales following Departmental Manual Part 604: Landscape-level Management.
- Leverage Recent or Planned Restoration Actions or Initiatives:
  - Benefits America the Beautiful
  - Responds to the Climate Action Plan
  - Leverages other BIL funded projects; does not duplicate funding of other work
  - Cross-jurisdictional restoration efforts, federally-adjacent, or near planned or recent restoration actions
  - Implements activities at a finer- or coarser-scale of other recent or planned actions

#### OPPORTUNITIES/PLANS FOR EXTERNAL COORDINATION

- Coordinate with all other DOI agencies, Tribes, USFS, Federal Highway Administration, NOAA, FEMA, and USACE.
- Federal Land Management Agencies Memorandum of Understanding towards meeting common criteria and standards for fish passage structures (BLM, NPS, USFS, USFWS).
- BLM is partnering with Trout Unlimited to inventory fish passage structures, and with USGS to develop apps/tools for identifying fish passage structures. BLM plans to focus our efforts on connecting habitat across land ownerships; encourage public-private partnerships; improve inventories of problem structures; prioritize replacement and carry out implementation.

#### USEFUL LINKS

- <https://www.blm.gov/programs/aquatics>
- <https://doi.gov/priorities/investing-americas-infrastructure/ecosystem-restoration/projects>

**PARTNER WORKSHOP:** Fish Passage through Bipartisan Infrastructure Law, July 2022

# PARTNER WORKSHOP 2022

## MEETING SUMMARY: APPENDIX C



### BIPARTISAN INFRASTRUCTURE LAW FISH PASSAGE AT-A-GLANCE

#### *Bureau of Reclamation (BOR)*

PURPOSE	ACTIVITIES
<ul style="list-style-type: none"> <li>Provide funding through competitive grant programs over a five-year period for on-the-ground projects that restore aquatic ecosystems, watershed health, and provide multiple benefits for water management and ecosystems.</li> </ul>	<ul style="list-style-type: none"> <li>Example programs that benefit fish passage include:               <ul style="list-style-type: none"> <li>Aquatic Ecosystems Restoration and Protection Projects that improve habitat, including improving fish passage.</li> <li>Environmental Water Resources Projects that increase reliability for ecological values or improve the condition of a natural feature</li> <li>Multi-Benefit Projects to Improve Watershed Health that include habitat restoration projects</li> <li>Cooperative Watershed Management Program that supports watershed planning and restoration projects for watershed groups</li> </ul> </li> </ul>

FUNDING	LIMITATIONS
<ul style="list-style-type: none"> <li>Funding will be provided over a five-year period and determined through regular federal budget process.</li> <li>Funding will be provided through both existing programs (noted below) and through programs currently under development.</li> <li>Aquatic Ecosystems Restoration and Protection - \$250M</li> <li>Environmental Water Resources Projects – \$400M, including all WaterSMART grants</li> <li>Multi-Benefit Projects to Improve Watershed Health - \$100M</li> <li>Cooperative Watershed Management Program - \$100M</li> </ul>	<ul style="list-style-type: none"> <li>Programs all require cost share, appropriate eligible entities, and have varying requirements. See "Useful Links."</li> </ul>

**PARTNER WORKSHOP:** Fish Passage through Bipartisan Infrastructure Law, July 2022

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## BIPARTISAN INFRASTRUCTURE LAW FISH PASSAGE AT-A-GLANCE

### *Bureau of Reclamation (BOR)*

#### OPPORTUNITIES/PLANS FOR WITHIN AGENCY COORDINATION

- Coordination occurs throughout programs within Reclamation. Grant and river restoration programs are considerate of climate change adaptation, as appropriate. Reclamation will continue to leverage participation in additional initiatives, such as America the Beautiful.

#### OPPORTUNITIES/PLANS FOR EXTERNAL COORDINATION

- Reclamation welcomes collaboration with other partners. This is especially encouraged at the project level for both grant applications and ongoing restoration projects.

#### USEFUL LINKS

- [WaterSMART | Bureau of Reclamation \(usbr.gov\)](https://www.usbr.gov/water-smart/)

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### BIPARTISAN INFRASTRUCTURE LAW FISH PASSAGE AT-A-GLANCE

#### *U.S. Forest Service*

PROGRAM/PURPOSE	ACTIVITIES
<p>Legacy Roads &amp; Trails Remediation (LRT)</p> <ul style="list-style-type: none"> <li>▪ USFS National Engineering Program is lead</li> <li>▪ New program, but similar to previous Legacy Roads program (2008-2018)</li> <li>▪ Purpose: Improve aquatic passage, reduce sedimentation, climate resiliency, and Source Water Protection</li> </ul>	<ul style="list-style-type: none"> <li>▪ AOPs, road decommissioning, road and trail relocation (USFS land only)</li> </ul>
<p>Collaborative-based Aquatic-focused Landscape-scale Restoration (CALR),</p> <ul style="list-style-type: none"> <li>▪ USFS National Biological &amp; Physical Resources Program (lead)</li> <li>▪ New Program</li> <li>▪ Purpose: Improving fish passage and water quality</li> </ul>	<ul style="list-style-type: none"> <li>▪ Dam removals, irrigation weir retrofits, culverts, habitat or water quality barriers, stream restoration (federal and non-federal lands, including Tribal lands)</li> </ul>
<p>Dam Decommissioning, USFS National Engineering Program (lead)</p> <ul style="list-style-type: none"> <li>▪ Purpose: removing USFS-owned, non-hydropower, high-hazard dams</li> </ul>	<ul style="list-style-type: none"> <li>▪ High Hazard Dam removal (USFS managed lands, non-hydropower Federal dams)</li> </ul>

FUNDING	LIMITATIONS
<ul style="list-style-type: none"> <li>• Legacy Roads &amp; Trails Remediation (LRT) <ul style="list-style-type: none"> <li>○ \$250 million over 5 years</li> </ul> </li> <li>• Collaborative-based Aquatic-focused Landscape-scale Restoration (CALR) <ul style="list-style-type: none"> <li>○ \$80 million over 5 years</li> </ul> </li> <li>• Dam Decommissioning <ul style="list-style-type: none"> <li>○ \$10 million over 5 years</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>▪ USFS roads, culverts, and trails</li> <li>▪ Federal and non-Federal lands, including Tribal lands</li> <li>▪ Non-hydropower Federal dams on USFS-managed lands</li> </ul>

**PARTNER WORKSHOP:** Fish Passage through Bipartisan Infrastructure Law, July 2022

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## BIPARTISAN INFRASTRUCTURE LAW FISH PASSAGE AT-A-GLANCE

### *U.S. Forest Service*

#### OPPORTUNITIES/PLANS FOR WITHIN AGENCY COORDINATION

- Legacy Roads & Trails Remediation (LRT)
  - Program coordinated across multiple staff areas, including Fisheries and Recreation programs.
  - USFS Regions were asked to prioritize projects submitted to LRT program
- Collaborative-based Aquatic-focused Landscape-scale Restoration (CALR)
  - \$10 million to NFWF – America the Beautiful Challenge
  - Program coordinated across multiple staff areas (Fisheries, Watershed programs)

#### OPPORTUNITIES/PLANS FOR EXTERNAL COORDINATION

- Collaborative-based Aquatic-focused Landscape-scale Restoration (CALR)
  - \$10 million to NFWF – America the Beautiful Challenge
  - Further coordination with DOI and Tribes is expected for future allocations

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**PARTNER WORKSHOP:** Fish Passage through Bipartisan Infrastructure Law, July 2022

# PARTNER WORKSHOP 2022

## MEETING SUMMARY: APPENDIX D



### APPENDIX D: BREAKOUT SUMMARIES

The following represents the detailed breakout notes from each of the seven breakout sessions on Day 2 of the Partner Workshop: Fish Passage through the Bipartisan Infrastructure Law. All in-person and virtual workshop participants were allowed to provide input into each breakout group, and their inputs are compiled here.

The purpose of these brainstorming sessions was to quickly identify issues, challenges, opportunities, and solutions for some of the most urgent and vital issues identified by meeting participants before and during the workshop. This summary may serve as a reference document for future discussions on strategically designing, implementing, monitoring, and communicating efforts for Fish Passage activities under the Bipartisan Infrastructure Law. These do not represent a consensus of the participants.

#### Breakout Session 1: Identifying Fish Barriers and Prioritizing Projects

##### BREAKOUT PROMPT

This breakout will focus on collecting information and best practices regarding existing barrier inventories and project prioritization systems at various scales (national, watershed, regional, state). It will also focus on understanding the criteria used to evaluate the severity of barriers and the importance and readiness of projects. The following questions will guide the conversation:

1. List known barrier inventories and discuss scope/scale of that inventory (watershed, national, regional, state). Please discuss criteria that is used to assess, sort, and prioritize barriers?
2. List known barrier removal project lists and discuss scope/scale. What criteria are used to prioritize projects? What are the fish/conservation criteria? Are there other criteria helpful for implementation? What other project prioritization criteria are helpful for success in implementation?
3. Discuss any existing efforts that attempt to develop a national inventory of barriers or projects. Would a national list of barriers or projects be helpful? If so, how should it be approached? What should be included?

#### Breakout Summary

Overall, moving projects from prioritization to action depends on various factors beyond fish or conservation criteria, including funding source, readiness, a willing and able partner, etc.

#### ECOLOGICAL OR CONSERVATION CRITERIA

- Ecological benefits
- Species benefits
- Habitat Connectivity
- Flow dependency / timing
- Ecological resiliency
- Species' physical resiliency
- Degree of change / impact within the watershed
- ESA listing status
- State "species of conservation need"
- Downstream barriers
- New opportunities upstream
- Habitat quality upstream
- Invasive species expansion / potential
- Barrier evaluation – is it mostly passable?

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### *OTHER “CO-BENEFITS” - FOR SOME PROJECTS, THE ECOLOGICAL BENEFIT MAY BE THE “CO-BENEFIT” OF THE PROJECT*

- Social
- Social Equity – be aware if there are “negative covariants” that may suppress a project’s implementation. E.g., is the area in an area of high impervious surface so being screened out too early?
- Recreational
- Flood Risk reduction / resiliency
- Water Quality/Quantity, including pollutants, temperature, etc. (may also be conservation criteria – e.g., can the species survive / thrive if the barrier is removed)
- Public Health
- Historic / Cultural relevance
- Life safety / Risk (e.g., removing a high hazard dam safety)
- Synergy with other projects

### *IMPLEMENTATION CRITERIA OR CONSIDERATIONS*

- Is the barrier impacting access to a Tribal trust resource
- Projects that are prioritized for other reasons/ purposes (e.g., public safety, flood risk reduction)
- Willing partner (e.g., dam owner) (this changes over time so can / should be revisited)
- Is it “shovel ready”?
- Is it a strategic use of planning dollars available through IIJA?
- Can it be finished with IIJA dollars?
- What’s the timeline?

- Technical complexity
- Political complexity / Political Support
- Community Support
- Will it create momentum in the watershed, creating or carrying forward other projects?
- Cost benefit ratio
- Economic benefit / cost effectiveness
- Agency / Presidential Administration priorities: supporting Tribal communities, urban communities, economically disadvantaged communities
- Synergy with other priorities – e.g., land management priorities to access Forest Service lands for wildfire prevention/ firefighting; dam safety
- Project cost
- Consistency with state, Tribal, federal plans and management documents
- Opportunity to match funding

### **Breakout Session Two: Collaborating to Make the Whole Larger Than the Parts**

#### *BREAKOUT PROMPT*

The IIJA funding represents an unprecedented, national-scale focus on improving fish conservation and recovery. It brings together the existing public and non-profit conservation sectors and specifically includes, in a significant way, agencies responsible for water resources and transportation infrastructure. This breakout session aims at collecting information that federal agencies can use to improve collaboration with each other, and with tribes, states, and the non-profit sectors. The following questions will guide the conversation:

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1. What are the most important roles that the federal government can play in improving fish passage/removing barriers (e.g., communication, measuring success, training, etc.)?
2. What are the specific needs/contributions of tribes?
3. What are the specific needs/contributions of states?
4. What are the specific needs/contributions of the non-profit sector?

### *BREAKOUT SUMMARY*

#### *Partner Contributions – Federal*

- Streamlining distribution of funds within legislative/regulatory sideboards.
- Administrative transparency – sharing inventories, prioritization criteria, data to tell the story.
- Connect partners and collaborate across regions, provide national perspective.

#### *Partner Contributions – State*

- On the ground expertise – biological knowledge, landowner/community relationships, development of management plans.
- Implementation past BIL, long-term projects beyond federal expenditure guidelines.
- Non-federal match – Leverage agency and partner funds, in-kind match, etc.

#### *Partner Contributions – Non-Profits*

- Communications and generating stakeholder support.
- Advocacy/lobbying - state/federal appropriations and necessary policy changes.

- Agility – spending/staffing flexibility to fill gaps.
- Science/administrative support, particularly for under-resourced communities.

#### *Partner Contributions – Tribes*

- Traditional Ecological Knowledge, insight into cultural importance of projects, community support
- Use treaty reserved rights/tribal sovereignty to optimize resource benefits of otherwise overlooked development projects.
- Communicate through tribal liaisons and tribal associations to incorporate tribal expertise into decision-making and project implementation.

#### *Partner Contributions – Other*

- NFHP – Prioritization/decision support, communication within and between agencies, funding distribution.
- Academia – Research and modeling capacity, training, creating pipeline of trained personnel.
- Private sector – Landowner buy-in and identification, match leverage, mitigation.

#### *Solutions*

- Use administrative priorities to request/ implement coordination directives from leadership across related agencies.
- Align grant criteria/evaluations with shared partner priorities.
- Improve grant administration/processes to ensure “right bucket for the right project”, reduce application and approval burden.
- Create collaboration framework of early/ often consultation leveraging capacity across agencies/partners. (added above)



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### Breakout Session Three: Addressing the Capacity Challenge

#### BREAKOUT PROMPT

The IJA effort will require a large scale-up across the public, private, and non-profit sectors. This breakout will focus on identifying where capacity will most need to be increased or developed and brainstorm some ideas to accomplish it. The following questions will guide the conversation:

1. What are the biggest capacity concerns (e.g., project design, project management, engineering and project implementation, specific technical skills, community engagement, permit review)? Please be specific.
2. Which skills sets might be the most critical?
3. What are some specific ideas for developing capacity (e.g., trainers, boots-on-the-ground, information, technical assistance)?
4. How might we involve/targeted disadvantaged communities in employment, training, or other opportunities at the national or local level?

#### BREAKOUT SUMMARY

##### *The Challenge: Capacity Needs Including Potential Skill Gaps*

Participants identified the potential for capacity gaps related to a variety of areas including fish passage design and engineering, science, and technical expertise, permit review and processing, community engagement and communications, grants application and management, project management, contract management, project monitoring and evaluation, tools and technology development, and

supplies. Under each of these categories participants identified specific concerns as follows:

##### *Fish passage design and engineering needs*

- This capacity need exists not only for the federal and state oversight agencies but also for those implementing grants.
- There was significant concern about having sufficient qualified personnel to undertake site-specific design review related to all types of AOPs.
- There was also specific mention of the need for specific expertise related to barriers, culverts and road stream-crossing design and inspections.
- The group expressed concerns about the extent to which bringing in contractor expertise for design review activities is appropriate (rather than solely having in-house reviewers).

##### *Science and technical expertise*

- A key area of concern is the need for assistance to support Tribal implementation, including expertise related to science.
- A significant concern of the group related to scientific knowledge was on climate science expertise and the ability to address connections between fish passage and climate resilience and climate change adaptation.
- There was also mention of the need for more expertise on river systems, landscape analysis/planning, hydrology, water quality, wildlife and geology (especially at the State level).
- A particular area of expertise mentioned was the lack of understanding related to energy

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system changes and the impacts on hydro-electric facilities.

- It was noted that in general the development of federal agency scientific expertise is on a decline due to budgeting constraints, and this is not solely as fish passage issue.
- In addition to these scientific concerns, there was also mention of the need for more expertise related to cost estimating for restoration, development and removal efforts.

### *Permit review and processing*

- A significant concern raised in discussion was the capacity of state and federal agencies and tribes to be able to sufficiently address environmental requirements (permitting and procedural) in a reasonably timely manner.
  - These include Clean Water Act 401 and 404 permits, ESA (section 7) requirements, marine mammal protection act reviews and NEPA procedures (and the State counterparts to these requirements).
  - ESA section 7 was specifically raised as a complication for FERC licensees.
- Concern focused primarily around having sufficient staff to execute all requirements in a timely manner.
- There was also concern raised about having the engineering expertise needed for permit reviews.
- In addition the group discussed concerns about ensuring that cultural reviews per Section NEPA 106, SHPO and the NHPA are appropriately implemented.

### *Community engagement and communications*

- The group raised concerns about having personnel to conduct stakeholder

engagement and community outreach regarding specific fish passage projects, including expertise in running public meetings.

- Of specific concern was also have communicators with expertise in risk communication and/or deep ties the local community for any dam removal scenarios.
- It was also noted that aside from specific communications, there should be capacity for the development of umbrella messaging that could be used across various agencies, programs and partners.
- There was also concern about having capacity to undertake appropriate outreach to and engagement with underserved communities.
- There was also concern about ensuring appropriate engagement between Federal/ State agencies and Tribes.
- It was noted that Federal Agencies presently often lack the social science expertise that helps to support excellent engagement and communication.

### *Grants*

- States and Tribes will need more personnel with expertise in grant writing, tracking and reporting, especially those with training/ background in IJJA.
- Federal agencies will need to provide technical assistance to Tribes for grant application and navigation of technology associated with grants.
- There was significant concern at all levels about having enough dedicated and focused grants management staff.

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- Concerns about ensuring underserved communities have understanding and access to grant programs.
- Concerns about State staff need more grant management training.

### *Project management*

- Concern about local governments, Tribes and NGOs being able to quickly train and launch project managers.
- Local public works departments will have to figure out how to address capacity issues where many culverts will need to be replaced, since they are accustomed to completing such projects as needed, one at a time.
- Also noted was a concern about the expertise and time needed by project managers to do landowner outreach to attain necessary permissions.

### *Contract management*

- Raised concerns about understanding and appropriately implementing procurement requirements, especially related to engaging technical/engineering expertise. For example, the appropriate use of design-build contracts.

### *Monitoring and evaluation*

- The group raised the need for personnel to undertake a collective assessment of success across the entire effort (which would rely on developing consistent monitoring criteria) and the need for capacity to do so.
- As mentioned in the science/technology section above, this effort would require a variety of scientific expertise that goes well beyond AOP engineering and design and delves into eco-system analysis.

- Having no follow-up funds for grantees to report out and provide long-term monitoring/ adaptive management (aka “effectiveness monitoring” as opposed to “performance monitoring” of the structure which is more easily accounted for.)

- This concern seemed to vary by Federal agency with some expressing no flexibility in funding.

- Not having appropriate tools, for feedback loop and making the data readily available.

### *Tools and technology development*

- Having capacity to develop an inventory/ centralized database tool to track completed projects.
- Taking the time and having funds to develop a tool for consolidated grant information (aka one-stop-shopping) so applications can more readily identify grant opportunities, which will save time and resources on the back end by avoiding unnecessary time expenditures on in applicable situations.
- Ensuring that there is appropriate project Prioritization potentially via project ranking and prioritization- decision support tools.
- Building centralized capacity to develop joint training and training tools for technical topics, again to avoid duplication of efforts across programs and Agencies.

### *Supplies*

- In addition to concerns about having sufficient personnel with sufficient expertise and abilities, the group also raised concerns about having enough construction equipment for simultaneously completing projects across the nation.

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- The group also noted ongoing supply chain issues that could prevent attainment of necessary building materials for culverts and bridges.

### *General Road-Blocks To Building Capacity*

The group discussed some of the issues with building capacity that regularly come up these include:

- Timing and speed of hiring for agencies with bureaucratic human resources processes and/or lack of immediate authority for hiring (aka political roadblocks).
- Hiring is made more difficult with IIJA funding because of the limited nature of the funding (it is harder to convince people to take a short-term position).
- Competition for talent in the face of potential pay gaps for those with expertise and generally a lack of people when so many organizations and agencies are going to be looking for similar expertise simultaneously.
- Funding Capacity where grants may restrict the activities that can be funded.
- How to retain institutional knowledge, rather than retirements

### *Potential Solutions to Addressing Capacity Issues*

The group discussed not only approaches for developing and building capacity but also discussed alternative solutions to address the problems created by capacity gaps. The following solutions were suggested:

#### *Overall hiring/capacity building*

- Speak to administration/leadership with one voice to promote hiring.

- Workforce development: Work with tribal/ MSIs to build the work force. Native American Fish & Wildlife Society is a good resource with existing networks.
- Use conservation corps to increase interest in natural resource/science careers and otherwise engaging people early: high school, college.
- Target colleges and universities (and increase focus at smaller colleges and community colleges).
- Tap into Tribal student networks – there are tribal liaisons at some colleges and regional conferences of native American organizations that may have student networks. Attending these functions and making personal connections would be a good first step.
- States, Tribes and local governments should actively voice concerns to leadership about lack of Federal Agency staff.
- Allow for 4 to 5 year awards/budgeting cycles in order to hire and retain quality people.
- Have multi-Agency Federal contracts for a “cadre” of contractors to support grant applicants or develop designs across multiple Agencies.

### *Overall reducing/leveraging existing resources needed to get projects completed*

- Prepare small communities to replace current infrastructure with AOP-beneficial infrastructure when it fails, for example after an extreme flooding event.
  - Potentially look to Minnesota as an example of working with public works to support AOP-friendly culverts

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- Leverage State and local DOT scheduled infrastructure replacements to plan ahead and combine efforts.
- Push against internal “always done this” practices and look for flexibility within legal authorities.
- Leverage existing tools to develop broad-based Prioritization Tools.
  - Potentially use CA FISHPass and CA Passage Assessment Database.
- Hold local/regional training events for green collar workforce.
  - Leverage county conservation districts and NRCS due to local connections to train municipal officials. (E.g. Canaan Valley Institute green collar workforce event.)
- Leverage NFHP and other regional associations of fish and wildlife agencies to receive and re-distribute money.
- Use contracts that group multiple tasks/projects, release task orders (ACOE).
- Develop guidance on Build America/Buy America.

### Grants

- Explore how and where grants can be used to build grants that more explicitly allow for capacity expenditures/building. Indirect costs aren't enough to cover capacity.
  - This needs to be consciously and consistently, so no single entity appears to be “less cost effective” because it has funded significantly more capacity costs.
- Use MOUs to combine funds between agencies, and award fewer grants.
- Check assumptions about legislation not including administrative support.

- Educate political appointees about need for this type of funding.
- Allow applicants to apply to tribal-specific funding opportunities (when in direct partnerships with tribes).
- Avoid sending notices and letters to the tribal chairperson when it is not known who the correct contact should be. This creates a long delay in an already long process.
- Work with existing partners who help grantees through application process. The Native American Fish & Wildlife Society developed a weekly webinar series to help tribes apply for America the Beautiful grants that have been well attended; a similar series could be developed for IJJA fish passage funding (some, not all grants).
- Develop guidance for how to make applying for and managing federal grants easier.
- Reduce or eliminate funding match requirements that might otherwise apply to make access to grants easier.

### Technical and Engineering Expertise

- Expand opportunities for design-build contracts.
- Develop detailed and consistent design guidelines to help practitioners create efficiency in design review and permitting processes.
- Train technical staff across various agencies using centralized teams or training programs.
- Create MOUs to “borrow” engineering expertise from other Federal Agencies (or environmental reviews, etc.).
- Hold technical trainings for non-federal restoration practitioners.

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- Develop an online library of experts to assist with various aspects of a project.

### *Permitting/Environmental & Cultural Compliance*

- Create centralized teams for NEPA process to collectively work through aggregated sets of projects.
- Use IIJA funding to hire contractors for NHPA Sec 106.
- Build categorical environmental compliance into higher level planning documents such as Forest Plan reviews, Hazard Mitigation Plans, etc.
- Include costs for permit reviews in the grants, including allowing the use of contracts to develop environmental compliance, prior to federal agency sign-off
- Use fellows/interns for NEPA processes and looking at climate impacts

### *Communication and Community Engagement*

- Develop a database of case studies of various types of success stories and positive impacts of AOPs to leverage when communicating with communities and individuals.
  - Engaging University students to write case studies, CCAST
  - Understanding the communications needs and the story to be told, before collecting information.
- Foster a paradigm shift with state and local agencies to move from reservoir/fish stocking to streams and fish habitat preservation. This could be done by relating this to community engagement on related issues that concerns the community: economic benefits, safety.

- Develop communications toolkits/guidelines with messages.
- Create a central reporting database/story map to show decision-makers what has been accomplished. This could leverage USGS existing tools, with additional funding/QA.
- Use paid coordinators with short-term contracts to support community champions.

### *Monitoring and Evaluation*

- Engage University students to conduct follow up monitoring activities and impact studies.
- Allow for grants to funding post-project monitoring and evaluation.
- Specifically target where effectiveness monitoring is most needed to reduce resources needed.
- Develop a centralized database for fish passage study results.
- Explore the use of “no-year” money for monitoring.
- Tie monitoring to permitting/ environmental compliance, so monitoring is required in order to meet the terms of the permit.

### *Potential Approaches for Involving/Targeting Disadvantaged Communities*

- Develop guidelines to support outreach to underserved communities
  - FWS Urban Wildlife Program has new guidelines out that could be leveraged.
- Earmark funding to support project management, coordination, and in-house capacity for Tribes and small communities
- Exercise caution when combining funds into larger awards that could impact equity and the ability for new applicants to become involved.

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- Maximize public benefits, beyond fish passage (to avoid concerns about cost and lack of habitat benefit).
- Provide training and technical assistance: Give the power to communities, through peer-to-peer training.
- Pair up with state/regional economic development groups because they've already identified who needs assistance.
  - Explore Arkansas efforts as a potential model.
- Work with NGOs on relationship-building to determine communities' needs.
- Change/reducing cost-share.
  - This may take significantly educating legislators as some cost share requirements are statutory.
- Have broad definitions for underserved communities, when there's legal flexibility in order to bring in more people.
  - Look to current USACE efforts on defining "economically disadvantaged" which recently went out for public comment.
- Include requirements for certain types of communities in construction.
  - Include in the contact language for grant recipients.
- Use congressional delegations to help with outreach. Get on the Agenda when elected officials are hosting meetings.
- Establish a federal clearinghouse of these communities, so that Requests for Information can target these groups.

### Breakout Session Four: Frameworks for Collaboration/Implementation

#### BREAKOUT PROMPT

Fish passage and barrier removal work is conducted at a variety of scales and across many different types of public, private, and non-profit entities. This session will explore opportunities to develop new, or expand existing, frameworks for collaboration to support IJA implementation. The follow questions will guide the conversation:

1. Describe existing national, state, or regional frameworks for collaboration. How might federal agencies with IJA funding participate in these frameworks (e.g., FEMA, USACE, FHWA)?
2. To what degree can these frameworks be replicated or used elsewhere?
3. What are the pros/cons of expanding existing frameworks to support IJA implementation?
4. Are there other approaches to a collaborative framework for IJA fish passage funding that could be considered?
5. What tools exist, or should be developed, to support collaborative implementation

#### BREAKOUT SUMMARY

##### *Ideas for expanding frameworks*

- Federal Highway Administration
  - Need better coordination between FHA Headquarters and State Departments of Highways to promote focus of improved culverts including technical manual/guidance. Many decisions are delegated to the states so useful to engage with AASHTO (American Association of State Highway Transportation Officials) as they develop manuals for culvert design.

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– Jesus M from FWS could provide sample package for technical manual for updated surveys.

– States of Maine and Alaska have Programmatic Agreements with USFWS that could be useful as a model for culverts.

- Involve FHA in Aquatic Connectivity Teams
- FHA to cooperate with NMFS on anadromous fish
- FWS/NMFS already consulting with FHA to develop BIL funding approach and NOFO
- Invite DOTs to U.S. Forest Service culvert training
- DOT could collect barrier and aquatic organism information coordinated with other surveys (e.g., doing it now for white nose bat syndrome)
- U.S. Army Corps of Engineers
  - Water Resources and Development Act language already being drafted asking USACE to develop/expand inventory of dams in the nation to include smaller dams
  - Corps Water Infrastructure Financing Program – loans; could dam removal be eligible?
- Federal Emergency Management Agency
  - Disaster funding is the big player, works to not only remove dams through the National Dam Safety Program, but work to change post-disaster policies to consider fish passage (e.g., culverts). Examples include: BRIC, Public Assistance, and Flood Mitigation Assistance
- Identify list of dams that owners want to walk away from (National Dam Safety Program and through the Association of State Dam Safety Officials). Can also be done through the National Fish Partnership at a state or regional level – already being done in South Carolina.
- Federal Energy Regulatory Commission
  - List of dams that owners want to walk away from. Might there be DOE money for those?
  - Relicensing process triggers reconsideration of fish passage (consider this in long term strategy for fish passage)
  - BIL (Section 247) has incentives for hydro industry to take steps to improve fish passage. It is an open question about whether eligible if not in existing license or only on relicense. DOE still trying to figure out how to structure the program
- Department of Defense
  - Sikes Act- Military Lands Conservation Program- applies to all bases. Could this be a potential funding source for aquatic connectivity
- Environmental Protection Agency
  - Geographic programs (e.g., Chesapeake Bay) and National Estuary Program are place based approaches that may overlap with geographic focus areas.
  - Section 319 of the Clean Water Act – grants to states, territories and tribes for non-point source pollution, some connections could be made
  - State Revolving Loan Fund – some activities may be eligible



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- USDA/DOI/DOD Sentinel Landscapes program – connects private landowners with federal assistance programs that help them adopt and maintain sustainable management practices

### *How to Address Capacity Issues*

- Consultants: engineering design, permitting, Section 106
- IPAs, MOUs: loaning from other agencies, hiring other agencies to do work (USGS, USACE)
- PCSRF plussed up- granting programs to states- it is underfunded and could be added to
- MOU between feds and others to share and coordinate expertise
- Local jurisdiction may have engineering or other resources available
- Use USGS for monitoring/eval packaged as research study
- Service first agreements within DOI
- Internship and Fellowship Programs (e.g., NOAA Hollings)
- Combine common activities – coordinated grant review among agencies
- Train / utilize tribal personal, archeology, indigenous knowledge
- Academia (research and synthesis panels)

### *Pros/Cons of Expanding Existing Networks for Implementation*

- NFHP could be good way to move money from feds to do on-the-ground, but capacity could be limited at the partner level as well.

- Entities need long-term funding (several years) to allow making hires. Uncertainty in funding staff is a big challenge (can't attract good people, can't retain as no job security with temporary positions, limits institutional knowledge) – there may be challenges in how federal funds may be spent.
- Recovering America's Wildlife (RAWA) – could this help states with long-term funding?

### **Breakout Session Five: Developing an Inclusive Approach to Fish Passage**

#### *BREAKOUT PROMPT*

For the most part, fish passage projects exist in the landscape alongside other human and community needs. To ensure that barrier removal, fish passage, and aquatic connectivity are viewed as positive, engaging in meaningful dialogue with communities to understand their interests is helpful. The following questions will guide the conversation:

1. What are common community concerns regarding fish passage projects? Who tends to have these concerns (e.g., homeowners, community officials, businesses, other interests)? Do we understand the concerns of disadvantaged communities?
2. What are some models or examples of how concerns have been addressed (especially for disadvantaged communities)?
3. What benefits might you articulate to communities from fish passage/barrier removal projects (e.g., access to nature, fishing, recreation, etc.)
4. How might we better engage disadvantaged communities in fish passage work?

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## BREAKOUT SUMMARY

### Takeaways

- Each project will have a unique set of impacts/benefits to community and thus, each community has unique concerns and will require specific strategies or approaches for engagement
- Continue to increase awareness and learn the community
- Communities need transparent information and assurances of the benefits
- Engagement
  - Early and often, transparently
  - Throughout planning process including following project completion
  - Develop outreach and engagement plans
  - Utilize local information and trusted community members
  - Incorporate community concerns into decisions
- Utilize existing expertise and capacity – this work is already happening, capitalize on it!

### NEXT STEPS

- Develop top-line common messaging across federal and state agencies to amplify our goals and ensure the benefits resonate within key communities
- Establish processes for engagement and agency collaboration

### *What are common community concerns regarding fish passage projects?*

- Stakeholders are concerned with:
  - Costs
  - Their immediate environment

- Safety
- Prioritizing fish over people
- Cultural significance - loss of traditions and identities of the communities

### *Who tends to have these concerns (e.g., homeowners, community officials, businesses, other interests)?*

- Recreators
- Government (all levels: local/municipal to federal)
- The public (landowners, families, members of the public resistant to change)
- Private industry
- Financiers

### *Do we understand the concerns of disadvantaged communities?*

- Disadvantaged communities
  - Who are the communities?
  - How do we identify them?
  - Do we acknowledge their self-identification?
  - How do we purposefully make disadvantaged communities a focal point?
  - How do we ensure project benefits are directed to them?

*Fish passage isn't necessarily benefitting disadvantaged communities but barrier removal more specifically (through job creation, reductions in safety hazards, etc.) may – this is the message that needs to be communicated.*

- Need to identify communities before we can identify their needs

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### ■ Non-disadvantaged communities

- Understanding varies (i.e., yes, no, maybe, sometimes, sporadically) and generally is better at the local scale

*No two communities/projects will have the same set of needs – need a local perspective to truly understand*

- Utilize existing system of capacity and local knowledge and expertise

*How do we ensure they are prepared for effectively engaging these communities?*

### ■ Many of them are well prepared and their existing skills should be capitalized on

### ■ Is community engagement a priority for the agency/organization?

- If not, how do we integrate this priority into their mission?
- Utilize existing expertise

*What are some models or examples of how concerns have been addressed (especially for disadvantaged communities)?*

### ■ Local/regional examples

- Watershed councils and collaboratives (e.g., Oregon watershed councils – do these similar models exist in other states/regions?)
- Stakeholder and community engagement during all project stages  
*E.g., Klawock Watershed Action Plan, Hoonah Native Forest Partnership, USDA SE Alaska Sustainability Strategy*
- Fish Habitat Partnerships
- Land trusts

- Central PA Stream Improvement Program – this works very well with landowners
- Upper Columbia River Reintroduction – effective outreach to community and stakeholders
- Benton Alewife Festival (Maine)
- Herring Festival in Plymouth – promotional, community engagement
- Wildlife Action Plan SGCN priority successes
- Blackfoot Challenge – lessons from landscape collaboratives
- OR and WA strategic action plan model
- Partners for Fish and Wildlife model – suggestion to expand to all federal agencies
- American Rivers (many)
- Cooperative Watershed Management Program
- Project Wild (educational opportunity in schools)
- WA track/tag fish in the classroom that resulted in broad engagement across the community
- Utah model for engagement
- Other tools or approaches
  - Risk Information Seeking and Processing (RISP) Model
  - Listening sessions
  - Small, targeted group discussions
  - Success stories
  - K-12 involvement
  - Tours – project tours, field tours, float trips (get buy-in from nearby landowners)

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*What benefits might you articulate to communities from fish passage/barrier removal projects (e.g., access to nature, fishing, recreation, etc.)*

- Benefits provided that need to be communicated effectively to stakeholders:
  - Public works benefits include wastewater treatment costs, reductions in flooding, public health, and others
  - Upstream/downstream benefits
  - Environmental justice
  - Long-term benefits to the public (e.g., generational cost savings)
- Methods/tools for effective articulation:
  - Use visuals (videos, etc.)  
*Leverage partners expertise and capabilities to do this*
  - Transparency on the work being conducted
  - Know your audience – vary the message and approach according to the needs of the individual community
  - Focus on the positive – what is the community gaining (rather than losing)?
  - Economic benefit/ecosystem services – this information is a tool for community buy-in (e.g., economic value of clean water)

*How might we better engage disadvantaged communities in fish passage work?*

- Engage early and often to facilitate community buy-in
  - Focus on transparency
  - Engage with them throughout the process from awareness on opportunities, options,

and resources available to them as well as during project development and implementation

- Test methods of engagement (public forum vs. roundtable, involved method) to ensure collaborative approach is facilitated rather than us vs. them attitude
- Local
  - Value and rely on local knowledge and communities
  - Know your audience and implement strategies unique to them
  - Leverage existing relationships/partnerships/resources (e.g., NRCS offices)
  - Develop a two-way street of communication: seek synergies between stakeholder needs and expected benefits provided by the project
  - Seek input from neighboring (i.e., upstream, and downstream) communities
  - Congressional delegations
  - Field tours
- Listen
  - Ask the community what their concerns and priorities are rather than dictating agency priorities/needs
  - Inform the public of processes, resources, benefits, etc.
    - *Caution: “educating” the public can be perceived as condescending; “informing” is preferred language*
    - *“Outreach is everybody’s responsibility.” Outreach goes beyond targeted, formalized efforts (individual responsibility as well)*

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- Education
- Participatory processes (develop new and utilize existing)
  - Integrate stakeholder community engagement into project planning
  - Recreational events
- Provide information based on their individual and unique needs
  - Simplify information on BIL
  - Social media

*Some communities may not have the capability to benefit from social media resources*
  - Develop and communicate historical and natural history information that is relevant to these communities
- Socioeconomic benefits
  - Utilize social scientists to conduct economic valuation studies
  - Identify and communicate specific socioeconomic benefits provided by these projects
- Tribal engagement (also applies to disadvantaged communities more broadly)
  - How do we effectively engage these groups while reducing the burden on them (administratively, etc.) (e.g., consultation fatigue)?

### Breakout Session Six: Monitoring and Measuring Success

#### BREAKOUT PROMPT

This breakout will focus on better understanding existing methods for monitoring success of fish passage projects and the role monitoring and

assessment could play in improving barrier removal techniques. The following questions will guide the conversation:

1. What are some current ways that people measure success for barrier removal? Consider ecological and socioeconomic factors.
2. How well do we understand the effectiveness of current barrier removal techniques/efforts?
3. What does/should a good monitoring or maintenance effort look like?
4. How should we best conduct monitoring efforts to better understand effectiveness of fish passage efforts to improve techniques and understand overall success? Project-by-project? Landscape scale?

#### BREAKOUT SUMMARY

##### Defining “Monitoring and Measuring Success”

Participants first discussed and generally agreed on a delineation between two different types of monitoring with regard to AOP/fish passage efforts:

##### **Performance monitoring (also called compliance monitoring) – focuses on ensuring successful project delivery.**

- Performance monitoring effort will look at whether the structure is functioning as designed, focused on immediate outcomes such as flow volume/rate, structural stability, etc.
- Performance monitoring can be used as the basis for adaptive management.
- Federal agencies already regularly require performance monitoring as part of infrastructure development, and generally

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expressed confidence that such requirements could be included as part of AOP contracts and grants.

## **Effectiveness monitoring – focuses on longer-term outcomes related to habitat restoration for aquatic organisms.**

- Effectiveness monitoring is a longer-term monitoring and evaluation effort that looks at broader impacts from direct benefits/impacts such as increases in species population to secondary benefits/impacts such as healthier local economies based on increased eco-tourism opportunities.
- Effectiveness monitoring is potentially scalable depending on the intended outcomes and could implicate multiple AOP structures across a watershed/basin.
- Federal agencies do not generally require effectiveness monitoring as part of infrastructure development, and many expressed concerns about having authority to do so as part of AOP contracts and grants.

## **Monitoring Objectives**

The group discussed what might be some objectives for conducting monitoring and what might determine the “success” of the fish passage effort. The following objectives were suggested:

- To demonstrate to Congress whether there has been a return on the broad investment made in the IJA. (AKA Did transformational change occur?)
- To demonstrate to communities the benefit and value of AOPs and how they can uplift local communities.

- To determine if there are changes that need to be made to the way funds have been invested in AOPs.
- To determine if whether AOPs have been successful in restoring (and potentially down-listing) species and their habitat.
- To determine if there are benefits from AOP investment beyond species recovery, related to climate resilience, greenhouse gas sequestration/storage, healthier riparian systems, draught resilience, flood hazard reduction, increase water quality and quantity, and more.
- To verify that project prioritization is producing the expected results and shift priorities as needed.
- To verify the efficacy of new technology (i.e. new design approaches), the validity of emerging science and/or the application of existing science and technologies in new conditions. In other words, to specifically focus on seeing whether new design methods or AOP approaches are effective in restoring fish species/ habitat and answer any new or as-yet-unaddressed questions. (AKA It should NOT be the objective of effectiveness monitoring to evaluate already well-tested scenarios.)

## **Current and Potential Monitoring Approaches and Techniques**

- Looking at physical measurements/conditions to assess project performance: hydraulic data, fluvial response, water temperature changes, stream structure profiles, cross section of stream, water quality changes, geomorphic monitoring, bank stabilization, sediment movement, comparison to historical transects.

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- Looking at secondary factors to assess project performance: changes to maintenance and repair costs, changes to maintenance frequency
- Conducting visual assessments of species population and habitat impacts to assess restoration benefits: fish counts/species surveys, species location changes (presence above a former barrier), water quality changes, temperature changes, sediment changes, changes to other related species (food source changes).
- Using technologies to look at fish population increases, species health and range expansion: telemetry, PIT tagging, eDNA sampling.
- Looking at potential negative impacts: introduction of non-native species (plants, fish), fish disease.
- Looking at economic data to determine secondary impact/benefits of fish passage: construction and maintenance jobs created, increase recreational use, increased ecotourism and related job-creation, and potentially even increased real estate valuations.
- Looking at other socio-economic factors to determine secondary impact/benefits of fish passage: public attitude, acceptance, human dimensions, perspective.

### **Considerations/Suggestions for the Development of Monitoring Approach(es) for the AOPs under IJA:**

- Monitoring should always be tailored to specific project objectives
- Effectiveness monitoring will need to be otherwise incentivized/supported if it cannot be paid for within grants/contract vehicles.

- Effectiveness monitoring does not need to be not comprehensive, but rather can be based on a representative sample or projects. There should be an emphasis on innovative designs, do not need to monitor every project when we know what works.
- Will need to come up with creative solutions for WHO can monitor long-term:
  - Monitoring could be conducted by citizen volunteers or paid citizens (Native Alaskan Communities).
  - NRCS, EQUIP, EPA, CRP, NFWF, NFHAP trust may have programs or resources to support monitoring by locals.
  - University students, academia could be drawn in to support longer term effectiveness monitoring efforts. (But time scale is an issue because of student turnover.)
- Will need to consider resources for long-term monitoring efforts:
  - Would benefit from having a standard protocol or set of best practices for monitoring and and/or a template for developing a monitoring strategy.
  - Would be helpful to have monitoring case studies – a repository of successes and failures, repository.  
*Ideal of these could organized or cross-referenced regionally where there are similar resources, topography, and threats are different.*
  - Potential to leverage existing SARP database and/or USGS dam removal info portal.
- Grant applications should anticipate issues and require mitigation measures to address

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issues, which could help define longer-term monitoring needs.

- Could leverage DOT requirements to monitor AOPs associated with bridges. However staff would need to be trained to assess ecological benefit.
- •Important to bring in States on these discussions as they potentially have more authorities and responsibility related to monitoring and reporting.
  - Need to explore whether language in the award document help ensure that the right things are monitored.
  - States have existing water quality programs that could potentially be leveraged for certain types of sampling.
- Need to determine how long-term monitoring data will be reported and where it will be housed. (What will agencies do with it? How will it be used?)

### Breakout Group Session 7: Making Fish Passage a More Mainstream Concern

#### BREAKOUT PROMPT

To increase the likelihood that fish passage efforts live beyond the IJA effort, they must be shown to be valuable and its efforts successful. This breakout aims to gather ideas about what a successful effort looks like and how to build momentum for future successes. The following questions will guide the conversation:

1. What does success look like for this effort at a national level (long term goal, short term measures)?
2. How can federal agencies, states and communities take steps to routinely consider fish passage in infrastructure and land use projects/actions?

3. How can we prevent future barriers from coming onto the landscape?
4. How might the power of this collaborative work to make fish passage a more mainstream community concern (e.g., messages, mechanisms)?
5. Would there be/what would be the benefit(s) of a coordinated communication/education approach

#### BREAKOUT SUMMARY

Overall, success looks like....

- Efficient allocations to happy recipients, and then additional funding
- Creating a new fish passage culture

*What does success look like for this effort at a national level (long-term goal, short-term measures)?*

- Another \$1 trillion in funding to continue to address these fish passage issues.
- Demonstrate that we spent all the BIL funds
  - Effectively
  - Efficiently
  - In Local Communities
  - And have happy applicants and recipients
- Leverage the investments with new partners and increased capacity in partners.
- Have a plan for the future—to keep moving forward.
  - New authorities in the future (e.g. FERC resiliency; USACE O&M for fish passage mods
- Demonstrate Administration priorities (tribes and underserved communities)



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- People know where to go for funds, information and assistance (NFHP?)
- Created a culture of barrier removal— normalize it. Change in mindset (design and integrated)- Fish passage and aquatic barriers becomes the norm- just as common as fish stocking for example. Fish passage and habitat work is a regular tool in toolbox for those working on the ground on maintenance too.
  - Become the ‘state of practice’ in roadway design
  - Dam owners on the tributaries are aware of needs for fish passage
  - Have non-traditional partner support
- Have a plan for the future – keep moving forward beyond the five years of BIL funding.
- A story that captures multiple benefits of the BIL Fish Passage \$ and Shows what IJA bought
  - Take credit for the work; acknowledgment feature to all the multiple partners together (not one agency at a time..)
  - The full community is telling the story (all agencies, tribes, states, Congress, General public etc.)
    - *Educate the full community on the project benefits*
    - *Communicate in a way the community can understand*
  - Identify the story (based on audience- e.g. Congressional story)
    - *Context sensitive aquatic organism passage*
    - *Show difference through before and after pictures*
  - *Aesthetics matter*
  - *Memorable tag-line matters*
  - *Choose signature projects that market/ boost the message as your demonstration project*
  - *E.g. Salmon SuperHwy Model from OR (example of a well done campaign)*
  - *Showcase the federal/state/tribal/local collaboration model*
  - *Connect the story to what matters-- climate change and resiliency.*
- Increased number of self-sustaining fisheries and a reduced need for hatcheries (long or short term)
  - De-listing species (this is a Congressional/ political interest for this BIL funding)
  - Avoid new species listings
- Temperature sensitive fish remain on the landscape (LONG)
- Endemic species present, invasive species are no longer present
- Specific watersheds- move the needle and demonstrate success, priorities
- Barriers are removed, habitat is opened, and species are present upstream
  - Also awareness of state-wide do not remove lists.
- Demonstrate greater/sustained collaboration among agency partnerships
  - Build on coordinated programs funding based on authorities and mission
  - NFHP (National Fish Habitat Partnership)- now an interagency operational plan is in draft

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- Demonstrate expansion of academic/ job opportunities in the fish passage field (attract the next generation of practitioners)
- Demonstrated safety improvements-removed hazardous dams
- Demonstrated improved public safety (that can be messaged)
- Demonstrated resiliency (e.g. post-flood culverts)
- Demonstrate that we are better at fish passage
  - That we added to the science
  - That we've increased the efficiencies
  - Get less congressionally hearings on the topic
- Flatten trend line of new barriers
- Improved public perception of the federal government
- Increased engagement in underserved communities
- 2026 World Fish Migration Day Party (May....) Invite Congressional Delegates, elected officials at all levels.

*How can federal agencies, states and communities take steps to routinely consider fish passage in infrastructure and land use projects/actions?*

### **At a federal level...**

- Feds develop an MOU or Interagency Agreement (if want to move \$)
- Develop internal Agency policies that any land management action must do an evaluation of fish passage (FWS, BLM, NPS have done this)

- Develop Interagency level coordination
  - Convene at CEQ level (would change at administration changes) or get into a statute for more permanence)
  - Reduce loopholes (e.g. post emergency actions, betterments) that make it truly temporary.
  - Common technical guidance
  - Leverage existing authoritative interagency groups/committees
  - Recognize beneficial barriers
- Describe the benefits in projects (e.g. USACE comprehensive doc of benefits)
- Interagency mentoring/details on fish passage

### **At the state, tribe and local level...**

- Streamline permitting
  - Categorical exclusions (or NWP 27 (wetland restoration) or NWP 53 for low heading dam, or NWP3 (dam removal?))
  - Programmatic Section 7 permitting (FWS NE has done this for example for culvert permitting)
- Interagency connectivity (state, tribal and fed)
  - E.g. DOT engineers – example of Alaska road resurfacing projects: coordinating meetings between state DOT, federal agencies, and communities to talk about these projects has turned them into fish passage projects. A nonprofit hosts a quarterly call (beneficial when nonfed takes on the effort of hosting).
  - Cross-training w/ AOP learn together

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- Early coordination across agencies (anti-degradation standards under clean water act worth checking for projects)

### All...

- Education from the beginning
  - Embedding/Integrating engineers into Natural Resource Departments
  - Integrated training programs across federal agencies and with multi-disciplinary teams from the beginning
  - Funding needed for communication to do it better (afford the engineers and

### *How can we prevent future barriers from coming onto the landscape?*

- All work should be consistent with State and Tribal Fishery Management Plans (e.g. some land locked western states will have creation of barriers to prevent invasive species from specific movements included in the community reviewed plans)
- Create a common denominator set of minimum design standards that are beneficial to fish passage so that infrastructure destroyed in disaster is not rebuilt to “as was” standards from decades ago.

### *How might the power of this collaborative work to make fish passage a more mainstream community concern (e.g. messages, mechanisms?)*

- Messenger matters—can change for key audiences but a champion for work is needed
  - Find a community based champion to amplify the message

- Specific communication to the audience (focus on co benefits that resonates most with each audience; focus on charismatic species for your messenger)
- Economics: Focus on economic benefits
  - Ecosystem goals & services (simply....cost savings over life cycle of investment is all that’s needed- Do not overcomplicate)
  - Recreational benefits/increased recreation
  - Jobs
  - Values of the restoration economy (NOAA report post ARRA is good for reference)
  - Resiliency (safety and maintenance)
- Tell the story of the collaboration (federal, state, tribal, and NGO)
  - Feds – can they tell the story with the communication staff they have?
  - FWS can tell as short story after the meeting
  - FWS does see this as a starting point for collaborating moving forward
  - Tell story through storyboard, pics, videos
  - More kids books on fish passage
  - Target the story to the audience
- Education
  - Fish in the classroom and with elementary schools through college
  - Field days to successful projects
  - Annual events