Middle Tanana River Watershed

Umbrella Stream & Wetland Mitigation Bank Prospectus

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Prepared by: Salcha-Delta Soil & Water Conservation District PO Box 547 Mile 1420.5 Alaska Hwy Jarvis Office Center Ste #215 Delta Junction, AK 99737

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Introduction

The purpose of the Salcha-Delta Soil and Water Conservation District (SWCD) Umbrella Mitigation Bank (Bank) is to provide a framework under which aquatic resources can be preserved, restored, established or enhanced to serve as compensatory mitigation for unavoidable impacts authorized under Department of Army (DA) permits. The proposed Operating Area includes all the 4th level (8 digit) Hydrologic Units associated with the boundaries of the Salcha-Delta SWCD and the Fairbanks SWCD (Figure 1). Mitigation bank sites will be located within the administrative boundaries of the SWCDs (operation area), but their service area (SA) will extend to the sub-basin boundaries in which it occurs, as well as, the sub-basins bording it. Service areas are discussed in more detail under Section 3.0. There are currently no mitigation banks and only one in-lieu fee program available within the proposed Operating Area, which includes Ft. Wainwright Army Post, Eielson Air Force Base, and three large military training areas, as well as the cities of Fairbanks, North Pole, Delta Junction, Nenana and several smaller communities.

Two prospective mitigation bank sites are discussed in this prospectus. Additional mitigation sites will be proposed as modifications to the Mitigation Banking Instrument (MBI) as appropriate mitigation projects are identified.

Initial funding of the Bank will be through the U.S. Army Compatible Use Buffer (ACUB) program, and those credits would be available only for impacts to waters of the U.S. as a result of permitted activities on military lands. (See Section 2.1 and Appendix A for additional information about that program.) Credits generated from other funding sources would be available to compensate for other impacts to waters of the U.S. within the Service Area of other potential future mitigation bank sites, as appropriate.



Figure 1. Middle Tanana River Watershed Umbrella Mitigation Bank Operating Area

1.0 Umbrella Bank Objectives

The Salcha-Delta SWCD goals in establishing the Bank are:

1. Preserve, restore, enhance or establish aquatic functions within impacted watersheds;

2. Provide an alternative source of mitigation credits, in particular for the U.S. Army, within the Middle Tanana River Watershed area to compensate for unavoidable impacts to waters of the U.S., as appropriate;

3. Work in partnership with existing governmental and non-profit entities to ensure long-term protection and management of important, rare and/ or threatened aquatic resources within the Operating Area;

4. Build mitigation projects that contribute to the ecological sustainability of the watershed.

1.1 Chena Flats Greenbelt Mitigation Bank Site Objectives

Specific objectives for the Chena Flats Greenbelt Mitigation Bank Site are:

- 1. Work in partnership with IALT to preserve approximately 78.24 acres of Palustrine Scrub-Shrub, and 0.7 acres of Palustrine Emergent Marsh additional wetlands within the Chena Flats Greenbelt area;
- 2. Provide compensatory mitigation credits for impacts to waters of the U.S. on military and other lands within the Service Area for this Bank Site (Section 3.1, Figure 6).

1.2 Jarvis Creek Aufeis Overflow Mitigation Bank Site Objectives

Specific objectives for the Jarvis Creek Aufeis Overflow Mitigation Bank Site are:

- 1. Work in partnership with Friends of Delta Agriculture to preserve 11.3 acres of Palustrine Scrub-Shrub and 1.1. acres of Palustrine Emergent Marsh wetlands in the Jarvis Creek Aufeis Overflow area;
- 2. Provide compensatory mitigation credits for impacts to waters of the U.S. on military lands in the Donnelly East Training Area and Donnelly West Training Area within the Service Area for this Bank Site(Section 3.2, Figure 7).

2.0 Establishment and Operation of the Umbrella Bank

The Salcha-Delta SWCD will establish and operate the Middle Tanana River Umbrella Mitigation Bank under the terms of a Mitigation Banking Instrument (MBI). The MBI will be developed using the comments received on this prospectus.

Appropriate credits from the Bank shall be used for projects that require mitigation pursuant to Section 404 of the Clean Water Act, as determined by the Corps on a project-by-project basis. The Salcha-Delta SWCD will be responsible for compliance with the mitigation plan for all mitigation sites within the Bank until long term protection and management has been assumed by an approved third party.

This prospectus proposes two initial mitigation sites, described in detail below. The intent of the Bank is to identify and evaluate additional sites in the future, using the framework generally described in this prospectus. Proposed mitigation sites will be selected based on projected demand for compensatory mitigation within the watershed, ecological suitability and sustainability, proximity to military lands, degree of threat, and value to the community. The proposed watershed size for this Bank is the 8 digit HUC Sub-Basin, with adjacent HUCs as appropriate.

The Salcha-Delta SWCD will develop a detailed mitigation plan for each site following preliminary approval of the proposed site, in consultation with US Army Corps of Engineers (USACE) and the Interagency Review Team. These plans will be submitted for incorporation in the MBI. Plans for the two sites initially proposed in this prospectus would be included in the original MBI, and future site plans would be proposed as modifications to the MBI.

Salcha-Delta SWCD will be responsible for accounting for Bank credits and debits pursuant to the procedures outlined in the MBI. A separate account will be used for each mitigation site.

Salcha-Delta SWCD will submit an annual report to the USACE that shall include, at a minimum:

- A ledger report for each mitigation site showing beginning and ending balance of available credits and permitted impacts for each resource type, as well as all additions and subractions of credits, and any additional changes in credit availability;
- 2. Monitoring/Progress reports for each mitigation site, as specified in the individual mitigation plans;
- 3. Financial Assurance and Long-term Management Funding status for each mitigation site.

In the event that a site mitigation effort fails to achieve the post action criteria contained within the accepted site specific mitigation plan, the Salcha-Delta SWCD will coordinate with the IRT to identify and implement appropriate remedial action, in accordance with the adaptive management strategy detailed in the plan.

2.1 Establishment and Operation of the Chena Flats Greenbelt Mitigation Bank Site

The Chena River Greenbelt is a high value area of approximately 500 acres of open water, sedge meadow and scrub-shrub wetlands in the west Fairbanks area (Figure 2). The Interior Alaska Land Trust (IALT) is in the forefront in establishing the greenbelt, in partnership with local residents, US Fish &Wildlife Service and The Conservation Fund. IALT has conducted wetland fieldwork and developed positive relationships with greenbelt landowners willing to sell parcels for preservation for wildlife habitat, open space and recreation.

Two adjacent parcels near the downstream boundary of the Greenbelt, which borders the Tanana River, containing a total of 78.94 acres of wetlands, are proposed as a preservation mitigation bank site. The parcels are the 31.03 acre Ashby Tract (Fairbanks North Star Borough PAN #0176842) and the 60.71 acre New State Land Tract (Fairbanks North Star Borough PAN #0176818) (Figure 3). Both parcels were purchased by the IALT in 2010 using funds from the Salcha-Delta SWCD, but are not currently protected from future development. If the site is not approved for inclusion in the Bank, the pending conservation easements will have to be re-evaluated, since they are designated for that purpose. This area is zoned as RE-2 (Rural Estate-2) according to Chapter 18.18 of the Fairbanks North Star Borough Code of Ordinances, which could permit low level residential development, including subdivision to lot sizes of 80,000 square feet (approximately 1.8 acres). There are no structures on the parcels, although there is some evidence of historical trails. These wetlands receive drainage from the adjacent Chena Ridge housing developments, active gravel mining and other development upstream. The Rost Creek drainage flows through these wetlands to the Tanana River, approximately ½ mile downstream. They provide important filtration and flood storage functions, as well as habitat for waterfowl and other wildlife.

Since this bank is proposed for preservation as compensatory mitigation, operation of the bank would consist of ensuring that the wetlands retain their current vegetative and hydrologic characteristics. Signage and/or strategic fencing would be installed as necessary to prevent activities that would threaten their functions. The mitigation plan would specify monitoring requirements, as well as an adaptive management plan to address potential threats, such as invasive plants or changes in hydrologic inputs due to changes in adjacent land uses. Salcha-Delta SWCD would hold and enforce a permanent conservation easement on the parcels, in accordance with their agreement with IALT. Salcha-Delta SWCD is a legal subdivision of the Alaska Department of Natural Resources, formed in 1950 to assist cooperators with conserving soil and water, as well as controlling and preventing soil erosion, guiding settlement and providing for the orderly development of land. (Alaska Statute 41.10.030).



Figure 2. Chena Flats Greenbelt Mitigation Bank Site Overview



Figure 3. Chena Flats Greenbelt Proposed Mitigation Bank Site

2.2 Establishment and Operation of the Jarvis Creek Aufeis Overflow Mitigation Bank Site

Jarvis Creek flows through the East Donnelly Training Area of the US Army Garrison, Alaska, lands. Historically, aufeis formation on Jarvis Creek has caused the creek to overflow it's banks and flow northward overland toward the Clearwater area of the Tanana River, rather than west to the Delta River. The potential area of overflow is indicated by numerous flow channels in aerial photography of the area, and is limited by topography to a relatively narrow area (between ½ and 2 miles wide). Figure 4 depicts the overflow area, as well as potentially available parcels containing wetland vegetation and hydric soils within or near the overflow area (shown in yellow). Much of the area was purchased from the State of Alaska for agricultural development, and is not available for preservation. Other areas were retained by the state, and are also not available for preservation.

The Block F parcel (shown in red on Figure 4) consists of 5 lots containing a total of approximately 12.4 acres of wetlands (primarily Palustrine Scrub-Shrub with 1.1 acres of Palustrine Scrub-Shrub/Emergent complex) and 32.1 acres of uplands, just inside the city limits of Delta Junction (Figure 5). The wetlands on this site are part of a flow channel from Jarvis Creek, and the parcel is just north of the military boundary. This parcel would be purchased by the Friends of Delta Agriculture, a non-profit organization that works closely with the Salcha-Delta SWCD. Mitigation credits from this bank site would be used to provide compensatory mitigation for impacts to waters of the United States from activities on military lands. Preservation of the wetland characteristics of this parcel would be ensured by signage and/or fencing, as well as on-site monitoring and adaptive management. The proximity of this parcel to the military boundary will help prevent upstream impedance of overland flow, since all impacts to waters of the U.S. authorized under a Department of Army permit would require maintenance of existing flow patterns.



Figure 4. Jarvis Creek Aufeis Overflow Mitigation Bank Site Overview



Figure 5. Jarvis Creek Aufeis Overflow Proposed Mitigation Bank Site

3.0 Proposed Service Areas

The proposed Operating Area for the Middle Tanana River Watershed Umbrella Mitigation Bank includes eight sub-basins within the Tanana River Basin (Hydrologic Unit Code 190405). Sub-basins were selected as the appropriate units for Service Areas (SAs) in order to achieve a watershed approach to compensatory mitigation for waters of the United States, while allowing opportunities for mitigation. These particular sub-basins were selected because they overlap the boundaries of the Salcha-Delta SWCD and Fairbank SWCD, which were created in accordance with Alaska Statute 41.10.130. Mitigation sites will be located within the administrative boundaries of the SWCDs, but their SAs will extend to the sub-basin boundaries (Figure 1). In general, the Service Area for each individual mitigation site would be the sub-basin in which it occurs, as well as, the sub-basins bordering it, although the Corps may authorize use of credits anywhere within the Operating Area, on a case-by-case basis.

Hydrologic Units were originally developed by the United States Geologic Service, and have been further delineated by the Subcommittee on Spatial Water Data, under the Federal Geographic Data Committee. They have been widely used for planning and describing water and land use activities. As stated in the *Federal Standard for Delineation of Hydrologic Unit Boundaries*,

"A hydrologic unit is a drainage area delineated to nest in a multi-level, hierarchical drainage system. Its boundaries are defined by hydrographic and topographic criteria that delineate an area of land upstream from a specific point on a river, stream or similar surface waters. A hydrologic unit can accept surface water directly from upstream drainage areas, and indirectly from associated surface areas such as remnant, non-contributing, and diversions to form a drainage area with single or multiple outlet points. Hydrologic units are only synonymous with classic watersheds when their boundaries include all the source area contributing surface water to a single defined outlet point."

The sub-basins included in the Operating Area are listed below, by Hydrologic Unit Codes (HUCs), with names and acreages and shown on Figure 1:

19040503: Healy Lake	3,248,948 acres
19040504: Delta River:	2,108,133 acres
19040505: Salcha River	1,416,911 acres
19040506: Chena River	1,339,861 acres
19040507: Tanana Flats	2,860,938 acres
19040508: Nenana River	2,493,862 acres
19040509: Tolovana River	2,151,552 acres
19040510: Lower Tanana River	2,998,675 acres

3.1 Chena Flats Greenbelt Mitigation Bank Site Service Area

The proposed SA for the Chena Flats Greenbelt Mitigation Bank (MB) is HUC 19049507: Tanana Flats where the MB is located, and adjacent HUC 19040506: Chena River (Figure 6). The Tanana Flats Training Area, and portions of Yukon Training Area, near Eielson Air Force Base are located within the Tanana Flats HUC, and the Fort Wainwright Army Post, and the remainder of the Yukon Training Area is located in the Chena River sub-basin . Approval of this Service Area will thus allow impacts on these military lands to be compensated by MB credits that are geographically similar and proximate to where the impacts are occurring.

3.2 Jarvis Creek Aufeis Overflow Mitigation Bank Site Service Area

The proposed SA for the Jarvis Creek Aufeis Overflow Mitigation Bank Site is HUC 19040503: Healy Lake where the MB is located, and adjacent HUCs 19040594: Delta River, and 19040507: Tanana Flats (Figure 7). Healy Lake HUC contains the Donnelly East Training Area, and Delta River HUC contains the Donnelly West Training Area. If Salcha-Delta SWCD is successful in acquiring other appropriate mitigation sites within the Jarvis Creek Aufeis Overflow Area, they would share this SA with the Block F parcel proposed in this prospectus.



Figure 6. Chena Flats Greenbelt Mitigation Bank Site Proposed Service Area



Figure 7. Jarvis Creek Aufeis Overflow Mitigation Bank Site Proposed Service Area

4.0 Need and Technical Feasibility

The Interior of Alaska does not currently have a mitigation bank, and relies on an in-lieu fee program and permittee-responsible mitigation to meet federal compensatory mitigation requirements for unavoidable impacts to waters of the United States. The proposed Bank will provide an opportunity for the mitigation banking option in an area where no such option currently exists.

In particular, this Bank would provide compensatory mitigation for impacts to aquatic resources on Army lands within the Service Area through the U.S. Army Compatible Use Buffer (ACUB) Program. The ACUB would provide funding for compensatory mitigation off military lands for impacts incurred on those lands, since it is not possible to provide permanent protection for military lands under the Army mission. The Army Compatible Use Plan for U.S. Army Garrison, Fort Wainwright, Alaska, was finalized in May, 2011 (Appendix A).

According to the Programmatic Environmental Assessment for U.S. Army Garrison Alaska's Range Complex and Training Land Upgrades, approved on March 28, 2010, approximately 242 total wetland acres are projected to be impacted from site specific projects on U.S. Army Garrison Fort Wainwright lands (which includes Fort Wainwright, Tanana Flats, and Yukon Training Areas) as well as approximately 581 total wetland acres impacted by projected Donnelly Training Area projects. Even if some of these impacts do not require compensatory mitigation as a result of the permitting process, there is a clear need for aquatic resource mitigation sites within the watersheds affected by these impacts. Additional impacts to aquatic resources would result from actions proposed in the Joint Pacific Alaska Range Complex Modernization and Enhancement Environmental Impact Statement including proposed increased access to Ground Maneuver Space (Blair Lakes) and development of a Joint Air-Ground Integration Complex and Intermediate Staging Bases.

The proposed Bank would follow mitigation priorities established by the U.S. Army Corps of Engineers (33 CFR Part 325 and Part 332) and the Environmental Protection Agency's (EPA)(40 CFR Part 230) Compensatory Mitigation for Losses of Aquatic Resources Regulations, which give priority to mitigation banking over the in- lieu fee and permittee-responsible wetland mitigation options for compensating unavoidable impacts to waters of the United States, when permitted impacts are within the service area and appropriate number of resource type credits are available. The bank would help ensure that impacted functions are replaced within the impacted watershed, within sites large enough to maximize ecological benefits.

The Bank is expected to provide complementary benefits to the Conservation Fund's In-Lieu Fee Program by augmenting or adding to its efforts to restore, enhance, establish, and preserve aquatic resources based on service area-wide priorities established by state and federal resource agencies, non-governmental conservation organizations and state planning agencies.

Salcha-Delta SWCD anticipates availability of other funding in the future. These alternate funding sources could be used to provide compensatory mitigation for other permitted wetland impacts in the service area, such as residential and commercial construction, as well as mining. There are three large mines currently operating in the Bank Operating Area (Fort Knox and Pogo Gold Mines and Usibelli Coal Mine), and at least one more is under development. Waters of the U.S. in Fairbanks, and to a lesser extent, Delta Junction and Nenana are increasingly threatened by development.

4.1 Need and Technical Feasibility for Chena Flats Greenbelt Mitigation Bank

Preservation of the proposed Chena Flats Greenbelt Mitigation Bank parcels will contribute to the geographic and ecological integrity of the Greenbelt by providing an additional 78.94 acres of waters of the U.S. at the downstream end of the Greenbelt (Figure 2). Preservation of this bank is technically feasible, largely due to its size, relatively undisturbed character, and the relative lack of development on adjacent lands. This lack of development is largely due to the large amount of wetlands in the low areas, and the steep slope of the adjacent portion of Chena Ridge, and can be expected to continue. The parcel most likely to be developed, between the proposed bank site and the Tanana River, is owned by The Conservation Fund as part of the Greenbelt.

4.2 Need and Technical Feasibility for Jarvis Creek Aufeis Overflow Mitigation Bank

There is a need for a mitigation bank site in the same watershed as Donnelly East Military Training Area, due to the ongoing and proposed improvements to training facilities on those lands. Preservation of the Jarvis Creek Aufeis Overflow Area is also needed to prevent potential starvation of downstream wetlands. Preservation of the proposed bank site is technically feasible due to the lack of roads and other development immediately adjacent to the parcel (Figures 4 and 5).

5.0 Bank Ownership and Long-term Management

5.1 Chena Flats Greenbelt Mitigation Bank Ownership and Long-term Management

Salcha-Delta SWCD and IALT have signed an agreement to work together to acquire, protect and manage wetlands for the purpose of the Bank. Salcha-Delta SWCD is the Bank Sponsor, and Jeff Durham is their Agent. IALT (P.O. Box 84169, Fairbanks, AK 99708, 907-451-0737, InteriorAKLandTrust@gmail.com), is the Owner of the proposed Chena Flats Greenbelt Mitigation Bank Site, and will provide long-term management of the parcel, including any remedial measure necessary as a result of invasion by non-native species, destruction of vegetation by ATVs or other unforeseen factors. Salcha-Delta SWCD will hold the conservation easement and monitor for compliance with its provisions. Salcha-Delta SWCD will provide funds to IALT for the long-term management prior to the release of credits.

5.2 Jarvis Creek Aufeis Overflow Mitigation Bank Ownership and Long-term Management

Salcha- Delta SWCD will again be the Bank Sponsor for the Jarvis Creek Aufeis Overflow Proposed Bank Site. Friends of Delta Agriculture (Carol McNabb, Chair; P.O. Box 1253, Delta Junction, AK 99737, 907-895-1936, clm@wildak.net) will own the land. Salcha- Delta SWCD will monitor the site and perform all long-term management tasks, as needed, as well as holding the conservation easement. Funds for long-term management will be set aside in a designated fund prior to release of credits.

6.0 Sponsor Qualifications

The Salcha-Delta SWCD was established as a subdivision of the Department of Natural Resources to provide for the conservation of soil and water resources (Alaska Statue 41.10) and has the technical

ability to design and execute mitigation projects; the statutory authority to enter into partnerships and agreements with other government and non-government entities; and the ability to accept funds for the purpose of soil and water conservation. The Salcha-Delta SWCD has worked under contract with the U.S. Army to implement projects under their Integrated Natural Resource Management Plan, and is familiar with the geomorphology, hydrology, soils and vegetation of the area.

The Salcha-Delta SWCD will use its own staff to operate the Bank and develop and execute sitespecific mitigation projects. In addition, Salcha-Delta SWCD established partners, including the USDA Natural Resources Conservation Service, the U.S. Army, the Center for Environmental Management of Military Lands, the U.S. Fish and Wildlife Service and Ducks Unlimited have agreed to provide technical support in design and evaluation of restoration and enhancement projects, as necessary. The Salcha-Delta SWCD has partnered with the Alaska Interior Land Trust and Friends of Delta Agriculture to facilitate several components of the real estate components of the Bank, including property procurement, easements and long term management.

7.0 Ecological Suitability and Hydrologic Sustainability

The Chena River Greenbelt and Jarvis Creek Aufeis Overflow Area are the initial areas of interest for the Bank due to their proximity to the highest concentrations of military activity (and therefore potential impacts), their identification by resource agencies as areas of ecological significance, and their threatened status due to encroaching development. The two proposed mitigation sites will meet the criteria for Preservation as Compensatory Mitigation under 33 CFR 332.3(h), once they are permanently protected.

7.1 Chena Flats Greenbelt Proposed Mitigation Bank Site

A. Ecological Suitability

The parcel contains 78.24 acres of Palustrine Scrub-Shrub wetlands and 0.7 acres of Palustrine Emergent Marsh wetlands, with 12.8 acres of associated upland. Soils are mostly hydric, consisting of Tanana-Mosquito Complex, Lemeta Peat, and Minto silt loam on the upland portions. These wetlands are at the lower end of the watershed, just upstream of the Rost Creek confluence with the Tanana River, at the toe of the rapidly developing Chena Ridge area. Approximately 1000 feet of the boundary of the parcel is adjacent to a small unpaved road. The rest of the parcel is surrounded by undeveloped land at present, although there has been a lot of residential development in the area over the past ten years, and several new gravel mines have been opened within a few miles. There are currently existing recreational trails in the parcels, and these would be maintained, but no additional disturbance would be permitted. There are no other known easements, rights-of-way or other disturbances. The wetlands are largely if not entirely underlain by permafrost, causing a perched water table that keeps water at or near the surface throughout the growing season. However, they have substantial flood storage capacity as a result of their landscape position and the soil types. The wetlands also have the potential to trap sediment and other contaminants from stormwater flowing down from Chena Ridge. Their inclusion in the extensive Chena Flats Greenbelt would enhance wildlife habitat functions, both for the mitigation bank site and for the rest of the Greenbelt, by improving connectivity of habitat, and enhancing the open space aspects of the Greenbelt. This is one of the last large areas of scrub-shrub emergent wetlands in the Fairbanks area. The proposed bank site therefore provides important physical, chemical and biological functions, and contributes

substantially to ecological sustainability of the local watershed (12 digit HUC). It's strategic location at the south end of Chena Pump Road near the Tanana River puts it at risk of development, either as a residential subdivision, or as a nearby gravel source for such a subdivision.

B. Hydrologic Sustainability

There are no existing surface or subsurface water rights within a half mile of the parcel, and none for several miles upstream. Since the primary hydrologic inputs to these wetlands are precipitation and runoff from the adjacent ridge, the hydrologic sustainability is excellent.

7.2 Jarvis Creek Aufeis Overflow Proposed Mitigation Bank Site

A. Ecological Suitability

The Jarvis Aufeis Overflow Area consists of a mosaic of wetlands and uplands across military training lands, residential and agricultural development areas, and wildlife habitat areas. It is associated with seasonal out of bank flows from aufeis development in Jarvis Creek. Figure 4 shows the approximate boundaries of the potential overflow area, based on topography and visible flow channels. This floodplain is in the Delta River Sub-Basin (19040504), and recharges downstream wetlands on a seasonal basis, including potential contributions to the highly productive Delta Clearwater wetland complex to the north. The Delta River Sub-Basin has been heavily impacted by military development in the Donnelly Training Area, including the recently constructed Battle Arms Complex and Combined Area Training Facility. In addition, there is ongoing residential development in the area. The potential for future development and impact is high, due to the proximity to the city of Delta Junction and nearby residential subdivisions, as well as agricultural activity in the area. There are not many parcels available for mitigation opportunities, because most of the agricultural land has prohibitions against easements in the deed restrictions.

The proposed mitigation bank site (Block F) consists of approximately 12.4 acres of wetlands (primarily Palustrine Scrub-Shrub with 1.1 acres of Palustrine Scrub-Shrub/Emergent complex) and 32.1 acres of uplands (Figure 5). The site was cleared at some point in the past, but the shrubs and herbaceous regrowth appears to be mature, although the tree strata shows evidence of past disturbance, and old windrows are visible as low ridges. A powerline right of way runs along the western edge of the property, but the nearest road is approximately 500 feet from the property boundary. There are no other known easements or encumbrances. The wetland portion of the parcel is part of a visible flow channel from Jarvis Creek. Emergent vegetation is uncommon in this area, and the combination of scrub-shrub/emergent vegetation provides nesting habitat for waterfowl. Preservation of this parcel would also help maintain flood storage capability. The preservation of this parcel would provide important physical and biological functions for the watershed, and could contribute to the ecologicial sustainability of the watershed, especially in combination with future acquisitions in this Jarvis Creek Aufeis Overflow Area.

B. Hydrologic Sustainability

Hydrology input is primarily precipitation with some overland flow from Jarvis Creek during periods of aufeis overflow. The soils are mapped as a Gerstle-Tanana complex. These soils are deep alluvial deposits. Tanana soils have permafrost, and are therefore hydric, whereas Gerstle soils are thawed and drained. Permafrost in the Tanana soils supports a water table and contributes to the hydrology of the wetland. There are no existing surface or subsurface water rights within a mile of the parcel in any direction; therefore, the hydrology of the parcel appears sustainable over the long term.

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APPENDIX A

ARMY COMPATIBLE USE BUFFER PLAN FOR U.S. ARMY GARRISON FORT WAINWRIGHT, ALASKA



ARMY COMPATIBLE USE BUFFER FOR U.S. ARMY GARRISON FORT WAINWRIGHT, ALASKA 2011

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Introduction

U.S. Army Alaska (USARAK) and U.S. Army Garrison Fort Wainwright (FWA) are at the cutting edge of Army transformation and the Global War on Terrorism. In the last decade, the Army in Alaska has experienced a period of growth and transformation. The Soldier population has increased dramatically. Transformation included a change from a light infantry brigade to a Stryker Brigade and the deployment/train/reset cycle has little flexibility. These changes have resulted in a greater op-tempo and a need to readjust training and reconfigure training areas. All of this is driving how the garrison must adopt new ways of supporting the mission. One tool that will help the Army in Alaska to deal with these changes will be to develop an Army Compatible Use Buffer (ACUB) program.

The ACUB program is an integral component of the Army's triple bottom line: mission, environment, and community. In recent years, Army Installations have begun to experience increasing encroachment from a variety of sources, including population growth, urban land use, and environmental requirements. The ACUB program proactively addresses encroachment and allows the Army to avoid costly workarounds or compromises in training realism that can be caused by encroachment. The ACUB program is a powerful tool that allows the military to contribute funds to a partner, who then purchases easements or properties from willing landowners that might present an encroachment threat if developed or expanded. These partnerships preserve high-value habitat and limit incompatible land use in the vicinity of military installations.

The highest priority for this ACUB is the protection of lands adjacent to the FWA Army Airfield, the FWA Small Arms Complex, and along the Alaska Highway North of the Donnelly Training Area (DTA) (Figure 6 and Figure 7).

The legal basis for the FWA ACUB is Title 10, United States Code, Section 2684a, "Agreements to Limit Encroachments and Other Constraints on Military Training, Testing, and Operations," which was enacted by Congress as Section 2811 of the National Defense Authorization Act for fiscal year 2003. This authority represents a powerful tool and unique opportunity for the Department of Defense to work in partnership with states, other governments, and public or private environmental and conservation groups to achieve a common goal of sustainability. It also provides authority for the Army Compatible Use Buffer (ACUB) Program.

1.1 General Description of the Installation

Almost 15,000 people, including active military, family, and civilian work force, are associated with FWA (Table 1). USARAK forces have approximately 1.57 million acres for training (Table 2). FWA is subdivided into six major training areas: Main Post, Yukon Training Area (YTA), Tanana Flats Training Area (TFTA), Donnelly Training Area (DTA) East and DTA West, Gerstle River Training Area (GRTA), and Black Rapids Training Area (BRTA) (Figure 1). The Air Force also utilizes USAG FWA impact areas and air space. The Cold Regions Test Center is a major tenant at the DTA that uses the training lands, ranges and impact areas for cold weather testing of munitions, materiel and vehicles.



Figure 1. Army and Air Force lands in Alaska.

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All six of FWA's major training areas are located in central Alaska, north of the Alaska Range in the Tanana River Valley. The Main Post is surrounded by the Fairbanks and North Pole municipalities. Main Post, Yukon Training Area, and Tanana Flats Training Area are all within the Fairbanks North Star Borough. Main Post is situated on a flat alluvial plain with the Chena River running through it. TFTA is south of main post and is bounded by the Tanana and Wood rivers. YTA is located east-southeast of Main Post and is bounded by the Chena and Salcha rivers and by Eielson Air Force Base. The Fairbanks North Star Borough population was estimated to be 97,970 (US Census Bureau).

The north-eastern portion of DTA is adjacent to the community of Delta Junction; however, DTA, GRTA, and BRTA are not within any organized borough. Ft Greely Missile Defense Command is adjacent to DTA East. The southern boundary of DTA is in the foothills of the Alaska Range. DTA East and DTA West are divided by the Delta River that runs through the eastern portion of the Training Areas. GRTA is located

30 miles southeast of Delta Junction along the Alaska Highway. BRTA is within the Alaska Range 40 miles south of Delta Junction along the Richardson Highway. The Southeast Fairbanks Census Area includes the communities around the DTA, GRTA and BRTA and the population was estimated at 6,753 (U.S. Census Bureau).

FWA's climate is characterized by short, moderate summers; long, cold winters; and very little precipitation or humidity. Annual temperatures range from a mean low in January of minus 17°F to a mean high of 71°F in July. Average precipitation is 12 inches per year, with an average annual snowfall of 75 inches. In general, FWA is characterized as heavily forested with wetlands (primarily forested and scrub/shrub types) covering approximately 70% of the installation.

Personnel Category	Population
Active Duty Military	6,341
Family Members	7,400
Civilian Work Force	1,257
FWA Total	14,998

Table 1. Installation Population Estimates

Table 2. Size of Land Assets

Major Training Area	Acreage
Main Post	13,700
TFTA	655,000
YTA	248,000
DTA	631,000
GRTA	20,600
BRTA	3,300
FWA Total	1,571,600

1.2 History

FWA was originally an Air Corps Station, designated as Ladd Field in December 1939. The first Air Corps detachment assigned to Alaska arrived in Fairbanks in April 1940. Another 118 Soldiers joined them in October. The men tested clothing and equipment during the bitter cold winters until World War II. Ladd Field then took on a bigger role, that of transfer point for the Lend Lease Program, in which the U. S. delivered nearly 8,000 aircraft to Russia. By 1947, the Army Air Corps had separated from the Army to become the Air Force, and what was then known as Ladd Field was transferred to the Air Force. In 1961, the Army reassumed command and the installation was renamed Fort Jonathan M. Wainwright honoring the general who led delaying tactics on Bataan and Corregidor in the Philippines against a superior Japanese force in World War II. Since 1961, the post has been home to the 171st Infantry Brigade, 172nd Infantry Brigade, 6th Infantry Division (Light), and 1st Brigade, 6th Infantry Division (Light), once again, the 172nd Infantry Brigade (Separate), 172nd Stryker Brigade Combat Team and presently the 1st Stryker Brigade Combat Team, 25th Infantry Division. The post is also home to the 16th Combat Aviation Brigade (CAB), equipped with CH-47 Chinooks, UH-60 Black Hawks and OH-58 Kiowas, as well as support personnel. The 50-man detachment of 1940 ultimately grew into today's 6,341

Soldiers. The Soldiers of the U.S. Army, Alaska, at FWA are prepared to rapidly deploy worldwide in defense of U.S. interests or on humanitarian missions.

Donnelly Training Area was originally part of Fort Greely, which was first established in 1942 as Army Air Corps Station 17, Alaskan Wing of the Air Transportation Command and was a refueling point for aircraft sent to Russia under the Lend-Lease Program. The Station was placed in inactive status immediately following World War II, reactivated in 1948, and then designated as "Fort Greely" in 1955 in honor of Major General Aldolphus Washington Greely. Taking advantage of its location and environment, Fort Greely and Donnelly Training Area have been the sites for training and testing of operations and equipment through the past half century. Primary tenant units included the Cold Regions Test Center and the Northern Warfare Training Center. In 1995, the installation underwent Base Realignment and Closure (BRAC) and was essentially warm based. In 2001, it was partially removed from the BRAC list to support the national objective of missile defense. Fort Greely was reduced to its current size of 6,700 acres, and the surrounding ranges and training lands were transferred to FWA and named Donnelly Training Area.

1.3 Training Background & Missions

USARAK's mission is to plan and execute on-order deployment support, force protection, and contingency operations; to plan and execute transformation of the installation garrison that supports Stryker and other mission units; to provide quality installation support and services to customers; to maintain and improve infrastructure and training areas; to provide proper stewardship of all resources and the environment; to sustain strong community relations; and to provide for the well-being of the Army Family into the 21st Century. USARAK is at the forefront of protecting America's interests in the Asian Pacific region. The FWA garrison is under the U.S. Army Installation Management Command (IMCOM) Pacific Region, and USARAK is a subordinate command to U.S. Army Pacific. USARAK

headquarters transitioned to an Early Entry Command Post (EECP) in 2007 and is responsible for establishing initial command and control of forces in a combat theater and setting the conditions for its parent Operation Command Post, headquartered at Schofield Barracks, Hawaii, to assume command and control. FWA has national significance due to its position as the U.S. military's most centrally located worldwide transportation hub. Joint training opportunities, breathtaking environment, and a harsh and variable climate provide ideal training grounds.

FWA is home to the 1st Stryker Brigade Combat Team, 25th Infantry Division and the 16th CAB. The 507th Signal Company, Northern Warfare Training Center, Cold Regions Test Center, 9th Army Band, and additional supporting units and tenants are also based out of FWA.

In general, squad, platoon, and company training events are conducted at FWA; battalion and brigade training events are conducted at DTA. Unit training events are defined by a basic event type (*e.g.*, command post exercise), the size of the unit (*e.g.*, battalion, company), and the type of unit (*e.g.*, armor, engineer). Institutional training events are defined by the POI and course module. Basic unit event types include the following (U.S. Army Environmental Center 1999):

- □ Individual Weapons Qualification
- □ Common Military Training
- Crew Weapons Qualification
- Crew Weapons Sustainment
- □ Command Post Exercise (CPX)
- □ Command Field Exercise (CFX)
- □ Situational Training Exercise (STX)
- □ Fire Coordination Exercise (FCX)
- □ Field Training Exercise (FTX)
- □ Live Fire Exercise (LFX)
- □ Tactical Exercise Without Troops (TEWT)
- Map Exercise (MAPEX)

Each of these training events requires different range or training assets and has a different impact on maneuver lands.

1.4 General Description of the Training Infrastructure

TRAINING LAND

FWA's Main Post encompasses 13,700 acres of mixed development and undeveloped land. Developed areas consist of administrative and mission support facilities, single Soldier housing, family housing, Ladd Army Airfield, smallarms training range facilities, and other local training areas. The remaining

1,557,900 acres of FWA and DTA training lands can facilitate various military training activities to include: artillery, aerial gunnery, field training exercises, bivouacs, and standard and non-standard live- fire exercises. Although there is a sufficient quantity of range and training land throughout FWA, much

of it is maneuverable by Stryker vehicles only in the winter and otherwise constrained by steep slopes, thick vegetation or wetlands.

RANGE INFRASTRUCTURE

Live Training Facilities – Each training facility at FWA has been sorted into one of the following categories:

- □ **Basic Weapons Marksmanship Ranges** used to qualify or train on rifles, pistols, sniper rifles, grenade launchers, sub-caliber light anti-armor weapons (LAWs), shotguns, machine guns (MGs), and grenade machine guns.
- □ **Direct Fire Gunnery Ranges** used to qualify and train tank and Bradley crews on Tables I- VIII. This category also includes ranges used to qualify anti-armor weapons systems using service ammunition.
- □ **Collective Live Fire Ranges** used for collective training events, such as infantry squad and platoon battle courses (ISBCs and IPBCs), multipurpose range complexes (MPRCs), urban assault courses (UACs), and aerial gunnery ranges (AGRs) used to qualify on Tables IX-XII.
- □ **Indirect Fire Facilities** ranges or firing points used for the qualification and training of mortars, field artillery, or air defense artillery and observation posts or points (OPs).
- □ **Special Live Fire Ranges** used for qualification and training of demolitions, live hand grenades, and claymores.
- □ Other, Non-Live Fire Facilities assets that are used to train Soldiers without the use of weapons, i.e., rappel towers, drop zones (DZs), obstacle courses, gas chambers, and other facilities not covered in previous categories.
- □ **Maneuver Training Areas** land used for the conduct of force-on-force maneuver training and situational training exercises (STXs). Areas are classified as light, amphibious, or heavy depending on the type of training they can support.

FWA Main Post has the following training facilities:

- 8 basic weapons marksmanship ranges
- 0 direct fire gunnery ranges
- 5 collective live fire range
- 8 indirect fire facilities
- 3 special live fire ranges
- 16 other, non-live fire facilities
- 12 light maneuver training areas in 4,594 acres

Yukon Training Area has the following training facilities:

- 8 light maneuver training areas in 257,281 acres
- 1 basic weapons marksmanship range
- 1 direct fire gunnery range

Middle Tanana River Watershed Umbrella Mitigation Bank Prospectus Appendix A

- 3 collective live fire range
- 30 indirect fire facilities
- 7 special live fire ranges
- 0 other, non-live fire facilities

Tanana Flats Training Area has the following training facilities:

- 0 basic weapons marksmanship ranges
- 0 direct fire gunnery ranges
- 0 collective live fire range
- 3 indirect fire facilities
- 0 special live fire ranges
- 4 other, non-live fire facilities
- 8 light maneuver training areas in 592,699 acres

DTA has the following training facilities:

- 4 basic weapons marksmanship ranges
- 1 direct fire gunnery range
- 4 collective live fire ranges
- 27 indirect fire facilities
- 4 special live fire ranges
- 24 other, non-live fire facilities
- 8 light maneuver training areas in 567,734 acres
- 7 heavy maneuver training areas in 87,457 acres

Gerstle River is entirely made up of 1 heavy maneuver training area in 20,600 acres.

Black Rapids has 1 basic marksmanship range, 2 other, non-live fire facilities, and 2 light maneuver training areas in 3,300 acres.

1.5 Ecological Background

The Army's commitment to natural resources management is reflected in the Army Strategy for the Environment: Sustain the Mission – Secure the Future. Sustainability is the foundation that focuses energy to address both present and future needs while strengthening community partnerships that improve our ability to organize, equip, train, and deploy our Soldiers. The triple bottom line of sustainability is: mission, environment, and community.

The wide variety of habitats available throughout training lands in Alaska provide for numerous realistic training scenarios. Forested areas are used for infantry training, land navigation, bivouacs and to provide cover for other activities. Forest clearings are necessary for firing points, maneuver corridors,

landing zones, drop zones, air assault strips, tactical operations centers, etc. Open tundra wetlands provide additional space for some of these types of operations, when frozen.

Positive effects of the military mission on natural resources stem primarily from the preservation of native ecosystems due to the exclusion of development. Competing land uses must be conducted in a manner that protects the environment. Natural resource management considerations and safety requirements associated with military activities limit the extent of other potentially damaging land uses. In addition, the presence of a dedicated staff of natural resources professionals ensures management and stewardship of these public lands.

1.6 Biological Resources

FWA has a diversity of habitats that support a rich and diverse array of flora and fauna. Various inventories have confirmed the occurrence of 42 mammals, 157 birds, 20 fish, and 1 amphibian species on Army Lands in Alaska. The FWA floristic inventories found 661 vascular taxa (species and subspecies). Non-vascular taxa were only inventoried from Main Post, YTA, and TFTA and 218 were identified. Although the natural resource program affects many species, moose (*Alces alces*), ruffed grouse (*Bonasa umbellus*), black bear (*Ursus americanus*), and bison (*Bison bison*) in the Delta area, are the most intensively managed by the Alaska Department of Fish and Game. Game Management Unit

20A, which encompasses parts of TFTA and DTA West, is of particular interest to hunters and wildlife managers because it supports the highest moose density in the state. The Yellow Billed Loon which is currently listed as a Federal species under consideration for protection uses habitat found on FWA for food and shelter. Alaska Department of Fish and Game Species of Concern that are found on U.S. Alaska training lands include: the Olive-sided flycatcher, Gray-cheeked thrush, Townsend's warbler, and the Blackpoll warbler.

1.7 Wetland Resources

Approximately 61% or 984,050 acres of FWA is classified as wetlands and are sociologically, ecologically, and economically important to the area. Wetlands in Alaska are unique compared to wetlands in lower latitudes because of features such as permafrost and aufeis (river channel ice that develops in winter). Various wetland surveys have been conducted, particularly the National Wetland Inventory done by the U.S. Fish and Wildlife Service, and a U.S. Army Engineering and Research Development Center survey in the late 1990s. Although both of these provide acceptable information about wetlands on Alaska Army lands as a whole, for Clean Water Act, Section 404 permits; site mapping on a finer scale is often required. In general, all delineated wetland types and some water courses are presumed jurisdictional for the purposes of Section 404 permitting, unless the analysis done on a permit-by-permit basis indicates otherwise. The more detailed mapping seems to generate overall numbers of wetlands similar to the broad surveys. The differences are mostly in changes to exact boundaries.

Palustrine wetlands are nontidal and tidal-freshwater wetlands intermittently to permanently flooded, open water bodies of less than 20 acres in which water is less than 6.6 feet deep. Riverine wetlands are contained within a river channel except for sites dominated by trees, shrubs, or persistent emergent

plants. Lacustrine wetlands are found within topographic depressions or dammed river channels, or are associated with lakes. Sites lack trees, shrubs, or persistent emergent vegetation. These sites are larger than 20 acres and have a depth greater than 5.5 feet at low water.

Approximately 42% (5,754 acres) of FWA Main Post is classified as wetlands, with palustrine, riverine, and lacustrine types. Wetlands comprise about 74% (484,700 acres) of TFTA. Most are classified as Lowland Wet Needleleaf Forest and Lowland Forest and Scrub Thermokarst Complexes. The YTA is roughly 25% (62,000 acres) of marsh and shrub wetland. Shrub wetland, also known as bogs, muskeg, and low brush, are associated with slightly higher relief on the edges of marshes, and in poorly drained basins and depressions with cold, waterlogged soils. Approximately 68% (429,080 acres) of Donnelly Training Area is wetlands, with palustrine, riverine, and lacustrine types included. The palustrine shrub wetlands are the most common found on the training area.

2.0 Description of the Purpose and Need for Action

The 2004 Transformation Environmental Impact Statement led to a fundamental change in the mission for the Army in Alaska. Training lands comprised of large areas of steep topography and wetlands that once supported the maneuver mission of a light infantry brigade are now required to support the training needs of a Stryker Brigade Combat Team and the 16th Combat Air Brigade. At FWA the 172nd Infantry Brigade Combat Team was ultimately replaced by the 1st Stryker Brigade Combat Team (SBCT) of the 25th Infantry Division. While the light infantry brigade lacked the lethality, tactical mobility, and survivability of the 1/25th SBCT, they possessed greater strategic mobility and the ability to execute training missions in Alaska's restrictive terrain - terrain that can at times be an impediment to the 1/25th SBCT's training mission in Alaska.

The most noticeable difference between light infantry and medium armor brigade training has been the impacts that sixteen-ton Stryker vehicles have on the existing training area infrastructure – infrastructure that was originally designed to support use by light wheeled vehicles and dispersed dismounted training. Managing training space to accommodate these impacts has generated a requirement to upgrade existing firing points, bivouac areas, observation points, maneuver trails, and training area roads to support sustainable use by SBCT units. The additional stationing of approximately

2,200 Soldiers in Alaska from 2008-2013 as part of Army Growth and Realignment to support operations in the Pacific Theater continues to drive development of new ranges, training facilities, and maneuver areas with a special emphasis on meeting increased training demands and sustaining the impacts of heavy wheeled Stryker vehicles.

In October of 2009 the Record of Decision (ROD) for the Stationing and Training of Increased Aviation Assets within U.S. Army Alaska was published. An Aviation Task Force was formed by augmenting existing assigned aviation assets with 40 additional helicopters and 710 additional soldiers. The action resulted in 1,200 soldiers and 72 total helicopters at FWA, with a total projected population increase by approximately 2,500 (including soldiers, family members and civilian support personnel).

Joint force missions such as red Flag in Alaska bring aviation assets from around the world to conduct large scale training exercises. These exercises produce average sound levels greater than 65 decibels. In the 1997 US Air Force ROD for Alaska Military Operations Areas these activities are described as level II impacts. It was determined that about 20 to 25 percent of the residents exposed to this noise were anticipated to be "Highly Annoyed". With increased of aviation stationing at FWA, and increased encroachment near FWA boarders, the number of "Highly Annoyed" neighbors may increase through time.

Concurrently with Army Transformation, Army Growth and Realignment, and the need to upgrade, develop, and construct new training assets; encroachment issues have started to increase limitations on how the Army utilizes its' land base and have become an ever present challenge to the training mission in Alaska. The cumulative weight of external factors such as more stringent environmental regulations and urbanization are making it progressively more difficult to facilitate training within our boundaries and are increasing the time and cost of executing construction projects in support of on-post operations and the training mission. U.S. Army Alaska recognizes the cumulative weight of these external factors as directly impacting the capability, availability, and accessibility of its lands and believes that successfully obtaining an ACUB will be an essential long term solution to ensure the future success of the U.S. Army mission in Alaska.

2.1 Urbanization: Army Transformation, Grow the Army, Population Growth, and Development

At the same time as and partially as a result of the Army Transformation and Army Growth and Realignment, urbanization around FWA and Donnelly Training Area is increasing and beginning to impact how land assets are utilized for training. Driven by substantial population growth over the last 23 years and a relatively strong local economy, new residential subdivisions are being created on vacant land close to installation boundaries and threaten to exacerbate problems of trespass, boundary disputes, and noise complaints from the public. If left unchecked, the frequency of these problems is likely to increase to levels that will result in long lasting negative effects on military training activities.

In 2006 the Fairbanks North Star Borough conducted a Joint Land Use Study of the areas surrounding FWA and Eielson Air Force Base. The reason for the study was to address incompatible land use adjacent to military installations that land use planners felt could ultimately lead to closure of those installations. One of the major issues identified in the study was land use compatibility around existing subdivisions adjacent to FWA. This is of particular concern adjacent to the eastern boundary of the FWA Small Arms Complex and the Secluded Acres Subdivision adjacent to the eastern boundary of Main Post (Figure 2). Increased development in these areas could negatively impact FWA's deployment and training capabilities as they are regularly used for aircraft approach, over-flights, and small arms live fire training events. As residential development continues in these areas, a corresponding increase in noise complaints during periods of training (Figure 2) should be expected. In addition, residential development currently exists within the Potential Accident Zone 1 associated with the runway (Figure 3). Residential development is not recommended in this zone and steps should be taken to prevent future



development to the extent practicable. There is considerable support from the Fairbanks North Star Borough to aid FWA in taking steps to minimize this encroachment.

Figure 2. Noise zone contours surrounding the FWA Main Post and Small Arms Complex.



Figure 3. Accident potential zones surrounding the FWA cantonment area.

At this time, urbanization around FWA is not having a significant impact on training; however, future land use patterns and growth trends within the area are likely to raise compatibility issues with installation operations in the foreseeable future. There is great residential growth potential around FWA. As land use pressure increases and property is cleared and developed we anticipate a corresponding increase in public pressure to restrict the type, time, and duration of aviation and live-fire training activities. The Joint Land Use Study recommended the acquisition of land for compatible use and DoD conservation land purchases to mitigate these issues.

When evaluating the relative merits of investing in an ACUB program at FWA it is important to understand that while the threat of urbanization is real and serious, there is still time to abate and mitigate those threats on the ground. FWA is at the tipping point where its training facilites are under threat from encroachment, but the loss of training capacity is not inevitable. The next couple of years have the potential to transform the landscape surrounding FWA, but the ACUB program has the potential to ensure that change is compatible with FWA's mission and operations.

2.2 Environmental Encroachment: Wetlands

Compliance with Section 404 guidelines of the Clean Water Act provides challenges for range construction, upgrade, repair, and maintenance projects that support training. While Alaska is often characterized as being a vast area with majestic mountains, abundant wildlife, and a harsh environment

- a less well known fact is that approximately 63% of the Nation's wetlands are located here (Figure 4).



Figure 4. Source Status of Alaska Wetlands 1994

Palustrine wetlands are prolific in interior Alaska and can be found throughout most of the 1.6 million acres of U.S. Army land holdings in Alaska. To put things in context, the extent of wetlands on U.S. Army lands in Alaska alone is larger than the state of Rhode Island, making them very difficult to avoid when executing new construction, upgrade, repair, or maintenance projects. To exemplify this point, refer to Figure 5 showing the location of the FWA Small Arms Complex (SAC) in relation to wetland areas.



Figure 5. NWI Map of the FWA Cantonment & Small Arms Complex

As FWA's dedicated SAC, this area receives steady use and requires regular upgrades and maintenance to keep the ranges operational. With approximately 89% of the SAC located in wetlands, avoidance options are limited and therefore nearly every construction, upgrade, repair, or maintenance action regardless of how small is likely to require a Clean Water Act (CWA) Section 404 wetland permit analysis (and, in most cases, a permit) prior to execution.

The costs associated with CWA Section 404 wetland permitting is beginning to restrict the Army's ability to upgrade and maintain the infrastructure and assets that support training and quality of life. Take for example a 2008 project to expand an existing drop zone at DTA. This project involved clearing 351 acres

of wetland and 1,500 acres of upland vegetation to expand and maintain the Donnelly DZ. Ultimately, the project was abandoned because of the \$446,200 price tag for compensatory wetland mitigation. While well documented at other U.S. Army installations in the lower 48 states, the challenges associated with meeting compensatory mitigation requirements are new to Alaska. Up until 2008 when the *Compensatory Mitigation for Losses of Aquatic Resources Final Rule* was published in the Federal Register, fiscal compensatory mitigation was generally not required in Alaska. Prior to 2008, CWA Section 404 permits, including requirements to demonstrate wetland avoidance, minimization, and mitigation, still needed to be obtained prior to construction; however, there were no outright costs associated with the mitigation. Publication of the 2008 Final Rule essentially leveled the playing field across the nation on how the U.S. Army Corps of Engineers manages compensatory mitigation for the loss of aquatic resources.

For those permitting actions on behalf of the Army in Alaska, the 2008 Final Rule presented a serious challenge. Based on a review of past wetland permits issued by the US Army Corps of Engineers Fairbanks Regulatory Field Office (ACOE) between 2000-2008 for military training range construction, training and maintenance activities on FWA, a minimum of 217 acres of wetlands were impacted, averaging approximately 24 acres a year. Currently, the ACOE is offering U.S. Army Garrison Alaska FWA two options for complying with compensatory mitigation requirements: (1) permittee-responsible mitigation; or (2) in-lieu fee payments made to an approved third-party organization. A third and preferred option is purchasing credits from a mitigation bank; however, currently no wetland mitigation bank exists in interior Alaska. The Conservation Fund currently is the only Organization that has an agreement with the ACOE to accept in-lieu fee payments in Alaska to fulfill compensatory mitigation requirements. In 2009, The Conservation Fund determined an estimated value to replace or preserve wetlands on the FWA Small Arms Complex using the following formula: [\$7000/acre (based upon the current market value of a similar parcel of land) X 20% Long-term Stewardship Fee X Minimum 1.5: 1

Ratio (based upon quality of the wetlands affected)]. Using this formula it would have cost the Army approximately \$2,734,200 to meet the compensatory mitigation requirements during the 2000-2008 time period.

The challenges and costs associated CWA Section 404 permitting will continue to be an on-going issue given future requirements to upgrade and maintain training infrastructure. A military training range construction, upgrade, repair and maintenance Programmatic Environmental Assessment (PEA) that is currently in progress has identified the potential for up to 832 acres of wetland disturbance from future projects supporting ranges and training. While this value represents the absolute worst case scenario and does not take into account avoidance and minimization measures, it does highlight the degree to which wetlands can influence our operating environment.

3.0 Description of the Proposed Action

To address the encroachment threats as outlined above and to take advantage of the opportunity to partner with interested non-governmental and state government agencies, FWA proposes to formalize

and implement a comprehensive ACUB program to mitigate future environmental restrictions and encroachment threats and preserve the Army's ability to train on available training land. Implementation of this plan will reduce encroachment that would disrupt, limit, or diminish existing and future training and deployment capabilities on FWA. The plan would also help minimize development on lands adjacent to or within close proximity to FWA. As a secondary benefit, the plan would preserve and protect land, and protect key natural habitats and ecological systems and their associated flora and fauna.

The primary implementation strategy of the proposed ACUB program is to provide reimbursable or upfront funding to a non-federal conservation organization to acquire fee simple title or conservation easements from willing land owners. FWA has developed priority areas surrounding the installation in which to acquire conservation easements or fee simple title under the ACUB program. The primary justification for selecting these priority areas is to prevent incompatible development around the installation boundary and in the process preserve important wetland ecosystems to help meet future CWA Section 404 compensatory mitigation requirements. A few parcels of land not directly adjacent to the installation boundary have been considered based on their ability to satisfy critical wetland mitigation requirements.

One of the unique opportunities being pursued in this ACUB proposal is the ability to concurrently buffer training lands from the effects of residential development and to meet some of the CWA Section 404 regulatory requirements associated with training and future range development and maintenance projects within wetlands. The installation is currently working with the ACOE and the Salcha Delta Soil and Water Conservation District (SDSWCD) to establish a wetland mitigation bank so that credits from future ACUB protected parcels can legitimately be banked and become available to offset future wetland impacts on FWA. Aside from any initial credits obtained for preservation, the Army will be able to increase available credits by conducting restoration and enhancement work on degraded wetlands within the parcels. The success of the mitigation bank is closely tied to obtaining a successful ACUB and will be the first of its kind in interior Alaska, placing the Army on the cutting edge of conservation, preservation and sustainability of wetlands in Alaska. Publication of the Compensatory Mitigation for Losses of Aquatic Resources; Final Rule in 2008 will greatly benefit the process as it lays out the steps, information required, and timeline to establish the mitigation bank. Thus far, the ACOE, Environmental Protection Agency (EPA), and U.S. Fish and Wildlife Service (USFWS) have shown support for this project and demonstrated a willingness to work cooperatively with the Army in establishing the bank. A draft prospectus has been completed and was submitted to the ACOE for review. The process from submission of the prospectus to obtaining a final signed instrument is expected to be completed by Oct. 2010.

Under the authority provided in Section 2811, National Defense Authorization Act of 2003 (codified at 10 U.S.C. § 2884a), FWA proposes to enter into a cooperative agreement with The Conservation Fund in order to direct the goals, implementation, and administration of the ACUB partnership. In addition to the primary partner, there are a number of organizations and agencies that are very interested in acting as cooperating partners, including the Interior Alaska Land Trust, Alaska Department of Fish and Game

(ADF&G), USFWS, Ducks Unlimited and the SDSWCD. The Conservation Fund and Interior Alaska Land Trust will work directly with willing land owners to secure fee simple title or conservation easements to properties and will be responsible for long-term management and land stewardship. The SDSWCD will act as the FWA wetland mitigation bank sponsor. The SDSWCD will manage the bank and cooperate with the ADF&G, USFWS and Ducks Unlimited on future wetland rehabilitation and restoration projects that will improve habitat and increase the total amount of available wetland credits.

3.1 Proposed ACUB Priority Areas

The immediate number one priority of this ACUB is the protection of approximately 6,075 acres of lands adjacent to the FWA Army Airfield, the FWA Small Arms Complex, and along the Alaska Highway North of the Donnelly Training Area (Figure 6 and Figure 7). Current flight patterns and live-fire training activities that occur adjacent to these areas are critical to FWA's deployment and training mission. Noise impacts on incompatible development uses within these ACUB priority areas have the potential to threaten continued intensive training activities. Wetlands are also present within these priority areas and once preserved credits will be banked to off-set future wetland impacts. Roughly 374 acres not adjacent to the installation boundary have been considered because of their significance as high value wetlands of interest to the local community and for their ability to meet critical wetland banking requirements. Parcels not adjacent to the installation boundary; however, are considered lower priorities.



Figure 6. FWA ACUB priority areas.



Figure 7. Donnelly Training Area ACUB priority areas.

PRIORITY AREA (PA) 1A - FWA (FIGURE 8)

PA 1A is a 311 acre buffer zone adjoining the eastern central portion of the FWA cantonment area. The area was given top priority for the following reasons:

- This area has the greatest threat of development. The Secluded Acres subdivision is already established within this area and a planned Alaska Department of Public Transportation project to create an off installation access road to this area will increase residential development. Several vacant lots of residential land are currently available in the area.
- 2) Development in this area would negatively impact the installations deployment and training capabilities. The area is regularly used for aircraft approach and over-flight, which generate noise complaints from existing residents. A small portion of the area is within Noise Zone 1 and the remainder is just outside of the established noise zone area contours. Residential development currently exists within the Potential Accident Zone 1 associated with the runway. Residential development is not recommended in this zone and steps should be taken to prevent future residential development to the extent practicable.
- 3) The identified buffer area also includes lands that have been identified as favorable for wetland preservation, restoration, and rehabilitation activities.



Figure 8. Priority 1A map.

PRIORITY AREA (PA) 1B - FWA (FIGURE 9)

PA 1B is a 1,139 acre buffer zone adjoining the eastern and western portion of the FWA Small Arms Complex. The area was given top priority for the following reasons:

- 1) Recently portions of the eastern area were subdivided and parcels made available for residential development directly adjacent to the eastern boundary of the FWA Small Arms Complex.
- 2) Development in this area could negatively impact the installation's training capabilities likely due to noise complaints. Current parcels of land for sale in this area are located within Noise Zones 1 and 2 and directly adjacent to Noise Zone 3 due to artillery and blast noise.
- 3) The identified buffer areas also include lands that have been identified as favorable for wetland preservation, restoration, and rehabilitation activities.



Figure 9. Priority 1B map.

PRIORITY AREA (PA) 1C - DTA (FIGURE 10)

PA 1C DTA is a 1,305 acre buffer zone adjoining the northeastern portion of Donnelly Training Area. The area was given top priority for the following reasons:

- 1) The identified buffer includes lands that have been identified as favorable for wetland preservation, restoration and rehabilitation activities.
- 2) Peak blast noise levels 115 dBP (10% of the time) from the Battle Area Complex extend into this buffer.



Figure 10. Priority 1C map.

PRIORITY AREA (PA) 1D - DTA (FIGURE 11)

PA 1D DTA is a 1,765 acre buffer zone adjoining the northern and northeastern portion of Donnelly Training Area. The area was considered for the following reasons:

- 1) The identified buffer includes lands that have been identified as favorable for wetland preservation, restoration and rehabilitation activities.
- 2) Residential development adjacent to the installation boundary is ongoing in this location.
- 3) Peak blast noise levels 115 dBP (10% of the time) from the Battle Area Complex extend into a small portion of this buffer.



Figure 11. Priority 1D map.

PRIORITY AREA (PA) 2 - FWA (FIGURE 12)

PA 2 is a 1,555 acre buffer zone adjoining the eastern and northeastern portion of the FWA cantonment area. The area was considered for the following reasons:

- 1) A few residential units currently exist within the area and many of the undeveloped parcels have the potential of becoming residential developments.
- 2) Noise complaints and trespass are likely to increase with residential development. An increase in noise complaints is likely to have a negative impact on aviation and ground based training within this area.
- 3) The identified buffer area includes lands that have been identified as favorable for wetland preservation, restoration, and rehabilitation activities.



Figure 12. Priority 2 map.

PRIORITY AREA (PA) 3 - FWA (FIGURE 13)

PA 3 is comprised of several parcels totaling 374 acres. The area is not directly adjacent to the Installation boundary but was given consideration for the following reasons:

1) The area includes lands that have been identified as favorable for wetland preservation, restoration, and rehabilitation activities.

- 2) This area has some of the highest value and at risk wetlands in the Fairbanks area and is of great interest to the local community, federal wetlands regulators, and local conservation organizations.
- 3) The Interior Alaska Land Trust has invested significant time and money to preserve other parcels in this area as part of the Chena Flats Greenbelt Project.
- 4) The Interior Alaska Land Trust has already conducted appraisals and worked to find willing sellers for many of the parcels of interest.



Figure 13. Priority 3 map.

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3.2 Alternative Actions Considered

3.2.1 Alternative 1 – No Action

As a base comparison, the alternative of taking no action, e.g. no implementation of a FWA ACUB, has been evaluated. Under this alternative, it is expected that current growth trends will continue, bringing additional residential and commercial development adjacent to the installation boundary. This will eventually result in increased encroachment, potentially leading to the loss of deployment, training range and airfield capabilities. Smaller training range repair and maintenance projects impacting wetlands would simply not be done. If FWA determined that ACUB implementation was desirable in the future, increased encroachment, a more fragmented land base, and higher land prices would all limit the ability and effectiveness of a future ACUB program. The No Action Alternative is not seen as a viable option.

3.2.2 Alternative 2 – Participation in Local Planning and Land Use Policy Efforts

In 2006 the Fairbank North Star Borough, Eielson Air Force Base, and FWA partnered to develop a Joint Land Use Study (JLUS). The purpose of this study was to identify encroachment issues and develop zoning so that compatible land use would occur near the military installation. The study developed some recommendations for the community and military to pursue but have yet to be implemented. One of the main conclusions of this study was to acquire land for conservation purposes to be managed by non- profit organizations which would fit into the ACUB model. The recommendations from the JLUS have not been acted upon likely due to the entrenched and long standing zoning and land use planning policy that has occurred outside of FWA's boundary over the years. Although FWA is committed to working cooperatively with the borough to proactively address growth and land uses in a mutually beneficial manner, this approach alone is not enough to prevent future encroachment from compromising the installation's growing training and mission requirements.

3.2.3 Alternative 3 – Land Acquisition

Under this alternative the Army would directly purchase land adjacent to FWA's range and aviation assets in order to sustain the ability to meet the installations training and mission requirements. This alternative would be effective if viable to implement; however, the financial and political commitment required would be significant. There would be no partner contributions toward Army purchase of buffer lands and ongoing maintenance and operation of these lands would be a permanent annual expense for the Army. This alternative is likely to have little political or public support and is not considered practicable.

4.0 Funding

Funding for this project is requested in accordance with Section 2811, Bob Stump National Defense Authorization Act for FY09. Fort Wainwright is proceeding with its partners to secure funds and donations of lands, easements and services to match and leverage funds appropriated through DoD for the ACUB program. It is anticipated that partners will be able to secure these alternative funds through non-DoD federal sources (grants and appropriations), state funds, mitigation dollars, donated

conservation easements or land value, via "in-kind" services, and private fundraising efforts. The use of Army ACUB dollars would only be used to help our primary partner purchase fee simple title or conservation easements. The primary partner will be responsible for all long-term management responsibilities and costs.

4.1 Estimated Land Acquisition, Land Management, and Wetland Management Costs

Protections of property falling within the ACUB Priority areas will vary greatly in cost based on location and size of the property being protected.

Average acquisition cost per acre FWA: \$4,000.00

Average acquisition cost per acre DTA: \$1,500.00

Based upon past in-lieu fee cost estimates where land stewardship cost is calculated at 20% of the per acre purchase price.

Average land stewardship cost per acre FWA: **\$800.00**

Average land stewardship cost per acre DTA: \$300.00

Based upon discussions with our mitigation bank sponsor, estimated management costs are calculated at 5% of the per acre purchase price.

Average mitigation bank management cost per acre FWA: **\$200.00**

Average mitigation bank management cost per acre DTA: **\$75.00**

4.2 Anticipated Partner Contributions

We anticipate that partners will contribute approximately 25% to the total cost of obtaining parcels, providing longterm stewardship, and managing the wetland mitigation bank. Below is a matrix showing potential partners and services they can provide.

Contributions	The Conservation Fund	Salcha-Delta Soil & Water Conservation District	Interior Alaska Land Trust	Alaska Dept. of Fish & Game	Ducks Unlimited	U.S. Fish & Wildlife Service
Parcel Identification, Title Search, & Land Owner Negotiations	x		x			
Long-term Stewardship Costs (e.g. property taxes)	x					
GIS & Mapping Services		x		x	x	x
Land Survey	x	х			x	
Wetland Delineation & Functional Assessment	x	х		x		x
Land or Easement Acquisition/ Funding (reimbursable)	x				x	
Land or Easement Acquisition / Funding (non-reimbursable)	x				x	
Wetland Preservation	x		x	x	x	x
Wetland Restoration Funding, Design, Engineering, & Execution (reimbursable)		x				x
Wetland Restoration Funding, Design, Engineering, & Execution (non-reimbursable)		x				x
Ecological Monitoring & Mgt. (Wildlife Habitat Mgt, Ecological Site Monitoring, Managing Veg. for Invasives, Managing Veg. for Wetlands)		x	x	x	x	

Table 3. Anticipated partner contributions.

4.3 Cost Estimate Matrix

Table 4. Total cost of implementing the proposed ACUB.

Priority Area	Acres	Cost per Acre	Partner Stewardship & Mitigation Bank Costs	Estimated Total Cost	Target Partner Match	Estimated Army Costs
1A	311	\$4,000	\$1,000	\$1,555,000	25%	\$1,166,250
1B	1,139	\$4,000	\$1,000	\$5,695,000	25%	\$4,271,250

1C	1,305	\$1,500	\$375	\$2,446,875	25%	\$1,835,156
1D	1,765	\$1,500	\$375	\$3,309,375	25%	\$2,482,031
2	374	\$4,000	\$1,000	\$1,870,000	25%	\$1,402,500
3	1,555	\$4,000	\$1,000	\$7,775,000	25%	\$5,831,250
Total	6,449			\$22,651,250		\$16,988,437

5.0 PUBLIC RELATIONS AND THE PROBABILITY OF SUCCESS

5.1 **Public Relations**

FWA was established prior to statehood and has been a stable economic engine for Alaska for over 60 years. Since the Army is such an important part of the local community, senior leaders from FWA actively seek opportunities to engage key communities around the area and regularly serve on leadership boards or committees where they work cooperatively with community members and can provide information regarding the installation's mission, its capabilities, and its limitations.

The installation believes that Fairbanks North Star Borough government officials and those of the surrounding



communities will actively support ACUB efforts. In 2006 the Fairbanks North Star Borough conducted a Joint Land Use Study of the areas surrounding FWA out of concern for incompatible land use adjacent to the military installation. Findings of that study concluded that working with a conservation organization to aquire lands adjacent to the installation would be an effective way to buffer incompatable land uses. Residents who live here because they value open space are also becoming concerned with the effects that rapid devlopment is having on the area. Trails and open space where people once mushed dogs, cross country skied, hunted moose and waterfowl, or went walking with their childern are being replaced by box stores and housing developments. In response, concerned citizens throughout the area are coming together to partner with local land trust organizations to protect open space. The installation will continue to work closely with local, state, and federal entities as well as with conservation organizations and the general public at large on this program. FWA recognizes that the success of this program is largely dependent on the ability to communicate effectively with these parties by keeping them up to date throughout the ACUB process and whenever possible including them in the process.

5.2 Probability of success

The probability of implementing a successful ACUB at FWA is very high. Potential partners, land managers, and regulatory agencies from throughout the community have all expressed support for this project. The Conservation Fund has agreed to become a primary partner and brings a wealth of

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experience from past participation in successful ACUB endeavors at Camp Ripley and Fort AP Hill. Once funding becomes available, immediate land acquisition prospects are promising as the Interior Alaska Land Trust who works closely with The Conservation Fund has already obtained appraisal information and found land owners willing to sell parcels FWA is interesting in acquiring. Several other parcels within identified high priority areas are already available for purchase from local realtors.

Measures to ensure that the Army receives credit for preserving wetland parcels are also underway and appear promising. National standards for establishing mitigation banks published in the Federal Register in April of 2008 have made the process consistent within the U.S. Army Corp of Engineers and more apparent to bank sponsors. There is currently a very amenable working relationship between the Army, USFWS, ACOE, and the EPA which should help increase the chances of developing a successful mitigation bank – the first of its kind in Interior Alaska.

6.0 Timeline with milestones for the proposed action

June 2011:

Draft Proposal Presented to ACUB Core Group

Wetland Bank Interagency Review Team Meeting

Begin Cooperative Agreement Process with The Conservation Fund

July 2011:

Proposal Finalized and Staffed to Army Range Sustainment Integration Council (ARSIC) Working Group

Final Prospectus Submitted to ACOE for Review

August 2011:

ARSIC Working Group Approves Proposal and Submits to the ARSIC Council of Colonels for

September 2011:

Review

ARSIC Council of Colonels Meets and is Presented with Proposal

October 2011:

ARSIC Council of Colonels Reviews Proposal

November 2011:

Proposal Approved by ARSIC Council of Colonels

December 2011:

Cooperative Agreement with The Conservation Fund Finalized

Submit Draft Wetland Bank Instrument

Wetland Bank Interagency Review Team Meeting

January 2012:

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Submit Final Wetland Bank Instrument

Wetland Bank Interagency Review Team Meeting

February 2012:

Final Wetland Bank Instrument Signed

Await ACUB Funding to Proceed with First Land Acquisitions

7.0 Compliance with the National Environmental Policy Act of 1969

The National Environmental Policy Act (NEPA) requires that the potential environmental effects associated with federal actions be considered and documented. Certain actions with no individual or cumulative effect on the human or natural environment and for which neither an Environmental Assessment (EA) nor an Environmental Impact Statement (EIS) is required have been grouped into Categorical Exclusions (CX).

After reviewing the NEPA Screening Criteria for CX, this action would likely qualify for the CX in 32 CFR Part 651, Appendix B (f) (1), which applies to real estate activities, and specifically states that "Grants or acquisitions of leases, licenses, easements, and permits for use of real property or facilities in which there is no significant change in land or facility use" can be categorically excluded. A record of Environmental Consideration will be required.

8.0 Partner Letters





August 20, 2009

Michael Gibson FWA ITAM Office PO Box 35090 Fort Waimvright, Alaska 99703-5090

RE: ACUB Program

Dear Mr. Gibson,

The Salcha-Delta SWCD is committed to working with the US Anny through the ACUB program to mitigate encroachment and conservation issues associated with the land used for vital military training and operations. To this end, we are in the process of creating an approved wetlands mitigation bank that will offer a valiety of mitigation services includi.l!lg assessment, enhancement restoration, creation and protection.

We look foilward to the opporting to patiner with you in this important endeavor and extend Anny supported consetvation stewardship outside of the installation boundaties.

Sincerely,

du

Jefifrey Durham Programs Administrator (907) 895-7426

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October 21, 2009		
Mr. Michael Meek Directorate of Publ Fort Wainwright, A	cs lic Works Alaska 99703-6000	
Dear Mr. Meeks: Ducks Unlimited, J at Fort Wainwright mission is to conse North American w wetland habitat nat	Inc. is supportive of the Army Comp t. Ducks Unlimited is a nationwide erve, restore and manage wetlands an vaterfowl. Since 1937, DU has cons tionwide.	batible Use Buffer (ACUB) program conservation organization whose nd their associated habitats for erved over 12 million acres of
Please keep me adv program proceeds	vised on how we can continue a dial	ogue with the Army as the ACUB
Sincerely your –_	_===	
Thomas J. Dw er	(D	

