NATIVE VILLAGE OF EKLUTNA

Wetland Program Plan
2014

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chilkat environmental

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INTRODUCTION

Native Village of Eklutna (NVE) is a federally recognized Dena'ina Athabascan Tribe with 330 members. Eklutna is the last traditional Athabascan Dena'ina village in the Anchorage municipality. Our community is located along the Knik Arm of the Upper Cook Inlet twenty-five miles northeast of Anchorage city and about ten miles south of Alaska's fastest growing population centers of Palmer and Wasilla. Eklutna, Incorporated (EI) is the largest landowner in this region of traditional Eklutna Dena'ina territory. Their extensive wetland holdings are detailed and mapped below. However, a 40 acre tidal wetland parcel northeast of the Eklutna Village are the only wetlands owned by Native Village of Eklutna.

Thankfully, despite this location being set between urban population centers- our village is surrounded by the: Palmer Hay Flats State Game Refuge, Chugach State Park, and Joint Base Elmendorf Richardson (JBER). In addition, these natural areas are connected by three EI owned wetland conservation easements. This unique web of land ownership and management provides contiguous wildlife and aquatic habitat around the Upper Knik Arm of Cook Inlet. This region supports intact and high function wetlands necessary to our traditional Dena'ina culture and quality of life.

Our subsistence way of life depends on healthy fish and wildlife habitat. This subsistence lifestyle is what connects our people to each other and our traditionally used lands. Through this connection we strongly support pursuits to preserve, steward and sustainably develop our traditional lands, air, water, animals, birds, fish and plants.

Wetlands offer anadromous fish, migratory bird and moose habitat- all important subsistence species. In addition to providing subsistence wildlife habitat, wetlands provide many important ecological and cultural functions and values, including but not limited to: filtering water contaminants, flood and erosion control, water quality protection and aesthetic and recreational values that can increase the value of associated land.

Given these special functions and cultural values associated with wetlands, the NVE believes a specific plan is needed to maintain wetland productivity and to ensure the preservation and connectivity of wetlands on this landscape. The Native Village of Eklutna Wetland Program Plan (WPP) takes inspiration from a formative and current NVE Land and Environment Department Mission Statement Goals:

> *"To understand, protect, restore, secure and enhance traditional lands, environment and uses while maintaining cultural integrity".*
>
> *"Protect and manage traditional lands and environment for the benefit of Eklutna people and our way of life; under Council guidance."*

PURPOSE

The Native Village of Eklutna Wetland Program Plan 2014 covers a 5 year period from 2015 through 2019. The overall goal is to: "protect and manage traditional wetlands for the benefit of Eklutna people and our way of life".

The specific goals of this WPP are to coordinate the preservation, restoration, enhancement, and creation of important wetlands within the Upper Kink Arm of the Cook Inlet Watershed in Southcentral Alaska. One purpose of this plan is to encourage collaboration between NVE and EI and strengthen the stewardship of wetlands on EI owned wetlands and the Eklutna River Watershed. This plan promotes informed land management decisions that enhance Dena'ina cultural resources and support conservation and sustainable development.

The WPP objectives focus on voluntary restoration and protection, monitoring and assessment, and capacity development. This plan includes a contribution from the Great Land Trust (GLT) which provides an inventory and conservation prioritization of wetlands for the Upper Cook Inlet, with specific focus on Eklutna Inc. lands. In addition, this plan proposes to use EI property development priorities, Dena'ina cultural place values, and further assessment results to inform conservation and development decisions.

Further, the Draft 2012 Anchorage Wetlands Management Plan and Matanuska-Susitna Borough Wetlands Management Plan. (These are downloadable from the Municipality of Anchorage and Matanuska-Susitna Borough websites) include useful and practical prioritizations and assessments for the Upper Knik Arm watershed wetlands. We are fortunate that other groups are assessing and prioritizing the functions and values of these wetlands. The EPA suggests Tribal WPPs include monitoring and assessment objectives for purposes of land management decision-making. NVE is excited to step up and contribute where information gaps are encountered that require additional monitoring and assessment to inform land management decisions.

While most Tribal WPP include regulatory objectives, Alaska Tribes lack jurisdictional scope outside of trust lands, therefore, this plan puts an emphasis on Voluntary Restoration and Protection, as suggested by EPA. However, Eklutna Inc. owns - or is due by selection and conveyance - roughly 124,500 acres in the Municipality of Anchorage and Matanuska-Susitna Borough. Much of these are wetlands and associated forest borders, rivers, streams and riparian zones particularly important to salmon. The Wetland Program Plan is intended to help guide compensatory mitigation and direct resources to protect, restore, enhance, and create wetland resources within the Eklutna River and Upper Cook Inlet watersheds. As the population in the region grows, impacts to wetlands- under the Clean Water Act (CWA) Section 404 Regulatory Program- will continue to occur. To avoid habitat loss, restoration, enhancement, and/or creation of habitat will need to occur at a rate that exceeds impacts from development. This document identifies potential sites for discussion to determine if they are appropriate for compensatory mitigation under the 2008 Final Rule.

EI and NVE resolutions commit to work cooperatively to develop conservation easements and possibly a mitigation land bank. (Appendix A, Attachments 4 and 5) EI and NVE actively implement the 2012 MOU Between Eklutna, Inc. and Native Village of Eklutna "…to establish a framework for a cooperative working relationship" and "…collaborate on mutually beneficial

efforts…" The implementation of this WPP will require cooperation and collaboration between EI and NVE.

NVE has been working for over a decade to encourage more coordinated wetlands management between landowners and managers, agencies, land trusts, and Tribal and other interests in the Upper Cook Inlet Watershed and will continue to do so. As an example, objectives of this plan could also be applied to extensive Joint Base Elmendorf Richardson (JBER) wetlands. The Purpose of the MOA between the U.S. Army Garrison Fort Richardson and the Native Village of Eklutna, now extended to JBER is:

- To formally recognize our Government-to-Government relations and recognize areas of mutual concern and support, promote communication between the parties and establish a framework for cooperative relationships, to include conducting research to provide optimal management of natural and cultural resources on public lands on fort Richardson, in that the traditional territory of the Tribe includes all lands under USAG FRA's management at Fort Richardson.

We hope this plan can act as an example for other Alaska Tribes that share the common context of landless Tribes intent on improving land management. Most Alaska Tribes are, like NVE surrounded by landholdings of Native Corporations. Coordination of Tribes and their corporations present fantastic opportunities for conservation.

TRIBAL WPP AND LAND MANAGEMENT

This WPP does not propose to prevent landowners from developing property nor does it propose to or add layers of regulatory oversight and red tape. Rather, this plan is an effort to advise and promote wise development and pursue mutually beneficial and acceptable protection measures. Unlike the majority of states in the Pacific Northwest where nearly all wetland habitats are of critical value because of the historic loss to these aquatic resources, Alaska wetlands are extensive with relatively high functionality. The abundance of Alaska wetlands requires collaborative and cooperative decision making to ensure the benefits of conservation efforts and maximize the opportunity for sustainable development. This WPP brings attention to valuable wetlands and functions, and strategizes methods to collaboratively protect, restore and enhance these wetlands.

Tribes and states in the lower 48 manage wetlands because they own land and have management authorities. Municipalities such as Anchorage have prepared wetlands plans for the same reasons. Alaska Native corporations, such as Eklutna Inc., own extensive property and make land management decisions, constrained by State laws. On the other hand, Alaska Tribes are generally landless and are not generally empowered with explicit land management authority. Alaska Tribes have legal authority to manage conservation easements, (Alaska Uniform Conservation Easement Act, ASC 34.17.060) which can increase Native management of traditional resources and uses like subsistence (see Appendix A). In 2013, with the passing of the Akiachak decision (Akiachak Native Community, et al., v. Kenneth Salazar, Secretary of the Interior, et al., and The State of Alaska, Intervenor, Civil Action 06-969, United States District Court for the District of Columbia, march 31, 2013) Tribal owned lands can be placed in trust and Alaska Tribes have new opportunities for expanded sovereign authority to manage lands and promulgate Tribal subsistence regulations that could be applied to conservation easements. NVE has developed objectives in this

plan to encourage Tribal involvement with management of trespass, reducing salmon fishing and moose hunting pressure, habitat restoration, cleanup and junk vehicle removal on conservation easements. NVE WPP objectives propose to work with GLT and EI to participate in managing conservation easements and develop Tribal land trust capacity over the next 5 years.

The success of this plan includes partnerships with Eklutna Inc. and others to help guide wetlands management and to enhance management on surrounding lands. NVE does not own wetlands extensive enough to require a planning effort. However, Eklutna, Inc. owns about 56,000 acres of land, with 68,500 acres selected and remaining to be conveyed in the identified watersheds. Much of this area- regardless of land ownership and management authority would benefit from wetlands planning.

WETLAND PLANNING AND STEWARDSHIP

The Native Village of Eklutna promotes habitat conservation in the upper Cook Inlet. Our Tribal Council has produced over 20 resolutions supporting conservation efforts. We accept the responsibility as stewards of this land to mitigate impacts to wildlife habitat. This is important to us because of our subsistence lifestyle and our understanding that ecosystems are very complex, requiring that habitat be conserved for all species reliant on it.

The NVE Land and Environment Department has demonstrated competent project management through performance of grants and contracts, including those from; ACF (Alaska Conservation Foundation), USBIA, CIRI (Cook Inlet Region, Inc.), USEPA, USACE, USDOD, KABATA (Knik Arm Bridge and Toll Authority), USMARAD (US Maritime Administration), USGS, USAGAK (US Army Garrison Alaska), UAA (University of Alaska, Anchorage) and USFWS (Appendix B).

In 2001 NVE created the Eklutna River Watershed Council (ERWC) to respond to the great need for improved communication to conservation. ERWC involves broad agency, Tribal and landowner participation, resulting in an effective dialogue for pursuits of habitat restoration. The ERWC has focused mainly on restoration of the Eklutna River, which is diverted at Eklutna Lake about 11 miles above Eklutna Village, and tunneled into the Knik River for power generation and piped for municipal water supply. Consequently no water is released into the Eklutna River from its primary source at Eklutna Lake. Watershed Council membership includes decision makers and valuable contributors such as; Eklutna Inc, ADNR, Chugach State Park, Water Resources, Alaska Railroad Corporation, Municipality of Anchorage, Anchorage Municipal Light & Power, Anchorage Water & Wastewater Utility, Chugach Electric, Cook Inlet Aquaculture Association, Eklutna Power Plant, Eklutna Valley Community Council, Matanuska Electric Association, NVE, Thunderbird Heights Homeowners Association, BLM, ADEC, ADF&G, Anchorage Soil & Water Conservation District, Anchorage Waterways Council, Great Land Trust, and UAF Cooperative Extension Service.

Eklutna Inc. is a leader in wetlands conservation in the upper Knik Arm watershed. In 2011 EI, in partnership with GLT, permanently conserved 4,800 acres at the mouth of the Knik and Matanuska Rivers with a conservation easement. Again in 2012 the partnership completed the Fire Creek and Eklutna River conservation easements covering eight miles of coastline totaling 1,355 acres containing Fire Creek, Mink Creek, Edmonds Creek, Mirror Creek, and Eklutna River estuaries. (Figure 2) The land remains under Eklutna Inc. ownership and traditional uses such as hunting and fishing by shareholders continue under GLT conservation easements management.

NVE played a supporting role in the initiation of these conservation easements. The Eklutna River Conservation Easement was initially proposed by the Tribe in 2002 but also included State of Alaska and Wells Fargo Bank lands. (Refer to Figure 1.) In partnership with GLT, NVE helped develop the proposal that funded the purchase of the first and largest easement, the Knik Islands, as mitigation for Port of Anchorage expansion impacts. Eklutna, Inc. and GLT continued development and implementation of their partnership and these conservation easements, with financial benefits to EI shareholders, while protecting cultural and environmental resources.

These easements contain spawning, rearing, and migration habitat for all five species of Pacific salmon. The Eklutna River easement includes Eklutna's educational fish net site where youth learn to catch and process salmon. They provide excellent moose habitat and primary Eklutna moose hunting areas. They also provide habitat for many diverse bird and wildlife species, and salmon for the endangered Cook Inlet Beluga Whales. The addition of these conservation easements results in a 35-mile long wildlife corridor of nearly continuous protected lands, mostly wetlands, bordering upper Knik Arm, from Palmer Hay Flats State Game Refuge, past Eklutna, and on to Fire Creek near Beach Lake. (Refer to Figure 2.) This tidal wetland wildlife travel corridor extends another 30 miles or more through Joint Base Elmendorf and around Anchorage proper, and links with Chugach State Park and up the Eagle, Knik and Matanuska Rivers. Eklutna Inc. owns an additional 5,375 acres of wetlands that will be discussed under the prioritization component of this plan.

Two other conservation priorities are the 40 acre NVE owned tidal wetland parcel northeast of the village and the 40 acres bordering Fish Creek across Knik Arm that would be acquired by Knik Tribal Council (KTC) and NVE, should the Knik Arm Bridge go to construction, as part of the mitigations pertaining to the Knik Arm Bridge and Toll Authority (KABATA) Programmatic Agreement with the Tribes. The NVE owned parcel straddles a tidal slough that was the outlet for flow from Eklutna River and the old Eklutna Power Plant, and borders Knik Arm. Elders recall catching salmon there. Indian potatoes proliferate on the bank, wildflowers are profuse on the wetlands, and diamond willow groves add to its significance as moose habitat for village subsistence. There is no road access, and it is surrounded on three sides by ADOT lands that could be included in a conservation easement. (Refer to map Figure 1, and pictures in Appendix D.)

The Fish Creek parcel was selected for mitigation by the Tribes due to its historic cultural significance and ideal location for a cultural education fishery and camps. Wetlands there have sustained damage form ORV use associated with a State subsistence fishery. A conservation easement is proposed for this parcel that would encourage the cultural educational activities and mitigate the ORV impacts. (See Appendix E)

Incremental impacts to wetlands have already had negative cumulative impacts on habitat for subsistence species. The 2008 Compensatory Mitigation for Losses to Aquatic Resources Rule (40 CFR Part 230) presents many opportunities for landowners to cost effectively restore, protect and enhance these wetlands. Mitigation funds from the Port of Anchorage expansion were authorized to permanently protect wetlands and fish and wildlife habitat on the Eklutna, Inc. owned estuarine islands in the mouth of the Knik and Matanuska Rivers, at the top of Knik Arm, Cook Inlet. Similarly, mitigation for future development projects can likely support conservation of more prioritized wetlands. The potential of cooperation between Eklutna Inc., NVE and Great Land Trust is evidenced by recent success facilitating conservation easements.

Figure 1: NVE proposed Conservation Easement 2002
Most of these Eklutna, Inc. owned lands are now in the Eklutna River Estuary Conservation Easement.

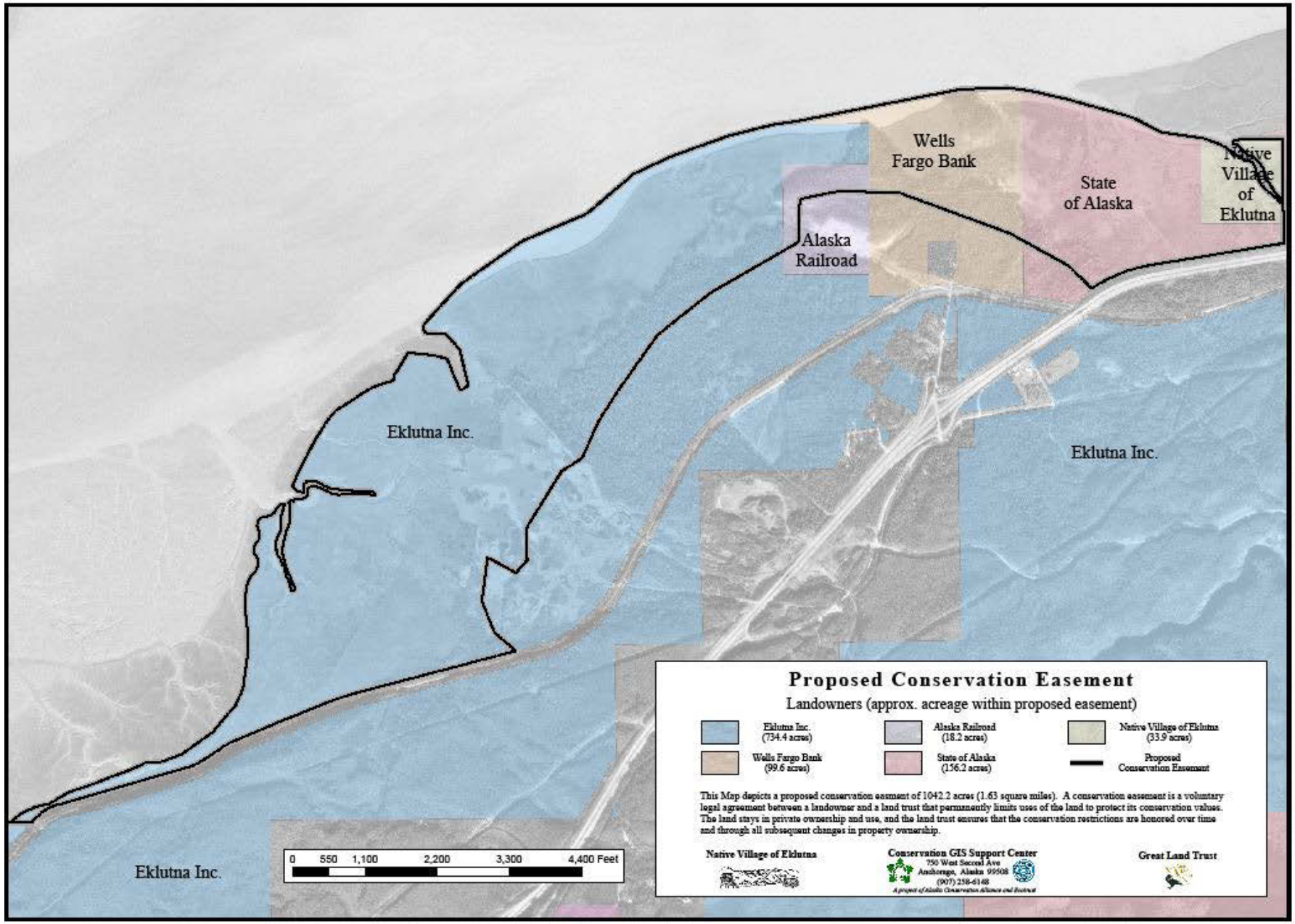
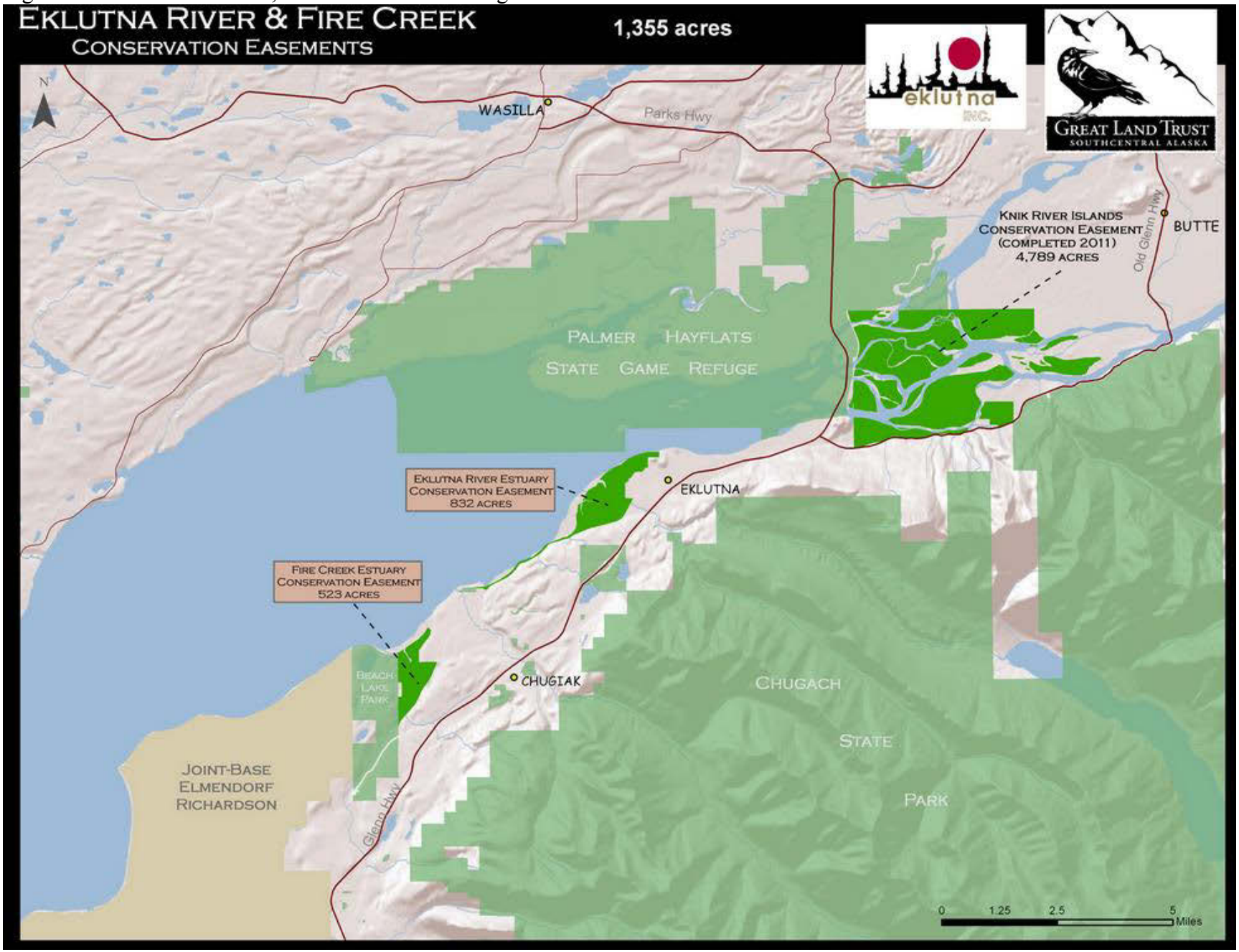


Figure 2: Eklutna Inc. owned, Great Land Trust managed Conservation Easements



LAND USE DISCUSSION

Land use in the Upper Knik Arm is fragmented, as are land use goals. While these wetlands support diverse populations, some are heavily impacted by water diversion, historic gravel mining and uncontrolled public access.

Eklutna is positioned along intertidal wetlands that form a narrow strip between the Knik Arm of the Cook Inlet and the Chugach Mountains. The area has been used as a travel corridor throughout time immemorial by many species. The corridor provides a narrow flyway connecting Southcentral Alaska to the interior and large flocks of migratory birds can be observed seasonally. The Glenn Highway and Alaska Railroad parallel these lands providing an important travel corridor for surrounding habitats, such as those on the Fort Richardson and Elmendorf military bases, Palmer Hay Flats State Game Refuge, Anchorage Bowl, Knik River and Matanuska-Susitna Valley. The Moose population is connected between the large valley population, which congregates on the Palmer Hay Flats in winter, and the Anchorage bowl population.

Historic gravel mining around the lower Eklutna River by the now state-owned railroad degraded habitat and created ponds that provide suboptimal habitat for juvenile fish. These ponds could be greatly improved to provide more reliable overwintering and rearing habitat. Poorly controlled public access to Eklutna Inc. lands has resulted in extensive illegal dumping of garbage, and lack of sufficient wildlife law enforcement resulting in unmanaged and excessive hunting and fishing, and erosion impacts associated with uncontrolled off-road vehicle use. Lands near the lower Eklutna River are currently being mined for gravel and will require restoration after mining activity, with significant potential for wetlands creation. Habitat loss has displaced waterfowl in the Upper Cook Inlet, furthering the importance of remaining wetlands.

Fish are the most nutritionally important subsistence resource for the Eklutna people and all species of Pacific salmon are found in the Knik Arm and Eklutna River. The Eklutna River ecosystem, near Eklutna Village, supports all 5 species of Pacific Salmon thanks in part to wetlands that provide rearing habitat. Overwintering habitat could be increased with lower Eagle River wetlands restoration. There are several traditional Dena'ina set net sites along the Knik Arm, some still used with an educational fisheries permit. The permit also allows use of traditional fishing gear, such as moose bone tipped spears and willow fish traps in Eklutna River. Wetlands conservation and restoration can serve as an important component of fisheries restoration in the Eklutna River and improvement of wildlife habitat to support subsistence and overall ecosystem health.

Moose are abundant and rely on wetlands and forest border edge habitats that serve as a sanctuary, especially during hunting season, although off road vehicle use there has increased in recent years. Extensive areas of regenerating felt leaf willow saplings and other flora in the Eklutna River riparian zone, which was mined for gravel around 1980, provide moose browse. Knik Arm wetlands serve as winter refuge habitat, where hundreds of moose can be observed, especially during heavy snow winters, said to come from as far away as the Big Susitna River. The diversity of wildlife and ecotypes supported by the Eklutna area wetlands is suggested by the species listed below.

Mammals
Moose, Dall Sheep, Snowshoe Hare, Beaver, Muskrat, Brown Bear, Black Bear, Porcupine, Lynx, Coyote, Wolf, Red Fox, River Otter, Weasel, Least Weasel, Hoary Marmot, Red Squirrel, Beluga Whale, Harbor Seal, Little Brown Bat, Masked Shrew, Dusky Shrew, Northern Water Shrew, Pygmy Shrew, Northern Bog Lemming, Brown Lemming, Red-backed Vole, Meadow Vole, Tundra Vole, Singing Vole, Meadow Jumping Mouse, Arctic Ground Squirrel, Pine Marten, and Mink
Fish
King Salmon, Silver Salmon, Chum Salmon, Pink Salmon, Sockeye Salmon, Dolly Varden Char, Rainbow Trout, Burbot, Stickleback, Hooligan
Birds
Bald Eagle, Northern Goshawk, Sharp-shinned Hawk, Merlin, Kestrel, Osprey, Melanistic Red-Tailed Hawk, Great Horned Owl, Northern Harrier, Northern Hawk Owl, Raven, Steller's Jay, Gray Jay, Spruce Grouse, Ruffed Grouse, Willow Ptarmigan, Greater Yellowlegs, Sandhill Crane, Great Blue Heron, Canada Goose, White Fronted Goose, Tundra Swan, Trumpeter Swan, Mallard, American Widgeon, Northern Shoveller, Canvasback, Northern Pintail, Harlequin Duck, Black-billed Magpie, Black-capped Chickadee, Boreal Chickadee Ruby-crowned Kinglet, Golden-crowned Kinglet, Swainson's Thrush, Hermit Thrush, American Robin, Orange Crowned Warbler, Savannah Sparrow, Fox Sparrow, White Crowned Sparrow, Dark-eyed Junco Common Redpoll, Downy Woodpecker, Hairy Woodpecker

Table 1. List of species known to be common or occasionally present in the Eklutna wetlands. This list was developed from traditional knowledge communications, literature review on similar, nearby properties, (1986 Palmer Hay Flats State Game Refuge Management Plan, 1981 USFWS Kink Arms Wetland Study, Fort Richardson species lists, DEIS for the proposed Stryker Brigade transformation, information provided by UAA Environment and Natural Resources Institute, etc.) and (primarily) NVE Land and Environment Department research and unpublished observations. More detail on our wildlife observations is available in the quarterly narrative reports made by NVE to USFWS for Coastal Program and Conservation Easement Development grants. (contact John DeLapp, USFWS Anchorage Field Office.) The smaller bird species following the waterfowl in the list were identified during a bird walk/song-bird survey lead by Malcolm Ford on June 8, 2000, and attended by NVE youth and staff.

WETLAND PROGRAM PLAN OBJECTIVES

Actions and Activities

The Native Village of Eklutna applauds Eklutna Inc. for its conservation efforts and the 2008 Compensatory Mitigation Rule (40 CFR Part 230) that aligned conservation and corporate objectives. The Tribe is also thankful for the role GLT provided to facilitate wetlands conservation. For time immemorial the Native Village of Eklutna appreciated the abundant hunting and fishing in the Upper Knik Arm to support our people and way of life. Development has already severely degraded our subsistence opportunities in trade for industrial development, transportation infrastructure, housing, flood control, water supply and hydroelectric power. While this infrastructure is very useful we also value the intact and productive ecosystems that supported our people. A central goal of the Wetland Program Plan objectives is to promote improved hunting and fishing in on our traditional lands and prevent its further degradation. Without these resources our people will be challenged to live the traditional way as most of us strive for. The health of the land and traditional life ways of our Dena'ina Athabascan people are closely interwoven. Habitat conservation is crucial for cultural preservation. NVE brings our unique cultural preservation perspective to this discussion after millennia of being here.

NVE is mindful of the economic welfare of Eklutna people, and the development interests of Eklutna, Inc. This plan advances development planning alongside conservation planning to benefit Eklutna, Inc. development options and economic prosperity. Wetlands conservation can increase the economic value of associated lands by purification and recharge of groundwater, flood control, erosion protection, shoreline stabilization, scenic and recreational values and wildlife habitat. Establishment of wetlands conservation easements and other conservation tools on marginally developable land have proven economically beneficial to landowners like Eklutna, Inc.

The following objectives, actions, and activities will be pursued with open communication and approval of landowners, to benefit conservation, economic and mutual interests. The three objectives are: Voluntary Restoration and Protection, Monitoring and Assessment and Capacity Development. Actions are bulleted and Activities, or details of how the Action will be accomplished, follow each Action.

VOLUNARY RESTORATION AND PROTECTION

- **Conserve additional wetlands** including prioritized high value EI wetlands; Eklutna River corridor (1,851 acres), Jim/Mud/Gull Lake (2,484 acres) and Eagle River (1,040 acres) by conservation easements, in-lieu fee or mitigation banks. (See Appendix A - Native Village of Eklutna Land Conservation Initiative - for a discussion of these land conservation tools.)

These EI owned wetland areas (Figure 8) are prioritized in this order according to historic and current traditional use reports from Eklutna elders and resource users. These reports were gathered by NVE in 2012-2014 for a cultural places mapping study. Several reports cite the Eklutna River corridor wetlands as important moose hunting territory. These wetlands also contribute to Eklutna River salmon, waterfowl, and other habitat near Eklutna Village. The Jim/Mud/Gull Lake was and is fished by Eklutna people, and hunted for moose and bear, and sheep in the adjacent uplands. This interconnected lake and wetlands system provides salmon rearing habitat, along with excellent habitat for waterfowl and other animals. Wetlands along Eagle River were also used for moose hunting, but these reports were for areas higher up the river than those owned by Eklutna, Inc. shown on the prioritization map.

NVE will work with Eklutna, Inc., GLT, and agencies to promote conservation of these wetlands and identify and pursue funding sources.

- **NVE develop partnerships and participation in wetland planning and management** processes with Eklutna Inc. and GLT. Develop and eventually assume management responsibilities for conservation wetlands.

NVE could further the protection, restoration, and enhancement of wetlands and cultural uses by developing partnerships with Eklutna Inc. and GLT, and participation in wetland management processes. Intact or restored wetlands can increase the development value of surrounding lands. Developing and contributing information on wetland properties derived from monitoring activities outlined in the objectives of this plan could assist planning for development as well as conservation and restoration options.

NVE could contribute to effective management of EI/GLT conservation easements with tribal monitoring and mitigation of activities not allowed under easement management plans. Tribal

members could post no trespassing, hunting, and fishing signs and NVE could research and develop enforcement capacities and develop cleanup projects as it has in the past. NVE has established the Eklutna Tribal Land Trust to hold and manage conservation easements. It is currently inactive, but a board could be constituted with EI and NVE selections. Land Trust mechanisms provide opportunities for Alaska Natives to regain sovereign governmental management of traditional lands, resources, and uses such as subsistence.

- Advance wetlands conservation and beneficial uses with **partnerships and consultation** with entities, including federal, state, Municipality of Anchorage, and Matanuska-Susitna Borough, in cooperation with Eklutna, Inc. and other entities when appropriate.

Government-to-government consultation can be an effective means to achieve conservation of prioritized wetlands as in mitigation for other development projects. In this context, we will seek to establish goals that are consistent or compatible across relevant agencies. Information derived from other plan objectives will advise beneficial development and prevent impacts to culturally important resources during development permitting. The objectives in this plan will be facilitated by, and can contribute to this objective.

- Consider resuming **Eklutna River Watershed Council meetings** focusing on wetlands conservation.

The Eklutna River Watershed Council was initiated and hosted by NVE and serves as a forum to facilitate stewardship and conservation in the development of the Eklutna River watershed for its long-term health. The Council's activities include, but are not limited to: 1. Promoting the gathering and exchange of natural resource and environmental related assessments, news, and other information among the Council. 2. Identification of shared watershed issues, opportunities, concerns, problems, and solutions among the Council. 3. Cooperative implementation of Council decisions. 4. Equitable integration of the needs of people with the needs of the environment.

ERWC has met 26 times since 2002, but has not met in the last two years. Meetings could be resumed to develop partnerships to address wetland issues.

- **Plan and conduct wetlands habitat restoration**, particularly at lower Eklutna River gravel mined areas, focused on moose habitat and fisheries habitat and overwintering.

Wetland restoration is the priority for mitigation of impacts to wetlands from development under the Compensatory Mitigation Rule. Wetlands in the gravel-mined areas along the lower Eklutna River owned by Eklutna, Inc. have been significantly degraded. These degraded wetlands are close to Eklutna village and provide significantly to subsistence uses with salmon, waterfowl, and other habitat. Their restoration could enhance subsistence uses and increase the value of these and surrounding lands.

- **Advocate for water allotment** to the Eklutna River and for lower dam removal.

The Eklutna River is diverted at Eklutna Lake about 11 miles above Eklutna Village, tunneled into the Knik River and piped for Anchorage municipal water supply. No water is released into the Eklutna River from its primary source at Eklutna Lake. All 5 species of Alaska salmon still return to Eklutna River in reduced numbers because Thunderbird Creek contributes flow to Eklutna River

about a mile above the village and some water enters the original river channel from minor drainages. Above the Eklutna River confluence with Thunderbird Creek an abandoned 1930's dam blocks fish passage further up Eklutna River. While small streams feed the river above the dam, it is often turbid and flows are too low to support enough salmon to make removal of the old dam worth the cost. Extensive study by NVE and USACE has determined that restoration of flow is needed to restore the Eklutna River ecosystem and its historically bountiful salmon runs attested by Eklutna Elders.

An Act of Congress allows this situation. Three power companies were granted rights to the water, and diverting it for power generation is their financial interest. The Eklutna Snettisham Agreement mandates development of a program to protect, mitigate, and enhance fish and wildlife affected by removing the water from the Eklutna River, and provides for consultation to advocate for mitigation. However, initiation of consultation on the program is only required by 2022 (25 years after the sale of the Eklutna hydro project to the power companies), with implementation to begin by 2027. NVE has, and will continue to advocate for mitigation of Eklutna River flows, and Eklutna, Inc. has offered their support for mitigation.

- **Conduct invasive species investigations and removal.**

Yellow sweet clover proliferates in the lower Eklutna River formerly gravel mined transitional wetlands, and other disturbed areas in the upper Cook Inlet watershed. NVE will pursue opportunities to control it. Repeated cutting will reduce competition with willow moose browse and other native plants.

MONITORING AND ASSESSMENT

- **Perform wetlands functional assessments** to further develop prioritizations.

Wetland field functional assessments can supplement Anchorage Municipality and Matanuska Susitna Borough landscape-level, desktop assessments of wetland functions and values, adding verification, resolution, and focused analysis of target functions.

NVE would like to support and participate in assessment of wetland functions related to subsistence resources to inform development options. Moose are highly wetland-dependent at certain times of the year. Excellent moose habitat may include abundant browse interspersed with forested resting cover and conditions supporting low predator abundance. Wetlands may also serve as migration corridors. Wetlands bordering the upper Knik Arm support major calving and wintering grounds for inland moose populations. The Alaska Food Security Act Wetland Analysis (AFWA) is a wetland functional assessment processes that NRCS supports to assess wetland moose habitat. This method can inform us about which wetlands are most important to conserve, and possibly to enhance for moose habitat.

NVE would like to participate in assessment of wetlands for important spawning and rearing habitat, waterfowl habitat, and habitat for wetland dependent mammals like beaver, otter, and muskrat. Productive wetlands adjacent to riparian areas and anadromous streams contribute productive environmental resources that benefit juvenile anadromous fish in rivers. Amount and flow of water are important. Wetlands stream habitat can be further assessed for substrate, shade cover, large woody debris, pools, bank characteristics, nutrients from detritus, macroinvertebrate

prey, etc. Salmonid overwintering habitat for lower Eklutna River and other wetlands could be monitored to further prioritize wetlands conservation and inform habitat restoration. NRCS and others have rapid habitat assessment methods for wetlands salmon rearing habitat that we can use. Wetlands also contribute to anadromous rearing habitat productivity in Cook Inlet; so, wetlands' adjacency to Cook Inlet could supplement the wetlands prioritization.

Indicators of wetland habitat value for all these species include their abundance, distribution, and habitat use. Measurement of these could be conducted for important species, starting with moose and salmonids (juvenile and mature), on prioritized wetlands. NVE has particular familiarity with these resources and would like to be involved in data collection that could protect subsistence.

- Assess how each objective component can **benefit Eklutna, Inc. development and financial options**. Produce new map to overlay Eklutna, Inc. development plans and wetlands prioritization maps where development plans approach or overlap wetlands.

Wetlands provide economic value for development on nearby lands by supporting hunting and fishing, providing other recreation, education, visual quality and aesthetics, purifying water, reducing the impacts of stormwater runoff, controlling erosion, and slowing and absorbing flood waters. Some of the largest, most expensive new houses in the area are being built with views of the Palmer Hay Flats. All these functions can be assessed to contribute to the economic evaluation of wetland areas. Eklutna, Inc. development plans can be incorporated with the wetlands conservation prioritization maps, and guide economic evaluation assessment of adjacent wetland areas.

- **Incorporate information on Dena'ina cultural and subsistence areas** with conservation prioritizations and functional assessments to inform conservation and development planning, and overlay on wetlands prioritization map. Continue TEK collection documenting cultural sites and use areas.

NVE cultural places map contains multidimensional information from interviews with many community members. It is confidential to NVE. Often, wetlands are portrayed as important for subsistence. Using this cultural places map, NVE works cooperatively with EI and other entities to consider protection of these cultural places and values in conjunction with planned land development. This has already proven useful in further prioritizing two of the three existing Eklutna, Inc. conservation easements for NVE cultural uses management. The Eklutna River Estuary Conservation Easement (832 acres), and the Knik River Islands Conservation Easement (4,789 acres) (Figure 1) are both important hunting areas for moose and other subsistence resources, and fishing and gathering areas. And, the Eklutna River corridor (1,851 acres), Jim/Mud/Gull Lake (2,484 acres) and Eagle River (1,040 acres) were prioritized in that order due to the cultural uses place information.

- **Monitor wetlands water quality** for impaired wetlands.

Monitoring of wetlands water quality as needed to establish baselines and assess effects of projects that may affect water quality. Dissolved oxygen and temperature are important variables to measure to assess fish spawning, rearing, and overwintering habitat and effects of global warming. Impaired wetlands may require monitoring to determine mitigation response and NVE has environmental staff that could support such efforts. There is currently little significant

contamination of focus fresh water wetlands known to NVE staff, except perhaps atmospheric. Many Municipality of Anchorage streams are polluted. JBER continues shelling of Eagle River Flats wetlands, Eagle River receives primary treated sewage, etc. The Knik Arm receives contaminants from multiple sources and NVE would like to test salt water wetland muds to characterize this.

- **Investigate creek crossings and culverts** on EI land to determine where fish passage is intact or in need of mitigation.

Creek crossings and culverts that impair fish passage can block access to large areas of spawning and rearing habitat. Assuring that these are functioning optimally can therefore open large areas of productive habitat to fish populations. Therefore, it will be beneficial to inspect the culverts and creek crossings that allow access to Eklutna, Inc. lands to assure they facilitate fish passage. One culvert on Eklutna, Inc. selected lands that is impeding fish passage is on Cox Creek as it crosses Knik River Road.

- **Gather environmental information** to inform ecological modeling to describe changes in plant communities from climate change, uplift and glacial retreat; i.e. new wetlands and naturally disappearing wetlands.

This effort could reciprocally benefit the national initiatives to assess and adapt to climate change effects. Depending on funding availability, staff could be trained or contractors utilized to investigate these variables.

CAPACITY DEVELOPMENT

- **Develop Tribal wetland management capacity.**

NVE proposes to work with GLT and EI to develop capacity to participate in conservation easements management and Tribal land trust capacity over the next 5 years. This would start with involvement in management of trespass, reducing salmon fishing and moose hunting pressure, habitat restoration, cleanup and junk vehicle removal on conservation easements. NVE would research and develop enforcement capacities, and recruit and coordinate Tribal members to perform these functions, posting no trespassing, hunting, and fishing signs, and working on cleanup and restoration projects.

The Eklutna Tribal Land Trust could be activated with a board selected by EI, NVE, and GLT. This would draw from the strengths of each - land ownership, sovereign management capacity, traditional knowledge, Tribal work force, and experience with land trust tools. Development and management of conservation easements requires a diverse set of capacities. Some are covered by other objectives in this plan. Land Trusts like GLT are proficient in others, including securing funding, and conducting due diligence and valuations on lands. NVE staff could learn some of these land trust capacities in partnership with GLT. ETLT Board would learn to implement all these elements, and land trust standards and practices for optimal wetland management.

- **Continue and expand wetland related education**.

NVE conducts an active environmental education program with EPA Indian General Assistance Program, including subsistence and environmental education camps for village youth. The NVE educational fish net environmental day camps are held in the Knik Arm wetlands near Eklutna village. Traditional knowledge highlighting cultural resource uses and salmon biology, including lifecycles that benefit from intact wetlands are presented to youth. This summer we are planning several culture camps to be held on or near wetlands. These can be enhanced and expanded, and are all excellent opportunities to include wetlands habitat and cultural resources appreciation, and participation in NVE wetlands activities like functional assessments in NVE environmental education program activities.

NVE can also work with agencies and others to educate them, the public, development interests and others about wetland values and encourage their protection.

- **Develop Tribal assessment capacity** to perform wetlands delineation, functional assessment, GIS mapping, ecological modeling and habitat assessments.

NVE staff plans to learn from NRCS their AFWA wetland functional assessment process that can be used to assess wetland moose habitat and would like to participate in assessments. Other wetlands habitat assessment needs and methods will be identified, learned and conducted.

NVE staff intends to obtain training and certification in wetland delineation to assist EI to perform delineations at market or reduced rate. Staff also intends to develop water quality and sediments testing capacity.

The Tribe is learning some GIS and mapping techniques with participation in other programs like the cultural places mapping project and the contaminated sites project.

SUPPORT SOURCE PROGRAMS

NVE will investigate programs that can support WPP activities. Some possible support programs include:

Programs that can support wetlands assessment and conservation include:
Coastal Program – Fish and Wildlife Service
Environmental Quality Incentives Program – Natural Resources Conservation Service
National Coastal Wetlands Conservation Grant Program – Fish and Wildlife Service
National Fish Habitat Action Plan – Fish and Wildlife Service
Tribal Wildlife Grant Program – Fish and Wildlife Service
Wetland Program Development Grant – Environmental Protection Agency

NVE will research Clean Water Act programs for how they can help develop the WPP. Relevant sections may include: §303(c) WQS; §106 & §305(b) monitoring, assessment, and reporting; §401 Water Quality Certification; §319 non-point source; §303(d) TMDL; §402 NPDES permits; §404 permits; and watershed plans under §208; §604(b), §319, and §303(d).

Table 2. WPP Objectives Timeline

OBJECTIVES TIMELINE Dependent on Funding

Objectives and Actions	2015	2016	2017	2018	2019
VOLUNTARY RESTORATION AND PROTECTION	Activities	Activities	Activities	Activities	Activities
Conserve additional wetlands	Annual NVE and EI meeting and supplemental meetings with EI, GLT, NVE and agency staff	Annual NVE and EI meeting and supplemental meetings with EI, GLT, NVE and agency staff	Annual NVE and EI meeting and supplemental meetings with EI, GLT, NVE and staff	Conserve additional wetlands	Conserve additional wetlands
NVE participation in wetland planning and management	Annual NVE and EI meeting and supplemental meetings with EI, GLT, NVE and staff	Annual NVE and EI meeting and supplemental meetings with EI, GLT, NVE and staff	Annual NVE and EI meeting and supplemental meetings with EI, GLT, NVE and staff	Annual NVE and EI meeting and supplemental meetings with EI, GLT, NVE and staff	Annual NVE and EI meeting and supplemental meetings with EI, GLT, NVE and staff
Recommence ERWC meetings	Consult with EI on feasibility, Update members list and solicit	Annual Meeting	Annual Meeting	Annual Meeting	Annual Meeting
Plan and conduct wetlands habitat restoration	Solicit restoration grants.	Solicit restoration grants. Conduct planning	Solicit restoration grants. Conduct Planning	Solicit restoration grants. Conduct Restoration	Solicit restoration grants. Conduct Restoration
Pursue partnerships and consultation	Ongoing	Ongoing	Ongoing	Ongoing	Ongoing
Advocate for water allotment	Solicit water rights grants, Ongoing and facultative advocacy	Solicit water rights grants, Ongoing and facultative advocacy	Solicit water rights grants, Ongoing and facultative advocacy	Solicit water rights grants, Ongoing and facultative advocacy	Solicit water rights grants, Ongoing and facultative advocacy
Invasive species investigations and removal	Solicit mitigation grants	Solicit mitigation grants	Conduct removal	Conduct removal	Conduct removal

MONITORING AND ASSESSMENT	2015	2016	2017	2018	2019
Perform wetlands functional assessments	Select and learn functional assessment strategies. Solicit assessment grants and partnerships	Conduct functional assessments. Solicit assessment funding	Conduct functional assessments. Solicit assessment funding	Conduct functional assessments. Solicit assessment funding	Conduct functional assessments. Solicit assessment funding
Map Eklutna, Inc. development plans and assess wetland economic benefits	Annual NVE and EI meeting and supplemental meetings with EI, GLT, NVE and agency staff	Update prioritization map with development priorities	Conduct economic value functional assessments	Annual NVE and EI meeting and supplemental meetings with EI, GLT, NVE and staff	Conduct economic value functional assessments
Add cultural prioritization	Add cultural prioritization layer using existing data	Continue cultural use documentation	Continue cultural use documentation	Continue cultural use documentation	Continue cultural use documentation
Monitor wetlands water quality	Prioritize water quality information needs, develop capacity	Seek funding and monitor salt water muds and water quality as needed.	Seek funding and monitor water quality as needed.	Seek funding and monitor water quality as needed.	Seek funding and monitor water quality as needed.
Investigate creek crossings and culverts	Assist EI as needed	Assist EI as needed	Assist EI as needed	Assist EI as needed	Assist EI as needed
Conduct ecological modeling	Solicit modeling grants	Solicit modeling grants	Conduct modeling	Conduct modeling	Prepare modeling report
CAPACITY DEVELOPMENT					
Wetlands management capacity	Meet with EI and GLT, plan NVE cleanups, posting of lands, etc. and discuss development of land trust capacities	Post and cleanup lands. Develop capacities for land trust functions	Post and cleanup lands. Develop capacities for land trust functions	Post and cleanup lands. Implement capacities for land trust functions	Post and cleanup lands. Implement capacities for land trust functions
Wetland education	Ongoing	Ongoing	Ongoing	Ongoing	Ongoing
Develop Tribal assessments capacity	Obtain staff wetland delineation certifications and learn other assessment tools	Continue learning assessment methods. Assist EI as needed	Continue learning assessment methods. Assist EI as needed	Continue learning assessment methods. Assist EI as needed	Continue learning assessment methods. Assist EI as needed

CONSERVATION PRIORITIZATION

In 2010 Eklutna Inc. approached the Great Land Trust (GLT) to conduct a prioritization of its lands to identify the most suitable and profitable lands for conservation, either through the sale of 1) conservation easements or access easements, 2) fee simple sale of land or 3) wetland mitigation including wetland mitigation banking. The prioritization document was prepared 2011 and helped facilitate the Knik Islands, Fire Creek and Eklutna River conservation easements. Prioritization was performed on 109,000 acres while an additional 28,000 acres of EI lands were omitted because they are planned for transfer to the state. (See Appendix C.)
The mission of Eklutna, Inc. is;

> "to protect and expand Eklutna's assets and business ventures through orderly diversified growth, utilizing sound management, and financial policies."

They are also sensitive to conservation of traditional resources, so they favor enterprises that profitably conserve traditional lands while retaining ownership.

Great Land Trust developed Eklutna, Inc. owned wetlands conservation prioritization maps for this plan. Eklutna, Inc. lands and corresponding wetlands were identified and mapped using the best available data. Eklutna Inc. owns 6,115 acres of wetlands already under conservation easement and 5,375 acres of wetlands that are not otherwise protected.

An overview of the current ownership status of all Eklutna, Inc. lands is presented in Figure 3. Wetlands on EI lands are presented in Figure 4. Figure 5 shows Eklutna, Inc. land parcels ranked by wetland acreage. Figure 6 shows Eklutna, Inc. lands with a quarter mile square grid system superimposed. Figure 7 shows Eklutna Inc. gridded lands ranked by wetland acreage. Larger wetland areas generally contribute more of all wetland functions. They can support larger and more diverse ecosystems and habitats, and larger animal breeding populations of animals with larger home ranges. Figure 8 presents Eklutna, Inc. wetland grids with riparian zones and anadromous habitat. Wetlands adjacent to riparian areas and anadromous streams contribute productive habitat and resources that benefit juvenile anadromous fish that use rivers. Figure 9 shows Eklutna, Inc. wetland grids and protected areas, prioritized because habitat continuity and effective size is increased by conserving wetlands adjacent to protected areas. It is often easier to get funding for conservation of parcels in or adjacent to already protected areas. A final prioritization is presented in Figure 10 and presents grids containing wetlands by considering these factors, as described below.

WETLANDS PRIORITIZATION SYSTEM

Eklutna, Inc. lands were mapped in Figure 3. Currently patented, selected, interim conveyance, conservation easement, and NALA (North Anchorage Land Agreement) Eklutna, Inc. lands were selected from the Matanuska-Susitna Borough 2013 Parcels, the Municipality of Anchorage 2012 Parcels, and State of Alaska July 2012 General Land Status GIS layers and associated records. Land boundaries and land status were verified against Eklutna Inc. Native Corporation records.

Figure 4 shows National Wetlands Inventory (NWI) wetlands contained within all Eklutna, Inc. lands. Cook Inlet area wetlands data is available from the US Fish and NWI, Matanuska-Susitna

Borough, Municipality of Anchorage, and Mike Gracz's Cook Inlet Wetlands Inventory. To negate cumulative redundancy and variable accuracy between the regional datasets, the statewide NWI data was used exclusively.

Considering conservation easement (CE) and North Anchorage Land Agreement (NALA) wetlands as already managed for preservation, these lands were excluded from the proceeding stages of this evaluation. Patented, selected, or interim conveyance (IC) lands were geospatially intersected with NWI wetlands to show the wetness by current parcel divisions (Figure 5).

A standard sized grid system was used in subsequent rankings. Ranking parcel wetness is deceptive, as wet acres are not normalized to total parcel acreage. Therefore, a standard grid size was superimposed on EI lands. Patented, IC, and selected lands were thus considered independent of parcel boundary and associated acreages by dividing lands into quarter mile (16th section) grid squares (Figure 6). This pixel size was determined arbitrarily, to optimize accuracy and visual functionality. Swaths of darker red correspond to more significant wetland tracts, lighter colors correspond to dryer areas, and colorless areas are generally uplands in figure 7.

For conservation purposes and preservation of wetland continuity, the representative grid prioritization scores considered use by anadromous species, connectivity to riparian areas, and adjacency to already protected areas. Gridded lands not containing wetlands were not considered.

- Active riparian zones were created by buffering a union of Alaska DNR Waterbody line and polygon shapefiles. Any wetland grid square intersecting with or adjacent to a riparian area received an additional point (figure 8).
- Anadromous riparian zones were determined to be areas of the aforementioned buffered riparian zone that intersected with the USFWS's Anadromous Waters Catalogue line or area shapefiles. Any wetland grid square intersecting with or adjacent to an anadromous riparian area received an additional point (figure 8).
- Protected areas were derived from ADNR, Matanuska-Susitna Borough, the Municipality of Anchorage, and GLT's conservation easement geospatial layers. Any wetland grid square adjacent to a protected area earned one point (Figure 9).

Wetland acreage per grid square was considered and scored by normalizing wet acres per grid square. As wetland acreages range from 0-40 acres, additional factors are dwarfed in a scoring with points equal to acreage. All wetland acreages per grid square were thus divided by the maximum wetland acreage of 40 acres, giving each grid square a wetland value and subsequent normalized score between 0 and 1 point added to the above scores. Cumulative wetland acreage per grid square scores is represented in Figure 6.

The resulting "final" wetlands conservation prioritization for Eklutna, Inc. gridded lands is shown in Figure 10. Plan objectives are designed to supplement and refine this prioritization. Conservation priority land blocks remaining unprotected include; Eklutna River corridor (1,851 acres), Jim/Mud/Gull Lake (2,484 acres) and Eagle River (1,040 acres), prioritized in that order, due to the cultural uses place information, by the Tribe.

Figure 3: Eklutna Inc. lands

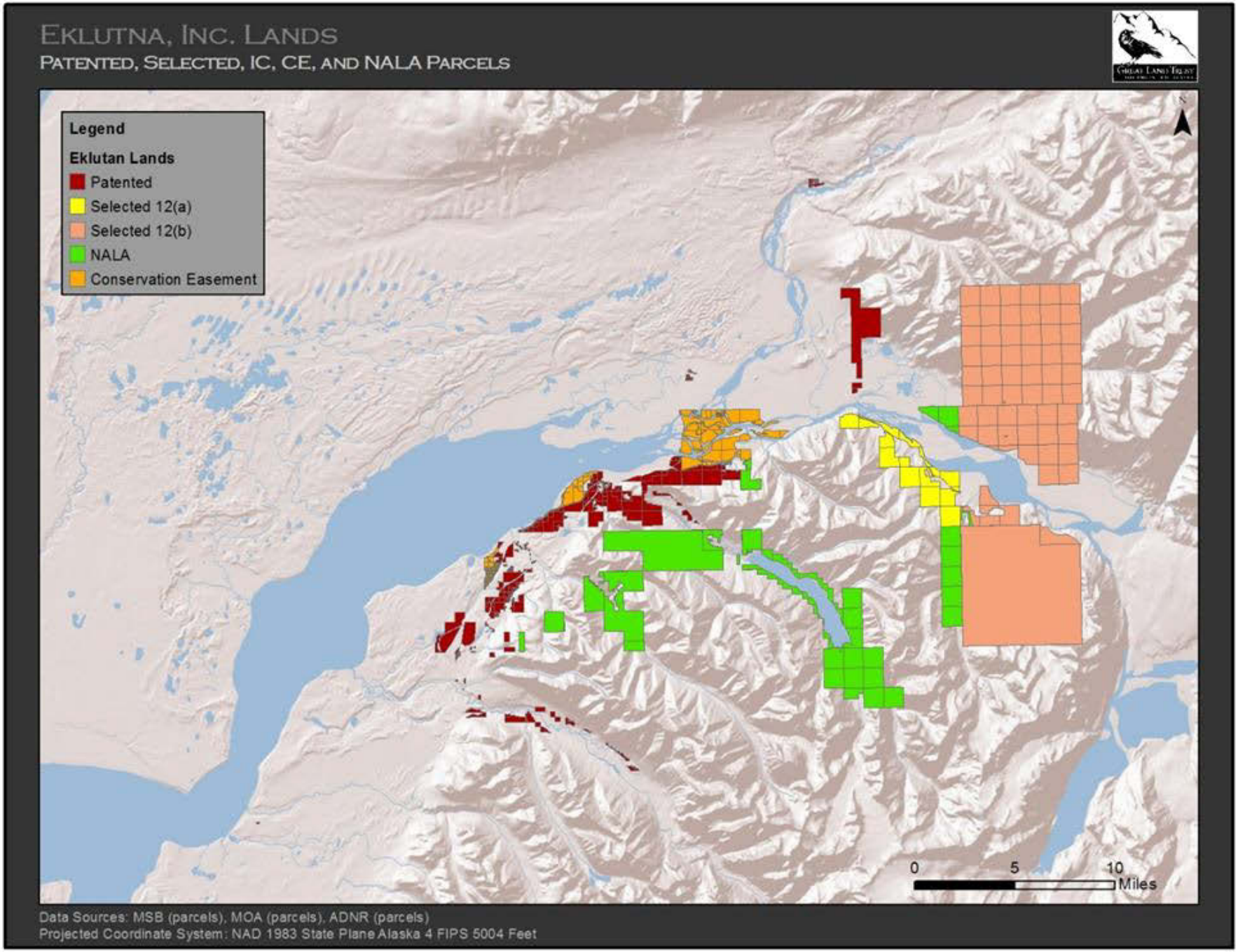


Figure 4: Wetlands on Eklutna Inc. lands

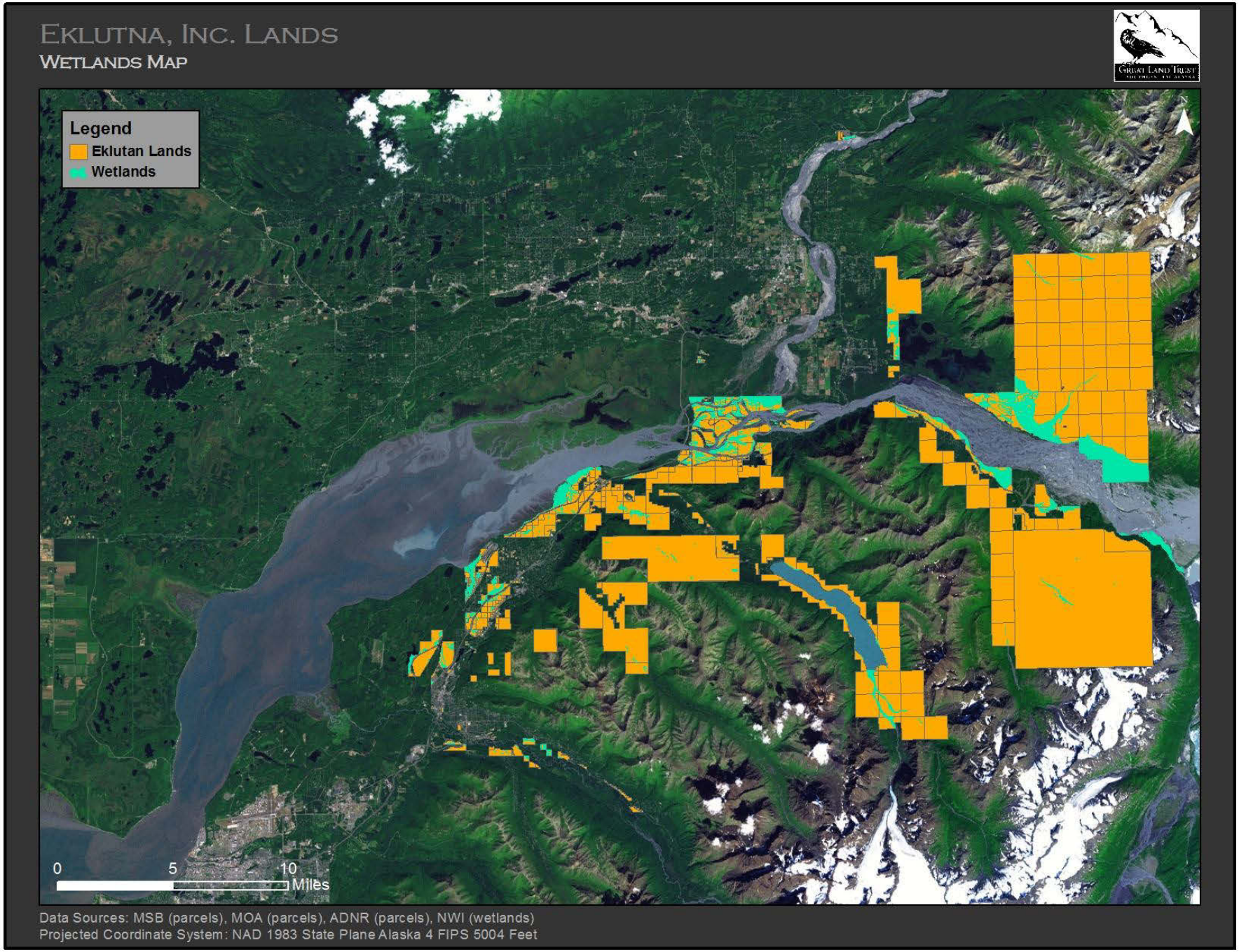


Figure 5: Eklutna, Inc. land parcels ranked by wetland acreage

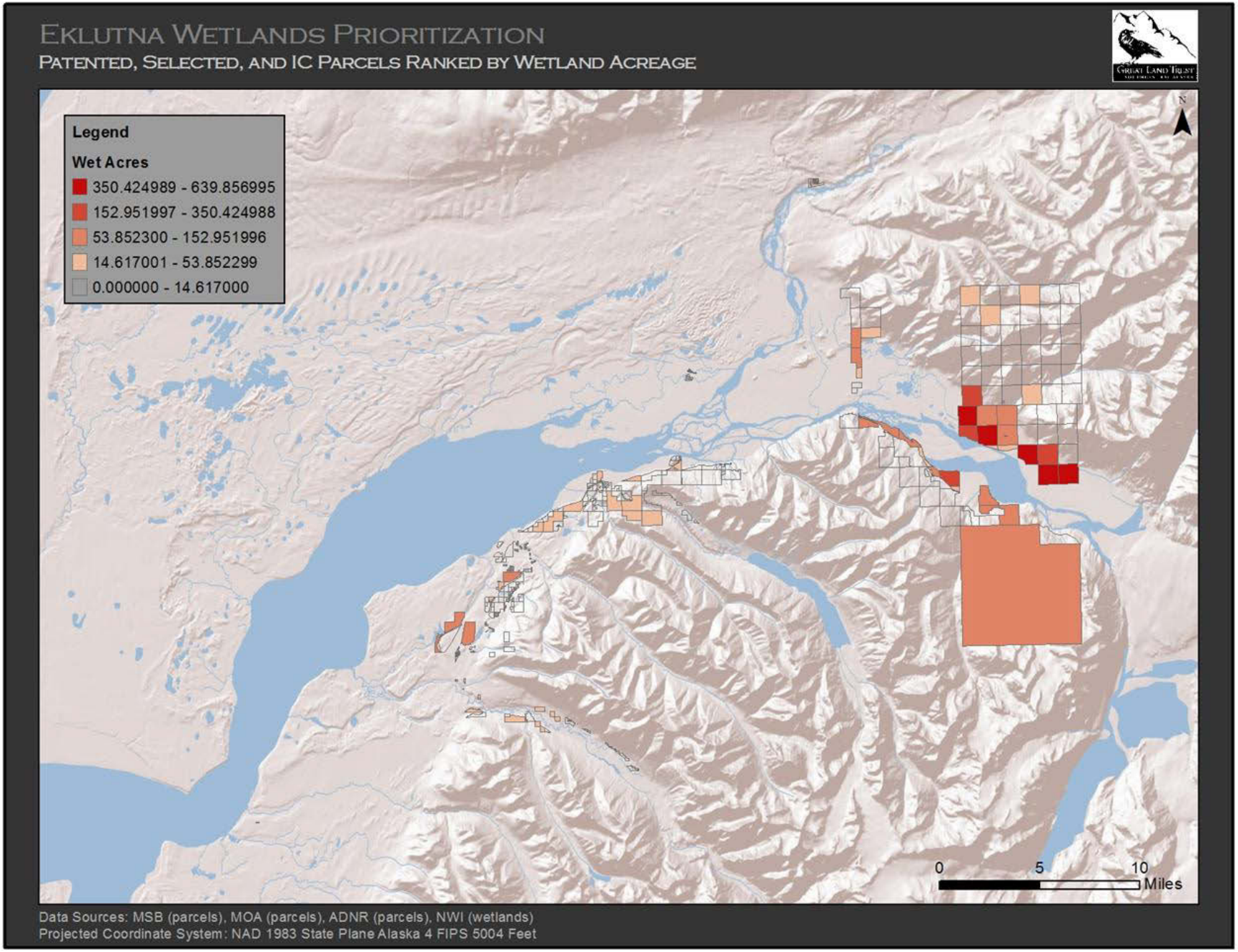


Figure 6: Eklutna, Inc. lands with quarter mile square grid system superimposed

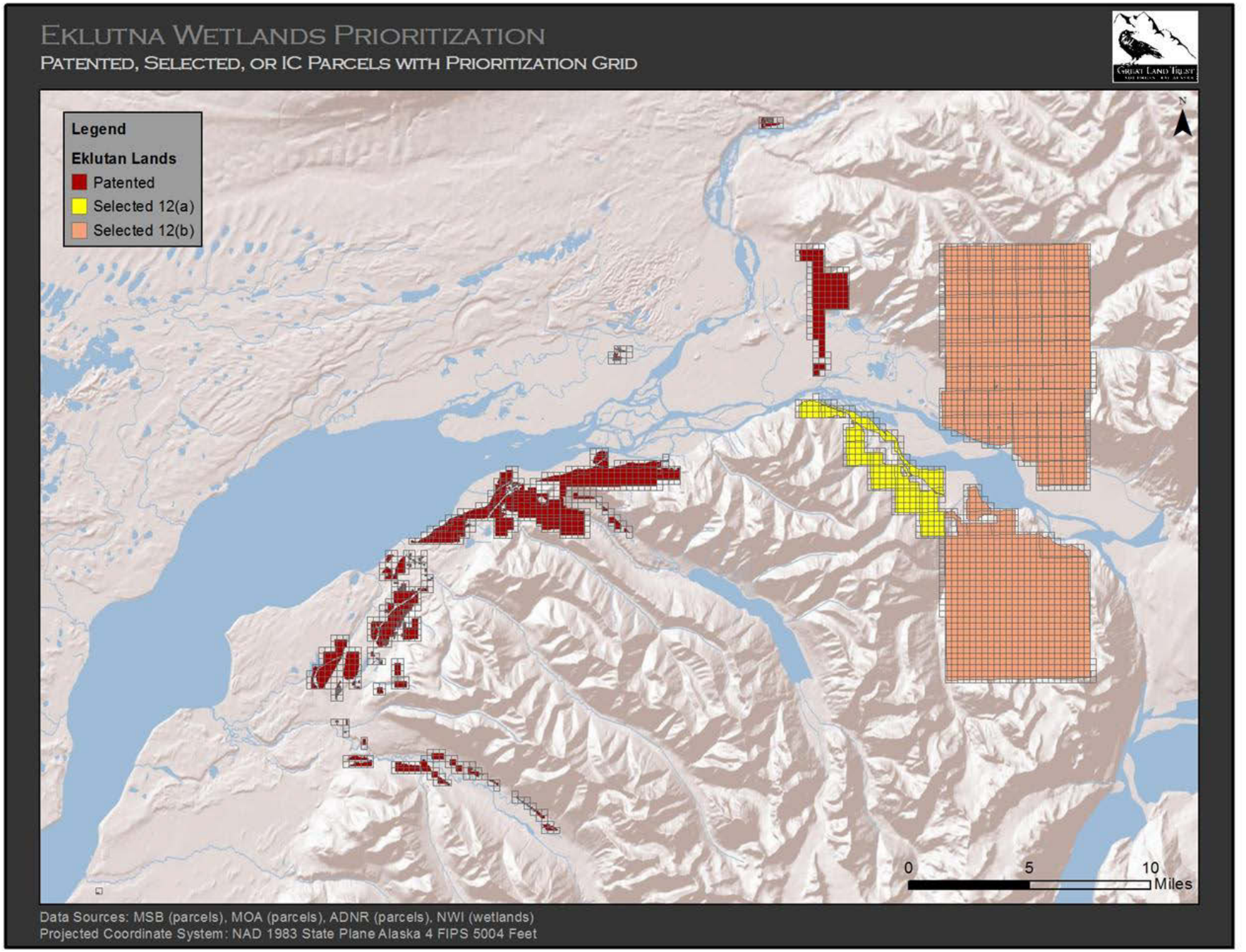


Figure 7: Eklutna Inc. gridded lands ranked by wetland acreage

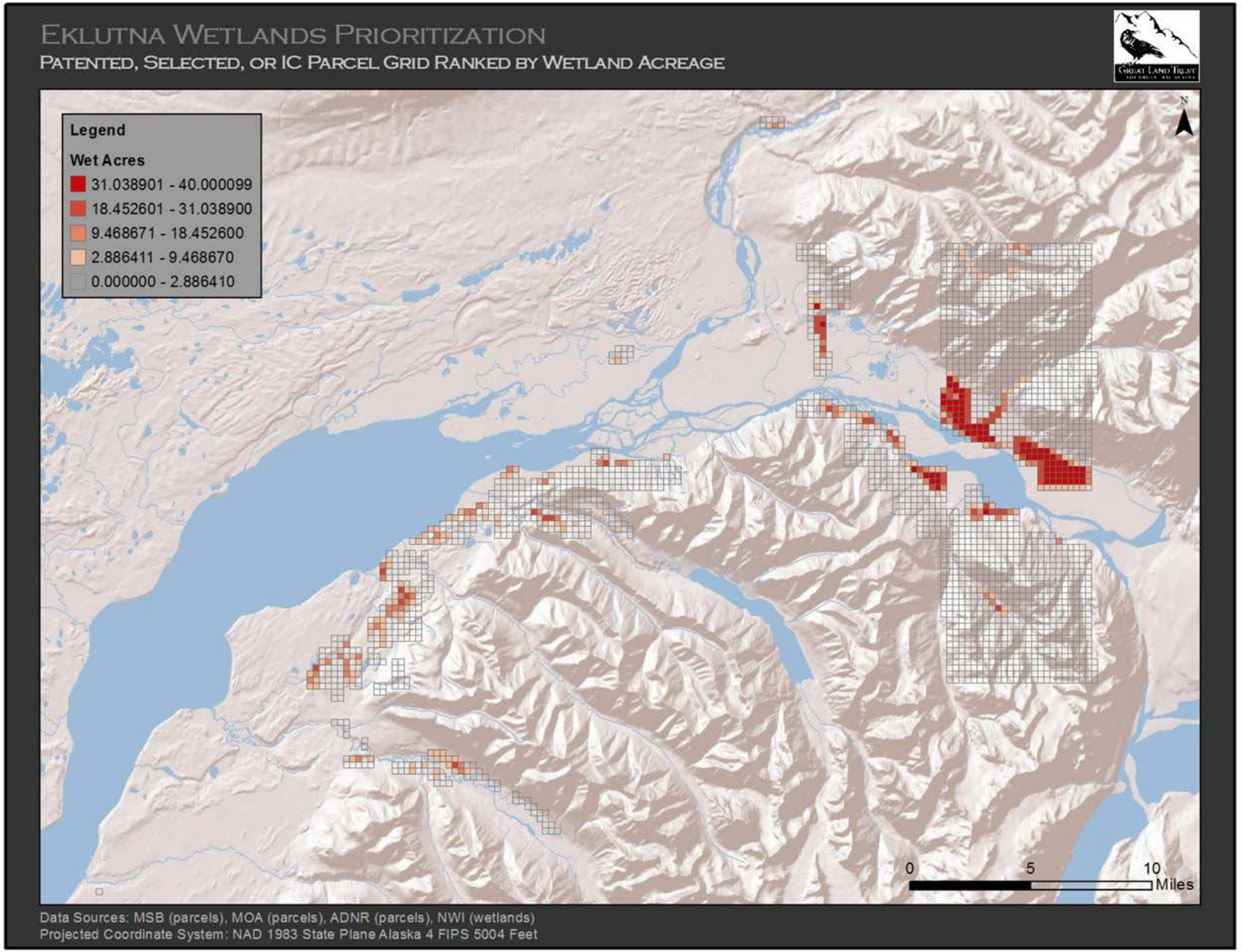


Figure 8: Eklutna Inc. wetland grids with riparian zones and anadromous habitat

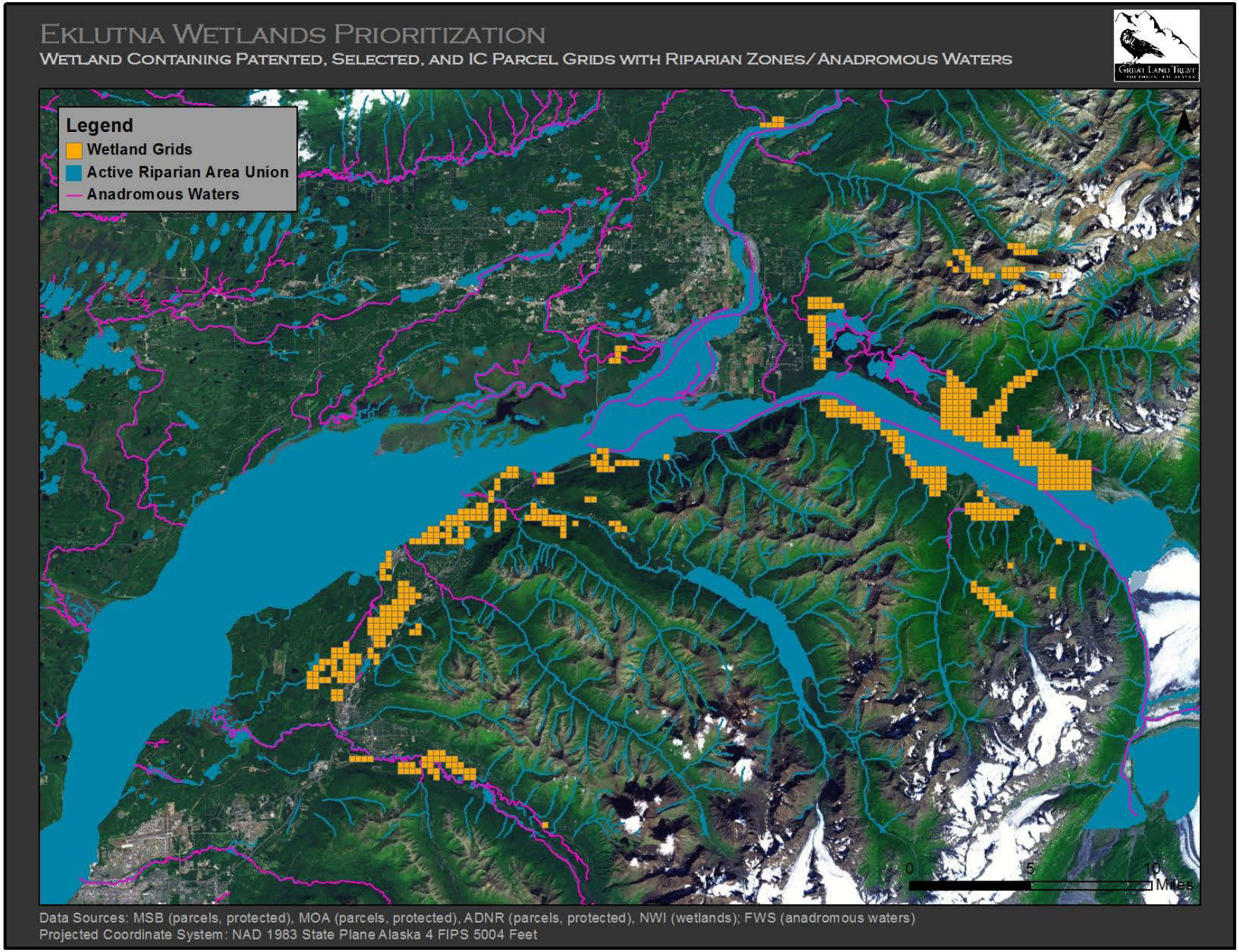


Figure 9: Eklutna, Inc. wetland grids and protected areas

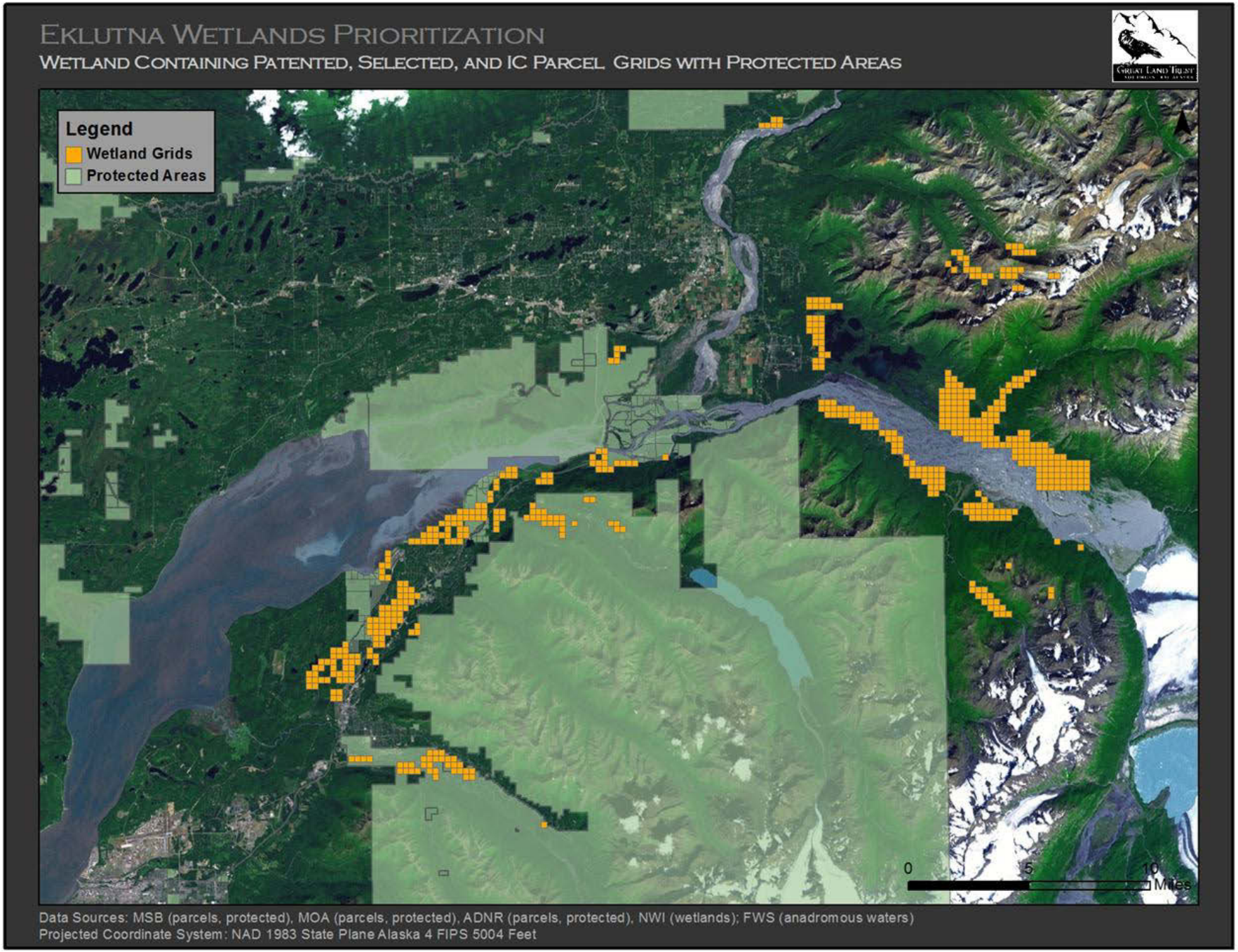
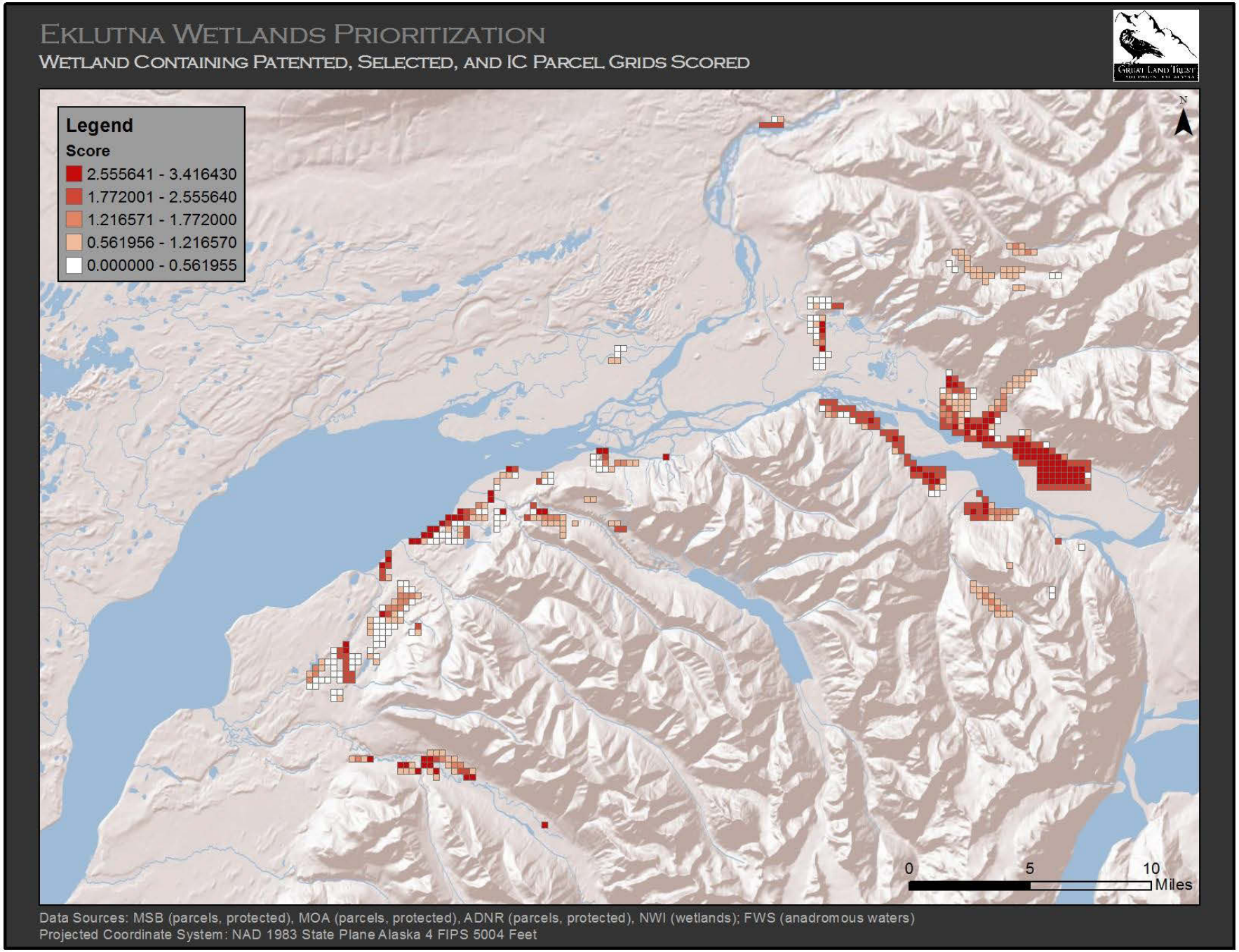


Figure 10: Eklutna Inc. gridded lands “final” wetlands conservation prioritization



ANCHORAGE MUNICIPALITY AND MATANUSKA-SUSITNA BOROUGH WETLAND PLANS

Upper Knik Arm watershed wetlands are located primarily within the Anchorage Municipality and Matanuska-Susitna Borough. The Draft 2012 Anchorage Wetlands Management Plan and Matanuska-Susitna Borough Wetlands Management Plan include useful and practical prioritizations and assessments for the Upper Knik Arm watershed wetlands. The EPA suggests Tribal WPPs include monitoring and assessment objectives for purposes of land management decision-making. NVE plans to contribute additional monitoring and assessment to inform land management decisions.

In the 2012 Draft **Anchorage Wetlands Management Plan** wetlands are classified to inform wetland development management strategies with designations meant to help expedite and facilitate the permit process in all wetland designations. The Municipality of Anchorage performed additional prioritization of wetlands in 2012 including the Upper Cook Inlet. Figure 11 presents wetlands within the municipality and Figure 12 presents their prioritization.

The Anchorage Wetlands Assessment Methodology evaluates four wetland functions:

1. Hydrology,
2. Habitat,
3. Species Occurrence, and
4. Social Function

Each category includes factors that address the most common wetland functions:

1. Sediment trapping (filtering for water quality);
2. Flood retention (flood and/or stormwater attenuation);
3. Erosion control;
4. Nutrient retention, and transport;
5. Fish, wildlife, and plant habitats; and
6. Recreation and heritage values.

Sites with very high scores for more than one function category were generally designated at least “B” and, most often, were given an “A” designation. These sites are important to public health and safety, due to their hydrology and water quality functions. Sites with a mid‐range of scores typically reflect the “B” designation. Most “B” sites provide at least periodic significant contributions to key wetland functions, usually on a more localized scale; i.e., within a watershed or drainage basin. Sites with low scores for more than one category were generally classified as “C”, where wetland functions are not significant. “D” wetlands are Designation pending, and “P” are Potential wetlands. Further considerations went into producing these rankings.

The March 2012 Public Hearing Draft of the Anchorage Wetlands Management Plan can be downloaded from the Municipality of Anchorage website.

Figure 11: Wetlands designations from the Draft Anchorage Wetlands Management Plan

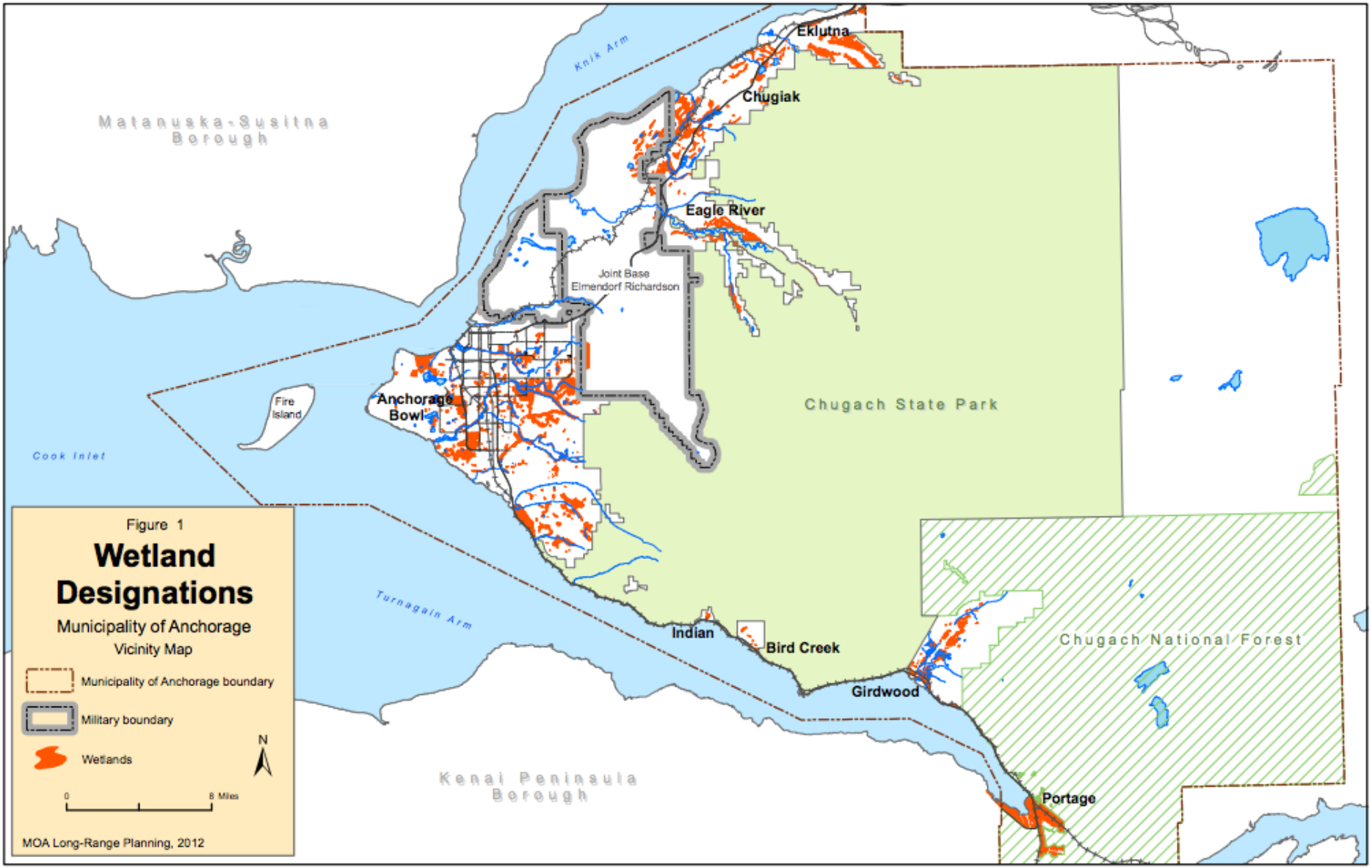
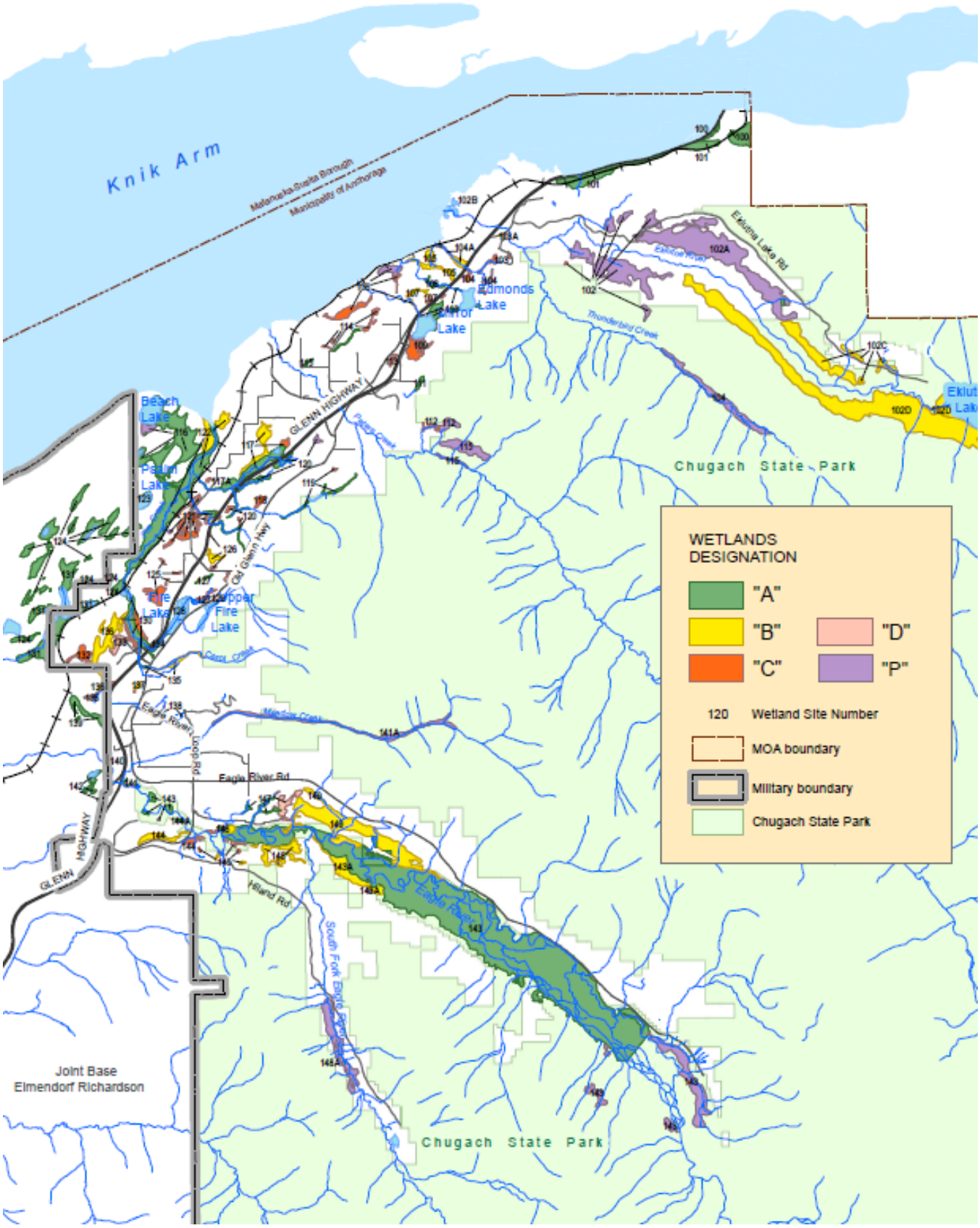


Figure 12: Wetlands prioritization, Eagle River to Eklutna, from the Draft Anchorage Wetlands Management Plan



The 2012 **Matanuska-Susitna Wetland Functions and Values Landscape Level Assessment Methodology and Mapping** is intended to be used as an initial step, to be followed by on-the-ground verification, in project planning and making development decisions.

The GIS layers which were central to this effort are Cook Inlet Lowland Wetlands Mapping created by Mike Gracz. Between 2008 and 2011, Gracz used stereoscopic photography, soils and geologic maps, and site visits involving sediment coring, water chemistry testing, and vegetation sampling to map wetland polygons in GIS. Table 2 below summarizes the principal wetland functions and values as determined by the stakeholder group and their acreage within the 2011 Mat-Su study area; an area generally surrounding Palmer and Wasilla (and extending past Point MacKenzie).

Function or Value	Total Area Performing this Function (acres)	Percent of Total Wetlands Area
Contribution to Groundwater	33,535	36.5%
Transmission of Groundwater	67,424	73.3%
Streamflow Moderation	83,296	90.6%
Floodflow Alteration	66,841	72.7%
Sediment/Toxicant/Pathogen Retention	81,377	88.5%
Sediment Shoreline Stabilization	59,014	64.2%
Nutrient Removal/ Retention/Transformation	85,507	93.0%
Foodchain Support	91,937	100.0%
Anadromous Fish Habitat	50,479	54.9%
Habitat and Maintenance of Biodiversity	55,759	60.6%
Habitat for Species of Interest	91,937	100.0%
Recreation	79,560	86.5%
Consumptive Uses	89,824	97.7%
Education	261	0.3%
Visual Quality/Aesthetics	66,466	72.3%
Cultural and Historical Significance	8,928	9.7%
Uniqueness	18,370	20.0%

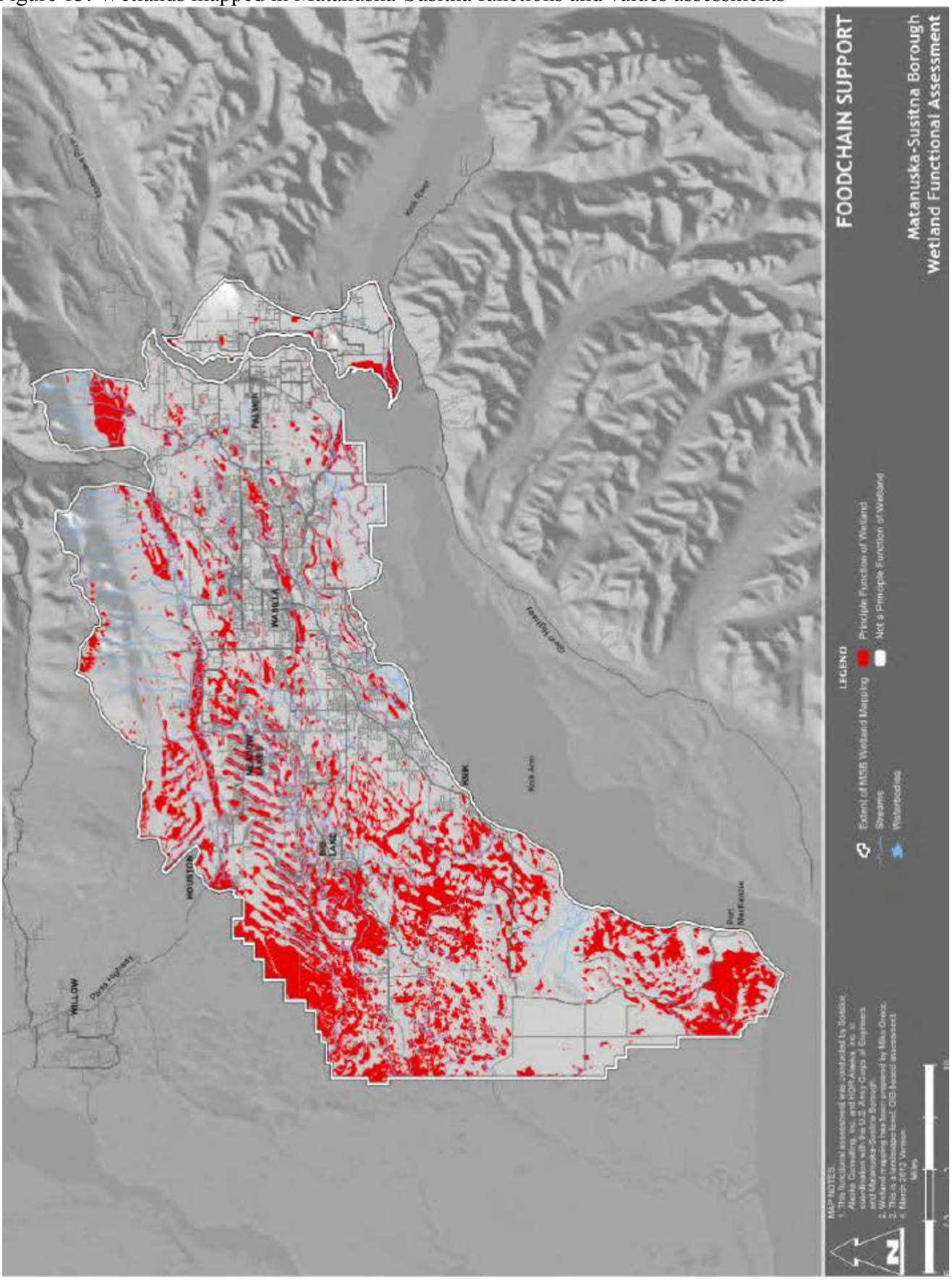
Table 3: Wetland functions and values

The document contains maps of wetlands serving each of these functions. The Food Chain Support wetlands map (Figure 13) is reproduced below because it shows 100% of the wetlands in the mapped area. It is interesting that the stakeholder group valued 97.7% of these wetlands for consumptive uses, including fishing, hunting, trapping, plant gathering and berry picking. The "…document does not map individual wetlands that are important to Alaskan Natives in the area. Instead, the Tyonek, Knik, Eklutna, and Chickaloon Tribes should be contacted to determine if wetlands are important for personal/subsistence use on a project-by-project basis."

The guiding principle of the 2012 Matanuska-Susitna Borough Wetlands Management Plan is summarized as: Healthy growth and wetlands conservation in the Mat-Su are interdependent.

The 2012 Matanuska-Susitna Wetland Functions and Values Landscape Level Assessment Methodology and Mapping, and the 2012 Matanuska-Susitna Borough Wetlands Management Plan can be downloaded at the Matanuska-Susitna Borough website.

Figure 13: Wetlands mapped in Matanuska-Susitna functions and values assessments



Appendix A

Native Village of Eklutna Land Conservation Initiative

Synopsis

This document provides a rationale for, and documentation of the development and potential for development of the Native Village of Eklutna (NVE) land conservation efforts. The Eklutna Tribal Land Trust Questions and Answers document (attachment 1) provides another summary of these issues, for use as an introductory, working explanatory tool. The current document begins with consideration of the potential for tribal conservation easements in Alaska, and the Eklutna Tribal Land Trust. The NVE Draft Conservation Easement Management Plan is included. Mitigation Banking and In-lieu fee strategies for land conservation which NVE could participate in are described, and an NVE description of capacities to conduct a USACE in-lieu fee mitigation program is included. Some documents relevant to the potential for NVE to work with Eklutna, Inc. on lands conservation are presented, and a map with photographic essay on the NVE core area proposed conservation easement is included. Attachments are included, which are significant to and descriptive of NVE's efforts to develop a land conservation program, and which are referenced in the text of the document. Thanks go to the US Fish and Wildlife Service Coastal Program for supporting development of this document.

Conservation Easements and Alaska Tribes

The Alaska Uniform Conservation Easement Act, ASC 34.17.060 defines both 'conservation easements' and qualified 'holders' of easements.

> Sec. 34.17.060.1 Definitions
> "conservation easement" means a nonpossessory interest in real property imposing limitations or affirmative obligations to retain or protect natural, scenic, or open space values of real property, ensure its availability for agricultural, forest, recreational, or open space use, or protect natural resources. Maintain or enhance air or water quality, or preserve the historical, architectural, archeological, or cultural aspects of real property."

This does not indicate that a land trust cannot hold both fee title and an easement on the same property. Rather it indicates that easements themselves represent an interest which does not require possession of land title.

ASC 34.17.060.2A goes on to define qualified holders to include three categories, the first of which is relevant to ETLT. It states that one type of qualified holder is, "a governmental body empowered to hold an interest in real property under the laws of the state or the United States" Regarding Tribes' status as governments, the Department of the Interior policy on Federal/Tribal Government to Government Consultation states that:

> "Tribes are governmental entities with sovereign powers and a special legal relationship with all federal bureaus and agencies." and,
> "Tribes possess all the powers of government, except those which have been expressly extinguished or which are inconsistent with overriding national interests."

As a federally recognized Tribal Government NVE has significant advantages for holding conservation easements over non-Tribal land trusts. For example, Tribes are eligible for dedicated federal and state funding for monitoring, restoration and management of lands.

Non-profit land trusts share some advantages with tribes, including prompt response time, fewer regulatory/statutory restraints, confidentiality, a tax exempt status, and professional stewardship services (Schear and Blaine, no date). Governments and public agencies perform a function similar to private land trusts in states where the laws are structured to allow them to hold conservation easements. Public agencies have the advantages of needing less time and paperwork to get started and having a higher probability that they will continue to serve their easement monitoring function into perpetuity. (Diehl and Barrett, 1988)

It is unclear why tribal land trusts are not prolific. Probably the best example of the very few successful tribal conservation easement projects nationwide is fortuitously available from Native Village of Tyonek (NVT), a sibling Dena'ina Tribe, and the Tyonek Native Corporation (TNC). NVT and TNC set up a joint land trust corporation, called the Tyonek Conservation District (TCD), with a 6 member Board selected from both entities, to develop and manage conservation easements. The impetus for this initiative is the threat of impacts from a planned coal mine which would devastate their primary salmon river, the Chuitna. The TCD could serve as a model for NVE and Eklutna, Inc. to work together on development of conservation easements.

Eklutna Tribal Land Trust

The Native Village of Eklutna (NVE) has created the Eklutna Tribal Land Trust by Tribal Council resolutions (attachment 2). As currently constituted, the ETLT is an (inactive) entity of the NVE tribal government, rather than a 501 (c)3 non-profit. Some concerns discussed herein could be alleviated by incorporating ETLT as a 501 (c)3, but realization of some tribal goals would be diminished. Tribes are not-for-profits and are unique in their status as governments. The lawyer who works with Tyonek on their conservation easement development thinks it would be advantageous for both NVE and Eklutna Tribal Land Trust to manage easements in different situations. For example, NVE could own lands on which ETLT held the easement to avoid conflict of interest. The ETLT Board could be composed of the NVE Tribal Council, a subset thereof, or different individuals selected for interest and to avoid conflict of interest. LTA recognizes this unique type of tribal land trust and has authored a letter of support, stating in part, "Congratulations on the Native Village of Eklutna establishing the Eklutna Tribal Land Trust and on becoming a sponsor member of the Land Trust Alliance".

One reason NVE created ETLT as a tribal entity was to secure traditional tribal lands, and regain management authority ("trust responsibility") over traditional resources on such lands, which was diminished by ANCSA. The Land Trust community has expressed concern that ETLT and NVE, as currently constituted, are not separate entities to the extent that ETLT should hold easements on lands that NVE owns. This could weaken the ability of ETLT to ensure that the easement is protected according to the terms of its management plan. The following measures could address this concern while retaining tribal trust responsibility: 1) ETLT could be incorporated as a semi-separate entity from NVE, with a Federal, Tribal, not-for profit tax status. 2) NVE could review conservation easement management plans using Government-to-Government consultation protocol with USFWS and other agencies, to ensure their acceptability. Agreements included in easement support grants might serve as the basis for agencies' involvement with management. 3) NVE could adopt a Tribal Ordinance, with full force of Tribal Law, mandating Tribal management of the lands, in perpetuity, according to the easement plan. Flexibility could be incorporated in the Plan, and could again be achieved through consultation with agencies. These measures are considered sufficient protections by the Land Trust community members who originally raised the concerns. These should not be problems if NVE or ETLT were to hold conservation easements on land owned by other parties, insuring that easement terms are met.

The ETLT could act to resolve management issues regarding enforcement of easements through government-to-government consultation with the USFWS and other US agencies, to provide solutions

supported by both governments. MOAs could be developed to define the NVE / US agencies' relationships regarding the ETLT and formalize this arrangement. Agreements included in easement support grants might serve as the basis for agencies' involvement with management.

As a sovereign government, NVE is not required to share authority for the land trust. However, Tribal land trusts are unique because Tribes have sovereign immunity, as does the United States, and cannot be sued. This means that if the NVE held an easement, and acted out of compliance with the easement, there would be no legal ramification and therefore no enforceability of the easement. Though this ability to make poor decisions without resolve is inherent in governments, NVE could provide stronger assurances of enforceability. To accomplish this, the ETLT could include the USFWS, other agencies, or nonprofit land trusts, as partners in development of the easement terms, and include consultation and an agreement on matters of easement enforcement. An enforceable provision could be included in such an agreement, requiring assumption of an easement by another land trust, should NVE substantially fail to satisfy the easement terms. Another mechanism to ensure easement terms without sacrificing NVE sovereign immunity could be to adopt a dispute resolution processes, and name a Tribal Court to have exclusive jurisdiction over any suit that may be filed relating to a conservation easement.

Landowners and funding agencies may prefer to grant an easement to an organization that has a larger entity backing it up—it provides more assurance. This could be said of the situation with NVE backing up ETLT. The key is to pick an organization that is stable and trustworthy. The easement holder must be stable and have enough resources to monitor and enforce the terms of the easement. Examples exist of land under easement being purchased and used for development, since the new owners were either not made aware of the easement or the easement was not enforced because the holder did not have sufficient resources to do so. (Hill, 2002, American Farmland Trust, 2001, Sullivan, 2003)

The LTA has developed Standards and Practices for land trusts to promote accepted administration and enforcement strategies. LTA voluntary accreditation of a land trust is based on compliance with a set of indicator practices selected form the Standards and Practices, which indicate the trust's ability to "…operate in a sound manner and ensure the long-term protection of land in the public interest. Indicator practices are chosen based on the following criteria:

- Responsible governance of the organization
- Protection of the public interest with sound and sustainable land transactions and stewardship
- Ethical operations
- Accountability to donors and the public
- Compliance with all laws, such as IRC §170(h) and §501(c)(3)"

NVE has reviewed the LTA standards and practices and concluded, by resolution that the ETLT could and would exceed them for ethical and effective operation (attachment 2). The LTA standards include; purpose and goals, board accountability, conflict of interest, basic legal requirements, fundraising, financial and asset management, staff – consultants – volunteers, selecting projects, choosing the best methods for conservation, examining the property, ensuring sound transactions, tax benefits, board approval of transactions, conservation easement stewardship and land stewardship. Many requirements for a Tribal Government and Tribal Council exceed those for land trusts and NVE is already in compliance with these standards and practices. However, action must be taken to address Tribal Council / Land Trust Board training, financial reporting and activities specific to land trusts, and enforcement requirements among others. Many of the criteria can only be met after active periods of successful operation. Initial easements would need to be developed without prior exercise of Standards and Practices, or accreditation. Exceeding LTA standards and practices, the ETLT would have better access to funding intended for land trusts and be more acceptable to the land trust community. However, federal funds for easements may be difficult to obtain without a proven record of easement management.

Education, Assessments, Monitoring, and Management

NVE conducts a variety of environmental education, assessment, monitoring, and management activities similar to those which would be beneficial for development and management of conservation easements. This has developed NVE expertise in these areas, and capacities to access support funds available to Alaska tribes. Environmental education is a primary function of "working" conservation easements. NVE has conducted many environmental education camps and youth day activities every year for the last 15 years, and continues to do so, primarily under the EPA Indian General Assistance Program. Environmental assessments are important to rank lands with priority habitats for easements development and to direct management of easements to protect these habitats. Some examples of NVE assessment activities are described under the In-Lieu Fee Mitigation Program section on page 10. Management of easements would be an opportunity for NVE to exercise this essential tribal function. NVE does manage tribal members' participation in some programs. Youth services, such as adoption are a major area. NVE manages participation in the educational fisheries net under permit from State of Alaska, and in ceremonial moose hunts for potlatches. We have helped coordinate with Eklutna, Inc. the use of subsistence resources such as salmon, moose, and firewood around the village, and discourage trespass fishing and hunting. NVE also has some comanagement authority of natural resources by agreements on Joint Base Elmendorf and over the endangered Cook Inlet beluga whales. NVE maintains sovereign authority over traditional territory in principle. Management of conservation easements would extend active tribal management of traditional resources and continued member use of traditional natural resources.

NVE Draft Conservation Easement Management Plan

NVE has developed management principles for easements which can be modified for various situations, and can include consultation with federal agencies. These principles are structured around allowable and unallowable uses of the lands placed in easement status.

Allowable Uses

Tribal Natural Resource Uses

Traditional NVE Tribal resource uses, including fishing, hunting, firewood cutting, berry gathering, etc. will continue under tribal management. NVE has agreements, and works with landholders, federal and state agencies to manage these Tribal resource uses. For example, under an Educational Fisheries Permit with the Alaska Department of Fish and Game (ADFG), Tribal members are allowed to take up to 500 salmon annually by set net, from the Cook Inlet's Knik Arm bordering the proposed easement area. NVE Tribal members also hunt these lands, attending to ADFG regulations. In addition, berry picking, selective wood cutting for wood stoves, smokehouses, and other traditional uses are allowed by the landholders under long-standing agreements. The pattern of these uses have been documented by NVE for internal management purposes and may be available on request. Such uses would continue and NVE will continue to develop our management capacity to assure that they remain environmental sustainable.

Non-Tribal Natural Resource Uses

Currently, some of these lands associated with the proposed easement area can be accessed legally for hunting, with the permission of the landholders. Alaska Department of Transportation (ADOT) lands are available for public use under applicable regulations. Wells Fargo and Alaska Railroad Corporation (ARRC) have gated the access to their properties, but do not patrol the easement area sections, so much unregulated use continues. Eklutna Inc. has in the past sold a few permits to access their lands for these

and other purposes. However, the vast majority of users are unauthorized trespassers, often with little respect for natural values. NVE conducts some patrol of Eklutna Inc. lands, particularly along the lower Eklutna River, with few resources and variable effect. The river's rebuilding fish populations could not sustain the fishing pressure which would accrue from Southcentral urban populations without this patrol. On one day last summer we had to ask over 100 sport fishermen to leave Eklutna Inc. property. NVE has a program to research, restore, and enhance the Eklutna River for salmonid habitat.

Sustainable Resources Development

NVE is engaged in several sustainable natural resources development projects which can benefit the environment and purposes of the easement. We are initiating eco-cultural tours, on the proposed easement for 2004. For two years now, we have collected flower seeds from the flats for sale, and this year we will sell seed packet postcards featuring photos of wildflowers from the proposed easement area. This can help publicize the benefits of the easement, and return a profit to the tribe for its development. There are other native plants propagation projects which can be conducted sustainably without impacting wildlife. Revegetation with native plants can help restore some of the riparian areas denuded by railroad gravel mining in the early '80s. Some of these mined areas are included in the proposed easement area. Plants can be taken from healthy areas to restore damaged areas. Traditional medicinal herbs can be harvested for village use and sustainable sales.

Recreation

The Wells Fargo Bank still uses the (formerly NBA) Picnic Grounds on their lands for company functions. These functions may continue under the terms of a conservation easement, and it is hoped that related activities might be developed here that engender an appreciation for the area ecosystem.

Education

NVE already uses the easement area for many educational purposes. Several tours per year are provided for up to 100 youth from Anchorage and Mat-Su, kindergarten through high school students. NVE staff and invited experts explain ecosystem properties, and traditional plant and other resource uses. They learn beading, carving, and survival skills like shelter building by demonstration and practice

Tribal youth use this area to learn the traditions of their resource based culture, by observation and from the examples of their elders (see photo #1). NVE is developing cultural education projects which will complement the easement purposes. NVE has earned an educational fish net permit to allow aboriginal fishing methods, such as moose bone fish spears and willow and spruce root fish traps, in the Eklutna River and plans to integrate cultural education.

The Wells Fargo Picnic Grounds provide an ideal location for environmental appreciation, educational programs and events. These should be encouraged under the purposes of the easement.

Ecotourism

Environmentally sustainable ecotourism projects may be developed for the enjoyment of the participants, and to further supplement easement management and development. Activities such as wildlife viewing and scenic appreciation are congruent with easement plan goals. Development of eco-cultural tourism is a long term NVE plan.

Spiritual

Appreciation of natural and traditional spiritual values associated with the easement area will be encouraged, barring trespass issues.

Discouraged Uses

Some of the destructive uses that we intend to discourage on the proposed easement include; ORV habitat degradation, chaotic partying, shooting, plant theft, poaching, etc. Historically, some areas of this easement have been used as a garbage dump by Southcentral urbanites. NVE has conducted several watershed clean-ups per year for the past several years, with the help of environmental organization volunteers, hauling off hundreds of garbage bags in each. Forty junk batteries were pulled from the riparian zone, many out of the river itself. Last Fall, Eklutna Inc. hired a contractor to remove around 40 junk vehicles and white goods such as appliances. NVE removed another 40 junk vehicles 5 years ago. Gating and patrol are being employed to avoid more dumping.

Off road vehicle users tear ruts in the vegetative cover, and is particularly destructive to wetlands. When one trail becomes rutted and muddy, they widen the footprint of their tracks to either side. Gating and patrol reduce the impacts, but the area is permeable over a broad area. NVE proposes to close some unauthorized accesses "roads", and upgrade others with gravel, as part of our BIA Roads project.

Plant theft is a serious problem. Some of the wetlands support profuse fields of wild iris, shooting star, and chocolate lily flowers. Landscapers dig these for their flower beds. Some areas have been "strip mined" of flower plants, apparently commercially, but certainly illegally, with hundreds of plants removed from 50 sq. ft. areas, leaving none behind. (Please refer to Photos #3 & #4 on page 5.) These, and other lawless and destructive activities mentioned can be discouraged by patrol and community appreciation of the natural values of the easement.

To insure that easement terms for conservation are met in perpetuity, NVE could include federal agencies as signatories on the management plan, or on agreements associated with funding documents, which support the plan. This could procure federal influence on cases when a party contends the terms are not satisfactorily met, and help assure enforceability of the easement. Some land trusts share authority with municipalities, counties and states. A tribal partnership is best entered into with a federal agency which respects government-to-government consultation procedures.

Mitigation Banking and In-Lieu Fee Mitigation

Tribes often have opportunities to facilitate conservation of lands as mitigation for tribal trust resource lands, particularly wetlands, which are impacted by federally funded projects. These opportunities grow from the trust relationship between tribes and federal government, and can be developed through government to government consultation, which is mandated on such projects. However, lands selected for mitigation are generally set aside by land owners for this purpose "in mitigation banks". Since NVE owns very little land, it would be advantageous to form a partnership with the Eklutna, Inc, which owns substantial tracts of traditional lands, around 200,000 acres between Anchorage and Matanuska-Susitna Borough, some of which could be dedicated to mitigation banking, to facilitate this type of conservation. Eklutna, Inc. would benefit financially by selling conservation easements to protect certain lands, such as wetlands, with higher habitat mitigation value than development value.

Quotes in the following section are from:
Federal Guidance for the Establishment, Use and Operation of Mitigation Banks
(Federal Register, Vol. 60, No. 228, 11/28/1995)

The U.S. Army Corps of Engineers (USACE), Environmental Protection Agency (EPA), Natural Resources Conservation Service (NRCS), Fish and Wildlife Service (FWS), and National Marine Fisheries Service (NMFS) issued this final policy guidance regarding the establishment, use and operation

of mitigation banks for compensation for adverse impacts to wetlands and other aquatic resources. "Mitigation banking has been defined as wetland restoration, creation, enhancement, and in exceptional circumstances, preservation undertaken expressly for the purpose of compensating for unavoidable wetland losses in advance of development actions, when such compensation cannot be achieved at the development site or would not be as environmentally beneficial." "The objective of a mitigation bank is to provide for the replacement of the chemical, physical and biological functions of wetlands and other aquatic resources which are lost as a result of authorized impacts." "Units of restored, created, enhanced or preserved wetlands are expressed as "credits" which may subsequently be withdrawn to offset "debits" incurred at a project development site." Mitigation banks should be constructed prior to development impacts. The mitigation bank is the site where these resources are located.

"Determining whether preservation is appropriate as the sole basis for generating credits as a mitigation bank requires careful judgment regarding a number of factors. Consideration must be given to whether wetlands and/or other aquatic resources proposed for preservation (1) perform physical or biological functions, the preservation of which is important to the region, (2) are under demonstrable threat of loss or substantial degradation due to human activities that might not otherwise be expected to be restricted." Another factor which has been considered when allowing preservation as mitigation is the availability of restoration, creation, enhancement mitigation project areas which can adequately compensate for authorized impacts. Preservation may provide the most substantial compensatory mechanism available in some areas. This seems to be the case with the Knik/Matanuska River mouth estuary islands, at the top of Knik Arm Cook Inlet serving as mitigation for wetlands impacted by the Port of Anchorage expansion.

Establishment of Mitigation Banks

"Prospective bank sponsors should first submit a prospectus" to USACE or NRCS, "to initiate the planning and review process. "All mitigation banks need to have a banking instrument as documentation of agency concurrence on the objectives and administration of the bank. The banking instrument should describe in detail the physical and legal characteristics of the bank, and how the bank will be established and operated." "The following information should be addressed, as appropriate, within the banking instrument:

a. Bank goals and objectives;
b. Ownership of bank lands;
c. Bank size and classes of wetlands and/or other aquatic resources proposed for inclusion in the bank, including a site plan and other specifications;
d. Description of baseline conditions at the bank site;
e. Geographic service area;
f. Wetland classes or other aquatic resource impacts suitable for compensation;
g. Method for determining credits and debits;
h. Accounting procedures;
i. Performance standards for determining credit availability and bank success;
j. Reporting protocols and monitoring plan;
k. Contingency and remedial actions and responsibilities;
l. Financial assurances;
m. Compensation ratios;
n. Provisions for long-term management and maintenance."

"Collectively, the signatory agencies (from those listed atop this section) to the banking instrument will compose the Mitigation Bank Review Team (MBRT)." The bank sponsor is responsible for the preparation of the banking instrument in consultation with the MBRT." "The bank sponsor is also responsible for the overall operation and management of the bank in accordance with the terms of the banking instrument, including the preparation and distribution of monitoring reports and accounting statements/ledger, as necessary."

Mitigation banks can serve as commercial enterprises. Eklutna, Inc. would therefore probably want to be the bank sponsor on a potential mitigation bank composed of their lands. "The bank sponsor is responsible for securing adequate funds for the operation and maintenance of the bank during its operational life…" NVE might assist with pursuit of grant funding to help set up the mitigation instrument, including some of the initial ecological assessments needed, for monitoring, and possibly by holding conservation easements on Eklutna, Inc. owned lands selected for mitigation where appropriate. This would probably be predominantly a preservation lands mitigation bank. Monitoring consideration in the federal guidance is geared toward restoration projects, and should occur typically for five years or till a stable condition is reached. Monitoring of preservation easements should continue in perpetuity. The attached National Wetland Banking Study, Model Banking instrument (attachment 3) was suggested by US COE Regulatory Division for guidance to develop of an Eklutna land mitigation bank.

With in-lieu fee mitigation arrangements "…funds are paid to a natural resource management entity for implementation of either specific of general wetland or other aquatic resource development projects." They differ from mitigation banks in that compensatory mitigation is not typically provided in advance of project impacts. USACE, with other agencies may find in-lieu fee mitigation "…arrangements appropriate so long as they meet the requirements that would otherwise apply to an offsite, prospective mitigation effort and provides adequate assurances of success and timely implementation. In such cases, a formal agreement between the sponsor and the agencies, similar to a banking instrument, is necessary to define the conditions under which its use is considered appropriate." USACE Regulatory invited NVE to submit the following for consideration of an in-lieu fee mitigation program:

Native Village of Eklutna Financial and Programmatic Management Capacities to conduct a US Army Corps of Engineers Wetlands/Aquatic Resources In-Lieu Fee Mitigation Program (Developed for application to USACE in 2006)

The Native Village of Eklutna (NVE) is a federally recognized Alaska Native Tribal government. The NVE Land and Environment Department (LED) could be responsible to manage an In-Lieu Fee Mitigation Program, under the supervision of NVE's CEO, who reports to the NVE Traditional Tribal Council, the democratically elected governing body of NVE Tribe. NVE currently manages programs with an FY '06 budget of approximately $1,722,000. The majority of these are health and human services programs. The LED currently manages programs with an FY '06 budget of approximately $675,000. These include EPA, BIA, MARAD, and DOD (USAG AK and US COE) grants and contracts. NVE has also formed the Eklutna Tribal Land Trust, which is authorized to secure lands and conservation easements for management according to conservation plans.

The NVE CEO manages the NVE Financial Department. NVE contracts Carter and Associates for financial records tracking and reporting, and to assist transactions. These functions are accomplished in professional and timely fashion. NVE is up-to-date on its annual financial audits, which are available to COE for financial management capacity assessment purposes.

Several LED programs support our capacity to conduct an Aquatic Mitigation Program. As a Tribe, we have been successful in securing and implementing aquatic resources assessment and planning projects, and are working toward implementation of restoration. For example: We are in the third year of grant funding under the BIA Water Resources Management Program. This supported us to gather three years of discharge data for three sites on the Eklutna River, and submit in-stream flow reservation applications. We accomplished a variety of other assessment projects, including turbidity monitoring, three years of salmon runs counts, etc. The BIA grants enabled NVE to develop the Eklutna River Watershed Council, with representation from all the major stakeholders in the Eklutna watershed, and very active agency technical support, which has held 20 meetings, and is chaired by the LED Director. Finally, the BIA grant supported NVE guided development of US COE Eklutna Watershed Planning and

206 projects with current operating budgets totaling $500,000, devoted to assessing Eklutna River habitat and developing restoration recommendations, with NVE participation.

The LED has a record of successful contracting experience relevant to the Aquatic Mitigation Program. In 2004 we contracted a local crane operator, with EPA grant funds, to lift over 50,000 lbs of junk vehicles and other trash up 300' of sheer vertical cliff from the Eklutna River canyon. This illegal dump was in the backfill of the abandoned Eklutna River Dam, and its removal allows the removal of that dam without fear of washing the dump down the river. For four years now LED has contracted POWTEC LLC with EPA, BIA, and now NALEMP (FUDS assessment and clean-up) funds to conduct various partnership activities. These include helping us draft an NVE Water Resources Management Plan, and helping develop a proposed scope of assessments for the COE Eklutna River projects mentioned above. As a highly qualified 8A company, COE could contract POWTEC to conduct the river restoration directed assessments, and POWTEC can hire NVE tribal personnel on these projects. POWTEC's Environmental Manager is highly qualified to design and conduct aquatic resources assessments. He designed and conducted a training program for Native Alaska Resource Managers to learn these methods, and many of the class field exercises have been conducted for four years on the Eklutna River, providing valuable data. Additionally, POWTEC staff includes two Fisheries Biologists and an experienced wetlands delineator.

NVE is uniquely situated, as a not-for-profit entity, to help plan and conduct restoration on Upper Cook Inlet military base lands, in conjunction with USACE, which has regulatory responsibility. NVE has a signed MOA with USAGAK with the "Purpose. To formally recognize our Government-to-Government relations and recognize areas of mutual concern and support, promote communication between the parties, and establish a framework for cooperative relationships for conducting research to provide optimal management of natural and cultural resources on public lands on Fort Richardson, in that the traditional territory of the Tribe includes all lands under USAG-AK's management at Fort Richardson." A similar draft MOA between NVE and Elmendorf AFB has been proposed. NVE is also well situated to manage the program on vast Eklutna Inc. lands, due to shared interests, membership, and leadership, and long-standing relations between these two entities. Most of the Eklutna River projects are on Eklutna, Inc. lands.

Working with Eklutna, Incorporated

Three of the attached documents show the potential for NVE and Eklutna, Inc. to work together to develop land conservation projects. This would benefit both organizations, the Eklutna Dena'ina people, and the environment, as described above and in these documents:

Attachment 4
Eklutna, Incorporated Resolution 2009-07
EI-NVE CONSERVATION PROJECT

Attachment 5
Native Village of Eklutna Resolution 2009-20
Native Village of Eklutna Resolution - Eklutna, Incorporated Conservation Project

Attachment 6
Native Village of Eklutna Letter to Eklutna, Incorporated requesting reciprocal resolutions of support for Conservation and Mitigation and other Projects.

Significant funding was authorized as mitigation for Port of Anchorage expansion, to permanently protect wetlands and fish and wildlife habitat on the Eklutna, Inc. owned estuarine islands in the mouth of the Knik and Matanuska Rivers, at the top of Knik Arm, Cook Inlet. NVE partnered with Great Land Trust to submit this project, which was supported by Eklutna, Inc. However, Eklutna, Inc. decided to work with Great Land Trust rather than NVE to develop the project:

NVE has accomplished well over a million dollars worth of clean-up on Eklutna, Inc. owned lands, mostly under the Department of Defense Native American Lands Environmental Mitigation Program (NALEMP) addressing remains from the formerly used Eklutna Army Site, and EPA grants. This has substantially increased the value of these lands. In addition to the reciprocal resolution committing to work together on land conservation, NVE and Eklutna, Inc. also signed reciprocal resolutions agreeing to work together on NALEMP projects. A third proposed reciprocal resolution, to work with NVE on roads projects was tabled by Eklutna, Inc., probably due to having insufficient information, although this would be the most beneficial of the three project areas to Eklutna, Inc. financially, in conjunction with their development plans. An MOA promoting cooperation between the two Eklutna entities is being developed. Ratification of this MOA should facilitate further progress on cooperative land conservation initiatives.

NVE Core Area Proposed Conservation Easement

In 2005, Native Village of Eklutna has pursued conservation easements for over 1,000 acres of Knik Arm tidal wetlands and forest border in a half crescent north of Eklutna Village. This area is mapped, with land ownership, and illustrated photographically in Attachment 8:

Native Village of Eklutna Proposed Conservation Easement, Idlughet Ht'ana Elnena, Eklutna People's Land

Attachment 9 describes the wildlife and some other resources and environmental situations of the proposed conservation easement illustrated in the photographic easement presentation:

Attachment 9
Environmental Resources of the Proposed
Eklutna Village Conservation Easement

NVE management of these lands as conservation easement would ensure Eklutna Villagers could continue pursuit of their traditional subsistence lifestyle around the village in perpetuity.

This parcel has extraordinary cultural, habitat, and aesthetic value. USFWS, Great Land Trust, The Conservation Fund all have expressed interest in conserving this area. NVE submitted two USFWS Tribal Wildlife Grant proposals unsuccessfully, to begin funding protection of these lands. A proposal may still be on the table from the Conservation Fund to provide matching funds to the Port Mitigation funds to place nearly 100 acres of this land, owned by Wells Fargo Bank, into conservation easement. Eklutna, Inc. and Great Land Trust may be interested in pursuing such a deal with these funds. NVE could help develop, and potentially manage the easement.

The State of Alaska DOT lands North and East of the village are primarily Knik Arm tidal wetlands. NVE owns a 34 acre parcel bordering the Knik Arm there, surrounded by these State lands. There may be opportunities to develop conservation protections here. There is some interest, but no active initiatives at DOT to preserve their parcels as mitigation bank lands. The land seems to be managed currently with benign neglect. The Palmer Hay Flats State Game Refuge borders these lands at mean high tide level along Knik Arm. The Refuge Alaska Department of Fish and Game Biologist is interested to extend the Refuge boundaries to encompass the DOT lands. Prioritization of the habitat value of these lands could facilitate support for a consolidated pattern of land conservation across these lands. NVE has advocated for this, and could participate in various capacities. Habitat prioritization could increase the value of NVE's development of a conservation easement on the NVE "inholding". Reciprocally, development of an easement on the NVE inholding could heighten awareness of the surrounding lands' habitat value, to

promote mitigation banking, conservation easement, or refuge status for the surrounding DOT lands. Some successes here could facilitate conservation on the proposed easement extending west along the Knik Arm.

NVE should be in a good position, especially by working with partners, to secure federal grants to assess, conserve, and manage these lands, including funds to compensate land owners for loss of other development potentials. The Wildlife Habitat Incentives Program could provide significant funding to the State for easements on their lands and serve as a match for a Wildlife Habitat Incentives Program project. A Tribal Wildlife Grant Program application could be more successful with associated initiatives. Eklutna, Inc. is realizing the value of conserving marginally developable lands, and should further their partnership with NVE to facilitate funding for the extended village tidal wetlands easement.

Short List of Support Source Programs

Coastal Program – Fish and Wildlife Service
National Coastal Wetlands Conservation Grant Program – Fish and Wildlife Service
National Fish Habitat Action Plan – Fish and Wildlife Service
Tribal Wildlife Grant Program – Fish and Wildlife Service
Wildlife Habitat Incentives Program – Natural Resources Conservation Service
Wetland Program Development Grant – Environmental Protection Agency

Additional References

(Not fully cited in text.)

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Mill, Herrick. 2001. Agricultural Conservation Easements. Fact Sheet. American Farmland Trust November.

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Selected Attachments

Attachment 1

EKLUTNA TRIBAL LAND TRUST

QUESTIONS AND ANSWERS

The Eklutna Tribal Land Trust (ETLT) is an agency of the Native Village of Eklutna Tribal Government, formed by tribal resolution. The following informative introduction to the land trust is intended to address frequently asked questions providing the Tribe, landowners and potential funders with an understanding of our mission.

What is a Conservation Easement?

Land can be set aside for preservation through the use of easements. A conservation easement is a voluntary agreement between a private landowner and a municipal agency or qualified not-for-profit

corporation to restrict the type of development, management, or use of the land. The owner of the real property deeds an interest in the land, called a conservation easement, to a qualified governmental or private agency. That agency holds the interest and enforces its restrictions against the transferring owner and all subsequent owners of the land.

How can NVE get conservation easements on property surrounding Eklutna that are culturally significant and important for wildlife?

Property owners are often unwilling to deed interest to their land without a significant fee. This is because the easement generally restricts activities and therefore reduces the marketable value of the land. Often, the value a landowner will ask for an easement on their property is similar to the land's marketable value. However, in cases where the land in question is protected by federal environmental law, the market value of the land may be reduced because of related restrictions on use. This is true in the Eklutna wetlands, where development is restricted and therefore the land value is reduced. If we find that landowners surrounding Eklutna are willing to donate land or sell easements, those easements must be held by a land trust or government agency. Some landowners may be willing to donate easements or title for tax break purposes and to support their conservation ethic. If donated, or sold at below-market value, the landowner may qualify for an income tax deduction in the year of the donation or bargain sale.

In cases where landowners may be unwilling to sell easements, but are willing to sell the property at near market value, the Eklutna Tribal Land Trust may pursue grant funding for fee title acquisition. Once purchased, the lands can be included in a conservation easement.

Methods of acquiring land

- Donation of an easement on a private landowner's property
- Purchase of an easement on a private landowner's property
- Donation of land title
- Purchase of land title

Who holds the conservation easement and how is it enforced?

The Native Village of Eklutna (NVE) has created a land trust by Tribal Council resolution and has been recognized by the Land Trust Alliance (LTA). The Tribe is pursuing funding to align its ETLT practices with LTA's standards and practices for land trusts and has networked with many private land trusts to guide development. As a federally recognized Tribal Government, the Native Village of Eklutna has significant advantages over non-Tribal land trusts. Tribes are eligible for dedicated federal and state funding for monitoring, restoration and management of lands.

The Eklutna Tribal Land Trust will hold conservation easements on land owned by other parties, insuring that easement terms are met. ETLT will also act to purchase lands in the identified area and implement easements on those properties. The Native Village of Eklutna Tribal Council is the managing body of the land trust. The ETLT will act to resolve any management issues regarding enforcement of the easement and could rely on tribal courts or government-to-government consultation with the US Fish and Wildlife Service, and agreements associated with easement support grants to provide management solutions supported by both governments.

Why has NVE formed a land trust?

NVE recognizes its unique status as a federally recognized government and understands its stewardship goals towards preservation of wildlife, culturally significant sites and our subsistence way of life. By developing a Tribal land trust NVE will be able access dollars for monitoring, restoration and management. NVE understands that stewardship of these lands will require a significant investment in restoration and management and is in an ideal position as a government to accept that responsibility.

How does the Eklutna Tribal Land Trust intend to manage lands?

Once lands are purchased by the land trust, placed in easements, or otherwise included in easements held by the trust, the ETLT will raise grant funds to assess the wildlife and cultural value. Once assessed, these lands will be included in a management plan that will act to protect cultural sites, preserve existing wildlife habitat and improving habitat where degraded. The management of the land will align with USFWS opinion and the standards and practices for land trusts created by the Land Trust Alliance. In some cases, especially where a landowner will convey an easement but will hold title to the land, the ETLT will be flexible in permitting continued use which does not conflict with the easement.

Why will ETLT rely on USFWS opinion and involvement in easement enforcement?

Easements are commonly held by private non-profits, municipalities, states and federal agencies. As a recognized government, NVE is not required to share authority for the land trust. However, Tribal land trusts are unique because Tribes have sovereign immunity, as does the United States, and cannot be sued. This means that if the ETLT acted out of compliance with the easement, that there would be no legal ramification and therefore no enforceability of the easement. NVE can provide some options to ensure maintenance of easement terms. To accomplish this, the ETLT could include the USFWS as a signatory to easements and include unanimous consent in matters of easement enforcement. Another mechanism to ensure easement terms without sacrificing NVE sovereign immunity could be to adopt a dispute resolution processes, and name a Tribal Court to have exclusive jurisdiction over any suit that may be filed relating to a conservation easement.

Why did the ETLT become a member of the Land Trust Alliance and intend to maintain compliance with LTA standards and practices for land trusts?

The Land Trust Alliance (LTA) is a nonprofit organization providing technical assistance for over 1,200 land trusts. They monitor the progress of many land trusts and provide guidance documents and coordination of efforts. The LTA has developed standards and practices for land trusts to support accepted administration and enforcement strategies. NVE has reviewed the standards and practices and has concluded that the ETLT will align with them. Acceptance of these standards does not imply that the LTA will maintain authority for ETLT. Rather, it means that the ETLT will act to comply with LTA's standards and practices for its own purpose of operating ethically. The ETLT will review its activities and maintain compliance as an independent land trust. These practices have been adopted because they have been proven effective for countless land trusts and will expedite NVE's land trust development. The requirements for a Tribal Government and Tribal Council exceed those for land trusts and NVE is already in compliance with these standards and practices. However, action must be taken to incorporate Tribal Council / Land Trust Board training, improved financial reporting, and enforcement requirements. These are the first activities of our land trust, though we are able to act as a land trust prior. Having aligned with LTA standards and practices, the ETLT will be eligible for funding intended for land trusts and will be recognized by the land trust community.

Attachment 2
NVE Eklutna Land Trust formative resolutions

NATIVE VILLAGE OF EKLUTNA

RESOLUTION 2003- 16

Native Village of Eklutna Traditional Tribal Council formation of the Eklutna Tribal Land Trust.

WHEREAS, the Native Village of Eklutna is a distinct, independent political community, and as such is qualified and exercises powers of self-government by reason of its original Tribal sovereignty passed down from its ancestors since time immemorial; and

WHEREAS, Native Village of Eklutna's Traditional Tribal Council is the governing body of Eklutna as recognized by the Eklutna Tribe and the Federal Government of the United States; and

WHEREAS, the Native Village of Eklutna 2002 Mission Statement Broad Goal for Land and Environment is; "to understand, protect, restore, secure and enhance traditional lands, environment and uses while maintaining cultural integrity"; and

WHEREAS, establishment of a land trust appears to be an excellent mechanism to accomplish this goal:

NOW THEREFORE, BE IT RESOLVED, that the Native Village of Eklutna hereby establishes the Eklutna Tribal Land Trust.

By a vote of 6 for, -0- against, -0- abstained, and 1 absent, this resolution was duly approved on this 8th day of August, 2003, with a quorum established.

Dorothy Cook
Dorothy Cook, President/Chairperson
Authorization signatures – 8/8/03

by: Lu Stephan Vice President fm
Irene Chilligan, Secretary
8/8/03

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NATIVE VILLAGE OF EKLUTNA

RESOLUTION 2003- 17

Native Village of Eklutna Traditional Tribal Council Standards and Practices for the Eklutna Tribal Land Trust.

WHEREAS, the Native Village of Eklutna is a distinct, independent political community, and as such is qualified and exercises powers of self-government by reason of its original Tribal sovereignty passed down from its ancestors since time immemorial; and

WHEREAS, Native Village of Eklutna's Traditional Tribal Council is the governing body of Eklutna as recognized by the Eklutna Tribe and the Federal Government of the United States; and

WHEREAS, the Native Village of Eklutna has established a land trust, titled, "Eklutna Tribal Land Trust", and wishes to develop Standards and Practices for land trust operation which will satisfy our Tribal Council and funding agencies; and

WHEREAS, the Native Village of Eklutna has reviewed the Statement of Land Trust Standards and Practices developed by the Land Trust Alliance; and

WHEREAS, the Native Village of Eklutna agrees that the Standards and Practices described in said Statement are generally desirable for the operation of a sound, effective, and sustainable land conservation program;

NOW THEREFORE, BE IT RESOLVED, that the Traditional Tribal Council of the Native Village of Eklutna intends to develop its operating standards and practices for the Eklutna Tribal Land Trust, that exceed those of the Statement of Land Trust Standards and Practices issued by the Land Trust Alliance, no later than January 1, 2004.

By a vote of 7 for, 0 against, 0 abstained, and 0 absent, this resolution was duly approved on this 28th day of August, 2003, with a quorum established.

Dorothy Cook

Dorothy Cook, President/Chairperson
Authorization signatures – 08/28/03

by: Lu Stephan Vice President for

Irene Chilligan, Secretary
08/28/03

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Attachment 4
Eklutna, Incorporated Resolution 2009-07

Eklutna Incorporated
Resolution 2009 – 07

EI – NVE CONSERVATION PROJECT

Eklutna, Inc. (EI) is committed to work cooperatively with Native Village of Eklutna (NVE) to develop the Conservation Easement project in accordance with the description of this project in Exhibit A attached herewith.

WHEREAS, EI is an ANCSA village corporation with large land holdings, and NVE is a federally recognized tribe with access to federal tribal grants; and

WHEREAS, in recognition of the benefits to EI and NVE of cooperative development and implementation of the Conservation Easement project as set forth in Exhibit A; and

WHEREAS, successful conduct of this project will further the respective goals of each organization and develop their capacities and credibility; and

WHEREAS, pursuit of funding for such a project is technically demanding and must be conducted in compliance with deadlines imposed by funding entities;

NOW THEREFORE BE IT RESOLVED, EI commits to working cooperatively with NVE to develop the Conservation Easement project in accordance with the description of this project in Exhibit A. EI staff is encouraged to work with NVE staff to further this resolution, and may write letters of recommendation to develop these projects, subject to ratification by the Board. Maintenance of this resolution and continuation of authorized activities will depend on approval of a similar authorizing resolution by NVE, and satisfactory development throughout these projects.

ADOPTED this 12 day November, 2009, a vote 4 for, ___ against, and 1 absent/abstained by the Board of Directors at a Regular Monthly Board Meeting.

By: _____ Dated: November 12, 2009
Michael E. Curry, President

By: _____ Dated: November 12, 2009
Maria D.L. Coleman, Corporate Secretary

Attachment 5

NATIVE VILLAGE OF EKLUTNA

RESOLUTION 2009 –20
Native Village of Eklutna - Eklutna Incorporated Conservation Project

Native Village of Eklutna Traditional Tribal Council commits to work cooperatively with Eklutna, Incorporated to develop the Conservation Easement project as described in Exhibit A attached herewith.

WHEREAS, Native Village of Eklutna is a distinct, independent political community, and as such is qualified and exercises powers of self-government by reason of its original tribal sovereignty as passed down from its ancestors since time immemorial; and

WHEREAS, Native Village of Eklutna's Traditional Tribal Council is the governing body of Eklutna as recognized by the Eklutna Tribe and the Federal Government of the United States; and

WHEREAS, Eklutna, Incorporated is an ANCSA village corporation with large land holdings, and Native Village of Eklutna is a federally recognized tribe with access to federal tribal grants; and

WHEREAS, in recognition of the benefits to Eklutna, Inc. and Native Village of Eklutna of cooperative development and implementation of the Conservation Easement project as set forth in Exhibit A; and

WHEREAS, successful conduct of this projects will further the respective goals of each organization and develop their capacities and credibility; and

WHEREAS, pursuit of funding for such projects is technically demanding and must be conducted in compliance with deadlines imposed by funding entities;

NOW THEREFORE BE IT RESOLVED, Native Village of Eklutna commits to working cooperatively with Eklutna, Incorporated to develop the Conservation Easement project in accordance with the description of this program in Exhibit A. Native Village of Eklutna staff are encouraged to work with Eklutna, Incorporated staff to further this resolution, and may write letters of recommendation to develop this program, subject to ratification by NVE Tribal Council. Maintenance of this resolution and continuation of authorized activities will depend on approval of a similar authorizing resolution by Eklutna, Incorporated, and satisfactory development throughout this program.

By a phone poll vote of 4 for, 0 against, 1 abstained, and 2 absent, this resolution was duly approved on this 13 day of November, 2009, with a quorum established.

Dorothy Cook
Dorothy Cook, President

Irene Chilligan
Irene Chilligan, Secretary

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"EXHIBIT A"

Conservation Easements and Mitigation Projects

Eklutna, Inc. has extensive land holdings, particularly wetlands, for which the highest monetary and cultural values may be realized by conservation mechanisms. Such lands can be protected as mitigation lands when development projects impact similar wetlands elsewhere, with monetary compensation to EI, the land owners. Federal legislation, promoted by AFN resolution, is pending which would provide equal tax credit rights or benefits to Alaska Native corporations who voluntarily choose to create conservation easements. Other funding sources, notably federal grants to tribes are also available to compensate landholders for agreeing to conservation easement management of their lands. NVE would further its goal to protect, restore, secure and enhance traditional lands, environment and uses while maintaining cultural integrity by means of conservation easements. NVE has established the Eklutna Tribal Land Trust to manage conservation easements. This would promote tribal trust management – quasi governance for traditional land uses, such as subsistence, which factors such as ANCSA and ANILCA have deprived NVE of. NVE requests consideration to manage conservation easements on EI lands which are conserved and/or preserved under this program, according to management plans for cultural and environmental uses, which would be mutually acceptable to EI and NVE.

Development of a mitigation land bank for lands of EI's choosing which would be made available for financial compensation to EI, to compensate for environmental values of lands which would be lost to development projects elsewhere. This is a long-range project which NVE and EI could work together on. Mitigation land banks are capital generating enterprises, with substantial up-front costs to develop. Again, NVE might be able to secure federal grants for tribes to develop such a land bank. One possibility is that this project could be subsidized through the BIA Indian Reservation Roads Program.

The Knik Islands conservation project is currently being developed, and will be most successful with strong support from both EI and NVE. NVE has applied for a Fish and Wildlife Service grant, with EI support, to assess the conservation value of Eklutna, Inc's islands in the mouth of the Knik and Matanuska Rivers for traditional resources, particularly salmon habitat. An application for $1.3 Million in Port of Anchorage expansion mitigation funds is being developed by NVE staff and the Great Land Trust, and is due for submittal to the Mat-Su Basin Salmon Habitat Partnership on November 15th, 2009. Both NVE and the Great Land Trust can submit applications as members of the Partnership. A draft version of the proposed application will be available for the Eklutna Board Meeting on November 12th. It might also be possible to apply these funds to purchase of the Wells Fargo Bank lands, of cultural and environmental significance to the Eklutnas, including the small Eklutna Knob and part of the large one, and the aboriginal Eklutna Village archaeological site.

Appendix B

NVE Watershed Stewardship Accomplishments

- Coordinated development of Eklutna River Watershed Council, hosted 27 meetings so far. LE Director served a three year term as Chair, and is currently co-Chair. Developed lists of common concerns and opportunities, and approved assessment plans among the Council's member entities. The power companies that own majority rights to the Eklutna River water, and Eklutna Inc., the major landholder in the watershed, are now working with us to support habitat assessments and mitigation. We also held a public meeting and a tribal watershed meeting to survey community goals and objectives for the Eklutna River watershed. Concrete restoration projects are being planned.
- Physical Habitat Assessment of the Eklutna River with UAA , USACE, NRCS, and others
- Served as sponsor for USACE Eklutna River Watershed Management study to recommend Eklutna River restoration projects for a later phase.
- Five years of Eklutna River flow discharge monitoring, supported by the BIA Water Resources Management program, in cooperation with United States Geological Survey (USGS) at two gauging stations on the Eklutna River to support an In-Stream flow reservation application to the Alaska Department of Natural Resources.
- Three years of preliminary baseline assessment of water quality and benthic macro-invertebrate bio-assessment for use in defining the health of the Eklutna River and prescribing remediation efforts to improve biological, physical, and chemical habitat of anadromous fish.
- Five years of fish counts and one of minnow trapping survey in the Eklutna River.
- Cooperative development of a salmon incubation and re-stocking facility and operation with the Native Village of Chickaloon and Alaska Resource and Economic Development Incorporated.
- Surveys and reports on community knowledge of current and historical presence and uses of important animal and plant resources.
- Successful achievement and continuation of improved subsistence rights with the State of Alaska through permitting of Tribal members to harvest salmon with a traditional, educational fish net and aboriginal gear.
- 1.5 years of PM 10 air quality assessment at Eklutna Village.
- The NVE Tribal Council has produced many resolutions and several environmental protection ordinances relating to Tribal environmental issues and environmental program development.
- NVE established the Eklutna Tribal Land Trust and developed a management plan to hold conservation easements.
- Successful negotiations with Alaska Railroad Corp. produced an agreement to grant the portion of the larger granite hill, after which Eklutna is named, which they owned, to Eklutna, INC., rather than blasting and crushing it for high quality gravel.
- Documented traditional cultural properties and resources through elder and TEK bearer interviews and on-the-ground observations for several projects: Under contract with Fort Richardson NVE surveyed and found many more Dena'ina traditional cultural properties than were known: Discovered hundreds of Dena'ina traditional cultural properties under an NPS grant; We documented historical cultural information, including resource use area under IGAP and under MOU with MARAD as mitigation for the Port Expansion project. We interviewed community members to document and map Eklutna traditional knowledge of cultural places under a grant with University of Alaska Anchorage. Partnered with Matanuska-Susitna Borough to conduct interviews and field survey of cultural sites in the Borough, under MOA with Knik Arm Bridge and Toll Authority. Several hundred new archeological sites were discovered and documented, dramatically expanding the known extent of pre-contact Dena'ina presence around Knik Arm,

Cook Inlet. NVE worked under MOU with KABATA and UAA GIS technicians to map the cultural sites information.

- Developed numerous comments, and participated in government-to-government consultations on projects and policies with potential to impact Eklutna cultural lands and environment. Many of these were influential in modifying the proposed projects to benefit human health and the environment.
- Compilation and documentation of knowledge of elders and community members about contaminated and degraded areas in the NVE core area, supported through the IGAP.
- Environmental assessment and remediation of contaminated and impacted sites left by military sites on lands around Eklutna Village.
- Removal of more than 800,000 pounds of debris, 117 drums with hazardous materials and extensive contaminated soil from the old Eklutna Army Site to eliminate safety hazards and restore traditional lands with NALEMP.
- Coordination of community events in cooperation with Eklutna, Incorporated, the NVE Health Department, and other organizations to remove trash and abandoned vehicles from the area surrounding the village and lower Eklutna River.
- Removal of illegal Eklutna River canyon dump with EPA Solid Waste Management Assistance Agreement. This was done by crane over a 300' cliff to clean the backfill of a decommissioned dam that we hope to remove. It contained 50 vehicles and a wide variety of other junk.
- NVE has conducted an active environmental education program under IGAP, including subsistence camps for village youth, environmental camps for several neighboring grade school classes at a time, recycling education, and many other activities.
- Training provided to eight Tribal members and other Alaska Natives for conducting technical environmental assessments.
- HAZWOPER certification training provided to tribal members with subsequent annual refresher
- NVE has implemented an Eklutna community recycling program for over 15 years, using a purpose designed trailer to transport recyclables to recycling facilities.
- Board membership in Cook Inlet Treaty Tribes, Tribal Coalition for Cook Inlet, Eklutna River Watershed Council, and others with environmental goals. Tribal staff has served on numerous environmental review committees with various agencies and other groups.
- MOUs and other partnership agreements developed facilitating cooperative environmental activities with Municipality of Anchorage, Department of Defense (five Native American Land and Environment Mitigation Program Cooperative Agreements implementing $1.2 million in Eklutna Army (formerly used defense) Site mitigation), US Army Garrison Alaska (two MOUs to cooperatively pursue cultural end environmental resources documentation and protection), US ACOE (focused on the Eklutna River restoration, but expandable), Matanuska-Susitna Fish Habitat Partnership, Anchorage Soil and Water Conservation District, EPA(TEA), Knik Arm Bridge and Toll Authority (contract to document and preserve cultural sites), UAA (NSF) sub-grant to investigate cultural water resource issues), other Cook Inlet Dena'ina Tribes, and others in development

Appendix C

Eklutna Inc. and Great Land Trust Prioritization Report

Conservation Funding Opportunities: A Prioritization of Eklutna, Inc. Lands for Conservation

Prepared by:
Great Land Trust

With support from:
United States Fish and Wildlife Service Coastal Program

February 2011

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Appendix A: GIS Methods

1. Introduction

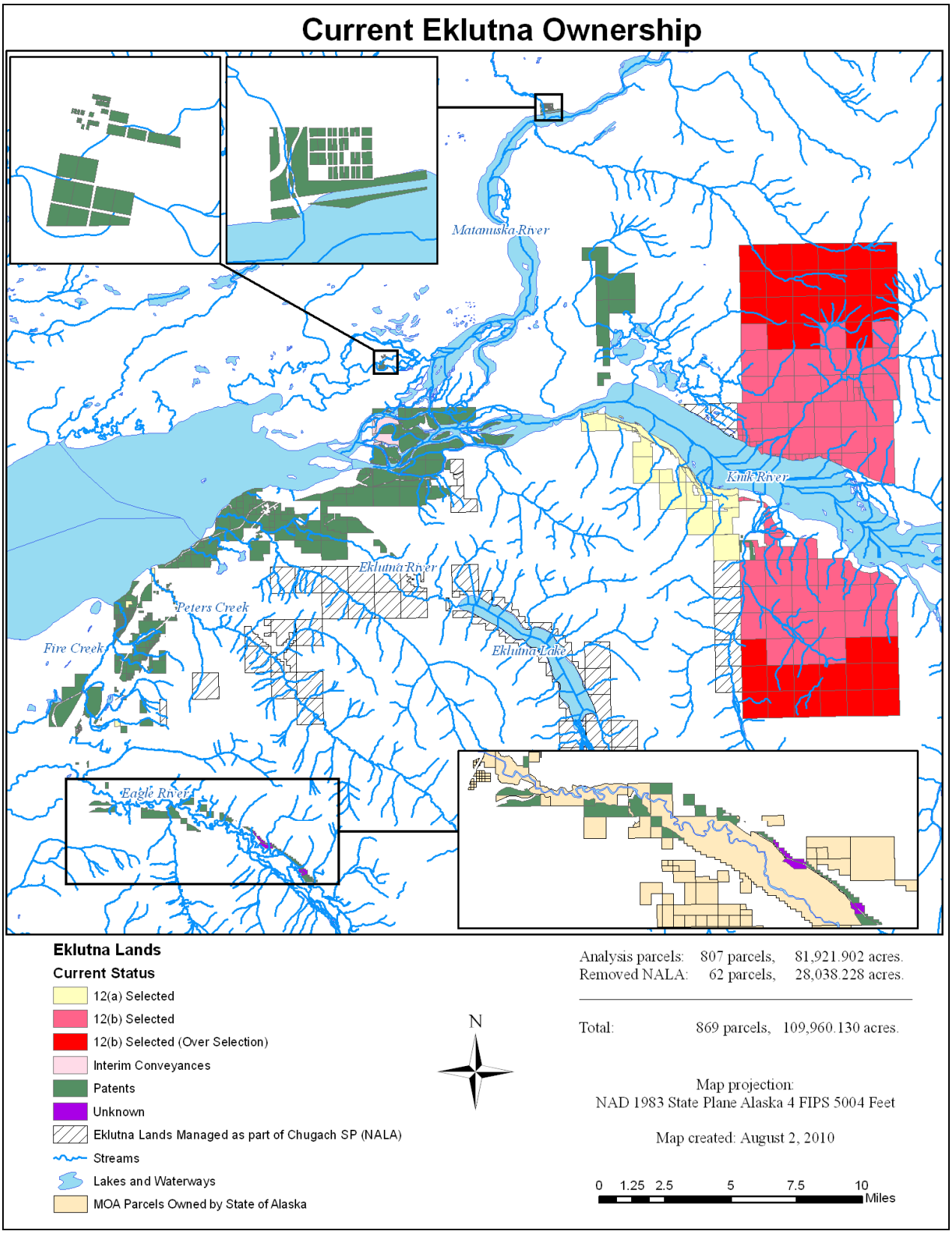
As the largest private landowner in the Municipality of Anchorage and with significant holdings in the Matanuska Borough, Eklutna, Inc. is owner to some of the region's Alaska's most valuable wetlands and wildlife habitat. The sheer quantity of acres of Eklutna owned lands coupled with the wide diversity of habitats and wetland types- from functional estuarine habitat along Knik Arm to riparian habitat along the area's numerous anadromous streams- is what makes conservation of these properties so essential in preserving the natural lands and resources that define Alaska. Eklutna, Inc. has a unique opportunity to be able to work with local and national organizations to conserve the natural values of their lands in a manner that maximizes the social and economic welfare of Eklutna, Inc. and its shareholders.

This report serves to 1) identify and evaluate the habitat and natural resource values of Eklutna Incorporated lands and 2) provide Eklutna Incorporated with conservation options for protecting high priority wetlands and wildlife habitat while meeting the needs of its shareholders.

Eklutna, Inc. was incorporated in 1972 under the Alaska Native Claims Settlement Act (ANCSA) (43 USC 1601-1624), which authorized Alaska Natives statewide to select and receive title to 44 million acres of public land in Alaska and established a system of Native corporations to manage the lands (Fish and Wildlife Service 2010). Currently, Eklutna is the largest private landholder in Anchorage, with additional lands in the Matanuska-Susitna Borough. In total, Eklutna owns approximately 109,000 acres.

It is important to keep in mind, however, that there are also many acres slated to change hands between Eklutna, Inc., the State of Alaska, and the Municipality of Anchorage according to the North Anchorage Land Agreement (NALA) (Meiners et al.). NALA, signed in 1982, involves more than 100,000 acres. This agreement affects the ownership of a significant amount of land within Chugach State Park, in the Eklutna Village/Edmonds Lake area, in and around Palmer Hay Flats State Game Refuge, and in the area of the Jim and Swan lakes north of Knik River. NALA further outlines the resulting land transfers given to all three parties in the event the military lands in north Anchorage are designated as excess by the military. For the purpose of this project, Eklutna lands designated to be transferred to the state under NALA, totaling more than 28,000 acres, were excluded from the analysis. For an overview of the current ownership status of all Eklutna lands, see the map on the following page.

The mission of Eklutna, Inc. is "to protect and expand Eklutna's assets and business ventures through orderly diversified growth, utilizing sound management, and financial policies." Eklutna, Inc. has expressed a desire to conserve and protect lands with high ecological value, while at the same time making the most lucrative economic decision available. To this end, Eklutna approached the Great Land Trust (GLT) to conduct a prioritization of all its land holdings to identify the most suitable and profitable lands for conservation, either through the sale of 1) conservation easements or access easements, 2) fee simple sale of land 3) wetland mitigation including wetland mitigation banking.



Current Status of Eklutna Lands

2. Conservation Options for Eklutna Properties

There are multiple conservation options and funding sources available to Eklutna, Inc. for wetland conservation projects in Southcentral Alaska. To qualify for these funding sources, Eklutna will need to either 1) restrict the use of the land with a conservation easement if Eklutna retains private ownership or creates a wetland mitigation bank or 2) sell the property fee simple for inclusion into a public protected area. A description of the conservation easement, fee simple sale, and wetland mitigation options are detailed below followed by descriptions of partners and funding opportunities. We then detail which properties are top candidates for each conservation option.

Conservation Easements

A conservation easement is a voluntary, permanent legal agreement between a landowner and qualified organization (e.g. Federal, Tribal, other State or local resource agencies, or non-profit conservation organizations such as land trusts) that permanently restricts current and future uses of the land in order to preserve its natural features, to protect wildlife and wetland habitat or otherwise to meet the conservation needs of the property. The land stays in private ownership, and the land trust ensures that the conservation restrictions are honored in perpetuity. Each conservation easement is different and is designed to both protect the natural values of the land and to accommodate the landowner's wishes. The specific rights retained by a landowner or restricted by an easement will vary with each property.

The value of a conservation easement is determined by an appraisal. It is calculated by appraising the fair market value of the property with and without the conservation easement. The value of the conservation easement is the difference between the two appraisals. A conservation easement's value is also directly related to the extent of the restrictions imposed by the easement. The more restrictions there are on the property, the more the conservation easement is worth.

After a conservation easement is placed on a particular property, the land trust is required to monitor the property at least once annually to make sure the terms of the conservation easement are being followed. The land trust will notify the landowner if there are any violations of the terms of the conservation easement. It is then the responsibility of the landowner to remedy any violations.

The land trust needs to conduct due diligence before acquiring a conservation easement. This includes: 1) appraisal, 2) phase I environmental site assessment, 3) subordination of mineral rights or a no surface occupancy agreement from the holder of subsurface rights, and 4) title search to determine clear title.

In addition to conservation easements, there may be the opportunity to sell trailhead and access easements on parcels that abut Chugach State Park and could be used as access points for public recreation in the park. These opportunities are identified in the Chugach State Park Access Plan and are summarized in this document.

Partners and funding available for Conservation Easements		
Name	**Contact**	**Notes**
Great Land Trust (GLT)	Phil Shephard (907) 278-4998	GLT holds Conservation Easements in Anchorage and Mat-Su. GLT has funding dedicated for wetland conservation and access to Chugach State Park.
The Conservation Fund (CF)	Brad Meiklejohn (907) 694-9060	CF will fundraise and partner with organizations who hold conservation easements.
The Nature Conservancy (TNC)	Corrine Smith (907) 276-3133	TNC will fundraise and partner with organizations who hold conservation easements for projects in the Mat-Su
Chugach State Park (CSP)	Superintendant (907) 345-5014	CSP will partner on projects that are adjacent to Chugach State Park or that provide access to CSP.
US Fish and Wildlife Service (FWS)	Conservation Program (907) 271-3764	FWS will assist with funding conservation projects. Programs such as North American Wetlands Conservation Act (NAWCA) may provide funding.
Native Village of Eklutna (NVE)	Land and Environment Department (907) 688-6020	NVE will assist with Eklutna Conservation Projects.
US Army Corps of Engineers (USACE)	Nicole Hayes (907) 753-2619	USACE has funding available for conservation projects that mitigate for the Port of Anchorage expansion.
Alaska Department of Fish and Game – Palmer Hay Flats State Game Refuge (DFG, PHFSGR)	Joe Meehan (907) 267-2281	Will partner on projects that are adjacent to Palmer Hay Flats State Game Refuge or that provide access to PHFSGR.

Fee Simple Sale

For properties adjacent to public protected areas such as Chugach State Park, Palmer Hay Flats State Game Refuge, and Knik River Public Use Area, there are opportunities for Eklutna to sell fee simple title to the property outright. Some funding opportunities, such as the USFWS National Coastal Wetlands grant program, will only fund acquisitions adjacent to state owned land. Also, on occasion, a property that is not adjacent to a protected area can be purchased by a land trust or local government. In either case, the property would then be designated as a protected area. In this scenario, a conservation organization such as Great Land Trust or the Conservation Fund, or a State agency such as Alaska State Parks or Alaska Department of Fish and Game, would raise funds to acquire the property. Once the fundraising is complete, which usually takes from 6 months to 2 years, the transaction takes place and the property title is transferred. If the property is incorporated into a public protected area, access would still remain.

The value of the property is determined by a State reviewed appraisal that is compliant with federal appraisal standards.

Due diligence will be conducted before acquiring a property fee simple. This includes: 1) appraisal, 2) phase I environmental site assessment, 3) subordination of mineral rights or a no surface occupancy agreement from the holder of subsurface rights, and 4) title search to determine clear title.

Partners and funding available for Fee Simple Acquisition		
Name	**Contact**	**Notes**
Great Land Trust	Phil Shephard (907) 278-4998	GLT acquires conservation lands in Anchorage and Mat-Su. GLT has funding dedicated to wetland conservation and access to Chugach State Park.
The Conservation Fund	Brad Meiklejohn (907) 694-9060	TCF acquires conservation lands throughout Alaska.
The Nature Conservancy	Corrine Smith (907) 276-3133	TNC will fundraise and partner with organizations for projects in the Mat-Su.
Chugach State Park	Superintendant (907) 345-5014	CSP will partner on projects that are adjacent to Chugach State Park or that provide access to CSP.
US Fish and Wildlife Service	Conservation Program (907) 271-3764	USFWS will assist with funding conservation projects. Programs such as North American Wetlands Conservation Act, National Coastal Wetlands Conservation Fund, may provide funding.
Alaska Department of Natural Resources (DNR)	Samantha Carroll (907) 269-8425	DNR facilitates federal conservation programs including NOAA – Coastal and Estuarine Land Conservation Program (CELCP) and USDA-Forest Legacy Program
US Army Corps of Engineers	Nicole Hayes (907) 753-2619	USACE has funding available for conservation projects that mitigate for the Port of Anchorage expansion
Alaska Department of Fish and Game – Palmer Hay Flats State Game Refuge	Joe Meehan (907) 267-2281	DFG will partner on projects that are adjacent to Palmer Hay Flats State Game Refuge or that provide access to PHFSGR

Wetland Mitigation

Eklutna owns property that has the potential to serve as wetland mitigation for developers who are required to compensate for wetlands filled under jurisdiction of the clean water act (Section 404). There are three different ways in which these Eklutna properties can serve as wetland mitigation lands: 1) Wetland Mitigation Bank, 2) In Lieu Fee, 3) Project Specific Mitigation. These three options are detailed below.

Wetland Mitigation Banking

As described by the Environmental Protection Agency, “a mitigation bank is a wetland, stream, or other aquatic resource area that has been restored, established, enhanced, or preserved for the purpose of providing compensation for unavoidable impacts to aquatic resources permitted under Section 404 or a similar state or local wetland regulation. A mitigation bank may be created when a government agency, corporation, nonprofit organization, or other entity undertakes these activities under a formal agreement with the Army Corps of Engineers.”

Mitigation banks have four distinct components:

- The bank site: the physical acreage restored, established, enhanced, or preserved;
- The bank instrument: the formal agreement between the bank owners and regulators establishing liability, performance standards, management and monitoring requirements, and the terms of bank credit approval;
- The Interagency Review Team (IRT): the interagency team that provides regulatory review, approval, and oversight of the bank; and
- The service area: the geographic area in which permitted impacts can be compensated for at a given bank.

“The value of a bank is defined in "compensatory mitigation credits". A bank's instrument identifies the number of credits available for sale and requires the use of ecological assessment techniques to certify that those credits provide the required ecological functions. Mitigation banks are designed to compensate for impacts to various wetland types.”

Mitigation banks that use preservation as the mitigation option require that a conservation easement be placed on the property. There are substantial up front costs associated with the creation of a mitigation bank which include:

1) Creation of the **Mitigation Bank Instrument**. A bank instrument involves a detailed report and agreement that outlines the suitability and terms of the mitigation bank. These documents are the Mitigation Bank Prospectus and Mitigation Bank Instrument and are subject to a review process by the general public and local, state and federal regulatory agencies.

2) A mitigation bank will require a **conservation easement** be placed on a property. The mitigation bank sponsor is required to fund the upfront costs associated with the conservation easement such as the due diligence, easement drafting, annual monitoring and long term management.

After the Mitigation Bank is adopted by the Army Corps of Engineers, the bank sponsor is able to sell credits from the bank to developers who need to mitigate for filling wetlands. The bank sponsor is able to set the monetary rate that they sell their credits for. A mitigation bank will be most successful if it includes multiple wetland types. This way the bank can sell credits that represent a greater diversity of wetland types.

There is currently a private mitigation bank in the Eagle River watershed selling credits which could compete with . Analysis of market conditions should be considered before committing the up front costs associated with mitigation banking.

In Lieu Fee

As an alternative to mitigation banks, In Lieu Fee programs accumulate funds before a property is preserved. They then use those funds to purchase conservation easements or fee simple title to valuable wetlands. In the Eklutna region, In Lieu Fee programs are operated by the Conservation Fund and the Great Land Trust. These organizations are good sources of funding for wetland conservation projects and can be contacted if Eklutna would like to either sell a conservation easement on wetlands or sell the wetlands outright.

Project Specific Mitigation

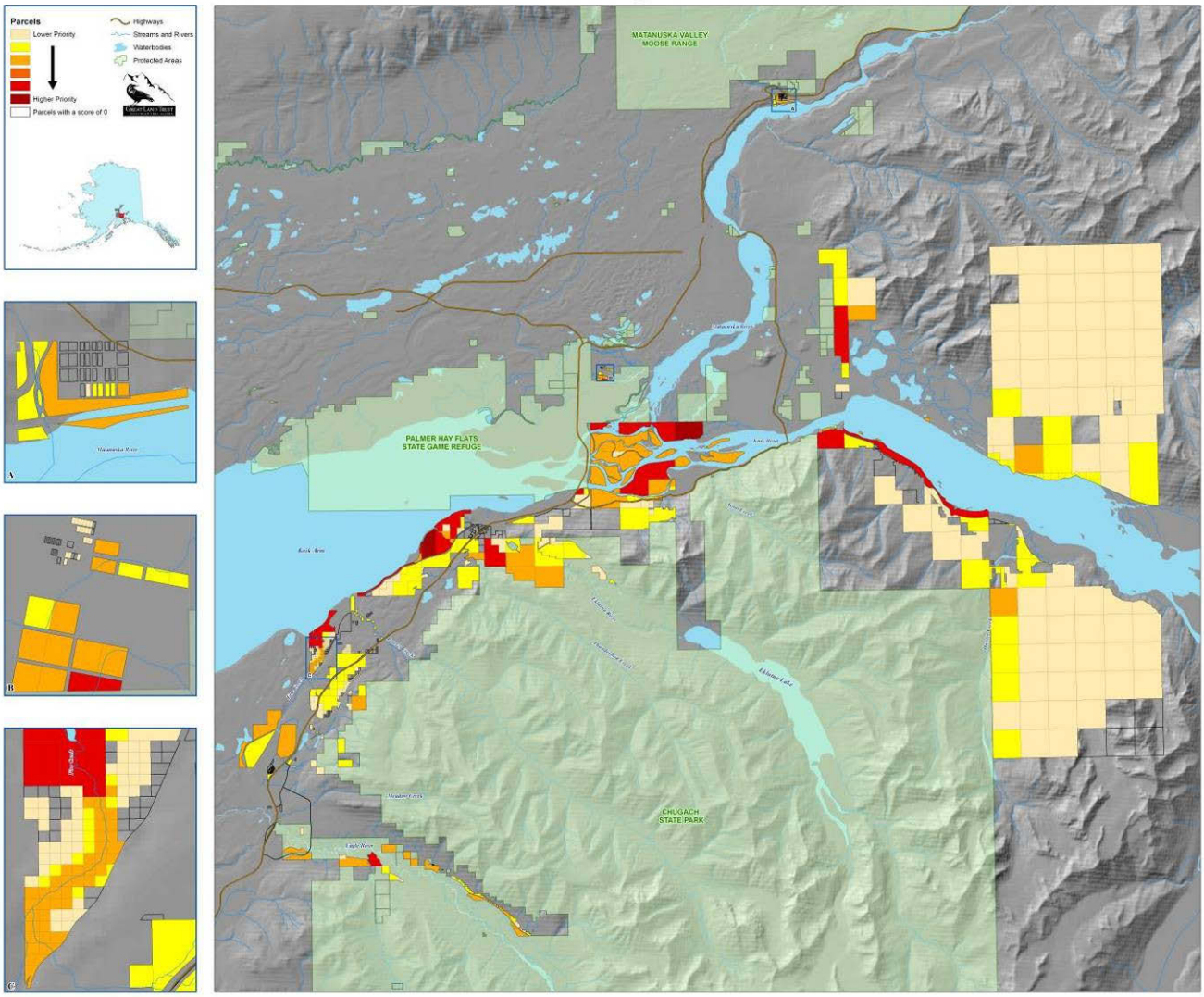
Many of the large development projects in the region develop project specific mitigation plans. For example, the Port of Anchorage has recently set aside 8 million dollars to conduct mitigation for the expansion of the Port. Some of these funds are being used by Great Land Trust to purchase a conservation easement on the "Knik Islands" land owned by Eklutna. It is possible that future large development projects will have similar project specific mitigation opportunities. Because Eklutna has large wetland land holdings, Eklutna has the opportunity to propose conservation of these wetlands as mitigation to offset these projects. Eklutna should contact the Corps of Engineers and representatives of the large development projects to discuss this opportunity.

Wetland Mitigation Opportunities		
Name	**Contact**	**Notes**
Great Land Trust	Phil Shephard (907) 278-4998	GLT has an in lieu fee program with funds available for wetland acquisitions. GLT also holds conservation easements on mitigation banks
The Conservation Fund	Brad Meiklejohn (907) 694-9060	TCF has an in lieu fee program with funds available for wetland acquisitions.
US Army Corps of Engineers	Nicole Hayes (907) 753-2619	USACE is the regulatory agency that oversees wetland mitigation including 1) wetland mitigation banking, 2) in lieu fee programs, and project specific mitigation.

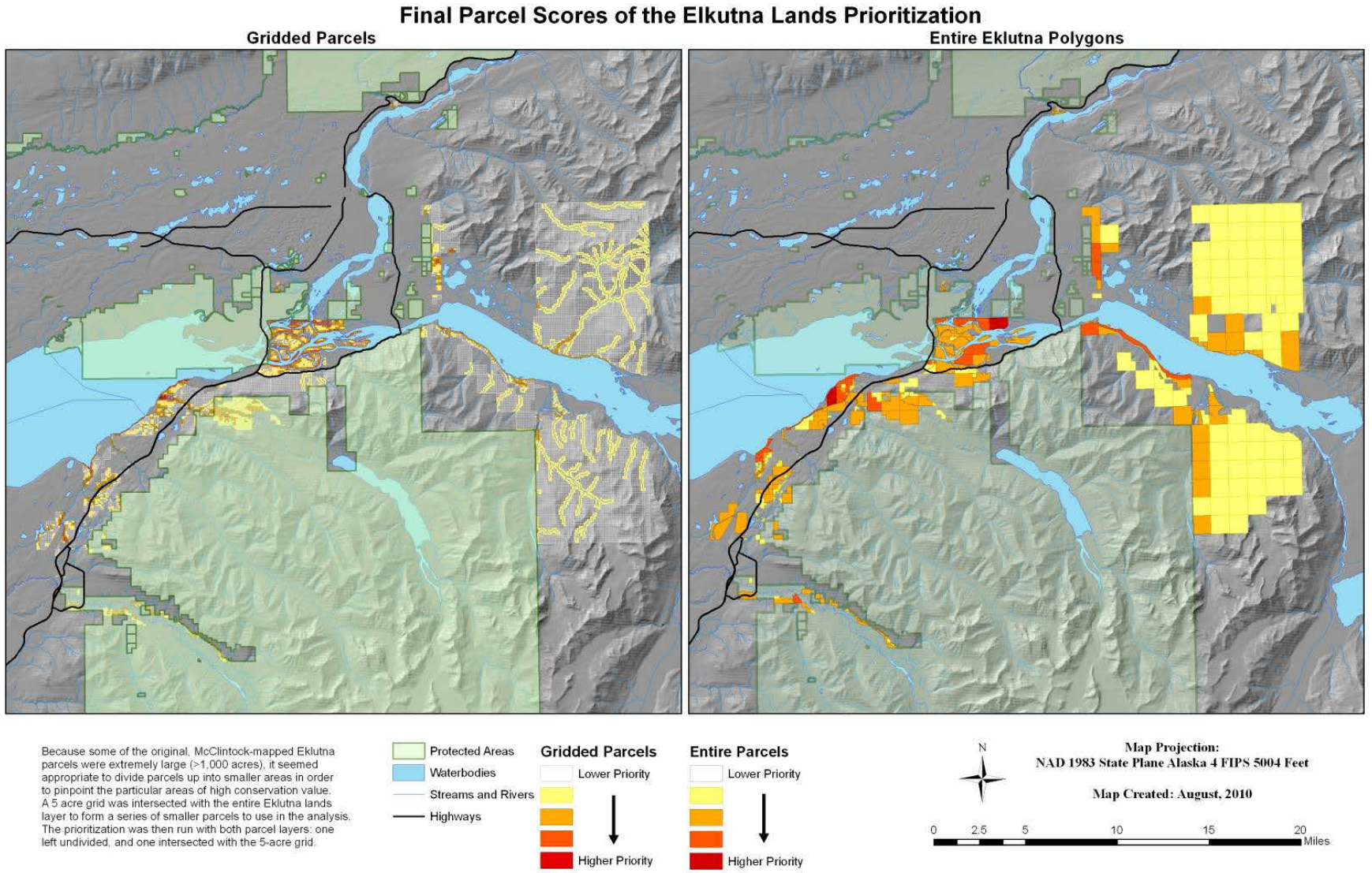
3. Prioritization Results

The maps below show how Eklutna parcels ranked in the parcel prioritization. In addition, specific focus areas are identified that could be targeted for conservation funding using conservation easements, access easements, fee simple land sale, or through wetland mitigation.

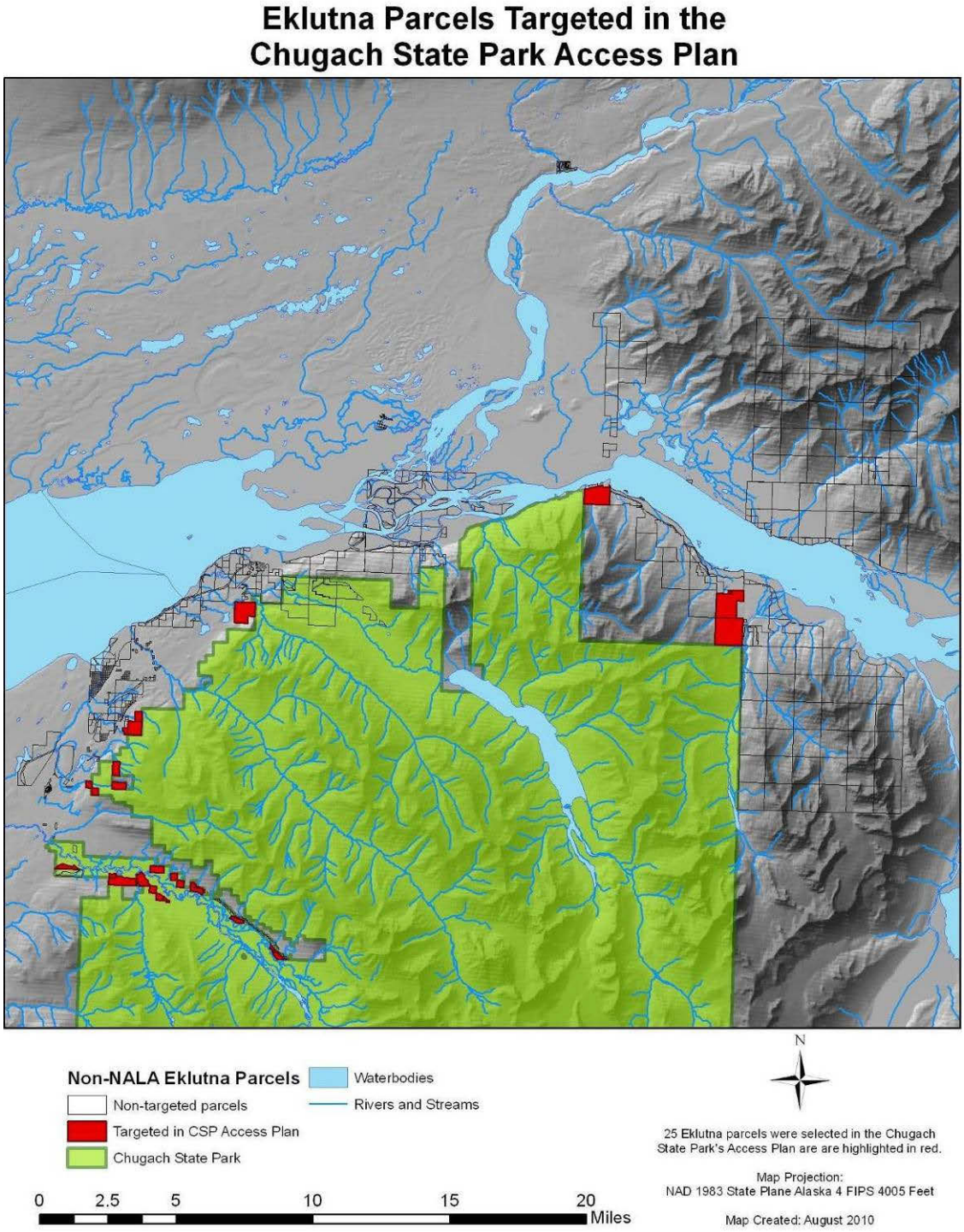
Final Prioritization Ranking for all Eklutna Lands



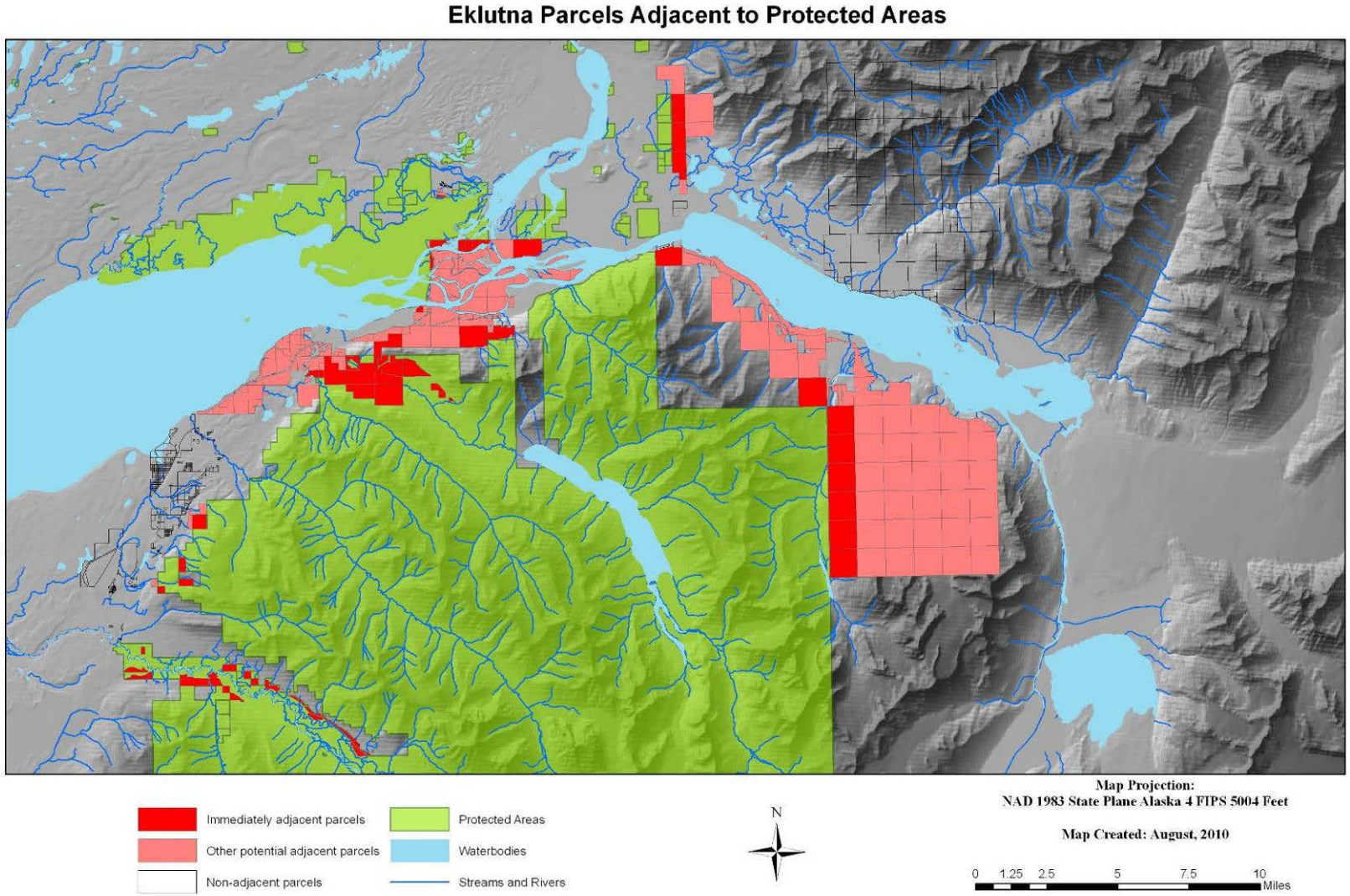
Map 1. Final Prioritization Ranking for all Eklutna Lands. The map above identifies the wetland value for all of Eklutna, Inc.'s holdings.



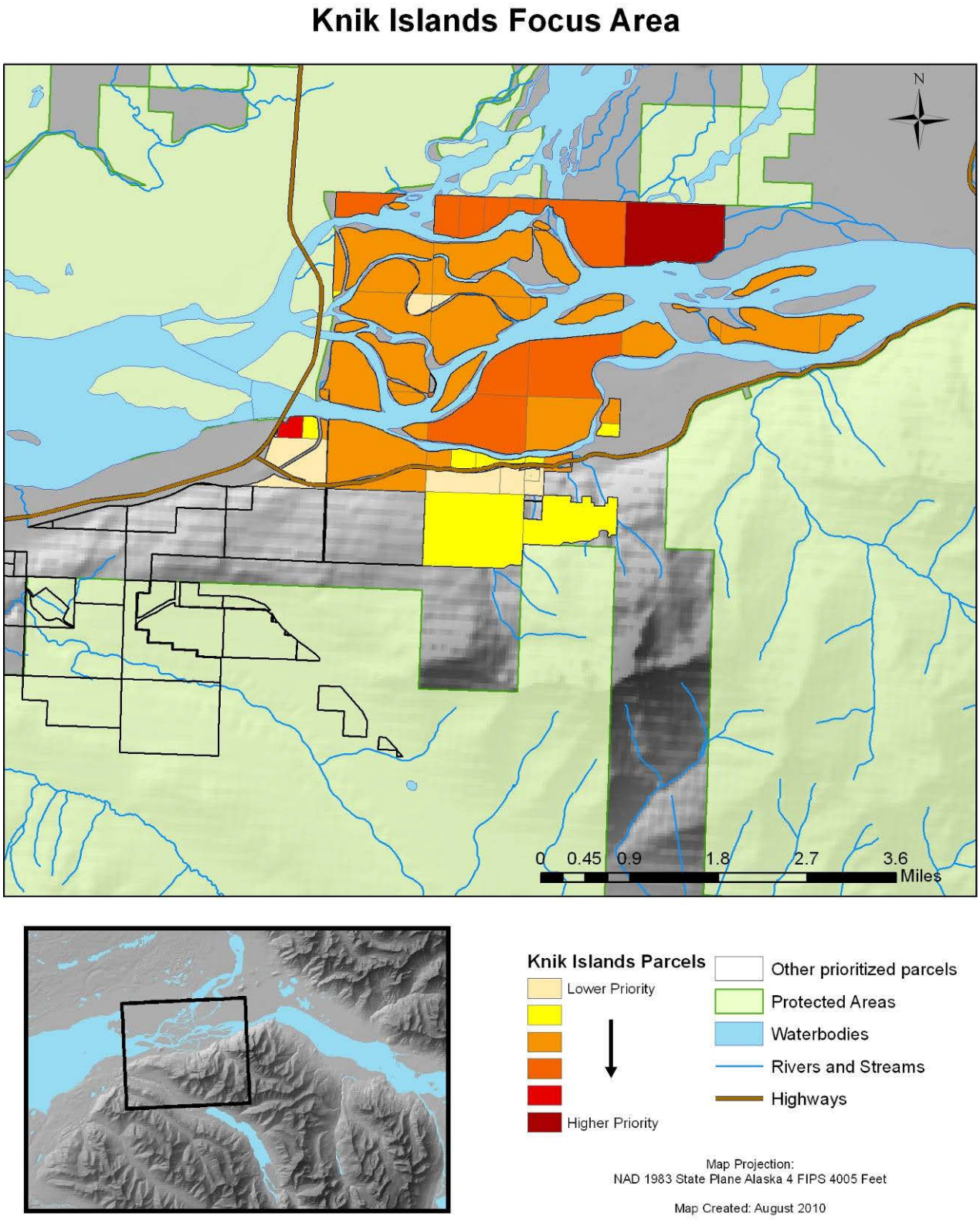
Map 2. Final Parcel Ranking for All Eklutna Lands (gridded parcel comparison). Map on the left shows relative conservation value of all Eklutna lands regardless of parcel boundaries. Map on right shows relative conservation value of all Eklutna lands when parcel boundaries are respected and each parcel is prioritized as a whole unit. For a detailed explanation of the gridded parcels, refer to the methodology section at the end of this report. The gridded parcel comparison was used to help define the focus areas and conservation options.



Map 3. Eklutna Parcels Identified in the Chugach State Park Access Plan. The map above shows Eklutna-owned parcels specifically identified as critical parcels for increasing public access to Chugach State Park. These parcels have the potential for access easements or could be sold for inclusion into the Park for recreational trailheads.



Map 4. Eklutna Parcels Adjacent to Protected Areas. The map above shows parcels (red) that are immediately adjacent to public protected areas, as well as other Eklutna-owned parcels (pink) that could be grouped together and incorporated in a neighboring public area. These parcels have additional funding opportunities due to their proximity to public land.



Map 5. Knik Islands Focus Area.

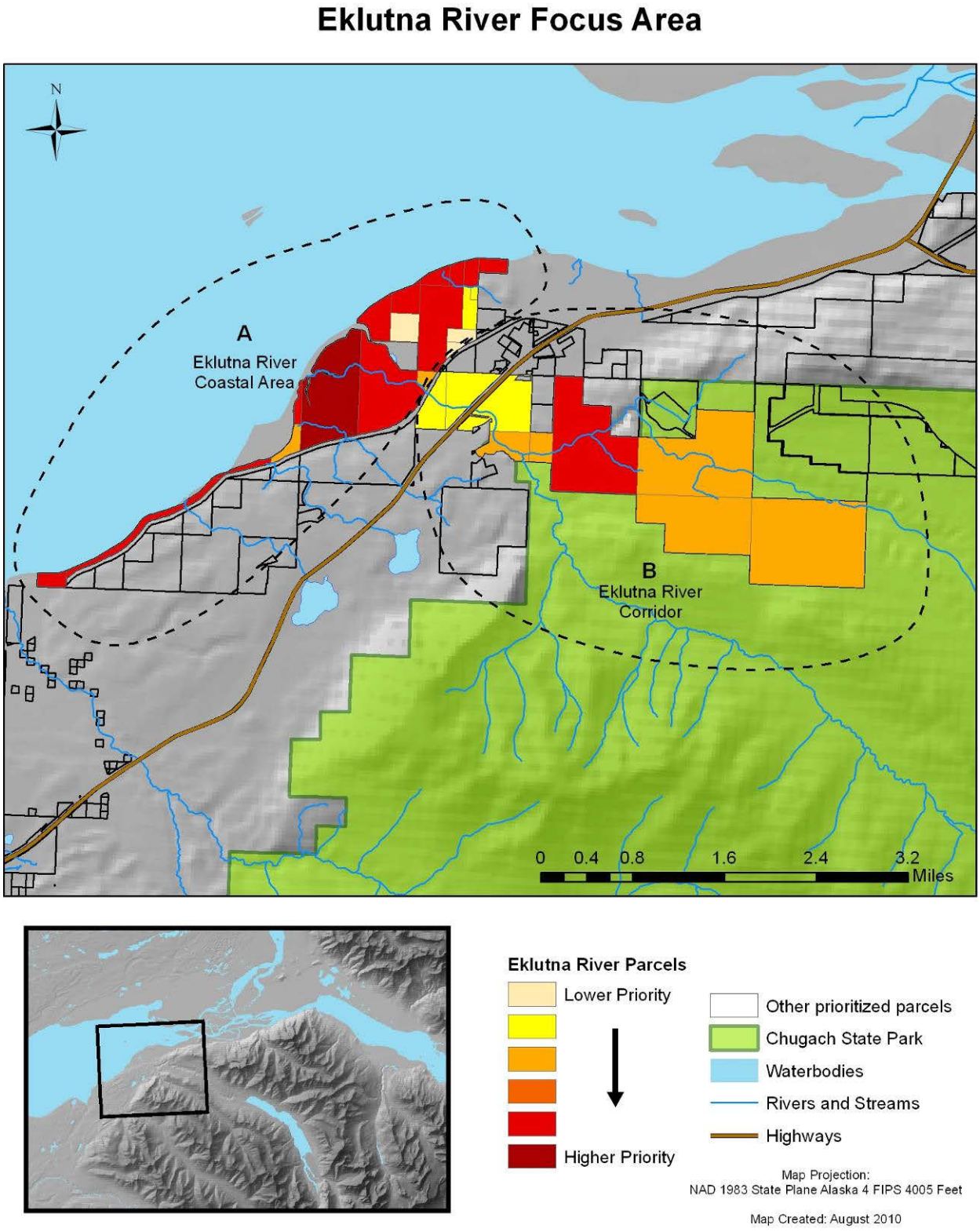
Knik Islands Focus Area
5,000 acres

The Knik Islands focus area is the subject of a conservation easement sale to the Great Land Trust. Eklutna is working with Great Land Trust to sell a conservation easement on approximately 5,000 acres of wetlands upstream of the Knik River bridge on the Glenn Highway. The Eklutna, Inc. Board of Directors supported this transaction in a 2010 board resolution.

The property contains an anadromous river, estuary, and upland buffer. It is adjacent to the Alaska Department of Fish and Game's Palmer Hay Flats State Game Refuge and in proximity to the Alaska Department of Natural Resources Chugach State Park (CSP). These lands contain significant spawning and rearing habitat for salmon, critical for the survival of the endangered Cook Inlet Beluga Whales which rely on the salmon as their main food source. These lands rank among the highest parcels in the Mat-Su Borough prioritized for conservation of habitat that would mitigate for Port of Anchorage Expansion.

This project will permanently protect parcels in this focus area through the sale of a conservation easement. In this project, Eklutna Inc. will retain ownership and the ability to use the property for uses consistent with the conservation of wetland habitat. The conservation easement will permanently protect the property in perpetuity by restricting development and other uses that would detract from the wetland values of the property.

This project is funded through wetland mitigation funds paid by the Port of Anchorage as a result of the Port expansion filling 135 acres of wetlands. This project is expected to be completed by the end of 2011.



Map 6. Eklutna River Focus Area.

Eklutna River- Focus Areas A & B
2823 acres

Focus Area A – Coastal Parcels
972 acres

The parcels in the Eklutna Watershed lying along the southern shore of Knik Arm contain significant acreage of estuarine and freshwater wetlands. Eklutna River and numerous subsidiary creeks run through this area.

Due to the high functionality and value of the wetlands on these parcels, it is suggested that these parcels would be a good fit for a conservation easement, fee-simple acquisition, or wetland mitigation.

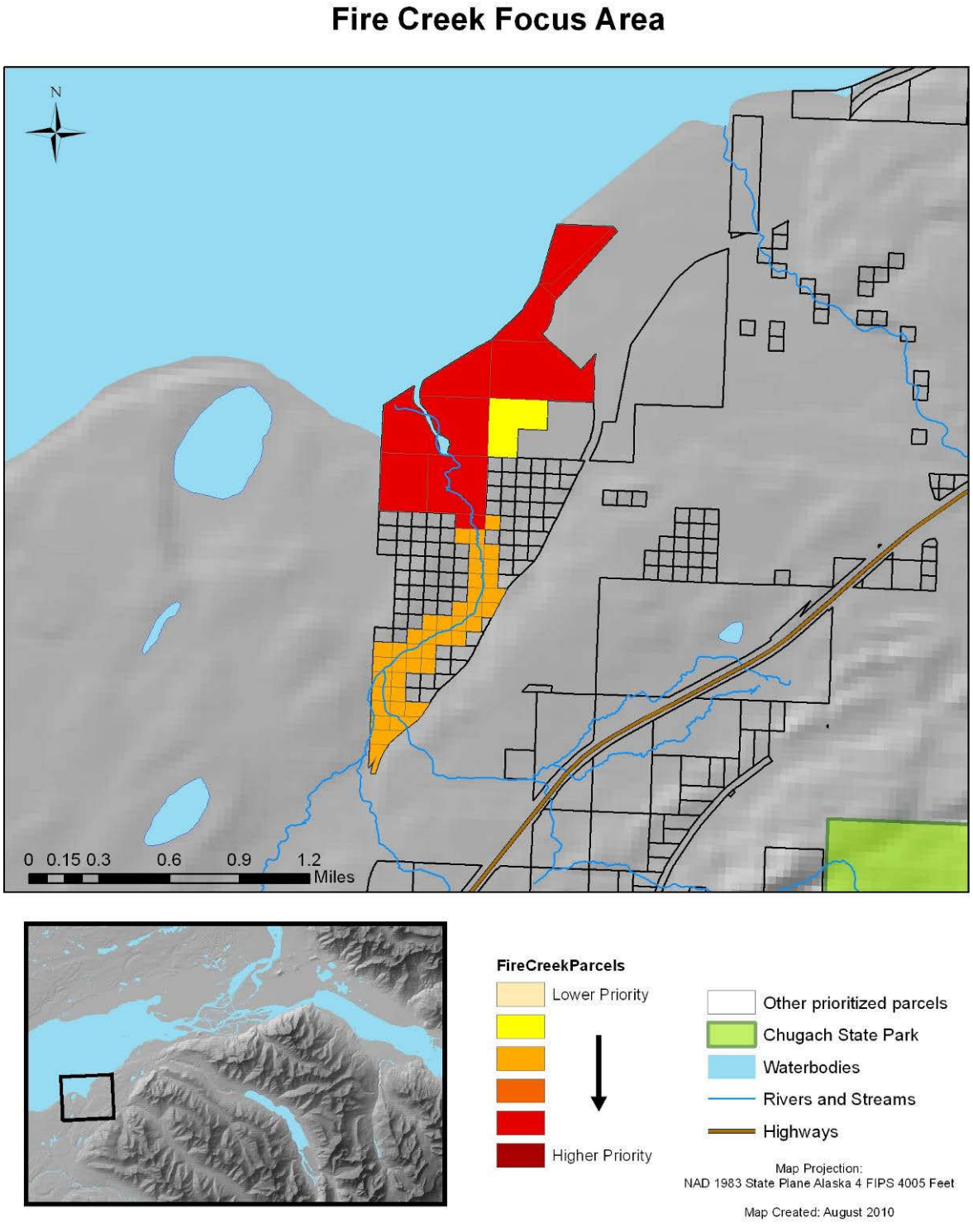
1) A conservation easement could be sold for all or a portion of the parcel area. The conservation easement would allow Eklutna Inc. to retain ownership of the land while also protecting the functionality of the wetlands and riparian habitat.
2) The property, fee-simple, could be sold outright to a land trust or other conservation buyer.
3) All or a portion of the parcel area could be used for wetland mitigation, including a wetland mitigation bank. Wetland mitigation could be restricted to the Fire Creek area or expanded to encompass other Eklutna-owned lands.

Focus Area B – Eklutna River Corridor
1851 acres

These parcels lie on either side of Eklutna River and contain critical riparian habitat, though the wetlands are less extensive than the coastal area and no estuarine wetlands exist on these parcels.

Due to critical riparian habitat, as well as the parcel's adjacency to Chugach State Park, it is suggested that these parcels would be a good fit for a conservation easement, fee-simple acquisition, or wetland mitigation or a wetland mitigation bank (if parcels are lumped with the coastal parcels in focus area A).

1) A conservation easement could be sold for all or a portion of the parcel area. The conservation easement would allow Eklutna Inc. to retain ownership of the land while also protecting the functionality of the wetlands and riparian habitat.
2) The property, fee-simple, could be sold outright to a land trust or other conservation buyer for incorporation into Chugach State Park.
3) Due to the parcels more limited wetlands, establishing a mitigation bank on these parcels alone isn't feasible. However, a potential option would be to lump these parcels with those from the coastal area (A) and establishing a wetland mitigation bank. This would create a bank with diversified habitats (estuarine wetlands, freshwater wetlands, riparian corridor) that could be used as mitigation for a wider array of developments.



Map 7. Fire Creek Focus Area.

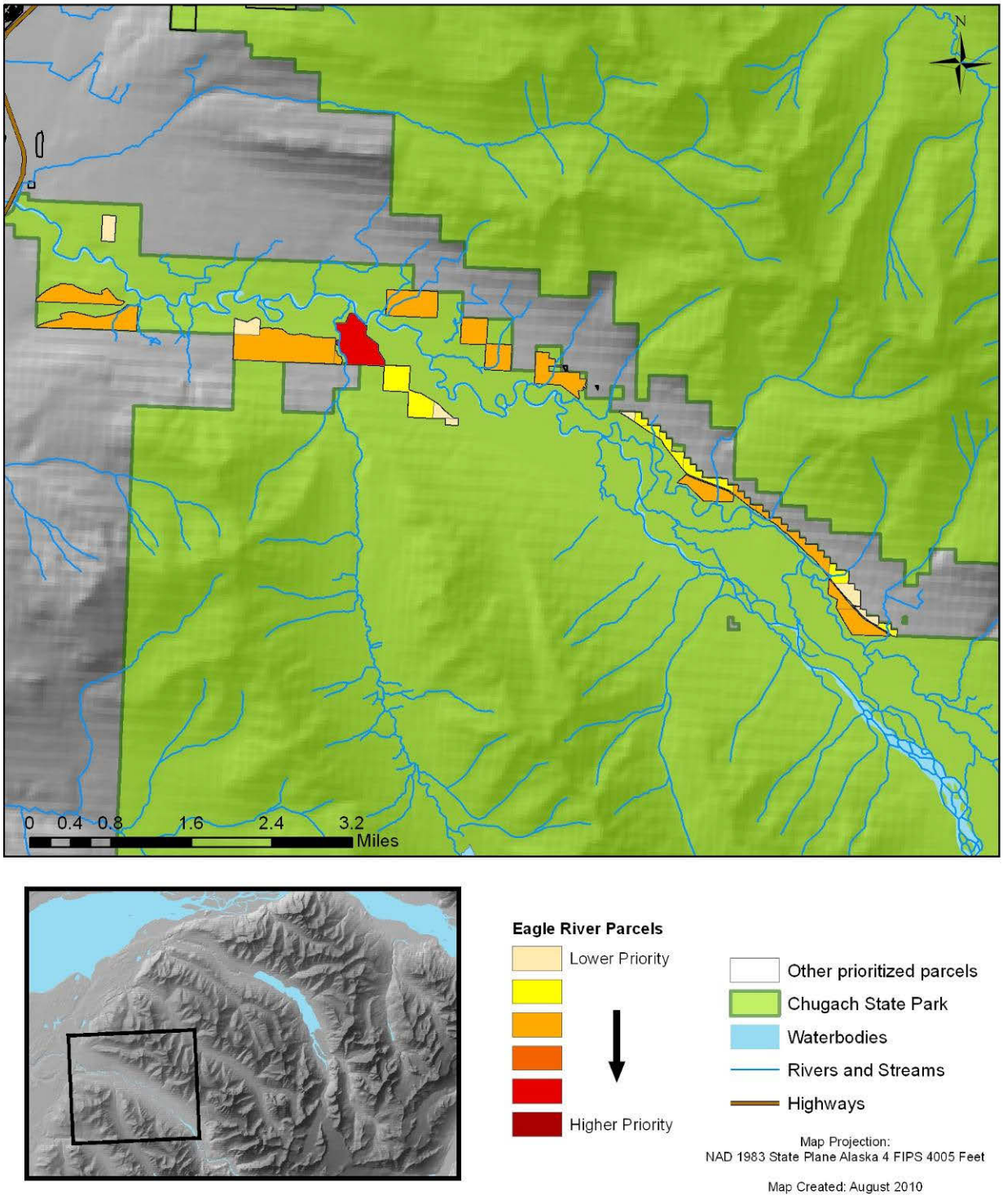
Fire Creek- Focus Area
436 acres

The parcels near the mouth of Fire Creek contain a large swath of highly critical estuarine wetlands as well as numerous acres of freshwater/forested shrub wetlands further inland. Fire Creek runs through the heart of these parcels.

Due to the high functionality and value of the wetlands on these parcels, and the lack of adjacency to any protected areas, it is suggested that these parcels would be a good fit for a conservation easement, fee-simple acquisition, or wetland mitigation.

1) A conservation easement could be sold for all or a portion of the parcel area. The conservation easement would allow Eklutna Inc. to retain ownership of the land while also protecting the functionality of the wetlands and riparian habitat.
2) The property, fee-simple, could be sold outright to a land trust or other conservation buyer.
3) All or a portion of the parcel area could be used for wetland mitigation or a wetland mitigation bank. Wetland mitigation could be restricted to the Fire Creek area or expanded to encompass other Eklutna-owned lands.

Eagle River Focus Area



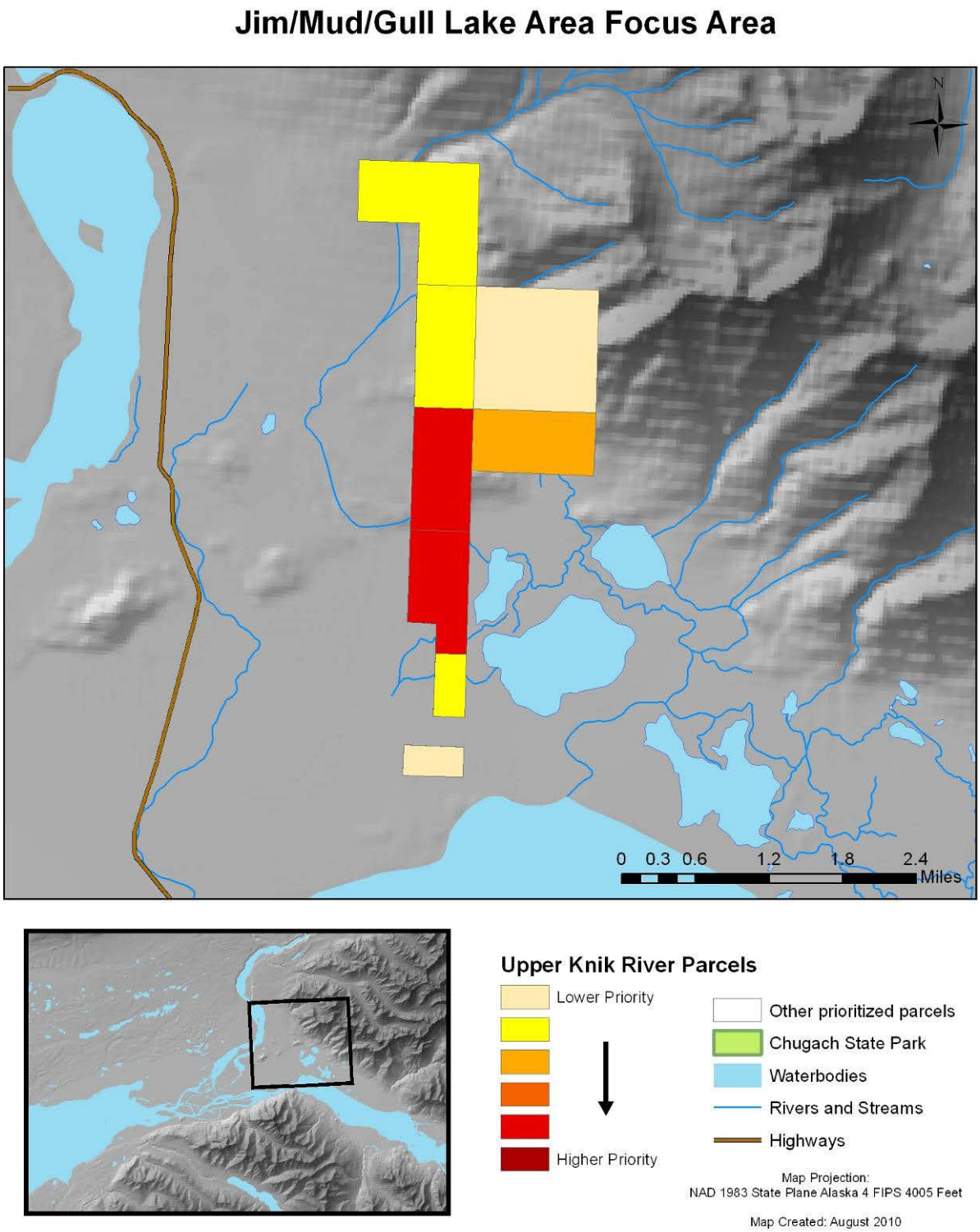
Map 8. Eagle River Focus Area.

Eagle River- Focus Area
1040 acres

These parcels lie along the north side of the main branch of Eagle River as well as near the confluence of the main and south branches and further downstream. The majority of these parcels are in-holdings within Chugach State Park. Portions of the parcels contain forested/shrub wetlands, as well as substantial riparian habitat, however, the primary conservation value of these parcels is their adjacency to protected land.

Due to these parcels being either in-holdings within Chugach State Park or immediately adjacent to the park, the best option for conservation would be to sell these parcels for incorporation into Chugach State Park. Another option would be to put a conservation easement on the property,

1) A conservation easement could be sold for all or a portion of the parcel area. The conservation easement would allow Eklutna Inc. to retain ownership of the land while also protecting the functionality of the wetlands and riparian habitat.
2) The property, fee-simple, could be sold outright to a land trust or other conservation buyer for incorporation into Chugach State Park.



Map 9. Jim/Mud/Gull Lake Focus Area.

Jim/Mud/Gull Lake- Focus Area
2484 acres

These parcels lie in the Jim Lake/Mud Lake/Gull Lake vicinity. The southern parcels in this area contain portions of freshwater wetlands. Various subsidiary creeks flow throughout the focus area.

The main conservation value of these parcels is their unique riparian and wetland habitat in an area known to be a critical area for birds and other wildlife. It is suggested that these parcels would be a good fit for a conservation easement or fee-simple acquisition.

1) A conservation easement could be sold for all or a portion of the parcel area. The conservation easement would allow Eklutna Inc. to retain ownership of the land while also protecting the functionality of the wetlands and riparian habitat.
2) The property, fee-simple, could be sold outright to a land trust, state or other conservation buyer. The parcels are adjacent to and suitable for incorporation into the Knik River Public Use Area.

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Fish and Wildlife Service. 2010. Digest of Federal Resource Laws of Interest to the U.S. Fish and Wildlife Service: Alaska Native Claims Settlement Act. http://www.fws.gov/laws/lawsdigest/alasnat.html.

Meiners, A., J. Wiles, C. Dennerlein, R. Mann, and D. Alex. North Anchorage Land Agreement (Summary PDF). Contact Information: Al Meiners and Jack Wiles (Alaska Department of Natural Resources), Chip Dennerlein and Ray Mann (Municipality of Anchorage), and Dan Alex (Eklutna, Inc.)

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Appendix A.

GIS Prioritization Methods

ArcGIS, a Geographic Information System (GIS), was the primary tool used to complete the Eklutna lands prioritization analysis. The creation of data and maps for this prioritization project was a two month process, involving guidance from Eklutna, Inc, the U.S. Fish and Wildlife Service and the Great Land Trust. The steps taken to complete this project are outlined below.

A1.1 Data Collection

Due to the wide variety of conservation criteria used in this prioritization, data were collected from an array of sources. The sources for the data used in this analysis are outlined in the table below.

Table 1. Data Sources for Eklutna Lands Prioritization

Data Source	Data Layers
McClintock	• Eklutna land boundaries
Matanuska-Susitna Borough (MSB)	• Parcels • Hydrology polygons
The Municipality of Anchorage	• Parcels • Anchorage area Streams and Lakes
National Wetlands Index (NWI)	• NWI Wetland Quads
MSB Wetlands Mapping Project (06-09)	• MSB Wetlands
National Resources Conservation Service (NRCS)	• Administrative boundaries (protected areas)
National Hydrology Dataset (NHD)	• MSB Area Streams and Lakes
Alaska Department of Fish and Game (ADF&G)	• Anadromous Waters Catalog
Great Land Trust (GLT)	• Conservation Easement parcels (used for protected areas)

A1.2 5-acre Gridded Parcels

Because some of the original, McClintock-mapped Eklutna parcels were extremely large (>1,000 acres), it seemed appropriate to divide parcels up into smaller areas in order to pinpoint the particular areas of high conservation value. This is particularly useful, since Eklutna owns all the parcels in question, and could choose to place only a portion of a parcel in conservation. A regular 5-acre grid was intersected with the entire Eklutna lands layer to form a series of smaller parcels to use in the analysis (Figure 1). The prioritization was then run with both parcel layers – one left undivided, and one intersected with the 5-acre grid – for all the criteria.

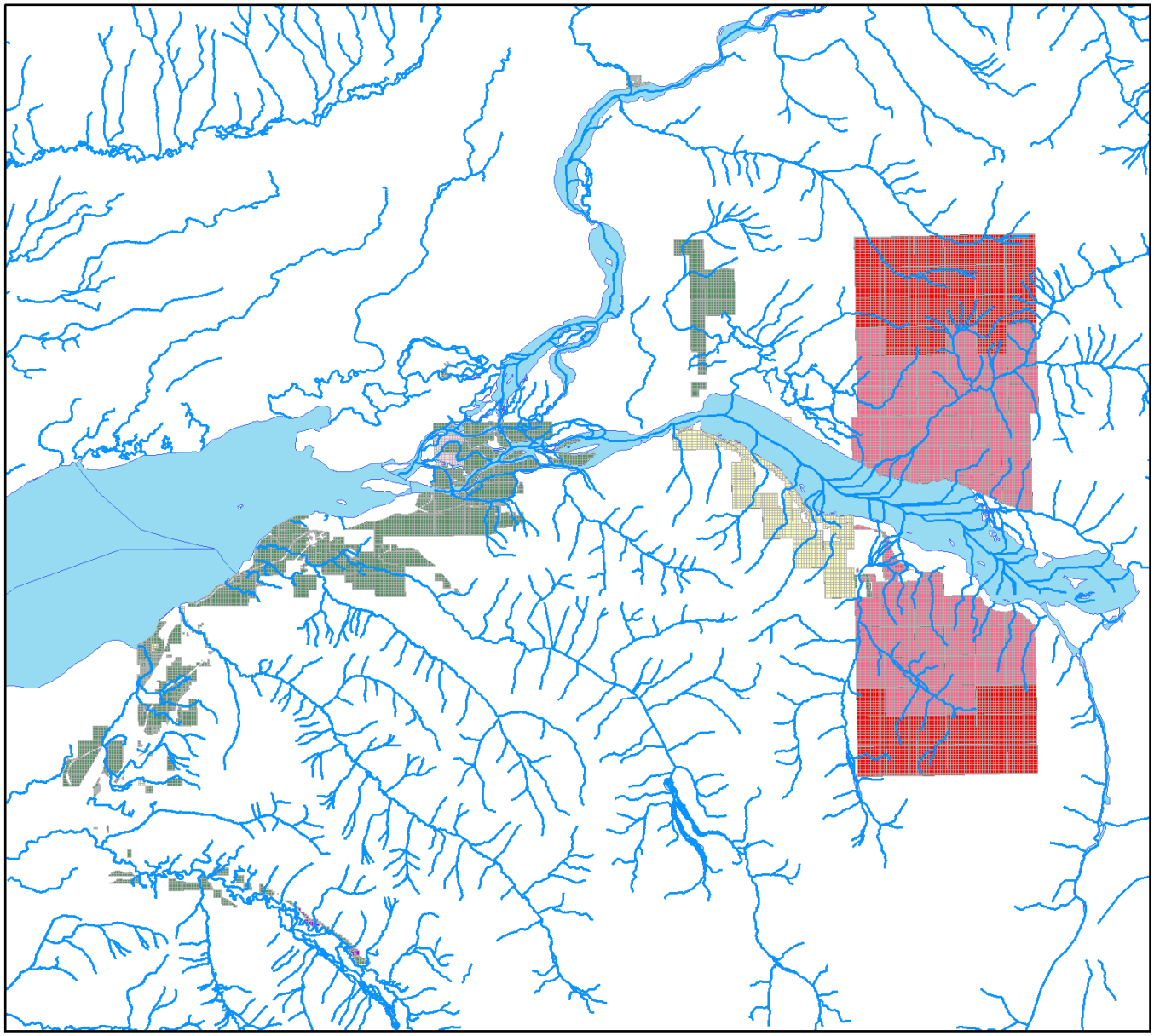


Figure 1. Original Eklutna Parcels Intersected with a 5-Acre Grid

A1.3 Prioritization Criteria Data Processing and Scoring

The MSB Conservation Prioritization Project utilized different conservation criteria:

1. Adjacent to or within protected areas
2. Presence of any wetland type
3. Normalized area of wetlands
4. Presence of estuarine wetlands
5. Normalized area of estuarine wetlands
6. Presence of rivers or waterbodies
7. Normalized area of riparian zone
8. Presence of anadromous stream
9. Normalized area of anadromous riparian zone

In addition to these nine criteria used to score and rank Eklutna land parcels, an additional analysis was done to identify Eklutna lands adjacent to Chugach State Park that have been identified in the Chugach State Park Access Plan as important and valuable parcels for acquisition (AKDNR 2010).

For all nine criteria, the best available data was used. Some of this data, however, required processing before the criteria data could be used to score the parcels. This section will briefly discuss the methods used to process all conservation criteria data.

A1.3.1 Adjacent to or Within Protected Areas

Because it is often easier to get funding for conservation for parcels in or adjacent to already protected areas, Eklutna parcels that were adjacent to or within protected areas were identified. To create a complete protected areas layer that contained all parks, refuges, recreation areas, conservation easements, and other areas, multiple data sources were combined. The administrative boundaries layer, representing the boundaries of most parks and reserves in the borough, was obtained from NRCS. The MSB Wetland Mitigation Bank parcels and GLT conservation easements were then added as additional protected areas. Eklutna lands that intersected with any of these protected areas were given 1 point, while those parcels that were not in or adjacent to protected areas received 0 points.

A1.3.2 Presence of Any Wetland Type

Because wetlands not only provide an important wildlife habitat, but also mitigate for flood damage, filter water, provide recreational opportunities and sequester carbon, they are often the focus of conservation actions, and have been included in this prioritization as well.

The National Wetlands Index (NWI) digitally available data quads were used where they existed. There was one quad, however, that has been mapped by NWI, but only a final paper version exists. The digitized version of this quad (Anchorage B-6), created through a previous GLT prioritization (Teale 2009), was then merged to the rest of the NWI data to make the most complete wetlands dataset possible for this area. Although NWI is a widely relied upon national dataset, there are still many parts of the country, and specifically, many parts of Alaska, where the wetlands have not been mapped at all. There were a number of zones within the study area that contained no wetlands data. These areas, however, were generally of extremely high elevation, and are unlikely to contain large wetlands anyway.

Using the most complete NWI wetlands data available, if a parcel intersected with any of the wetland polygons, it was considered to have wetlands and was given a score of "1". If it didn't, it was given a score of "0".

A1.3.3 Normalized Area of Wetlands

While it is important to determine the presence or absence of wetlands, it is also useful to rank parcels based on the area of wetlands present. To determine this, the final wetland layer used in the presence/absence criteria was used again here, and was intersected with all the parcels. This intersection creates a separate output file containing only polygons of wetlands within individual parcels, each referenced to their respective parcels by a parcel ID number. The area of these wetland polygons, within each parcel, can then be calculated and then joined back to the original parcel dataset.

The wetland acreage for each parcel was then normalized. This involves dividing all the areas by the largest value, so the parcel with the largest wetland area gets a score of "1" and every other parcel gets some score between 0 and 1. The top wetland acreage used for normalization was 283.712 acres. (For the gridded parcels analysis, the top wetland acreage was 5 acres.).

A1.3.4 Presence of Estuarine Wetlands

Because estuarine wetlands provide a unique kind of habitat and a range of ecosystem functions and values, these areas often rank extremely high for conservation. In fact, there are often funding sources unique to sponsoring estuarine protection. Given this fact, estuarine wetlands were given extra weight by adding them as additional criteria.

The NWI wetlands data used for the general wetlands criteria was used as the starting point for this criterion as well, however, only the wetland polygons classified as "Estuarine" according to the Wetlands and Deepwater Habitats Classification (Cowardin et al. 1979) were selected for this criterion. These selected estuarine wetlands were then exported and saved as a separate Estuarine Wetlands data layer. If a parcel intersected with any of the estuarine wetland polygons, it was considered to have estuarine wetlands and was given a score of "1". If it didn't, it was given a score of "0".

A1.3.5 Normalized Area of Estuarine Wetlands

While it is important to determine the presence or absence of estuarine wetlands, it is also useful to rank parcels based on the area of estuarine wetlands present. To determine this, the exported estuarine wetland layer used in the presence/absence criteria was used again here, and was intersected with all the parcels. This intersection creates a separate output file containing only polygons of wetlands within individual parcels, each referenced to their respective parcels by a parcel ID number. The area of these wetland polygons, within each parcel, can then be calculated and then joined back to the original parcel dataset.

The estuarine wetland acreage for each parcel was then normalized. This involves dividing all the areas by the largest value, so the parcel with the largest wetland area gets a score of "1" and every other parcel gets some score between 0 and 1. The top wetland acreage used for normalization was 35.566 acres. (For the gridded parcels analysis, the top wetland acreage was 5 acres.).

A1.3.6 Presence of Rivers or Waterbodies

The most accurate stream data is different between the MSB and Anchorage. Within the Mat-Su Borough, the most accurate data for streams and rivers is the National Hydrology Dataset (NHD). Within the Municipality of Anchorage, however, the most accurate hydrology layers are maintained by the Municipality itself. These two sources were, therefore, combined to create a complete streams and rivers dataset for the entire study area.

MSB hydrology polygons were also included as part of the complete rivers data set, because both the NHD and Anchorage stream data contain only line files, which are inadequate for representing wide and/or braided rivers such as the Knik and Matanuska rivers. Lake polygons, taken from both the Anchorage and the MSB hydrology data were also included in this criterion.

Once all three types of files were assembled (stream and river line files, stream and river polygon files and lake polygon files), all were buffered by 300ft to create a riparian zone, depending on the waterbody, and then merged to create one complete buffered waterbodies layer. If a parcel intersected with any of the waterbodies or their buffers, it was considered to have rivers or waterbodies present and was given a score of “1”. If it didn’t, it was given a score of “0”.

A1.3.7 Normalized Area of Riparian Zone

While it is important to determine the presence or absence of rivers, streams and lakes on a parcel, it is also useful to rank parcels based on the combined area of the waterbodies and riparian zone present. To determine this, the same merged and buffered rivers, streams and lakes layer used in the presence/absence criteria was used again here, and was intersected with all the parcels. This intersection creates a separate output file containing only polygons representing riparian zones within each parcel, each referenced to its respective parcel by a parcel ID number. The area of these riparian buffer zone polygons can then be calculated and then joined back to the original parcel dataset.

The riparian zone acreage for each parcel was then normalized. This involves dividing all the areas by the largest value, so the parcel with the largest wetland area gets a score of “1” and every other parcel gets some score between 0 and 1. The top wetland acreage used for normalization was 297.162 acres. (For the gridded parcels analysis, the top wetland acreage was 5 acres.).

A1.3.8 Presence of Anadromous Stream

Anadromous refers to fish, such as salmon and eulachon, that migrate from the ocean up fresh water rivers to breed. The Anadromous Waters Catalog (AWC), administered by the Alaska Department of Fish and Game (ADF&G), is important because it specifies which streams, rivers and lakes are important to anadromous fish species and therefore afforded protection under AS 16.05.871 (ADF&G 2010).

The AWC contains two datasets: a line shapefile representing anadromous streams and a polygon shapefile representing anadromous lakes. Because the MSB and Anchorage parcel layers have a number of registration issues that are impossible to fix on the scale of this project, GLT decided to compensate for possible spatial errors by buffering these AWC streams and lakes by 200ft on all sides. Once buffered, these two layers were merged into one total AWC buffered zone.

Unfortunately, however, the AWC stream data is only available in line form, and therefore often not very accurate for wider or braided rivers. To resolve this issue, the MSB hydrology polygon layer was used in combination with the AWC. All features from the polygon layer that intersected with the AWC shapefile were selected and exported as an additional shapefile. These polygons were better able to represent wider and braided rivers. This newly exported polygon layer was then also buffered by the same 200ft, and then merged with the other buffered AWC layers. Any parcel that intersected with the complete AWC buffered area was given a "1", any parcel that didn't, was given a "0".

A1.3.9 Normalized Area of Anadromous Riparian Zone

While it is important to determine the presence or absence of andromous rivers, streams and lakes on a parcel, it is also useful to rank parcels based on the combined area of the anadromous waters present on that parcel. To determine this, the same merged and buffered AWC rivers, streams and lakes layer used in the presence/absence criteria was used again here, and was intersected with all the parcels. This intersection creates a separate output file containing only polygons representing riparian zones within each parcel, each referenced to its respective parcel by a parcel ID number. The area of these AWC polygons can then be calculated and then joined back to the original parcel dataset.

The AWC acreage for each parcel was then normalized. This involves dividing all the areas by the largest value, so the parcel with the largest AWC area gets a score of "1" and every other parcel gets some score between 0 and 1. The top AWC acreage used for normalization was 136.045 acres. (For the gridded parcels analysis, the top wetland acreage was 5 acres.).

A1.3.10 Chugach State Park Access

The Chugach Access Plan (AKDNR 2010) was created in response to public demand for additional access to the park. Often, this increasing demand creates areas where illegal parking, trespass and increased traffic volume are occurring. The Alaska Division of Parks and Outdoor Recreation believes the best solution to minimize these unintended consequences is to proactively work to secure access commensurate with the overall demand. Many land parcels belonging to Eklutna have been identified as "Parcels of Opportunity" under this plan. These parcels have been identified in this project, and although this criterion was not added to the final score, a field was still added to the parcel attribute table to record this information. Parcels identified by the Chugach Access Plan were given a 1, while all others were given a 0.

A1.4 Summary of Scoring

The first 9 criteria listed in Section 2.3 were used to calculate parcel scores. Each criterion ranged from 0-1 in value for each parcel, and summed to a maximum score of 9. Variables based on presence or absence of a feature were binomial, with "0" for an absent feature and "1" for the presence of a feature. Continuous variables like the normalized area criteria were given a raw score (ex: acres), which was then normalized by dividing the raw score by an adjusted high score, giving everything with this value or higher a score of "1" and all other parcels a score less than 1 but greater than zero. Each factor was weighted equally in the scoring. The 9 criteria and how they were scored are summarized below.

Table 2. Summary of Scoring for All Criteria

Criteria	Score
1. Adjacency to or within protected areas	0/1
2. Presence of any wetland type	0/1
3. Normalized area of wetlands	0-1
4. Presence of estuarine wetlands	0/1
5. Normalized area of estuarine wetlands	0-1
6. Presence of rivers and waterbodies	0/1
7. Normalized area of riparian zone	0-1
8. Presence of anadromous stream	0/1
9. Normalized area of anadromous riparian zone	0-1

Appendix D

Wetland Pictures

Eklutna Flats Knik Arm, and Palmer Hay Flats State Game Refuge

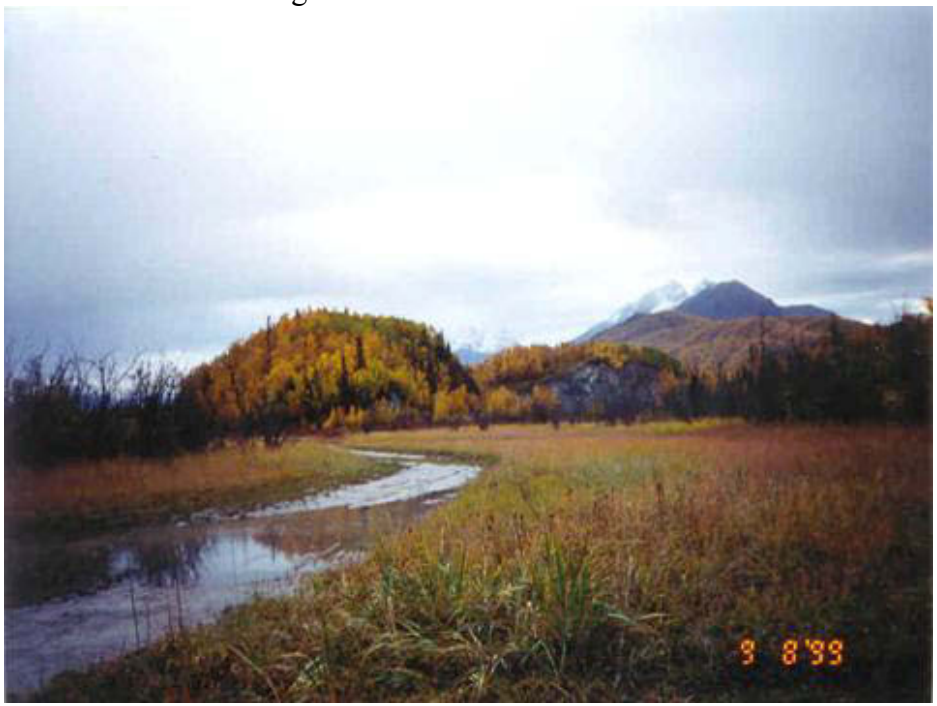
NVE Fish Net Site on Tidal Wetland

Wetland around Tidal Slough on 40 Acre NVE Wetland Property

Tidal Wetland near NVE Fish Net

Increasing Tidal Erosion near NVE Fish Net

Tidal Slough on NVE Wetland Property with Porcupine Butte



Road to Fish Camp thru Tidal Wetland and Large Eklutna Knob

Mouth of Tidal Slough on NVE Wetland Property

Eklutna Flats Tidal Wetland

Wildflowers on Eklutna Flats Wetland

Indian Potato on NVE Property, Eklutna Flats Wetland

Wild Iris on Eklutna Flats Wetland

Wetlands by Eklutna Knobs

and Day Camp Tour there

Eklutna River Delta

Eklutna River Pond Outlet and Tidal Wetland

Lower Eklutna River thru Tidal Wetlands

Eklutna River Tidal Wetland

River Otters on Old Beaver Lodge, Lower Eklutna River Pond

Water Deprived Eklutna River Former Wetland?

Invasive Yellow Sweet Clover by Eklutna River

Water Deprived Eklutna River Former Wetland? Zoomed in

EI Wetlands above Eklutna River, on Eklutna Dispersal FUDS

Tidal Wetlands Northeast of Eklutna

Bog Wetland by Knik River with Myrica Gale shrub

Tidal Wetlands Northeast of Eklutna, AK DOT Owned

Knik River Islands Easement Wetland, with Twin Peaks

Knik River Islands Easement Ponds with Porcupine Butte
Trumpeter Swans Nest nearby.

Knik River Islands Easement

Wetland near Peters Creek, Eklutna Knobs in background

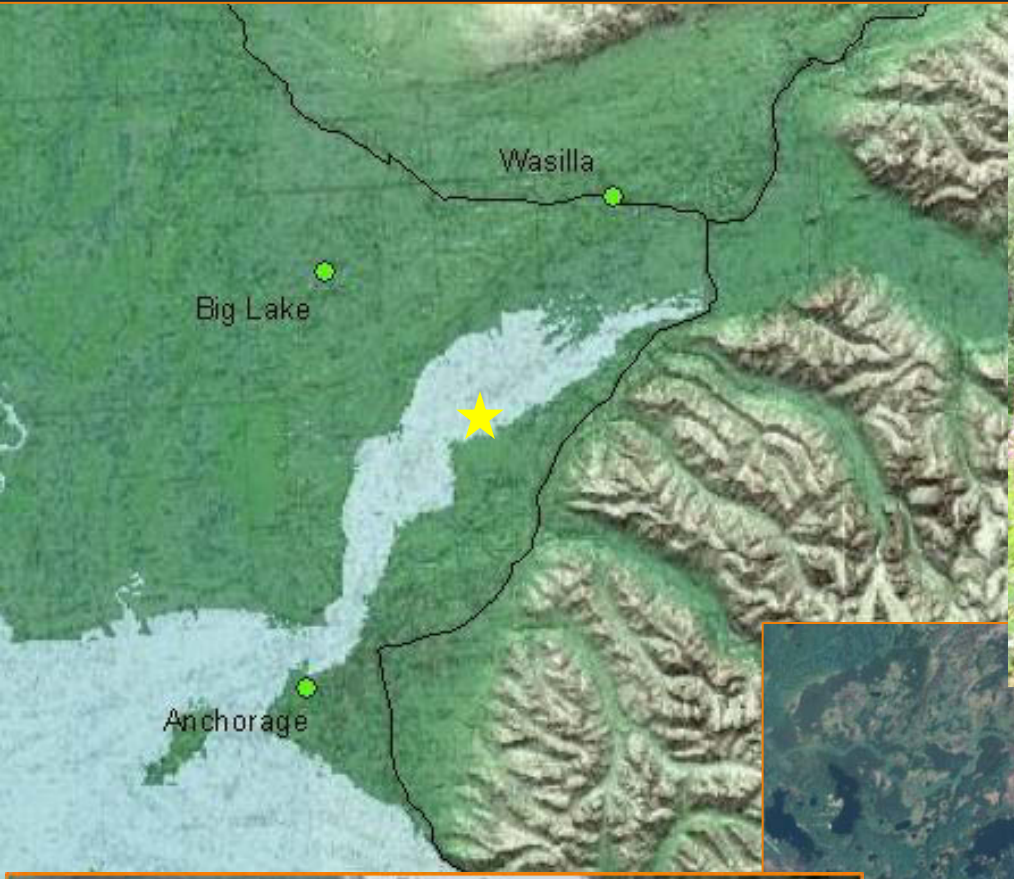
Appendix E

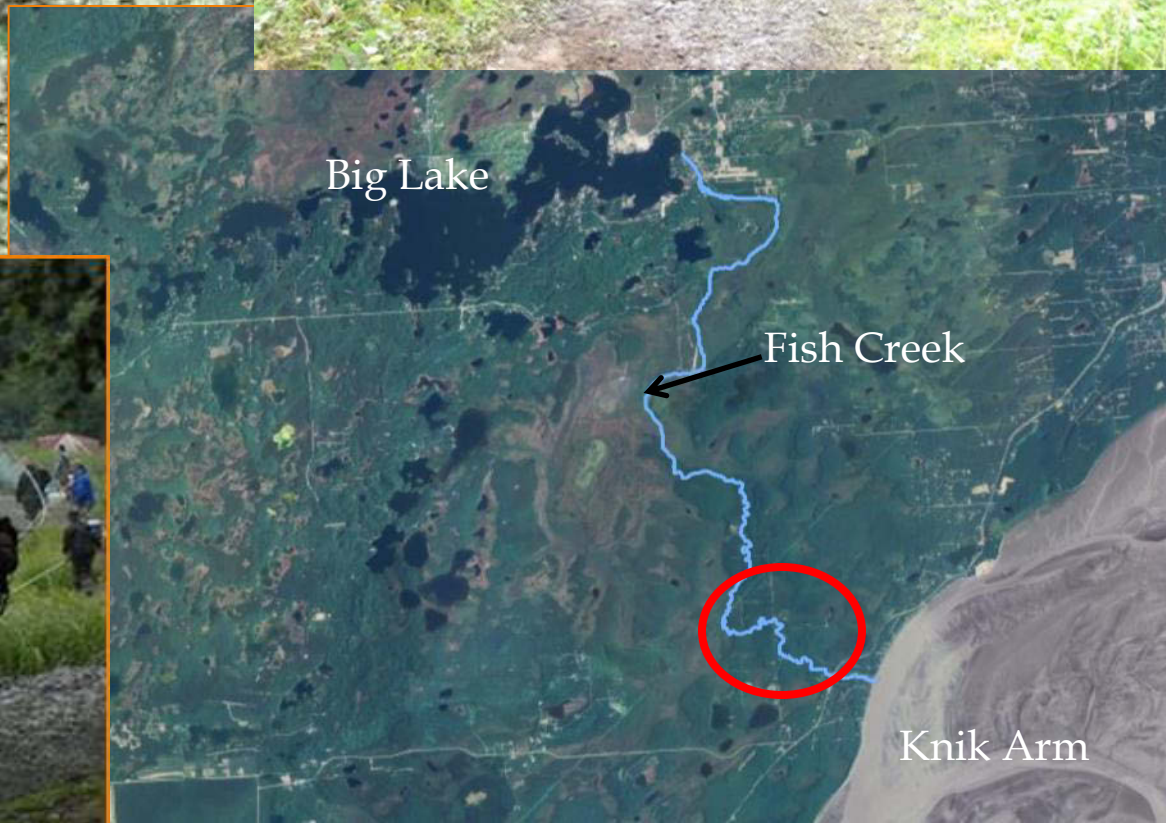
Fish Creek Parcel

Thanks for Contributions to:
Amber Bethe, Alaska Department of Fish and Game and
Knik Tribal Council

Fish Creek

- Outlet of Big Lake, drains to Knik Arm
- Approximately 14 miles long
- Supports pink, coho, sockeye, chum and king salmon


Wasilla
Big Lake
Anchorage

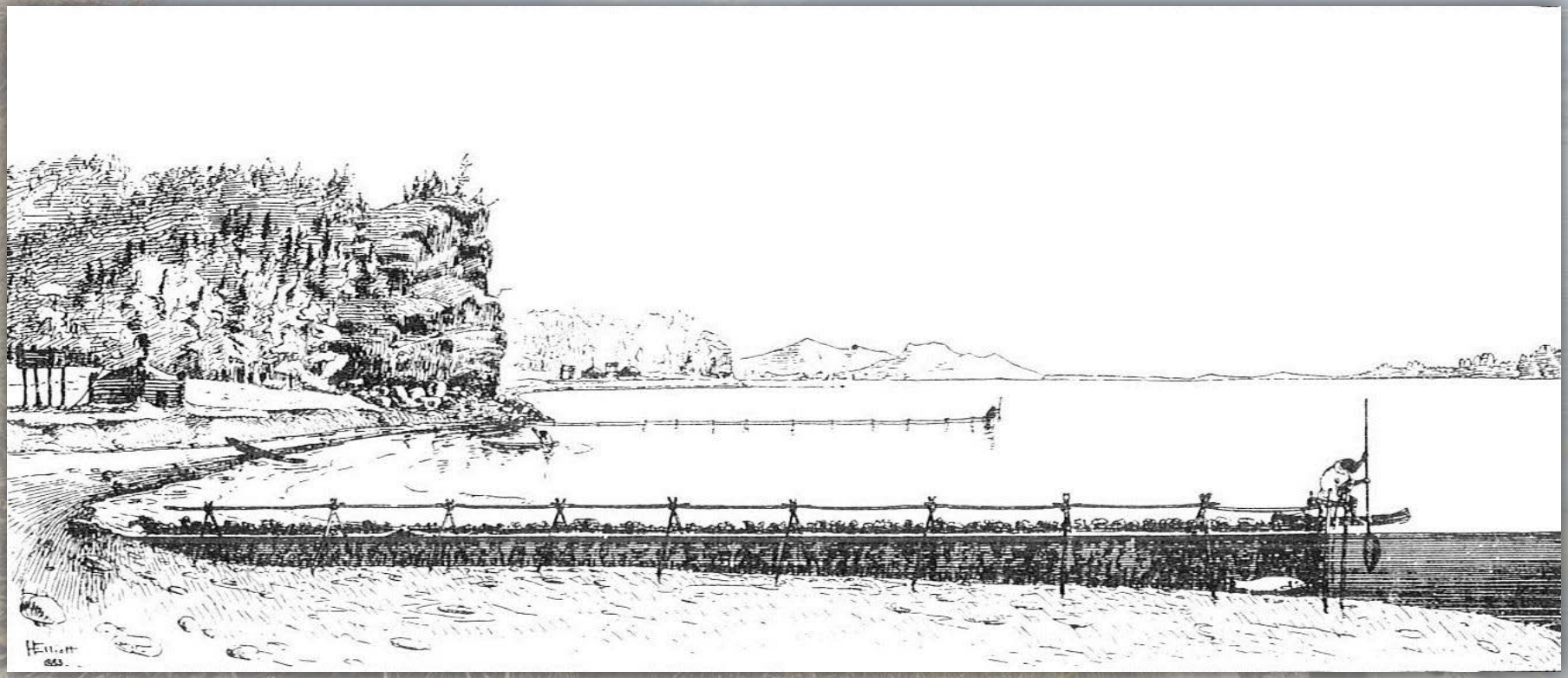

Big Lake
Fish Creek
Knik Arm

A New Fish Camp

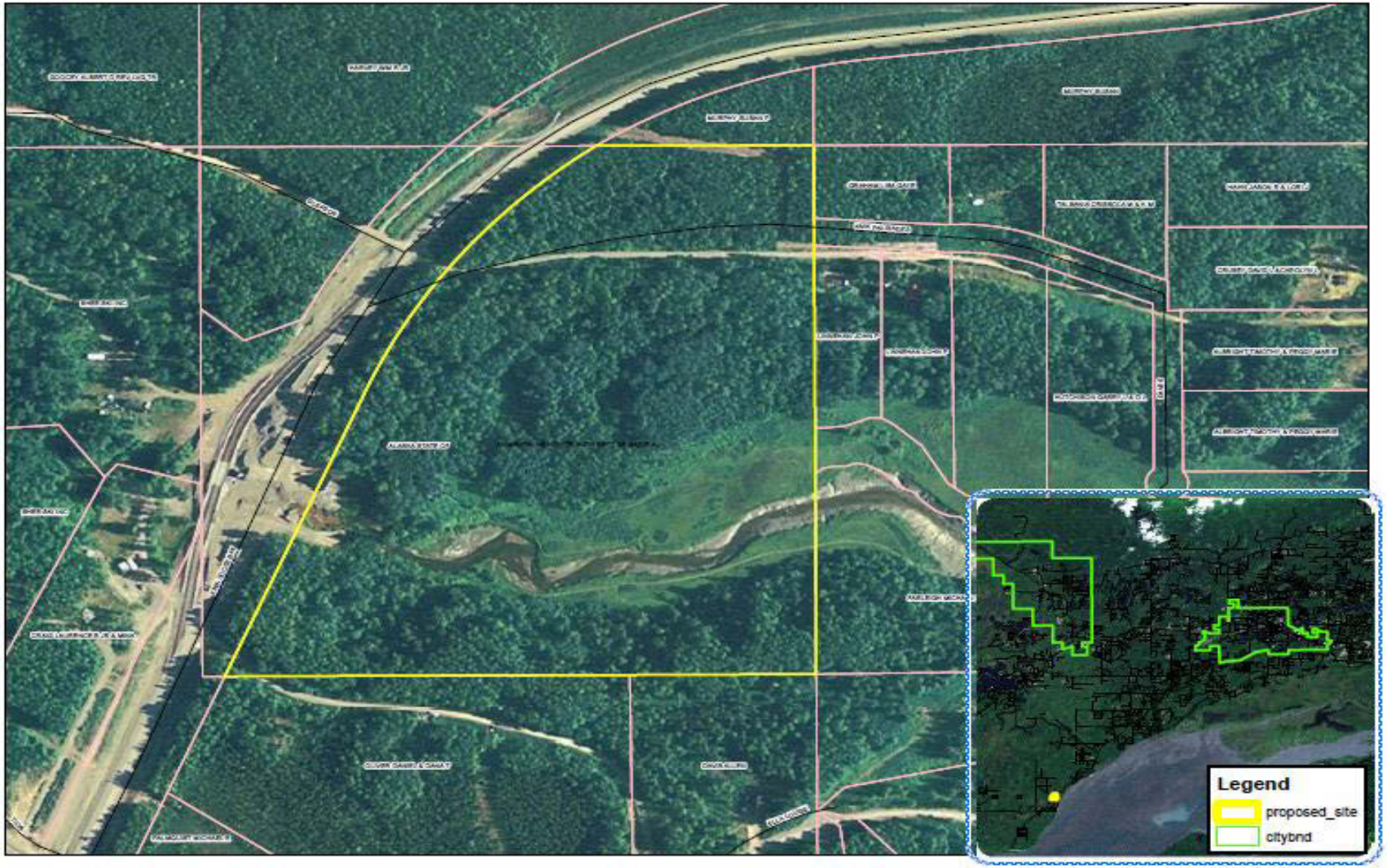
- Throughout the KABATA process a key issue for tribes has been a replacement fish camp for Tak'at
- A parcel of 40 acres on Fish Creek has been identified
- It is currently owned by the Alaska Mental Health Trust
- It is located near the mouth of Fish Creek off of the Knik Goose Bay Road in the Mat-Su Borough
- In August of 2011 KTC passed a motion that was supported by NVE for the acquisition of this parcel of land
- This purchase would be part of the mitigations pertaining to the KABATA Programmatic Agreement with the tribes
- An informal survey was conducted on the land that yielded the observation of numerous cache pits indicating its cultural value

Tak’at Fish Camp

- Tak’at was a traditional fish camp occupied and used by the people of Knik Tribal Council and the Native Village of Eklutna
- The land was consumed and taken by the military
- It was not eligible for inclusion under Section 106



Fish Creek Parcel



KNIK TRIBAL COUNCIL

KNIK, THE OLDEST VILLAGE IN COOK INLET

August 15, 2011

Ms. Edrie Vinson
Environmental Liaison/106 Liaison
Knik Arm Bridge and Toll Authority
550 W. 7th Avenue, Room 1850
Anchorage, Alaska 99501
edrie.vinson@alaska.gov

Dear Ms. Vinson :

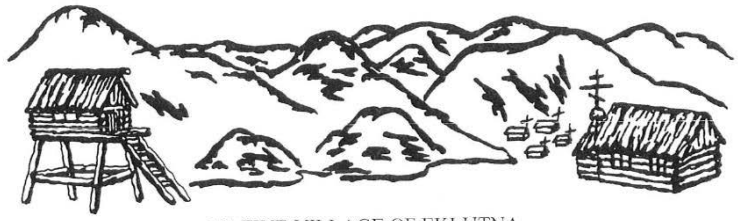
I am writing you regarding Knik Tribal Council's motion to proceed on acquisition of land currently owned by State of Alaska Mental Health Trust Authority near the mouth of Fish Creek off of the Knik-Goose Bay Road in the Mat-Su Borough. This is a step forward in the mitigations discussion regarding the Knik Arm Crossing Project Programmatic Agreement. The construction of the Knik Arm Crossing will destroy and we will forever lose not only a family fishing site, Tak'at but also a part of our tribeś land based history in the Municipality of Anchorage.

Fortunately, the Fish Creek site holds much history for the Upper Cook Inlet Dena'ina, as demonstrated by many cache pits currently on this parcel. This transaction will allow for the reinvigoration of cultural practices, ceremonies and educational opportunities that are a part of our heritage. It is an exciting endeavor to re-utilize and rebuild this very important fishing site for our people.

If I can answer any further questions on this issue please do not hesitate to contact me.

Sincerely,

Debra L. Call
President
Knik Tribal Council
951 E. Bogard Road, Suite 101
Wasilla, Alaska 99654



NATIVE VILLAGE OF EKLUTNA

Edrie Vinson
Environmental Liaison/106 Liaison
Knik Arm Bridge and Toll Authority
550 W. 7th Avenue, Room 1850
Anchorage, Alaska 99501
edrie.vinson@alaska.gov

Dear Edrie,

Through the mitigations process and as noted in the Section 106 Programmatic Agreement, Federal Highways Administration and KABATA have agreed to purchase a replacement fish camp site due to the resulting loss of Tak'at, a heavily used traditional fishing site.

Recognizing tribal bonds and traditional sharing of resources we unite with the Knik Tribe in the acquisition of the parcel surrounding Fish Creek.

This will allow for our people to come together for the reinvigoration of cultural practices, ceremonies and educational opportunities that are a part of our heritage. It is an exciting endeavor to re-utilize this very important fishing site for our people.

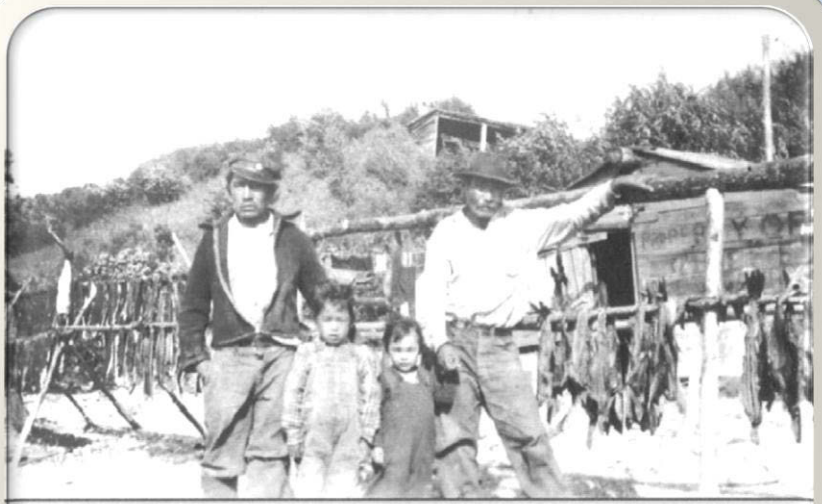
If I can answer any further questions on this issue please do not hesitate to contact me.

Sincerely,

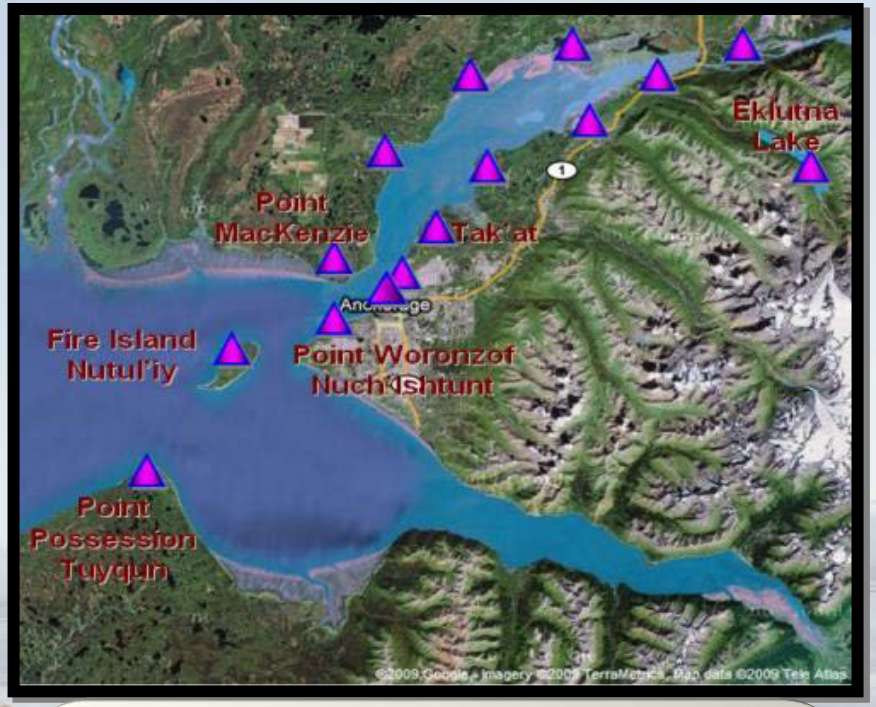
Dorothy Cook
Native Village of Eklutna President

26339 Eklutna Village Rd. • Chugiak, Alaska 99567 • (907) 688-6020 • Fax (907) 688-6021

Knik and Eklutna tribal letters supporting the purchase of the 40 acre Fish Creek parcel to replace the Tak'at traditional fish camp, as offered by FHWA and KABATA in the Section 106 Programmatic Agreement



Nuch'ishtunt (Point Woronzof)

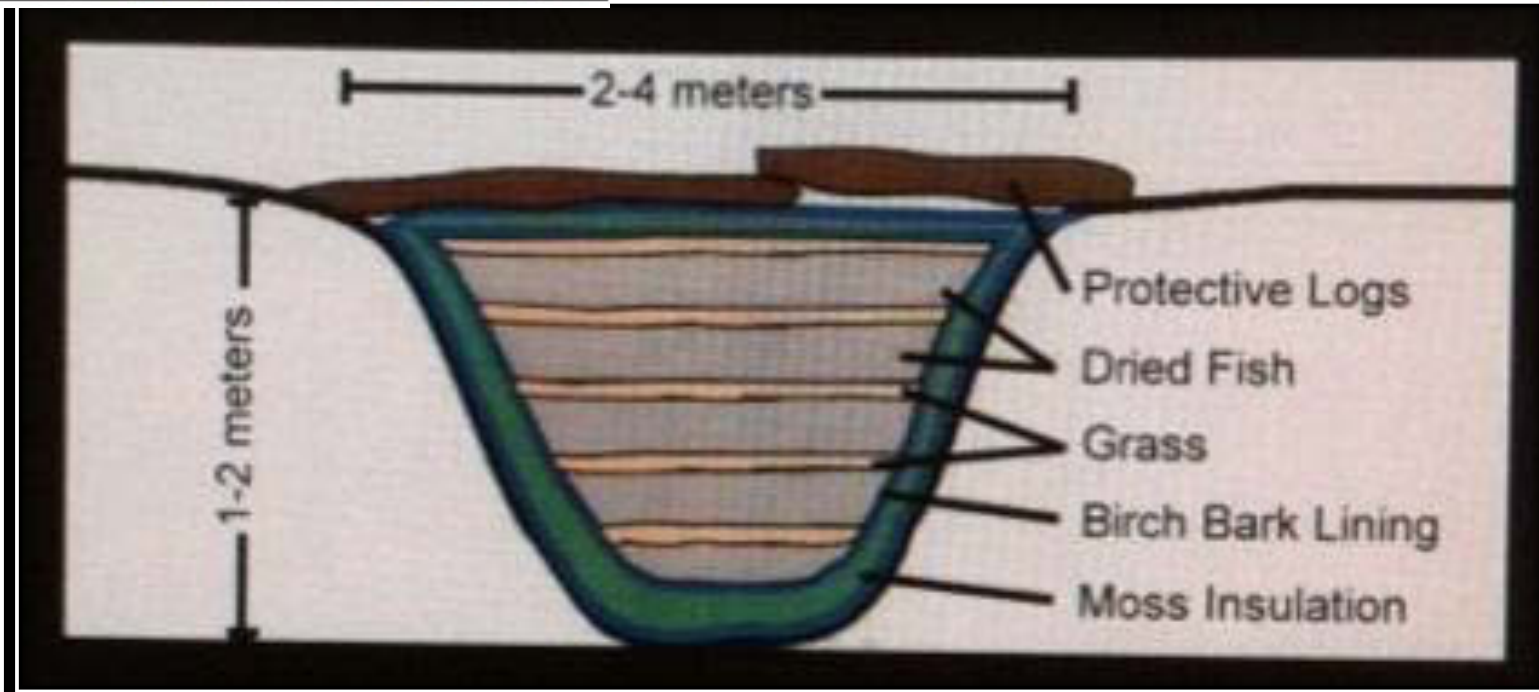


Chanshtnu (Chester Creek)

KABATA Survey found the Ancient Village Knikatnu by Fish Creek

And Numerous Cache Pits Nearby

Most Ancient Cache Pits Found
Are Lined With Old Birch Bark



FISH CREEK PERSONAL USE FISHERY IMPACTS AND RESTORATION POTENTIAL

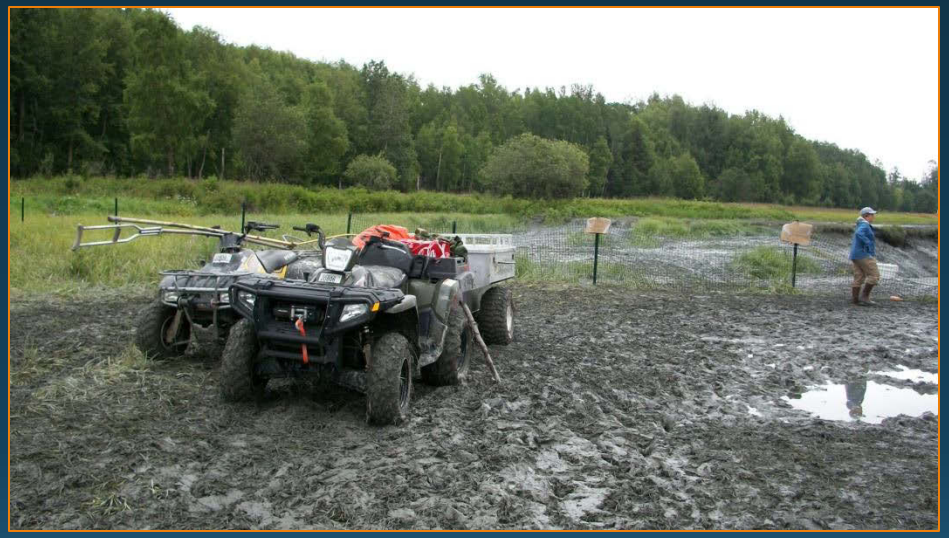
Thanks to Amber Bethe

Alaska Department of Fish and Game

Modified by Marc Lamoreaux

Fish Creek Dipnetting

- Fishery opened by Emergency Order
- Only opened when escapement expected to exceed 70,000
- Opened 2 years from 2000-2010



Fish Creek Dipnetting

- Big Lake system stocked 1975-2008, last hatchery returns in 2011
- Dipnetting will likely diminish or cease with lower returns
- Foot and ORV use of area has degraded riparian habitat

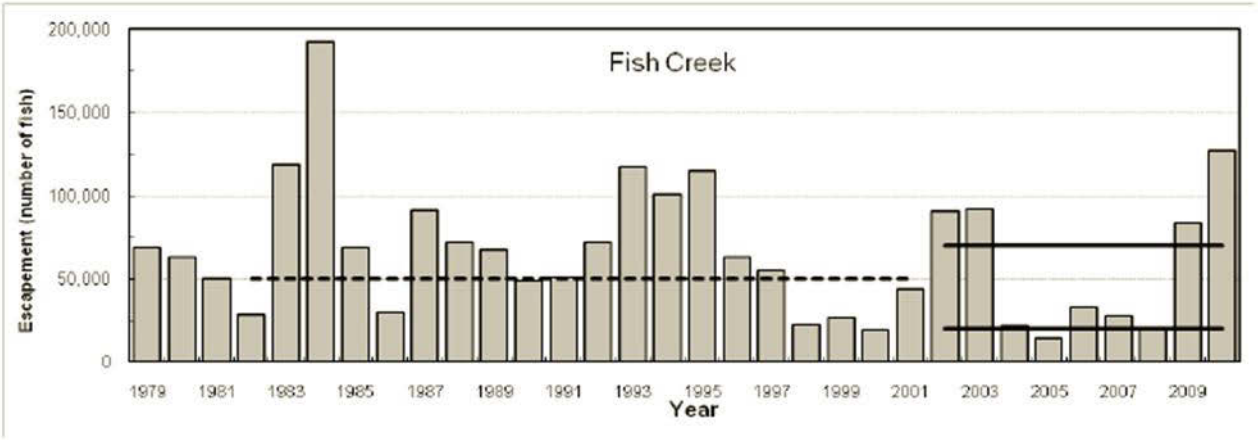


Table 39.–Fish Creek salmon harvests, by commercial set gillnet and personal use dip net, 1987-2010.

	Commercial Gillnet [a]						Personal Use Dip Net					
Year	Sockeye	Coho	Chum	Pink	Chinook	Total	Sockeye	Coho	Chum	Pink	Chinook	Total
1987	24,090	2,043	403	264	[b]	26,800	2,200					2,200
1988	38,251	11,604	325	591	9	50,780	3,000					3,000
1989	47,925	6,075	4,979	545	4	59,528	5,000					5,000
1990	23,450	5,708	5,308	696	4	35,166	6,500					6,500
1991	10,459	1,630	961	21	[b]	13,071	14,369		549	567		15,485
1992	10,748	1,817	1,289	573	[b]	14,427	19,002		607	678		20,287
1993	47,751	831	990	29	[b]	49,601	37,224	973	503	2,068		40,768
1994	7,528	809	357	141	0	8,835	16,012	1,336	248	632		18,228
1995	19,477	1,999	1,018	72	5	22,571	9,102	2,640	99	290		12,131
1996	35,245	1,802	448	25	0	37,520	17,260	2,414	153	331	37	20,195
1997	13,791	85	31	1	1	13,909	3,277	63	4	53	0	3,397
1998	2,597	548	105	0	0	3,250	4,036	649	29	80	1	4,795
1999	No fishery						1,083	17	0	12	0	1,112
2000	No fishery						6,925	958	29	83	0	7,995
2001	No fishery						463 [c]	13	1	4	1	482
2002	Fishery eliminated by BOF						No fishery					
2003							No fishery					
2004							No fishery					
2005							No fishery					
2006							No fishery					
2007							No fishery					
2008							No fishery					
2009							9,898 [d]	53	33	66	10	10,060
2010							23,705 [e]	3,576	290	1,721	12	29,303
Mean	23,443	2,913	1,351	247	3	27,955	10,533	1,154	196	507	8	11,820

Source: Personal Use 1987–1995 Mills 1988-1994, Howe et al. 1996; Commercial Harvest from 1996-2000 are estimates from returned permits.

[a] Harvest from statistical area 247-50.

[b] Not reported.

[c] Closed by EO on July 12 at 11pm (3 days of harvest).

[d] Opened by EO at 6:00am August 1 through 11:00pm August 11.

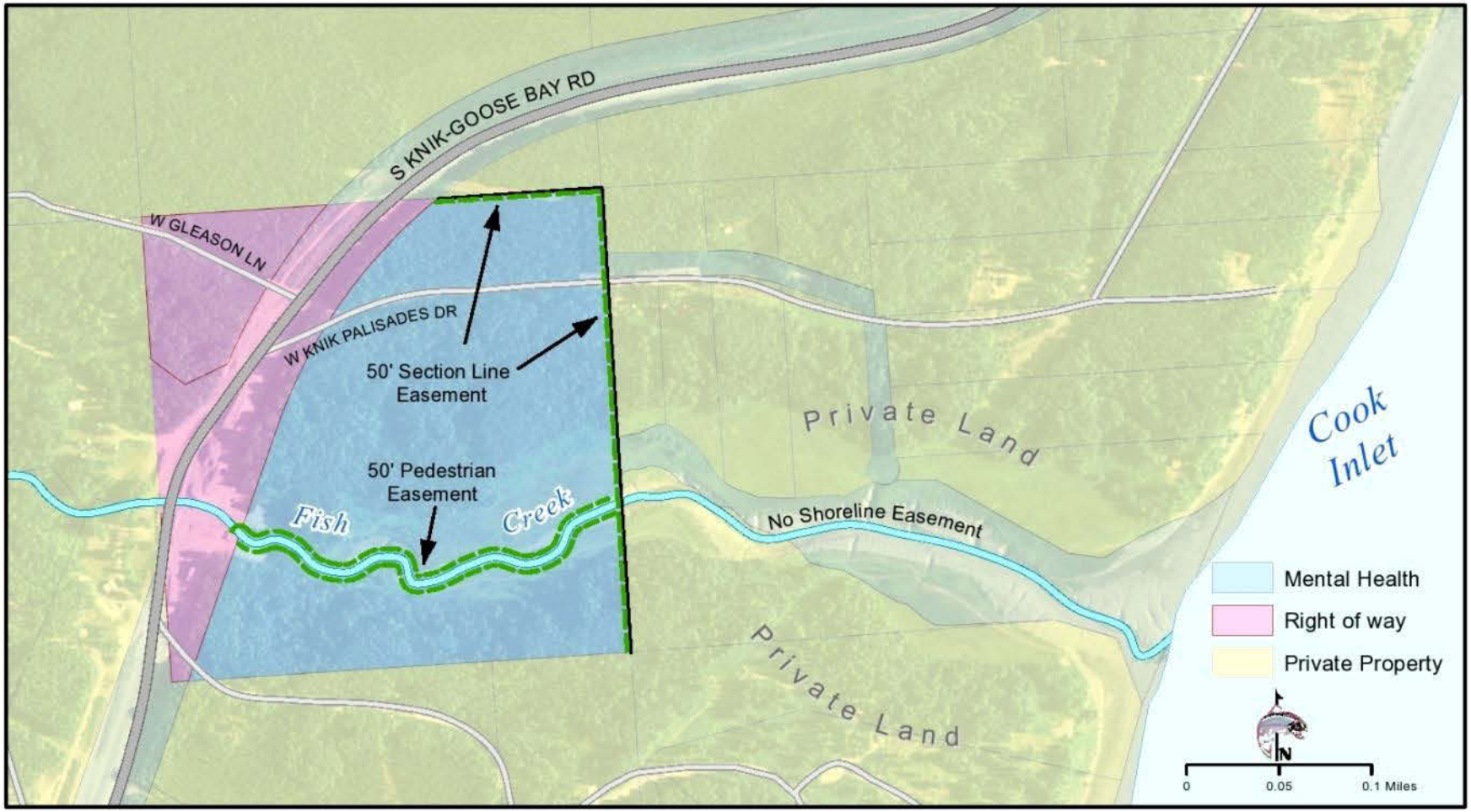
[e] Opened by EO at 6:00am July 24 through 11:00pm July 31.

From Oslund and Ivey, 2011
Recreational Fisheries of Northern Cook Inlet, 2009-2010

Land Ownership

- Property ownership surrounding PUF is largely private. Left bank posted below parcel.
- Currently, most access is through private State of Alaska Mental Health Trust Lands parcel

PRIVATE PROPERTY
NO TRESPASSING
VIOLATORS WILL BE PROSECUTED
POSTED
PRIVATE PROPERTY



Access to Fish Creek dip netting area is through the right-of-way of S Knik-Goose Bay Rd at the Fish Creek culvert or along the section line easements. Where there is no shoreline easement, use caution to stay below the line of ordinary high water(OHW) and within the mean high tide area of the creek. Please respect private property.

Parking above parcel

Restoration and Protection

- Stocking is discontinued, so expected returns too low for dipnet fishery.
  Lighter use sport fishery likely.

Should be assessed for estuarine vegetation restoration options.
  Primary access extending to mouth, on the right bank is hammered.
Much natural, unassisted recovery expected elsewhere with lighter use.

Erosion is human caused. Fix by managing people. Assess:
  Establish well defined trails. Limit access. Provide alternate access.

ADF&G interested to pursue streambank restoration project with
  NOAA Alaska Sustainable Salmon Fund support.
  50% non-federal match needed.

Secure and Manage the 40 Acre Fish Creek Parcel For Conservation Mitigation Values

Work with partners to estimate the mitigation value of the Fish Creek parcel.

- KABATA, Mat-Su Borough, USACE, ADF&G, USF&WS, Great Land Trust
- Evaluate cultural resources, fish and fish habitat, wetlands, and endangered CI beluga salmon food resources.
- Consider/plan restoration and conservation protection strategies

Purchase Fish Creek parcel from State of Alaska Mental Health Trust Authority with KABATA mitigation funds.

Land to be co-owned by Knik Tribal Council and Native Village of Eklutna.

Conservation easement to be held by the Tribes' joint tribal conservation districts.

Develop conservation easement management plan to :

- Protect cultural and ecological resources.
- Encourage fish habitat restoration and cultural, educational, ecologically benign and beneficial activities, focused on tribal fish camps.
- Disallow ecologically and culturally destructive activities.

Conservation and Restoration goals:

- Protect and enhance cultural educational resources and values.
- Restore and enhance the salmon fisheries resources
- Protected and enhanced mitigation salmon food resource for the endangered Cook Inlet beluga.