Fort Wainwright 2016 Natural Resources Management Report to the Bureau of Land Management

Prepared by:

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Introduction:

Effective communication and coordination between the Borough of Land Management (BLM) and the Army has been identified as a need in the recent document entitled "Memorandum of Understanding between the U.S. Department of the Interior, Bureau of Land Management Alaska, and the U.S. Army Garrison Fort Wainwright concerning the management of lands in Alaska withdrawn by public law 106-65 for Military use". This document, with brief project descriptions from staff in the FWA environmental office, and cooperators, serves as an annual report to the BLM as stipulated by that memorandum.

The FWA environmental office is guided by the Fort Wainwright Integrated Natural Resources Management Plan (INRMP), which establishes policies, programs, prescriptions, projects, and procedures that U.S. Army Garrison Fort Wainwright (USAG FWA) uses to manage natural resources on Army training lands in Alaska. The INRMP contains goals and specific objectives necessary to (1) sustain "no net loss" in the capability of military lands to support mission requirements, (2) support stewardship of natural resources, (3) ensure compliance with applicable environmental laws, and (4) maximize public access within the constraints of the military mission while protecting public safety and conserving the environment. The Fort Wainwright INRMP reflects mutual agreement of USAG FWA, U.S. Fish and Wildlife Service (USFWS) and Alaska Department of Fish and Game (ADFG) concerning the conservation of the natural resources under their respective legal authorities. The INRMP consolidates other related Army natural resource planning documents in one place, including the Ecosystem Management Plan, Integrated Wildland Fire Management Plan, Endangered Species Management Plan, Forestry Management Plan, Watershed Management Plan, and Outdoor Recreation Management Plan. The INRMP also incorporates the applicable BLM Resource Management Plans for Yukon and Donnelly Training Areas. The INRMP for Fort Wainwright was last updated in 2013 (https://usartrak.isportsman.net/regulations.aspx), and is scheduled for update in 2018.

This document serves to improve communication and coordination between the BLM and Army, and identify individuals that may assist in providing materials and describing the various environmental projects that are taking place on land described in the INRMP. Contacts are provided for each project, and any interested parties are encouraged to contact staff for any additional project information. For overall questions concerning environmental goals and polices, please contact Dan Rees:

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*Sections organized by Cooperator

Center for Environmental Management of Military Lands

Vegetation and Wildland Fire Management

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Forest Inventory

Maintaining healthy forest conditions is the primary objective of the FWA forestry program. Forest inventory and analysis and forest health monitoring permanent plots are an effective method for detecting changes in vegetation health, composition, structure, wildfire fuel loading and determining growth and mortality which can be applied in growth projection models. Inventory and monitoring of Fort Wainwright's forest resources also provides an indicator of ecosystem integrity, biodiversity of species and habitats, and sustained production of commercially valuable forest products. In addition, inventory and monitoring help to determine areas where improvements or rehabilitation are needed to maintain ecosystem integrity and to support military training activities. Vegetation cover type mapping is used to delineate and attribute forest species, size, type and distribution. Continuous forest inventory plots are used to detect changes in insect and disease abundance in representative forest stands across the landscape.

Vegetation cover type maps are updated annually using fire history perimeters, military construction overlays and overlays of other clearing projects. Vegetation types are mapped to level 4 standards using techniques identified in the US Forest Service publication, The Alaska Vegetation Classification (Viereck et al. 1973). In addition, size class and density are added to forest stands using techniques developed by the State of Alaska Division of Forestry. Vegetation cover types are delineated and attributed on a GIS using a combination of air photo interpretation, heads up digitizing, and ground truth plot information. Vegetation types are mapped to a five acre minimum mapping unit on all Fort Wainwright lands. Vegetation cover type maps are used for forest utilization planning, identifying specific military training area requirements, military training range location, and natural resource management concerns.

Fort Wainwright maintains a system of continuous forest inventory plots using standardized techniques developed by the US Forest Service, Forest Inventory and Analysis Program. Two hundred and fifty continuous forest inventory plots are monitored throughout the forested vegetation types of Fort Wainwright. Continuous forest inventory plot locations and intensity are systematically stratified by forest type across the landscape. These plots are re-measured every ten years. 10% of the forest inventory plots are forest health monitoring plots and are re-measured every five years. Plot data collected includes: tree species composition, size class distribution, understory and forest floor species composition, canopy cover, tree species crown size and position, stem density, basal area, mean annual growth, regeneration composition and density, wildfire fuel loading, disease and insect observations and merchantable volumes by species.

For more information, contact project lead: **Adam Davis** – adam.l.davis.ctr@mail.mil

Soil Surveys

Tanana Flats and Donnelly Training Areas Soils Planning Level Study will inventory and map approximately 1,000,000 acres of Army Training Land in regards to soil classification, location, engineering limits and distribution. This study will update and ground truth existing soils maps and classify and map previously unmapped military lands. The study will adhere to guidelines on soil survey and mapping procedures as defined by the USDA Natural Resource Conservation Service for level four surveys. Soils will be classified according to morphology, physical and chemical properties; the spatial positioning of soils in the landscape and plotting on maps; the boundaries between kinds of soil; the interpretations of soils according to their capability to support various crops, grasses, and trees; a description of soil behavior under use or treatment for plant production or for other purposes; and a description of soil productivity under different management systems. The Natural Resources Conservation Service's Soil Survey procedures and documentation standards are required. GIS based data of the soil study area and individual soil types will be mapped to a minimum map unit of five acres.

For more information, contact: **Scott Debruyne** – scott.a.debruyne.ctr@mail.mil

Vegetation Management

Fort Wainwright conducts active vegetation management to increase military training opportunities, enhance wildlife habitat and reduce wildland fire fuels. One hundred twenty-five forested acres were hand thinned on Fort Wainwright lands to facilitate military maneuver training and wildfire hazard fuel reduction. Trees were generally thinned from original forest densities to a 15 foot average tree or tree clump spacing; understory shrubs and ladder fuels were also removed from the treatment sites. Reside slash was disposed of by pile burning or chipping on site. Fifteen acres were cleared for wildfire hazard fuel reduction in the winter utilizing heavy equipment and track walking. Spring prescribed fires burned approximately 33,000 acres of mostly grass and grass/shrub vegetation types on live fire ranges within Fort Wainwright. BLM, Alaska Fire Service is the lead on all of Fort Wainwright's prescribed burns. One hundred fifty acres of grasslands were fertilized in Donnelly Training Area for bison habitat enhancement.

For more information, contact: **Dan Rees** – daniel.c.rees.civ@mail.mil

Vegetation Data Consolidation

Vegetation data is commonly collected for numerous projects and monitoring efforts conducted by Fort Wainwright Environmental Division Personnel on Fort Wainwright lands. The purpose of this project is to locate electronically stored vegetation data collected at individual points and consolidate this disparate data into a single geo database. This data will be used to conduct a quantitative analysis of the existing vegetation maps, direct efforts of future vegetation mapping efforts, and provide users to easily access old data and add new data. Minimum requirements for data included in this geo-database will be that (1) it is point data (has valid coordinate data with an accuracy of at least 20m); (2) can be used to describe a site to Vierick level 4; (3) contains required meta-data (date of data collection, program, project description, site number, etc). All data will be held on the shared federal drive. Progress will be reported at the Fall IPR meetings and a final report of the project will be completed by 31 December 2018.

For more information, contact project lead: **Scott Debruyne** – scott.a.debruyne.ctr@mail.mil

Outdoor Recreation

Recreation Tracking and Access

FWA staff maintains an automated, electronic based recreational access system for military lands that is specific to recreation areas on Ft. Wainwright and Donnelly Training Area (DTA), Alaska. This system includes an online component (https://usartrak.isportsman.net) used for check-ins and signifying closure areas; a smart phone GPS-enabled recreation map service that works with any mobile app that reads geospatial PDF without internet connection (see website); recreation permit licenses that are available at kiosks in both Ft. Wainwright and DTA; training by environmental staff so users can navigate the system effectively; and any assistance required to navigate the system if any issues arise. Environmental staff also provides permitting for bear baiting, trapping, and firewood cutting. See Figure 1 for visitor check-in numbers for 2015 and 2016.

For Yukon Training Area (YTA) and Tanana Flats Training Area (TFTA) recreation information, contact:

Shawn Osborn; Forester/Recreation Specialist; CSU/CEMML
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For Donnelly Training Area (DTA) recreation information, contact:

Scott Debruyne; Natural Resource Specialist; CSU/CEMML
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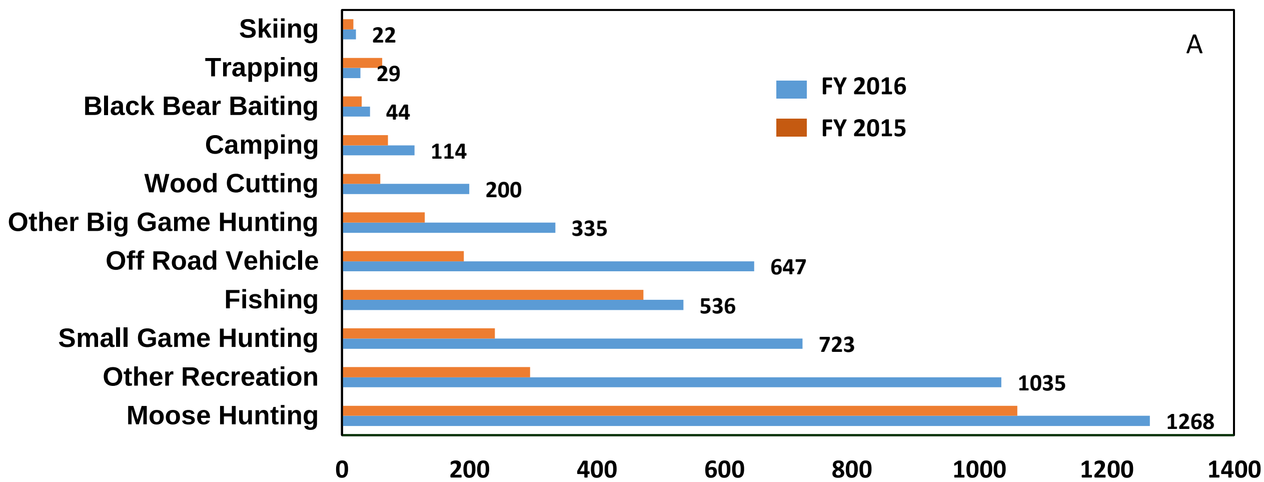

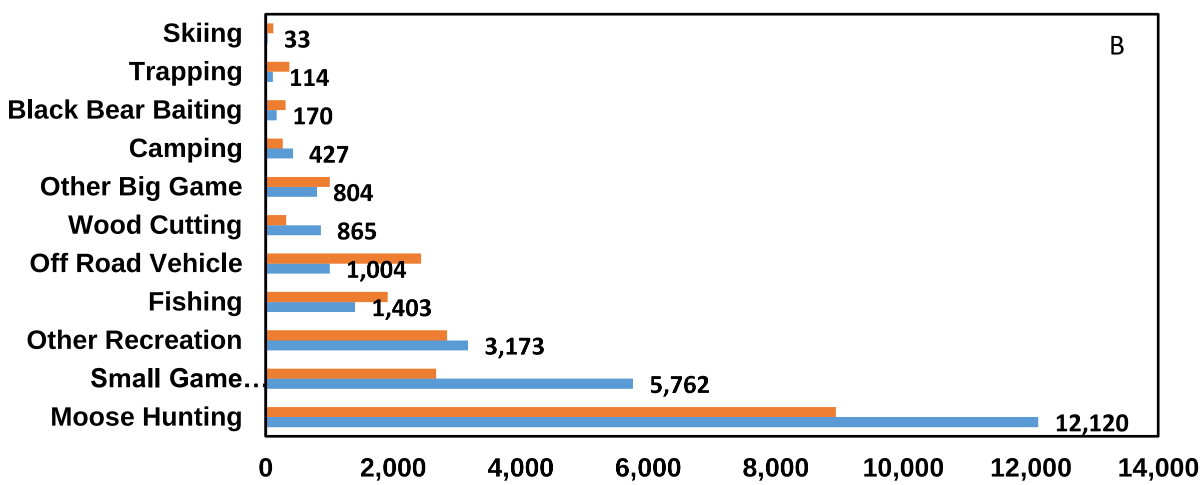

Figure 1. Pannel **A**: comparison of the number of visistors that recreated on Fort Wainwright Training Lands in 2015 (orange) and 2016 (blue). The number of visitors, seperated by recreation type, is displayed next to the recreation type for 2016. Pannel **B**: comparison of the number of user days broken up by visit type describing how time was spent recreating on traingn lands in 2015 and 2016. Number of visitor days for 2016 is dispayed next to the recreation type.

Range and Training Land Assessment (RTLA)/Land Restoration and Maintenance (LRAM)

The following staff provide assessment and land rehabilitation on Fort Wainwright:

Deborah White; RTLA/LRAM Coordinator; CSU/CEMML
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Brenda Fiddick; RTLA/LRAM Corrdinator; CSU/CEMML
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Sustainable Range Study for DTA and BRTA

FWA DTA and Black Rapids Training Area (BRTA) Range and Training Land Assessment (RTLA) surveys are conducted annually. In 2016, field surveys were done from June through September. Four types of field surveys were completed, including: (1) Training Land Sustainability (TLS) Assessment, which measures overall condition of training lands by collecting data on vegetative species and cover; (2) Maneuverability Assessment, which measures how easily an area surveyed for TLS is to utilize for maneuver exercises; (3) Vegetation Recovery Assessment, which measures the percentage of cover along areas that were once cleared for construction projects; and (4) Trail Inventory and Condition Assessment, which tracks types of trails available for use along with the condition of each one surveyed. All RTLA surveys were conducted by trained CSU staff. RTLA 2016 field data analysis is in progress and will be presented in the annual report by 30 June 2017. An in-office assessment of the Range Facility Management Support System (RFMSS) data is conducted on a calendar year basis. This analysis retrieves annual data from the RFMSS, which tracks military use of training areas. This information is then mapped to display the number of days utilized and personnel trained per training asset, which shows a distribution of use and associated impact across the DTA. RFMSS data reports are available annually by 30 June for the prior calendar year.

FWA DTA Land Rehabilitation and Maintenance (LRAM) crew worked May through October 2016 on vegetation maintenance projects within DTA, Gerstle River Training Area (GRTA), and BRTA. These projects consisted of brush clearing and tree removal for the purpose of improving training capabilities for military training. The LRAM crew consisted of four staff employed by both CSU and the Salcha-Delta Soil and Water Conservation District (SDSWCD). All staff was trained and followed appropriate safety procedures. Project areas for 2016 were determined by ITAM and RTLA/LRAM coordinators with input from Range Control. Projects are coordinated with Natural Resources and SDSWCD. The full report on 2016 LRAM crew projects will be produced by 30 June 2017 and presented in conjunction with the 2016 RTLA Final Report.

For more information, contact project coordinator: **Deborah White** – deborah.s.white19.ctr@mail.mil
Sustainable Range Study YTA and TFTA

FWA RTLA surveys were conducted in June through September of 2016 in the Local Training Areas, TFTA, and YTA. Four types of field surveys were completed, which include; (1) TLS Assessment measures overall condition of training lands by collecting data on vegetative species and cover; (2) Maneuverability Assessment measures how easily an area surveyed for TLS is to utilize for maneuver exercises; (3) Vegetation Recovery Assessment measures the percentage of cover along areas that were once cleared for construction projects; (4) Trail Inventory and Condition Assessment tracks types of trails available for use along with the condition of each one surveyed. All RTLA surveys were conducted by trained CSU staff. An in-office assessment of the Range Facility Management Support System (RFMSS) 2016 data will be conducted after 31 December 2016. This analysis retrieves annual data from the RFMSS, which tracks use of training areas. This information is then mapped to display the number of days utilized and personnel trained per training asset. RTLA 2016 field data analysis is in progress and will be presented in the annual report by 30 June 2017.

FWA LRAM crew worked April through October 2016 on vegetation maintenance projects within the local training areas, YTA and TFTA. These projects consisted of brush clearing and tree removal for the purpose of improving training capabilities for military training. The LRAM crew consisted of three staff employed by CSU, and two employed through the SDSWCD. All staff was trained and followed appropriate safety procedures. Project areas for 2016 were determined by ITAM and RTLA/LRAM coordinator with input from Range Control and FWA Natural Resources. The full report on 2016 LRAM crew projects will be produced by 30 June 2017 and presented in conjunction with the RTLA Final Report.

For more information, contact project coordinator: **Brenda Fiddick** – brenda.l.fiddick.ctr@mail.mil

NEPA

USAG Fort Wainwright Environmental Handbook

The NEPA Office developed an environmental handbook to provide an information guide for environmental compliance on Fort Wainwright. The handbook is organized into short fact sheets that address the most frequently asked questions and provides information for managing environmental issues at FWA. This document does not represent policy and is not meant to be a Standard Operating Procedure or other form of operational control. This handbook is informational. It is made available to help personnel mange environmental concerns and situations they may encounter.

To obtain a copy of the handbook, contact the FWA Environmental Office at (907) 361 – 9686

Wetlands

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Wetlands Surveys

Wetland determinations were conducted June – October 2016 by CSU staff on FWA, TFTA, YTA and DTA east using the US Army Corp of Engineers three-parameter approach (positive identification of hydrophytic vegetation, hydric soil, and wetland hydrology). Functional assessment data, such as signs or sightings of fish or wildlife, recreation and subsistence use, level of disturbance, landscape hydrology, and potential to remove sediments, nutrients or toxicants, were recorded for wetland sites. Data were collected, organized and stored using an Access Database. Wetland determinations were used to delineate wetlands and waterbodies using GIS. Wetlands and waterbodies were then classified using the Cowardin wetlands and Viereck vegetation classification systems. Reports, including maps describing the above information, will be submitted to the funding agent and Army Corps of Engineers (Corps) Regulatory branch.

For more information, contact Program Manager: **Amy Tippery** – amy.c.tippery.ctr@mail.mil

Wetlands Functional Assessments

Functional assessment data were collected in conjunction with wetland determinations on FWA, TFTA, YTA and DTA east from June – October 2016 by CSU staff. Determinations will be used to delineate wetlands and waterbodies which will be assigned Assessment Areas. Boundaries of Wetland Assessment Areas were delineated using GIS where there is a significant change in hydrology or an upland boundary. The functions and values of wetlands and waterbodies were quantified using the Alaska Wetland Assessment Method (AKWAM). Field observations and aerial imagery will be used to fill out AKWAM functional assessment forms. Assessment Areas are ranked based on values assigned to various functions and services, including habitat for threatened and endangered species, wildlife support, fish support, water storage, sediment, nutrient and toxicant removal, sediment and shoreline stabilization, production and export of nutrients for food chain support, ground water discharge and recharge, uniqueness, and use or potential use for recreation and education. Reports including maps describing the above information will be submitted to Corps Regulatory branch in September 2018.

For more information, contact Program Manager: **Amy Tippery** – amy.c.tippery.ctr@mail.mil

Monitoring of Invasive Plant Species

Invasive plant species surveys were conducted June – October 2016 by CSU staff on Fort Wainwright lands using the Alaska Exotic Plants Information Clearinghouse (AKEPIC) standard protocol. Potential survey sites were prioritized based on methods developed by the AKEPIC and/or the US Forest Service (Field Guide Invasive Plant Field Guide, Monitoring and Mapping Protocol Inventory, 2002) and other reliable methods. Field surveys targeted areas with likely infestations by focusing on areas with a human disturbance vector, areas disturbed by natural processes and intersections of pathways, such as a bridge across a river. Location, area of infestation and percent cover were recorded for 20 high priority invasive plant species. Absence data were also collected to document areas surveyed where no invasive plant species were found. Survey locations were used to make GIS based plant map that details location, type and size of infestation. Data will be curated by the Alaska Exotic Plants Information Clearinghouse (AKEPIC) and available via their database and mapping application which is designed to document infestations of non-native plants across Alaska. Reporting will be submitted in September and December 2017 respectively.

For more information, contact Program Manager: **Amy Tippery** – amy.c.tippery.ctr@mail.mil

Wildlife

The following staff provide wildlife monitoring and research services on Fort Wainwright Military Lands:

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Justin Smith; Wildlife Biologist; CSU/CEMML
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Fauna Level Planning Survey for Songbirds

Bird surveys were conducted in May, June, and early July of 2016, and consist of three monitoring standard methods, the Breeding Bird Survey (BBS), Alaska Landbird Monitoring System, and remote bird surveys (RBS) in both DTA and FWA. All bird surveys were conducted by trained CSU wildlife staff. BBS and ALMS data were reported to the U. S. Geological Survey (USGS) in September 2016. RBS were used to improve annual bird count data and supported the Neotropical Bird Habitat Assessment Study conducted by CSU staff. Progress will be reported at the Fall Inter-annual Progress Report (IPR) meeting. Annual report for the Fauna Level Planning Survey will be produced by 30 June 2017.

For more information, contact project lead: **Justin Smith** – justin.a.smith230.ctr@mail.mil

Neotropical Bird Habitat Assessment

This project was designed to assess how migratory Neotropical songbirds use habitat in the TFTA and YTA. Trained CSU staff conducted point count songbird surveys on 166 randomly selected sites on the TFTA and YTA in May though early July. Data were entered and checked by September, and data analysis is currently underway. A poster was presented at the annual biannual Alaska Bird Conference in Cordova to describe the first season of data. Prior to data collection, a written plan was approved by the Conservation Chief. A final report for this project will be produced by September 2018 along with a predictive habitat use map.

For more information, contact project lead: **Justin Smith** – justin.a.smith230.ctr@mail.mil

Shorebird Studies

Shorebird plot surveys of 400 x 400 meters were conducted in TFTA and DTA during May, June and early July 2016 based on a stratified random sample across upland and lowland habitats to determine habitat use and breeding ecology of shorebirds on military lands in TFTA and DTA. A double observer method was used to estimate detection and occupancy of shorebirds in the Interior. Overall 86 plots were sampled twice with an average of 103.5 miles walked per technician working on the project. During this first project year, 106 individual shorebirds of eight shorebird species were detected in plots and an additional 120 incidental shorebird sightings occurred outside of the plot. Both projects are ongoing and end in September 2017 (TFTA) and September 2018 (DTA) respectively. Additionally a breeding Whimbrel colony was monitored in DTA East during May, June and July for which nesting was confirmed.

For more information, contact project lead: **Kim Jochum** – kim.a.jochum2.ctr@mail.mil

Sandhill Crane Monitoring

Point observations were conducted to monitor Sandhill Crane night roosting behavior along the Delta River in the Small Arms, Mississippi and Washington Impact Areas with the goal of assessing the impact of military training to Sandhill cranes during spring and fall migration. Spring surveys were conducted from 25 April to 15 May, while fall surveys were conducted from 30 August to 3 October, one hour prior to sunrise. Cranes were surveyed for on 13 mornings during spring and 22 mornings in the fall. No cranes were observed using the river bed for roosting purposes in the spring whereas between 3,000 and 4,000 cranes roosted on the river bed in fall of 2016. The variance in data is based on limited visibility before sunrise and/or due to weather. Cranes were often heard or observed flying over the river bed; confirming direct roosting on the river proved sometimes difficult. A final report for this project will be produced by September 2018

For more information, contact project lead: **Kim Jochum** – kim.a.jochum2.ctr@mail.mil

Eagle Study

Accessible Golden Eagle nests were monitored in DTA. During 2014 the Golden Eagle nest on Donnelly Dome was active and produced 2 young; during 2015 the Golden eagle nest on Whistler Creek was active and 2 fledglings were raised successfully. During 2016 no known nest site in DTA East or Whistler Creek Training Area were active, however adult Golden Eagles were observed sporadically in both locations. The three-year study detecting eagle nests is wrapping up and results will be reported on in December 2016.

For more information, contact project lead: **Kim Jochum** – kim.a.jochum2.ctr@mail.mil

Bat Studies

Multiple studies are ongoing with the goal of assessing bat use and habitat associations within Fort Wainwright Main Cantonment, YTA, DTA and TFTA. A two person crew in YTA and TFTA, and a two person crew on DTA training lands, were dedicated to maintain and monitor bat acoustic detectors. On Fort Wainwright Main Cantonment, YTA, and TFTA, several sites were surveyed for bat presence using passive and active detection methods in 2016. In addition, eight bat houses were installed. Data analysis and report will be available in 2017. Across DTA training lands bat acoustic detectors were deployed in 106 stratified random sample locations for roughly two weeks for each deployment. A total of 438 calls in 27 locations were recorded, and three high use areas were detected across DTA and GRTA. Presence of bats along the DTA West boundary was documented. A report summarizing study results from 2014-2015 was completed and submitted in October 2016. A final report for this project will be produced by September 2018.

For DTA information, contact project lead: **Kim Jochum** – kim.a.jochum2.ctr@mail.mil
For FWA information, contact project lead: **Garrett Savory** – garrett.a.savory.ctr@mail.mil

Mew Gull Study

Mew gulls often nest on buildings, vehicles, and other structures on Fort Wainwright Main Cantonment during May through July; this causes problems with operations on Fort Wainwright. Gulls and their nests with eggs and young are protected under the Migratory Bird Treaty Act. So far, Fort Wainwright has been only allowed a maximum of ten nest to be removed each year with a permit from US. Fish and Wildlife Service. It is unknown how many gulls nest on Fort Wainwright Main Cantonment. The purpose of this study is to estimate the number of mew gulls nesting on Fort Wainwright Main Cantonment and determine what factors effect nesting location. The study will also estimate mew gull nest survival and determine what factors effect survival. In the summer of 2016, the Fort Wainwright Main Cantonment was surveyed for gull nests which then a portion of found nests were monitored. A repeat of this survey will occur in the summer of 2017. Analysis of data and write up of report will be ready by 2018.

For FWA information, contact project lead: **Garrett Savory** – garrett.a.savory.ctr@mail.mil

Migratory Bird Nesting Habitat Study

In the summer of 2015, over 250 tree swallow nest boxes and three cliff swallow nest structures were installed on Fort Wainwright lands. In 2016 the nest boxes and nest structures were surveyed to determine swallow use, conducting surveys during and after the nesting season. Thirty-five nest boxes were used by birds for nesting, 20 of which were likely used by tree swallows. None of the cliff swallow nest structures were used. During the winter of 2016/2017, artificial cliff swallow nests and other attractants will be installed to encourage cliff swallows to use the nest structures during the summer of 2017.

For FWA information, contact project lead: **Garrett Savory** – garrett.a.savory.ctr@mail.mil

Mitigation of Migratory Bird Flight Risk Study

The purpose of this project is to assess the risk of wildlife strikes to aircraft using Ladd Army Airfield. Surveys for wildlife presence occurred from April through September, three days per week, in 2016. Data analysis and report will be ready in 2017.

For FWA information, contact project lead: **Garrett Savory** – garrett.a.savory.ctr@mail.mil

TFTA King Salmon Habitat Survey

The goal of this project is to determine likely habitat for juvenile Chinook salmon (*Oncorhynchus tshawytscha*) on the Tanana Flats. In the winter of 2015/2016 minnow traps (ADF&G permit # SF2016-040d) were deployed along Clear Creek to capture and collect juvenile salmonids for identification in addition, habitat and water characteristics were recorded in these locations. No juvenile salmon samples were collected in minnow traps. Camera trapping was also unsuccessful. This upcoming winter environmental DNA (eDNA) sampling methods will be employed to substitute for traditional sampling methods. All data and documentation is stored on the federal network drive. A final report for this project will be produced by September 2017.

For more information, contact project lead: **Justin Smith** – justin.a.smith230.ctr@mail.mil

Additional Wildlife Monitoring Efforts

On FWA and DTA training lands, other wildlife surveys are conducted with the goal of maintaining long-term monitoring projects. Most monitoring efforts occur on an annual basis and generally are not specifically funded, as appose to specific projects described previously. All surveys were conducted by trained CSU wildlife staff. Please contact any of the wildlife staff for additional information on additional wildlife monitoring efforts. More detailed progress will be reported at the Fall IPR meeting. These additional surveys include:

(1) Small game surveys (Ruffed Grouse and Sharp-tailed Grouse), which is in collaboration with ADF&G. In DTA, 20 Sharp-tailed Grouse leks were visited two to four times each, and two established Ruffed Grouse transects were carried out four times each during April and May 2016. To monitor Ruffed Grouse in FWA; drumming counts (auditory counting) at nine roadside locations, and brood surveys (visual counting) on ten clear cut plots managed to improve grouse habitat were conducted since 2012. All data are incorporated in statewide small game reports.

(2) In BRTA Dall sheep activity and habitat use were monitored via game cameras. Cameras are maintained once or twice a year.

(3) Additional raptor nests known or newly detected are recorded and monitored for breeding success across DTA.

(4) Waterfowl surveys were conducted in waterways on both FWA and DTA from late-June to mid-September.

Alaska Department of Fish and Game Cooperative Projects

Moose population surveys on Tanana Flats Training Area, Donnelly West Training Area [GMU 20A] and Yukon Training Area [GMU 20B]

Considerable hunting pressure on DPW training lands requires monitoring of moose populations and harvest to ensure sustainability for future hunting. Game Management Unit (GMU) 20B, Yukon Training Area: Conduct low-effort population estimate to further statistical modeling of population trend. GMU 20A, Tanana Flats and Donnelly West Training Areas: Conduct high-effort population estimate to determine population size, density, composition, and productivity.

Moose populations in GMUs 20A and 20B are being surveyed by the Alaska Department of Fish and Game (ADF&G) in the fall. A GeoSpatial Population Estimation method will be used to estimate population size, productivity, survival, recruitment, and escapement. A simple random sample (about 10–15% of the 987 survey units) of roughly 5.5 m^2 survey units (SUs; 70% high-density and 30% low-density) will be selected from each stratum using Microsoft® Excel Windows® 07 software. Additional SUs (up to 15% of the total sample) will be selected to fill gaps in the randomized coverage. This methodology will provide statistically defensible estimates of moose numbers, calf:cow, yearling bull:cow, and bull:cow ratios in the various regions of GMUs 20A and 20B. GMU 20B will be divided into three regions, the Yukon Training Area is located in the central and east regions. This information will help the ADF&G understand how distribution of hunter harvest affects moose populations and aids ADF&G in setting harvest regulations for moose in GMU 20A.

For more information on this project contact:
Don Young; Area Wildlife Biologist
Alaska Department of Fish and Game, Division of Wildlife Conservation
1300 College Road
Fairbanks, AK 99701-1599
907 - 459 - 7233
don.young@alaska.gov

Moose population surveys on Donnelly East and Gerstle River Training Areas [GMU 20D]

Considerable hunting pressure on DPW training lands requires monitoring of moose populations and harvest to ensure sustainability for future hunting. ADF&G is conducting aerial surveys in the fall to calculate a moose population estimate and calculate sex and age composition for moose within GMU 20D. GMU 20D, which includes Donnelly East and the Gerstle River Training Areas, will be surveyed by the Alaska Department of Fish and Game (ADF&G) in the fall. The GeoSpatial Population Estimation method will be used to estimate population size, productivity, survival, recruitment, and escapement. A simple random sample (about 10–15% of the survey units) of roughly 5.5 m^2 survey units (SUs; 60% high-density and 40% low-density) will be selected from each stratum using Microsoft®Excel Windows®07 software. Additional SUs (up to 15% of the total sample) will be selected to fill gaps in the randomized coverage. This methodology will provide statistically defensible estimates of the moose population in the various regions. The level of precision and accuracy of the population estimate will be dependent on the level of funding provided.

For more information on this project contact:
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doreen.parkermcneill@alaska.gov

Caribou monitoring on Donnelly West Training Area [GMU 20A]

The distribution of the Delta Caribou herd in GMU 20A has shifted eastward in recent years with a large portion of the herd wintering on military lands since the winter of 2000-2001. The intent of this project is to standardized survey techniques to monitor the Delta caribou herd within GMU 20A. Caribou will be counted from aircraft. Approximately 700–1,000 animals will be classified from a helicopter to estimate herd composition in the fall. Caribou will be categorized as follows: cows, calves, and bulls (small, medium, large). During spring, calves will be captured weighed, and radiocollared to determine nutritional condition and monitor seasonal distribution of the herd. Caribou will be counted from fixed-wing aircraft in summer to estimate herd size. These figures will allow ADF&G to estimate calf:cow ratios, bull:cow ratios, and large bull:cow ratios. From this data ADF&G will be able to estimate annual productivity and survival rates for use in setting harvest quotas.

For more information on this project contact: **Don Young** – don.young@alaska.gov

Monitor caribou populations on the Donnelly East Training Area [GMU 20D]

This project is designed to monitor Macomb caribou herd use of the Donnelly East Training Area and Gerstle River Training Areas [GMU 20D], including determination of population size, distribution and movement, composition, and range extent. ADF&G is using aerial surveys to monitor caribou from the Macomb herds to determine their population size, productivity, composition, and distribution in western GMU 20D to include the Donnelly East and Gerstle River Training Areas. Caribou will be counted from fixed-wing aircraft in summer. In the fall, animals will be classified from a helicopter to estimate herd composition. Caribou will be categorized as follows: cows, calves, and bulls (small, medium, large). These figures will allow ADF&G to estimate calf:cow ratios, bull:cow ratios, and large bull:cow ratios. From these data ADF&G will be able to estimate annual productivity and survival rates for use in setting harvest quotas. This information will help the ADF&G understand how distribution of hunter harvest affects caribou populations and aids ADF&G in setting harvest regulations in GMU 20D.

For more information on this project contact **Doreen Parker McNeill** – doreen.parkermcneill@alaska.gov

Bison surveys and monitoring on Donnelly East Training Area [GMU 20D]

Plains Bison were introduced to Delta Junction Area prior to Fort Wainwright withdrawing these lands for military use through Public Law 106-65. In the Alaska Lands Withdrawal Final Legislative EIS, required by PL 106-65 the army agreed to not conduct military training when bison are present. In a subsequent Memorandum of Agreement with ADFG and USFWS required by the Sikes Act Public Law 86-797, this was further defined as the military would not conduct direct fire training within 1 km of bison and would not conduct indirect fire training within 2km of bison.

ADFG is conduct population estimate and monitoring for the Delta bison herd on their summer range along the Delta River and on Texas and Washington Ranges, and monitoring movement patterns and areas and duration of use of Donnelly East Training Area by bison. To accomplish this ADFG is attaching radio collars to bison to assist with collecting herd size and movement data. Aerial surveys are also being conducted to locate bison and estimate population size. This information will be used to assist with setting hunting bag limits and to better understand bison habitat requirements and use of military lands.

For more information on this project contact **Doreen Parker McNeil** – doreen.parkermcneill@alaska.gov

Monitor sheep populations on Black Rapids and Whistler Creek Training Areas [GMU 20D and GMU 13B]

ADFG is conducting aerial surveys to monitor sheep populations within the Delta Controlled Use Area (DCUA), including Black Rapids Training Area in GMU 20D and Whistler Creek Training Area in GMU 13B. This information will contribute to determining a minimum sheep population count in the DCUA and to adjust sheep hunting season dates and bag limits in the Delta Controlled Use Area, and to determine areas of importance to sheep during critical times of the year.

For more information on this project contact:
Darren Bruning; Regional Supervisor
Alaska Department of Fish and Game, Division of Wildlife Conservation
1300 College Road
Fairbanks, AK 99701-1599
907 - 459 - 7222
darren.bruning@alaska.gov

Creamer's Field Migratory Waterfowl Refuge Avian Habitat Management.
The intent of this project is to conduct migratory bird habitat improvement on Creamer's Field Migratory Waterfowl Refuge next to Fort Wainwright to enhance preferred forage species to ensure population health and sustainability while keeping migratory birds away from Ladd Army Airfield.
Support USAG FWA Wildlife Air Strike Hazard initiatives by farming additional acreage and plant barley and other preferred species at Creamer's Refuge to attract problem geese and other waterfowl. This project is partially funded by Fort Wainwright, Alaska. Other major contributors to this project include Fairbanks International Airport and Alaska Department of Fish and Game.

For more information on this project contact **Darren Bruning** – darren.bruning@alaska.gov

Five Mile Clearwater River Grayling project

The Five-mile Clearwater River is a small spring stream found on the south bank of the Tanana River, just upstream of the mouth of the Salcha River. Periodically, the Arctic grayling population has been sampled, but an attempt to estimate abundance during early August 2007 proved unsuccessful because Arctic grayling vacated the river between the marking and recapture events. During previous sampling, (early 1990s) several fish bearing tags were recaptured after being originally tagged in the Salcha River and Piledriver Slough. Anecdotal information from cabin owners on the river has indicated the population may have been larger in the past, and fish were consistently present throughout the summer. Despite limited information about the population, the river has had special regulations since 1998, which are a daily limit of two fish, a possession limit of two fish, and only one fish may be greater than 12 inches. Given the behavior of the fish during the summer, multiple origins (i.e. Salcha River and Piledriver Slough), and unknown spawning areas, a radio telemetry project can provide information about seasonal locations and migration timing which will be important estimating abundance, protecting spawning areas, and evaluating the current regulations.

Project objectives are to identify the duration of residence in the Five-mile Clearwater River and the spawning areas of summer resident fish based on entry and exit dates at a tracking station on the lower river and periodic aerial radio-telemetry of radio-tagged fish during the summer feeding and spring spawning seasons. Specific methods being employed will be for personnel to travel to the Five Mile Clearwater River once a week to capture Arctic grayling using hook and line gear, between 6 June and 31 July. Eight radio tags per week (64 total) will be surgically implanted within Arctic grayling. The radio tags will be programmed to transmit a signal 24 hours a day between 8 June and 31 October 2016, and between April 1 and approximately 31 July 31 2017. Between 1 November 2016 and 3 April 2017, the tags will not emit a signal so as to conserve battery life. Using this radio tag programming feature, a radio tracking station can be utilized at the mouth of the river to determine entry and exit timing. To determine seasonal locations, aerial radio telemetry flights will be conducted.

For information on this project Contact:
Andrew D. Gryska; Research Biologist
Alaska Department of Fish and Game, Sportfish Division
1300 College Road
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Enhance sportfish recreation opportunities [GMU 20D]

Conduct activities to enhance sport fish opportunities at stocked lakes on Donnelly Training Area (DTA). Activities include conducting habitat and population surveys for sport fish in the stocked lakes on DTA, maintenance of signs and access information to lakes on DTA, and producing educational material for fishing in these lakes. This information will be used to adjust bag limits on stocked lakes at DTA and educating recreational fishermen on rules and regulations for fishing on these lakes.

For more information on the stocking program contact:
April Behr; Sport Fish Biologist
Alaska Department of Fish and Game, Sportfish Division
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US Fish and Wildlife Service Cooperative Project

Fish and Wildlife Planning Level Surveys on Tok Terminal, Sears Creek Pump Station and Upper Tanana Watershed

Fort Wainwright is partnering with US Fish and Wildlife Service to conduct a survey of potential contaminants that could affect native subsistence foods in the vicinity of Tok Terminal, Sears Creek Pump Station and Upper Tanana River Watershed. As part of this project USFWS will conduct fisheries and aquatic insects planning level surveys to assess occurrence, relative abundance, and distribution of fish and aquatic insects on Tok Terminal, Sears Creek Pump Station and waters in the Upper Tanana watershed surrounding the villages of Northway, Tetlin, Tanacross, and Dot Lake. They will also assess the occurrence of anomalies and the potential for contaminants in fish and wildlife on within the project area.

For more information on this project contact:
Dr. Angela Matz
U.S. Fish and Wildlife Service c/o AFWCO
4700 BLM Road
Anchorage, AK 99507-2546
907 - 271 - 2778
angela_matz@fws.gov

Salcha-Delta Soil and Water Conservation District Cooperative Projects

For more information on all projects and investigators contracted by the Salcha-Delta Soil and Water Conservation District, please contact:

Colin Barnard; Programs Administrator
Delta Junction, AK 99737
Colin.barnard@salchadeltaswcd.org
(907) 867 - 6099

Invasive Plant Species Vegetation Planning Level Survey

The purpose of this project is to Map non-native and invasive species on FWA Cantonment Area, Yukon Training Area (YTA), Tanana Flats Training Area (TFTA), and Donnelly Training Area (DTA) and present that data in an ArcGIS geospatial format. In addition, a best management and control plan will be developed, which includes appropriate herbicide and mechanic treatment recommendations that are area specific and based on the plant survey. This information will be incorporated into a final GIS based report. Report due 30 September 2016.

Surface Water Planning Study TFTA and DTA

TFTA and DTA Surface Water will be inventoried and mapped for approximately 10,000 acres of Army Training Land in regards to surface water classification, location and distribution. This survey will update and ground truth existing surface water maps, providing a surface water flow map with minimum mapping unit of one hectare, water quality attributes of each water body and associated report will be delivered to the FWA Environmental Office. The survey will focus on the impact of developed winter and all season trails to fisheries resources. A final report will be provided that describes surface water distribution, and data will be entered into relational and GIS databases for use by natural resources personnel. Report due 30 September 2018.

Soils Planning Study TFTA, DTA, BRTA, and GRTA

Conduct planning level surveys on Fort Wainwright’s Donnelly Training Area, Tanana Flats Training Area, Black Rapids Training Area and Gerstle River Training Area. The planning level survey will include soil classification, location, engineering limits and distribution. This study will require field ground truth to map and classify previously unmapped military lands, and will adhere to guidelines on soil survey and mapping procedures as defined by the U.S. Department of Agriculture (USDA) Natural Resource Conservation Service. Report due on 30 June 2018.

FWA Brass Camp OB/OD River Site Containment

Brass Camp is an old munitions disposal site that is being eroded into the Tanana River. It is located in the Small Arms Impact Area of the FWA. This project will harden approximately 75 feet of river bank and improve approximately 6,000 feetof access route, impacting approximately 5.6 acres. Monitoring will be conducted on site no less than every two weeks for 12 months following task 1 installation, and bank will be stabilized as necessary to prevent erosion and mitigate munition contaminates and debris. Project due 30 September 2016.

FWA Forest Protection Fire

The goal of this project is to establish forest protection control lines to reduce wildfire escapement actions of a total of approximately nine acres around the Infantry Platoon Battle Course (IPBC), Infantry Squad Battle Course (ISBC) and Husky Drop Zone in the YTA. This project will improve access for wildfire operations in the YTA and Donnelly Training Area (DTA), establish maintainable mineral soil fuel breaks around areas of high potential wildfire escapement, and establish a maintainable mineral soil fuel break around the perimeter of Husky Drop Zone. Vegetation will be cleared along a total area of 25,000 feet long by 12 feet wide, and will be ripped and then disked to form a mineral soil fuel break. The areas to be treated are currently grass covered. Project due 30 September 2017.

Timber Stand Improvement and Reforestation

There are several projects with the main objective of implementing conservation practices on Army lands by completing timber sale reforestation, timber sale access improvement, and Ips beetle control on FWA Training Lands. Areas of focus are Training Areas 301, 310, 311, 313 in the YTA, and several sites in the Gerstle River Training Area. Projects will be completed by 30 September 2017.

DTA TA 530 and 531 TARP

Training Areas 530 and 531 have both mounted and dismounted maneuver trails, and several cleared, native soil areas used for multiple purposes. Donnelly Dome sits in Training Area 531 and is a distinctive landmark and foot training site. Maneuver training in October 2014 caused severe vehicle ruts from Stryker vehicles getting stuck and then extracted. Dug-in defensive positions along Donnelly Ridge caused areas of exposed soil and vegetation damage in an erosion-prone area. These damaged areas will not be available or desirable for similar training in the future if they are not repaired. Maneuver trails in the area have received unsustainable use over the years and need repair. The objective of this project is to (1) harden 4,160 feet of trail to include shaping and compacting the road and adding classified material to produce an 18 foot wide driving surface; (2) install erosion control structures to include ditches, low water crossings, swales, vegetative buffer strips, etc., to minimize and capture off site soil migration; (3) reshape approximately 10,873 feet of trail to promote draining, and compact; (4) harden 2,100 feet of foot trail using appropriate grade and design features to prevent further erosion off trail; (5) grade approximately six acres of to remove ruts/depressions and to promote drainage to erosion control structures/vegetated areas; (6) seed areas to a native mix of grasses/forbs and fertilize in accordance with the Interior Alaska Revegetation and Erosion Control Guide. Project due by 30 September 2017.

YTA TA 301 Maneuver Damage Repair

The project is located in Training Area 301 in the North Western section of the YTA. The project would focus in and around the Husky Drop Zone (DZ) where large scale maneuver, bivouac, and landing zone operations occur in conjunction with personnel and equipment drop training to maintain military readiness and preparedness. Training Area 301 Maneuver Damage Repair will stabilize soil and repair impacts from maneuver and bivouac training to include rutting and compaction. This project will provide for the reduction and/or prevention of usage impacts that can lead to significant erosion problems and environmental damage by stabilizing approximately 20-50 acres of in the form of maneuver damage repair. Project due by 30 September 2017.

YTA TA 305 and 306 Maneuver Trail Repair

Training Areas 305 and 306 Maneuver Trail - Repair will stabilize soil and repair maneuver damage by hardening access into the TA, and increase long-term usage by clearing back encroaching vegetation. Specifically, this project will repair sections of the maneuver trail which have historically and continue to be problem sections requiring constant maintenance to support maneuver training. This project will provide for the reduction and/or prevention of usage impacts that can lead to significant erosion problems and environmental damage by stabilizing approximately 5,280 feet of maneuver trails. Project due by 30 September 2017.

BRTA Base Camp Training Area Repair Plan

BRTA Middle Base Camp Trail TARP will stabilize soil and repair maneuver damage by hardening access into training sites at BRTA, and increase long-term usage by clearing back encroaching vegetation. This project will provide for the reduction and/or prevention of usage impacts that can lead to significant erosion problems and environmental damage by enhancing 860 linear feet of maneuver trail in the Training Area, controlling one acre of woody vegetation, stabilizing one acre of training area land/soil, and revegetating/reseeding one acre. Project due 30 June 2017.

DTA TA 502 Bivouac Soil Stabilization and Reconfig

The project is located in Training Area 502 near the Kiska Combined Arms Collective Training Facility (CACTF), off of Tok Road. The CACTF is northwest of the site and the Battle Area Course (BAX) is to the southeast. This project will (1) stabilize soil and repair maneuver damage by hardening pads and access for smaller unit bivouac use in an area between the CACTF and BAX; (2) Create a bivouac site based around a hardened loop trail 0.27 mile in length with two access points from Tok Road; (3) Minimize vegetation clearing (clear vegetation only within the areas to be hardened) for protection from the wind and retention of woody cover and concealment (the trail will have a finished top width of 18 feet); (4)

create 12 gravel parking pad arcs on a 25-foot radius outward from the loop trail (5) create one 140 feet x 200 feet gravel assembly pad in the center. This project will provide for the reduction and/or prevention of usage impacts that can lead to significant erosion problems and environmental damage by stabilizing approximately three acres of training area, this includes one acre of land/soil stabilization, two acres of woody vegetation control, two acres of hard stand enhancement, 1,639 feet of maneuver trail enhancement, and one acre of tactical concealment enhancement. Project due 30 June 2017.

DTA TA 502 HLZ Soil Stabilization and Reconfiguration

The project is located in Training Area 502 in an existing fuel break clearing at the end of Millers Bob Avenue just outside the Kiska Combined Arms Collective Training Facility (CACTF). Training Area 502 HLZ Soil Stabilization and Reconfiguration will stabilize soil and repair maneuver damage by converting an existing 21-acre fuel break clearing into a helicopter landing zone. Hydro-ax with a masticating head, leaving material in place and spread evenly in a uniform layer. All disturbed areas shall be fertilized and seeded with native seed mix for erosion control. Use a bulldozer equipped with a ripper around the perimeter of the area to incorporate old woody material and hydroaxe material into the soil for wildfire protection. This project will provide for the reduction and/or prevention of usage impacts that can lead to significant erosion problems and environmental damage by enhancing 21 acres of training area drop/landing zone, controlling six acres of woody vegetation, and revegetation/reseeding 15.5 acres of TA. Project due 30 June 2017.

YTA Stuart Creek 2 TARP

The project is located in the YTA Training Areas affected by the Stuart Creek 2 fire of 2013; specifically Training Areas 306, 307, 308, 309, and 315. YTA Stuart Creek 2 TARP will stabilize soil, control encroaching woody vegetation, and provide for maneuver and bivouac training by removing woody debris left from the Stuart Creek 2 wildfire of 2013 and establishing desirable vegetation. A hydro-ax or similar device will be used to masticate debris and spread material evenly. All disturbed areas shall be seeded and fertilized in accordance with the Interior Alaska Revegetation and Erosion Control Guide. This project will provide for the reduction and/or prevention of usage impacts that can lead to significant erosion problems and environmental damage by conducting approximately 8 acres of soil stabilization, 8.8 acres of re-vegetating/reseeding and 29.5 acres of maneuver enhancement. Project due 30 June 2017.

USFS Beaver Creek and Skyline Roads NSEB Mitigation Project

Recent wildfire and suppression activities in the Yukon Training Area due to the Stuart Creek 2 Fire have resulted in significant tree damage to residual white spruce in the area. The additional stress placed on the white spruce stands has increased northern spruce engraver beetle (NSEB) activity in the area. This project will monitor NSEB levels in the area using baited traps as well as treating areas of increased activity by removing damaged trees either individually with hand crews or in larger swaths with hydroax equipment. Project due by 31March 2017