

**Secure Rural Schools & Community Self-Determination Act
Reauthorized by Public Law 115-141
Title II Project Submission Form
USDA Forest Service**

Prince William Sound

Resource Advisory Committee

Project Number (Assigned by Designated Federal Official):

Funding Fiscal Year(s):

2. Project Name: Sustaining Eyak Lake Salmon Habitat	3a. State: Alaska 3b. County(s): Valdez-Cordova
4. Project Submitted By: Copper River Watershed Project	5. Date: 9/30/21
6. Contact Phone Number: 907-424-3334	7. Contact E-mail: kate@copperriver.org

8. Project Location:	
a. National Forest(s): Chugach National Forest	b. Forest Service District: Cordova Ranger District
c. Location (Township-Range-Section): Township 15S, Range3W, Section 27	

9. Project Goals and Objectives: Eyak Lake, named for the indigenous Eyak Natives that survived on this area’s resources, provides critical spawning, rearing and wintering habitat for multiple anadromous fish populations upon which our Alaskan community depends. These fish include marine resources such as Sockeye Salmon, Coho Salmon, sea-run Cutthroat Trout, and anadromous Dolly Varden. The adjacent fishing town of Cordova is home to subsistence, recreational, and commercial fishers whose livelihoods rely on the intact habitat of Eyak Lake’s freshwater ecosystem. Overall ex-vessel value of commercial harvest of Sockeye and Coho Salmon returns to Eyak Lake was estimated by Alaska Department of Fish & Game at \$1,742,050 to \$2,917,210, making Eyak Lake a multi-million dollar lake (ADFG 2020). Despite the significance of Eyak Lake to local salmon populations, the last coordinated, detailed ecological study was compiled in 1985 and still stands as the go-to resource for current management decisions. There is diverse landownership along one-third of the lake shore, and two-thirds of the lake is bordered by roadways.

The overarching goal of this project is to develop a central data clearing house for information on the habitat, land ownership and infrastructure of Eyak Lake to aid in decision making for a diverse array of ongoing and future development, conservation, and management activities occurring in Eyak Lake and adjacent lands while maintaining sustainable, highly productive salmon populations. These activities include but are not limited to: transportation development and maintenance including gravel roads, highways, and an airport making up a significant portion of Eyak Lake shoreline (gravel airstrip as well as float plane dock facilities); power infrastructure development and repair including buried transmission lines in and adjacent to Eyak Lake and access to a hydro-electric facility on Power Creek, a tributary to Eyak Lake; fish passage improvement work including culvert replacement in Eyak lake tributaries; replacement of the water control structure at the outlet to Eyak River; and

residential and commercial development of private lakeshore property. Many of these activities have potential to negatively impact the productivity of Eyak Lake. For example, Power Creek road on the north shore is a consistent contributor of sediment and road material into near shore spawning areas. Identification of these spawning sites and implementation of restoration efforts to reduce erosion is a high priority. A central data source providing information including accurate mapping of near shore spawning areas would provide managers, permittees, decision makers, and stakeholders critical information for maintaining the high quality and productive environment of Eyak Lake while completing necessary development and maintenance of surrounding infrastructure.

The specific objectives of this project are to:

1. Convene an Eyak Lake Working Group who will meet at least six times over the project to identify Eyak Lake data that already exist, identify what data are missing, and develop and implement a plan for collecting new data, including updated delineation of spawning beds in the lake and tributaries.
2. Develop a public digital database and web map application with historic and current data to understand the current status of Eyak Lake habitat and prioritize future restoration (re-vegetation, bank stabilization, etc.) efforts.
3. In year two, implement restoration efforts at high priority sites to protect nearshore spawning sites.

10. Project Description:

a. Brief: (*in one sentence*)

With input from community partners, we will convene an Eyak Lake Working Group to collate and organize historic data as well as identify and collect new data on Eyak Lake spawning beds and other data identified by partners for inclusion in a publicly available, digital database and interactive web map application hosted and managed by CRWP. In year two, the CRWP will coordinate with partners, youth, and volunteers to implement restoration activities (stream-bank restoration, bank stabilization, etc.) at high priority sites identified in year one.

b. Detailed:

Eyak Lake, named for the indigenous Eyak Natives that survived on this area's resources, provides critical spawning, rearing and wintering habitat for multiple anadromous fish populations upon which our Alaskan community depends. Situated between Prince William Sound, the Copper River Delta, and the Gulf of Alaska, Eyak Lake provides cornerstone habitat conditions for ten fish species. These fish include marine resources such as Sockeye Salmon, Coho Salmon, sea-run Cutthroat Trout, and anadromous Dolly Varden. The adjacent fishing town of Cordova is home to subsistence, recreational, and commercial fishers whose livelihoods rely on the intact habitat of Eyak Lake's freshwater ecosystem. Since salmon are the true currency of our community, their biological health directly translates into our region's economic sustainability.

Overall ex-vessel value of commercial harvest of sockeye and coho salmon returns to Eyak Lake was estimated by Alaska Department of Fish & Game at \$1,742,050 to \$2,917,210, making Eyak Lake a multi-million dollar lake [1]. In addition to commercial harvest, Eyak Lake's outlet river boasts one of the most popular sport fisheries in the Prince William Sound of Alaska. ADF&G reports an average of 10,181 Coho Salmon and 554 Sockeye Salmon were caught each year (2014-2016) [2]. Sustaining Eyak Lake's fisheries requires unrestricted access to spawning and rearing habitat. Eyak Lake also provides other valuable recreation opportunities like canoeing and kayaking, and is an important back-up municipal water supply to the City of Cordova.

When the Alaska Coastal Policy Council recommended that Eyak Lake be designated an “Area Meriting Special Attention” (AMSA), a cooperative plan was commissioned by Professional Fishery Consultants. Authors Dick Groff and Ralph Pirtle compiled four years of data into the 1985 Cooperative Management Plan that drew out the AMSA boundaries and targeted bathymetry, lake bottom and vegetation, topography, and studies of the wildlife habitat.

The goal of the 1985 Cooperative Management Plan was to maintain and/or improve water quality, fishery production, and wildlife habitat values associated with Eyak Lake. It was also intended to accommodate existing and appropriate future residential, commercial, and facilities development within the planning area. Since 1985, multiple organizations including CRWP, United States Forest Service (USFS), Native Village of Eyak, Prince William Sound Science Center, City of Cordova, Alaska Department of Fish & Game (ADFG), have collected data on Eyak Lake, but with staff turnover this data has not remained readily accessible and research efforts have been disparate and largely uncoordinated. This project will help collect this existing data into a central location and make it more readily accessible to all partners, reducing the time needed to track down historic data moving forward. By collecting this data into a central location, it will also help identify data gaps that exist.

There are many landowners that make up the matrix of ownership and land use types surrounding Eyak Lake, including the USFS that manages a majority of the land along the North, East, and Southeast shores of the lake (Figure 1). This diverse land ownership makes it challenging to implement holistic and ecosystem-wide policies and actions, especially as the best available data are over thirty years old and in disparate formats. Additionally, there are roads bordering two-thirds of the lake, contributing stormwater run-off and eroding sediment and gravel into nearshore spawning beds. There is a need for an increased level of detail in data and a need to map individual spawning habitats while improving data accessibility and visualization to ensure that individual actions on private property don't add up to detrimental impacts to lake habitat.

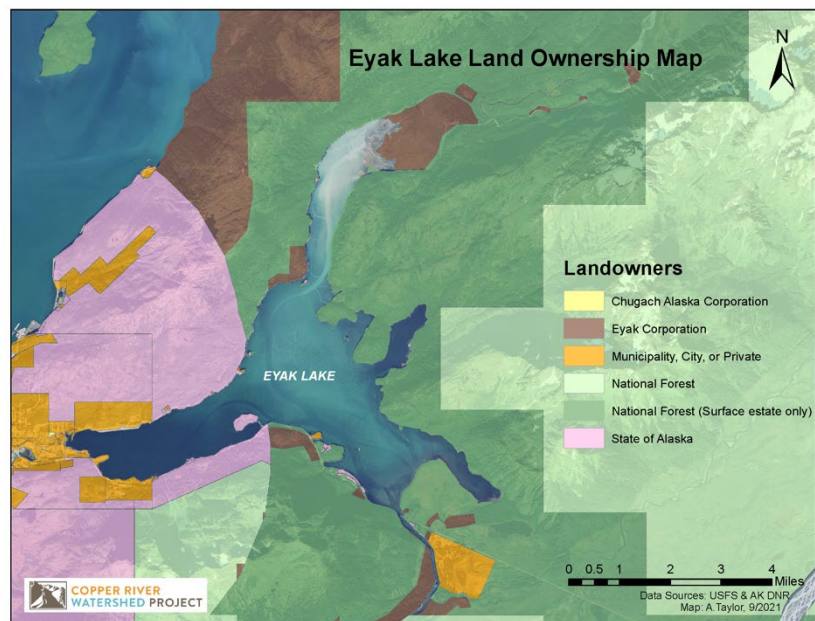


Figure 1. Eyak Lake land ownership map.

This proposed project will seek to build off of the historic report's dataset while incorporating new datasets to improve available data for management decisions. Specific types of data to be included in the database are:

- Anadromous habitat, including delineation of spawning beds in the lake and its tributaries
- Streams and sub-watersheds draining into Eyak Lake
- Culvert condition scoring and monitoring
- Water quality testing points and locations of concern
- Land ownership records and uses (private, parks and recreation, airport, etc.)
- Stormwater mapping
- USGS gage stations
- Drinking water infrastructure

- Road erosion sites of concern
- Restoration Activities, past & present
- Invasive species mapping and treatment locations

When feasible, local youth will be involved to help collect data points, providing a hand-on opportunity for them to learn about GPS coordinates, GIS, and aquatic habitat. Project partners have already committed to assisting with additional data collection as needed, including boat support and personnel from the Native Village of Eyak, ADFG, and USFS. When these partners work with youth volunteers, it also creates a valuable opportunity for participants to explore various natural resource careers.

The Copper River Watershed (CRWP) will convene an Eyak Lake Working Group who will meet up to six times over the project and work to identify and collect what data already exists, identify what data are missing, and make a plan to collect missing data. Based on research and decisions from the Eyak Lake Working Group, the CRWP will develop a public digital database and interactive web map application similar to what has been developed for Frenchman Bay, Maine (Photo 2). The digital database and web map will include historic and future data

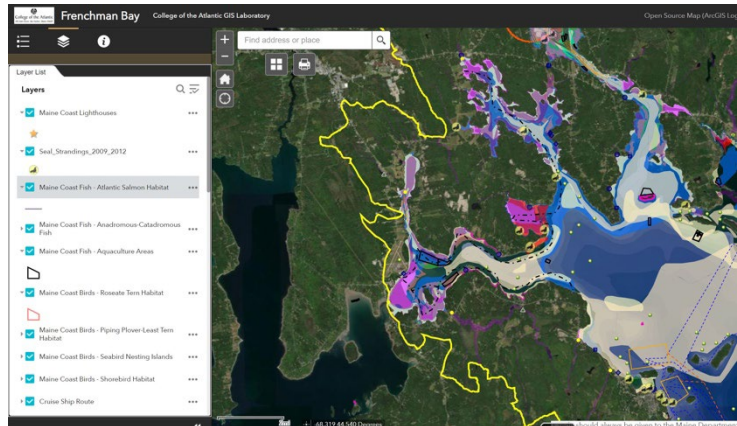


Figure 2. Frenchman Bay Atlas web map application example.

displayed in ways that aid in visualizing the status of Eyak Lake habitat, how it compares to what was documented in the 1980's, and prioritize future restoration (re-vegetation, bank stabilization, etc.) efforts. This visualization will help all partners with a role in sustaining the lake for quality fish habitat, including USFS who manages a majority of the undeveloped land bordering the lake. For example, should there be a home-heating tank spill, looking at the stormwater mapping and habitat delineations can help City of Cordova responders identify key locations for intercepting oil before it drains into Eyak Lake and help protect important spawning and/or rearing sites from oil pollution.

One dataset already identified as a high priority to collect is current spawning and rearing habitat assessments. A 2010 attempt to update the spawning beds discovered that the original methodology was including areas that were not actually viable spawning gravels due to the size of the gravels. This highlights that while the lake covers a large area, there are only specific locations that offer the right combination of gravel size, mobility of gravel, and clean oxygenated water to support spawning, making it important to prioritize protection of these sites. The Working Group will evaluate the methodology from 2010, repeat surveys in 2022, and triangulate the data using visual observations collected during weekly aerial spawning surveys flown by ADFG.

We will streamline and improve field data collection by using a Trimble R1 GNSS Receiver. This unit is universal and pairs via Bluetooth with any smart device to capture data with sub-meter accuracy. We will use the ESRI ArcCollector app on a smart device paired with the R1 Receiver to capture our designated data fields, spatial data, and other metadata directly into our ESRI ArcOnline account. This workflow removes the need to digitize paper datasheets and merge spatial data with field data, saving approximately 3 hours of staff time per field day of data collection.

During winter 2022-2023, the Working Group will evaluate the spawning habitat and associated potential impacts in order to identify restoration activities to be implemented summer 2023. This could include installation of additional root wads to reduce road erosion as well as planting dormant willows to re-establish vegetation and stabilize the banks of the lake in areas where it has eroded away. CRWP will coordinate volunteers, including youth, to collect dormant willows in winter 2022 as well as to plant them during summer 2022.

CRWP will maintain and manage the digital dataset and web map application throughout the project and into the future in a publicly available space.

[1] J. Botz, Alaska Department of Fish & Game, personal communication (October 20, 2020). Based on escapement peak counts and commercial harvest data, 2010-2020.

[2] Blain-Roth, B., J. Baumer, and S. Meyer. 2017. Sport fisheries in the Prince William Sound Management Area, 2014-2016. Alaska Department of Fish and Game, Fishery Management Report No. 17-44, Anchorage.

11. Types of Lands Involved?

State/Private/Other lands involved? Yes No

Land Status:

If Yes, specify: City, Private, Airport, Chugach National Forest, Eyak Corporation, ADOT Right of Ways/Roads

12. How does the proposed project meet purposes of the Legislation? (Check at least 1)

Improves maintenance of existing infrastructure.

Implements stewardship objectives that enhance forest ecosystems.

Restores and improves land health.

Restores water quality

13. Project Type

a. Check all that apply: (check at least 1)

Road Maintenance

Trail Maintenance

Road Decommission/Obliteration

Trail Obliteration

Other Infrastructure Maintenance (specify):

Soil Productivity Improvement

Forest Health Improvement

Watershed Restoration & Maintenance

Wildlife Habitat Restoration

Fish Habitat Restoration

Control of Noxious Weeds

Reestablish Native Species

Fuels Management/Fire Prevention

<input type="checkbox"/> Implement CWPP Project	<input checked="" type="checkbox"/> Other Project Type (specify): Database Development for improving planning and management of natural resources
b. Primary Purpose (select only 1 from above): Better information and restoration activities for Watershed Restoration and Maintenance	

14. Identify What the Project Will Accomplish
Miles of road maintained:
Miles of road decommissioned/obliterated:
Number of structures maintained/improved:
Acres of soil productivity improved:
Miles of stream/river restored/improved:
Miles of fish habitat restored/improved: 25.92 miles of lake edge habitat and tributaries to the lake, and 2,400 acres of lake habitat. Database and mapper will address all of it, and restoration activities will target specific sites. Exact area to be determined after analysis of year one data.
Acres of native species reestablished:
Acres of hazardous fuel treatment
Miles of trail maintained:
Miles of trail obliterated:
Acres of forest health improved (including fuels reduction):
Acres of rangeland improved:
Acres of wildlife habitat restored/improved:
Acres of noxious weeds controlled:
Timber volume generated (mbf):
Jobs generated in full time equivalents (FTE) to nearest tenth. One FTE is 52 forty hour weeks: 0.25/year for 2 years
People reached (for environmental education projects/fire prevention): 50
Direct economic activity benefit:
Other: Integration of over 10 datasets into one location.

15. Estimated Project Start Date: February 1, 2022	16. Estimated Project Completion Date: December 15, 2023
--	--

17. List known partnerships or collaborative opportunities.
This project will convene a working group that will include representatives from Alaska Department of Fish & Game (ADFG), City of Cordova, U.S. Forest Service (USFS), Native Village of Eyak (NVE), and Prince William Sound Science Center (PWSSC). All of these partners have conducted or are

currently conducting research in Eyak Lake. They were contacted during the development of the proposal and are on board to participate and assist with this effort and to share existing data for the database and web mapper. NVE has committed boat support for additional data collection needs. USFS, ADFG, and NVE have also committed staff time to help with collecting additional data. Most partners have submitted letters of support documenting their support of this project. We also partner regularly with Cordova School District and PWSSC Education programs, and will continue to work with these partners to engage youth when possible.

18. Identify benefits to communities.

Cordova is home to subsistence, recreational, and commercial fishers whose livelihoods rely on the intact habitat of Eyak Lake’s freshwater ecosystem. Since salmon are the true currency of our community, their biological health directly translates into our region’s economic sustainability. Overall ex-vessel value of commercial harvest of Sockeye and Coho Salmon returns to Eyak Lake was estimated by Alaska Department of Fish & Game at \$1,742,050 to \$2,917,210, making Eyak Lake a multi-million dollar lake [ADFG 2020]. In addition to commercial harvest, Eyak Lake’s outlet river boasts one of the most popular sport fisheries in the Prince William Sound of Alaska. ADF&G reports an average of 10,181 Coho Salmon and 554 Sockeye were caught each year (2014-2016) [ADFG 2017]. Sustaining Eyak Lake’s fisheries requires unrestricted access to spawning and rearing habitat. Eyak Lake also provides other valuable recreation opportunities like canoeing and kayaking, and is a back-up municipal water supply to the City of Cordova. Therefore, maintaining salmon habitat has a direct benefit to the community for supporting commercial, subsistence and sport fishing, and this project will significantly improve the data available for sustaining Eyak Lake salmon habitat, and result in on the ground action to protect important spawning sites along the lakeshore. Ensuring quality habitat also requires clean water, which will also benefit the community when water usage demands tapping into Eyak Lake as a source of drinking water.

19. How does the project benefit federal lands/resources?

USFS manages roughly two-thirds of the land bordering Eyak Lake, and is actively engaged in monitoring lake habitat. USFS is currently undertaking multi-year research projects aimed at understanding the impacts of aquatic invasive species, including Elodea, in Eyak Lake. This database will help provide a centralized location for a breadth of data available on Eyak Lake which in turn supports current USFS work, such as; informing planning for future research, and providing a location to disseminate research results including aquatic vegetation mapping. This database would also inform land management permitting and project planning. Identification of key habitat features would aid in the following: development and implementation of stream bank and lakeshore stabilization projects, recreational facility maintenance, and management of best practices in areas proximal to spawning beds. All of these areas will help protect lake habitat for salmon which is an important resource that USFS works to sustain on the Chugach National Forest.

20. What is the Proposed Method(s) of Accomplishment? (check at least 1)	
<input type="checkbox"/> Contract	<input type="checkbox"/> Federal Workforce
<input type="checkbox"/> County Workforce	<input checked="" type="checkbox"/> Volunteers
<input type="checkbox"/> Grant	<input checked="" type="checkbox"/> Agreement
<input type="checkbox"/> Americorps	<input type="checkbox"/> YCC/CCC Crews
<input type="checkbox"/> Job Corps	<input type="checkbox"/> Stewardship Contract
<input type="checkbox"/> Merchantable Timber Pilot	<input type="checkbox"/> Other (specify):

21. Will the Project Generate Merchantable Timber? Yes No

22. Anticipated Project Costs

a. Title II Funds Requested: \$48,715
b. Is this a multi-year funding request? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

23. Identify Source(s) of Other Funding:

Additional support for this project comes largely in-kind from project partners. Representatives from PWSSC, ADFG, NVE, the City, and USFS will participate in the Working Group. Both CRWP and NVE will also have seasonal interns funded through other programs that will be able to assist with field work and volunteer engagement. NVE has also committed use of a boat, fuel, and captain for data collection around the lake. The Independent Sector calculates the value of volunteer hours annually (\$28.54 in 2021), and we have also estimated up to 20 volunteers helping for 10 hours/each with data collection and restoration activities over the course of the project.

24. Monitoring Plan (provide as attachment)

- a. Provide a plan that describes your process for tracking and explaining the effects of this project on your environmental and community goals outlined above.
 - a. An excel spreadsheet will be used to track partner and volunteer involvement over the course of project. After each working group meeting or volunteer event, new data capturing the number of participants and organizations represented will be entered into this spreadsheet.
 - b. Discussion notes will be collected during each Working Group meeting. At least two of the meetings will include an evaluation and fine-tuning of the mapper, documenting the lessons learned and tweaks made to produce a user-friendly, easy to navigate and access database and mapper. Through these discussions we will effectively track the success of project implementation, and make adjustments as necessary to ensure its success.
 - c. At least one Working Group discussion will focus on identifying high priority restoration sites for protecting valuable nearshore spawning beds. The goal is to implement some improvements in year 2, including installing root wads and/or re-establishing vegetation along the lakeshores at sites near spawning beds in order to reduce the introduction of sediments and road materials into spawning beds. Project partners will track success of these efforts into the future, ensuring new vegetation is established through regular site visits and photo documentation. We also hope to conduct repeat spawning bed surveys in the future to track the size of spawning beds over time and ensure their area is not decreasing, however this will happen outside the timeframe of this request.
- b. Identify who will conduct the monitoring: CRWP Program Manager will track this data that will be collected by CRWP and project partners.
- c. Identify total funding needed to carry out specified monitoring tasks (Worksheet 1, Item k): \$2,800 for staff time to collect and share the monitoring data over the course of the project.

25. Identify remedies for failure to comply with the terms of the agreement.

If project cannot be completed under the terms of this agreement:

- Unused funds will be returned to the RAC account.
- Other, please explain:

Project Recommended By:

/s/ (INSERT Signature)
Chairperson

Resource Advisory Committee

Project Approved By:

/s/ (INSERT Signature)
Forest Supervisor

_____ National Forest

Project Cost Analysis Worksheet

Worksheet 1

Please submit this worksheet with your proposal

Item	Column A Fed. Agency Appropriated Contribution	Column B Requested Title II Contribution	Column C Other Contributions	Column D Total Available Funds
a. Field Work & Site Surveys		\$5,190	\$14,358	\$19,548
b. NEPA/CEQA				
c. ESA Consultation				
d. Permit Acquisition				
e. Project Design & Engineering				
f. Contract/Grant Preparation				
g. Contract/Grant Administration				
h. Contract/Grant Cost				
i. Salaries		\$26,677	\$7,920	\$34,597
j. Materials & Supplies		\$2,250		\$2,250
k. Monitoring		\$2,800		\$2,800
l. Other ex. Partner Indirect Cost (30%) ESRI license Vehicle mileage Boat use		\$11,242 \$500 \$56	\$2,800	\$14,598
m. Project Sub-Total		\$48,715	\$25,078	\$73,793
n. FS Indirect Costs				
Total Cost Estimate		\$48,715	\$25,078	\$73,793

NOTES :

Col. A: FS costs incurred as part of proposal implementation. Coordinate with FS to identify any FS cost for items in Col. A.

Col. B: Title II funding requested to implement the proposal.

Col. C: Matching funds being contributed by proponent or third parties. Proposals funded with a Participating Agreement will require a minimum 20% match.

Col. D: Sum of columns A, B, and C for each individual row.

Row A: Costs associated with project planning, not project implementation, such as assessment of miles of trail needing maintenance. Assessments and planning needed to develop a specific proposal. For Col. B: proponents must request permission in advance to request Title II funds to complete NEPA/CEQA analyses, as this is expected to be completed prior to proposal submission.

Rows B, C, D, and E: cost associated with environmental compliance and project design. Proponents must request permission in advance to request Title II funds to complete NEPA/CEQA analyses, as this is expected to be completed prior to proposal submission.

Row G: Costs associated with preparation of contract or agreement instruments used to implement the proposal. Contracts used to complete projects have special provisions; contact the FS to identify these early in the process.

Row H: Costs associated with administration of contract or agreement instruments used to implement the proposal.

Row I: Estimated value of any contracts/agreements used to implement proposal. Contracts/agreements used to complete projects have special provisions; contact the FS to identify these early in the process.

Row J: Cost of salaries to implement project

Row L: Examples include overhead charges from other partners, vehicles, equipment rentals, travel, etc.

Row K: Costs associated with performing monitoring described in Items 24a, 24b, and 24c. Amounts should be similar between Item 24 and Row K.

Row N: Forest Service indirect costs, including contracting/grant officer costs if needed.