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November 5, 2019

MEMORANDUM

TO: Fish and Wildlife Committee Members

FROM: Nancy Leonard

SUBJECT: Update from the Pacific Northwest Aquatic Monitoring Partnership (PNAMP) project

BACKGROUND:

Presenter: Jen Bayer, Coordinator (USGS/PNAMP)

Summary: Jen Bayer will provide an update on PNAMP's continued support of the Council's Fish and Wildlife Program and will highlight major accomplishments. This year marks PNAMP's 15th year in supporting a collaborative effort among federal, state, tribal, and regional entities promoting integration of monitoring resources.

Relevance: PNAMP is one of the Fish and Wildlife Program's support projects reviewed during the 2018-2019 Mainstem/Program Support category project review. Since 2004, PNAMP has supported the Program by facilitating collaboration across projects and programs to improve efficiency and effectiveness of monitoring and data sharing across the region. PNAMP also maintains MonitoringResources.org, a free online toolset to document and discover "who's doing what where when and how." MonitoringResources.org is the system of record for locations of sites, methods, and protocols used to collect or analyze data through BPA-funded projects and this documentation informs the Council's proposal review process. PNAMP also assists with implementation of the Program's strategies such as the 2014 Program's task for *refining*

Ecosystem function, habitat, and hydrosystem objectives, and more recently, by supporting the draft *Columbia Basin Habitat RM&E Strategy* workshops.

Background: The Northwest Power and Conservation Council is one of the 19 federal, state, tribal, and regional entities that are signatory partners of the Pacific Northwest Aquatic Monitoring Partnership (PNAMP) and the Council has served as a Steering Committee member since PNAMP became a formal partnership in 2004. PNAMP promotes integration of monitoring resources and development of tools to support monitoring, and it operates through inter-organizational teams to make progress on a variety of projects identified to support partner needs and PNAMP goals.

PNAMP's work supports Research, Monitoring, and Evaluation (RM&E) coordination needs, including the Northwest Power and Conservation Council Fish & Wildlife Program (FWP) strategies, for more standardized and coordinated regional monitoring. In 2018, PNAMP focused on projects related to technologies to advance natural resource monitoring efforts and research, best practices for data management, and watershed monitoring. PNAMP advances its coordination goals and objectives for these topics by hosting workshops, work sessions, and meetings.

The following list highlights some of PNAMP's accomplishments in 2018: (1) supported MonitoringResources.org as the system of record for Bonneville Power Administration funded projects' methods and location information; (2) Hosted a Natural Origin Spawner Abundance (NOSA) Methods Review Workshop attended by 51 organization from 18 organizations; (3) Held a Tributary PIT Tag Arrays in the Columbia Basin Workshop attended by 102 participants; (4) Continued efforts to improve regional coordination for data sharing and reporting of habitat indicators; hosted the fourth IMW workshop on November 1-2. The workshop was attended by 72 people from 38 organizations; and (5) Created the Data Visualization Workgroup to discuss ways to visualize data for greater understanding, accessibility, which hosted 8 meetings attended by 55 people from 30 agencies.

More Info: www.pnamp.org;
www.monitoringresources.org;
[2018 Annual Report](#);
[2018 Accomplishments](#)



pacific northwest aquatic
monitoring partnership

PNAMP Update for NPCC Fish & Wildlife Committee

Jen Bayer & Becca Scully
November 12, 2019



Our Mission

The Pacific Northwest Aquatic Monitoring Partnership (PNAMP) provides a forum and functions to enhance the capacity of multiple entities to collaborate to produce an effective and comprehensive network of aquatic monitoring programs in the Pacific Northwest based on sound science designed to inform public policy and resource management decisions.

PNAMP's Unique Role in the Pacific Northwest

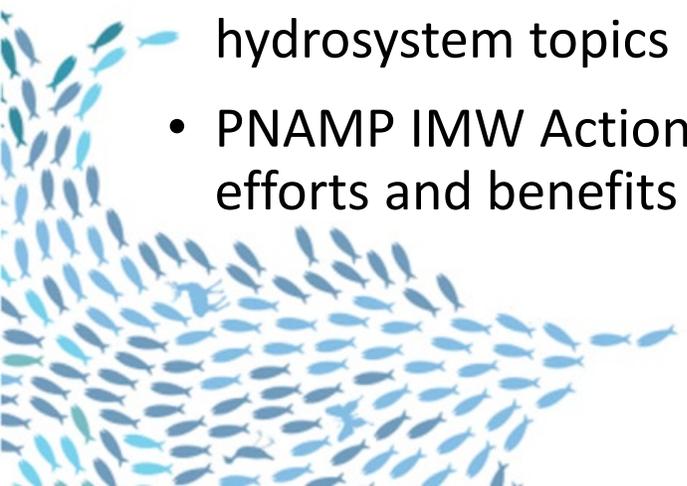
- Plan and sustain data sharing infrastructure
- Align and integrate how we monitor, collect, and analyze data
- Facilitate collaboration and coordination on data collection efforts
- Sustain support for better documentation



The "wheel" provided the framework for PNAMP's 2nd strategic plan.

PNAMP Supports the Fish & Wildlife Program



- Strategies for more standardized and coordinated regional monitoring
 - Meetings and workshops about monitoring methods, design and results to aid in adaptive management
 - Improve data management, e.g. Coordinated Assessments Project
 - Online tools for detailed documentation of projects, supporting metadata for project reviews
 - Method reviews to promote best practices and move towards standardized methods
 - High Level Indicator coordination; Council approved in 2009 and used in the 2014 program
 - Discussion around 2014 Program goals and objectives for ecosystem function, habitat, and hydrosystem topics
 - PNAMP IMW Action Plan to support learning about relationships between tributary habitat efforts and benefits to fish and wildlife at the population scale
- 

A Long and Productive History with the NPCCC

The Council has recommended continued support for PNAMP through 13 years of project review processes

- 2006 recommended funding through the FY07-09 Solicitation Review
- 2012 confirmed support through the 2012 PERC Review
- 2014 recommended funding through the Resident Fish, Regional Coordination, and Data Management Category Review
- 2019 recommended funding through the 2019-2021 Mainstem/Program Support



PNAMP Partners



US Army Corps of Engineers



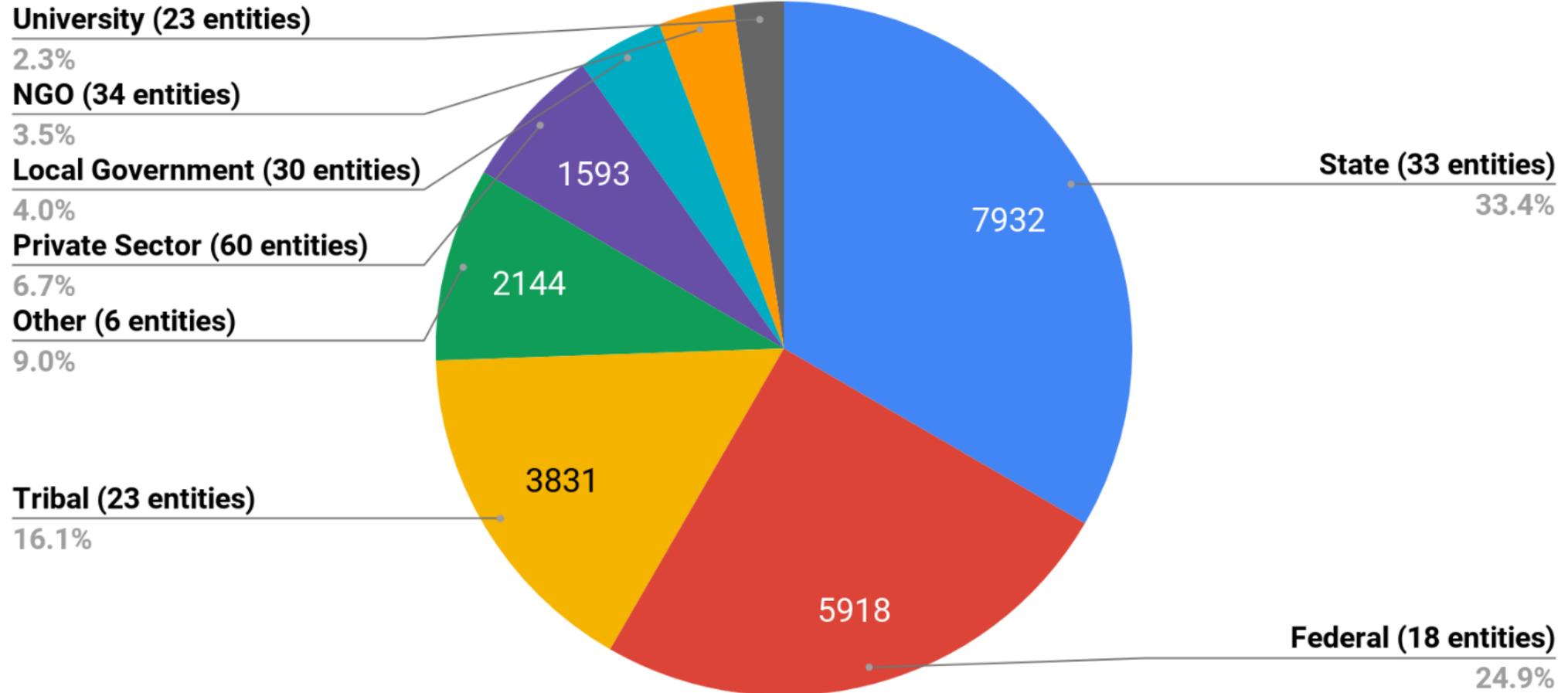


PNAMP Operates an Open and Inclusive Process

PNAMP has seen in-kind participation from over 1200 individuals representing more than 225 organizations and direct funding from 10 entities



PNAMP In-kind Contributions



Hours by Organization Types for 2012-2018



PNAMP Steering Committee Members

Founding Members (blue)
Current Signatory Members (bold)

Jamie Anthony, Jessica Archer, **John Arterburn**, Aaron Borisenko, **Dave Busch**, **Steve Butkus**, **Tim Copeland**, **Bruce Crawford**, Bob Cusimano, **Bruce Davies**, Renee Davis, **Al Doelker**, Scott Donahue, **Scott Downie**, **Keith Dublanica**, Ken Dzinbal, **Ken Fetcho**, Sean Finn, Leska Fore, Sean Gallagher, **Jim Geiselman**, Pete Hassemer, Lance Hebdon, **Chris Hirsch**, Tom Iverson, **Bruce Jones**, **Denise Kelsey**, **Jody Lando**, **Steve Lanigan**, **Steve Leider**, **Nancy Leonard**, Frank McCormick, Stephanie Miller, **Mitch Mumma**, Erik Neatherlin, **Michael Newsom**, **Paul Ocker**, George Onwumere, Zach Penney, **Dave Powers**, Mark Raggon, **Dan Rawding**, **Phil Roger**, Scott Rumsey, **Bruce Schmidt**, Russell Scranton, **Kevin Shaffer**, **Greg Sieglitz**, Jude Trapani, **Linda Ulmer**, **Steve Waste**, **Chris Wheaton**, **Keith Wolf**, **Frank Young**, Ben Zelinsky

Current PNAMP Staff

Jen Bayer (2004-present)
Amy Puls (2011-present)
Becca Scully (2014-present)
Sheryn Olson (2016-present)
Sam Cimino (2016-present)

Past PNAMP Staff

Debra Niemann (2005-2006)
Jacque Schei (2007-2014)
Sean Quigley (2008-2010)
Kathryn Thomas (2011-2012)
Katie Pierson (2014-2015)
Meg Dethloff (2015-2019)

Detailees: Amy Bratz, Rod Polintan,
Sally Sauter, Sarah Beldin, Lisa Weiland,
and Craig Haskell.



Look at how much we've accomplished together...



- PNAMP gets going!
- PNAMP [Charter](#) is signed
- Workgroups kick off:
 - Fish Population Monitoring WG
 - Watershed Monitoring WG
 - Effectiveness Monitoring WG
 - Data Management WG

- [Protocol Comparison Project](#)
- [Intensively Monitored Watersheds \(IMWs\) Plan completed](#)
- [PNAMP 2005 Strategy complete](#)

- [Monitoring Practitioners Workshop with CBFWA/CSMEP](#)
- [High Level Indicators Project](#)
- Recommendation: [Data Management Needs for Regional Project Tracking to Support Implementation and Effectiveness Monitoring](#)

- [Integrated Status & Trends Monitoring Demo Project](#)
- [Tagging, Telemetry, and Marking Project](#)
- [Information Sharing Summit w/ NED & RGIC](#)
- Recommendations: [Salmonid Field Protocol Handbook](#); [Macroinvertebrate Protocol](#); [Best Practices for Reporting Location and Time related Data](#)

2004

2005

2006

2007

PNAMP Highlights 2008-2011



- [NWEIS Summit II with NED and PNW RGIC](#)
- [Intensively Monitored Watersheds \(IMWs\) Workshop](#)
- [2008 ASPRS Annual Conference Special Session](#)
- [High Level Indicators Report Complete](#)
- [MonitoringMethods.org released](#)

2008



- [High Level Indicators Recommendation Advanced](#)
- [Web Portals Workshop](#)

2009



- [Coordinated Assessments Project begins](#)
- [Environmental Conservation and Restoration Project Implementation Tracking Workshop](#)
- [Metadata Guidance](#)

2010



- [CRB Collaborative Data Sharing Strategy: Salmon and Steelhead Population Abundance and Productivity Indicators](#)
- [AFS Data Management Symposium](#)
- [Habitat Data Sharing Workshop](#)
- [Metadata Tools Recommendation](#)

2011

PNAMP Highlights 2012-2015



- [Airborne Hydrographic LiDAR Workshop](#)
- [Lower Columbia Habitat Status & Trends Monitoring Project](#)
- ISTM Demonstration Reports
 - [Overview](#)
 - [Fish & Fish Data Mgmt.](#)
 - [Habitat](#)
 - [Master Sample](#)
- [NW Standard Taxonomic Effort](#)
- [Coordinated Assessments Workshop](#)
- [MonitoringResources.org](#) replaces MonitoringMethods.org

2012

- [Large Wood Methods Review Workshop](#)
- [Best Practices for Snorkeling Methodology and Pool Measurement Methods Workshop](#)
- [AFS Macroinvertebrate Fish Interaction Workshop](#)
- [Intensively Monitored Watersheds \(IMWs\) Workshop](#)

2013

- [Emerging Technologies in Field Data Collection Workshop w/ StreamNet](#)
- [Coordinated Assessments Workshop](#)
- [Department of Interior's Partnership in Conservation Award](#)
- [Coordinated Assessments Workshop](#)
- [PNAMP's 2nd Strategic Plan](#)

2014

- [PNAMP/USGS CDI Data Management Webinar Series](#)
- AFS Data Management Symposium
- AFS Effectiveness Monitoring Symposium
- SRC Effectiveness Monitoring Session
- [Electrofishing Methods Review](#)
- [Field Technology Conference w/ WFCA](#)
- [Coordinated Assessments Workshop](#)

2015

PNAMP Highlights 2016-2019



- [Regional Habitat Indicators Project](#)
- [Intensively Monitored Watersheds \(IMWs\) Workshop](#)
- [Coordinated Assessments Workshop](#)
- [Visioning Workshop: Developing Enterprise Tools and Capacities for Large-scale Natural Resource Monitoring \(with USGS\)](#)

- [Field Technology Conference w/ WFCAs](#)
- [Data Citation and Attribution Project](#)
- [Coordinated Assessments Workshop](#)
- [Data Visualization Workgroup](#)

- [NOSA Steelhead Methods Review Workshop](#)
- [Tributary PIT Tag Arrays in the Columbia Basin Workshop](#)
- [Co-sponsored OFWIM Annual Meeting](#)
- [Intensively Monitored Watersheds \(IMWs\) Workshop](#)
- [Integrated Spatial Design & Analysis: Using Complex Survey Designs to Enable Integrated Science Workshop](#)

- [MonitoringResources.org Refresh](#)
- [Citing Aquatic Monitoring Data Sets: Best Practice Recommendations for Authoritative Data Citation August 2019](#)
- [Smolt Estimation & Analytics Workshop](#)
- [PNAMP's 3rd Strategic Plan](#)

2016

2017

2018

2019

PNAMP Provides Continuous Support for Monitoring Coordination & Collaboration



HOME ABOUT CALENDAR PROJECTS DOCUMENTS MONITORINGRESOURCES.ORG CONTACT

PNAMP is a forum for the community of aquatic monitoring practitioners in the Pacific Northwest. PNAMP consists of federal, tribal, and state partners; other interested participants; and a coordinating staff.

- www.pnamp.org
- Monthly e-newsletter
- Steering Committee support for information sharing and SC meetings
- Liaison to other regional monitoring and data sharing activities
- Support for Project Sponsors using MonitoringResources.org

Upcoming Events

November 6, 2019

Smolt Estimation and Analytics Workshop
Walla Walla Community College, 500 Tausick
Way, Walla Walla WA 99362

November 6, 2019

Pacific Northwest Chapter – Society for
Freshwater Science Annual Chapter Meeting
Newport, Oregon

November 12, 2019

Northwest Power and Conservation Council
Meeting (November 2019)
Portland, OR

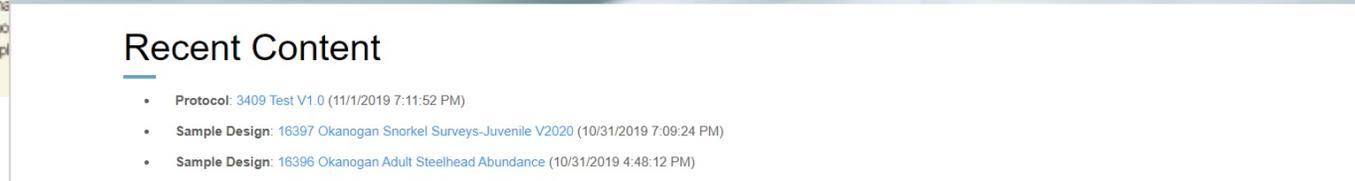
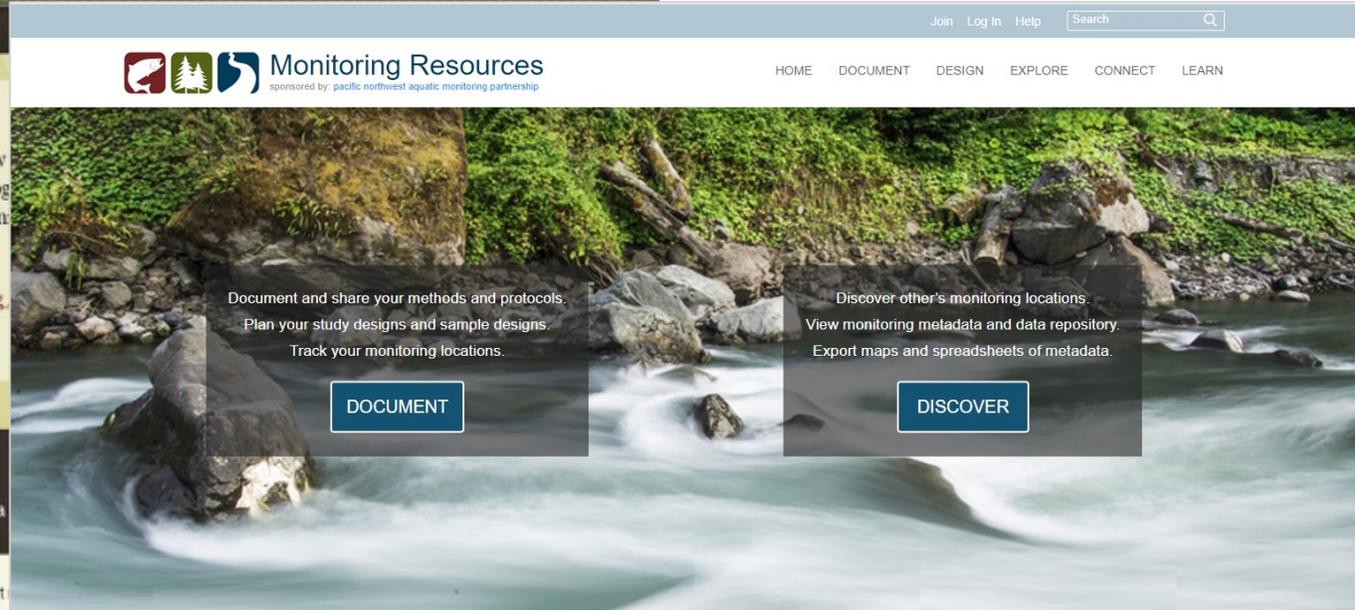
November 12, 2019

Puget Sound Ecosystem Monitoring Program
(PSEMP) Steering Committee Meeting
(November 2019)
TBD

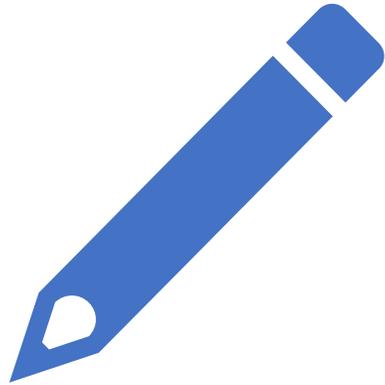
Who's Doing What Where When and How?

Since the beginning of PNAMP, this is the most common question we have encountered. It is key to collaboration and data sharing. To help partners, PNAMP built a suite of web tools to help document and discover monitoring activities.

Check out www.MonitoringResources.org



Refining MonitoringResources.org



Streamline data entry for
Project Sponsors and other
PNAMP partners



Refine user interface (UI) to
make it easier for the user to
find information

Process for MonitoringResources.org Refinement



Bonneville Power Administration
Key staff review sessions and feedback



Focus group
Testing sessions with 5 MonitoringResources.org users



Steering Committee Interviews
Five one on one interviews



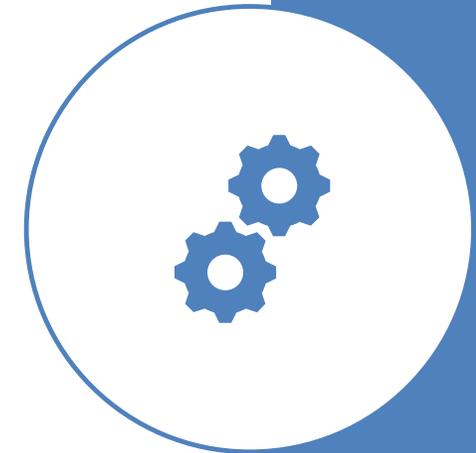
Independent Scientific Review Panel
Nine members attend a one hour feedback session



Online survey
Sent to 276 registered users 36 responded (13%)

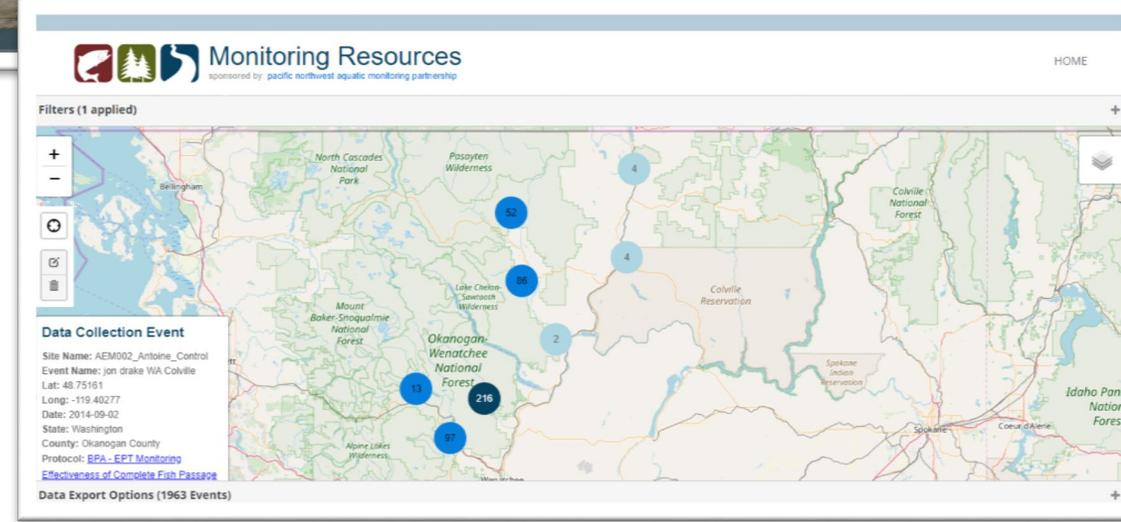
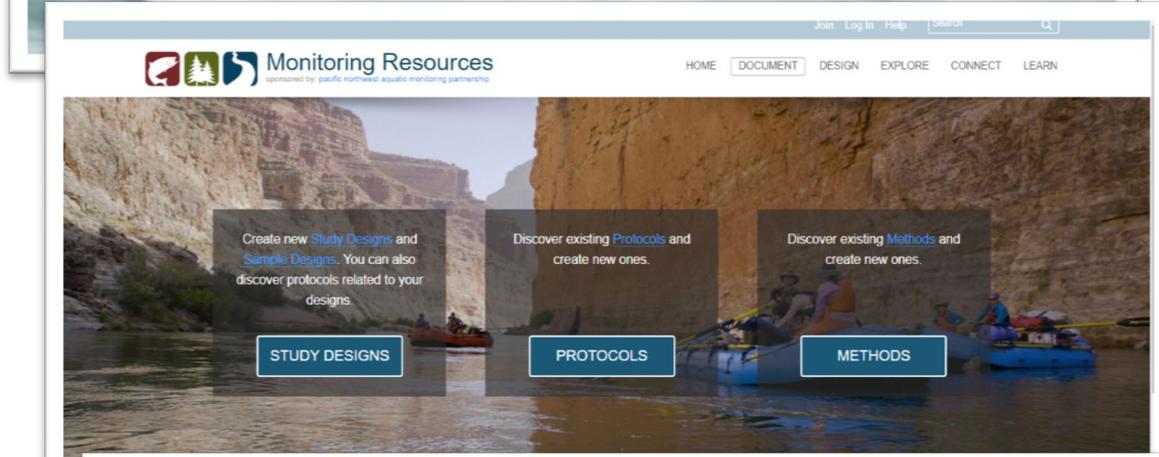
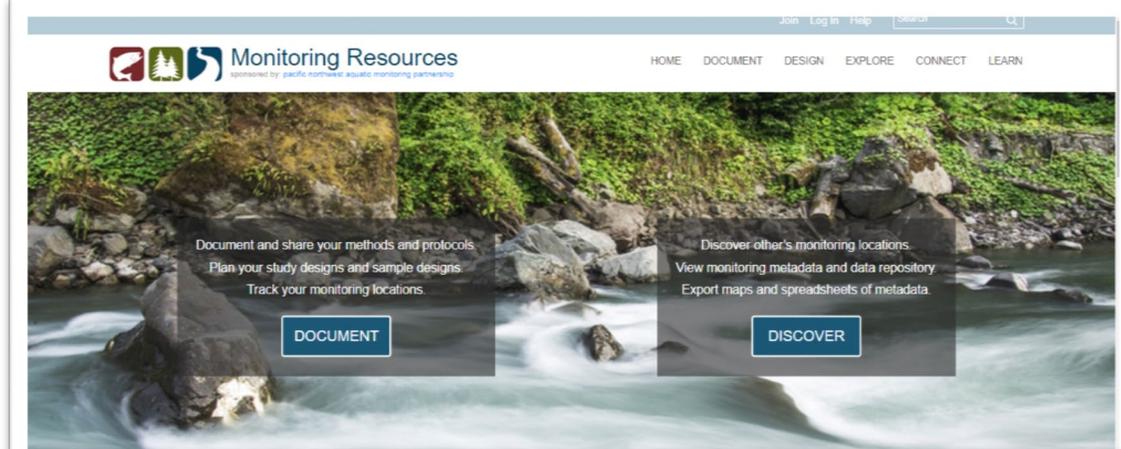


Conversations with users outside the basin

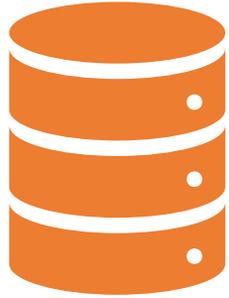


Results

- MonitoringResources.org 2019 Feedback and Recommendation Report www.pnamp.org/document/11080
- Home page simplification
- Improved navigation overall
- Improved Documentation workflow
- Improved map viewer to enhance Discovery



MonitoringResources.org To Do List



Development

- Improved usability of specific section of the tool
- More data in the Map Viewer
- Metadata Builder (ISO compliant metadata exporting)



Outreach

- Presentations: Training webinar for project sponsors Nov. 21; ISRP presentation January; conferences TBD
- Continue gathering user feedback



Content

- Ongoing support for users
- Curating database: archiving methods, protocols

Current Tasks

- NPCC/BPA/NOAA CB Habitat RME Strategy Outreach
- Smolt Estimation & Analytics Workshop
- Data Visualization Workgroup Meetings (bimonthly) - Nov 21
- Project Sponsor MonitoringResources.org training webinar - Nov 21
- ISRP MonitoringResources.org orientation webinar - Jan 2020
- Intensively Monitored Watersheds (IMWs) website work - winter 2019
- *Start planning soon!* Emerging Technologies Workshop - fall 2020



