

NATIONAL FISH HABITAT PARTNERSHIP

2020 ANNUAL REPORT

OUR MISSION

Is to protect, restore, and enhance the nation's fish and aquatic communities through partnerships that foster fish habitat conservation and improve the quality of life for the American people.

2020 NATIONAL FISH HABITAT PARTNERSHIP BY THE NUMBERS

Through the National Fish Habitat Partnership program, the U.S. Fish and Wildlife Service and its partners provided **\$35.4 million** to support **95** fish habitat conservation projects in **31 states**. The Service provided **\$4.3 million** in 2020, with state resource agencies, non-governmental organizations, and other partners contributing an additional **\$31.1 million**.



2020 NATIONAL FISH HABITAT PARTNERSHIP HIGHLIGHTS

■ National Fish Habitat Partnership Codified with Signing of ACE



Act. On October 30, 2020, President Trump signed S. 3051, The America's Conservation Enhancement Act (ACE Act) into law at the White House. The ACE Act passed the House and Senate with bipartisan support and unanimous consent. Now enacted into law, this bill reauthorizes the North American Wetlands Conservation Act (NAWCA) and **codifies the National Fish Habitat Partnership (NFHP)**, two of the most successful voluntary conservation efforts in the nation. <http://bit.ly/3rWExK6>



ON THE WEB



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Maunaloa Bay, Hawaii (photo courtesy: Hawaii Fish Habitat Partnership)

■ **Schriever Appointed as Chairman, Legislative Changes for the National Fish Habitat Board.** On November 3, 2020, Ed Schriever, Director of Idaho Fish and Game, was appointed to represent the Association of Fish & Wildlife Agencies (AFWA) on the Board. By virtue of the ACE Act, the AFWA appointment serves as Chairman of the Board for three years. This announcement came on the heels of the President's signature of the ACE Act into law. The Board's composition differs from the previous National Fish Habitat Board seated after the inception of NFHP in 2006. As described in the ACE Act, the Board will consist of 26 members. It will add new interest group representation, including national private landowner organizations, agricultural production organizations, local government interests involved in fish habitat restoration, corporate industries, and the private sector or landowner representative in an active Fish Habitat Partnership. The new Board will be seated in 2021. Learn more about the seating of the Board: <http://bit.ly/2VpgOUs>.



■ **2020 Waters to Watch.** In May, the National Fish Habitat Partnership announced their Waters to Watch for 2020. Those projects included (with associated partnerships):

1. [Bear River Estuary, Washington](#) (Retrospective) – Pacific Marine and Estuarine Partnership
2. [Boone River Watershed, Iowa](#) (Retrospective) – Fishers and Farmers Partnership
3. [Chipola River, Florida](#) (Retrospective) – Southeast Aquatic Resources Partnership
4. [Deep Creek Town Diversion and Warner Basin, Oregon](#) (Retrospective) – Western Native Trout Initiative
5. [Maunaloa Bay, Hawaii](#) – Hawaii Fish Habitat Partnership
6. [Minsi Lake, Pennsylvania](#) – Reservoir Fish Habitat Partnership
7. [San Juan and Santiago Watersheds, California](#) – California Fish Passage Forum
8. [San Luis Obispo Creek, California](#) – Pacific Lamprey Conservation Initiative
9. [Shoshone Springs, California](#) (Retrospective) – Desert Fish Habitat Partnership
10. [Tularosa River, New Mexico](#) – Desert Fish Habitat Partnership

(Retrospective projects) are projects that were previously listed on the Waters to Watch list and have new updates.

NOAA FUNDS FOUR NATIONAL FISH HABITAT PARTNERSHIP PRIORITY PROJECTS IN 2020

In April, the National Oceanic and Atmospheric Administration (NOAA) dedicated nearly \$170,000 in funding to support four Coastal priority projects under the National Fish Habitat Partnership. These four projects will enhance recreational fisheries engagement and restore fish habitat. Saltwater recreational fishing is an American pastime and important economic driver, and anglers make critical contributions to the conservation of fish habitat nationwide. These projects demonstrate NOAA's commitment to engaging with the recreational fishing community and supporting access to sustainable saltwater recreational opportunities. The following partnership projects were funded through NOAA. <http://bit.ly/2VV90uk>



- **Oyster Reef Construction in Virginia – (Atlantic Coastal Fish Habitat Partnership)**
- **Eelgrass Habitat Restoration in California – (Pacific Marine & Estuarine Partnership)**
- **Stream Restoration for Salmon in Southeast Alaska – (SE Alaska Fish Habitat Partnership)**
- **Cutthroat Trout Habitat Restoration in Washington – (Western Native Trout Initiative)**



Beyond the Pond, the 501c3 non-profit organization established to benefit the 20 Fish Habitat Partnerships under NFHP, has continued efforts to help the Fish Habitat Partnerships through grants, including a grant provided to the Fishers and Farmers Partnership to host a Watershed Leaders Network workshop in 2020. Bass Pro Shops also donated

\$25,000 to benefit on-the-ground Fish Habitat Partnership conservation priorities in 2020. Through this grant, the following projects received funding <https://bit.ly/36kwSNP>:



Elephant Butte Adopt-A-Cove, New Mexico (Reservoir Fish Habitat Partnership)

Gilbert Creek Trout Habitat Improvement Project, Wisconsin (Fishers & Farmers Partnership)

South Fork Toutle-Bear and Little Cow Creek Restoration, Washington (Pacific Marine & Estuarine Partnership)

Partnerships under NFHP have online donation pages set-up to receive donations at <https://secure.processdonation.org/beyondthepondusa/Donation.aspx>

NATIONAL FISH HABITAT PARTNERSHIP SPONSORS WILDLIFE FOREVER FISH ART CONTEST



The National Fish Habitat Partnership (NFHP) is pleased to announce a new strategic partnership with Wildlife Forever. This collaboration will share The Art of Conservation® with young people across the nation, focusing on the critical role habitat has on fish and aquatic resources.

The mission of Wildlife Forever is to conserve America's wildlife heritage through conservation education, preservation of habitat and management of fish and wildlife. In honor of this new alliance, NFHP, through the State Fish - Art Contest has created the *Fish Habitat Creative Writing Award* to highlight the importance of protecting, restoring, and enhancing aquatic habitat.

The Fish Habitat Writing Award is open to all contestants participating in the Fish Art Contest. In the writing portion of their entry, participants should highlight the unique habitat requirements of their fish species and the importance of quality habitat for all aquatic species. Winners will be selected in four grade categories; Kindergarten-3rd grade, 4th-6th grade, 7th-9th grade, and 10th-12th grade. Winners will be announced in May 2021.



Gilbert Creek, Wisconsin

FHP ACCOMPLISHMENTS (2020)

Atlantic Coastal Fish Habitat Partnership

Communications & Outreach

- Presented at the American Fisheries Society Meeting, National Coastal & Estuarine Summit, and Atlantic States Marine Fisheries Commission meetings.
- Articles on our projects included in the following newsletters: [Rhode Island Marine Trades Association](#), [Atlantic States Marine Fisheries Commission Fisheries Focus](#), and [Atlantic States Marine Fisheries Commission Habitat Hotline](#).
- Public News Service highlighted two of our projects: [Lynnhaven River oyster restoration](#) and the [Columbia Dam removal](#).
- Welcomed Ducks Unlimited to the Partnership.
- Serving on the South Atlantic Fishery Management Council Habitat Advisory Panel; Chesapeake Bay Program Fisheries Goal Implementation Team; NOAA-Atlantic States Marine Fisheries Commission Technical Expert Working Group for River Herring; and the newly formed Submerged Aquatic Vegetation Monitoring Community of Practice, led by the Pew Charitable Trusts.



Science

- Starting working on a standardized methodology to gather long-term monitoring data for our previously funded projects.
- Finalized the Fish Habitat Conservation Area Mapping and Prioritization project (final report [here](#)), and this tool is now incorporated into ACFHP's on-the-ground project selection criteria.
- Our [Species-Habitat Matrix](#) is being used to integrate NOAA's Northeast Habitat Climate Vulnerability Assessment with its Fish Climate Vulnerability Assessment.
- ACFHP serves on the Steering Committee for the Mid-Atlantic Fishery Management Council's Northeast Regional Habitat Assessment.

Conservation Accomplishments

When completed, Atlantic Coast Fish Habitat Partnership projects funded in 2020 will:

- Restore 500 linear feet of shoreline to reduce chronic erosion on the Magothy River in the Chesapeake Bay.
- Remove the County Line Dam on the Paulins Kill, NJ. With the Columbia Dam and Paulina Dam barriers removed, 45 river miles will be opened for fish passage.

- Restore 420 linear feet of tidal vegetation and 53 linear feet of oyster reef to reduce boat wake erosion in Mosquito Lagoon, FL.
- Improve passage on Town Brook, MA's first barrier to open access to 269 acres of alewife spawning habitat in the Billings Sea.
- Restore one acre of oyster habitat in the Lynnhaven River, VA.
- Restore SAV to Moore's Creek in the Indian River Lagoon, FL through 250 direct plantings.

California Fish Passage Forum

Communications & Outreach

- The Forum's FISHPass Work Group hosted an in-person demonstration of [FISHPass](#) (the Forum's web-based decision support tool designed to help users identify fish passage barriers for remediation) and a **field tour of local fish passage projects** for local stakeholders and Forum members in conjunction with the winter 2020 meeting of the Forum's Steering Committee in Santa Cruz, CA.
- The Forum nomination of [San Juan and Santiago Watersheds \(CA\)](#) was selected to NFHP's 2020 list of **10 Waters to Watch**.
- Launched a **new Twitter handle** [@CAFishPassForum](#) for the Forum.
- The U.S. Fish & Wildlife Service's Pacific Southwest Region worked with the Forum's Outreach and Education Committee to **develop and release an article** profiling the [Forum's barrier removal optimization tool FISHPass](#) June 2020.
- The Forum was **featured on Jefferson Public Radio's** morning call-in show the [Jefferson Exchange on July 27, 2020](#) reaching stakeholders in Northern California and Southern Oregon (Klamath Basin).
- In honor of **World Fish Migration Day 2020**, the Forum, Klamath River Renewal Corporation, NOAA Fisheries, and the Pacific States Marine Fisheries Commission (PSMFC) collaborated to develop a [Klamath River Basin Story Map](#) to spotlight the collaborative efforts underway in the region to enhance fish passage in preparation for the removal of the four lower Klamath River Dams.
- The Forum co-hosted the [Barriers to Tidal Connectivity \(BTC\) Symposium](#) (virtual) with the Pacific Marine and Estuarine Fish Habitat Partnership (PMEP), and the Pacific Lamprey Conservation Initiative (PLCI) which brought together more





than **250 participants** from across the country on October 28, 2020. This was a component of the overarching BTC project (funded via FY19 MSCG) which also included a Virtual BTC Workshop for key representatives from the three FHPs to discuss findings and develop recommendations based on the Symposium and GIS data collection and analysis conducted by PSMFC as part of this project (see below).

- The Forum commissioned a media acquisition project with professional photographer [Owen Bissel](#) to collect **images of several fish passage projects in the Eel River (CA)** to be used in future Forum outreach efforts.

Science

- Conducted its annual review of the [First Pass incidental Report](#) (Version 3) and **associated mobile application designed to be used for rapid barrier inventoring and data collection**. The mobile application was tested during the in-person FISHPass demonstration and field tour in Santa Cruz (see above), as well as two projects being funded by the Forum in FY20: *Applying FISHPASS in the Smith River and Lamprey Passage Design for Priority Obstacles in the Sacramento Basin* (see below).
- Developed a California Fish Passage Forum **Fish Passage Barrier Removal Performance Measures & Monitoring Worksheet** to collect monitoring information from projects executed with Forum funding and other sources. This worksheet was based off of the NOAA Tier 1 Monitoring Worksheet.
- The Forum continued to **refine the data inputs utilized by FISHPass**, including cost data and the baseline fish habitat layer, analyze results as compared to local prioritization efforts, and track its use by stakeholders and partners.
- The Forum Science & Data Committee continued to **assist in the refinement and updates to the California Passage**

Assessment Database (PAD). Including in assisting in the development, and ultimate implementation of a QA/QC Plan for refining data in the PAD.

- The USFWS and PSMFC created a simplified Rcode version of FISHPass that could be incorporated into the tool.
- The Forum assisted in **gathering available data sets** (including the California Passage Assessment Database) for the [Barriers to Tidal Connectivity \(BTC\) ArcGIS HUB](#) developed by PSMFC as part of the BTC project (see above), and for inclusion in the [NFHP Data Catalog Viewer](#).

Conservation Accomplishments

In 2020, the Forum supported **six on-the-ground projects** with FY20 NFHP funds that address connectivity needs and habitat restoration for Coho salmon, Chinook salmon, steelhead, Pacific Lamprey and other anadromous aquatic species by improving access to at least **42 miles of habitat**. [These projects include:](#)

- **Applying FISHPASS in the Smith River** – Leverages FISHPass and applies it in a real world setting to develop an optimized list of barrier removals in the Smith River, one of California's most important watersheds for the conservation of anadromous fish. (Ross Taylor & Assoc., USFWS, PSMFC, other Forum member organizations and committees.)
- **Santa Margarita River Fish Passage & Bridge Replacement Project** – Addresses principal threat to endangered Southern California steelhead by removing a low-flow river crossing that is a barrier to fish passage. Will open 12 miles of stream, and restore >1 acre of habitat on the Santa Margarita River. (CalTrout, State Coastal Conservancy, San Diego County, Wildlands Conservancy, California Dept of Fish & Wildlife (CDFW), USFWS, Fallbrook PUD, Fallbrook Trails Council, and Trout Unlimited.)

- **Strawberry Creek at Clam Beach Fish Passage Remediation Project** – Remediates a known fish passage barrier to provide 100% passability to adult and juvenile salmonids and lamprey species. Restores access to 5 miles of upstream spawning and rearing habitat for coastal cutthroat and steelhead trout, Western brook lamprey, and could open access to Coho salmon and Pacific Lamprey. (Trout Unlimited, USFWS, Michael Love & Assoc., GHD Inc. and CA Dept of Transportation.)
- **Montague-Grenada Weir Retrofit & Barrier Removal** – Improves fish passage for all life stages of salmon species (particularly juvenile) by adding a fishway. (Shasta Valley RCD, USGS, California Dept. Water Resources)
- **West Tule Creek Diversion Fish Passage Project** – Provides full passage and restore 1.5 miles of upstream spawning and rearing habitat for all life stages of anadromous and resident fish species by remediating a barrier. (Water Resource and Training Center, CDFW, Scott River Water Trust, Samantha Chilcote Consulting, Cascade Stream Solutions, and USDA NRCS.)
- **Lamprey Passage Design for Priority Obstacles in the Sacramento Basin (Phase 2)** – Strategically applies recently developed Forum products and resources as management tools for barrier assessments and optimization of remediation strategies for Pacific Lamprey on 3rd order and higher streams in the Sacramento Basin, resulting in five passage project conceptual designs. (Western Fishes and USFWS.)



Desert Fish Habitat Partnership

Communications & Outreach

- The Desert Fish Habitat Partnership (DFHP) had two Waters to Watch 2020 projects selected – Shoshone Spring Stream Flow and Brook Reconstruction (Retrospective) and Tularosa River project.
- Submitted DFHP's newest film, [The Future of Conservation: Partnership](#), to the American Fisheries Society Film Festival.
- Kept [website](#) up to date, including sending out regular [Shout-Outs](#), which cover topics from announcing RFPs, introducing new committee members, and highlighting funded projects.
- Desert fish continued to be highlighted on DFHP's social media accounts, including [Facebook](#) and [Instagram](#), through the #DesertFishFriday initiative.
- DFHP was active in coordinating Fish in the Classroom activities in classrooms on the Fort Apache Indian Reservation until the schools were closed due to the pandemic.



Science

- Partners from all five projects that received DFHP funds have incorporated scientifically sound methodologies for monitoring the success of their projects. These monitoring techniques include using Passive Integrated Transponder tag arrays to monitor fish movement, evaluation of fish movement through newly constructed fishways, marking non-native species below barriers to examine barrier effectiveness, and monitoring species use of newly available restored habitat.
- DFHP contributed funding towards a multispecies aquatic habitat assessment in both the Lahontan and Central Nevada basins. These assessments will incorporate climate changes factors so that the conservation of climate vulnerable desert species will be scientifically supported.
- DFHP identified a multispecies aquatic habitat assessment being completed by partners that would tie in to other assessments completed before. DFHP has committed to assisting this effort in any way necessary.
- Once complete, DFHP can create a science-based prioritization strategy for funding future habitat restoration projects.

Conservation Accomplishments

- DFHP contributed funds towards five habitat restoration and protection projects. These projects will benefit over 30 DFHP focal species.
- 5 acres of wetland created for a larval fish nursery.

- 1 controllable barrier constructed to allow larval fish into and out of the nursery while excluding predators.
- 2 watersheds and over 100 stream miles assessed for spawning habitat by native species.
- 1 barrier removed re-opening over 2 miles of habitat to native species.
- 1 barrier constructed to protect nearly 22 miles of interconnected habitat.
- Over 20 species and populations, and 100's of watersheds assessed for multispecies aquatic habitat assessments in two large basins.

Driftless Area Restoration Effort

Communications & Outreach

- The Driftless Area Restoration Effort (DARE), hired a new contractor, who was instructed on how to stabilize streambanks and install habitat for trout by our Stream Restoration Specialist.
- Last February just before the virus hit, DARE was able to pull off another successful Driftless Symposium. Over 140 attendees from the four-state area listened to twenty-two presentations related to cold-water management including research, restoration, monitoring, phosphorous trading, non-game habitat, use of drones, and vegetation management.
- DARE started a new YouTube channel called Driftless Area Restoration Effort. We have also included a "Playlist" of our partners projects.
- Two restoration videos were developed to show land-owners and DARE partners how a degraded section of stream can be restored <https://www.youtube.com/watch?v=idXLUovOtNU&t=37s>.
- Two additional videos were created, and website developed to help implement the DARE WiseH2O monitoring App
- Partnered with the Wisconsin Land and Water Conservation Association to present and record two training sessions on their website for county and federal employees on cold-water stream restoration.



Science

- In 2020, DARE had planned to roll out the Driftless Water Quality App across the region, but due to Covid-19 the team was unable to execute the in-field trainings. However, the team was able to adapt the App for the iPhone and make contacts with 14 Midwest chapters. Chapter contact persons were

assigned to coordinate water quality materials and reporting. The team has also developed online training materials for the app, with the expectation of full program implementation in spring of 2021.

- DARE supported two recently completed scientific reports, one on "Riparian Forests as a Stream Restoration Tool in the Kickapoo Watershed-Differing Perspectives Scientific Gaps, and Prospects for a Sustainable Future, and a new National Science Foundation funded project, and "Interactive Dynamics of Stream Restoration and Flood Resilience in a Changing Climate".

Conservation Accomplishments

- Driftless was awarded a \$9.2M Regional Conservation Partnership Program award from USDA Natural Resources Conservation Service for cold-water restoration. To date 68 producers have signed contracts to implement cold-water restoration projects, encompassing 25 miles with more than 250 habitat structures for trout and non-game species. Our partners have also contributed over five million in matching dollars.
- NFHP funds were used to enhance 2.77 miles of stream on Swinns Valley, Hay, and Plum creeks in western Wisconsin. Improved instream and riparian habitat benefitted brook trout, invertebrates, and other aquatic fauna.
- Two dams were removed on the Wapsipinicon River, Iowa and replaced with rock rapids to improve passage for priority species smallmouth bass, redhorse and a host of other native fish and mussel species. Utilizing FWS fish passage and NFHP funds, removal of the two dams reconnected over 192 mainstem and tributary miles, eliminated public safety hazards at both dams, improved site fishing, and provided safer navigation for paddlers.
- Utilizing state (Outdoor Heritage Program) and federal dollars, approx. 3 miles were restored for trout on Wisel, S. Branch of the Whitewater and West Indian in Minnesota.
- A Cooperative Agreement was signed between DARE and USDA for technical assistance for cold-water restoration work for the Driftless.
- Free pollinator seed was provided to enhance twenty-one Driftless stream projects encompassing over 9 miles of restored streams.
- Our Stream Restoration Specialist assisted over twelve county field offices with restoration work, plus took on from start to finish two projects on Citron and Warner creeks.
- DARE hired a new southeast Project Manager to assist us in implementing a multimillion-dollar restoration effort in SE Minnesota. So far, we have restored over 40 miles of cold-water habitat through this designated sales tax program.



Eastern Brook Trout Joint Venture

Communications & Outreach

- To promote the accomplishments being achieved in conserving wild Brook Trout, the Eastern Brook Trout Joint Venture posted 189 wild Brook Trout conservation-related media stories on the partnership's [Facebook page](#), which generated more than 141,000 views.
- The Eastern Brook Trout Joint Venture partnered with Trout Unlimited in the development of a poster to help people "get to know your native Brook Trout". The Eastern Brook Trout Joint Venture distributed over 500 posters to its state and federal partners. Funding support for the Brook Trout poster was provided by Trout Unlimited, Eastern Brook Trout Joint Venture, Beyond the Pond, and RepYourWater.



Science

- The Eastern Brook Trout Joint Venture is completing the development of a process that allows its [wild Brook Trout-related catchment database](#) to be updated on-line by partners.
- The Eastern Brook Trout Venture is focused on determining a method for identifying the locations of groundwater discharges that provide essential thermal refugia for Brook Trout, an essential need as this will lessen the negative impacts of climate change.

- The Eastern Brook Trout is support research aimed at gaining a better understanding of Brook Trout genetics across its eastern range in an effort to determine the level of impact hatchery-origin Brook Trout are having on wild Brook Trout genetics, how best to select donor populations for restoring wild Brook Trout in waters where they have been extirpated, and in what way genetics can be used to monitor Brook Trout population trends and their responses to conservation actions.

Conservation Accomplishments

- Four Brook Trout conservation projects received \$132,669 in National Fish Habitat Action Plan funds from the US Fish and Wildlife Service, while other project partners provided an additional \$1.3 million in funding. These projects focused on reconnecting fragmented cold-water habitat; conserving genetic diversity; and increasing recreational fishing opportunities for wild Brook Trout. The socioeconomic benefits produced by these projects is estimated to be \$19.4 million.

Fishers & Farmers Partnership for the Upper Mississippi River Basin

Communications & Outreach

- National Fish Habitat Partnership – [Waters to Watch 2020 Retrospective Project](#) Selected – Boone River Watershed, Iowa **Fishers & Farmers PARTNERSHIP**
- To get farmers thinking more about fish habitat on their farms, Fishers & Farmers initiated a radio show called "[Neighbor to Neighbor](#)." This program, produced with Pam Jahnke and Midwest Farm Radio Network, broadcasts live the 3rd Saturday each month at 9:05 a.m. Farmers are interviewed about water quality and fish habitat projects they have done on their farms. [Listen live here](#) or access the podcast archive on Fishers & Farmers website after the broadcast.
- Fishers & Farmers initiated a monthly live conversation webinar with breakout groups called "[Boots on the Ground](#)." This series connects you to local farmers and groups working for sustainable farms and streams. Join us 1PM the third Thursday of every month at [fishersandfarmers.org](#) or watch the video later.
- Fishers & Farmers Boone River Watershed Project was featured in John Deere magazine called "The Furrow." [Dean Houghton author](#), "[The Precedent](#)."
- Driftless Area Restoration Effort Symposium – Fishers & Farmers attended and assisted with being a moderator.
- Midwest Glacial Lakes, Great Lakes, and Fishers & Farmers FHPs are working on "Shorelines" project that will bring attention to lake and stream fish habitat projects through magazine and website articles.

- Cannon River Watershed – Rice Creek, MN [News/video story](#) by Linder Farm Network (National coverage)
- Working on video for Gilbert Creek, WI – Bass Pro Grant. Will be released at Bass Pro Amateur Team Tournament, Table Rock Lake, MO.

Science

- Collaborated with Valley Stewardship Network, Tainter Creek Farmer Led Council, Winrock International – Wallace Pasture Project, University of Wisconsin – Extension, DARE FHP, and many other partners near Viroqua, WI on [Grassland 2.0](#).
- Working on a monitoring program that incorporates social monitoring with chemical, biological, and physical monitoring. In addition, social assessment tools are being created that can be adapted to meet evaluative needs associated with individual watersheds and projects.
- Story Map on Fishers & Farmers Website updated with project data.
- Most of the field/survey work was put on hold due to Covid-19.

Conservation Accomplishments

- Most of the work was put on hold due to Covid-19.
- Peno Creek Watershed, MO, 12 Farmers planted cover crops planted on 900 ac
- Farmer led groups were very innovative and held virtual field days – [Jo Daviess County Soil & Water Health Coalition](#), Galena IL, several others.
- Gilbert Creek, WI will have 3,000 ft of stream bank restored by 2022 through a Bass Pro Shops Small Grant.
- 11 active projects in 2020, completed 3

Great Lakes Basin FHP

Communications & Outreach

- There are currently 11 Great Lakes Basin Fish Habitat Partnership Steering Committee members representing federal, state, and non-governmental agencies in the Great Lakes Basin.



- The GLBFHP Steering Committee met a few times in 2020 to discuss the Draft Strategic Plan and Implementation Plan.
- The Draft Strategic Plan Team completed the 2009 Strategic Plan revisions and is in the process of revising the Implementation Plan.

Conservation Accomplishments

- The GLBFHP funded four projects in 2020 using Great Lake Restoration Initiative funding.
- The USFWS's Alpena Fish and Wildlife Conservation Office is responsible for project oversight, environmental compliance, and implementation of the Brook Trout Habitat Restoration: Pigeon River/Ford Lake Road Improvement Project (\$50,000), and the Murray Dam Removal, Hunt Creek, AuSable River Watershed Project (\$17,500).
- The USFWS's Green Bay Fish and Wildlife Conservation Office is responsible for project oversight, environmental compliance, and implementation of the North Branch Sand Trap Restoration Project (\$19,668), and the Rock Creek at Forest Road 2131 Aquatic Organism Passage Project (\$25,000).

Great Plains Fish Habitat Partnership

Communications & Outreach

- Completely redesigned GPFHP website to reflect upgraded format, enhanced information and project information.
- Dashboard of FHP project accomplishments being finalized to include on website that summarizes project accomplishments.
- Presented FHP information to State and County Partners.



Science

- GPFHP assembling watershed data on barrier inventories for collaboration with SARP with the Southeast Aquatic Barrier Prioritization inventory database. (<https://connectivity.sarpdata.com/>).
- Completed Little Missouri River Fish Passage Survey report.
- Optimization model for conservation priorities was shared with Sagebrush and Grasslands Conservation Design initiatives within USFWS.
- Conducted barrier assessments in a priority watershed.
- Collaborated with Asian Carp initiative to provide watershed information and barrier information.

Conservation Accomplishments

- Fish Passage completed on Bouret Dam on the Sheyenne River, North Dakota
- Fish Passage completed on Karey Dam on the Cannonball River, North Dakota
- Completed passage at the 158th Street Crossing on Kaw Creek in Kansas

- Stocker Branch Odell Creek in Montana
- Replace Clark School Rd Miller Co (CR A-10) over Big Tavern Creek
- Kings Creek Low Water Crossing Removal
- Six barriers modified to improve passage of aquatic species
- Approximately 214 miles of habitat reconnected

Hawaii Fish Habitat Partnership

Communications & Outreach

- Maunaloa Bay selected as a 2020 NFHP “Waters to Watch” project:

- <http://www.fishhabitat.org/waters-to-watch/detail/maunaloa-bay-oahu>



- Hawaii FHP fish passage projects were highlighted in the first-ever Global Swimways Webinar Marathon
 - <https://youtu.be/xrxA1qIMzyw?t=6295>
- The Hawaii FHP Coordinator presented the official close to the 24-hour World Fish Migration Day global celebration

Science

Several important assessment projects were initiated or continued through 2020:

- *Geospatial framework linking watershed characteristics to coastal ecosystems* (principle investigator: Yin-Phan Tsang, University of Hawaii)
- *Comprehensive inventory of anchialine habitats in Hawaii – updated status and classification* (principle investigators: Troy Sakihara and Kim Peyton, Hawaii DLNR-Division of Aquatic Resources)
- *Hawaiian estuary habitat assessments – a geospatial foundation for linking watershed hydrology to semi-enclosed coastal waterbodies on Oahu* (principle investigator: Yin-Phan Tsang, University of Hawaii)

Conservation Accomplishments

Kiholo Estuary Benthic Habitat Improvement – partners from the non-profit *Hui Aloha Kiholo* and The Nature Conservancy, Hawaii Marine Program, undertook a small-scale dredging project to restore 0.24 acres of benthic habitat in the Kiholo estuary/fishpond complex by removing accumulated organic debris. The clean rocky cobble substrate provides the preferred foraging habitat for culturally and recreationally important native fish species such as ‘awa ‘awa (mullet), alohehole (flagtails),

and moi (threadfin). The high-profile Kiholo project benefits from enormous community volunteer support:

- <https://youtu.be/SydePDs3Ebl>
- <https://youtu.be/bLycnplsC7M>

Alakoko Fishpond Fish Passage Project – The non-profit partner *Malama Huleia* “daylighted” over 100 meters of stream channel adjacent to the Huleia Estuary that was occluded by invasive vegetation which severely limited native fish migration. The project site is a culturally important fishpond/estuary complex and numerous of volunteers composed of school groups, community members, and native Hawaiians with family ties to the land were involved in on-the-ground work:

- <https://www.youtube.com/watch?v=GTOMiaPYSzk>
- <https://www.youtube.com/watch?v=WpZha-vHzEQ>

Kenai Peninsula Fish Habitat Partnership

Communications & Outreach

In 2020, the Kenai Peninsula Fish Habitat Partnership:



- Empowered the pivot to digital for the Adopt-A-Stream educational program at Kenai Watershed Forum, which provided virtual ecological education focused on fish habitat to hundreds of students who were attending school from home in Alaska’s Kenai Peninsula Borough.
- Facilitated the engagement of 63 trained volunteer Ambassadors in the Stream Watch program who educated over 2250 members of the public at high use fishing sites to promote fish habitat conservation.
- Supported the Tyonek Tribal Conservation District in efforts to conduct community outreach to inform the public about a project to replace a perched culvert and restore fish passage on a tributary of Old Tyonek Creek.
- Enabled the Kachemak Bay National Estuarine Research Reserve to share research findings about nearshore fish habitats with professional and community stakeholders to drive improved decision making about the management of nearshore fish and their habitat.
- And promoted invasive species education through Kenai Watershed Forum employees regularly engaged with homeowners, recreationists, and float plane operators about the threats posed by elodea and other aquatic invasive species and how to prevent spreading these species.

Science

In 2020, the Kenai Peninsula Fish Habitat Partnership supported:

- Baseline assessments of fish communities and water conditions in seagrass beds, kelp beds, and beach sediments conducted by Kachemak Bay National Estuarine Research Reserve.
- Kenai Watershed Forum staff who surveyed eight river miles for European bird cherry, discovering 62 infestations, updated reed canarygrass locational data at 117 sites, and worked with US Fish & Wildlife Service to conduct surveys of high priority lakes for elodea using early detection and rapid response techniques.
- And Tyonek Tribal Conservation District to conduct monitoring and evaluation before removing a fish passage barrier from a tributary of Old Tyonek Creek and to prepare for monitoring and evaluation after installation of the new culvert.

Conservation Accomplishments

In 2020, the Kenai Peninsula Fish Habitat Partnership made it possible for:

- Kenai Watershed Forum staff treated 35 acres of reed canarygrass to support for US Fish & Wildlife Service efforts to eradicate elodea in Sandpiper Lake.
- Stream Watch volunteers to remove 4,500 lbs of fish and wildlife endangering debris from riparian and coastal areas and to install 2-miles of habitat fencing to protect fragile riverbank vegetation.
- And Tyonek Tribal Conservation District made progress on a project to remove a fish passage barrier from an old Tyonek Creek tributary in order to open up 1.2 upstream miles and 19 lake acres for Chinook and coho salmon.



habitat in the Mat-Su Basin, and this year featured keynote speaker Thomas Quinn of University of Washington.

- Provided written comments and oral testimony at the State of Alaska Upper Cook Inlet Board of Fisheries meeting, highlighting the essential value of habitat to healthy fisheries.
- Completed development of an [online project inventory](#) to provide a centralized location for the over 100 NFHP funded projects including links to output data and reports. Development began on efficient update methods through the annual request for proposals for NFHP funds.
- Collaborated with Alaska Fish Habitat Partnerships on a successful multi-state grant application for funding to support joint outreach and communication goals. Funding will support outreach in 2021.



Mat-Su Basin Salmon Habitat Partnership

Communications & Outreach

- The Mat-Su Salmon Partnership developed three science summary publications - on the [importance of wetlands](#), the [value of riparian areas](#) and about potential impacts to salmon and their habitat from [aquatic invasive species](#). Each summary synthesizes the current and best available science on the topic, is Mat-Su focused, and is intended to support community leaders in having the information they need to make informed decisions related to salmon and their habitat.
- 115 people attended the 13th annual, and 1st virtual, [Mat-Su Salmon Science and Conservation Symposium](#). The Symposium is an annual forum to share information about salmon and their

Science

- Long-term stream temperature monitoring by Cook Inlet-keeper with additional collaborations including University of Alaska and U.S. Fish and Wildlife Service produced 2 peer-reviewed journal articles analyzing how ongoing warming may be affecting salmon:
 - Report developed for Mat-Su Basin salmon streams. Waters are predominantly cold, but temperature regimes will be warmer, more variable, and less diverse in the coming decades. [Read the report.](#)
 - Recent declines in Cook Inlet's Chinook salmon populations can be attributed in part to climate-driven changes in temperature and streamflow in freshwater habitats. [Read the report.](#)



- Partners continue to gain information about stream temperature, flow, and fish distribution on the Little Susitna and Deshka Rivers as they explore these areas as case studies to help understand and forecast what the Mat-Su's broader salmon habitat may look like in a changing climate.
- LiDar elevation data collection was completed in 2020 for the Mat-Su Borough's most populated core area. Additionally, 1,000 sq. miles of aerial imagery was acquired along the Parks Highway corridor. Mat-Su Borough's recurring imagery program continues to increase our understanding of, and track changes to salmon habitat in the Mat-Su.
- A data synthesis on 25 watersheds was completed in 2020 and may aid in the selection of index watersheds.
- Conducted a data gap prioritization that was incorporated into the 2020 RFP process for National Fish Habitat Partnership funds. This effort identified research needs to support the Partnership's strategic plan goals.

Conservation Accomplishments

- Partners continued to add stream miles to the Anadromous Waters Catalogue, improving salmon distribution information and affording these streams greater protection under state law.
- Partners worked with landowners to educate about the value of salmon habitat and develop conservation easements for estuaries, wetlands, riparian areas, and uplands important for salmon.
- Mat-Su Borough continued work on a supplemental wetlands ordinance to fully mitigate loss of wetland services with large developments.
- One application was filed for instream flow protection with data collection occurring on over 20 streams to acquire the 5 years of data needed to receive water rights. This continues

substantial progress to secure state water reservations on important salmon streams vulnerable to development.

- Healthy shorelines are vital for the overall health and function of streams. Through four projects, partners rehabilitated and enhanced 390 feet, and conserved and sustained 200 feet of shoreline by working with private landowners through a collaborative federal and state cost share program.
- In 2020 partners replaced two priority barriers to fish passage, opening 3.12 upstream miles, and began design phases on four project sites for 2021. Since 2005, partners have improved fish passage at nearly 100 sites.
- Updated Fish passage standards in the Mat-Su Borough Subdivision Construction Manual were adopted by the Borough Assembly in 2020. Partners are preventing the creation of new barriers with these fish friendly design standards on local government owned roads.
- Partners began a two- year project to evaluate effectiveness of current fish passage efforts.
- Restoration of the Eklutna River was kickstarted by the removal of the abandoned lower Eklutna dam in 2018 and in 2020 the Utility Owners of the Eklutna Hydropower Project created their [Revised Draft Study Plans](#) with the help of a Technical Working Group to inform the outcome of the mitigation process. Excitingly, Alaska Department of Fish & Game observed juvenile and adult Coho salmon further upstream than previously documented, expanding anadromy for the river in the Anadromous Waters Catalogue and the Eklutna River Restoration Coalition launched a [website](#) which includes the film [Return to Us: Restoring Alaska's Eklutna River](#).
- The 3 known locations with aquatic invasive plant Elodea infestations in the Mat-Su: Alexander, Sucker, and Big Lakes, continued to receive herbicide treatments with the goal of eradication. Partners additionally continued annual surveys on highest risk waterbodies, and other steps to prevent further AIS introductions and spread of existing species.

Midwest Glacial Lakes Partnership

Communications & Outreach

- The Midwest Glacial Lakes Partnership (MGLP) released its [Shoreline Living](#) natural shoreline outreach document and coordinated printing of over 25,000 copies for distribution to lakefront property owners.
- The MGLP secured funding for an additional 30,000 copies of Shoreline Living for partners.
- The MGLP hosted 7 [Lake Conservation Webinars](#) highlighting successful management, science, and outreach from across



the partnership in 2020 and planned an additional 20 webinars for 2021.

- The MGLP doubled its newsletter [membership](#) to approximately 1,200 partners in lake conservation across the Upper Midwest and used the newsletter to share conservation grant, science, and outreach information.
- The MGLP funded a project to conduct systems-level training workshops with lake associations across the Upper Midwest.

Science

- Over 1,000 partners used the [MGLP Conservation Planner](#) tool to learn about threats and conservation strategies specific to their lake.
- The MGLP funded a project to assess limiting Cisco and Walleye habitat in three Michigan lakes.
- Members of the MGLP Science and Data Team received a \$675,000-Climate Adaptation Science Center grant to assess and predict fish populations across the partnership.
- The MGLP completed Phase I developing its new database of over 70,000 partnership lakes that will be used in future assessments of fish habitats and populations.

Conservation Accomplishments

- Restored connectivity to 10 river miles in a chain of lakes on the Pelican River, MN.
- Reconnected and restored natural lake level variability to 12,466 acres of lake surface on a chain of lakes on the Pelican River, MN.
- Restored connectivity between 1930-acre Duck Lake, MI and its 8-mile coldwater tributary, Mason Creek.

Ohio River Basin Fish Habitat Partnership

Communications & Outreach

- The Ohio River Basin Fish Habitat Partnership was severely limited due to COVID-19 restrictions. No public education, outreach or public meetings were held during 2020 in response to guidance from the CDC and USFWS. Internal coordination via e-mail and virtual meetings kept the partnership together, providing updates to existing projects and garnered new projects for the upcoming year. The Ohio River Basin Fish Habitat Partnerships looks forward to re-establishing these outreach and communication efforts and connecting with partners and the community in the years ahead.



Science

- The ORBFHP has also completed a guidebook for watershed planning that focuses on restoration of natural hydrologic conditions that has led to strategies and applicable solutions that are orders of magnitude less expensive than conventional approaches to watershed management. This guide explains how to model and implement this approach and provide several innovative, cost-effective solutions and case studies that make a big impact on hydrologic restoration.
- Strong pre and post monitoring of dam removal projects focused on biological and physical response to removals continues to strengthen the partnerships ability to answer questions, provide accurate expected outcome scenarios post removal and garner broad support from diverse stakeholders. This library of evidence in multiple watershed across the ORBFHP allows the partnership to quickly build support and trust during the entirety of the project.
- The Basin-Wide Mussel Initiative (BWMI) seeks to identify and support projects that increase our understanding of the causes of mussel declines and help develop effective, science-based conservation strategies. The BWMI has identified Focal Conservation Topics, which it considers most urgent for understanding and reversing mussel declines: Physical habitat; Environmental Contaminants; Food webs and Ecosystem Services; Pathogens, Parasites, and Invasive Species; Dams, Fragmentation, and Connectivity; and, Development of Short-term Evaluation Metrics.
- Additional monitoring of the innovative fish passageway structure (fish ladder) at the Stockdale dam in the Eel River of northern Indiana continued in 2020. This project reconnected 750 stream miles. To date, this fishway has passed 43 of the 51 species inhabiting the Eel River and provides a model for a new tool in fish passage in Midwestern streams and beyond.

Conservation Accomplishments

- In 2020, the ORBFHP was very active in dam removals and securing funding for future dam removals within the ORBFHP. These removals are a major steps towards watershed and instream restoration goals. A few notable items in 2020 are listed below.
- The Salamonie Dam in Warren IN was removed in the fall of 2020, reconnecting over 100 miles of stream and benefiting many species of concern, including the federally endangered Snuffbox mussel.
- The Raigan's Dam on Indian Creek was removed in 2020, reconnecting 275 stream miles and providing access to critical habitat for Eastern hellbender

- Funding was secured in 2020 to remove the last 2 dams preventing fish passage to the Eel River Basin. Once removed, over 1,000 river miles will be accessible.
- Funding was secured to remove a major fish passageway barrier in Sugar Creek and will reconnect 1,123 miles of streams or 100% of the stream with the Wabash River.
- Funding was secured to reconnect the headwaters of the Tippecanoe River by removal of the Deeds Creek dam, allowing passage and improving aquatic habitat and water quality for fish, mussels, and aquatic invertebrates. The project compounds benefits from previous dam removals on the Tippecanoe River.

Pacific Lamprey Conservation Initiative

Communications & Outreach

- Developed and released **new logo** for the Pacific Lamprey Conservation Initiative (PLCI).
- **Participation increased** in all PLCI committees, workgroups, and supported events in 2020 both in numbers of participants and diversity of partner organizations across PLCI's geographic range (Alaska to the U.S.-Mexico border).
- PLCI nomination of **San Luis Obispo Creek** was selected to NFHP's 2020 list of **10 Waters to Watch**.
- The **4th Annual Lamprey Information Exchange** (typically held in person and scheduled for December 2020) was postponed due to COVID and being held as a monthly webinar series from January – June 2021.
- PLCI co-hosted the **Barriers to Tidal Connectivity (BTC) Symposium** (virtual) with the Pacific Marine and Estuarine Fish Habitat Partnership (PMEP), and California Fish Passage Forum (CFPF) which brought together more than **250 participants** from across the country on October 28, 2020. This was a component of the overarching BTC project (funded via FY19 MSCG) which also included a Virtual BTC Workshop for key representatives from the three FHPs to discuss findings and develop recommendations based on the Symposium and GIS data collection and analysis conducted by PSMFC as part of this project (see below).
- PLCI representatives from the Lamprey Technical Workgroup (LTWG) **instructed a short course** at the River Restoration Northwest Symposium **"Integrating Lamprey into Restoration"** that taught habitat restoration practitioners how to include lamprey habitat needs in the design and implementation of restoration projects.
- Continued focus on **maintaining and increasing tribal engagement in PLCI**, especially the integration of tribal/elder knowledge into PLCI efforts. Tribal participation included



representation on the Policy Committee, Conservation Team, Steering Committee Workgroup, Lamprey Technical Workgroup and RMUs, as well as chair positions on the Conservation Team and various RMUs.

Science

- In 2020, **17 of PLCI's 18 Regional Management Units (RMUs)** had developed and updated their **Regional Implementation Plans (RIPs)** and updated them at their annual meetings. RIPs describe impacts of projects implemented in each RMU on lamprey status and threats addressed.
- The PLCI Lamprey Technical Workgroup (LTWG) develops technical papers and best management guidelines to adaptively manage threats and limiting factors to lampreys. In 2020, the LTWG had **more than 175 members**, met twice (May and December) and most LTWG subgroups also met individually in 2020. **Notable publications in 2020** included:
 - [Best Management Guidelines for Native Lampreys During In-water Work](#)
 - [Barriers to Adult Pacific Lamprey at Road Crossings: Guidelines for Evaluating and Providing Passage](#)
- PLCI published a **Pacific Lamprey Climate Change Vulnerability Assessment** in the *Journal of Freshwater Ecology* in 2020 and continues to incorporate the results into project prioritization and other aspects of the Initiative.
- PLCI assisted in gathering available data sets (including the **Pacific Lamprey Data Clearinghouse** managed by USFWS for **Barriers to Tidal Connectivity (BTC) ArcGIS HUB** developed by PSMFC as part of the BTC project (see above), and for inclusion in the **NFHP Data Catalog Viewer**).

Conservation Accomplishments

- In 2020, **21 projects** were submitted for FY21 funding from **10 RMUs** requesting a total of **\$945,928 in funding** to implement projects benefiting lampreys across PLCI's geographic range. This increase from 2019, during which PLCI received 12 project proposals for FY20 funding from 4 RMUs, totaling \$490,736 demonstrates the increased enthusiasm in lamprey conservation, as well as the need for funding to support these projects across PLCI's geographic range (Alaska to the U.S.-Mexico border.)
- PLCI was able to provide funding for **six projects** totaling **\$235,858** in FY20 through the **Northwest Power and Conservation Council/Bonneville Power Administration Columbia River Basin Project**.
 - **Assessment of larval lamprey** use in areas of salmonid habitat restoration vs non-restoration and above vs below

a salmonid electronic weir (USFWS, Washington Dept. of Fish & Wildlife, Washington Dept. of Natural Resources, Cowlitz Tribe, Interfluve, LCFRB)

- **Pilot test of an acoustic telemetry array** to monitor juvenile lamprey in the lower Columbia River (USGS, Yakama Nation (YN), Confederated Tribes of the Umatilla Indian Reservation, Nez Perce Tribe, Columbia River Inter-Tribal Fish Commission (CRITFC), Mainstem Fish Research, and PNNL).
- Okanogan River Basin **Pacific Lamprey Translocation and Monitoring** (YN, Grant PUD, Douglas PUD, USGS, Colville Tribe)
- Evaluation of **Historic Presence of Pacific Lamprey** in the Okanogan River Basin (USGS, Colville Tribe)
- **Natal Origins** of Pacific Lamprey (USFWS, OSU, SMCM, NOAA, CRITFC)
- Evaluation of larval lamprey **survival following salvage**: a pilot study (USGS, USFWS)
- PLCI was not yet eligible to receive NFHP project funds in 2020, but PLCI was able to **fund two projects** outside of the Columbia River Basin in 2020 with carryover NFHP PLCI and Regional coordination funds **totaling \$37,079**:
 - **Larval Lamprey Identification Workshop** (Coquille Indian Tribe, South Coast Lamprey Working Group, Oregon Dept of Fish & Wildlife (ODFW), USFWS)
 - **Lamprey Passage for Small Dams** in the Applegate Watershed (Grizzly Peak Working Group and Rogue Basin Partnership’s Native Species Working Group, USFS, BLM, USFWS).

- PMEP partners made presentations and provided PMEP information at 12 national and regional meetings reaching over 1,000 people. Events included OneNOAA Science Symposium, the annual meeting of the National Estuarine Research Reserves, the Salish Sea Ecosystem Conference, and the Restore America’s Estuaries conference.
- PMEP’s work was featured in several regional newspapers including the Tillamook Headlight Herald, the Newport News Times, and the Lincoln city News Guard. Additionally PMEP work was featured in newsletters and blogs of NOAA HabitatNews, Pacific Birds, and OpenChannels.
- PMEPs Bear Creek Restoration Project was selected as a retrospective NFHP Waters to Watch Project.
- PMEP facilitated the successful funding of one project through the Bass Pro Small Grants Program.
- PMEP published three newsletters reaching over 400 subscribers.

Science

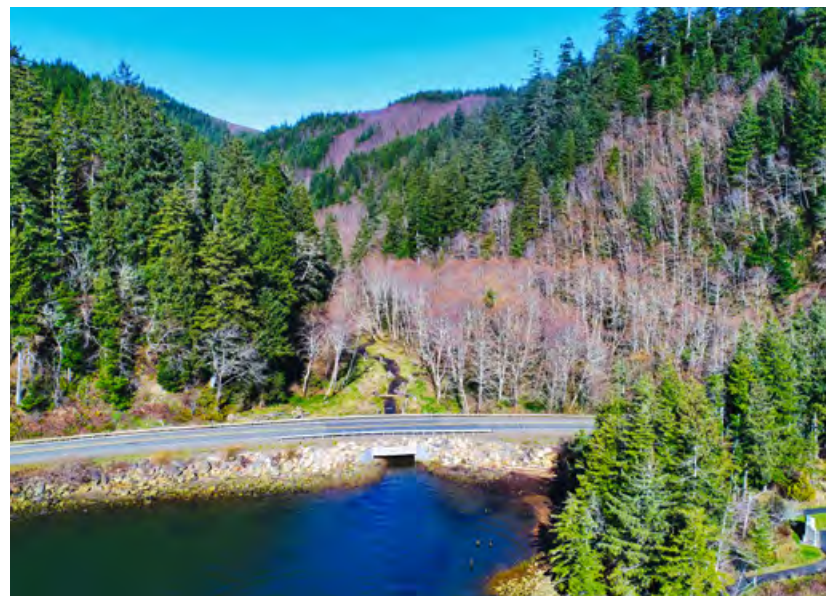
- PMEP completed a catalogue of barriers to tidal connectivity datasets available along the US West Coast. The resulting data inventory and data summaries were published to a publicly available website created for this project, <https://btc-psmfc.hub.arcgis.com/>. Project is funded by AFWA.
- PMEP continued work on its nearshore project, completing the compilation of nearshore habitat datasets along the US West Coast and progressing on the comprehensive State of the Knowledge of Nearshore Habitats report. Project is funded by NOAA.

Pacific Marine and Estuarine Partnership (PMEP)

Communications & Outreach

Tips for writing reports:

- PMEP collaborated with the California Fish Passage Forum and the Pacific Lamprey conservation Initiative to host a Barriers to Tidal Connectivity symposium attended by over 300 people and an interactive workshop. The events were designed to build awareness about the science and data around tidal barriers and identify next steps for collaborating FHPs. Project is funded by AFWA.
- PMEP received funding from AFWA to support future communications activities aimed at promoting the use of PMEP’s data tools to restoration practitioners, researchers, and resource managers.



Columbia Passage, Megler Bridge

- PMEP initiated a project to synthesize eelgrass restoration techniques, identifying criteria for success, site assessment methods and pros and cons of different restoration techniques. The final product will be a report to research practitioners and a dedicated webpage. Project is funded by Pew Charitable Trusts.
- PMEP initiated a project to compile data on tidal swamp restoration projects along the US West Coast to add this information to our data on tidal wetland loss and restored areas.
- PMEP assembled a climate/ocean change subcommittee to develop PMEP’s climate/ocean change purpose statement. This statement will serve to focus and drive future PMEP actions on this critical issue.
- PMEP is supporting a Nature Conservancy project assessing and mapping seagrass and macroalgae kelp habitats in Oregon marine reserves.
- PMEP is supporting a regional scale assessment of fish habitat along the nearshore of greater Puget Sound being conducted by the Washington Department of Natural Resources using existing video footage of nearshore habitats.

Conservation Accomplishments

- Restored 2 miles of stream habitat
- Restored 17 acres of estuary habitat
- Removed 2 barriers to tidal connectivity

- Restored access to 180 acres of marsh
- Restored access to 300 feet of stream habitat
- 6 active projects in 2020, completed 3

Reservoir Fisheries Habitat Partnership

Communications & Outreach

- Upgrades to the RFHP website (www.friendsofreservoirs.com) were made to facilitate ease of navigation and user-friendly updates.
- “News” posts highlighting RFHP and Partner habitat restoration efforts were routinely sent out via the web mailing list.
- Equipment was purchased to facilitate virtual meetings and webinars.



Science

- A project was selected for FY2021 funding that will model reservoir susceptibility to climate changes.

Conservation Accomplishments

- RFHP was selected was one of three FHPs to receive the Bass Pro Shops/NFHP Small Grant Award (\$15,000 to continue habitat restoration work on Elephant Butte).



Sullivan Gulch Backwater



Hoonah Native Forest Partnership Work Crew & Partners

Southeast Alaska Fish Habitat Partnership

Communications & Outreach

In 2020, the Southeast Alaska Fish Habitat Partnership (SEAKFHP, www.seakfhp.org) grew to 42 participating organizations all sharing in the same goal of protecting and restoring aquatic habitats within coastal and freshwater areas of the southern panhandle of Alaska. Key communication and outreach activities included:



- Facilitation and initial development of a 10-year aquatic habitat restoration retrospective to tell the important story of habitat restoration work that has taken place across southeast Alaska; this work will be completed in 2021 and include a quantitative summary as well as vivid stories of specific restoration sites. Check out the [SEAKFHP Story Map](#) for many of these details.
- Supported three high school proposals for ocean clean-up work and education through the [NOAA Ocean Guardians School Program](#) – which included student directed trash audits and community marine debris clean-up events
- Convened a forum to present aquatic habitat films for the Western Division American Fisheries Society meeting planned for Vancouver – due to challenges with COVID, these films were shown as part of the 2020 AFS Annual Meeting held virtually August 14-25, 2020.

Science

In 2020, the SEAKFHP Science and Data Committee actively pursued the following activities:

- Initiated the Southeast Alaska Coastal Data Project, archiving coastal datasets other valuable aquatic resources within the [SEAKFHP AGOL library](#). This is an ongoing effort, with funding provided from NOAA, to help provide access to important datasets for southeast Alaska and build decision support tools for partners working to conserve regional aquatic habitats.

- Continued to facilitate the Alaska eDNA Workgroup.
- Worked closely with our partners at the Southeast Alaska Watershed Coalition and provided NFHP funding to assist expanding the data framework for the [Southeast Alaska Stream Temperature Monitoring Network](#).
- Elevated the important work completed by Johnson et al. in their report “[Quantifying the Monetary Value of Alaska National Forests to Commercial Pacific Salmon Fisheries](#)”.

Conservation Accomplishments

In support of on-the-ground aquatic conservation activities, SEAKFHP and their partners made contributions during 2020 across a variety of habitat assessment, planning and restoration projects. Below is a brief description for a few of these:

- Aquatic Organism Passage Progress – In 2017, SEAKFHP launched the Tongass Top 5 Fish Passage Design Campaign, a campaign focused on building shelf stock of design drawings for fish passage projects needed on the Tongass National Forest. Since that time, SEAKFHP worked closely with USFWS, USFS, Trout Unlimited, The Nature Conservancy and local watershed partners capturing momentum of this campaign to leverage multiple funding opportunities leading to over 30 fish passage designs, many were implemented in 2020.
- Continued to foster assessment activities and the development of an action plan for stewarding sockeye salmon in Klawock Lake: [Klawock Lake Sockeye Salmon Action Plan](#) (Needham et al. 2020).
- Supported partners at the Takshanuk Watershed Council in obtaining NOAA Coastal Fish Habitat Partnership funding to engage local subsistence and recreational fishers in restoring aquatic habitats at impaired fish passage areas near Haines Alaska: [Mink Creek Culvert Removal and Stream Rehabilitation](#).
- At the end of 2020, SEAKFHP was able to provide a small portion of our USFWS/NFHP Coordination funds to the Southeast Alaska Land Trust (SEALT, [Working to permanently conserve the lands and waters of Southeast Alaska](#). (south-eastalaskalandtrust.org)) for the purchase of a pond leveler to help preserve anadromous fish habitat in a [protected parcel located just north of Juneau](#).

Southeast Aquatic Resources Partnership

Communications & Outreach

- The Southeast Aquatic Resources Partnership (SARP) has continued to update the connectivity tool throughout 2020, which can be found at connectivity.sarpdata.com. The tool continues to be presented at various



conferences, meetings, and in 2020 it went “on the road” in a series of webinar based presentations with diverse stakeholders.

- SARP has worked to raise awareness of our program’s accomplishments and impacts across the region through a series of Facebook and Instagram posts highlighting their work as well as the work of their partners. SARP also nominated a project to one of the 10 Waters to Watch, which highlighted the immense ecological uplift this project will have on the local aquatic habitats.

Science

- In 2020, SARP embarked upon a new effort while continuing to maintain and updated the current connectivity tool. The new effort includes the creation of Action assessments that provide high priority actions in specific areas that will improve watershed condition and enhance both biological and ecological function and resilience. In this effort, SARP is working with USFWS to create action assessments for targeted listed and/or at-risk species with an ultimate goal of identifying restoration projects that will lead to species recovery.
- SARP also created a standard operating protocol for road-stream crossings that provides measurements and observations to be taken in the field that provides a score indicating the degree of passability for aquatic organism passage. Further, SARP has created a regional riparian assessment on the high resolution stream networks that is used by many partners in various products as well as in our own analyses.

Conservation Accomplishments

- In 2020, SARP and our partners funded two projects under the National Fish Habitat Partnership program in Texas and Virginia. Together these projects with the additional ongoing projects under the NFHP program will collectively accomplish the following: 16 instream miles restored or enhanced, 308 upland and riparian miles restored or enhanced, and 6000 acres of upland acres assessed, 3 public awareness and outreach events, and more than 40 private landowners actively engaged in conservation practices.
- In 2020, SARP, restored 13.5 acres of riparian habitat, 37 acres of seagrass habitat, and 16 miles of stream enhanced, and over 4000 ft of stream bank stabilized.
- SARP has also funded additional projects through our Restoration and Native Black Bass Initiative (NBBI) programs with funding through competitively award grant programs, totaling over 1500 acres of spring, stream, riparian, and upland habitats enhanced/restored. Technical guidance was also provided to private landowners for over 18,000 acres and 43 individual management plans were developed to assist landowners in the implementation of best management practices for watershed healthy aimed at reducing erosion and excessive

sediment inputs, increasing infiltration of precipitation, and reducing nutrient inputs into aquatic systems. Additionally, over 287 annual CFS were conserved through agricultural irrigation efficiency practices in the Lower Flint River and 4 miles of stream banks were stabilized along critical spawning habitats for shoal bass and designated critical habitat for 5 listed mussels along the Chipola River.

Southwest Alaska Salmon Habitat Partnership

Communications & Outreach

- The primary outreach activity for the Southwest Alaska Salmon Habitat Partnership (SWAKSHP) is the Bristol Bay Fly Fishing & Guide Academy generally held in early June at a sport fishing lodge. The Academy is a week-long intensive course using fly fishing as a means for imparting to young adults from the remote Bristol Bay region of Alaska an appreciation of fish habitat and the larger issues of fisheries science, resource management, ecology, land use and conservation. A variety of federal and state agency, university, lodge and NGO personnel serve as voluntary instructors (including a member of the Alaska Board of Fish). The partnership coordinator organizes and raises private and government support for the annual academy. The 2020 Academy was scheduled for Last Cast Lodge on Lake Iliamna but was cancelled due to Covid-19 travel restrictions.
- Partner Bristol Bay Heritage Land Trust was planning to sail an old restored Bristol Bay sailing gillnetter from Homer to Naknekin 2020, but the project was postponed to 2021 due to Covid-19 travel restrictions. The goal of the project is to celebrate the longevity of the Bristol Bay Sockeye commercial fishery and the importance of maintaining habitat for continuation of the fishery.



Science

- Partners Alaska Department of Fish & Game and the USGS were able to get into the field to complete a fourth year of water level data collection for instream flow reservations on the Kokwok and lowithla Rivers and Napatoli Creek tributaries to the Nushagak River.
- The annual gathering of state and federal government agency and partner NGO and university biologists, the Southwest Inter-agency Meeting, scheduled for Dillingham, AK was cancelled due to Covid-19 travel restrictions.
- A unique project funded in 2020 involves conducting olfactory bioassays using early life stage sockeye salmon to test water from Bristol Bay spiked with varying copper concentrations to determine copper levels that would inhibit olfaction in Bristol Bay sockeye. The project builds upon previous olfactory bioassays using copper spiked Bristol Bay water and hatchery rainbow trout and fathead minnows

Conservation Accomplishments

- Partners Bristol Bay Heritage Land Trust and The Conservation Fund began negotiations for conservation easements over 44,000 acres of critical salmon habitat on Lake Iliamna, the world's largest sockeye salmon nursery. Negotiations are ongoing, but positive.

Western Native Trout Initiative

Communications & Outreach

- The Western Native Trout Initiative (WNTI) launched a major new program in 2019 called the Western Native Trout Challenge. <https://westernnativetrouchallenge.org/> The program celebrates the native trout and char species of the West and invites anglers to catch each species in its native or historic range and is a lifetime challenge for each individual who registers. Participants catch native trout and char in each of 12 western states. WNTI provides education, resources, inspiration, and prizes. The purpose of the Challenge is to strengthen angler awareness of these unique native species, help anglers understand what is being done to conserve native trout and grow the community of trout fishing aficionados. As of December 2020, 639 anglers have registered for the Western Native Trout Challenge. Residents of California lead the states, followed by Utah, Arizona and Oregon. A total of 77 individuals have completed one or more levels of the Challenge. Of these "completions", 76% are Expert Casters (catch and photograph six species across at least four states), 19% are Advanced Casters (catch and photograph 12 species across at least eight states) and 5% are Master Casters (our highest level where anglers have to catch and photograph 18 species across all 12 states).
- The Wildlife Forever Fish Art Contest partnered with WNTI in 2020 to highlight the diversity of native trout in the western United States. This partnership connects youth to the assortment of native trout utilizing the Art of Conservation®. In honor of this collaboration, the Fish Art Contest created a new Western Native Trout Award. Young people interested in competing for this award select one of the 14 trout species native to the western United States listed on the Official Fish List. Winners will be selected in four grade categories, Kindergarten-3rd grade, 4th-6th grade, 7th-9th grade, and 10th-12th grade and awarded a prize package from the Western Native Trout Initiative. <https://www.wildlifeforever.org/home/state-fish-art/>.
- Resources Legacy Fund released a short film in 2020 about partnering with WNTI to reconnect parts of the Upper Bear River in Utah, Idaho, and Wyoming. The partnership benefits Bonneville Cutthroat Trout, recreational fishing, and ranchers who divert water for irrigation. Once completed, the restoration



projects will open or reconnect 90.85 miles of river. <https://www.youtube.com/watch?v=JhjE1Ad9Ddl>. Later in 2020, the Intermountain West Joint Venture released an article further describing this broad partnership that is successfully collaborating in the Bear River watershed and was a focus of the five-year NRCS Regional Conservation Partnership Program. <https://iwjv.org/partnership-shines-in-bear-river-rcpp/>.

Science

- WNTI continues to identify data gaps in scientific information for the numerous watersheds and priority areas across its focal region and explore partnerships to fund or otherwise incorporate existing or ongoing assessments into WNTI planning and strategic prioritization.
- WNTI supports the newly created NFHP data catalog being compiled by the Science and Data Committee; all WNTI products to date are included in the data catalog.
- As reported last year, the WNTI Steering Committee identified prioritized conservation activities for 2017-2019 and 2020-2022 and work will continue in 2021-2023 to develop formal "conservation portfolios" specific to each species of emphasis that will support WNTI's conservation goals and objectives over the next 3 years and help secure non-federal partners and funding. Strategic prioritization work has now facilitated the creation of conservation portfolios for Bonneville Cutthroat Trout, Interior Redband Trout, Rio Grande Cutthroat Trout, Colorado River Cutthroat Trout, and Yellowstone Cutthroat Trout. Portfolio building for Lahontan Cutthroat Trout is underway. WNTI is coordinating project portfolio implementation with its partners, while continuing to search for new funders.
- In addition to the ongoing portfolio building process, WNTI also updated the species status reports hosted on their website for [Apache Trout](#), [Gila Trout](#), [Greenback Cutthroat Trout](#), [Rio Grande Cutthroat Trout](#), [Bonneville Cutthroat Trout](#), [Interior Redband Trout](#), [Yellowstone Cutthroat Trout](#), [Colorado River Cutthroat Trout](#) and [Lahontan Cutthroat Trout](#).
- A new partner for WNTI in 2020 was the National Oceanic and Atmospheric Administration (NOAA) Office of Habitat Conservation and the Recreational Fisheries Initiative. Funding of \$32,897 supports a three phased project benefitting Coastal Cutthroat Trout in Washington that includes outreach presentations, genetic data collection, and habitat restoration all involving professional fish biologists, recreational anglers, licensed fishing guides, and citizen scientists. Data collected will help fill gaps in the range-wide Coastal Cutthroat Trout Assessment co-funded by WNTI and completed in 2016.
- Updated Story Map on WNTI's website with project data through 2020 <https://westernnativetrou.org/projects-map/>



Conservation Accomplishments

- In 2020, WNTI and their partners funded nine habitat restoration projects benefiting our focal species with a total of \$223,700 National Fish Habitat Partnership funds and \$209,501 in other partner contributions leveraged to a total projects value of \$4,685,651. In addition to the 2020 project funding provided by WNTI through the National Fish Habitat Partnership program, the U.S. Fish and Wildlife Service National Fish Passage Program, American Sportfishing Association's FishAmerica Foundation, NOAA Fisheries Office of Habitat Conservation, and WNTI's Western Native Trout Challenge each contributed funding toward these important projects this year.
- Collectively, projects funded in 2020 will remove or bypass nine barriers to restore access to 29.3 miles of stream for fish passage, restore 13 miles and 560 acres of riparian habitat, complete eight habitat assessments, and assess 15 fish populations and 11.7 stream miles. Barriers will be constructed in two separate projects in Montana to protect 13 miles of high priority habitat for Westslope Cutthroat Trout and other native aquatic species.
- An ongoing partnership with the Resources Legacy Fund (RLF) through their Open Rivers Fund, continued to support WNTI's ongoing work on nine projects in the Upper Bear River in Utah and Wyoming to benefit Bonneville Cutthroat Trout, recreational fishing, and local communities and ranchers who divert water for irrigation. Open Rivers funding of \$432,000 was matched by \$2,268,005 in other private and public funding, for a total projects value of \$2,700,005. A new grant was approved late in 2020 to continue the partnership's work in 2021-2022.
- WNTI's ongoing partnership with RLF to execute an ambitious watershed-scale restoration effort in the Warner Lakes Basin in southeast Oregon continued in 2020. This partnership benefits Warner Lakes Redband Trout (State Sensitive and Federal Species of Concern), and the Warner sucker (listed as

Threatened under the Endangered Species Act), recreational fishing, ranchers and landowners. The partnership will ultimately fund ten restoration projects to open 38 stream miles in the Warner Basin by 2025. The second year of grant funding, for \$300,000, will support construction to remove/replace the first four diversion dams opening 5.57 miles of stream, and engineering design plans for the next two projects, opening an additional 0.376 stream miles. This year's grant was matched by \$1,722,600 from other partners.

- Projects funded through National Fish Habitat Partnership funds in 2020:
 - The Greater Williams Prairie Restoration Area (Redband Trout), *Oregon*
 - Dalton Creek Cutthroat Trout Passage, Utah (Bonneville Cutthroat Trout), *Utah*
 - Deep Creek Starveout Diversion Project (Redband Trout), *Oregon*
 - Jim Creek AOP Project (Rio Grande Cutthroat Trout), *Colorado*
 - Wall Creek Fish Barrier (Arctic Grayling, Westslope Cutthroat Trout), *Montana*
 - Eagle Creek Yellowstone Cutthroat Trout Connectivity, *Montana*
 - Spread Creek Fish Passage Project Phase 2 (Yellowstone Cutthroat Trout), *Wyoming*
 - Cottonwood Creek Fish Passage Barrier Project for Native Fish Security (Westslope Cutthroat Trout), *Montana*

Additional information for all 2020 National Fish Habitat Partnership WNTI funded projects can be viewed at: <https://westernnativetrout.org/2020-funded-projects/>.