

# NORTON BAY WATERSHED RESTORATION PLAN



*Photo Credit: Leigh Takak*

**Applicant:** Norton Bay Inter-Tribal Watershed Council  
**Applicant Address:** IRA Council Complex, Suite 1 /Elim, AK 99739

**Project Manager:**  
**Address:**  
**Email:**  
**Phone Number:**

**Submission Date:** March 30, 2022

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## **NOFO No. R22AS00163: Sections D & E. Application and Submission Information**

### **1. TECHNICAL PROPOSAL AND EVALUATION CRITERIA**

#### **1.1 Executive Summary**

**Date:** March 31, 2022

**Applicant Name:** Norton Bay Inter-Tribal Watershed Council (NBITWC)

**City:** Elim

**County:** Bering Strait School District (there is no County or Borough)

**State:** Alaska.

**Project Summary:** The Norton Bay Watershed is located in the Bering Sea area of Alaska. The Inupiat and Central Yupik communities located within the Watershed rely on a subsistence economy, as they have since time immemorial. In recent years, changes caused by a warming climate are impacting the subsistence resources these communities rely upon, including diminishing sea ice in the Bering Strait and increased freshwater temperatures at a rate no one thought possible a decade ago. NBITWC will engage a diverse group of stakeholders located within or having a land ownership or interests within the Watershed, including Federally recognized Tribal entities, U.S. Bureau of Land Management (BLM), National Park Service (NPS), Alaska villages and regional Native corporations, non-profit entities, Alaska Department of Natural Resources (ADNR), Alaska Department of Fish and Game (ADF&G), and other tribal, conservation and non-governmental organizations (NGOs), to completing a watershed restoration plan (Plan). The process for developing the Plan will include: 1) Conducting water quality and quantity studies needed to provide baseline information about the watershed; 2) Conducting mapping and other technical analyses, including obtaining data, performing modeling, and developing goals and benchmarks for the restoration plan; 3) Obtaining project management services or software technology required to formulate the Plan; 4) Interviewing watershed group members and stakeholders to gain an idea of projects that would improve the Watershed; 5) Working with watershed group members, landowners, Federal agencies, and state and local governments to determine how the watershed can be improved; 6) Reviewing watershed-specific best management practices established by Federal, state, and local government agencies; 7) Performing an analysis of the watershed to identify and prioritize watershed management projects including creating a matrix within the watershed restoration plan that outlines and prioritizes watershed management projects.

**Estimated Project Length:** 2 years.

**Estimated Completion Date:** February 29, 2025.

**Federal Facility or Federal Land Involved:** The planning effort will involve lands of the Bureau of Land Management (BLM) within the Bering Sea Western Interior and the Kobuk-Seward planning areas that are located within the Watershed.

## 1.2 Project Location

The 12,000-acre Watershed is located in Alaska's Bering Strait School District, approximately 90 miles Southeast of Nome and encompasses the villages of Elim, Koyuk, Unalakleet, Shaktoolik, Golovin, Stebbins and St. Michael. (See, Map 2). The group will work in the U.S. Geological Survey (USGS) Hydrologic Unit Codes (HUC): Norton Bay Watershed HUC ID #: 19050103.

## 1.3 Technical Project Description

### 1.3.1 Applicant Category

The NBITWC is applying as an Existing Watershed group. NBITWC, an Alaska Native non-profit organization, was founded in 2013 for the specific purpose of addressing protection of subsistence resources and advocating for tribal self-governance within the Watershed. As one of the first climate adaptation initiatives for the Bering Sea region, the NBITWC Resiliency Adaptation program provided a road map to other Alaska communities related to resiliency adaptation planning. The process included the completion of the *Climate Adaptation and Action Plan for the Norton Bay Watershed, Alaska (Plan)*. In 2016, as part of the Plan's implementation, a virtual climate training program, *Norton Sound Climate Change Adaptation Training (NSCCAT)*, was developed and conducted. This work was followed in 2017-2018 by the *Local Climate Change Adaptation Planning Project* that went on to translate planning to the local village level. Each phase focused on trainings and assisting the villages in the North Bering Sea Region (NBSR) to develop local resiliency adaptation plans and seek funding to address protection of human health, welfare, and infrastructure from natural hazards.

Under the Bureau of Indian Affairs Tribal Resilience Program, NBITWC continued to prioritize its tribal resilience planning program within the Watershed by applying the North American Marine Protected Area Rapid Vulnerability Assessment Tool (MPARVAT).<sup>1</sup> The tool was created by the Council on Environmental Cooperation's 2015-2016 Marine Protected Areas: Strengthening Management Effectiveness and Supporting Coastal Community Resilience project. NBITWC used this tool to assess risks and develop resilience solutions for oceans and coastal areas of Norton Bay Watershed and to draft a Norton Bay Watershed Ocean and Coastal Management Plan (NBWOCMP).<sup>2</sup> During this process, NBITWC applied conventional data, Traditional Ecological Knowledge (TEK), and other information to build on the MPARVAT model to create a comprehensive Norton Bay NBWOCMP addressing resilience for marine habitat and the health and welfare of local communities.

### 1.3.2 Eligibility of Applicant

Applicant is a non-profit 501(c)(3) tribal organization that is:

- a) Significantly affected or will be affected by the quality or quantity of water in a watershed;
- b) Capable of promoting the sustainable use of water resources;
- c) Is located in Alaska; and
- d) An Existing Watershed Group, (i.e., a grassroots, non-regulatory legal entity that otherwise meets the definition of a watershed group).

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<sup>1</sup>North American Marine Protected Area Rapid Vulnerability Assessment Tool - [www.cec.org/our-work/ecosystems](http://www.cec.org/our-work/ecosystems)

<sup>2</sup> NBWOCMP: <https://www.nortonbaywatershed.org/norton-bay-watershed-ocean-and-coastal-management-plan/>

### 1.3.3 Goals

The **goals** of the Norton Bay Inter-Tribal Watershed Council are to:

- a) Develop a Watershed restoration that identifies watershed-specific best management practices established by Federal, state, and local governments to address current degraded water quality resulting in impacts to fishery habitat including die-off occurring during the summer season due to the effects of climate change;
- b) Outreach to and partnership with a diverse array of stakeholders from Federal, State and Tribal entities, private industry, environmental NGOs, universities, and local governments in order to broaden engagement with and representation by NBITWC and participation in drafting the Plan;
- c) Build necessary organizational capacity to accommodate developing the Plan and Outreach necessary to partner with a diverse array of stakeholders; and
- d) Apply the Norton Bay Climate Change Restoration Plan (Restoration Plan) and Norton Bay Watershed Ocean and Coastal Management plan (NBWOCMP) to work together with stakeholders to apply NBITWC's existing watershed planning in order to implement quantifiable, locally based watershed protection that also addresses climate-related impacts within the Watershed.

### 1.3.4 Approach

**NBITWC will address the following Task Areas:**

**Task B: Watershed Restoration Planning:** Activities include, but not limited to, are:

- a) We will complete a watershed restoration plan that identifies watershed-specific best management practices established by Federal, state, and local governments to address current



**Discharge Data Monitoring -  
Tubutulik River, AK  
Photo Credit: Kenny Takak**

high temperatures, low dissolved oxygen, increased stream bank erosion and other degraded water quality resulting in impacts to fishery habitat including fish die-offs occurring primarily during the summer season. The Plan will include a process for applying modeling and data collected to assist policy makers, land managers and tribes in mitigating land uses that may exacerbate climate-related impacts to the Watershed.

As part of developing the Plan we will conduct the water quality or quantity studies needed to provide baseline information about the watershed including analysis to identify and prioritize watershed management projects for: 1) Drought and temperature forecasting; 2) Prediction instream flows and water temperature models; and 3) Instream flow, temperature and Dissolved Oxygen (DO) data including the mapping of critical summer thermal refuge salmon habitat.

The Plan will also include a process for conducting outreach to stakeholders and the general public of climate and non-climate risks and will incorporate traditional knowledge and local community members in decision making that affects the Watershed.

b) The applicant will develop maps and other technical analysis, including obtaining data, and performing modeling to identify the location of critical fish habitat within the Watershed overlaid with: 1) Locatable minerals that have been or are proposed to be opened for mining development by state and Federal land management agencies; 2) Critical fish habitat; 3) Increasing temperature and stream bank erosion; 4) Fish die-offs are taking place; and 5) Other water quality or quantity impacts are occurring. As part of producing maps and modeling, we will



**2019 Fish Die-off  
Tubutulik River, AK  
Photo Credit: Hal Shepherd**

research the following within the Watershed: locatable minerals and other potential land development sites; Public lands which the Bureau of Land Management (BLM) is proposing to remove protections from development; Areas of Critical Environmental Concern (ACECs) on public lands that have been proposed by Tribes; and roads, camps, infrastructure, water rights and other activity associated with mining development, and critical fish habitat.

c) We will obtain project management services and software technology required to formulate the Plan for: 1) Drought and temperature forecasting, 2) Models for predicting instream flow and water temperature, 3) Collection of instream flow, temperature and dissolved oxygen data (DO) including the mapping of critical summer thermal refuge salmon habitat; 4) Streambank erosion and 5) Maps with overlay of sensitive watersheds, and

locatable minerals. The following regional and national programs and resources will serve as technical assistance in support for such project management services and software technology:

- The University of Washington Hydro/Computational Hydrology Program – How modeling affects hydraulic climate impacts studies in the Pacific Northwest drought and stream flow predictions: <https://uw-hydro.github.io/>;
- The University of Montana, Montana Climate Office – Modeling used in Pacific Northwest drought and stream flow predictions: <http://climate.umt.edu/>;
- USGS Alaska Science Center – Snowpack, drought, stream temperature, flooding data and information for Alaska: <https://www.usgs.gov/centers/asc>; “Future changes in Alaska snow conditions from statistically downscaled climate projections & update
- International Arctic Research Center, University of Fairbanks – Documenting Alaska’s physical and biological changes through observation, <https://uafiarc.org/our-work/alaskas-changing-environment/>;

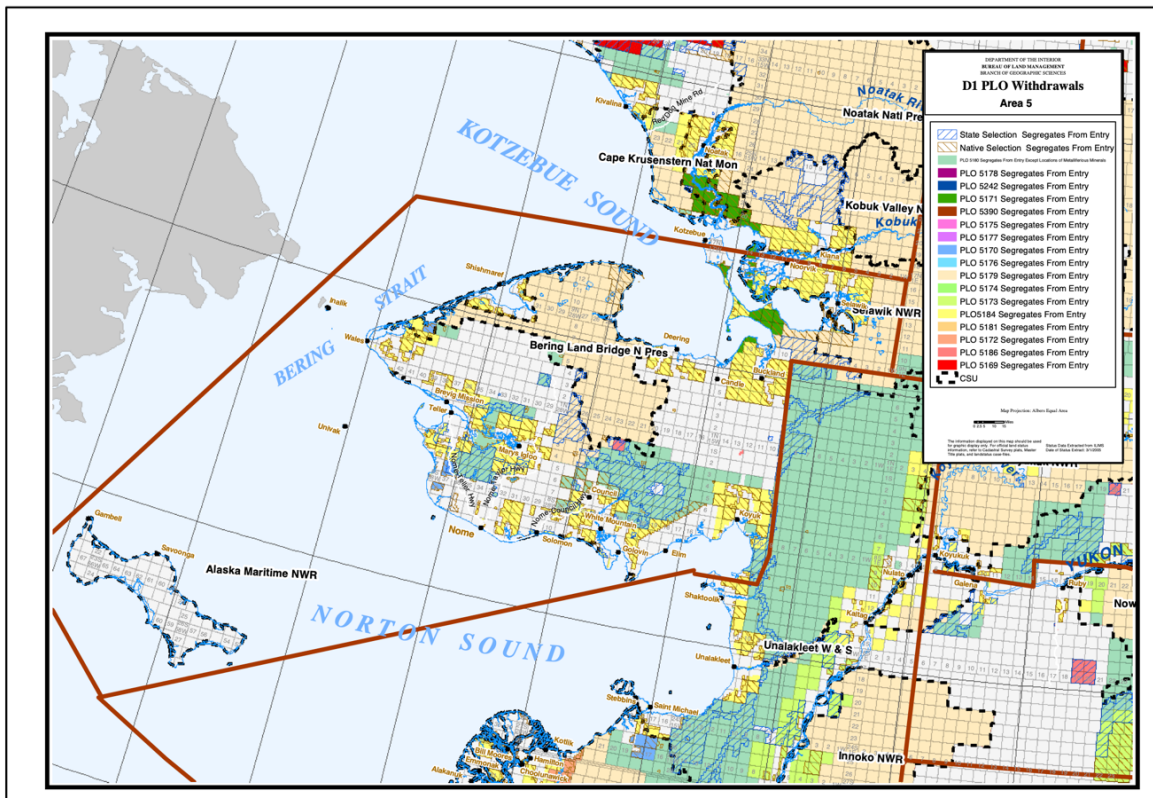
- NOAA, Alaska River Forecast Center – Flood forecasting and data collection in Alaska: <https://www.weather.gov/aprfc/>;
- SNOTEL Alaska - Snowpack data for sites on Seward Peninsula;
- USDA Forest Service - Linking temperature and discharge to expressed behavior of fishes: Implications for climate change;
- USGS, Yukon River Inter-Tribal Fish Commission (YRITFC), Institute for Tribal Environmental Professionals, CU, US Geological Survey, National Center for Atmospheric Research, USFS – Five-year study focused on indigenous knowledge informing the climate science, fisheries, and the subsistence way of life focusing on climate sensitivity in Alaskan & Yukon Rivers, Fish, and Communities;
- Alaska State Geological Mapping Office – For mapping potential mining activity;
- Cook Inlet Keeper - Watershed-scale climate influences Chinook salmon populations across southcentral Alaska: [Watershed-scale climate influences productivity of Chinook salmon populations across southcentral Alaska - Jones - 2020 - Global Change Biology - Wiley Online Library](#); and
- Remote Uncrewed Aircraft System (UAS) Inspection and Response Team Development in the Bering Strait Region project (Project). The Project, which runs until the end of April 2022, is funded by the Arctic Domain Awareness Center (ADAC), A Department of Homeland Security Center of Excellence. A regional sUAS program is being developed as an outcome of this project, based in Unalakleet. These sUASs could be used to conduct thermal imagery mapping of streams and rivers.

d) We will meet, through Zoom platform or in person, with watershed group members and stakeholders to gather TEK and identify past and ongoing projects that pertain to the health of the watershed including potential impacts to subsistence resources from climate change and land development.

e) NBITWC will work with Watershed stakeholders including, landowners, tribes, native corporations and Federal, state and local governments to identify strategies for mitigating impacts of climate change on the Watershed. This will include: 1) Using data, and other information identified in item “a)” to work with state and federal land management agencies to identify how current or future land use activities may further exacerbate climate impacts; 2) Working with these agencies to identify how such impacts can be mitigated through regulatory, policy and other actions including submitting applications for instream flow reservations on selected river reaches; 3) Partner with state and federal land and water management agencies to include traditional knowledge and tribal entities in decision making that affects the Watershed including co-management agreements; 4) Work with federal land and marine management agencies to develop special use areas such as ACECs, Wild and Scenic River designations and National Marine Sanctuaries and other means of meeting the Biden Administration’s goal of addressing climate change by protecting 30 percent of the Nation’s land base by 2030; 5) Partner with the National Park Service and BLM to identify waters within the state that need protection due to the potential lifting of Public Land Orders under the Alaska

National Interest Land Conservation Act subsistence priority (*See, Map 1*); and 6) Partner with village corporations to develop a process for applying private property rights to limit land uses that exacerbate climate impacts.

f) NBITWC will review federal, state and local land management plans to identify watershed-specific best management practices (BMPs) established by Federal, state, and local government agencies and incorporate these into the Plan.



**Map 1. DOI Land Withdrawals in Alaska**

g) We will perform an analysis of the watershed to identify and prioritize watershed management projects including: 1) Collecting instream flow, temperature and DO data; 2) Models for drought, temperature and water flow forecasting; 3) Maps and other technical analysis, including obtaining data, and performing modeling to identify the location of critical fish habitat within the Watershed overlaid with: A) Locatable minerals that have been or are proposed to be opened for mining development by state and Federal land management agencies; B) Critical fish habitat; C) Increasing temperature and stream bank erosion; D) Fish die-offs are taking place; and E) Other water quality or quantity impacts are occurring; 4) A plan for conducting outreach of climate and non-climate risks; 5) Work with Watershed stakeholders including, landowners, tribes, native corporations and Federal, state and local governments to identify strategies for mitigating impacts of climate change on the Watershed to identify risks and solutions listed in item “e)” above.



## 1.4 Evaluation Criteria

### 1.4.1 Criterion A— Watershed Group Diversity & Geographic Scope (30 points) (E.1.1)

#### *Sub-criterion No. A1. Watershed Group Diversity (E.1.1.1)*

- a) The stakeholders within the watershed that affect or are affected by the quantity or quality of water within the watershed include: Federally recognized tribal entities, tribal organizations, Native Corporations, Federal and state land management agencies and mining interests.
- b) The current board membership of the watershed group includes:
- Doug Katchatag – President (Native Village of Unalakleet)
  - Emily Murray – Vice-President (Native Village of Elim)
  - Carol Oliver – Secretary (Native Village of Golovin)
  - Robert Keith – Member at Large (Native Village of Elim)
  - Toby Anunguzuk – Member at Large (Native Village of Golovin)
  - Matilda Hardy – Member at Large (Native Village of Shaktoolik)
  - Edna Savetilik – Member at Large (Native Village of Shaktoolik)
  - John Henry – Member at Large (Native Village of Unalakleet)
  - Sarah Kotongan – Member at Large (Native Village of Unalakleet)
  - Chuck Degnan – Member at Large (Native Village of Unalakleet)

Because indigenous peoples living in each of the above Alaska Native Villages make up the majority of the population located within and having vested interest in the Watershed, these members represent the majority of stakeholders located within the Watershed. In addition each of the Village communities listed above consist of Federally recognized tribal governments and retain an Alaska Native Claim Settlement act Village Corporation.

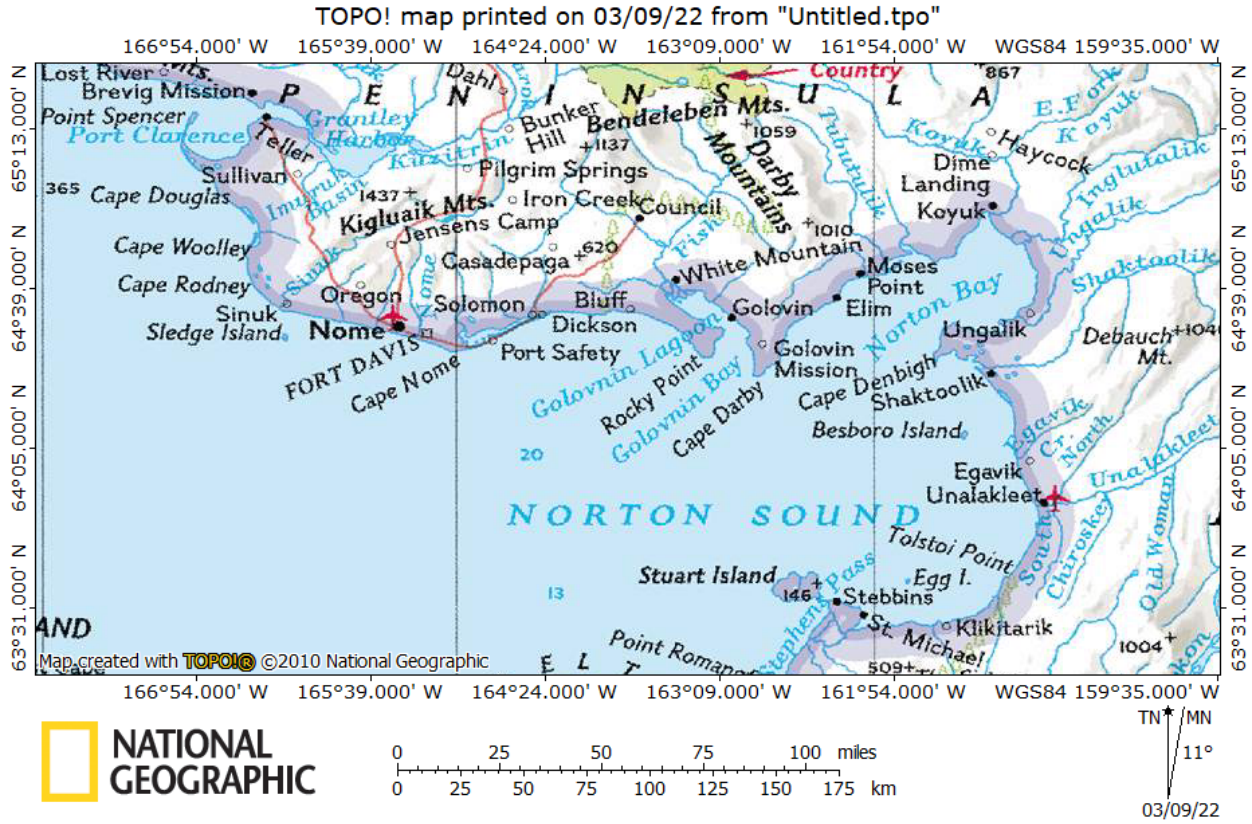
- c) NBITWC will target affected stakeholders to ensure that the Plan incorporates and that our group will represent a diverse set of stakeholders within the Watershed by collaborating with different groups or partners including: 1) Using data, and other information identified in item “Task B: Watershed Restoration Planning a)” above to work with state and federal land management agencies to identify how current or future land use activities may further exacerbate climate impacts; 2) Working with these agencies to identify how such impacts can be mitigated through regulatory, policy and other actions including submitting applications for instream flow reservations on selected river reaches; 3) Partner with state and federal land and water management agencies to include traditional knowledge and tribal entities in decision making that affects the Watershed including co-management agreements; 4) Work with federal land and marine management agencies to develop special use areas such as ACECs, Wild and Scenic River designations and National Marine Sanctuaries and other means of meeting the Biden Administration’s goal of addressing climate change by protecting 30 percent of the Nation’s land base by 2030; 5) Partner with the Nation Park Service and BLM to identify waters within the state that need protection under the Alaska National Interest Land Conservation Act (ANILCA) subsistence priority; and 6) Partner with village corporations to develop a process for applying private property rights to limit land uses that exacerbate climate impacts. In addition, through phone calls, letters, e-mails and holding Workshops we will invite representatives of regional tribal councils who do not already sit on the Watershed Council, to become members of the Council board of directors so tribes outside of the geographical boundaries of the Watershed will

have representation on the Council. As part of this outreach, we will engage former members of the Bering Sea Zone Resource Area Board (BSCZRAB) which was dissolved after the state of Alaska opted out of the federal Coastal Zone Management Act program. The former members of the BSCZRAB will then assist in incorporating key provisions of the Bering Sea Comprehensive Management Plan into the Watershed Restoration Plan.

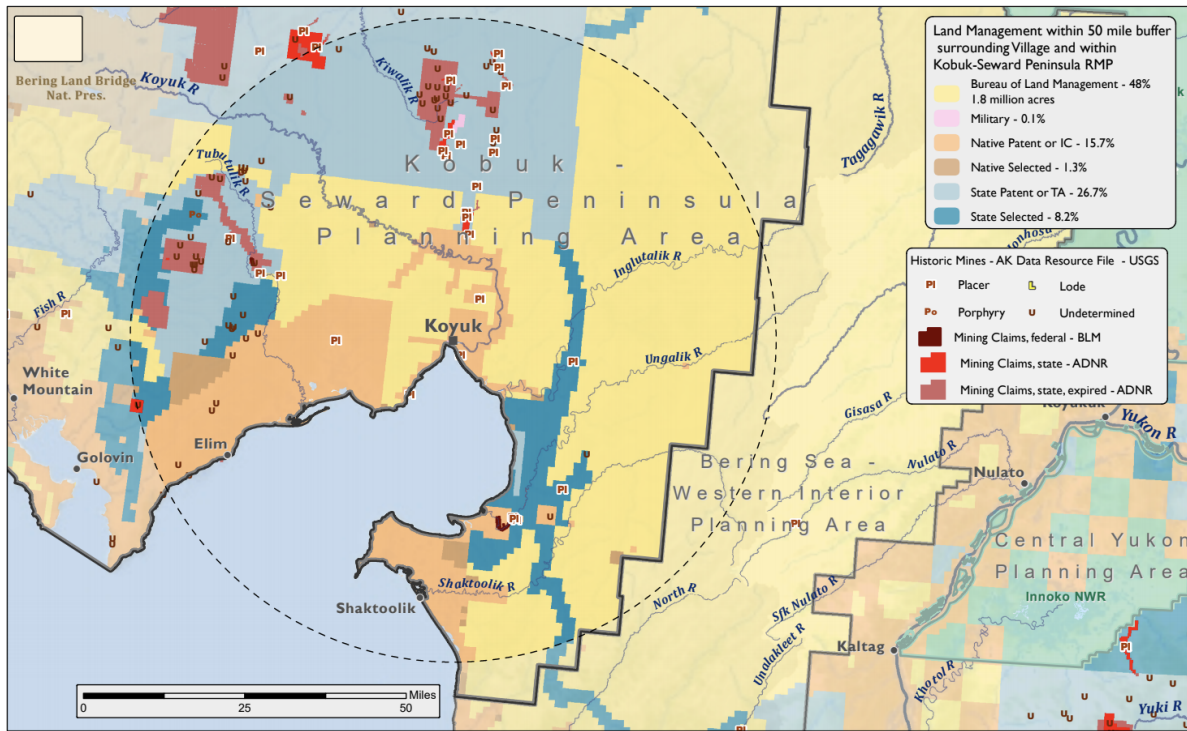
d) NBITWC will continue to engage in a variety of partnerships, which expand our connections to a diverse group of stakeholders. We are, for example, currently collaborating with the BLM, National Oceanic, Atmospheric Administration (NOAA), the Bering Sea Interior Tribal Commission (BSITC) and multiple conservation organizations on multiple natural resource planning activities including: 1) Developing the American Conservation and Stewardship Atlas which would be part of the administration's America the Beautiful initiative to conserve, connect, and restore 30 percent of America's lands and waters by 2030 in order to address the interconnected climate and biodiversity crises, advancing environmental justice and equitable access to nature, and strengthening the economy; 2) To revise the Bering Sea Western Interior and Kobuk-Seward Resource Management Plan (RMP) to ensure the RMPs incorporates adequate environmental analysis of opening critical fish habitat to mining and other development and of climate change, to include ACEC recommendations and adequately consult with federally recognized tribes; 3) Incorporating traditional knowledge into decision making; 4) Identifying areas within the Watershed to develop co-management agreements tribes and to request establishment of a National Marine Sanctuary and 5) Partner with the Nation Park Service and BLM to identify waters within the state that need protection under the Alaska National Interest Land Conservation Act (ANILCA) subsistence priority; and 6) Partner with village corporations to develop a process for applying private property rights to limit land uses that exacerbate climate impacts.

***Sub-criterion No. A2. Geographic Scope (E.1.1.2)***

- **Map 2**, below, illustrates the geographic boundaries of the area in which the watershed group will work.
- **Map 2** also identifies the location of the stakeholder groups within the area including the Native Villages of Golovin, Elim, Shaktoolik, Unalakleet, Shishmaref and Brevig Mission. In addition the map includes BLM and NPS lands and NOAA jurisdiction within the Watershed with whom NBITWC currently collaborates on various projects. Further, **Map 3**, below, illustrates the location of the Native Villages of Koyuk, Stebbins, St. Micheal, Teller and Mary's Igloo and the lands of Alaska villages and regional Native corporations, and the Alaska Department of Natural Resources (ADNR).



Map 2. Norton Bay Watershed, Alaska



Map 3. Federal and State Lands and Native Allotments within Watershed

- See Response to question **Sub-criterion No. A1. Watershed Group Diversity subsection c)** above.

The watershed group which contains representatives from Elim, Golovin, Unalakleet, and Shaktoolik, therefore, already represents almost of the full geographic scope of the area. In addition, the planned membership of the Watershed group (described in Sub-criterion No. A1. Watershed Group Diversity “c”) will expand the existing representation already in place through NBITWC to encompass the full geographic scope of the area in which the group intends to work.

- See response to **Sub-criterion No. A1. Watershed Group Diversity subsection d)** above.

In addition, we will engage in outreach to include new members and collaborate with different groups or partners (e.g., through outreach or partnership activities, workshops newsletters, and marketing materials). To this end we will reach out to Federal, state, tribal, local, research, conservation and other stakeholders who would have authority or interest to:

- 1) Coordinate and integrate management of existing special protection areas to manage water sustainably and balance economics, social equity, and environmental values;
- 2) Offset climate change and development related temperature increases and low flows using habitat improvements;
- 3) Exercise tribal legal and regulatory jurisdiction, local control and take other policy related actions;
- 4) Encourage state and Federal government agencies to implement and enforce watershed protection and sustainable management regulations;
- 5) Work with government entities to encourage greater tribal in-put into natural resource decision-making including consultation, TEK and local solutions;
- 6) Apply to appropriate Federal agencies to move tribal fee lands into trust status and other designations that will increase tribal legal and regulatory jurisdiction to protect potentially threatened water bodies; and
- 7) Apply conventional water monitoring techniques and TEK to assess the extent of the impact of temperature increases, stream bank erosion, low flows and other climate and resource extraction developmental risk factors on fish and wildlife habitat and other subsistence resources.

Further, we will send letters via e-mail to the various stakeholders inviting them to participate in the collaborative to expand our impact in the North Bering Sea Region and leverage previous grassroots efforts by inviting participants in the disband Bering Sea Coastal Zone Management Resource Area Board to join the NBITWC Board of Directors. We will also invite representatives of other tribal councils in the region to sit on the Watershed Council so that each tribe will have representation.

## 1.4.2 **Criterion B** — Addressing Critical Watershed Needs (35 points) (E.1.2)

### *Sub-criterion No. B1. Critical Watershed Needs or Issues (E.1.2.1)*

The critical issues or needs occurring within the watershed include the following:

#### **a) Declining Ecological Resiliency**

Salmon need cold water in order to survive at every life stage. Already swimming many miles up streams to return spawning areas, the fish can start running into trouble if the water temperature is over 59°F. Initially, they can become susceptible to diseases and exposure to toxins and their metabolisms, which are already running high, can accelerate. Also, when water temperature goes up dissolved oxygen goes down at a time when salmon need more oxygen because the higher temperatures elevate their metabolism, respiration and oxygen demands. If the temperatures keep rising than the fish's blood is unable to carry enough oxygen to their brains and bodies and they can die of a heart attack. In the midst of large salmon die-offs in Shaktoolik and Unalakleet in early July of 2019, we returned to the Vulcan Creek gauge site to install a new Level & Barrow Logger. It would replace a damaged vented transducer that had been removed a couple of years before. There was a pressing need to install the new equipment because of lower water levels and high temperatures, reported in some areas to be as high as seventy degrees Fahrenheit, most likely resulting in low dissolved oxygen in shallow sections of rivers and, ultimately, asphyxiation of fish. The die-off was likely to continue with air temperatures forecasted to remain in the eighties over the following days. We hoped to get the equipment working so we could get accurate readings of temperature, pressure, and depth.

As expected, we observed more than fifty otherwise healthy (not spawned out) dead fish, including pink salmon, chum salmon, and whitefish, while traveling to our stream flow measuring gauge site thirty miles up the Tubutulik River. When we got to the gauge site, we took rough temperature readings which indicated the water was between sixteen and eighteen degrees centigrade, and collected dissolved oxygen data, which indicated that the DO was 8 ppm. We also observed thousands of pink salmon traveling up the river, and fewer kings and chum.

According to Wes Jones, Director of Fisheries, Research, and Development for the Norton Sound Economic Development Corporation, the scope of the larger-than-normal salmon die-off in Norton Sound signaled a shift in the Arctic freshwater ecosystems and affected several communities from east to west, including Kotlik, Elim, Unalakleet, Shaktoolik, Golovin, Alakanuk, and Akyak. According to Jones, “There’s been reports all the way from [Unalakleet] in Eastern Norton Sound all the way over to the Nome area. And it’s a very widespread area. The big change is that it appears that it is a much bigger event happening in Eastern Norton Sound than what you’re seeing as you get closer to the Nome area.”

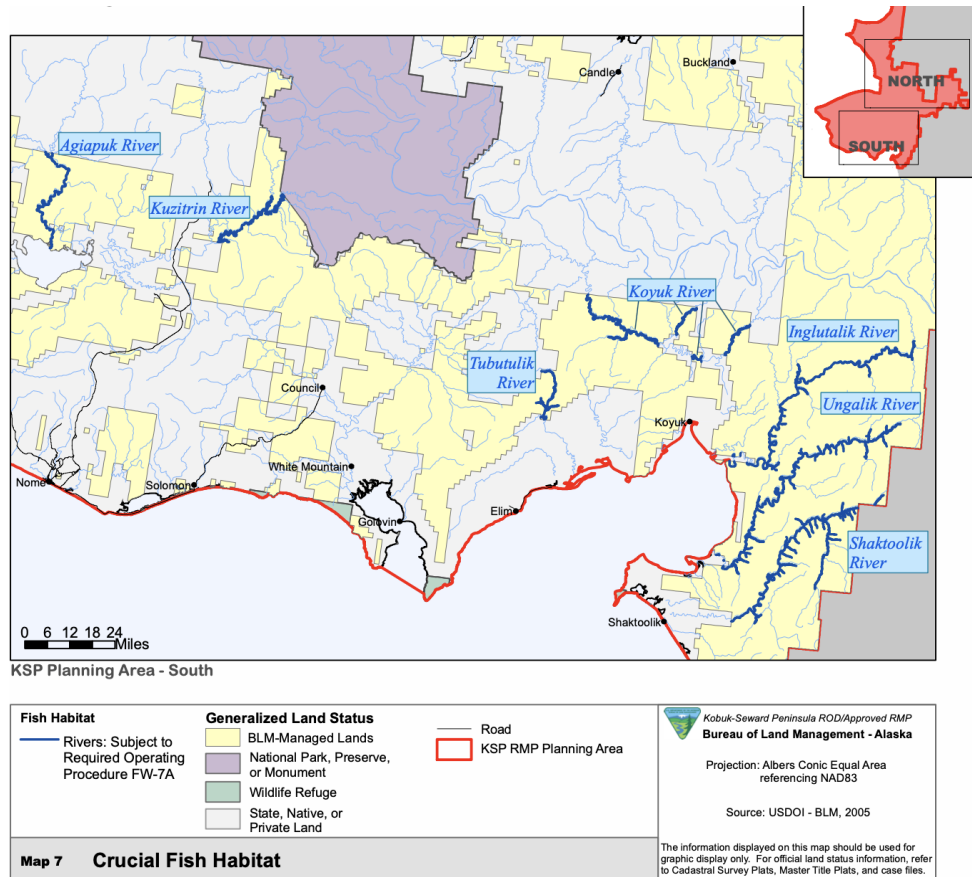
In June 2019, the Tubutulik near Elim and Koyuk had record high temperatures at the Vulcan Creek gage site 30 miles from the mouth; hundreds of otherwise healthy (not spawned out) dead fish including pink and chum salmon and white fish in the river were observed. Now, in 2021, the U.S. Bureau of Land Management is expected to open almost 3 million acres of land, much of it within critical fish habitat, including the Tubutulik River, to mining activity under the Kobuk-Seward Resource Management Plan (RMP). The RMP, however, does not address how

potential mining activity on these opened lands may exacerbate the impacts of increasing water temperatures in watersheds affected by lifting of Areas of Critical Environmental Concern (ACEC) and other lands that have been withdrawn from mining for decades because of critical subsistence resources to the Native Village of Elim and other Village communities located on the Seward Peninsula.

**b) Conflicts Over Water Supply**

Through the issuance of Public Land Orders, BLM has been reversing through one Resource Management Plan at a time, 50-year-old policies established under the Alaska National Interest Lands Conservation Act in the form of Public Land Orders, that have placed critical and delicate watershed ecosystems throughout the state including the Arctic region off limits to mining and other development. The withdrawal revocations are being incorporated into the existing Bering Sea Western Interior (BSWI) and Kobuk-Seward (KS) Resource Management Plans which encompass over 20 million acres of public lands including the Watershed, 99 percent of which will be open to mining development. (See **Map 3**).

Overnight, these actions threatened biologically rich fish and wildlife habitats such as salmon streams, caribou calving grounds, and world-renowned birding areas and ecosystems within the BSWI and KS planning areas. Both Federally recognized Alaskan tribal communities, and



**Map 4. Seward Peninsula Critical Subsistence Fishing Rivers**

conservation organizations interested in protection of critical fish and wildlife habitat within the planning areas, (See **Map 4**) are unified in their opposition to opening critical fish habitat within Norton Bay and surrounding watersheds to development activity and have warned the BLM of the potential impacts on water quality and quantity, wildlife, the subsistence economy, and future generations.

***Sub-criterion No. B2. Developing Strategies to Address Critical Watershed Needs or Issues (E.1.2.2)***

***Task B: Watershed Restoration Planning***

a) See response to question **1.3 Technical Project Description - Approach a), e) & g)** above. These activities are an important step for addressing the critical watershed needs and issues in the watershed discussed in sub-criterion No. B1 because climate change is here to stay. Therefore, the best means of reducing declining resiliency of fish and wildlife habitat in the Watershed is through applying conventional information and local knowledge to determine how increased temperature and stream bank erosion, decreasing instream flows and decreasing connectivity is impacting such habitat and how current or future development activity is exacerbating climate impacts. Once this risk analysis is completed then the next step will be for Alaska Native communities who rely for subsistence on the Watershed to work with federal and state land managers and other stakeholders having land or interests in the Watershed to develop a strategy, through partnerships and co-management agreements for withdrawing lands, establishing regulations, establishing ACECs or Marine Protection areas for increasing ecological resiliency by limiting development, maintaining sufficient instream flows and connectivity that can mitigation climate impacts.

b) See response to question **1.3 Technical Project Description - Approach b)-d) & f)** above.

c) *Will the group identify opportunities to resolve conflicts? Yes. If so, how?* All major decisions of the group will be made by consensus.

d) *Will the group complete an analysis to prioritize issues within the restoration plan? Yes.* The final Restoration Plan will include analysis of the watershed to identify and prioritize watershed management projects including: 1) drought and temperature forecasting; 2) models for prediction instream flows and water temperature; 3) instream flow, temperature and DO data; 4) Analysis and maps of removal of locatable minerals withdrawals, lifting of Public Land Orders, ACEC designations, roads, camps, infrastructure, water rights and other activity associated with mining development, and overlay of sensitive watersheds, locatable minerals; and 5) A plan for conducting outreach to continue partnering with a broad array of stakeholders including requesting impacts of climate and non-climate risks and strategies for increasing ecological resiliency. The analysis to prioritize issues will be outreached to stakeholders and incorporate their input for final products.

e) *The watershed group will build on the following previous efforts and will expand upon them through the proposed Plan in the following manners:*

***Norton Bay Intertribal Watershed Council's (NBITWC) Climate Adaptation and Action Plan for the Norton Bay Watershed Alaska (2013)***<sup>3</sup> - NBITWC worked with Water Policy Consulting, LLC (WPC) and the Model Forest Policy Program (MFPP), a national 501(c)3 non-profit, to write the Climate Adaptation and Action Plan for the Norton Bay Watershed Alaska (2013). Action Plan. The year-long, community team effort brought together an array of stakeholders and expertise that further developed partnerships, gathered extensive information and data, provided critical thinking, and engaged in planning. The Action Plan includes general information about the science and impacts of climate change in the and about land management agencies, tribes, village and regional corporations, and other stakeholders located in the Watershed. NBITWC will expand upon the Action Plan by using it as background information in drafting the Water Restoration Plan and to investigate stakeholder organizations that we will reach out to.

***The Norton Sound Tribal Villages Climate Change Adaptation Training (NSCCAT) Series (2015-2017)*** - The NBITWC and the Native Village of Elim (NVE), assisted by WPC and the MFPP - Climate Solutions University team developed and presented a curriculum for climate risk assessment and adaptation planning within the Watershed and the Norton Sound region (Adaption Training). The one-year curriculum offered from July 2016 through May 2017 informed and guided Alaska Native village and community leaders and staff through the process of developing Localized Climate Change Adaptation Plans including assessing local climate risks; identifying strategies to address those risks; and beginning to build the information, funding and resource capacity to take action for climate adaptation and community resilience. NBITWC will expand upon the Adaption Training by applying the Training to inform that part of the plan that will address climate risk assessment and adaptation planning within the Watershed and how each of the communities located within the Watershed can develop their own Watershed Restoration Plan.

***Climate Resilience Planning for the Native Alaskan Villages of Norton Sound (2017-2018)*** WPC and the MFPP worked with NBITWC and members of individual Native villages located within the Watershed and the region to provide technical support and coaching needed to assist tribal leaders, climate change coordinators, planners, Planning Committee members and/or program managers to build skills and gather information needed to coordinate community adaptation planning process. The Project's geographic area included the Native villages of Elim, Koyuk, Unalakleet, Shaktoolik, Golovin, Shishmaref and Teller. NBITWC will expand upon the technical support and coaching by incorporating appropriate components of it into the Plan that can be applied to a broader array of stakeholders and partners.

***City Hazard Mitigation Plans (HMP) (2013)*** - The following Norton Bay and regional Native village communities have Hazard Mitigation Plans (HMPs) or Multi-Jurisdictional HMPs (MJHMPs): Elim, Golovin, Koyuk, Brevig Mission, Shishmaref, Unalakleet, Teller, and Shaktoolik. These plans identify the following as significant hazards for the villages: earthquakes; riverine and/or coastal flooding; ground failure (including avalanche, landslide/debris flow; permafrost subsidence); severe weather; wildland (tundra) fire, coastal erosion, and

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<sup>3</sup> <https://www.cakex.org/documents/climate-adaptation-and-action-plan-norton-bay-watershed-alaska-0>



permafrost subsidence. The HMPs and MJHMPs also provide generic action items to address these problems and whether such actions are feasible and cost effective. While these documents are focused primarily on climate impacts to infrastructure, NBITWC will expand upon these HMPs and MJHMPs by incorporating those components that apply to risk assessment and mitigation strategies for restoration and resiliency of ecological systems into the Plan.

***Hazard Mitigation Plans - Climate Restoration Plan Update (CRAU) (Teller/Golovin)*** - From the fall of 2015 to the summer of 2018, the communities of Golovin and Teller worked with WPC to create updated community risk assessments. The intent was to build on the existing risk assessment in the villages' 2013 HMPs. The initial HMPs consisted of language required by the Federal Emergency Management Agency (FEMA) to approve HMPs (see 44 C.F.R. 201.6 and 201.7) but did not capture the particular concerns of the villages related to its residents' traditional subsistence hunting and fishing lifeway or the changing climate experienced by the community and surrounding area. The Climate Restoration Plans (Restoration Plan) do. The Assessment process: 1) Established a core team and planning committee; 2) Worked with the EPA Indian Environmental General Assistance Program (I-GAP program) to conduct the risk assessment; 3) Held meetings with the villages and Tribal Councils; 4) Drafted the Restoration Plan; and 5) Met with residents who could share TEK. The completed Restoration Plans provide a range of actions that the communities can take to protect critical infrastructure as well as subsistence activities. The Updates concluded that: 1) Clear, concrete, physical actions such as protecting homes and critical infrastructure are expensive but funding (even if difficult to obtain) is available; 2) Actions to protect subsistence are more unconventional and need to be tied to specific hazard mitigation goals related to flooding, erosion, permafrost melt, storms, and thin ice; and 3) There are many low-cost actions that can be taken depending on the availability of volunteers and partners, including forming local committees, attending free training, and consulting with government agencies. While these documents are focused primarily on climate impacts to infrastructure, NBITWC will expand upon these CRUAs by incorporating those components that apply to risk assessment and mitigation strategies for restoration and resiliency of ecological systems into the Plan.

**Native Village of Elim Assessment of Mining Impacts on Subsistence Ecosystems of the Tubutulik River Watershed (2014)** - Analysis of the impacts of mining activity on salmon resources within the Tubutulik River watershed, a tributary to Norton Bay. NBITWC will expand upon the Mining Impact Plan by incorporating the conventional and traditional knowledge of the document into the sections of Water Restoration Plan that focus on impacts related to mining activity within the Watershed.

**Native Village of Elim Quality Assurance Protection Plan (2012)(QAPP)** - The Quality Assurance Project Protocols for the Native Village of Elim water quality and quantity data collection on river reaches within the Tubutulik River watershed. NBITWC will expand upon the QAPP by its application to ensure quality control of data collection related to the Plan.

**Norton Bay Watershed Ocean and Coastal Management Plan** - Under the Bureau of Indian Affairs Tribal Resilience Program, NBITWC continued to prioritize its tribal resilience planning program within the Watershed by applying the North American Marine Protected Area Rapid

Vulnerability Assessment Tool (MPARVAT). The tool was created by the Council on Environmental Cooperation’s 2015-2016 Marine Protected Areas: Strengthening Management Effectiveness and Supporting Coastal Community Resilience project. NBITWC used this tool to assess risks and develop resilience solutions for oceans and coastal areas of Norton Bay Watershed and to draft a Norton Bay Watershed Ocean and Coastal Management Plan (NBWOCMP). During this process, NBITWC applied conventional data, Traditional Ecological Knowledge (TEK), and other information to build on the MPARVAT model to create a comprehensive Norton Bay NBWOCMP addressing resilience for marine habitat and the health and welfare of local communities. NBITWC will expand upon the NBWOCMP by working together with stakeholders to apply NBITWC’s existing watershed planning in order to implement quantifiable, locally based watershed protection that also addresses climate-related impacts within the Watershed.

### 1.4.3 Criterion C — Implementation and Results (25 points) (E.1.3)

NBITWC’s plan for implementing the proposed scope of work including estimated schedule that shows the stages and duration of the proposed work; Major tasks; Milestones for each task and Start and end dates for each task and milestone is provided in the following matrix:

Project Schedule	2023												2024												25
	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC	JAN	
Conduct outreach with a diverse array of stakeholders	X	X	X	X	X	X																			
Work with stakeholders to draft Plan including modeling and data collection in order to mitigate land uses that exacerbate climate-related impacts.	X	X	X	X	X	X																			
Develop maps to identify lands within Watershed that include critical fish and wildlife habitat and locatable minerals and for thermal imagery of rivers and streams.	X	X	X	X	X	X																			
Incorporate protocols into Plan for: a) drought and temperature forecasting, b) models for predicting instream flow and water temperature, c) collection of instream flow, temperature and DO data; and d) Maps with overlay of sensitive watersheds, and locatable minerals.							X	X	X	X	X	X													
Meet with watershed group members and stakeholders to gather TEK and conventional knowledge and identify past or ongoing projects that pertain to the health of the watershed and to further engage stakeholders							X	X	X	X	X	X													
Work with watershed group members, and stakeholders to identify areas where subsistence resources are being impacted by climate change, how land use activities may further exacerbate such impacts and how such impacts can be mitigated													X	X	X	X	X	X							
Review watershed-specific best management practices established by Federal, state, and local government agencies																		X	X	X	X	X	X	X	

*Sub-criterion No. C1—Project Implementation (E1.3.1)*

**Major Tasks**

a) Through existing partnership activities, workshops, newsletters, e-mails and marketing materials, conduct outreach to and collaborate with a diverse array of stakeholders from Federal, State and Tribal entities, private industry, environmental NGOs, universities, and local governments in order to broaden engagement with and representation by NBITWC and participation in drafting the Plan.

**Milestone:** Participation of additional tribal entities in existing group membership and engagement of a wide array of stakeholders in developing Watershed Restoration Plan.

Start date: February 1, 2023

End date: July 31, 2023

**Cost: \$22,530** based on 300 hours of time (@\$30/hour + 17% Fringe = **\$10,530**) for the NBITWC Project Coordinator, 80 hours for consultant (@\$150/hour = **\$12,000**).

b) Work with stakeholders to draft Watershed Restoration Plan including process for applying modeling and data collected to assist policy makers, land managers and tribes in mitigating land uses that may exacerbate climate-related impacts to the watershed.

**Milestone:** Complete and vet a draft Restoration Plan for the Watershed which identifies stream reaches where data collection will advance submission of instream flow water rights to mitigate temperature increases and other negative effects of climate change.

Start date: February 1, 2023

End date: July 31, 2023

**Cost: \$26,730** based on 300 hours of time (@\$30/hour + 17% Fringe = **\$10,530**) for the NBITWC Project Coordinator, 60 hours for consultant (@\$150/hour = **\$9,000**), honorariums for local tribal representatives from the villages of Brevig Mission, Elim, Golovin, Unalakleet, Shishmaref and Shaktoolik who participate in monthly (6 meetings x \$200/honorarium/meeting x 6 representatives = **\$7,200**).

c) Develop maps to identify lands within the Watershed that include critical fish and wildlife habitat and locatable minerals and for thermal imagery of rivers and streams using small uncrewed aircraft systems (sUAS).

**Milestone:** Draft Restoration Plan will include maps with overlay of sensitive watersheds and locatable minerals.

Start date: February 1, 2023

End date: July 31, 2023

**Cost: \$4,500** based on 30 hours of time for consultant (\$150/hour).

d) Incorporate protocols into the Restoration Plan for: a) drought and temperature forecasting, b) models for predicting instream flow and water temperature, c) collection of instream flow, temperature and DO data; and d) Maps with overlay of sensitive watersheds, and locatable minerals.

**Milestone:** Draft Restoration Plan will contain data for these protocols that stakeholders can use to prioritize mitigation of fish-die-offs in the Watershed through identification of

locations where they are likely to occur and where land use activity is likely to exacerbate impacts of climate change on critical fish habitat.

Start date: August 1, 2023

End date: Jan 31, 2024

**Cost: \$4,500 based on 30 hours for the consultant @ \$150/hour.**

e) Meet with watershed group members and stakeholders to gather TEK and conventional knowledge, identify past or ongoing projects that pertain to the health of the watershed including potential impacts to subsistence resources from climate change and land development and to further engage stakeholders for input.

**Milestone:** Draft Restoration Plan will contain a summary of TEK and any projects (past, present, or planned) impacting the health of the watershed and subsistence resources.

Start date: August 1, 2023

End date: Jan 31, 2024

**Cost: \$36,085** based on 100 hours for Project Coordinator (@\$30/hr + 17% Fringe = **\$3,510**), plus round-trip airfare to Nome for one staff person and one tribal representatives from Elim (\$704), and one tribal representatives from Golovin (\$318), Unalakleet (\$494), Brevig Mission (\$494) and Shaktoolik (\$494), one night's hotel stay (@\$200/room x 6 representatives = \$1,200), a continental breakfast, sack lunch and tea/coffee (\$45/food per person = \$180), a \$200 honorarium per representative (\$1,200) for their participation in a one day workshop, rental space (\$500 for the day) and workshop supplies (\$300) (Total = **5,032**). 70 hours for consultant (@\$150/hour = **\$10,500**) for preparation and coordination of workshops and participation in monthly meetings. (Note: contractor pays their own travel). Continue semi-monthly meetings with local tribal representatives from the aforementioned villages (5 meetings x \$200/honorarium/meeting x 6 individuals = **\$6,000**). (Note: Workshop counts for one meeting).

f) Draft Restoration Plan, work with watershed group members, landowners, tribes, native corporations, Federal, state and local governments to identify areas where subsistence resources are being impacted by climate change, identify how current or future land use activities may further exacerbate such impacts and how such impacts can be mitigated through regulatory, policy and other actions including submitting applications for instream flow reservations on selected river reaches.

**Milestone:** Policy makers, land managers, private land owners and tribes develop regulatory, policy and other actions including instream flow reservations on selected river reaches that effectively mitigate impacts of climate change and land management activities on salmon habitat in the watershed.

Start date: Feb 1, 2024

End date: July 31, 2024

**Cost: \$28,530** based on 300 hours for Project Coordinator (@\$30/hr + 17% Fringe = **\$10,530**) and 60 hours for Consultants (@\$150/hour = **\$9,000**). Continue semi-monthly meetings with local tribal representatives from the aforementioned villages (6 meetings x \$200/honorarium/meeting x 6 individuals = **\$7,200**).

g) Review watershed-specific best management practices established by Federal, state, and local government agencies including removal of locatable minerals withdrawals, lifting of Public Land Orders, ACEC designations, roads, camps, infrastructure, water rights and other activity associated with mining development, and overlay of sensitive watersheds, locatable minerals and co-management areas that have been or are proposed to be opened for mining development.

**Milestone:** The Restoration Plan will include maps where protections will be or have been removed for mining and other development, ACEC designations, roads, camps, infrastructure, water rights and other activity associated with mining development, and overlay of sensitive watersheds, and locatable minerals.

**Milestone:** The Restoration Plan maps, and its models of current climate impacts and potential non-climate risks to subsistence resources within the Watershed, will aid Federal and state agencies in determining best management practices and where ACECs and co-management areas would be most appropriate.

Start date: Aug 1, 2024

End date: Jan 1, 2025

**Cost: \$9,000** based on 60 hours for Consultant (@ \$150/hour).

h) Incorporate analysis of watershed to identify and prioritize watershed management projects into final Restoration Plan including: 1) drought and temperature forecasting; 2) models for prediction instream flows and water temperature; 3) instream flow, temperature and DO data; 4) Analysis and maps of removal of locatable minerals withdrawals, lifting of Public Land Orders, ACEC designations, roads, camps, infrastructure, water rights and other activity associated with mining development, and overlay of sensitive watersheds, locatable minerals; 5) identify areas for co-management and 6) A plan for conducting outreach of climate and non-climate risks. The plan will be outreached to stakeholders and incorporate their input for final products.

**Milestone:** Stakeholders will apply the Restoration Plan to identify climate-related fish die-offs locations and potential non-climate risk factors and determine best management practices to mitigate against such impacts within the Watershed.

**Milestone:** Process for tribal data collection and application for instream flow water rights under Alaska state law incorporated into Plan.

**Milestone:** The final Restoration Plan will provide a cumulative impacts analysis of mining-related development and the compounding impacts of climate change within the Watershed.

Start date: Aug 1, 2024

End date: Jan 1, 2025

**Cost: \$36,085** based on 200 hours for Project Coordinator (@\$30/hr + 17% Fringe = **\$10,053**), plus round-trip airfare to Nome for one staff person and one tribal representatives from Elim (\$704), and one tribal representatives from Golovin (\$318), Unalakleet (\$494), Brevig Mission (\$494) and Shaktoolik (\$494), one night's hotel stay (@\$200/room x 6 representatives = \$1,200), a continental breakfast, sack lunch and tea/coffee (\$45/food per person = \$180), a \$200 honorarium per representative (\$1,200) for their participation in a one day workshop, rental space (\$500 for the day) and workshop supplies (\$300) (Total = **5,032**).

100 hours for consultant (@\$150/hour = **\$15,000**) for preparation and coordination of workshops and participation in monthly meetings. (Note: contractor pays their own travel). Continue semi-monthly meetings with local tribal representatives from the aforementioned villages (5 meetings x \$200/honorarium/meeting x 6 individuals = **\$6,000**). (Note: Workshop counts for one meeting).

Indirect costs: **\$17,305** based on a rate of 10% with the exclusion of honorariums, meeting space rental and workshop meals.

***Sub-criterion No. C2—Building on Relevant Federal, State, or Regional Planning Efforts***

*In developing the Plan and partnering with a wide array of stakeholders the NBITWC will complement or meet the goals of relevant Federal, state or regional planning efforts using the following strategies:*

- a) We will research Federal, State and regional planning efforts addressing: 1) Drought and temperature forecasting; 2) Models for predicting instream flows and water temperature; 3) Collection of instream flow, temperature and DO data; and 4) Mapping of critical fish habitat and potentially locatable minerals on lands that have been opened for mining. These protocols will assist Program Managers in prioritizing the mitigation of fish-die offs in the Watershed through identification of the locations where they are likely to occur and in mitigating land use activities that can exacerbate such die-offs.
- b) We will apply and expand each of the planning efforts listed in ***Sub-criterion No. B2. Developing Strategies to Address Critical Watershed Needs or Issues section e*** above
- c) We will also, build upon the the BLM’s BSWI and KS Resource Management Plans to ensure the RMPs incorporates adequate environmental analysis of opening critical fish habitat to mining and other development and of climate change, to include ACEC recommendations and adequately consult with federally recognized tribes. To this end, we will incorporate protocols into the Restoration Plan for 1) drought and temperature forecasting, 2) models for predicting instream flow and water temperature, 3) collection of instream flow, temperature and dissolved oxygen data (DO) including the mapping of critical summer thermal refuge salmon habitat; 4) Streambank erosion; 5) Maps with overlay of sensitive watersheds, and locatable minerals; and as otherwise listed in D.2.2.7 Technical Project Description ***Approach: Task B: Watershed Restoration Planning: sections “e-g”*** above.

**1.2 Criterion D— Presidential and Department of Interior Priorities (10 points) (E.1.4)**

***Sub-criterion No. E1. Climate Change:***

***Combating the Climate Crisis:***

- a) The project will address **declining ecological resiliency** impacts of climate change in the Watershed as described in **Evaluation Criterion B — Addressing Critical Watershed Needs, Sub-criterion No. B1. Critical Watershed Needs or Issues** above. In addition we will and help combat the climate crisis as described as described in **1.3 Technical Project Description Approach: Task B: Watershed Restoration Planning: sections “e-g”** above

This proposed project strengthens water supply sustainability to increase resilience to climate change as described in ***Sub-criterion No. B2. Developing Strategies to Address Critical Watershed Needs or Issues***, Task B: Watershed Restoration Planning, section a.

Does the proposed project contribute to climate change resiliency in other ways not described above? Because the primary concern in the watershed includes premature salmon and other fish species die-offs due to increased stream temperatures, the entire proposed project is focused on the maintaining ecological resiliency. There for each of the efforts in the project including research, data collection, conventional information and traditional knowledge gathering, reaching out to and partnering with a broad array of stake holders, etc. is focused at least in part on addressing climate impacts in the Watershed.

***Sub-criterion No. E2. Disadvantaged or Underserved Communities:***

a) The proposed project will serve or benefit a disadvantaged or historically underserved communities including each of the Native Villages located within the Watershed which are listed as economically impoverished. Benefits include addressing water quality, new water supplies and economic growth opportunities.

b) The Native Village communities are disadvantaged based on low income, high and/or persistent poverty because they are classified as economically impoverished; High unemployment and underemployment; Distressed neighborhoods; High transportation cost burden and low transportation access due to limited roads and increased hazards for traveling on rivers due to climate change; Disproportionate environmental stressor due to the fact that temperatures in the Arctic are increasing 3 times as fast as any where else in the world; Limited water and sanitation access and affordability; Disproportionate impacts from climate change; High energy cost burden and low energy access.

c) The proposed project will provide benefits to an underserved community and the communities meets the underserved definition in E.O. 13985, because population which is made up almost entirely of the Inupiate and Yupik people sharing a particular characteristic and geographic communities which is limited to the North Bering Sea Region of the Arctic, have been systematically denied a full opportunity to participate in aspects of economic, social, and civic life due to lack of roads and limited travel options due to climate change, are isolated in a remort part of Alaska where the only way to travel outside of the region is by plane or boat.

***Sub-criterion No. E.3. Tribal Benefits (E1.5)***

a) Does the proposed project directly serve and/or benefit a Tribe? Yes. Will the project improve water management for an Indian Tribe? Yes

b) Does the proposed project support Tribal resilience to climate change and drought impacts or provide other Tribal benefits such as improved public health and safety by addressing water quality, new water supplies, or economic growth opportunities. Yes.

## 2. PROJECT BUDGET & NARRATIVE

### 2.1 Proposed Budget

BUDGET ITEM DESCRIPTION	YEAR 1				YEAR 2				PROJECT TOTAL
	COMPUTATION		Quantity type	TOTAL YEAR 1	COMPUTATION		Quantity type	TOTAL YEAR 2	
	\$/Unit	Quantity			\$/Unit	Quantity			
<b>Salaries and Wages</b>									
NBITWC Project Coordinator	\$ 30	700	hours	\$ 21,000	30	500	hours	\$ 15,000	\$ 36,000
<b>Fringe Benefits</b>									
Fringe Benefits	17%			\$ 3,570	17%			2,550	\$ 8,670
<b>Travel</b>									
Project Coordinator Travel to Nome	\$ 352	1	RT Flight	\$ 352	\$ 352	1	RT Flight	\$ 352	\$ 704
Elim Village Representative to Nome	\$ 352	1	RT Flight	\$ 352	\$ 352	1	RT Flight	\$ 352	\$ 704
Golovin Village Representative to Nome	\$ 318	1	RT Flight	\$ 318	\$ 318	1	RT Flight	\$ 318	\$ 636
Unalakleet Village Representative to Nome	\$ 494	1	RT Flight	\$ 494	\$ 494	1	RT Flight	\$ 494	\$ 988
Brevig Mission Village Representative to Nome	\$ 494	1	RT Flight	\$ 494	\$ 494	1	RT Flight	\$ 494	\$ 988
Shaktoolik Village Representative to Nome	\$ 494	1	RT Flight	\$ 494	\$ 494	1	RT Flight	\$ 494	\$ 988
Aurora Hotel in Nome	\$ 200	6	Rooms	\$ 1,200	\$ 200	6	Rooms	\$ 1,200	\$ 2,400
<b>Equipment</b>									
<b>Supplies and Materials</b>									
Workshop supplies	\$ 300	1	Purchase	\$ 300	\$300	1	Purchase	\$300	\$ 600
<b>Contracts/Construction</b>									
Consultant	\$ 150	270	hours	\$ 40,500	\$ 150	220	hours	\$ 33,000	\$ 73,500
<b>Other</b>									
Watershed Honorariums Online	\$ 200	11	Meetings	\$ 13,200	200	11	Meetings	13200	\$ 26,400
Watershed Honorariums In Person	\$ 200	1	Individuals	\$ 1,200	200	1	Individuals	1200	\$ 2,400
Workshop breakfast & lunch plus tea/coffee	\$ 45	1	Meetings	\$ 270	45	1	Meetings	270	\$ 540
Meeting hall rental fee	\$ 500	1	Individuals	\$ 500	500	1	Individuals	500	\$ 1,000
<b>SUBTOTAL</b>				<b>\$ 84,244</b>				<b>\$ 69,724</b>	<b>\$ 153,968</b>
<b>Indirect Costs</b>									
Percent	10%			\$ 8,424.40	10%			\$ 6,972.40	\$ 15,397
<b>ESTIMATED PROJECT COSTS YEAR 1:</b>				<b>\$ 92,668</b>	<b>ESTIMATED PROJECT COSTS YEAR 2:</b>			<b>\$ 76,696</b>	<b>\$ 169,365</b>

### 2.2 Budget Narrative

Norton Bay Intertribal Watershed Council requests \$98,516 in WaterSMART funds to establish the Norton Bay Watershed Collaborative.

#### Salaries and Wages: \$51,000

Project Manager – TBT, NBITWC Project Coordinator will engage in conventional and TNK data gathering for climate change risk assessment and climate forecasting model, and collect water quality data (instream flow, temperature and dissolved oxygen) needed to provide quantitate baseline information. Year One: 1,200 hours @ \$30/hour = \$36,000. Year Two: 500 hours @\$30/hour = \$15,000.

#### Fringe Benefits: \$8,670

Includes FICA (6.2%), FICA MED (1.45%), ESC (1%), workers Compensation (.1%), 403 (b), pension (5%); and life insurance (3.25%), for a calculated rate of 17% of salaries and wages for full-time employees. Year One: 17% of \$36,000 = \$6,120. Year Two: 17% of \$15,000 = \$2,550.



**Travel: \$2,400**

Covers flights round-trip airfare to Nome for one staff person and one tribal representatives from Elim (\$1,408), and one tribal representatives from Golovin (\$636), Unalakleet (\$988), Brevig Mission (\$988) and Shaktoolik (\$988), two night's hotel stay (@\$200/room x 6 representatives = \$2,400), to fly from their respective villages to Nome, Alaska for a one-day Collaborative workshop in Years One and Two at a cost of \$1,200/year.

**Equipment Costs: None****Supplies & Materials: \$600**

Covers the cost of xerox copies for stakeholder surveys, flip charts, notepads and pens and thumb drives needed for Collaborative workshops in Years One and Two at a cost of \$300/year.

**Contractual: \$78,000**

Contract - covers the cost of services for stakeholder engagement and local knowledge gathering during meetings with Partner Villages, development of a climate change risk assessment for the Watershed, a climate forecasting Matrix, and resource maps, and outreaching Watershed Collaborative findings, risk assessment, and forecasting Matrix to participating villages and area resource managers. Year One: 300 hours at \$150 an hour = \$45,000. Year Two: 220 hours at \$150 an hour = \$33,000.

**Other expenses: \$13,760**

Honorariums to be presented to 6 Native village participants (one each from Elim, Golovin, Unalakleet, Shismaref, Brevig Mission and Shaktoolik) for online participation in 22 Collaborative meetings per year at a rate of \$20/honorarium = \$26,400/year.

Honorariums to be presented to 6 Native village participants (one each from the aforementioned villages) for in person participation one-day workshops in Nome in Years One and Two at a rate of \$200/honorarium = \$2,400/year.

\$500 /day for meeting space and \$45/day/person for continental breakfast, a brown bag lunch, and tea and coffee for six participants during one-day meetings in Years One and Two = \$1,540/year.

**Indirect Rate: \$14,568**

NBITWC uses the Federal de minimis rate of 10% with the exclusion of honorariums, meeting space and workshop meals.

### 3. ENVIRONMENTAL AND CULTURAL RESOURCE CONSIDERATIONS

- a) *Will the proposed project impact the surrounding environment (e.g., soil [dust], air, water [quality and quantity], animal habitat)?* No. Please briefly describe all earth-disturbing work and any work that will affect the air, water, or animal habitat in the project area. N/A. Please also explain the impacts of such work on the surrounding environment and any steps that could be taken to minimize the impacts. N/A.
- b) *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?* No. If so, would they be affected by any activities associated with the proposed project? N/A.
- c) *Are there wetlands or other surface waters inside the project boundaries that potentially fall under CWA jurisdiction as “Waters of the United States”?* Yes. If so, please describe and estimate any impacts the proposed project may have. None
- d) *When was the water delivery system constructed?* N/A.
- e) *Will the proposed project result in any modification of or effects to, individual features of an irrigation system (e.g., headgates, canals, or flumes)?* No. 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. N/A.
- f) *Are any buildings, structures, or features in the irrigation district listed or eligible for listing on the National Register of Historic Places?* No.
- g) *Are there any known archeological sites in the proposed project area?* No.
- h) *Will the proposed project have a disproportionately high and adverse effect on low income or minority populations?* No.
- i) *Will the proposed project limit access to, and ceremonial use of, Indian sacred sites or result in other impacts on tribal lands?* No.
- j) *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.

### 4. REQUIRED PERMITS OR APPROVALS

#### 4.1 Required Permits or Approvals

N/A

#### 4.2 Letters of Support for the Project and Letters of Participation

N/A

#### 4.3 Official Resolution

Due to timing of the applicant’s next board meeting, we will submit an official resolution within 30 days after the application deadline.

## **AFA SF 424 Attachment 1 – Areas Affected by Project**

### **1.4 Technical Project Description**

#### ***E.1.1. Evaluation Criterion A— Watershed Group Diversity and Geographic Scope (30 points)***

##### ***Sub-criterion No. A1. Watershed Group Diversity***

- a. The stakeholders within the watershed that affect or are affected by the quantity or quality of water within the watershed include: Federally recognized tribal entities, tribal organizations, Native Corporations, Federal and state land management agencies and mining interests.
- b. The current board membership of the watershed group includes:

Doug Katchatag – President (Native Village of Unalakleet)

Emily Murray – Vice-President (Native Village of Elim)

Carol Oliver – Secretary (Native Village of Golovin)

Robert Keith – Member at Large (Native Village of Elim)

Toby Anunguzuk – Member at Large (Native Village of Golovin)

Matilda Hardy – Member at Large (Native Village of Shaktoolik)

Edna Savetilik – Member at Large (Native Village of Shaktoolik)

John Henry – Member at Large (Native Village of Unalakleet)

Sarah Kotongan – Member at Large (Native Village of Unalakleet)

Chuck Degnan – Member at Large (Native Village of Unalakleet)

Because indigenous peoples living in each of the above Alaska Native Villages make up the majority of the population located within and having vested interest in the Watershed, these members represent the majority of stakeholders located within the Watershed. In addition each of the Village communities listed above consist of Federally recognized tribal governments and retain an Alaska Native Claim Settlement act Village Corporation.