

Title Page.

Development of a Watershed Restoration Plan for the Metlakatla Watershed, Annette Islands Reservation, Southeast Alaska.

Applicant:

Southeast Alaska Watershed Coalition
Project Manager: Rob Cadmus, Executive Director
1107 W 8th St. #4
Juneau, AK 99801
rob@sawcak.org
907-957-9818

Date: 1/19/2020

Table of Contents

Title Page	1
Table of Contents	2
Technical Proposal and Evaluation Criteria	
● Executive summary	3
● Project location	3
● Technical project description	4
● Evaluation criteria	
○ A-Watershed Group Diversity and Geographic Scope	7
○ B-Addressing Critical Watershed Needs	10
○ C- Implementation and Results	16
○ D-Department of Interior and Bureau of Reclamation Priorities	21
Project Budget	
● Budget proposal	22
● Budget narrative	24
Environmental and cultural resources compliance	28
Required permits or approvals	29
Letters of project support	Appendix
Official resolution	Appendix
Literature Cited:	29

Technical Proposal and Evaluation Criteria

Executive Summary:

Date: 01-19-2020

Applicant Name: Southeast Alaska Watershed Coalition, Juneau, Alaska

Project Summary: The Southeast Alaska Watershed Coalition (SAWC) and Metlakatla Indian Community-Department of Fish and Wildlife (MIC-DFW) will establish the Metlakatla Watershed Advisory Group for the Annette Islands area of Southeast Alaska, develop a restoration plan for this watershed, and complete design plans for restoration of in-stream fish habitat and riparian areas at Nadzaheen Creek. The Annette Islands and nearshore marine waters comprise the Annette Islands Reserve (AIR), the only Indian reservation in the State of Alaska. The Metlakatla Watershed is home to six species of Pacific salmon, with a seventh species, king salmon, occurring in the marine waters of AIR. Salmon are integral to the culture and economy of the Tsimshian people that call this watershed home. For example, AIR manages the largest tribal-managed commercial salmon fishery in the USA.. Past timber harvesting, road building, and development in the watershed have left degraded salmon habitat and riparian areas that are impacting commercial and subsistence harvest of salmon. Further, a changing climate threatens the availability of water for hydropower production, domestic water, and salmon hatchery operations on AIR. Climate change will likely also impact salmon habitat as temperatures and the frequency and intensity of storms increase. SAWC and the MIC-DFW will engage a diverse group of stakeholders, including staff from the Metlakatla Indian Community (MIC, tribal government), tribal members and leaders, commercial, subsistence, and sport fishers, timber/forestry workers, gatherers of non-timber forest products, water users (including hatchery, power station, and municipal water supply managers), appropriate state and federal agencies, resource conservation groups (including the Southeast Alaska Fish Habitat Partnership), and other affected stakeholders. Formation of the Metlakatla Watershed Advisory Group, along with additional assessment and research, will enable the development of a collaborative watershed restoration plan and consensus on priorities for implementation of the plan.

Proposed Start Date: 10/01/21

Proposed Completion Date: 09/30/23

Will the Project Involve Federal Land: No, project is located within the Annette Islands Indian Reservation.

Project Location: The project will take place on Annette Island proper, a 128-square mile island in the Gravina Islands of the Alexander Archipelago in Southeast Alaska (Fig. 1). Annette Island is located 20 miles south of Ketchikan, Alaska and, along with nearby smaller islands, encompasses the Annette Islands Reserve, the only Indian reservation in Alaska and home to the village of Metlakatla and the Metlakatla Indian Community (MIC). MIC is a federally recognized Indian Tribe and prescribes rules and regulations governing the use of the Annette Islands Reserve.

Due to the relatively small size and mountainous terrain of Annette Island, the island consists of numerous small watersheds drained by 2nd and 3rd order streams that flow directly to the ocean. Although these watersheds are hydrologically disconnected from one another, for the purposes of this project, they collectively comprise the Metlakatla Watershed. The Metlakatla Watershed encompasses the entirety of Annette Island and lies within USGS Ketchikan HUC 19010102 (Fig. 2).



Figure 1. Map of the Annette Islands Reserve and the individual watersheds comprising Metlakatla Watershed.

Technical Project Description:

Application Category: Existing Watershed Group. SAWC was formed by a collective of Southeast Alaska watershed councils in 2005. These citizen-lead organizations recognized that by building a network of professionals and community leaders they would be more effective at sharing resources, implementing projects on the ground, and fostering awareness and stewardship of the many watersheds in the region. SAWC’s core goal is to build a regional voice that promotes community watershed stewardship. SAWC does this by bolstering the capacity of communities throughout Southeast Alaska to

implement local and collaborative approaches to the management, development, and stewardship of the region's watersheds. SAWC works with local stakeholders, municipalities, and tribes throughout Southeast Alaska to conduct watershed assessments, create watershed plans, and initiate and monitor watershed restoration, stewardship, and management projects. In 2016, for example, we conducted a watershed assessment of the Pats Creek Watershed (Wrangel, AK) in partnership with state and federal agencies and the local tribe. This assessment led to a watershed restoration plan and the creation of the Friends of Pats Creek group. In 2019 and 2020, SAWC progressed the plan by removing 6 fish passage barriers, decommissioning two abandoned logging roads, restoring 10 acres of floodplain, and restoring over 6,000 ft of stream. SAWC has sponsored watershed planning and watershed groups in numerous areas around Southeast Alaska, including the Takshanuk Watershed Coalition (Haines, AK), Taiya Inlet Watershed Council, Klawock Lake Sockeye Salmon Stakeholder group/action plan, Cube Cove Watersheds Action Plan, Jordan Creek Watershed Restoration Plan, etc. Similarly, SAWC will partner with the MMIC-DFW in this project to create the Metlakatla Watershed Advisory Group.

Eligibility of Applicant: SAWC is a 501(c)3, grassroots non-profit organization that is dedicated to collaborative watershed stewardship in Southeast Alaska. Because of the unique mountainous geography of the Alexander Archipelago, our work spans numerous watershed boundaries, but we use a standard watershed-based approach to planning and stakeholder engagement. As a non-regulatory entity, we work with, and represent, diverse interests and build consensus on actions that will address water quality, availability, and watershed condition.

Goal: Through this project, SAWC will expand its role as a watershed group by forming the Metlakatla Watershed Advisory Group in partnership with MIC-DFW. The goal of the Metlakatla Watershed Advisory Group is to directly engage stakeholders, community members, tribal leaders, agencies, and others in the development of a collaborative watershed restoration plan and in the implementation of this plan. Objectives to achieve this goal include:

- outreach to the public and other stakeholders;
- formulate a vision statement for the Metlakatla Watershed;
- creation and provide direction on a watershed restoration plan; and,
- provide a forum for conflict resolution so that watershed restoration and stewardship projects can be prioritized and implemented.

Approach:

1. Task A -Watershed Group Development:

Stakeholder Engagement: Before initiating the Watershed Advisory Group, a listening session will be hosted to engage different stakeholder groups, including the MIC Tribal Council, MIC-DFW Fisheries Management Board, MIC program/department leads, tribal members, fishermen, etc. Outreach materials will be developed and distributed, and the listening session will take place in person or virtually depending on Coronavirus social distancing needs. The listening session will include a presentation by SAWC and MIC-DFW on the current watershed state of knowledge, known watershed needs and impairments, and knowledge gaps. The sessions will be an opportunity for stakeholders to ask questions, provide feedback, and exchange information to foster a common understanding of existing conditions and issues in the watershed. Attendees of the listening session will be invited to participate in the Metlakatla Watershed Advisory Group.

Watershed Advisory Group: The Metlakatla Watershed Advisory group will be a non-jurisdictional group open to all that want to participate, including interested community leaders/stakeholder representatives. The purpose of this advisory group is to ensure that the restoration plan and future projects incorporate a wide range of stakeholder interests. With the assistance of SAWC and MIC-DFW, the group will

establish goals, objectives, and priorities for the watershed restoration plan and develop a watershed vision statement.

Pre-Planning Research: SAWC and MIC-DFW will gathering information about issues and needs related to water quality, quantity, and stream and riparian habitat within the watershed through research of existing plans, reports, and other publications, as well as talking to MIC department leads and experts at state and federal agencies, universities, stakeholders, members of the Watershed Advisory Group, etc. This pre-planning research will help identify and fill data gaps and enable SAWC and MIC-DFW to outline the watershed restoration plan.

2. Task B – Watershed Restoration Planning:

Mapping: Existing data and geospatial information will be compiled to document:

- Habitat important to fish and wildlife, including wetlands, streams, and lakes.
- Anadromous fish habitat, species of fish found in each stream reach, and natural fish pass barriers.
- Historic timber harvest boundaries, dates of harvest, and dates/extent of pre-commercial thinning.
- Areas considered within/outside of the allowable timber harvest boundary.
- Sub-watersheds where water is extracted for drinking water, hydropower, and hatchery use.
- Community use areas, industrial areas, and community infrastructure.
- Open and closed roads and manmade fish passage barriers.
- Areas used for the harvest of fish, wildlife, and other resources
- Invasive species distribution and presence.

Additional field work/assessment will be conducted as needed to fill information gaps.

Hydrological Modelling: Climate change influenced future streamflow and stream temperature will be modeled using historical discharge and temperature data and methods developed by the University of Alaska and the [Southeast Alaska Stream Temperature Monitoring Network](#). Increasing winter temperatures are changing the amount and form of precipitation in AIR, with once snow-covered mountains now receiving more winter rain. Further, changing storm paths are leading to unpredictable and variable precipitation with increases in both drought conditions and flooding. Stream temperature data loggers will be placed and maintained in key watersheds for incorporation into the Southeast Alaska Stream Temperature Monitoring Network. Stream temperature and flow data will be integrated into models to assess climate vulnerability and predict changes in salmon life cycle.

Stream Habitat Assessment: With technical oversight from SAWC, a DFW field crew (including two Watershed Interns) will conduct Tier I & II assessments of anadromous streams based on the Tongass National Forest Stream Classification Protocol. These assessments gather quantitative and qualitative information on instream and riparian habitat attributes and conditions that strongly influence important watershed functions. Stream assessment data will be compared to values from pristine watersheds in Southeast Alaska through protocols developed by Tucker and Couette (2008). Site survey will be used to ground truth GIS analysis of forestry impacts to riparian areas and associated uplands. Road crossing surveys, fish barrier surveys, and other reconnaissance will be conducted during field assessments. SAWC will use this data to help prioritize and plan possible interventions and restoration projects, including the addition of large woody debris to logged stream reaches that are lacking fish habitat, riparian forest enhancement, fish passage barrier removal, reactivation of floodplains through breaching/removal of roads, etc.

Drafting of the Watershed Plan: In addition to compiling information collected from the pre-planning, mapping, modeling, and assessment work, DFW Watershed Interns will interview watershed group members and stakeholders to better understand watershed issues and needs. SAWC will then advise on

the creation of a project matrix that will outline and prioritize watershed restoration projects and actions to address issues, similar to SAWC's Klawock Sockeye Salmon Action Plan ([link here](#)). A Watershed Advisory Group meeting will be held to review the project matrix and help prioritize interventions. If conflict exists between priorities, land use, or resource allocation, the Watershed Advisory Group will be relied upon to find a mutually supported collaborative path forward.

3. Task C -Watershed Management Project Design:

The Watershed Advisory Group will complete a site-specific project design for restoring Lower Nadzaheen Creek through large woody debris addition and riparian enhancement. A preliminary assessment of this important salmon spawning stream showed that logging in the riparian area may have impacted fish habitat. Design will follow a geomorphic assessment that is necessary to determine if large woody debris addition will have the desired result of restoring diverse fish habitat, as recommended by Hudson and Cadmus (2019).

Evaluation Criteria:

Evaluation Criterion A— Watershed Group Diversity and Geographic Scope.

Watershed Group Diversity: SAWC is a citizen led organization with a local board of directors that has regional representation throughout the Alexander Archipelago. SAWC was formed by a coalition of local watershed councils that are composed of municipalities, tribes, landowners and developers, and community members. We integrate local stakeholders, municipalities, and tribes into all of our projects. We do this by forming stakeholder groups, watershed advisory groups, “friends” groups, or directly partnering with diverse organizations and interests. We are an active member of the Southeast Alaska Fish Habitat Partnership (a partnership of resource managers and restoration professionals), the Sustainable Southeast Partnership (a tribally run partnership and network focused on a Triple Bottom Line approach to community development), and we work collaboratively and on a consensus basis with our partners.

The Metlakatla Watershed, which is within the AIR, is fundamentally linked to the economy and culture of every resident of the community of Metlakatla. This community is Alaska Native, predominantly Tsimshian, Tlingit, and Haida, and community members depend on salmon. Home to the largest tribally managed commercial salmon fishery in the US, Metlakatla's economy is dependent on the business created by individual fishermen and the fish processing that occurs on in AIR. Further, residents are active in the traditional and customary harvest of fish, wildlife, seafoods, and plants/edibles for their sustenance and livelihood. Other stakeholders in the watershed include forestry workers, hatchery interests, schools, a police department, a volunteer fire department, industrial interests (including a closed sawmill and water bottling plant). A US Coast Guard base that was on the reserve has now been closed. MIC is the tribal government that runs the municipality of Metlakatla and manages the AIR. MIC works to improve the lives of its members, and preserve heritage and culture, through effective self-governance, a commitment to self-sufficiency, and the exercise and strengthening of their tribal sovereignty. MIC runs the government needs of the community, such as utilities, schools, courts, and the police department. The MIC- DFW develops and manages the AIR's fish and wildlife resources to maximize economic benefit while ensuring the sustainability of such resources while minimizing adverse environmental consequences or adverse impacts to fish and wildlife. MIC-DFW also develops and manages the AIR fishery enhancement efforts, including a salmon hatchery, through salmon production goals and minimizing adverse impacts to natural salmon populations.

SAWC and MIC-DFW will work together to ensure that the Metlakata Watershed Advisory Group represents the full range of community interests and stakeholders by inviting key decision makers, elders, and leaders in the community to participate. General outreach to the public will occur through print, press, and social media to ensure that community members and stakeholders are informed and welcomed. Further, if participation by key interest groups is constrained for any reason, MIC-DFW will use the Watershed Interns to interview the necessary stakeholders and engage them in the process.

Geographic Scope: The geographic boundary of the Metlakatla Watershed (i.e. Annette Island proper) is provided in Figure 1. Annette Island is one of four large islands in USGS HUC 19010102 (Fig. 2). Each island in the HUC is separated from other islands by ocean waters. As described above, the Metlakatla Watershed encompasses the entirety of Annette Island, consisting of numerous small contiguous watersheds drained by 2nd and 3rd order streams that flow directly to the ocean. Being hydrologically separated from other portions of the HUC and consisting of hydrologically separated watersheds, the Metlakatla Watershed is analogous to conventional mainland-type sub-basin sized watersheds (e.g., Little Salmon River Watershed, Idaho). Viewed in this way and as defined here, the Metlakatla Watershed is the largest watershed on Annette Island.

The catchment of the Metlakatla Watershed matches the political/land ownership boundaries of the Annette Islands Indian Reservation, aside from a few small uninhabited islands that are a part of the AIR that fall outside the Metlakatla Watershed area. All watershed stakeholder groups are members of the MIC, with the community of Metlakatla being the only community on the island. MIC owns and manages the entirety of the Metlakatla Watershed (i.e. Annette Island), which is shown in Figures 1 and 2.

The planned membership of the Metlakatla Watershed Group consists of:

- Fish and Wildlife Dept. staff;
- Forestry Dept. staff;
- individual tribal members;
- tribal leaders;
- commercial, subsistence, and sport fishers;
- forestry workers;
- non-timber forest product gatherers; and
- water users (hatchery, hydropower, and municipal water supply staff).



Figure 2. Annette Islands Reserve within USGS HUC 19010102 (Ketchikan).

These group members represent the entire scope of watershed managers, users, and government leaders. In addition to these group members, state and federal agencies will be available to the group, providing advice and information as needed. The group may obtain coordination and outreach support from the [Southeast Alaska Fish Habitat Partnership](#).

The watershed group will represent all Metlakatla Watershed stakeholders because the group will consist of or represent all individuals and entities that reside within, own, or manage the watershed. We will reach out to important elders, leaders, stakeholder groups, and the public through one-on-one conversations and invites to attend Watershed Advisory Group meetings as well as through press and social media. If key interests are not involved in the Watershed Advisory Group, the MIC-Watershed Interns will conduct interviews with leaders and community members that represent these interests.

Evaluation Criterion B — Addressing Critical Watershed Needs:

B1. Critical Watershed Needs or Issues:

Fishery Management Status and Issues. MIC-DFW manages the largest tribally run salmon fishery in the US, with around 1.7 million salmon caught each year by a commercial troll, gillnet, and purse seine boats. It is estimated that more than 450 community members, approximately 30% of the population, are directly employed in commercial salmon fishing or fish processing (MIC, 2020). Commercial fishing occurs in saltwater and is a mixed stock fishery, including wild fish returning to one of the dozens of salmon streams located in the Metlakatla Watershed, fish returning to MIC's Tamgas Creek Hatchery, and wild or hatchery fish traveling through the nearshore waters around Annette Island on their way to spawning streams on other islands and the mainland. To ensure that spawner escapement goals are met in local streams, MIC-DFW conducts regular spawner surveys in 18 priority streams and the number of fish caught in several harvest management zones around the island is tracked. By opening and closing the zones, MIC can maximize commercial harvest while ensuring adequate returns of spawners to local streams and the hatchery. Surveys over the last several years have shown variable, if not troubling, low returns of spawners to the Metlakatla Watershed. While the lowest returns coincide with an extremely dry, low stream flow year, it is possible that multiple stressors could be impacting salmon abundance. Possible stressors include low stream flows, high water temperatures, land use impacts on watershed health, poor ocean survival conditions, and harvest pressure. Declining trends in salmon returns are being seen throughout the Metlakatla Watershed, with some watersheds faring better than others.

Fishery Needs. MIC-DFW's harvest management plan is based on harvest data, escapement trends, and other information. Escapement goals for local streams is based in part on a 1982 survey done by Evelyn Biggs, "Annette Islands Stream Inventory-Potential Salmon Production Summary." While spawning surveys over the last 34 years have added considerable information on salmon escapement since this survey, no comprehensive review of stream habitat or watershed conditions have been conducted since Briggs' 1982 work. Considerable changes to the watershed have occurred in this time, including extensive clearcut logging, road development, closure of the Coast Guard base, etc. Salmon production is directly related to stream condition and health providing important information for managers to consider when deciding on harvest and escapement goals. Information provided by the watershed restoration plan will be used by MIC-DFW to gage the potential for restoration projects to increase salmon returns or mitigate past watershed impacts. Further, modeling of future stream flow and temperature data will give fishery managers knowledge on which systems are more resilient/vulnerable to changing climate, which is important information for managers to know when managing harvest to ensure adequate salmon escapement into spawning streams.

Forest Management Issues - The Ketchikan Pulp Mill ran a sawmill at Metlakatla's Port Chester from 1979 to 1999. The sawmill processed trees harvested from Annette Islands and from nearby lands in the Tongass National Forest. An extensive road system was constructed on parts of the island to access timber harvested using clearcut techniques. Today, harvest units contain dense stands of even-aged young-growth trees, which provide poor habitat for wildlife and may contribute to reduced stream flows through increased evapotranspiration rates from young, fast-growing trees. In a few sub-watersheds, trees were harvested on the edges of streams and lakes that support resident and anadromous fish or that flow into fish-bearing water bodies, including the anadromous reach of lower Nadzaheen Creek (Fig. 3). Harvesting riparian trees alters the amount of large wood in streams for decades to centuries in the future. Large, stable pieces of wood in streams create fish habitat by promoting pool formation, channel migration and sediment storage/sorting, and provide resting areas and cover for fish. Further, riparian logging can increase water temperatures during the early stages of succession and reduce bank stability.

Riparian logging activities caused considerable controversy between fishery managers/fisherman and forestry workers within the community of Metlakatla. For example, illegal logging that violated a 100-ft buffer requirement impacted the anadromous portion of Nadzaheen Creek, historically the Metlakatla Watershed's most productive salmon stream.

Few forest management activities have taken place since logging ended in the 1990's. New-growth forest in harvest units consists primarily of Sitka spruce. Red alder occurs in riparian areas and on landslides, logging roads and landings, and areas where soil was disturbed during logging operations. Considering the age of young-growth stands, it is likely that most trees are in the stem-exclusion phase of forest succession during which tree growth rates and understory plant diversity and biomass decline due to canopy shading. The stem exclusion phase can persist for 100 years or longer.

Forest Management Needs - Basic information on existing young-growth timber stands in former harvest units is needed to inform forest management and to understand the potential impacts of past timber harvest on watershed conditions and functions, including water temperature, hydrology, riparian conditions, and fish habitat and production. Some harvest areas and associated roads have been mapped from satellite imagery and are stored in a SAWC-managed GIS (Figure 3). This project will map the remaining harvest units and road system (including bridges and culverts), collect and document existing information on harvest units (e.g., harvest date), and gather basic stand information, including estimates of average tree height and diameter, young-growth species composition, and the presence and diversity of understory plants.

Documented young-growth forest conditions will help guide forest management plans. Selectively thinning young-growth stands in riparian areas will promote faster growth of remaining trees and accelerate forest succession and the return to old-growth forest conditions that sustain long-term viability and productivity of fish and wildlife populations. Forest thinning will open the forest canopy to allow the establishment of understory plants that provide cover, nesting habitat, and forage for wildlife.

Basic information on land cover types (i.e., vegetative cover types, plant communities, wetlands, etc.), fish habitat, and infrastructure is needed to inform watershed planning and restoration. Field assessment information will be used to assess riparian forest conditions to prioritize and plan riparian thinning, wildlife thinning/gap treatments, and establish future riparian setback standards. Stream habitat assessments will compare in-stream habitat to regional criteria to identify and prioritize stream restoration projects, such as large woody debris additions and reactivation of floodplains.

Climate Change Issues - Climate change scenarios for Southeast Alaska indicate likely altered streamflow and water temperature regimes, with impacts to fish habitat. Increasing winter temperatures are changing the form of precipitation on Annette Island. In recent years, Metlakatla residents have noticed less snow cover on the mountains indicating a shift in winter precipitation from snow to rain. Further, changing storm paths are leading to altered and variable precipitation with increases in both drought conditions and flooding. Streams that are dominated by snowmelt typically have peak flows in the late spring or early summer as the snowpack melts. In the steep watersheds of the Annette Islands Reservation, meltwater from spring snowpack helps to sustain streamflow through early summer. Water stored within and slowly released from melting snowpack is also critical for hydropower production, fish hatchery operations, and municipal water needs on the island. Changing rainfall patterns and intensity can adversely impact streams on Annette Island, many of which respond rapidly to runoff events, resulting in low flows and abnormally high-water temperatures during drought and deep, scouring flows during intense rainstorms. These climate-driven altered hydrological conditions have consequences for fish populations and the water users listed above.

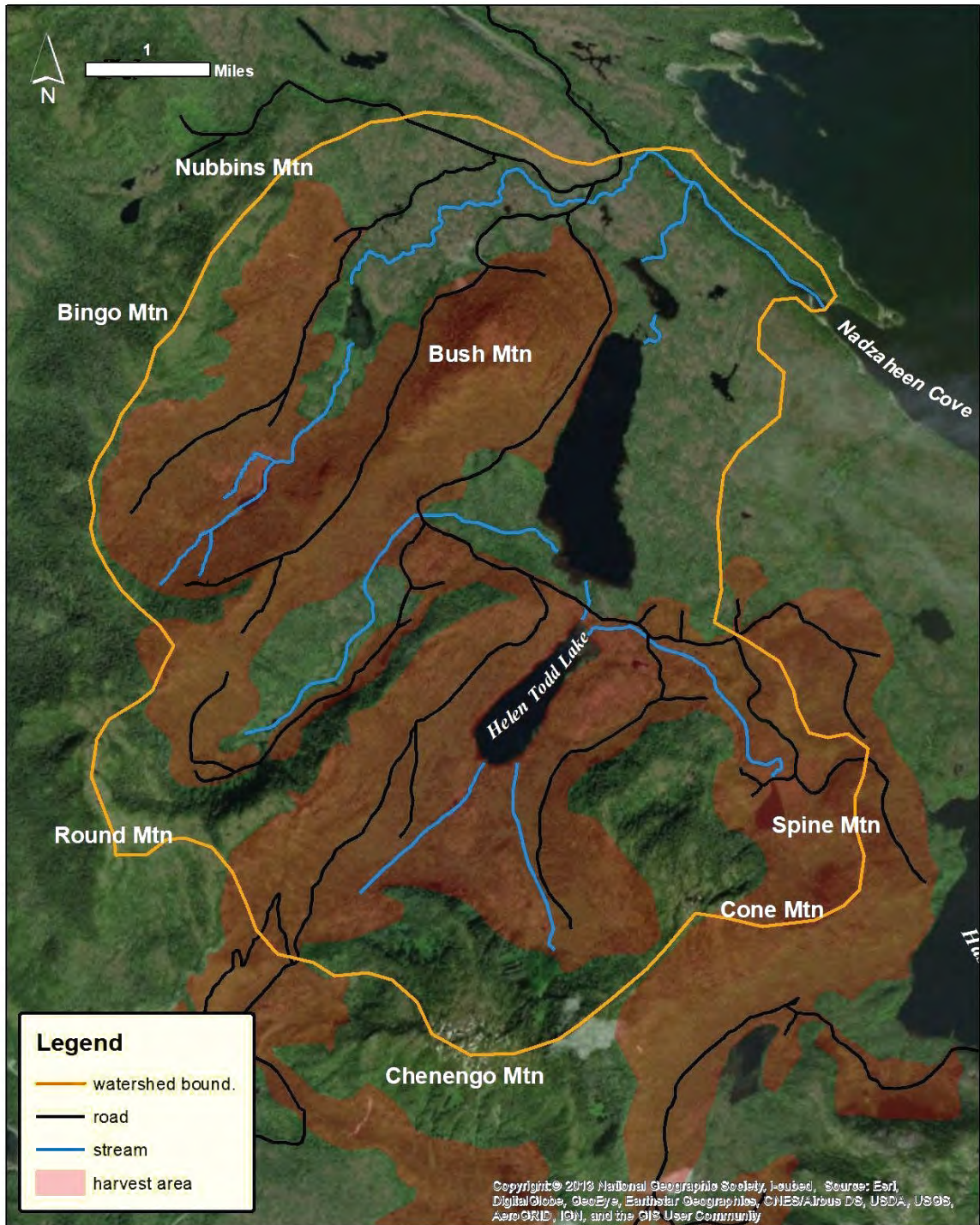


Figure 3. Streams, logging roads and harvest areas in the Nadazheen Watershed on northeast Annette Island.

A watershed's characteristics can make it more resilient or vulnerable to climate-driven changes in precipitation and flow, and anthropogenic impacts can exacerbate these stressors. For example, streams with intact riparian forest have abundant large wood in the channel helping to reduce streambed scour and bank erosion during floods (Beechie et al. 2013). Climate change driven increases in flood intensity and frequency is considered one of the biggest climate change risks to salmon populations in southeast Alaska, with negative impacts disproportionately impacting high gradient contained channels (Bryant 2009, Sloat et al. 2017).

Further, high stream temperature caused by changes in climate is a concern for salmon in the Metlakatla watershed. There have been several instances of massive pre-spawning salmon die-offs in the last decade, with some exceeding 20,000 fish. Pre-spawning mortality events are often linked to high stream temperatures with low dissolved oxygen levels. During a preliminary assessment of salmon habitat in the lower Nadzaheen Creek, SAWC documented extremely low stream discharge and high-water temperatures (up to 18.6 C). Alaska water quality standards require that water temperatures do not exceed 13.0 C in areas used for fish egg and fry incubation or spawning. Several streams in the Metlakatla Watershed are likely vulnerable to increases in stream temperature because they are rain fed systems with large lakes, have numerous wetlands, and have dark (brown/tannic) water that readily absorbs sunlight energy. Further, logging can lead to thermal stress in streams due to reduced shading and low stream flows due to high transpiration rate in young-growth forest.

Climate Change Needs - SAWC will work with partners in the Southeast Alaska Stream Temperature Monitoring Network, including US Forest Service and University of Alaska hydrologists, to model the existing and future temperature regime of Annette Island salmon streams. Key sub-watersheds will be incorporated into the Southeast Alaska Stream Temperature Monitoring Network, and stream temperature data loggers will be placed and maintained in these sub-watersheds. Stream temperature and flow data will be integrated into modeling to assess climate vulnerability and predict changes in salmon life cycle.

Community Development Issues - The village of Metlakatla has a population of around 1,500 people. Located on an isolated island, this community boasts schools, a medical center, a police department, and a volunteer fire department. A deep-water port and industrial area have supported a sawmill, bottling company, fish processing plant, and other industrial activities, with the main industries today being fishing (salmon, halibut, sea cucumber, geoduck, and herring), a salmon hatchery, a fish packing plant, retail stores, and tourism. The community is connected to the larger town of Ketchikan, Alaska by a 14.5-mile road connection to a ferry terminal operated by the Alaska Marine Highway. Float planes are commonly used to connect the two communities. During WWII, the US Airforce constructed a 7,500 ft and 5,700ft runway and the associated roads and infrastructure later became a US Coast Guard base.

Community development can impact watershed condition in many ways, include the filling of wetlands, alteration of stream channels and floodplains for development, manmade fish passage barriers such as undersized culverts, alteration of intertidal habitat for docks and harbors, water pollution from stormwater runoff and wastewater systems, and trash and litter. Mapping and pre-planning research will document and show changes over time for community use areas, industrial areas, and community infrastructure. Changes in wetland and intertidal habitats will be evaluated through GIS and field assessment. Open and closed roads and manmade fish passage barriers will be documented using the Alaska Department of Fish and Game's fish passage standards and the US Forest Service's road condition standards. Prioritization of fish barrier removal will be based on upstream habitat, cost, and logistics.

Water Extraction for Hydropower, Hatchery and Municipal Issues - Power on Annette island is supplied by the Metlakatla Power and Light Company, which is owned and operated by MIC, and consists of two hydroelectric facilities on Purple Lake and Chester Lake. Peak power generation of these combined facilities can exceed the power demand of the community, but drought, low snowpack, and variable water flows have caused uncertainty in the community's power supply. In 2019, for example, a severe drought caused water shortages in the community and required the community to run expensive diesel generators. Diesel fuel in this region must be shipped by barge from Washington State, and simply powering the lights for the community was a significant financial strain for a rural area with limited economic opportunity. Further, water for municipal needs at Metlakatla comes from the Purple and Chester lake hydro facilities, adding additional demands for this water infrastructure.

The MIC-DFW operates the Tamgas Creek Hatchery, which raises and releases king, coho, chum, and occasionally pink and sockeye salmon. As a terminal fishery, this hatchery harvests brood stock from returning hatchery fish, fertilizes and incubates the eggs, and rears smolt until they can be released into the wild. Chum salmon returns from this hatchery have been particularly successful, with approximately 300,000 hatchery fish returning a year. The hatchery uses water from Tamgas Creek and relies on having appropriate flow and cool water to incubate the eggs and rear smolt.

Water Extraction Needs - Understanding watershed conditions and projected changes in stream flow and temperature will help managers of hydro, municipal water, and hatchery infrastructure plan changing conditions and extreme events, building resilience into the operation of this important infrastructure in a way that minimizes negative impacts to the community and natural resources.

B-2. Developing Strategies to Address Critical Watershed Needs or Issues

Task A -Water Group Development: The Metlakatla Watershed Advisory Group will expand the partnerships created by SAWC and the MIC-DFW in the ways explained in the “Watershed Group Diversity” section above. The Group will establish relationship with conservation organizations, such as the Southeast Alaska Fish Habitat Partnership (SEAKFHP), promoting balanced stewardship by attending SEAKFHP meetings and engaging SEAKFHP members in advice on techniques and protocols for development of a watershed restoration plan.

Stakeholder Engagement: Before initiating the watershed restoration plan, a listening session will be hosted to engage different stakeholder groups, including the MIC Tribal Council, DFW Fisheries Management Board, MIC program/department leads, tribal members, fishermen, etc. Outreach materials will be developed and distributed, and the listening session will take place in person or virtually depending on Coronavirus social distancing needs. The listening session will include a short presentation by SAWC and MIC-DFW on the current state of knowledge on the watershed, the known watershed needs and impairments, and knowledge gaps. The sessions will be an opportunity for stakeholders to ask questions, provide feedback, and exchange information. Attendees of the listening session will be invited to participate in the Metlakatla Watershed Advisory Group.

Watershed Advisory Group: The Metlakatla Watershed Advisory group will be established from the participants in the listening sessions and various community leaders/stakeholder representatives. The advisory group will be open to all that want to participate, and it will be a non-jurisdictional group of volunteers. The purpose of this advisory group is to ensure that the restoration plan and future watershed management incorporates a wide range of stakeholder interests. With the assistance of SAWC and MIC-DFW, the group will develop a vision statement for the future of the watershed and have direct input on goals/objectives for the watershed restoration plan and project priorities.

Pre-Planning Research: SAWC and MIC-DFW will gathering information about issues and needs related to water quality, quantity, and stream habitat within the watershed through research of existing plans, reports, and publications, as well as talking to MIC department leads and experts at state and federal agencies, universities, stakeholders, members of the Watershed Advisory Group, etc. This pre-planning research will help fill and identify data gaps as well as serve to create an outline for the watershed restoration plan.

Task B -Watershed Restoration Planning:

Mapping: SAWC and MIC-DFW will develop existing watershed condition maps and narratives that depict, quantify, and describe land cover types, land uses, natural resources, and current watershed conditions that influence salmon populations or have been impacted by roads, logging, and other land uses. Existing data and geospatial information will be compiled to outline:

- Areas important to harvest of fish and wildlife, including wetlands, streams, lakes, and habitat types.
- Anadromous fish habitat, species of fish found in each stream reach, and natural fish pass barriers.
- Timber harvest unit boundaries, harvest dates, and dates/extent of pre-commercial thinning.
- Areas considered within/outside of the allowable timber harvest boundary.
- Sub-watersheds where water is extracted for drinking water, hydropower, and hatchery use.
- Community use areas, industrial areas, and community infrastructure.
- Open and closed roads and stream crossing structures that block or impede fish passage.
- Invasive plant distribution and abundance.

Field work will be conducted as needed to fill information gaps.

Hydrological Modelling: Modeling of future streamflow and stream temperature with climate change will be based on existing discharge and temperature data and methods being utilized through the University of Alaska and the Southeast Alaska Stream Temperature Monitoring Network. Increasing winter temperatures are likely bringing, or will bring, changes in the type of precipitation that is falling, with the once snow-covered mountain around Metlakatla now receiving more winter rain. Further, changing storm paths are leading to unpredictable and variable precipitation with increases in both drought conditions and flooding. Key sub-watersheds will be incorporated into the Southeast Alaska Stream Temperature Monitoring Network, and stream temperature data loggers will be placed and maintained in these sub-watersheds. Stream temperature and flow data will be integrated into modeling to assess climate vulnerability and predict changes in salmon life cycle.

Stream Habitat Assessment: With technical oversight from SAWC, a DFW field crew (*including two DFW Watershed Interns*) will conduct Tier I & II (Tongass National Forest Stream Classification Protocol) habitat surveys of anadromous streams. Site survey will be used to ground truth GIS analysis of forestry impacts to riparian areas and associated uplands. Road crossing surveys, fish barrier surveys, and other reconnaissance will be conducted as necessary. Stream assessment data will be compared to values of other streams in Southeast Alaska through protocol developed by Tucker and Couette (2008). SAWC will use this data to help prioritize and plan possible interventions and restoration projects, including the addition of large woody debris to logged stream sections that are lacking fish habitat, riparian forest enhancement, fish passage barrier removal, reactivation of floodplains through breaching/removal of roads, etc.

Drafting of the Watershed Plan: In addition to compiling information collected from the pre-planning, mapping, modeling, and assessment work, DFW Watershed Interns will interview watershed group members and stakeholders to gain an idea of projects that would improve the watershed. SAWC will then advise on the creation of a project matrix that will outline and prioritize watershed restoration projects and actions, similar to what was done for the Klawock Sockeye Salmon Action plan ([link here](#)). A Watershed Advisory Group meeting will be held to review the project matrix and help prioritize interventions. If conflict exists between priorities, land use, or resource allocation, the Watershed Advisory Group will be relied upon to find a collaborative path forward.

The watershed planning process will generally follow the “Six Steps” suggested by the EPA, and the plan will be structured around EPA’s “9 key Elements” of a watershed plan. The plan will also integrate the methods/techniques developed by the Tongass National Forest, US Fish and Wildlife Service, and SAWC for watershed planning in the region.

Task C -Watershed Management Project Design: SAWC will prioritize watershed restoration projects and identify specific project locations by evaluating criteria such as project effectiveness, cost, feasibility, and risk. Projects will be outlined in the plan, compared to each other, prioritized, and timelines and metrics for implementation will be created based on feasibility and financial resources available. This information will be compiled into a project matrix that will outline and prioritize watershed restoration projects and actions, similar to the Klawock Sockeye Salmon Action plan ([link here](#)). SAWC anticipates that at least two projects will be brought to the design phase through this project:

- 1.) **Fish Habitat Restoration** - Complete site-specific project design, including a geomorphic assessment, for restoration of the Lower Nadzaheen Creek through large woody debris addition and riparian enhancement. Historically, Nadzaheen Creek had the largest number of returning salmon as compared to any stream on the island. A preliminary assessment of this important salmon stream showed that logging in the riparian area has impacted the stream. A geomorphic assessment is necessary to determine if large woody debris addition will have the desired result of restoring diverse fish habitat, as recommended by Hudson and Cadmus (2019). This project design will help SAWC and DFW prioritize the project amongst others suggested in the watershed restoration plan.
- 2.) **Riparian Forest Enhancement** - Existing and new information obtained during this project will be used to identify areas of young-growth riparian forest that can be enhanced to improve habitat and other ecosystem functions that benefit fish and wildlife. Enhancement plans will include site-specific thinning prescriptions designed to promote increased growth and vigor of remaining trees and recovery of understory plant communities that provide critical cover, nesting, and foraging habitat for wildlife. Plans will strike a balance between promoting conifer survival and growth to provide future large wood to stream channels and deciduous vegetation, including red alder, which enhance soil productivity and sustain terrestrial invertebrate communities that subsidize aquatic food webs that support fish production.

C-1. Project Implementation: SAWC’s Executive Director will be responsible for overall project management and directing the SAWC Restoration Biologist and Science Director. The SAWC Executive Director will coordinate activities with the MIC-DFW Biologist, whom will be responsible for coordinating MIC-DFW’s responsibilities in the project, including managing two Watershed Interns. Table 1 outlines the milestones for each Tasks and provides start dates, completion dates, and total task

costs. The below project timeline shows milestone completion over time and staffing responsibilities for each task are enumerated in the budget, including hours and staffing costs per task.

Table 1. Major Task, Milestones, Implementation Dates, and Costs.

Major Task	Milestones	Start Date	Completion Date	Task Cost
Task 1- Stakeholder engagement				
	Date and logistics for the listening session decided on.	10/01/2021	10/10/2021	\$5,504
	Outreach material developed and disseminated for stakeholder listening session.	10/01/2021	10/15/2021	
	Stakeholder listening session occurs.	10/15/2021	10/31/2021	
	Surveys and interviews with key stakeholders conducted.	10/15/2021	9/1/2022	
	Watershed Restoration Plan presented to community for feedback	02/01/2023	4/30/2023	
	Presentation to Watershed Advisory Group on the findings of the Watershed Restoration Plan and prioritization of projects.	09/01/2023	9/30/2023	
Task 1- Watershed Advisory Group	SAWC and DFW create draft vision statement for the watershed and goals and objectives for the Watershed Restoration Plan.	11/1/2021	11/15/2021	
	First meeting of the Watershed Advisory Group.	11/15/2021	12/30/2021	
	Watershed Advisory Group to approve mission, goals, and objectives.	11/1/2021	12/30/2021	
	Outline of restoration plan presented to Advisory Group and discussion of summer field season.	2/1/2022	5/31/2022	
	Meeting of Watershed Advisory Group to discuss priorities based on preliminary findings, identify subject areas where user conflict is an issue, and get feedback on project direction.	11/1/2022	11/30/2022	
	Preliminary draft of Watershed Restoration Plan sent to Watershed Advisory Group for feedback.	3/1/2023	4/30/2023	
	Presentation to Watershed Advisory Group, stakeholders, and public on the findings of the watershed restoration plan and prioritization of projects.	9/1/2023	9/30/2023	
Task 1- Pre-Planning Research	Literature research and identifying data gaps.	11/1/2021	2/28/2022	\$3,051
	Review of past watershed surveys and fisheries management plans.	11/1/2021	2/28/2022	
	Consult Bureau of Indian Affairs Forestry Department, USDA Natural Resources Conservation Service, and TNC Forester on pre-commercial, wildlife, and riparian forest thinning/treatment.	11/1/2021	2/28/2022	
Task 2- Mapping.	Areas important to harvest of fish and wildlife, including wetlands, streams, lakes, and other habitat types.	11/1/2021	2/28/2022	\$5,404

Existing data and geospatial information will be compiled to achieve these milestones:	Anadromous fish habitat, species of fish found in each stream reach, and natural fish pass barriers.	11/1/2021	2/28/2022	
	Historic timber harvest boundaries, dates of harvest, and dates/extent of pre-commercial thinning.	11/1/2021	2/28/2022	
	Areas considered within/outside of the allowable timber harvest boundary.	11/1/2021	2/28/2022	
	Sub-watersheds where water is abstracted for drinking water, hydropower, and hatchery use.	11/1/2021	2/28/2022	
	Community use areas, industrial areas, and community infrastructure.	11/1/2021	2/28/2022	
	Open and closed roads and manmade fish passage barriers.	11/1/2021	2/28/2022	
	Invasive species distribution and presence.	11/1/2021	2/28/2022	
Task 2 - Hydrological Modeling	Consult on hydrologic modeling with University of Alaska and SAWC Science Director.	11/1/2021	2/28/2022	\$6,031
	Instillation of stream temperature gauges.	5/1/2022	9/30/2021	
	Modeling of temperature and flow conducted.	9/1/2022	10/30/2022	
	Preliminary draft of Watershed Restoration Plan sent to Watershed Advisory Group for feedback.	3/1/2023	4/30/2023	
Task 2- Stream Habitat Assessment	Travel logistics, field protocols, data management plan, equipment plan, etc.	2/28/2022	5/30/2022	\$27,310
	MIC-DFW Watershed Interns hired.	2/28/2022	4/30/2022	
	Outline of restoration plan presented to Advisory Group and discussion of summer field season.	3/1/2022	5/15/2022	
	Tier I & II Stream Assessments conducted on anadromous streams.	5/15/2022	9/1/2022	
	Riparian Condition Assessment	5/15/2022	9/1/2022	
	Road condition, road crossing, and fish barrier surveys.	5/15/2022	9/1/2022	
	Instillation of stream temperature gauges.	5/15/2022	9/1/2022	
	Other field assessment as determined by pre-planning.	5/15/2022	9/1/2022	
Surveys and interviews with key stakeholders conducted.	5/15/2022	9/1/2022		
Task 2- Drafting Watershed Restoration Plan	Stream assessment data will be compared to values of other streams in Southeast Alaska through protocol developed by Tucker and Couette (2008)	9/1/2022	10/30/2022	\$14,789
	GIS layers created from road crossing surveys information. Prioritization based on upstream habitat, cost, and degree of fish passage barrier.	9/1/2022	10/30/2022	
	Forestry treatment options matched to stand units.	9/1/2022	10/30/2022	
	Modeling of temperature and flow conducted.	9/1/2022	10/30/2022	
	Writeup of results from field evaluations, recommendations for interventions.	12/1/2022	2/28/2023	
	Prioritization matrix for interventions/restoration projects.	2/15/2023	2/28/2023	
	Preliminary draft of Watershed Restoration Plan sent to Watershed Advisory Group for feedback.	3/1/2023	4/30/2023	
	Preliminary draft of Watershed Restoration Plan presented to stakeholders for feedback.	3/1/2023	4/30/2023	

	Presentation to Watershed Advisory Group, stakeholders, and public on the findings of the watershed restoration plan and prioritization of projects.	9/1/2023	9/30/2023	
	Watershed restoration plan finalized and published.	9/1/2023	9/30/2023	
Task 3- Restoration Design	Procurement for contract geomorphologist for restoration design work at Nadzaheen Creek.	3/1/2023	4/30/2023	\$19,609
	Field work and analysis for project design for Nadzaheen Creek restoration project completed.	5/1/2023	9/1/2023	

Project Timeline:

October 2021- *Project commences.*

- Date and logistics for the listening session decided on.
- Outreach material developed and disseminated for stakeholder listening session.
- Stakeholder listening session occurs.

November 2021 to December 2021- *Watershed Advisory group formed.*

- SAWC and DFW create draft vision statement for the watershed and goals and objectives for the watershed restoration plan.
- First meeting of the Watershed Advisory Group occurs.
- Watershed Advisory Group to approve mission, goals, and objectives.

November 2021 to Feb 2022. *Pre-Planning Research.*

- Literature research and identifying data gaps.
- GIS Mapping.
- Review of past watershed surveys and fisheries management plans, including Briggs’ “Annette Islands Stream Inventory-Potential Salmon Production Summary” (1983).
- Consult on hydrologic modeling with University of Alaska and SAWC Science Director.
- Consult Bureau of Indian Affairs Forestry Department, USDA Natural Resources Conservation Service, and The Nature Conservancy’s Forester on pre-commercial, wildlife, and riparian forest thinning/treatment.

February 2022 to May 2022. *Planning for field assessment.*

- Travel logistics, field protocols, data management plan, equipment plan, etc.
- MIC-DFW Watershed Interns hired.
- Outline of restoration plan presented to Advisory Group and discussion of summer field season.

May 2022 to August 2022: *Stream and Watershed Assessment.*

- Tier I & II stream assessments conducted on anadromous streams.
- Riparian condition assessment
- Road condition, road crossing, and fish barrier surveys.
- Instillation of stream temperature gauges.
- Other field assessment as determined by pre-planning.
- Surveys and interviews with key stakeholders conducted.

September 2022 to October 2022: *Data evaluation.*

- Stream assessment data will be compared to values of other streams in Southeast Alaska through protocol developed by Tucker and Couette (2008).

- GIS layers created from road crossing surveys information. Prioritization based on upstream habitat, cost, and degree of fish passage barrier.
- Forestry treatment options matched to stand units.
- Modeling of temperature and flow conducted.

November 2022: *Watershed Advisory Group Briefed on Preliminary findings.*

- Meeting of Watershed Advisory group to discuss priorities based on preliminary findings, identify subject areas where user conflict is an issue, and get community/stakeholder feedback on project direction.

December 2023 – February 2023: *Writeup of Results*

- Writeup of results from field evaluations, recommendations for interventions made.
- Prioritization matrix for interventions/restoration projects.

March 2023- April 2023:

- Preliminary draft of Watershed Restoration Plan sent to Watershed Advisory Group for feedback.
- Preliminary draft of Watershed Restoration Plan presented to stakeholders for feedback.
- Procurement for contract geomorphologist for restoration design work at Nadzaheen Creek.

May 2023-August 2023: *Nadzaheen Creek Project*

- Field work and analysis for project design for Nadzaheen Creek restoration project completed.

September 2023. *Watershed Restoration Plan finalized.*

- Presentation to Watershed Advisory Group, stakeholders, and public on the findings of the watershed restoration plan and prioritization of projects.
- Watershed restoration plan finalized and published.

C-2. Building on Relevant Federal, State, or Regional Planning Efforts.

- The project is consistent with the Southeast Alaska Watershed Coalitions strategic plan and regional watershed restoration goals and objectives.
- The project builds on the MIC-DFW mission and fishery management plans. Further, MIC is in the process of creating an “Integrated Resource Management Plan” for the community meant to integrate the economic, social, and environmental needs of the community. While considerably broader than this Watershed Restoration Plan, information gathered in the Watershed Restoration Plan will help inform the Integrated Resource Management Plan.
- The project aligns with the U.S. Fish and Wildlife Service’s goals and objectives for restoration and management of salmon habitat in Southeast Alaska by creating a watershed plan that can address forestry and road development impacts to anadromous salmon habitat. The USFWS has submitted a letter of support and it is attached in the “Letters of Support” section.
- The project is consistent with the conservation goals outlined in Southeast Alaska Fish Habitat Partnership’s (SEAKFHP) Strategic Action Plan and Freshwater Conservation Strategy, and a letter of support is included in the “Letters of Support” section. The SEAKFHP works to foster cooperative fish habitat conservation in freshwater and coastal ecosystems across the southern panhandle of Alaska and is a fully recognized partnership under the National Fish Habitat Partnership.

- The project will also fill important data gaps in region prioritization frameworks, including the Tongass National Forest Watershed Condition framework. Annette Island was not included in this regional evaluation because it is tribally owned and managed land.

D- Department of the Interior and Bureau of Reclamation Priorities

- A primary goal of this project is to utilize science to identify best practices to manage land and water resources to help improve watershed conditions and allow the community and managers to adapt to changes in the environment. For example, modeling of future stream flow and water temperature will allow managers to predict which salmon streams may be more resilient or vulnerable to drought and flooding. This information will allow managers to prioritize restoration projects and may influence harvest levels. Further, providing updated information on watershed conditions and possible restoration opportunities will allow managers to act in ways that can benefit the important salmon fishery, and information on forest conditions will help integrate stewardship into forestry practices.
- This project will help the DFW and SAWC foster relationships with conservation organizations with expertise in fostering balanced stewardship and natural resource management on public, tribal, and private lands. Through this project, SAWC will help MIC-DFW connect with resource and technical experts with the Southeast Alaska Fish Habitat Partnership, US Fish and Wildlife Service, and other organizations. As it is a sovereign nation with the authority to manage its fish and wildlife, resource professionals at DFW have fewer needs/opportunities to communicate with and collaborate with other agencies and organizations, and this project will provide an opportunity for exchange. Further, SAWC will benefit from the exchange by learning how MIC manages its natural resources. This will help SAWC when working with other tribes on watershed stewardship projects. There are over 10 Alaskan Native governments in Southeast Alaska, each with a different purview and range of interests and capacity. Being able to share lessons learned from how MIC manages its land will benefit other tribes in the region.
- Ensure energy is available to meet community and economic needs in Metlakatla, by helping managers understand watershed conditions, projected stream flow, and climatic changes.
- Refocus timber program to embrace the entire ‘healthy forests’ lifecycle by promoting riparian and forest enhancement, riparian setback standards, and forest stewardship.
- Restore trust within the local community and expand the lines of communication within the various divisions of the Metlakatla Indian Community by engaging all stakeholders into the Watershed Restoration Plan and using the Watershed Advisory Group as a tool to resolve conflict between interests. For example, riparian logging activities caused considerable controversy between fishery managers/fisherman and forestry workers. There is ongoing debate and conflict as to the impact these activities had on returning salmon. This restoration plan will analyze the current state of riparian forest conditions and provide opportunities to move past historic logging and towards future sustainable management.
- Understand ongoing drought by helping model future streamflow and stream temperatures so that the community can predict and adapt to changes. The Watershed Restoration Plan will also provide recommendations for restoration projects, such as riparian enhancement and addition of large woody debris, that can help build resilience to drought and flooding.

Project Budget.

Table 2. Total Project Costs.

Source	Amount
Costs to be reimbursed with the requested Federal Funding	\$99,978
Costs to be paid by the applicant	\$0
Value of third-party contributions	\$0
Total Project Cost	\$99,978

Table 3. Budget Proposal.

Budget Item Description	Computation		Quantity Type	Year 1 Total	Year 2 Total	Total Cost
	\$/Unit	Quantity				
Salaries and Wages	per hour	hours				
Executive Director & Principal Investigator, Rob Cadmus	35.58	275	Project management and coordination, field evaluation, restoration plan writing, reporting.	\$4,892	\$4,892	\$9,785
Restoration Biologist, John Hudson	33.65	275	Pre-planning and GIS mapping, field evaluation, restoration plan writing.	\$6,940	\$2,313	\$9,254
Science Director, Rebecca Bellmore	33.65	275	Pre-planning and GIS mapping, modeling of stream flow and temperature, restoration plan writing.	\$2,313	\$6,940	\$9,254
			<i>sub-total</i>	<i>\$14,146</i>	<i>\$14,146</i>	<i>\$28,292</i>
Fringe Benefits						
Executive Director & Project Manager, Rob Cadmus	6	275		\$825	\$825	\$1,650
Restoration Biologist, John Hudson	6	275		\$1,238	\$413	\$1,650
Science Director, Rebecca Bellmore	6	275		\$413	\$1,238	\$1,650
			<i>sub-total</i>	<i>\$2,475</i>	<i>\$2,475</i>	<i>\$4,950</i>
Travel						
Summer 2022 Field Assessment	2 people	2 weeks	Juneau to Metlakatla Airfare (\$520 per person); Ferry (\$40 per person); Lodging (\$120 per night per person for 9 nights);	\$4,280		\$4,280

			Per diem (\$50 per person per day for 10 days).			
Spring 2022 Watershed Advisory Group Meeting	1 person	3 days	Juneau to Metlakatla Airfare (\$520 per person); Ferry (\$40 per person); Lodging (\$120 per night per person for 2 nights); Per diem (\$50 per person per day for 3 days).	\$950		\$950
Summer 2023 Design of Nadzaheen Creek	2 people	4 days	Juneau to Metlakatla Airfare (\$520 per person); Ferry (\$40 per person); Lodging (\$120 per night per person for 4 nights); Per diem (\$50 per person per day for 4 days).		\$1,900	\$1,900
Fall 2023 Watershed Advisory Group Meeting	1 person	3 days	Juneau to Metlakatla Airfare (\$520 per person); Ferry (\$40 per person); Lodging (\$120 per night per person for 2 nights); Per diem (\$50 per person per day for 3 days).		\$950	\$950
Travel: Skiff use to reach field sites	320 miles	\$3 per mile		\$480	\$480	\$960
Rental Car	\$130 per day	5 days	Rental car for field assessment work	\$650		\$650
			<i>sub-total</i>	\$6,360	\$3,330	\$9,690
Supplies						
Printing	\$20 per copy	100 copies	Printing and publication of Watershed Restoration Plan		\$2,000	\$2,000
Field Supplies	100 per person	4 people	Field safety equipment (hard hat, vests, etc. \$50 per person); write in the rain data sheets (\$30 per person); tape and flagging (\$20 per person).	\$400		\$400
GPS	300	1	GPS for field work.	\$300		\$300
Camera	250	1	Waterproof camera for field work	\$250		\$250
Spot- Emergency Locator.	100	1	An emergency locator devise for remote field work.	\$100		\$100
			<i>sub-total</i>	\$1,050	\$2,000	\$3,050
Contractual						
Watershed Interns, MIC-DFW, Subcontract Agreement	2 interns	3 months	Two Watershed Interns for 3 months during Summer of 2022. \$16 per hour for 40 hours per week for 12 weeks. 20% Indirect.	\$16,589	\$1,843	\$18,432

Biologist, MIC-DFW, Subcontract Agreement	25 per hour	320 hours	MIC-DFW Biologist for 313 hours at \$26 per hour, 20% Indirect.	\$4,970	\$4,796	\$9,766
Geomorphic Assessment and Restoration design of Nadzaheen Creek project.			Consultant to be determined. Estimated at \$120 per hour for 125 hours.		\$15,000	\$15,000
Graphics Designer			Layout and design of Watershed Restoration Plan. \$50 per hour at 40 hours		\$2,000	\$2,000
			<i>sub-total</i>	\$21,559	\$23,639	\$45,198
Indirect Costs						
De Minimums	10%	\$87,982	Modified Direct Cost	\$4,399	\$4,399	\$8,798
			Total	\$49,989	\$49,989	\$99,978

Budget Narrative

Salary:

Executive Director & Principal Investigator, Rob Cadmus- The Executive Director is responsible for overall project management and coordination including reporting and grant management. The Executive Director will be involved in all aspects of the projects and tasks as outlined in the hourly breakdown in Table 4. \$35.58 for 275 hours= \$9,785.

Restoration Biologist, John Hudson- The Restoration Biologist will lead pre-planning research, assist with mapping, lead the stream habitat assessments, lead the drafting of the watershed plan, and assist with the design of the Nadzaheen restoration project. The hourly breakdown of these tasks is shown in Table 4. \$33.65 per hour for 275 hours = \$9,254.

Science Director, Rebecca Bellmore- The Science Director will lead mapping and hydrological modeling. The Science Director will assist with drafting of the watershed restoration plan. The hourly breakdown of these tasks is shown in Table 4. \$33.65 per hour for 275 hours = \$9,254.

Fringe:

Executive Director & Principal Investigator, Rob Cadmus- Healthcare and retirement stipend. Approximately \$6 per hour for 275 hours= \$1,650.

Restoration Biologist, John Hudson- Healthcare and retirement stipend. Approximately \$6 per hour for 275 hours= \$1,650.

Science Director, Rebecca Bellmore- Healthcare and retirement stipend. Approximately \$6 per hour for 275 hours= \$1,650.

Travel:

Summer 2022 Field Assessment- Task 2, Stream Habitat Assessment. SAWC Executive Director and Restoration Biologist will travel from Juneau to Metlakatla for two-week field assessment and to train the MIC Watershed Interns how to conduct the appropriate assessments/evaluations. Juneau to

Metlakatla Airfare (\$520 per person); ferry (\$40 per person); lodging (\$120 per night per person for 9 nights); Per diem (\$50 per person per day for 10 days).

Spring 2022 Watershed Advisory Group Meeting- Task 1- Stakeholder Engagement, Watershed Advisory Group, and Preplanning Research. SAWC Executive Director will travel from Juneau to Metlakatla to take part in the spring 2022 Watershed Advisory Group Meeting. Plans for field assessment for the watershed restoration plan will be discussed at these meetings, and it will be an opportunity for stakeholder engagement. SAWC's involvement in the Fall 2021 meetings of the Watershed Advisory Group will be virtual to reduce travel costs and because of the risk that the COVID-19 Pandemic may still be ongoing at this time. Juneau to Metlakatla Airfare (\$520); Ferry (\$40); Lodging (\$120 per night for 2 nights); Per diem (\$50 per day for 3 days)=\$950.

Summer 2023 Design of Nadzaheen Creek- Task 3- Restoration Project Design. SAWC Executive Director and Science Director will travel from Juneau to Metlakatla: Airfare (\$520 per person); Ferry (\$40 per person); Lodging (\$120 per night per person for 4 nights); Per diem (\$50 per person per day for 4 days) = \$1,900

Fall 2023 Watershed Advisory Group Meeting- Task 1- Watershed Advisory Group. SAWC Executive Director will travel from Juneau to Metlakatla Airfare (\$520 per person); Ferry (\$40); Lodging (\$120 per night for 2 nights); Per diem (\$50 per day for 3 days).

Skiff. Task 2, Stream Habitat Assessment. Use of MIC skiff to reach remote salmon streams for watershed assessment field work. This is necessary because logging roads on the west side of the island are not passable by vehicles. 320 miles at \$3 per day. \$480

Rental Car. Task 2, Stream Habitat Assessment. Rental car during summer 2022 field work for watershed restoration plan so that SAWC biologists can travel between assessment sites and the community of Metlakatla. Five days at \$130 per day = \$650.

Supplies:

Printing. Task 2-Drafting Watershed Restoration Plan. Printing costs for 100 hardcopies of the Watershed Restoration Plan at \$20 per copy. \$2,000

Field Supplies. Task 2, Stream Habitat Assessment. Field safety equipment, including hard hats, vests, etc. at \$50 per person for 4 people. Waterproof notebooks for field data collection (\$30 per person for 4 people). Tape and Flagging at \$20 per person for 4 people. \$400

GPS for documenting important sites during field survey work. Task 2, Stream Habitat Assessment. \$300.

Waterproof camera for documenting fish passage barriers and other field conditions during assessment. Task 2, Stream Habitat Assessment. \$250.

Spot emergency locator device, for safety during field work in remote locations. Task 2, Stream Habitat Assessment. \$100.

Contractual:

Watershed Interns, MIC-DFW, Subcontract Agreement. Subcontract agreement with MIC to host two Watershed Interns during the summer of 2022. Interns will be local college age students on summer break. Interns will interview important stakeholders, elders, and Watershed Advisory Group members on history and community use of the watershed. Interns will be trained by SAWC biologists to conduct

road-stream crossing surveys and stream assessments. Interns will assist with field assessment. Below chart shows hours per task for the two watershed interns. \$16 per hour for 40 hours per week for 12 weeks. MIC's 20% negotiated indirect cost rate agreement is attached. \$18,432.

Biologist, MIC-DFW, Subcontract Agreement. Subcontract agreement for a biologist with the Metlakatla Indian Community to organize stakeholder engagement and Watershed Advisory Group. MIC's biologist will be the direct supervisor of the Watershed Interns during the stream habitat assessments and the main point of contact with SAWC on pre-planning research and the drafting of the watershed restoration plans. Below chart shows hours per task for the MIC biologist. 313 hours at \$26 per hour. MIC's 20% negotiated indirect cost rate agreement is attached. \$9,766.

Geomorphic Assessment and Restoration design of Nadzaheen Creek project. Task 3- Restoration Design. Contract hydrologist and/or engineer from to be determined firm. Estimated at \$120 per hour for 125 hours.

Graphic Designer. Task 2-Drafting Watershed Restoration Plan. Layout and design of Watershed Restoration Plan. Estimated at \$50 per hour for 40 hours. \$2,000.

Indirect Costs.

De Minimis Rate (10%) of Modified direct costs of \$87,982. Modified direct costs includes only the first \$25,000 of subcontract agreements or contracts. \$8,798.

Table 4. Cost per Task and hours per staff per task.	SAWC Staff						MIC, Subcontract Agreement				Contractual			Travel	Supplies	Indirect	Total	
	PI/ Executive Director	Restoration Biologist	Science Director	Watershed Interns (2)	MIC Biologist		Contract Hydrologist		Graphic Designer									
					hrs	\$	hrs	\$	hrs	\$	hrs	\$						
Project Coordination	20	\$832																\$832
Task 1- Stakeholder engagement	10	\$416			200	\$3,840	40	\$1,248										\$5,504
Task 1- Watershed Advisory Group	10	\$416			200	\$3,840	40	\$1,248						\$1,900				\$7,404
Task 1- Preplanning Research	20	\$832	30	\$1,190			33	\$1,030										\$3,051
Task 2- Mapping	6	\$249	30	\$1,190	100	\$3,965												\$5,404
Task 2 - Hydrological Modeling	2	\$83		\$0	150	\$5,948												\$6,031
Task 2-Stream Habitat Assessment	80	\$3,326	80	\$3,172			100	\$3,120	560	\$10,752				\$5,890	\$1,050			\$27,310
Task 2- Drafting Watershed Restoration Plan	70	\$2,911	95	\$3,767	25	\$991					40	\$2,000			\$2,000			\$14,789
Task 3- Restoration Design	27	\$1,123	40	\$1,586		\$0					125	\$15,000		\$1,900				\$19,609
Project Reporting	30	\$1,247		\$0		\$0											\$8,798	\$10,046
Total Hours	275	\$11,435	275	\$10,904	275	\$10,904	960	\$18,432	313	\$9,766	125	\$15,000	40	\$2,000	\$3,050	\$8,798	\$99,978	

Environmental and Cultural Resources Compliance.

Will the proposed project impact the surrounding environment (e.g., soil [dust], air, water [quality and quantity], animal habitat)? Please briefly describe all earth-disturbing work and any work that will affect the air, water, or animal habitat in the project area. Please also explain the impacts of such work on the surrounding environment and any steps that could be taken to minimize the impacts.

- The project will not impact the surrounding environment. Field measurements will be taken on various watershed characteristics, but no impact will occur.

Are you aware of any species listed or proposed to be listed as a Federal threatened or endangered species, or designated critical habitat in the project area? If so, would they be affected by any activities associated with the proposed project?

- There are no listed species in the project area, and no species should be impacted by the development of this watershed plan.

Are there wetlands or other surface waters inside the project boundaries that potentially fall under CWA jurisdiction as “Waters of the United States”? If so, please describe and estimate any impacts the proposed project may have.

- There are numerous “waters of the US” in the project areas, but no activities will disturb these wetlands, lakes and streams.

When was the water delivery system constructed?

- NA

Will the proposed project result in any modification of or effects to, individual features of an irrigation system (e.g., headgates, canals, or flumes)? If so, state when those features were constructed and describe the nature and timing of any extensive alterations or modifications to those features completed previously.

- No-NA

Are any buildings, structures, or features in the irrigation district listed or eligible for listing on the National Register of Historic Places? A cultural resources specialist at your local Reclamation office or the State Historic Preservation Office can assist in answering this question.

- No- NA

Are there any known archeological sites in the proposed project area?

- There are culturally significant sites on Annette Island, but no activities will disturb these sites.

Will the proposed project have a disproportionately high and adverse effect on low income or minority populations?

- No

Will the proposed project limit access to, and ceremonial use of, Indian sacred sites or result in other impacts on tribal lands?

- No

Will the proposed project contribute to the introduction, continued existence, or spread of noxious weeds or non-native invasive species known to occur in the area?

- No

Required Permits or Approvals.

No permits or approvals are necessary for this project.

Letters of Project Support. *(Appendix)*

- Reginald M. Atkinson, Mayor, Metlakatla Indian Community
- Albert Smith, Chairman, Natural Resources Committee, Council, Annette Island Reserve
- Gavin Hudson, Field Representative, Metlakatla Field Office, Bureau of Indian Affairs
- Trent Leibich, Branch Chief, Habitat Restoration, Alaska Region, US Fish and Wildlife Service
- Deborah Hart, Coordinator, Southeast Alaska Fish Habitat Partnership

Official Resolutions. *(Appendix)*

- Southeast Alaska Watershed Coalition

Literature Cited.

- Beechie, T. , Imaki, H. , Greene, J. , Wade, A. , Wu, H. , Pess, G. , Roni, P. , Kimball, J. , Stanford, J. , Kiffney, P. and Mantua, N. (2013),** Restoring Salmon Habitat for a Changing Climate. *River Res. Applic.*, 29: 939-960. doi:[10.1002/rra.2590](https://doi.org/10.1002/rra.2590)
- Briggs, E. 1982.** Annette Islands Stream Inventory-Potential Salmon Production Summary. Prepared for the Metlakatla Indian Community.
- Bryant, M. D. 2009.** Global climate change and potential effects on Pacific salmonids in freshwater ecosystems of southeast Alaska. *Climate Change* 95: 169-193.
- Hudson, J., and Cadmus, R. 2019.** A preliminary assessment of lower Nadzaheen Creek. Prepared for the Metlakatla Indian Community Department of Fish and Wildlife.
- Metlakatla Indian Community. 2020.** 2020 Salmon Fishery Management Plan. Prepared by the Department of Fish and Wildlife.
- Sloat, M. R., Reeves, G. H. and Christiansen, K. R. (2017),** Stream network geomorphology mediates predicted vulnerability of anadromous fish habitat to hydrologic change in southeast Alaska. *Glob Change Biol*, 23: 604-620. doi:[10.1111/gcb.13466](https://doi.org/10.1111/gcb.13466)
- Tucker, E., and Caouette, J. 2008.** Statistical Analyses of Aquatic Habitat Variables in the Tongass National Forest. Draft to Press, USDA Forest Service and The Nature Conservancy.

COUNCIL ANNETTE ISLANDS RESERVE

METLAKATLA INDIAN COMMUNITY

REGINALD M. ATKINSON, MAYOR
JUDITH A. EATON, SECRETARY
NATHAN FAWCETT, TREASURER

ESTABLISHED 1887

POST OFFICE BOX 8
METLAKATLA, ALASKA 99926
PHONE (907) 886-4441
FAX (907) 886-7997

January 11, 2021

Review Committee
WaterSMART Cooperative Watershed Management Grants Program
Bureau of Reclamation
Post Office Box 25007
Denver, Colorado 80225

RE: Letter of Support and Partnership Authorization, Southeast Alaska Watershed Coalition

Dear Review Committee:

I offer my sincere endorsement of, and support for, the Southeast Alaska Watershed Coalition's (SAWC) application to the Bureau of Reclamation's (BOR) WaterSMART Program, which is entitled "A Watershed Restoration Plan for the Metlakatla Watershed, Annette Islands Reserve, Southeast Alaska." The Council, Annette Islands Reserve, has adopted ambitious goals in an effort to balance the Community's economic needs with the importance of strong stewardship of the Reserve's natural resources. This proposal, if funded, would be enormously helpful in the effort to achieve those goals.

The Metlakatla Indian Community (MIC), the only community on the Annette Islands Reserve, is located in southern Southeast Alaska. It is the only Indian reserve in the State of Alaska. Consistent with its centuries-old fishing culture, Metlakatla's economy is almost entirely dependent on commercial fishing. In addition to conducting the largest tribal-managed commercial salmon fishery in the nation, MIC also manages commercial fisheries for halibut, sea cucumber, geoduck, and, when market conditions are favorable, herring. However, Metlakatlans also rely on a subsistence lifestyle, both to sustain our families, as well as a major component of our culture.

Because of Metlakatla's dependence on its commercial salmon fishery, the most valuable of the Community's fisheries, preserving high quality spawning habitat is a priority. However, past timber harvesting, roadbuilding, and other developmental activities, have adversely impacted important salmon habitat and adjacent riparian areas. Furthermore, climate change impacts, as well as the reliance on water for power, municipal uses, and an economically-important salmon hatchery, have led to water shortages and increased instream water temperatures. In fact, conditions have declined to the point where some of the Reserve's most productive streams have seen massive salmon die-offs in recent years. The decline in the overall quality of the Reserve's salmon habitat has added a sense of urgency to the need to adopt an aggressive, but effective, restoration and mitigation strategy.

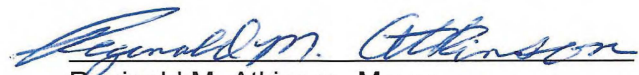
To that end, the SAWC and the MIC Department of Fish and Wildlife (DFW) will engage a diverse group of stakeholders, officials, and Community members, to form the Metlakatla Watershed Advisory Group. This group, aided by the SAWC and DFW, will develop both a watershed restoration plan. In addition, this collaborative effort will yield design plans for restoration of important fish habitat and riparian areas.

If funded, the MIC DFW is authorized to enter into a partnership (contract or sub-grant agreement) with the SAWC to achieve the aforementioned project goals. Furthermore, MIC commits to fulfilling obligations that arise from the receipt of funds awarded by the BOR WaterSMART program. Finally, MIC will work with SAWC, as well as BOR, to meet all deadlines connected with the receipt of funds associated with SAWC's application.

Please accept my sincere thanks, in advance, for your consideration of SAWC's application for BOR's WaterSMART Program funding.

Sincerely,

Metlakatla Indian Community


Reginald M. Atkinson, Mayor

January 13, 2021

Review Committee
WaterSMART Cooperative Watershed Management Grants Program
Bureau of Reclamation
P.O. Box 25007
Denver, CO 80225

Re: Letter of Support and Partnership Authorization, Southeast Alaska Watershed Coalition

Dear Review Committee,

I offer my support for the Southeast Alaska Watershed Coalition's (SAWC) application to the Bureau of Reclamation's WaterSMART Program titled: "A Watershed Restoration Plan for the Metlakatla Watershed, Annette Islands Reservation, Southeast Alaska." MIC's Department of Fish and Wildlife (MIC-DFW) has helped draft and review this application. If awarded, funding from this proposal would be used to establish a local watershed restoration committee, contract professional help with habitat survey and assessment, and support actions to mitigate and even reverse the historical impacts of poor logging practices on Annette Island's watersheds.

The Metlakatla Indian Community (MIC) is located on Annette Island in Southeast Alaska and is the only Native American reserve in the State. The livelihoods of the indigenous people who call the Reserve home rely heavily on culturally-significant subsistence resources. The only industry available in MIC is commercial fishing, and as a result, the majority of families in the Community rely on income earned from fishing to support themselves financially. This is why MIC runs the largest tribally-managed fishery in the United States, relying heavily on consistent salmon returns to ensure these critical fisheries continue to sustain the people of the Community. The commercial salmon fisheries around Annette Island Reserve (AIR) are some of the most lucrative, but also some of the most vulnerable to the impacts of climate change and anthropogenic effects due to the specific habitat needs of these anadromous fish species. The local hatchery, Tamgas Creek Hatchery (TCH) was founded as a way of ensuring Community fishers would still have guaranteed access to salmon to support the Community's commercial fishing industry. Due to the interconnected nature of Annette Island's freshwater bodies, it has become apparent that further action, apart from continued maintenance and management of salmon stocks through the Hatchery, should be taken to identify and address problems affecting freshwater salmon habitats in AIR. This proposal would support and provide assistance, knowledge, and planning that will help us to balance the economic needs of the Community with stewardship of our natural resources and management of these culturally and economically important salmon fisheries.

Past timber harvesting, road construction, and development in the watershed have impacted salmon habitat and riparian areas. Further, a changing climate and water abstraction for power, municipal, and salmon hatchery use have resulted in crucial aquatic habitats suffering from water shortages and temperatures that are dangerous to fish. The SAWC and MIC-DFW will engage a

diverse group of stakeholders, officials, and Community members to establish the Metlakatla Watershed Advisory Group, develop a restoration plan for this watershed, and complete design plans for enhancement of important fish habitat and riparian areas in AIR.

I am confident that, if funded, the Tribe will see the Watershed Restoration project through to completion. MIC will work with SAWC and the Bureau of Reclamation to meet established deadlines for entering a grant, contract, or cooperative agreement.

I would like to thank you for your sincere consideration of this proposal. We hope for your acceptance and support.

Sincerely,



Albert Smith
Chairman, Natural Resource Committee
Council, Annette Islands Reserve



United States Department of the Interior

BUREAU OF INDIAN AFFAIRS

Metlakatla Field Station

P.O. Box 450

Metlakatla, AK 99926

Review Committee

WaterSMART Cooperative Watershed Management Grants Program

Bureau of Reclamation

P.O. Box 25007

Denver, CO 80225

Re: Letter of Support and Partnership Authorization, Southeast Alaska Watershed Coalition

Dear Review Committee,

I offer my support for the Southeast Alaska Watershed Coalition's (SAWC) application to the Bureau of Reclamation's (BOR) WaterSMART Program, which is entitled "*A Watershed Restoration Plan for Metlakatla Watershed, Annette Islands Reserve, Southeast Alaska*". The Metlakatla Department of Fish and Wildlife (MIC-DFW) has partnered with the Council, Annette Islands Reserve, to create a plan that will address problems facing local watersheds. If funded, this project would assist with efforts to establish a watershed restoration committee and carry out a plan to combat and reverse the accumulated impacts of climate change and negative historical development on critical salmon freshwater habitat. This fits within a larger context of the tribal Council's multi-pronged goal to restore vitality to its natural and economic systems, both of which are dependent on and driven by healthy salmon runs.

The Metlakatla Indian Community (MIC), a federally recognized tribe with which my office works very closely, is located on the Annette Islands Reserve (AIR) in the southernmost portion of Southeast Alaska. It is the only tribal Reserve in the State, and as a result, the history and culture of the people who call the Reserve home is truly unique. Members of the Community continue to subsist on traditional resources from the land and sea as they have for thousands of years, demonstrating the importance of stewardship of resources and recognition of their interconnected nature. Furthermore, the only industry for AIR is commercial fishing, which provides economic support for the entire Community. As long-term stewards of the land, the indigenous members of the Community understand the connection between watershed health and the availability of various subsistence and commercial harvest species such as salmon, and even terrestrial fauna such as deer. Creating a watershed restoration committee and carrying out a plan to restore the health of freshwater habitats in AIR would greatly benefit the livelihoods of Community members, allowing for continued subsistence resource availability and economic opportunities.

Historic timber harvest and land development have led to problems with critical salmon habitat health and suitability. Further, impacts related to climate change and drought have decreased water availability on the Reserve, causing the Community to suffer water shortages and stream conditions which are dangerous to fish such as higher temperatures. SAWC and MIC-DFW plan to engage a diverse group of local representatives and professionals to establish the Metlakatla Watershed Advisory Group, develop a restoration plan for this watershed, and complete design plans for enhancement of important fish habitat and freshwater areas in the Annette Islands Reserve.

Further, the MIC Department of Fish and Wildlife is authorized to enter a partnership (contract or subgrant agreement) with the SAWC for this Bureau of Reclamation project and commits to the obligations

associated with receipt of funding from the WaterSMART program. MIC will work with SAWC and the Bureau of Reclamation to meet established deadlines for entering this partnership.

I would like to thank you for your time and consideration of this proposal. If funded, this project will further the Community's goal of achieving watershed restoration and, once restored, responsible management.

Sincerely,

Gavin Hudson
Field Representative
Metlakatla Field Office



United States Department of the Interior

U.S. FISH AND WILDLIFE SERVICE
Anchorage Fish and Wildlife Conservation Office
4700 BLM Road
Anchorage, Alaska 99507



In Reply Refer to:
FWS/IR11/AFWCO

January 7, 2021

Review Committee
Bureau of Reclamation
WaterSMART Cooperative Watershed Management Grants Program
P.O. Box 25007
Denver, Colorado 80225

Re: Letter of Support, Southeast Alaska Watershed Coalition

Dear Review Committee:

I am writing to express support for the Southeast Alaska Watershed Coalition's (SAWC) proposal to the WaterSMART Cooperative Watershed Management Grants Program titled, "A Watershed Restoration Plan for the Metlakatla Watershed, Annette Islands Reservation, Southeast Alaska."

Through the proposed project, SAWC and the Metlakatla Indian Community-Department of Fish and Wildlife (MIC-DFW) will establish the Metlakatla Watershed Advisory Group for the Annette Islands area of Southeast Alaska, develop a restoration plan for this watershed, and complete design plans for restoration of in-stream fish habitat and riparian areas at Nadzaheen Creek. The project aligns with the U.S. Fish and Wildlife Service's (Service) goals and objectives for restoration and management of salmon habitat in Southeast Alaska. Furthermore, this proposal builds off a preliminary assessment of Nadzaheen Creek, Metlakatla Watershed, which the Service Coastal Program supported through technical advice and a cooperative agreement with SAWC.

The Service commits to providing technical advice to SAWC and MIC-DFW on their watershed assessment priorities and techniques by participating in the Watershed Advisory Group meetings, as well as reviewing the watershed restoration plan to help prioritize interventions based on sound science and expected results.

We appreciate your consideration of this proposal and look forward to working with proposal partners on this project. Thank you for your leadership and vision in helping provide important resources to steward salmon and their habitat in Southeast Alaska.

If you have any questions or need more information regarding support of this project, please feel free to contact me directly at 907-271-1798, or via electronic mail at trent_liebich@fws.gov

Sincerely,

Trent Liebich
Branch Chief, Habitat Restoration



Southeast Alaska Fish Habitat Partnership

coordinator@sealaskafishhabitat.org

(907) 723-0258

www.seakfhp.org

Review Committee
WaterSMART Cooperative Watershed Management Grants Program
Bureau of Reclamation
P.O. Box 25007
Denver, CO 80225
Re: Letter of Support, Southeast Alaska Watershed Coalition

1/13/2021

Dear Review Committee,

I am writing to support the Southeast Alaska Watershed Coalition's (SAWC) proposal to the WaterSMART Cooperative Watershed Management Grants Program titled, "A Watershed Restoration Plan for the Metlakatla Watershed, Annette Islands Reservation, Southeast Alaska."

The Southeast Alaska Fish Habitat Partnership (SEAKFHP) works to foster cooperative fish habitat conservation in freshwater and coastal ecosystems across the southern panhandle of Alaska and is a fully recognized partnership under the National Fish Habitat Partnership. Critical to our success is connecting key partners and providing information needed to make sound decisions about management and conservation of our region's aquatic resources and habitats. Additionally, our partnership works to address threats impacting fish habitats and has a strong interest in building resiliency across the region to support overall productivity and health of fish in this unique part of Alaska. SAWC is a steering committee member of SEAKFHP.

The Metlakatla Indian Community (MIC) approached SEAKFHP for assistance in evaluating fish habitat conditions at the Nadzaheen Creek, Metlakatla Watershed, and as a result, SAWC conducted a preliminary assessment of habitat condition at Nadzaheen. This proposal would build off this initial assessment by creating a watershed advisory group and a restoration plan for the Metlakatla Watershed. Past timber harvesting, road building, and development in the watershed have left degraded salmon habitat and riparian areas that are impacting commercial and subsistence harvest of salmon. Further, a changing climate and water abstraction for power, municipal use, and salmon hatchery use have resulted in this historically wet area suffering from water shortages and water temperatures that are dangerous to fish.

The project is consistent with the conservation goals outlined in SEAKFHP's Strategic Action Plan and Freshwater Conservation Strategy. SEAKFHP's Science and Data Committee is committed to support efforts identified in this proposal and will be available to foster information sharing and training needs to improve local stewardship capacity. SEAKFHP members have technical expertise in a wide range of natural resource management techniques and practices, and our members will be a valuable resource for SAWC and MIC when developing the watershed restoration plan.

We appreciate your consideration of this proposal and look forward to working with proposal partners on this project. Thank you for your leadership and vision in helping provide important financial resources to steward salmon and their habitat in Southeast Alaska. If you have any questions regarding support of this project, please contact me directly at coordinator@sealaskafishhabitat.org, phone 723-0258.

Sincerely,

A handwritten signature in black ink that reads "Deborah A. Hart".

Deborah Hart, Coordinator
Southeast Alaska Fish Habitat Partnership

Partners sharing a common vision to ensure healthy, thriving habitats that support robust fish populations in Southeast Alaska



Passed Unanimously on January 13, 2021

**Southwest Alaska Watershed Coalition Board of Directors Resolution:
Support for the Metlakatla Watershed Advisory Group and Restoration Plan.**

Whereas, the Southeast Alaska Watershed Coalition (SAWC) fosters partnerships and inspires Southeast Alaskans to steward our watersheds and support communities through participatory projects, research, and learning. SAWC supports collaborative watershed planning and restoration in partnership with tribes, municipalities, agencies, and inclusive involvement of stakeholder groups.

Whereas, the Metlakatla Indian Community (MIC) and Tribal Council is the federally recognized tribal government of the Annette Islands Reservation, which is within the Metlakatla Watershed. The Metlakatla Watershed is home to five species of Pacific Salmon, with four species of salmon spawning in the Annette Islands Reserve (AIR), the only Indian Reservation in the State of Alaska. Salmon are integral to the culture and economy of the Tsimshian people that call this watershed home. Past timber harvesting, road building, and development in the watershed have left degraded salmon habitat and riparian areas that are impacting commercial and subsistence harvest of salmon. Further, a changing climate and water abstraction for power, municipal use, and salmon hatchery use have resulted in this historically wet area suffering from water shortages and water temperatures that are dangerous to fish.

Whereas, the Bureau of Reclamation supports cooperative watershed management, including the development of watershed groups, restoration planning, and restoration design, through their WaterSMART Phase I Grants (FOA: BOR-DO-21-F003).

Whereas, SAWC and MIC's Community-Department of Fish and Wildlife are collaboratively working together to establish the Metlakatla Watershed Advisory Group for the Annette Islands area of Southeast Alaska, develop a restoration plan for this watershed, and complete design plans for restoration of in-stream fish habitat and riparian areas at Nadzaheen Creek. The SAWC Board of Directors has reviewed and supports the Metlakatla Watershed project proposal for the Bureau of Reclamation WaterSMART program;

Now, therefore, be it resolved the Board of Directors of the SAWC authorizes Rob Cadmus, Executive Director of SAWC, the authority to enter into an agreement with MIC and Bureau of Reclamation related to financial assistance from the WaterSMART program, and if selected for financial assistance, commit SAWC to the financial and legal obligations associated with receipt of a financial assistance under FOA: BOR-DO-21-F003. If the project is selected by Reclamation, Mr. Cadmus will work with Reclamation to meet established deadlines for entering into a grant or cooperative agreement.

The staff of SAWC are directed to help strengthen watershed stewardship, community involvement, and collaborative watershed planning/restoration through this project.

-Ben Kirkpatrick, Board President
-Steve McCurdy, Vice President
-Malena Marvin, Secretary
-Chris Mead, Member

**Indian Organizations
Indirect Cost Negotiation Agreement**

EIN: 92-0014579

Organization:

Metlakatla Indian Community
P.O. Box 8
Metlakatla, AK 99926-0008

Date: October 8, 2019

Report No (s) .: 20-A-0044 (FY19C)
20-A-0045 (FY20C)

Filing Ref.:

Last Negotiation Agreement
dated August 9, 2018

The indirect cost rate contained herein is for use on grants, contracts, and other agreements with the Federal Government to which Public Law 93-638 and 2 CFR Part 200 apply for fiscal years beginning on or after December 26, 2014 subject to the limitations contained in 25 CFR 900 and Section II.A. of this agreement. Applicable OMB Circulars and the regulations at 2 CFR 225 will continue to apply to federal funds awarded prior to December 26, 2014. The rate was negotiated by the U.S. Department of the Interior, Interior Business Center, and the subject organization in accordance with the authority contained in applicable regulations.

Section I: Rate

Type	Effective Period		Rate*	Locations	Applicable To
	From	To			
Fixed Carryforward	10/01/18	09/30/19	20.39%	All	All Programs
Fixed Carryforward	10/01/19	09/30/20	20.94%	All	All Programs

***Base:** Total direct costs, less capital expenditures and passthrough funds. Passthrough funds are normally defined as payments to participants, stipends to eligible recipients, or subawards, all of which normally require minimal administrative effort.

Treatment of fringe benefits: Fringe benefits applicable to direct salaries and wages are treated as direct costs; fringe benefits applicable to indirect salaries and wages are treated as indirect costs.

Section II: General

Page 1 of 3

A. Limitations: Use of the rate(s) contained in this agreement is subject to any applicable statutory limitations. Acceptance of the rate(s) agreed to herein is predicated upon these conditions: (1) no costs other than those incurred by the subject organization were included in its indirect cost rate proposal, (2) all such costs are the legal obligations of the grantee/contractor, (3) similar types of costs have been accorded consistent treatment, and (4) the same costs that have been treated as indirect costs have not been claimed as direct costs (for example, supplies can be charged directly to a program or activity as long as these costs are not part of the supply costs included in the indirect cost pool for central administration).

B. Audit: All costs (direct and indirect, federal and non-federal) are subject to audit. Adjustments to amounts resulting from audit of the cost allocation plan or indirect cost rate proposal upon which the negotiation of this agreement was based will be compensated for in a subsequent negotiation.

C. Changes: The rate(s) contained in this agreement are based on the accounting system in effect at the time the proposal was submitted. Changes in the method of accounting for costs that affect the amount of reimbursement resulting from use of the rate(s) in this agreement, may require the prior approval of the cognizant agency. Failure to obtain such approval may result in subsequent audit disallowance.

D. Rate Type:

1. **Fixed Carryforward Rate:** The fixed carryforward rate is based on an estimate of costs that will be incurred during the period for which the rate applies. When the actual costs for such period have been determined, an adjustment will be made to the rate for a future period, if necessary, to compensate for the difference between the costs used to establish the fixed rate and the actual costs.

2. **Provisional/Final Rate:** Within six (6) months after year end, a final indirect cost rate proposal must be submitted based on actual costs. Billings and charges to contracts and grants must be adjusted if the final rate varies from the provisional rate. If the final rate is greater than the provisional rate and there are no funds available to cover the additional indirect costs, the organization may not recover all indirect costs. Conversely, if the final rate is less than the provisional rate, the organization will be required to pay back the difference to the funding agency.

3. **Predetermined Rate:** A predetermined rate is an indirect cost rate applicable to a specified current or future period, usually the organization's fiscal year. The rate is based on an estimate of the costs to be incurred during the period. A predetermined rate is not subject to adjustment. (Because of legal constraints, predetermined rates are not permitted for Federal contracts; they may, however, be used for grants or cooperative agreements.)

E. Rate Extension: Only final and predetermined rates may be eligible for consideration of rate extensions. Requests for rate extensions of a current rate will be reviewed on a case-by-case basis. If an extension is granted, the non-Federal entity may not request a rate review until the extension period ends. In the last year of a rate extension period, the non-Federal entity must submit a new rate proposal for the next fiscal period.

F. Agency Notification: Copies of this document may be provided to other federal offices as a means of notifying them of the agreement contained herein.

G. Record Keeping: Organizations must maintain accounting records that demonstrate that each type of cost has been treated consistently either as a direct cost or an indirect cost. Records pertaining to the costs of program administration, such as salaries, travel, and related costs, should be kept on an annual basis.

H. Reimbursement Ceilings: Grantee/contractor program agreements providing for ceilings on indirect cost rates or reimbursement amounts are subject to the ceilings stipulated in the contract or grant agreements. If the ceiling rate is higher than the negotiated rate in Section I of this agreement, the negotiated rate will be used to determine the maximum allowable indirect cost.

I. Use of Other Rates: If any federal programs are reimbursing indirect costs to this grantee/contractor by a measure other than the approved rate(s) in this agreement, the grantee/contractor should credit such costs to the affected programs, and the approved rate(s) should be used to identify the maximum amount of indirect cost allocable to these programs.

J. Other:

1. The purpose of an indirect cost rate is to facilitate the allocation and billing of indirect costs. Approval of the indirect cost rate does not mean that an organization can recover more than the actual costs of a particular program or activity.

2. Programs received or initiated by the organization subsequent to the negotiation of this agreement are subject to the approved indirect cost rate(s) if the programs receive administrative support from the indirect cost pool. It should be noted that this could result in an adjustment to a future rate.

3. Each Indian tribal government desiring reimbursement of indirect costs must submit its indirect cost proposal to our office within six (6) months after the close of the Tribe's fiscal year, unless an exception is approved.

Section III: Acceptance

Listed below are the signatures of acceptance for this agreement:

By the Indian Organization:

By the Cognizant Federal Government Agency:

Metlakatla Indian Community
Tribal Government Agency

U.S. Department of the Interior
Interior Business Center

Karl S. Gost /s/

_____/s/

Signature
Name (Type or Print)

Signature
Name

Mayor

Division Chief
Indirect Cost Services Division

Title

Title

10-8-19

Negotiated by Elena Chan
Telephone (916) 930-3824

Date