
3.16 PUBLIC ACCESS

The Military Lands Withdrawal Act addresses the management of Fort Wainwright Yukon Training Area and Fort Greely West and East Training Areas for public use. The Act states that to the extent consistent with applicable law and Executive Orders, the lands may be managed to permit recreation. U.S. Army Alaska has maintained areas on the withdrawal lands for public use. Recreational activities include hunting, fishing, trapping, aerial tours, hiking, wildlife viewing, berry picking, and off-road recreational vehicle use (ORRV).

The law also states that the lands are to be used primarily for military purposes and that the Secretary of the military department concerned may close any road, trail, or portion of lands withdrawn by the Act for military operations, public safety, or national security. The closure is limited to the minimum areas and periods that the Secretary determines are necessary. Appropriate warning signs and notices must be posted before and during any closure and the public must be notified.

3.16.1 Applicable Regulations

Access on the withdrawal lands is a significant issue with the public. To meet public demands for access while insuring public safety and continued use of the lands for military purposes, the Army has written several regulation documents addressing public use and access. U.S. Army Alaska Regulation 350-2, Range Regulation, covers range regulations and public access. Department of Defense 4715.3, Environmental Conservation, directs environmental conservation on withdrawn lands including access to the public for educational and recreational uses. U.S. Army Regulation 200-3, Natural Resources-Land, Forest, and Wildlife Management and U.S. Army Regulation 190-13, Enforcement of Hunting, Trapping, and Fishing on Army Lands in Alaska, address access, hunting, trapping, and fishing on Army lands in Alaska.

Chapter 16 of U.S. Army Alaska Regulation 350-2 describes the use of withdrawal lands for recreational activities. It states that portions of the range/training complex may be used for recreational purposes and that every effort will be made to ensure multiple use of military lands; however, safety is the main consideration and military training has priority. Section 1-14.a states that “areas not authorized for recreation include Impact Areas, rappelling towers, small arms ranges, and areas published in the installation weekly bulletin as being a danger area, restricted area or off-limits area.” Chapter 5 states that all Impact Areas be marked with warning signs, barriers and/or guards. Passing any of these hazard warnings without permission from the Office of Range Control

permission is forbidden. Entry into an Impact Area must be approved by Range Control.

U.S. Army Alaska Regulation 190-13 lists areas that are permanently closed to the public. Within the Fort Wainwright Yukon Training Area, these areas include Stuart Creek Impact Area (High Hazard), the Air Force Technical Applications Center (AFTAC), Charley Battery Site, Bravo Battery Site, and the Manchu Firing Range. Charley and Bravo Batteries, and the Manchu Firing Range are on lands permanently withdrawn but not under the Military Lands Withdrawal Act. The Fort Wainwright Hunting, Trapping, and Fishing Regulation Supplement (U.S. Dept. of the Army 1998) also lists the Military Assault Course (MAC) Range site on Brigadier Road as off-limits and the Arctic Survival Training Site as off-limits while training is being conducted (Figure 3.16.a).

The Air Force Technical Applications Center (AFTAC) is located east of Transmitter Road in the northwest section of Fort Wainwright Yukon Training Area. The area contains ground sensors and is used to detect seismic disturbances. Public access is restricted because ground disturbance can disrupt the instruments. The public is allowed to drive on the west boundary on Transmitter Road and through the site on Beaver Creek Road. No off-road access is allowed (U.S. Dept. of the Interior and U.S. Dept. of Defense 1994b, O'Neal, pers. com. 1998).

High Hazard Impact Areas are closed to the public. Impact Areas on Fort Wainwright Yukon Training Area and Fort Greely West Training Area are listed in Table 3.16.b with their associated category listing. These areas are shown in Figure 3.16.a and Figure 3.16.b. Sections of the Lakes Impact Area (Kansas, Arizona, Nevada, Oregon, and Michigan) are closed during military training. Information on the closures can be obtained from Range Control or the military police upon entering the post.

Table 3.16.a Impact Areas and Closure Categories

Withdrawal Land	Closure Category
Fort Wainwright Yukon Training Area, Stuart Creek	High Hazard Permanently Closed
Fort Greely, Texas Range	Dedicated Permanently Closed
Fort Greely, Washington Impact Area and Range	Dedicated Permanently Closed
Fort Greely, Mississippi Impact Area	High Hazard Permanently Closed

Table 3.16.a Impact Areas and Closure Categories

Withdrawal Land	Closure Category
Fort Greely, Lakes Impact Area	Dedicated Limited Closure
Fort Greely, Oklahoma Impact Area	Dedicated Permanently Closed
Fort Greely, Delta Creek Impact Area	Dedicated Permanently Closed

3.16.2 Other Closed Lands

A two mile wide Buffer Zone around the Impact Areas is closed during firing maneuvers. The Buffer Zones are used to contain the safety fan of weapons (maximum area required for the firing of weapons or detonation of munitions) used against targets within the Impact Areas. All or part of these Buffer Zones may be temporarily closed to the public during firing.

The Trans-Alaska Pipeline corridor through Fort Wainwright Yukon Training Area and Fort Greely West Training Area is closed to ORRV traffic.

On the Fort Greely West Training Area, all lands west of Meadows Road to the Mississippi Impact Area, south to the Texas Range, are closed; this includes land north of Meadows Road between the Richardson Highway to the boundary of the Mississippi Impact Area and the Allen Army Controlled Fire Area (Figure 3.16.b).

The withdrawn lands are divided into Training Areas. Training Areas are subject to temporary closures based on training schedules. Closures are listed in the Fort Wainwright and Fort Greely Weekly Bulletins. Information on closures can also be obtained from the military police.

3.16.3 Warning Signs

The military is required to post warning signs near all permanently closed and/or dangerous areas. On Fort Wainwright Yukon Training Area, signs are posted at the two roads going into the Stuart Creek Impact Area. The restricted access signs state that it is an Active Army and Air Force Bombing Range and that the area contains dud munitions (Figure 3.16.a). Signs have been placed every 200 meters around the perimeter of the Air Force Technical Applications Center (AFTAC). These signs state that it is an AFTAC facility and the area cannot be entered without permission from the Post Commander.

A total of 36 warning signs have been placed on Fort Greely with the majority being west of the Delta River. Several signs are located to the north of Fort

Greely West Training Area. Eleven gates have been constructed along the eastern boundary of the Delta River and one is located in the north portion of Allen Army Controlled Fire Area. The lands between Meadows Road and the Impact Area boundary are off-limits and are posted accordingly. No signs have been posted along the southern boundary of the Oklahoma and Lakes Impact Areas. These areas are very remote and there is no road access (Figure 3.16.b).

3.16.4 Airspace Access

Federal Aviation Administration regulations require the military to generate Notices to Airmen when a hazard exists to the safe flow of air traffic. U.S. Army Alaska Regulation 350-2 addresses use of Restricted Areas over Fort Wainwright Yukon Training Area and Fort Greely West Training Area. Further information on the use of airspace on the posts by the U.S. Air Force can be found in Air Force Instruction 13-212 Volume 1, 11th Air Force Supplement 1 (USAF 1998), Environmental Assessment for Major Flying Exercises in Alaska (USAF 1993a), and the Environmental Impact Statement-Alaska Military Operations Areas (USAF 1995).

The Department of Defense identified the Stuart Creek and Oklahoma/Delta Creek Impact Areas as military aircraft training and operating locations. Both Impact Area locations are major bombing ranges, supporting tactical air-to-ground training missions, and have been designated as air Restricted Areas. Restricted Areas are closed to all civilian aviation during periods of scheduled activity. Complete Restricted Area descriptions can be found in U.S. Department of Transportation, Federal Aviation Administration Order 7400.8 (1997).

Restricted Area R2205 covers the eastern portion of Fort Wainwright Yukon Training Area including the Stuart Creek Impact Area. R2205's vertical limit is surface to 20,000 feet mean sea level (MSL). R2205 is subdivided into segments R2202A, R2202B, and R2202C. R2202A and R2202B cover the Fort Greely West Training Area. R2202B covers the Oklahoma/Delta Creek Impact Area, and R2202A covers the Mississippi and Washington Impact Areas to the east (Figures 2.d and 2.e). The vertical limit of both areas is surface to 10,000 feet above MSL. R2202C lies above both R2202A and R2202B with vertical limits from 10,000 feet MSL up to unlimited.

Military Operations Areas (MOAs) adjoin the restricted airspace boundaries over the Training Areas. The MOAs are established for military air activity in order to minimize interaction between high speed military and civilian air traffic. Some airspace restrictions are imposed when MOAs are in use (Figure 1.b).

The Air Force provides a service to the civil aviation community to increase safety in the Military Operations Areas and Restricted Areas above Fort Wainwright and Fort Greely. The Special Use Airspace Information Service (SUAIS) is a 24-hour service to assist civilian pilots planning flights through or around Military Operations Areas and Restricted Areas in interior Alaska. The SUAIS provides information on which MOAs are active, Army artillery firing, and known helicopter operations (USAF 1995).

3.16.5 General Access

The public is required by the military to obtain permission before entering military lands. Persons must check in with the military police in person or by telephone before entering and leaving. When checking in, individuals can obtain the latest information on closures. This information is also listed in weekly bulletins and radio announcements.

3.16.6 Hunting, Trapping, and Fishing

U.S. Army Alaska Regulation 190-3 describes in detail the requirements and restrictions associated with hunting, trapping, and fishing on withdrawal lands. Regulations specific to these activities can also be found in the Fort Wainwright Hunting, Trapping, and Fishing Regulation Supplement (1998). In general, anyone planning to conduct these activities on military lands must obtain a Hunting, Trapping, and Fishing (HTF) permit for the post on which the activity will occur. To obtain a permit, individuals 16 years of age and older must attend a briefing at the post of intended activity. Information on permanent and temporarily closed areas is distributed at the briefing. Permits must be renewed annually.

3.16.7 Off-Road Recreational Vehicle Use (ORRV)

Off-road recreational vehicle (ORRV) use is allowed on maintained roadways in designated areas on the withdrawal lands. U.S. Army Alaska Regulation 190-3 describes the restrictions for each post. General guidelines state that during ice break-up, all areas are closed to ORRV use because of spring thaw. Dates are determined through offices of U.S. Army Alaska. Additional closures and openings can occur each day and are listed in the posts Weekly Bulletins. Daily closure information is also available at the Military Police Office (See Figures 3.16.a and 3.16.b for locations of areas listed below).

On Fort Wainwright Yukon Training Area, ORRVs may be operated year-round but are prohibited from the following areas: Stuart Creek Impact Area, Air Force Technical Applications Center (AFTAC), except Beaver Creek Road, Bravo Battery on Quarry Road, Charlie Battery on Johnson Road, and the Firebird Assault Strip.

On Fort Greely West and East Training Areas, public ORRV use is authorized at Twelve-Mile Crossing, Thirty-three Mile Loop, and Donnelly Flats.

Off-road recreational vehicle use is prohibited from Range and Training Areas unless permission is obtained from the military police. Persons are required to contact the military police after departing the area.

3.16.8 Privately Owned Vehicles

Privately owned vehicle access to recreational areas by the most direct route is authorized, but no deviation into Training Areas or onto Ranges is permitted.

3.16.9 Unauthorized Structures

Nonmilitary use of the withdrawal lands requires authorization from the Secretary of the Interior and Secretary of the Army. Structures constructed on the withdrawal lands require prior authorization. Unauthorized structures exist on Fort Wainwright and Fort Greely, ranging from tent platforms to cabins. Fort Wainwright Yukon Training Area has seven known unauthorized structures; Fort Greely has nine. U.S. Army Alaska is working with the Department of the Interior, Bureau of Land Management, to identify the owners of the trespass structures to have them removed from military lands.

3.17 RECREATION

Primary recreation activities on the withdrawal lands include hunting, trapping, fishing, and off-road recreational vehicle (ORRV) use. Hunting, trapping, and fishing are administered by U.S. Army Alaska Department of Public Works, Natural Resources Branch and the Alaska Department of Fish and Game, and are regulated through the State's hunting and fishing regulations, and U.S. Army Alaska Regulations 190-13, Enforcement of Hunting, Trapping, and Fishing on Army Lands in Alaska and U.S. Army 200-3, Natural Resources-Land, Forest, and Wildlife Management. Areas on the posts are closed when necessary to ensure proper game management as instructed by the Public Works wildlife managers, and Alaska Department of Fish and Game biologists.

Hunting and trapping seasons and licensing requirements are published by the Alaska Department of Fish and Game. The Military Police Office is the point of contact for daily information on available hunting and fishing areas on post, and for sportsman check-in and check-out (U.S. Army Regulation 190-13 1994).

3.17.1 Hunting

Hunting permits for the posts are annually issued by the military police. The number of hunting permits for Fort Wainwright has decreased from 2,963 in 1989 to 2,470 in 1997. Approximately 350 permits are issued at Fort Greely annually (U.S. Army 1998).

Hunting on the withdrawal lands is very popular among local residents. Moose is the most visible and economically important game species on the posts. The withdrawal lands are in Game Management Unit 20, which has the State's largest moose harvest. Table 3.17.a shows the game harvest for Fort Wainwright Yukon Training Area from 1991-1995. Harvest records for Fort Greely are not available.

Table 3.17.a Game Harvests for Fort Wainwright Yukon Training Area.

Species	1991	1992	1993	1994	1995	1996	1997
Moose	72	35	77	42	60	47	37
Black bear	2	2	4	4	6	12	9
Grizzly bear	1	1	1	0	2	1	0
Grouse	1,270	511	889	1,828	3,360	2233	2239
Ptarmigan	156	214	100	169	261	256	301
Hare	874	420	121	37	137	379	448
Squirrel	258	166	443	533	187	560	251
Duck	176	98	79	79	112	150	76
Fox	N/A	N/A	2	0	2	2	1
Goose	0	0	0	3	0	2	0

3.17.2 Trapping

Trapping occurs on Fort Wainwright and Fort Greely. Fort Wainwright issues 16-22 permits annually. Fort Greely averages 10 permits annually. Martens are the most common furbearer caught.

Trapper harvest data for Fort Wainwright Yukon Training Area is listed in Table 3.17.b. Data were not available for harvests on Fort Greely.

Table 3.17.b Trapper Harvests on Fort Wainwright Yukon Training Area (Starting with 1991-92 and ending with 1996-97) (NT = No Trapping).

SPECIES	1991-92	1992-93	1993-94	1994-95	1995-96	1996-97
Lynx	17	18	16	9	3	12
Fox	47	18	22	21	40	50
Wolf	1	0	2	3	4	13
Coyote	3	3	0	8	7	1
Marten	130	46	123	98	78	141
Mink	NT	NT	0	8	22	34
Weasel	NT	NT	3	0	15	56
Wolverine	1	0	3	2	2	0
Muskrat	NT	1	0	NT	0	3
Otter	NT	NT	0	0	NT	0
Beaver	NT	0	0	0	3	4
Hare	NT	NT	0	NT	NT	0

3.17.3 Fishing

At the present time, there is no angler use data available for Fort Wainwright. Within Fort Wainwright Yukon Training Area, Manchu Lake is stocked by the Alaska Department of Fish and Game and is accessible via Manchu Road. Horseshoe Lake has a natural population of northern pike and is accessed over an unimproved road. The Chena River and Beaver Creek in the northeast portion of Fort Wainwright Yukon Training Area offer catch and release Arctic grayling fishing (U.S. Dept. of the Interior and U.S. Dept. of Defense 1994b).

Fort Greely receives 25% of the angler use for the Alaska Department of Fish and Game, Delta Junction Fisheries Management Area. The data also show that angler use is increasing in the area. Fifteen stocked lakes are located on the east side of the Delta River within the Fort Greely West Training Area and are accessible by Meadows Road and trails. Koole Lake, located in the northwest corner of the West Training Area, is accessible by air. Fort Greely is considered the best place in the Delta Management Area to catch Arctic char. Table 3.17.b shows angler use for the stocked lakes in the Meadows Road area of Fort Greely West Training Area.

Table 3.17.c Angler Use for Stocked Lakes on the Fort Greely West Training Area.

Year	Number of Anglers	Number of Trips	Number of Days
1991	562	2,261	2,975
1992	734	1,856	2,058
1993	1,096	3,856	6,523
1994	867	4,558	5,270

3.17.4 Camping and Picnicking

No camping or picnic areas are located within Fort Wainwright Yukon Training Area, but camping is allowed at two sites on the Main Post. Two cabins are located on North Twin Lake in the Fort Greely West Training Area to serve the trail system used for hiking and skiing. Another cabin was built on South Twin Lake for use by the Boy Scouts and the general public. There are several firepits between North and South Twin Lakes and a few picnic tables at Bolio Lake (U.S. Dept. of the Interior and U.S. Dept. of Defense 1994a).

3.17.5 Hiking and Off-Road Recreational Vehicle (ORRV) Use

Access and use restrictions for off-road recreational vehicles (ORRVs) is discussed in Chapter 3.16.7. The Fort Wainwright Yukon Training Area contains approximately 90 miles of roads and trails used by the public for (ORRVs). The trails are not designated for hiking or biking although they do receive some use.

Fort Greely contains many roads and trails east of the Delta River within the West Training Area and throughout the East Training Area. The most common hike at Fort Greely is to the top of Donnelly Dome, east of the Washington Range near the east boundary of the West Training Area along the Richardson Highway.

Snowmachiners use trails in the Fort Wainwright Yukon Training Area and Fort Greely. A popular trail is located in the northwest area of the Fort Greely West Training Area. Snowmachiners travel the Winter Trail from Blair Lakes in the southern portion of the Tanana Flats on Fort Wainwright to the northwest boundary of Fort Greely West Training Area, to Koole Lake. Some continue on the trail across the northern boundary of the West Training Area (Heidorn, pers. com. 1997).

3.17.6 Aerial Tours and Guide Service

Information is not available on the use of Fort Wainwright Yukon Training Area by aerial tour and guide services. The Fort Greely Provost Marshal Office estimated that guide services provide flights into the Fort Greely West Training Area for approximately 500 people annually to hunt the roadless areas.

Public flight service personnel, guides, and outfitters must register as a business with the Director of Personnel and Community Activities and the Fish and Wildlife Office at Fort Greely and may need to be permitted by the Bureau of Land Management under Special Recreation Use Permit guidelines before they are authorized to fly within military boundaries (USARAK 1994 and Gates, pers. com. 1999).

3.17.7 Visual Resources and Ecotourism

In 1994, U.S. Army Alaska entered into a cooperative agreement with several State and Federal agencies regarding watchable wildlife and ecotourism in Alaska (ADF&G et al. 1992a). The purpose of the agreement was to encourage partnerships, cooperation, and coordination of sustainable watchable wildlife and ecotourism opportunities on Federal, State, and private lands. As part of this program, the military has developed several project proposals for the posts. A proposal to develop viewing platforms along the Chena River where salmon and resident freshwater fish are found has been proposed for Fort Wainwright. Although this does not include Fort Wainwright Yukon Training Area, increased visitor use of certain areas of the post may also increase use within Fort Wainwright Yukon Training Area. On Fort Greely there are plans to improve bison food plots in areas that are visually accessible to the public from the Richardson Highway. The food plots will increase bison use of the area and the probability of viewing the animals.

Fort Wainwright Yukon Training Area

The landscape within the Fort Wainwright Yukon Training Area is not ideal for visual resource opportunities. Large areas of the landscape are dense forests. From the air, the forested landscape is broken by clearings, military Maneuver Areas and Drop Zones, roads and trails, and firebreaks. The roads and trails do offer the public access to the backcountry where many wildlife species can be observed (U.S. Dept. of the Interior and U.S. Dept. of Defense 1994b).

Fort Greely West and East Training Areas

The Fort Greely East Training Area and the northern part of the West Training Area contain dense stands of spruce and some deciduous trees, shrubs, and muskegs. These areas do not offer visual vantage points.

To the south of Fort Greely is the Alaska Range. This is the dominant visual feature of the southern portion of the West Training Area. Visual vantage points along the Richardson Highway and areas with roads within the West Training Area, east of the Delta River, offer views of the Alaska Range and Mt. Hayes. Areas east of the Delta River offer views of natural lakes, wetlands, and kettle lakes in contrast to the dense forest vegetation.

The southern portion of the West Training Area has rolling plateau lands with lakes, bogs, and tundra areas, level riparian areas, and widely braided abandoned channels contrasting to steep canyons and rock outcroppings. Donnelly Dome is another prominent feature on the Fort Greely West Training Area and can be viewed from the Richardson Highway.

The Delta River Valley running through Fort Greely contains summer range for the Delta Bison Herd. This area offers the only road accessible viewpoint in the State to see free roaming bison. The State maintains a viewpoint just south of Donnelly Dome on the Richardson Highway.

The Trans-Alaska Pipeline runs through Fort Greely and is above ground at an area beginning west of Donnelly Dome, running south until it leaves the installation. The pipeline can be seen from the viewing point south of Donnelly Dome along the Richardson Highway (U.S. Dept. of the Interior and U.S. Dept. of Defense 1994b).

3.17.8 Other Recreational Activities

Berry picking, wildlife viewing, hang gliding, cross country skiing, and dog sledding are other recreational activities occurring on the withdrawn lands. Beaver Creek, located in the northeast area of Fort Wainwright Yukon Training Area is used for dog sledding. The winter trail in the northwest area of the Fort Greely West Training Area is also used for dog sledding. Some mushers continue to Koole Lake for winter camping. The Alaska Division of Parks and Recreation and several private groups would like to develop a maintained trail through the Beaver Creek area (Plager, pers. com. 1997).

Chapter 16 of U.S. Army Regulation 350-2, Range Regulation, states that recreational swimming in any stream, pond, or lake is prohibited year-round on withdrawal lands.

Range Control provides Ranges for the off-duty firing of privately owned weapons for military and retired military personnel. The Ranges are also used by civilian groups, such as the state police. Information on requirements may be obtained from Range Control.

3.18 CULTURAL RESOURCES

Fort Wainwright and Fort Greely contain historic (after white man and at least 50 years old) and prehistoric (before white man) resources of significance in the cultural record of interior Alaska. Since it was ice free during the Late Wisconsin glacial period, interior Alaska contains the oldest verifiable prehistoric cultural remains in the State. Lands proposed for withdrawal renewal by U.S. Army Alaska have been used by humans for at least 12,000 years.

The Chena and Little Delta River drainages were used intermittently for subsistence by Athapaskan natives well into the 1900s. In 1847, the Hudson Bay Company established a trading post on the banks of the Yukon River near the mouth of the Porcupine River and called it Fort Yukon. Fort Egbert was established at Eagle, Alaska, and occupied by the military from 1899 through 1911. Fort Gibbon was established at Tanana, Alaska and occupied by the military from 1899 through 1923. Current military occupation of interior Alaska officially began on March 31, 1937, when President Roosevelt signed Executive Order 7596, withdrawing 960 acres near Fairbanks for establishment of what is now Ladd Field on Fort Wainwright.

U.S. Army Alaska, in cooperation with the State Historic Preservation Office, Alaska Department of Natural Resources, is preparing an Integrated Cultural Resources Management Plan (ICRMP) for Fort Wainwright and Fort Greely (Alaska State Historic Preservation Office 1998a,b), which includes lands proposed for withdrawal renewal. Appendix 3.18.A contains a summary of regional prehistory and history excerpted from the draft ICRMP.

The Alaska State Historic Preservation Office has been contacted regarding potential impacts of the Proposed Action on cultural resources and possible compliance requirements per Section 106 of the National Historic Preservation Act. The Preferred Alternative would continue the existing management practices on the withdrawal lands, therefore the State concluded that this action is not an undertaking for Section 106 purposes. A response letter is located in Appendix 3.18.B.

Archeological sites on lands proposed for withdrawal have produced no human remains, funerary items, or other objects of cultural patrimony requiring consultation with Native Alaskans, per the Native American Graves and Repatriation Act of 1990 (NAGPRA). In addition, U.S. Army Alaska does not curate any artifacts subject to consultation per NAGPRA (Alaska State Historic Preservation Office 1998a,b). Coordination with Native Alaskans has identified

no sacred sites or other resources of religious significance on lands proposed for withdrawal that would require consultation per the American Indian Religious Freedoms Act of 1978 or Executive Order 13007, Indian Sacred Sites.

Fort Wainwright Yukon Training Area

Only a small portion (less than 5%) of the Fort Wainwright Yukon Training Area has been inventoried for archeological resources. Three archeological investigations on the Yukon Training Area have documented nine archeological sites (Table 3.18.a). All but one of the sites were identified by Holmes (1979) as part of a survey of areas west of Johnson Road and Skyline Road. All sites are prehistoric lithic scatters that have produced no diagnostic artifacts. Five sites have been determined ineligible for listing in the National Register of Historic Places. The remaining four sites require further investigation to determine eligibility.

Table 3.18.a Archeological Sites on Withdrawn Lands at Fort Wainwright Yukon Training Area. (Reynolds 1986, Alaska State Historic Preservation Office 1998b).

Sites	Eligible	Eligible Listed	Potentially Eligible	Ineligible
Prehistoric	0	0	4	5
Historic	0	0	0	0

Fort Wainwright Yukon Training Area is an area of ridges (2,000 - 3,000 feet above mean sea level) rising above alluvium-filled valleys. Prehistoric sites are concentrated primarily along ridges and hilltops, although the value of site distribution data is limited by the scarcity of archeological findings. In 1986 the Historic Preservation Plan for Fort Wainwright identified the Yukon Training Area as having moderate to low potential to contain archeological sites (Bacon et al. 1986).

Although the Yukon Training Area was likely used for subsistence by native villages well into the 1900s and was prospected by Euroamericans around the turn of the century, no historic archeological sites have been identified (U.S. Dept. of the Interior and U.S. Dept. of Defense 1994b). The Yukon Training Area contains no historic architectural properties.

Fort Greely West and East Training Areas

Approximately 5% of lands proposed for withdrawal renewal on Fort Greely have been inventoried for archeological resources. Ten archeological investigations

on these lands have identified 81 archeological sites (Table 3.18.b). Seventy-eight are prehistoric, and three are historic. Fourteen sites have been listed or determined to be eligible for listing in the National Register of Historic Places. Thirty-one sites have been determined ineligible for the National Register. The remaining 36 sites require further investigation to determine eligibility.

Table 3.18.b Archeological Sites on Withdrawn Lands at Fort Greely.
(Reynolds 1986, Alaska State Historic Preservation Office 1998b).

Sites	Eligible	Eligible Listed	Potentially Eligible	Ineligible
Prehistoric	2	11	34	31
Historic	1	0	2	0

Archeological sites are primarily concentrated in three physiographic settings: high points, bluffs or terraces overlooking drainages, and lake margins. Only a small portion of the withdrawal lands at Fort Greely have high potential to contain archeological sites. These areas of high archeological sensitivity include portions of Big Delta Training Area, Lakes Impact Area, East Fork Training Area, Molybdenum Training Area, and Granite Training Area. Other withdrawal lands at Fort Greely have low to moderate sensitivity (Bacon et al. 1986).

Prehistoric archeological resources on the withdrawal areas have provided valuable data on the life ways of prehistoric Alaskans. Eleven of the National Register-eligible sites occur within the Donnelly Ridge Archeological District. Artifacts of the district, used to delineate the Denali Complex, are among the most influential archeological findings of the Paleoarctic Tradition (11,000 - 8,000 years before present (BP)). Some undated materials from Donnelly Ridge resemble artifacts dating to 12,000 BP. However, the oldest radiocarbon date on Fort Greely, from the Delta River Overlook Site, is $8,555 \pm 380$ BP (Reynolds 1986). The withdrawal areas contain 20 sites affiliated with the Paleoarctic Tradition and at least three sites affiliated with the Northern Archaic Tradition (6,500 - 1,000 BP).

Historic sites are fewer. The most significant historic site, the National Register-eligible Ptarmigan Creek Cabin, probably dates to a molybdenum mining operation begun in 1914 (U.S. Dept. of the Interior and U.S. Dept. Of Defense 1994a). The two remaining historic sites, Gordon's Roadhouse and Sullivan Roadhouse, are associated with the Washburn-Donnelly winter sled trail, an alternate route on the Valdez-Fairbanks trail used in the early 1900s. Gordon's Roadhouse Site is in ruins but remains potentially eligible for the National

Register. The Sullivan Roadhouse Site, a National Register property, is the former location of the Sullivan Roadhouse. The Roadhouse was moved to Delta Junction in 1996.

There are no historic architectural properties on the withdrawal renewal property on Fort Greely. However, two National Register-eligible Cold War properties occur on the withdrawal property but were owned and managed by Alaska Communications, Inc. (an RCA subsidiary). These are microwave relay stations associated with the historic White Alice Communication System.

3.19 SOCIOECONOMICS

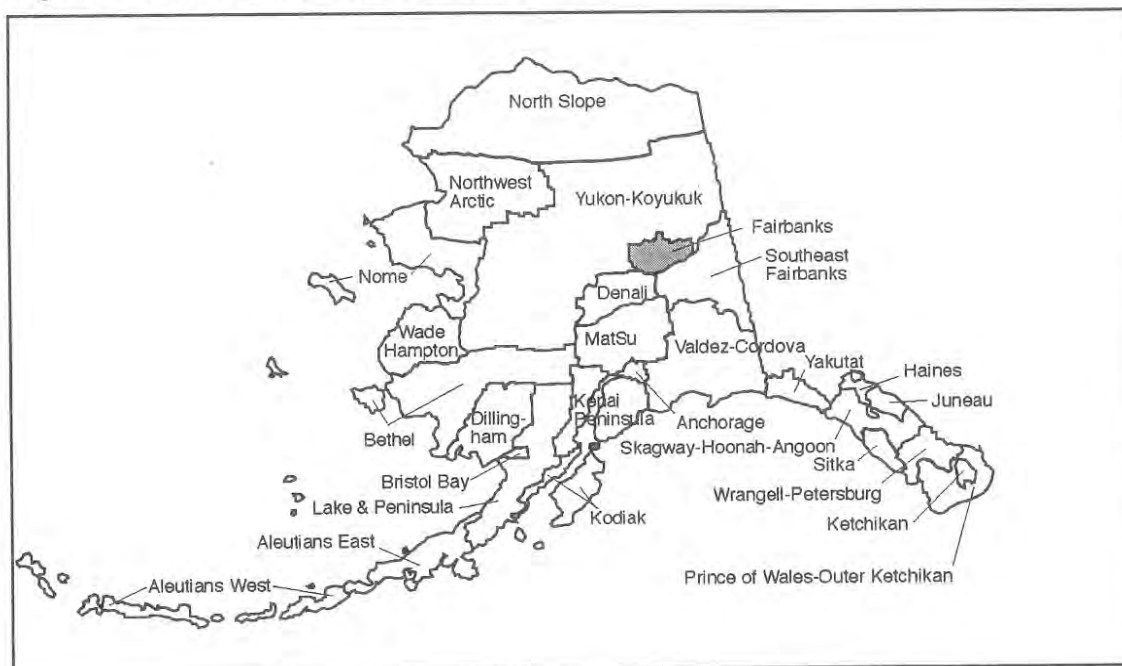
The Bureau of Land Management Withdrawal Regulation (43 CFR Parts 2300-2310) requires consideration of national as well as local socioeconomic costs and benefits for withdrawals of public land. Nationally, defense preparedness and local jobs are important social resources and are net benefits from the Alaska Army lands withdrawal renewal.

A socioeconomic history of interior Alaska is provided in Appendix 3.19.A.

3.19.1 The Fairbanks North Star Borough

Fort Wainwright is located within the census district of the Fairbanks North Star Borough (Figure 3.19.a). The Fairbanks North Star Borough was incorporated in 1964. Large by U.S. standards at 7,362 square miles, it includes the incorporated cities of Fairbanks and North Pole.

The Fairbanks North Star Borough is a second class borough with an elected assembly of 11 and an elected mayor. The fiscal year budget in 1997 was \$71 million. There is a property tax, but no sales tax. Because Federal lands are exempt from local property taxes, an annual payment in lieu of taxes is provided to the Borough by the Federal government. In 1997, \$300,000 was transferred to the Borough. The Borough and the military cooperate on a wide range of services from schools to solid waste disposal.

Figure 3.19.a Alaska Census Districts.

Military demographics affect local census data by influencing the age structure of the local populations (Table 3.19.a). A population and ethnic group profile of Fairbanks North Star Borough is shown in Table 3.19.b.

Table 3.19.a Age Profile of the Fort Greely and Fort Wainwright Vicinities (Fried and Windish-Cole 1995, Fairbanks North Star Borough CRC 1996 and 1998).

	Alaska	Fairbanks North Star Borough	Delta Junction and Vicinity	Fort Greely and Vicinity
Median Age	29.4 yrs.	27.6 yrs.	32.4 yrs.	23.2 yrs.
Under 5	10%	12.4%	8.3%	15.9%
21 & over	64.5%	63%	61%	56.2%
65 & over	4.1%	3.2%	4.1%	None

Table 3.19.b 1990 Population and Ethnic Groups of Fairbanks North Star Borough.

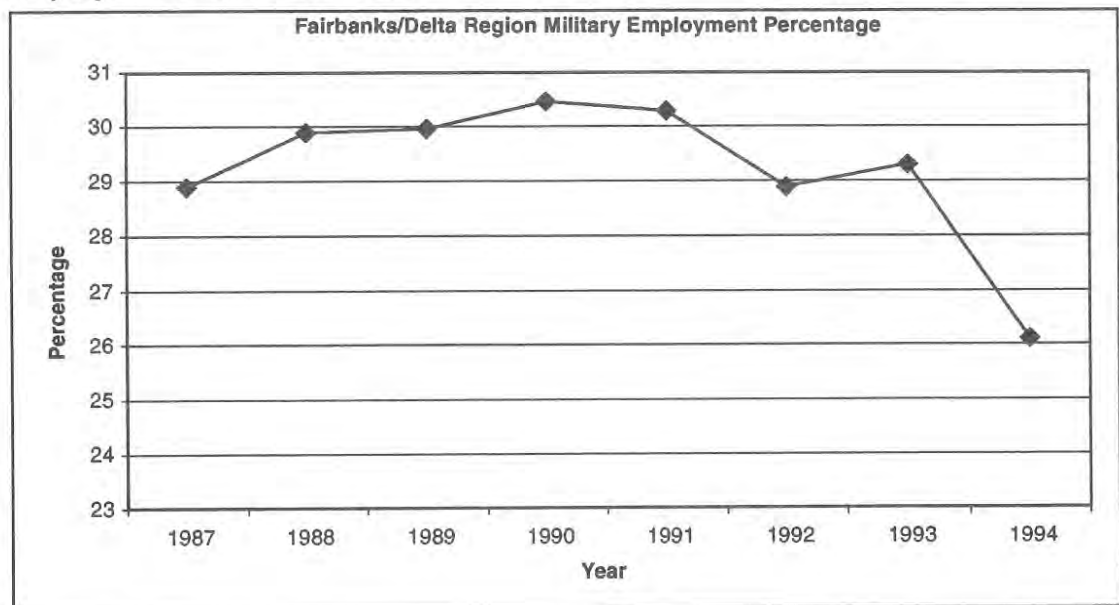
Male	41,506
Female	36,214
Total Population	77,720
African American	5,553
Aleut	120
American Indian	3,663
Asian/Pacific Islands	1,998
Caucasian	63,751
Eskimo	1,547
Other Ethnic	1,088

The economy of the Borough is largely dependent upon government, with nearly half of the direct local employment provided by City, State, and Federal agencies. Alaska State Department of Labor statistics for January 1998 show non-uniformed employment at 30,400 for the Borough. Adding the 7,517 military personnel at Fort Wainwright and Eielson Air Force Base results in total Borough employment of 37,917. Military personnel and other governmental employees account for 47% of total Borough employment (Appendix 3.19.B). Sources vary somewhat regarding employment figures for the Borough, as it depends on the month and the concept of employment used.

The 1998 employment figures for Fort Wainwright and Eielson Air Force Base show the military as the single largest employer in the Borough accounting for almost 25% of the direct employment. The 7,517 uniformed military positions and 1,984 civilian positions on the post and base combine for 9,501 total positions. Additionally, there are 2,200 Army retirees in the Fairbanks North Star Borough along with a substantial number of Air Force retirees.

Figure 3.19.b shows percentage of total employment in the Fairbanks/Delta area from Fort Wainwright, Eielson Air Force Base, and Fort Greely. Jobs may shift between the Army installations as a result of the realignment, but will not generate much of a change in the aggregate. Total percent of military employment has decreased in the period from 1987 to 1994.

Figure 3.19.b Military Employment as a Percentage of Fairbanks/Delta Employment from 1987-1994.



The second largest governmental employer in the Borough is the University of Alaska at Fairbanks with 2,855 employees and a total fiscal year 1997 authorized budget of \$223.7 million. The Fairbanks North Star Borough School District, the third largest, has 1,651 employees, a fiscal year 1997 budget of \$115 million, and a payroll of \$60.3 million. The Fairbanks North Star Borough government, the fourth largest governmental employer, had a fiscal year 1997 budget of \$71 million and employment of 319.

The Fairbanks Memorial Hospital was the largest private employer in the Borough during 1996 with 1,012 employees. The hospital is a service dependent upon the economic base of Fairbanks. Tanana Chiefs (525 employees), a nonprofit social service organization, including a regional health authority, is the second largest private employer. The third largest private employer is the HC Price Company (523 employees), which services the oil industry. ARA Mark (413 employees) is a service concessionaire to government and university facilities and is the fourth largest private employer in the Borough.

Reviewing employment by industry classification demonstrates further the dominance of government in general and the military in particular. Services, wholesale and retail trade, communications, finance, insurance and real estate are all driven by the economic base. That is, they are multiplier effects. Using

a generally accepted employment multiplier of 1.8 on military base employment, about 45% of total Fairbanks North Star Borough employment is contingent upon Fort Wainwright and Eielson Air Force Base (Table 3.19.c).

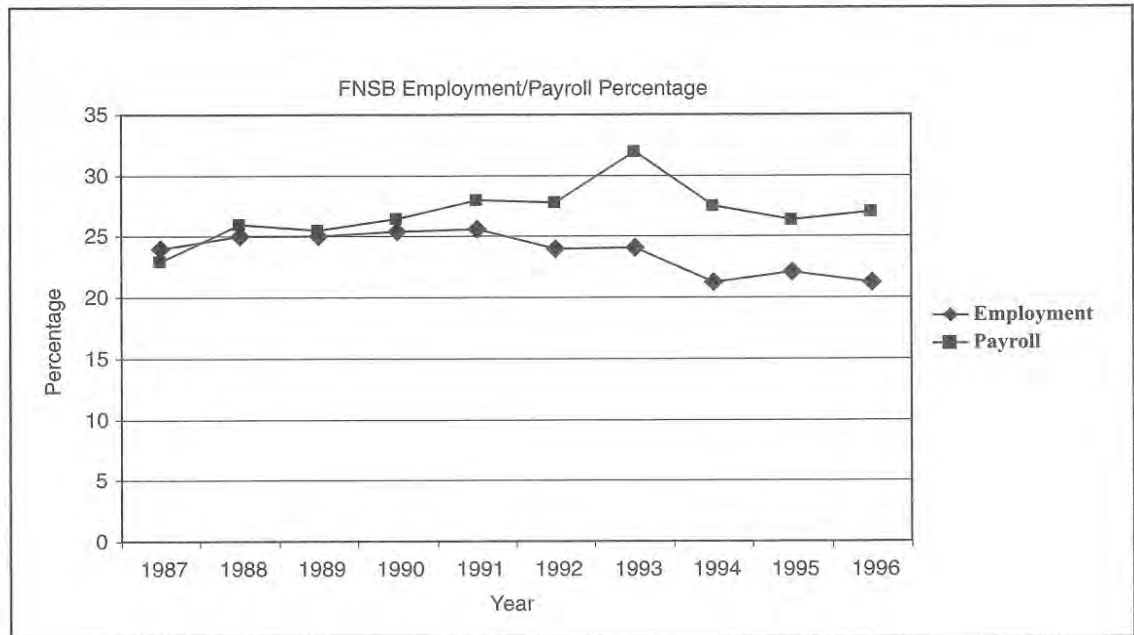
Table 3.19.c Fairbanks North Star Borough Employment by Industry.

PRIVATE EMPLOYERS	20,313
Mining	571
Construction	1,740
Manufacturing	545
Transportation, Communications, Utilities	2,304
Wholesale Trade	793
Retail Trade	5,958
Finance, Insurance, Real Estate	852
Services	7,457
Agriculture, Fisheries, Forestry	83
Nonclassified Establishments	11
GOVERNMENT	10,091
Federal	3,014
State	4,290
Local	2,788

The total payroll for both uniformed military and civilian post positions is about \$311 million or almost 26% of the total Borough payroll. For 1996, total base uniform personnel payroll was \$300.6 million. Fairbanks North Star Borough payroll total, according to the labor department, was \$893 million. Together they total approximately \$1.1 billion. Total installation expenditures for Fort Wainwright and Eielson Air Force Base were \$508 million in 1996.

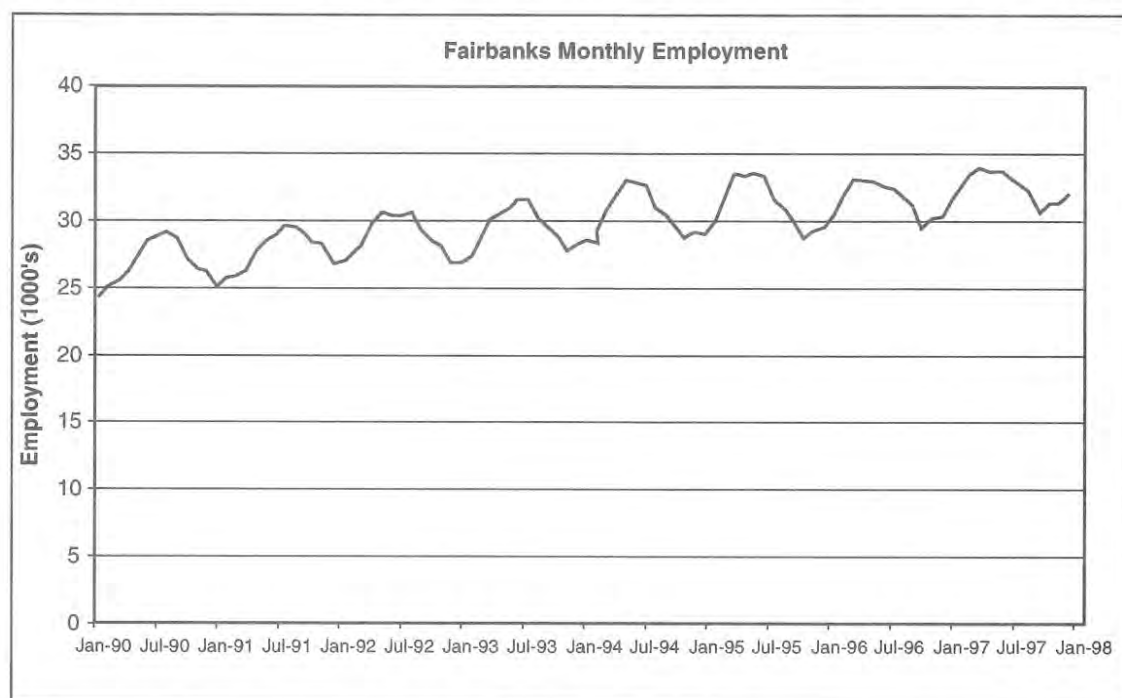
Total military payroll in the Borough has increased while the percentage of total military employment has slightly decreased. This is due to the shift from lower paid uniformed positions to higher paid civil service positions. Figure 3.19.c shows the percentage of total employment and total payroll in the Fairbanks North Star Borough directly attributed to the military.

Figure 3.19.c Percentage of Total Employment and Total Payroll Directly Attributed to the Military in the Fairbanks North Star Borough.



In 1996, average monthly earnings for nonmilitary government employees were \$3,039. Monthly earnings in private employment were \$2,202. Uniformed military employees received average monthly pay of \$2,527. This was not a great deal more than the average, but military personnel do not pay Federal income tax on their 25% cost of living differential for Alaska. This leaves about 4% more income in the local economy per dollar of income earned at a 15% Federal tax bracket, and up to 8% more for officers in the 30% Federal tax bracket.

The seasonality of employment in the Fairbanks economy is seen in Figure 3.19.d. Whereas Figure 3.19.c shows annual employment averages, Figure 3.19.d shows the monthly fluctuations. It demonstrates that the Fairbanks economy has been steadily improving in recent history.

Figure 3.19.d Seasonality of Employment in the Fairbanks North Star Borough.

Fort Wainwright and Eielson Air Force Base are within the Fairbanks North Star Borough School District. The School District had 16,426 students enrolled in 32 schools for the 1997-1998 school year. Fort Wainwright and Eielson AFB each have three schools. All schools are administered by the District. Table 3.19.d provides a comparison of student populations.

Table 3.19.d Fairbanks North Star Borough School District Comparison (FNSB School District 1997). P = Preschool K = Kindergarten

	Grades	Students	Percentage			
			White	Black	AK Native	Other
Eielson AFB Schools						
Anderson	P-2	482	84	8.9	0.8	6
Crawford	3-6	566	80	12.2	0.4	7
Ben Eielson	7-12	600	81	12	0	7
Total	P-12	1,648	82	11	0.5	7

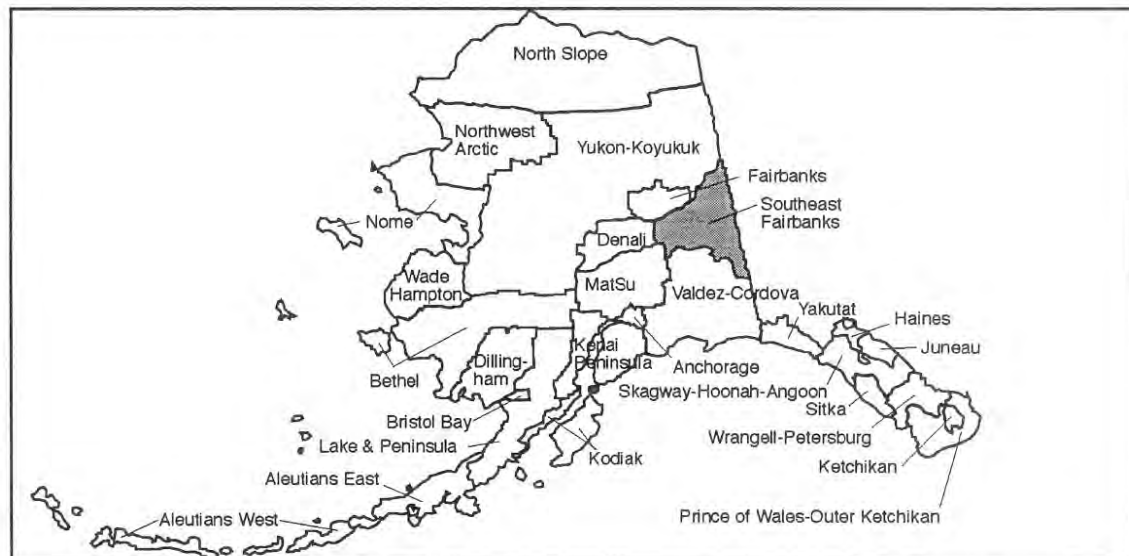
Table 3.19.d Fairbanks North Star Borough School District Comparison (FNSB School District 1997). P = Preschool K = Kindergarten

	Grades	Students	Percentage			
			White	Black	AK Native	Other
Fort Wainwright Schools						
Arctic Light	P-6	583	52	32	1	15
Chinook Charter	K-8	91	78	3	9	10
Tanana Satellite	7-8	123	59	23	8	10
Total	P-8	797	65	19	6	10
District Total	K-12	16,426	73.5	8.6	9.8	8.1

3.19.2 Fort Greely Vicinity

Fort Greely is contained within the Southeast Fairbanks census district (Figure 3.19.e) and is part of the Greely-Delta economic region. There is no well-defined political or geographic boundary for this region because most of it is unincorporated. The Alaska Department of Labor conducted a study of the Delta Area in August of 1995. For the study, the Delta Area consisted of Delta Junction, Big Delta, Fort Greely, the Clearwater Area, and Healy Lake (Fried and Windish-Cole 1995).

Figure 3.19.e Alaska Census Districts



Military demographics affect local census data by influencing the age structure of the local populations (Table 3.19.a). Fort Greely and vicinity had a total population of 1,299 in the 1990 census, and the distribution contrasted with other Alaska communities in the lower percentage of native Alaskans (1%) and higher percentage of African-Americans (18%) (Table 3.19.e).

Table 3.19.e Population and Ethnic Groups of Fort Greely, Delta Junction, and Big Delta (1990 Census, Alaska Department of Community and Regional Affairs).

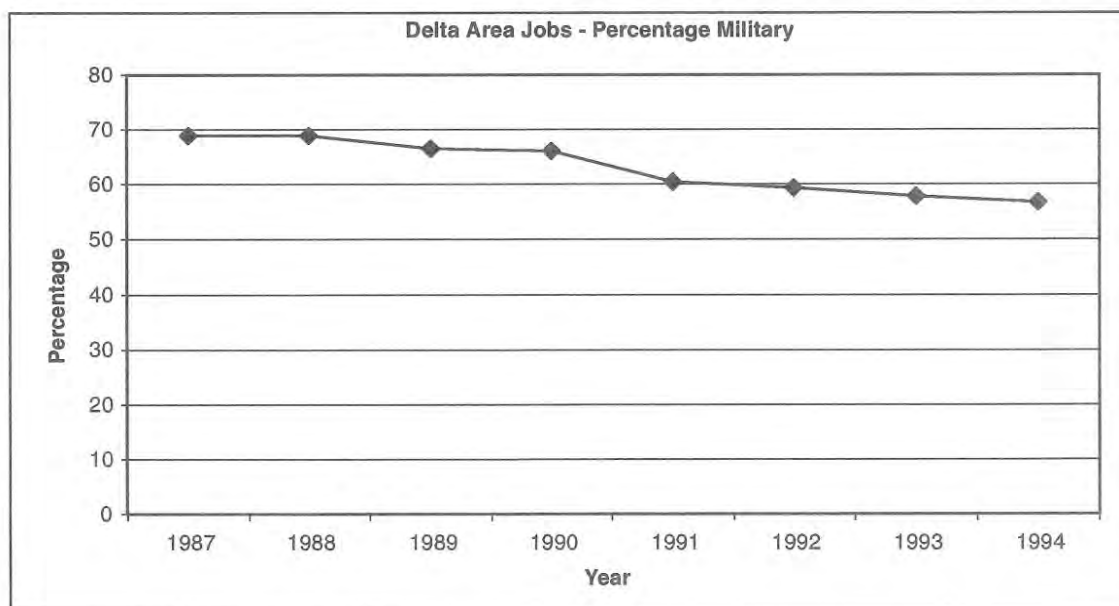
	Fort Greely	Delta Junction	Big Delta
Male	598	343	208
Female	549	309	192
Total Population	1,147	652	400
African-American	207	20	1
Aleut	0	0	0
American Indian	11	18	8
Asian/Pacific Islands	39	9	2
Caucasian	828	592	381
Eskimo	0	11	8
Other Ethnic	62	2	0

Fort Greely's military and dependent population peaked in 1982 at just over 2,000 and declined to under 1,000 by 1995 (Appendix 3.19.B). By 1997, a certified count by the Alaska Department of Community and Regional Affairs reported Fort Greely's population at 740.

The largest employers in the Delta Area (excluding uniformed personnel) are listed in Table 3.19.f. The military (including uniformed personnel) accounted for 69% of Delta Area jobs in 1987 and had fallen to 57% in 1994 (Figure 3.19.f and Appendix 3.19.B). The Delta Area study in 1995 showed Fort Greely generated approximately 750 direct jobs, or over 50% of all employment in the area. One effect of the realignment of Fort Greely is reflected in the declining percentage of military employment as shown in Figure 3.19.f.

Table 3.19.f Largest Employers in the Delta Area (excluding uniformed personnel).

EMPLOYER	EMPLOYEES
Federal Government	306
Delta/Greely School District	134
Alyeska Pipeline Service Company	74
State of Alaska	65
Alaska Motor Coaches, Inc.	31
Delta Shop-Rite	31
Family Medical Center	28
Tag Company (Military Contractor)	27
Alaska Steak House	21
City of Delta Junction	16

Figure 3.19.f Percentage of Delta Jobs Accounted for by the Military 1987-1994.

Median household income in Delta Junction was \$31,250 in 1990, with 8.4% of the resident families having incomes below the poverty level. Thirty-five percent

of the adult population were not employed. Bureau of Land Management fire suppression provides seasonal employment. Extensive use of local game and fish for personal consumption exists.

In 1998, the Delta/Greely School District has a student population of 932, with 67 teachers, and five schools (Delta/Greely School District, pers. com. 1998). In 1995, 48% of the school district students were dependents of uniformed military personnel and federal workers on Fort Greely.

As Fort Greely realigns, jobs will be eliminated and student enrollment will more than likely decline. The Fairbanks North Star Borough School District estimated in 1996 that an additional 200 K-12 students would enter its district schools by the year 2001 as a result of the realignment of Fort Greely.

The median home value in 1990 was \$86,900 for Delta Junction. It is too dispersed a community for a single centralized water system, but only 6.9% of the homes lacked complete plumbing. Most homes have wells, and the school is on its own water system. Forty-three percent did not have phones and 91% of homes used wood or fuel oil for heat.

There is a health care clinic in Delta Junction that is a qualified emergency care provider, and there is a local rescue squad/ambulance service. The municipal government of Delta Junction has an elected mayor and city council form of government. Total operation and capital project expenditures were \$346,276 in 1995. The City operates a landfill. Electricity is provided by Golden Valley Electric Association of Fairbanks.

Delta Junction is accessible by the Richardson and Alaska Highways, and buses service the routes to Fairbanks and Whitehorse, Yukon Territory. There is a 2,400 foot gravel airstrip and charter flight services are available. There are six privately owned airstrips in the vicinity.

Fort Greely is a self contained post for Army personnel and their families. It differs from nearby communities in that almost 100% of the population has plumbing, and electricity is provided by a utility.

Fort Greely will be undergoing realignment pursuant to Base Realignment and Closure, 1995. The realignment is to be completed by July 2001. Economic reuse options for facilities on the Main Post Area are being explored. The realignment does not involve any of the withdrawal renewal lands.

3.19.3 Nearby Communities

Healy Lake

Healy Lake is north and east of Delta Junction, and off the road system (Figure 1.a). Healy Lake showed no census population figure until 1980 when it had 33 people. In 1990 that population had increased to 47 and was 85% Native. Its 1997 population totaled 60. Doyon is the Regional Native Corporation. Mendas Cha-ag is the local Village Corporation and its offices are in Fairbanks.

The median home value was \$16,300 in 1990. Census data showed 70% of the housing was indicated as vacant, possibly indicating the seasonal use of homes. Over one-third of the homes did not have complete plumbing, and 63% of the households had no phone. There is a local power company, and 43% of the community was on the public water system in 1990. Wood or fuel oil for heat was used in 90% of homes.

Seventy percent of the resident families had incomes below the poverty level. Four residents are listed as involved in mining and providing professional services for summer visitors at the lake. The remaining population is dependent upon subsistence activities, with 85% of the adults not in the work force.

There is one school in Healy Lake attended by 15 students. The Healy Lake Clinic provides some medical services, with a river crossing necessary to the Delta Junction Clinic or to Fairbanks for additional care.

Dot Lake

Dot Lake is on the Alaska Highway east of Delta Junction, about 155 miles from Fairbanks (Figure 1.a). There are two settlements, the Federally recognized Upper Tanana Athapaskan Village, and a non-native area one mile from the village. A census population figure first appeared in 1960 at 56 and grew to 70 in 1990 with 54% Native. The current population is estimated at 80. Doyon is the regional Native Corporation. The local Village Corporation is Dot Lake.

The median valued home in 1990 was \$42,500. Nine out of 30 housing units were listed as vacant in 1990. A piped water system serves part of the community. Electricity is provided by a power station in Tok. There is one school, which serves 15 students. The village council operates a health clinic, with additional care located in Delta Junction and Fairbanks.

Median income was \$38,333 in 1990, and only 3.2% of resident families had incomes below the poverty level. Employment is limited to a lodge, motel, children's home, school, and clinic. Residents sell parkas, moccasins, beadwork, and other handicrafts. Subsistence activities include hunting for moose, caribou,

ducks, geese, ptarmigan, porcupines; and fishing for whitefish and salmon from the Copper River.

There is regular bus service to Fairbanks, and the nearest public airstrips are in Tok and Delta Junction. Snowmachines and off road recreational vehicles are used for local transportation.

Big Delta

Big Delta is an area surrounding Delta Junction on the Richardson Highway, at the junction of the Delta and Tanana rivers (Figure 1.a). Big Delta was a construction camp for the Alaska Highway, and first showed a census count of 155 in 1950. No census population was registered again until 1980 when it was recorded at 285. Its current population is estimated to be 508. There is a religious settlement known as "Whitestone Farms" which pools assets and income. A school, YMCA, and visitor center are among the town's facilities.

The median valued home in 1990 was \$55,000. Approximately half of the homes did not have phones. Ninety-three percent of the homes had individual wells and 21% lacked complete plumbing systems. In 1990 the median household income was \$32,813 with 23% of the resident families having incomes below the poverty level. Fifty-four percent of the adults were not in the work force.

Big Delta has no municipal government, and is not an Alaska Native Claims Settlement Act (ANCSA) organization. It is unincorporated.

3.19.4 Tourism

Alaska is a tourist destination, and interior Alaska is a direct beneficiary of tourism exports. Tourism is a difficult issue to measure because its economic influence is indirect. While visitor counts sound impressive, what is important economically is the money tourists spend, the number of jobs created, and the consequent payroll.

Statewide, almost 30% of the tourism industry is a result of visiting friends and relatives and tourism incidental to business travel, whereas vacation tourism accounts for about 70% (Alaska Visitor's Association 1997). About 35% of the visitor tourism in the State is in the Interior and northern regions of Alaska.

The Alaska Visitor's Association (AVA) data suggests tourism is the number two employer in the State and the number three industry by sales volume. But the military and government are not included on the AVA list of employers. Interior Alaska tourists mostly come in the spring and summer months of May through September. By observing transportation, trade and service sector differentials

over these summer months, the maximum possible influence of the tourist industry at its peak can be estimated. In the five months of May through September during 1997, total Fairbanks North Star Borough employment rose by 2,745 workers as compared to the remainder of the year. Most of this was in trade (1,019), services (796), construction (746), transportation, communications, and utilities. School district employment falls during this period.

If 2,000 jobs can be attributed to tourism, since they are available only five months of the year, they translate into a full time average annual equivalent of 833 jobs. The most optimistic forecast would place direct employment somewhere in the 1,000 job annual equivalent category after adding in winter tourism. At most this results in 3% of the local jobs being attributed to tourism.

The Alaska Visitor's Association Survey examined regional tourist patterns and per trip expenditures and identified the top 25 visited sites in the State. Chena River trips were taken by 13% of visitors, Alaska Highway visitors at 20%, the University of Alaska Museum at 22%, and the pipeline at 26% all are within interior Alaska.

The Alaska Visitor's Survey shows 1.2 million visits by tourists statewide with a per trip expenditure of \$714. If we assume 25% of those visits were in the Fairbanks North Star Borough, this would account for approximately \$150 million total expenditures in Alaska from tourists visiting the Fairbanks area. Some portion of this amount is spent in the Fairbanks North Star Borough.

The monthly wage in the two primary tourist industries is lower than average. The primary industry affected is trade, with a monthly earnings average of \$1,583. The service industry monthly average is \$2,053, but not for tourist related services. The hotel/motel average is \$1,256.

While tourism grew at 10-12% statewide from 1989 through 1994, visitor volume increased only 4% in 1995 and 3% in 1996. The tourist industry is roughly comparable to the Interior mining industry in terms of employment. The mining industry is much more important in terms of payroll dollars. The school district is a larger industry in terms of numbers employed.

3.19.5 Mineral Resources

Oil and gold are important resources for Alaska. Recently, mining activity has rebounded from historic lows. Fort Knox, just north of Fort Wainwright, is currently one of the largest operating gold mines in the world. Tru North and Neumont are gold mining developments in the same vicinity. The Pogo prospect, north of the Delta Region, is the most recent significant gold find.

All of these mining developments are hard rock operations in the vicinity of old placer mine activities. These deposits are the original mineral sources of the placer deposits of the early gold rush. The combination of gold prices near \$300 per ounce and improved technology has made these mineral deposits economic to mine.

In 1990, mining had an average annual employment of 160 and a payroll of \$6.8 million. By 1996, employment figures increased to 571 and payroll increased to \$34 million. Fort Knox is currently fully operational. January mining employment for 1998 was 850, resulting in 100 more jobs than in the same month the previous year.

Activity by the oil industry is also improving. Recent developments on the North Slope have brought additional mineral-related employment growth in Fairbanks. Oil drilling is the highest it has been since the Prudhoe Bay drilling activity of the 1970s. ARCO announced in March of 1998 a total of \$2.5 billion in Alaska exploration projects over the next five years (Petroleum Information Corporation 1997).

Historically, no oil development has occurred in interior Alaska. Fairbanks is a service and transportation hub for North Slope development, and it receives income from State expenditures stemming from oil royalties. North Slope oil production was 1.4 million barrels a day in 1997. That average is projected to be 1.33 million in 1998, and 1.31 million barrels per day in 1999.

3.19.6 Agriculture

No prime or unique farmlands occur on the withdrawal lands. Interior Alaska has the capability of producing barley, oats, hay, potatoes, and a variety of vegetables. Beef, sheep, and pigs are raised for the local market. Alaska, in general, has no significant agricultural exports. Over time, the cost of shipping agricultural products into Alaska has declined. As the population base expanded, a rail link established, shipping technology improved, and the relative cost of land in Alaska paradoxically increased.

Less than 1% of Alaska's land is privately owned and much of what is owned has limited rights. Any land that came into private possession through statehood entitlement does not include rights to the subsurface minerals such as gravel, gold, and oil. When the State provided land for agricultural projects such as those at Delta and Fairbanks, the State further restricted rights to agricultural production only.

The State of Alaska attempted an agricultural project in the Delta Region, which offered over 100,000 acres for cultivation in the late 1970s and early 1980s. The program was unsuccessful with many of the farms failing. Land in the Delta Region sells for under \$100 per acre (Geier, pers. com. 1998). Agricultural production has increased since the 1980s. In 1995 there were estimated to be 75 farms, ranging from 25 to 5,000 acres. According to the Alaska Department of Community and Regional Affairs, 40,000 acres are classified as agricultural land and only 7,000 acres are farmed.

It is not unusual to see land in the Fairbanks area with agricultural covenants selling for low \$100s per acre adjacent to fee simple title land selling closer to \$1,000 per acre. Agriculture has a difficult time competing with alternative uses of the land when private land is so scarce and therefore expensive. If more lands were available to the private sector, the cost of land would fall making local agriculture more competitive. Recent crop data from the Tanana Valley suggests an average per acre total revenue of nearly \$500 an acre (Table 3.19.g).

Table 3.19.g Tanana Valley Agricultural Production (Alaska Farm Reporter February 1997 and February 1998 Issues).

	1995	1996	1997
Acres Planted	7,760	7,450	7,400
Value	\$4.5 million	\$2.58 million	NA
Cattle & Calves	--	1,380	1,440
Value	--	\$.89 million	\$.92 million
Hogs & Pigs	1,600	1,200	1,400
Milk Production	3.7 mil pounds	4.5 mil pounds	4.8 mil pounds

The Delta, Fairbanks, and south central Alaska regions were studied by the Globe Meat Industries in the mid 1990s for the possibility of intensive pork production (Globe Meat Technology 1994). The feasibility study took over five years to complete with the State of Alaska and Globe Meat Technology splitting the cost of the study. Delta Region proved unsatisfactory for several reasons: increased transportation costs, construction costs, heating costs in the winter, cooling costs in the summer, and lack of cheap fuel. Fairbanks area lacked sufficient acreage at a competitive cost.

Pleasant Valley has the closest agricultural activity in the vicinity of the Fort Wainwright Yukon Training Area. There is one potato farm and limited hay and vegetable production in the area. Bedding plants from the valley are sold to the local Fairbanks residents at a local store. Pleasant Valley is surrounded by military lands, the City of Fairbanks, the Chena River State Recreation Area, and both State and Borough government lands. The only possibility for projects of the scope contemplated by this study are for one or more of these governments to release land in a meaningful quantity. No substantial agricultural export industry has the possibility of developing otherwise.

The State is presently harvesting only 6%-10% of the allowable harvest in interior Alaska (Mackey, pers. com. 1998). A modest timber industry has developed in interior Alaska, but it is not a significant source of employment or income.

3.19.7 Guiding Industry

No studies on the big game guiding industry are known to have been conducted for the Fort Wainwright or Fort Greely areas. However, information is available statewide. In 1991, a study of big game guides from all over Alaska indicated that the entire industry generated about \$20 million in 1989 and \$28 million in 1990. When multiplier effects were accounted for, about \$28 million in 1989 and \$39 million in 1990 were generated in Alaska through big game guiding (Yu 1991).

An overview of big game harvests provides some additional insight into the economic potential of big game guiding. According to Yu (1991), the species that interested clients were caribou, brown bear, grizzly bear, moose, Dall sheep, and black bear. Game Management Unit 20 surrounds the withdrawal lands. This management unit produced 63% of the bison harvest, 18% of the black bear and moose harvests, 9% of the sheep harvest, and under 5% of the brown bear and caribou harvests for the State during the 1994-1995 hunting season (Appendix 3.19.B).

3.20 SUBSISTENCE

Lands of Fort Wainwright and Fort Greely were used for subsistence by Athapaskans, the native inhabitants of interior Alaska, well into the 1900s. The withdrawal areas are within the historic ranges of the Salcha, Goodpaster-Wood River, and Chena bands of the lower Tanana Athapaskans and the Healy River-Joseph band of the Tanacross Athapaskans (McKennan 1981). In addition,

southern portions of Fort Greely were likely used intermittently by Ahtna Athapaskans of the Copper River drainage (Figure 3.20.a).

Organized into bands, Athapaskans of the Interior depended upon the seasonal exploitation of mammals and fish for subsistence. Settlement patterns reflected subsistence constraints. During the winter, small temporary upland camps were used for hunting caribou. As summer approached, populations moved to larger fishing camps along the Tanana River and its major tributaries. Caribou was the most important food source. Other game and fish utilized by natives included moose, Dall sheep, hares, marmots, ground squirrels, ptarmigan, ruffed grouse, sharp-tailed grouse, whitefish, and three varieties of salmon (chinook, chum, and coho) (McKenna 1981).

Euroamerican settlement led to sweeping changes in both the subsistence practices and social organization of native bands. Semi-permanent native villages, such as Healy Lake and Tanana Crossing, sprang up near trading posts along sled routes used by trappers. In the early 1900s trade with trappers and miners permanently altered traditional Athapaskan subsistence practices (McKenna 1981).

The discovery of gold in the Fairbanks area in 1901 led to further settlement, and by 1909, there were about 12,000 Euroamericans in the region. The town of Fairbanks drew native populations from traditional settlements. Demographic pressures, combined with a series of epidemics, from which natives had no immunity, led to the abandonment of most native camps and the traditional, semi-nomadic way of life by the 1920s (McKenna 1981). Although many residents of native villages, such as Healy Lake and Dot Lake, continued to rely on the exploitation of natural resources for survival, subsistence activity was more localized, and the exploitation of large subsistence ranges was no longer practiced.

Since 1980, native and non-native subsistence uses on Federal public lands in Alaska, including the withdrawal lands, have been regulated by Title VIII of the Alaska National Interest Lands Conservation Act (ANILCA). Title VIII addresses the rights of customary and traditional subsistence users by giving "rural" Alaskans, those who actually "depend upon subsistence uses," preference in the take of fish and wildlife on federal lands (Public Law 96-487; Sec. 801, Sec. 802). Regional populations with potential subsistence interests in the withdrawal areas reside in five rural communities: Healy Lake, Delta Junction, Big Delta, Dry Creek and Dot Lake. The previous time these lands were withdrawn, the Bureau of Land Management determined the withdrawal renewals did not significantly impact subsistence use (see Appendix 3.20).

Fort Wainwright

Fort Wainwright Yukon Training Area is within the historic subsistence ranges of two lower Tanana bands: the Chena and the Salcha (Figure 3.20.a). The Chena utilized northern portions of the Yukon Training Area within the Chena River drainage, while the Salcha utilized southern portions of the Yukon Training Area within the Salcha River drainage. Historic development in the region was devastating to the Chena and by the 1960s, the only two survivors of the band were living in Fairbanks (McKenna 1981).

Between 1991 and 1997, an average of 2,449 Hunting, Trapping, and Fishing permits were issued annually for all of Fort Wainwright and Eielson Air Force Base combined (of which the Yukon Training Area is less than 30%). Almost all of these permit holders would fail to qualify as subsistence users, and almost all hunting, trapping, and fishing use is for recreational purposes.

The Yukon Training Area is within the Fairbanks North Star Borough. Residents of the Borough are not considered rural residents and therefore, are not qualified Federal subsistence users. However, Game Management Unit 20B, within which this withdrawal is located, has several seasons and bag limits for Federal subsistence hunters, all of which overlap entirely with current State bag limits and seasons. Rural residents from outside the Borough may utilize the Yukon Training Area for subsistence use. Such use is infrequent if it occurs.

Fort Greely

The withdrawal lands are within the subsistence ranges of two lower Tanana bands of the 19th and early 20th centuries (Figure 3.20.a). Lands between the Little Delta River and Jarvis Creek are within the historic range of the Salcha band. However, ethnographic research has indicated that by the 1920s, the Salcha had ceased to use Delta River and Delta Creek drainages for subsistence (Andrews 1975). By 1962 there were no native settlements along the entire Tanana drainage from Healy Lake to Nenana (McKenna 1981).

Withdrawal lands east of Jarvis Creek are within the historic subsistence range of the Healy River-Joseph band (Figure 3.20.a). Descendants of the band reside at Healy Lake (population 60), a Tanana village 30 miles east of Fort Greely. According to the Alaska Department of Community and Regional Affairs, most residents of Healy Lake live a subsistence or public assistance lifestyle (Alaska Department of Community and Regional Affairs website 2/25/98). However, due to its distance from Healy Lake, Fort Greely is not within the general subsistence area of the village (Sherrod, pers. com. 1998).

The native village of Dot Lake (population 80) is about 60 miles east-southeast of Delta Junction along the Alaska Highway. The historic subsistence area of the village terminates at least 20 miles east of Fort Greely (U.S. Dept. of the Interior and U.S. Dept. of Defense 1994a). Some residents of Dot Lake, however, travel the extra distance to hunt on Fort Greely.

Approximately 45 miles east-southeast of Delta Junction on the Alaska Highway, is the non-native community of Dry Creek (population 134). According to the Alaska Department of Community and Regional Affairs, at least 15 adult residents rely on the exploitation of natural resources. A number of Dry Creek residents can be characterized as subsistence hunters/trappers.

From 1996 through 1998, an average of 620 permits was issued for nonmilitary range use on Fort Greely, which includes hunting, fishing, and trapping. It is estimated that approximately one-half of these permit holders are civilians, mostly residents of Delta Junction and Big Delta, communities of 855 and 508 people respectively. A number of Big Delta and Delta Junction residents can be characterized as subsistence users (Good, pers. com. 1999). However, a considerable number of permit holders are recreational anglers from the Fairbanks area due to the stocked lakes on Fort Greely. Due to a lack of specific use information regarding permit holders (who may be berry pickers, hikers, birders, bicyclists, etc.), it is impossible to specifically determine recent subsistence use of the installation.

3.21 ENVIRONMENTAL JUSTICE

Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low Income Populations, requires each Federal agency achieve environmental justice by identifying and addressing disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations in the United States.

Minority populations as defined for this analysis are African American, Aleut, American Indian, Asian/Pacific Islanders, Eskimo, and those persons from other ethnic populations.

Low income populations as defined for this analysis are those persons at or below the poverty level as recorded in the 1990 census.

Executive Order 13045 Protection of Children from Environmental Health Risks and Safety Risks, requires each Federal agency to identify and assess environmental health risks and safety risks that may disproportionately affect children, and address such risks in their policies, programs, activities, and standards.

Fort Wainwright

Fort Wainwright is located within the Fairbanks North Star Borough census district. In 1990, census data showed a total Borough population of 77,720, of which 18% (13,969) were minorities (see Table 3.19.b in Chapter 3.19.1). Table 3.19.a in Chapter 3.19.1 shows the current age profile of the Fairbanks North Star Borough. In 1990, 8% (5,574) of the population in the Fairbanks North Star Borough had incomes at or below the poverty level.

Fort Greely

Fort Greely is located within the Southeast Fairbanks census district and is part of the Greely-Delta economic region. There is no well-defined political or geographic boundary for this region because most of it is unincorporated. For this analysis, the study area consisted of Fort Greely and the communities of Delta Junction and Big Delta.

In 1990, the total population of the study area was 2,199. Eighteen percent (398) were from minority populations (see Table 3.19.e in Chapter 3.19.2). Table 3.19.a in Chapter 3.19.1 shows the age profile of the Fort Greely and Delta Junction vicinities in 1995. In 1990, 11% (232) of the population in the study area had incomes at or below the poverty level.

3.22 NOISE

Sound is a small scale fluctuation of air pressure that typically follows a repetitive pattern (Olishifski 1975). Noise is unwanted sound that can cause behavioral change, impair speech and normal activities, and damage hearing. General audible noises are those sounds heard everyday. Sound levels are typically measured using a decibel, A-weighted scale (dBA). The threshold of human hearing is 0 dBA. The threshold of pain for the human ear is approximately 140 dBA. Table 3.22.a shows some common sound levels.

Table 3.22.a Typical Decibel Levels for Noise (Thurman and Miller 1990, Powell and Forrest 1988).

Threshold of Hearing	0 dBA
Soft Whisper	30 dBA
Background Noise for Wilderness and Rural Areas	35-50 dBA
Freeway Auto Traffic	65 dBA
Jet Takeoff	120 dBA
Service Rifle	168 dBC
Medium Howitzer	174 dBC
Medium Mortar Max Charge at Crew Positions	188 dBC

Impulse noise is a loud single event sound that lasts for a short duration. Impulse noise is measured using a decibel, C-weighted sound level (dBC). Examples of impulse noises are artillery fire, sonic booms, and explosions. Helicopter blade slap would be an example of loud repetitive impulse noise.

The primary means of assessing noise impacts is to define noise zones which relate to a level of human annoyance based on sound levels. The day-night level (DNL) is the primary noise descriptor which is measured temporarily. ADNL and CDNL are day-night levels for A-weighted and C-weighted sound levels respectively. The DNL receives a 10 dB penalty for nighttime sound levels. Table 3.22.b shows the noise level zones.

Table 3.22.b Noise Limits and Zones for Land Use Planning (Army Regulation 200-1 1997). DBP are decibels unweighted.

Noise Zone	Population	Transportation	Impulsive	Small Arms
	Highly Annoyed	ADNL	CDNL	dBP
I	<15%	<65 dBA	<62 dBC	<87 dBP
II	15%-39%	65-75 dBA	62-70 dBC	87-104 dBP
III	>39%	>75 dBA	>70 dBC	>104 dBP

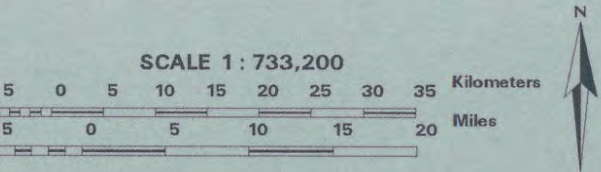
Noise levels in Zone I would be compatible with housing, hospitals, and schools. Few people would be annoyed by noise in this zone. Zone II is normally not compatible with these land uses, and these uses are always incompatible in Zone III.

Figure 3.1.a

Property History
of
Fort Wainwright

Legend

-  **PL99-606 Withdrawal Boundary**
-  **Present Installation Boundary**



Sources:
US Army, Alaska
US Army Corps of Engineers

Yukon Training Area
257,275.66 Total Acres

-  **Letter Permit**
6/15/56 to 6/15/61
256,000 acres Withdrawal Letter from Secretary of Interior to Army
-  **PL 87-326**
9/26/61 to 9/26/71
256,000 acres Withdrawal for Army
-  **PLO 5240**
9/26/71 to 9/26/76
256,000 acres Extended Withdrawal for Army
-  **PL 99-606**
11/06/86 to 11/06/01
246,777.33 acres Withdrawal for Army



PLO 2768
8/31/62 Nonexpiring Withdrawal
480 acres Withdrawal for Army



PL 99-606
11/06/86 to 11/06/01
1600 acres Excluded from Withdrawal



PLO 684
11/09/50 Nonexpiring Withdrawal. 8,615 acres
Withdrawal for Air Force



PLO 3922
2/02/66
8,000 acres Transferred Tracts of PLO 684 to Army



PLO 4161
2/16/67
615 acres Transferred Tracts of PLO 684 to Army



PLO 1345
10/16/56 Nonexpiring Withdrawal
910 acres Withdrawal for Nike Site Mike and 960 acres Withdrawal for Nike Site Peter for Air Force



PLO 1523
10/08/57 Nonexpiring Withdrawal
926.91 acres Amended to Army for Nike Site Mike and 961.42 acres Amended to Army for Nike Site Peter



PLO 1917
7/22/59 Nonexpiring Withdrawal
Additional 15 acres for PLO 1345 for Army

Tanana Flats
654,700 Total Acres

-  **EO 8847 and EO 9526**
8/8/41 to Six Months Following Termination of National Emergency
655,000 acres Withdrawal for War Department
-  **PLO 796**
1/23/52
320 acres Released from Withdrawal of EO 8847 and returned
-  **PLO 2676**
5/4/62 Nonexpiring Withdrawal
Transferred Withdrawal to Army and Removed Expiration of Use
-  **PLO 3011**
4/8/63 Nonexpiring Withdrawal
Harding Lake 20 acres Withdrawal for Army

Main Post
13,756.31 Total Acres

-  **EO 7596**
3/31/37 Nonexpiring Withdrawal
2,684.01 acres Unappropriated Land Withdrawal for War Department
-  **EO 8325 and EO 9526**
1/22/40 to Six Months Following Termination of National Emergency
14.24 acres Withdrawal for War Department from the Federal Government
-  **PLO 139**
6/12/43 Nonexpiring Withdrawal
1,454.36 acres Withdrawal for War Department
-  **PLO 960 and PLO 748**
11/22/50 Nonexpiring Withdrawal
1,468.60 acres Withdrawal for Air Force Revoked EO 8325 and PLO 139
-  **PLO 738**
7/28/51 Nonexpiring Withdrawal
240 acres Withdrawal for Air Force
-  **PLO 818**
4/14/52 Nonexpiring Withdrawal
480 acres Withdrawal for Air Force
-  **PLO 854**
7/10/52 Nonexpiring Withdrawal
280 acres Withdrawal for Air Force
-  **PLO 1760**
11/21/58 Nonexpiring Withdrawal
1,692.54 acres Withdrawal for Air Force
-  **Memo**
13,622.67 acres Transferred by S/AF Memo to Army, Effective 1/1/61. Originally Acquired as Portion of Ladd Air Force Base by Nonexpiring Withdrawal of Public Domain. Renamed Fort Wainwright
-  **PLO 3013**
4/8/63 Nonexpiring Withdrawal
120 acres Withdrawal for Army for Cold Weather Experimental Purposes
-  **Memo**
1/1/61 Nonexpiring Withdrawal
13.64 acres Transferred from Air Force as Fairbanks Permafrost Station by Warranty Deed from Glenn Carrington Foundation

Yukon Training Area Firing Fans
1,141,121 Total Acres

-  **PL 87-320**
9/26/61 to 6/22/71
607,800 acres Withdrawal for Army
Returned on 6/22/71
-  **SLUP F11117**
2/17/69 to 7/7/71
Indefinite from 15 December to 15 March Annually
533,321 acres Withdrawal for Army
Returned on 7/7/71

Air Force Land Withdrawals
26,080 Total Acres

-  **PLO 794**
1/23/52 to Present
Eielson Air Force Base
6,720 acres Withdrawal for Air Force
-  **Permit DA-95-507-eng-1853**
7/29/63 to Present
Chena River Research Site
16,880 acres Joint Use by Army and Air Force.
2,480 acres Exclusive Use by Air Force

Dyke Army Range
2,285 Total Acres

-  **PLO 1521 and PLO 1541**
10/2/57 Nonexpiring Withdrawal
Dyke Army Range
2,285 acres Withdrawal for Army
-  **PLO 1688**
7/21/58
Transferred Withdrawal to Air Force
-  **Air Force Memo**
2/9/61
Transferred Withdrawal to Army

Outgrants

Permittee	Permit	Term	Use	Size
USAF	DACA85-4-94-110	5/1/94 to 4/30/99	Special OP Facility	44,534 acres
USAF	DACA85-4-95-13	6/13/94 to 6/12/99	X-Country Ski Training	160 acres
USAF	DACA85-4-95-85	9/1/95 to 11/5/01	Yukon Measurement and Debriefing System	4 acres
MFS Network Technologies, Inc.	DACA85-9-97-49		Fiber Optic Cable	

Figure 3.1.a

Fort Wainwright

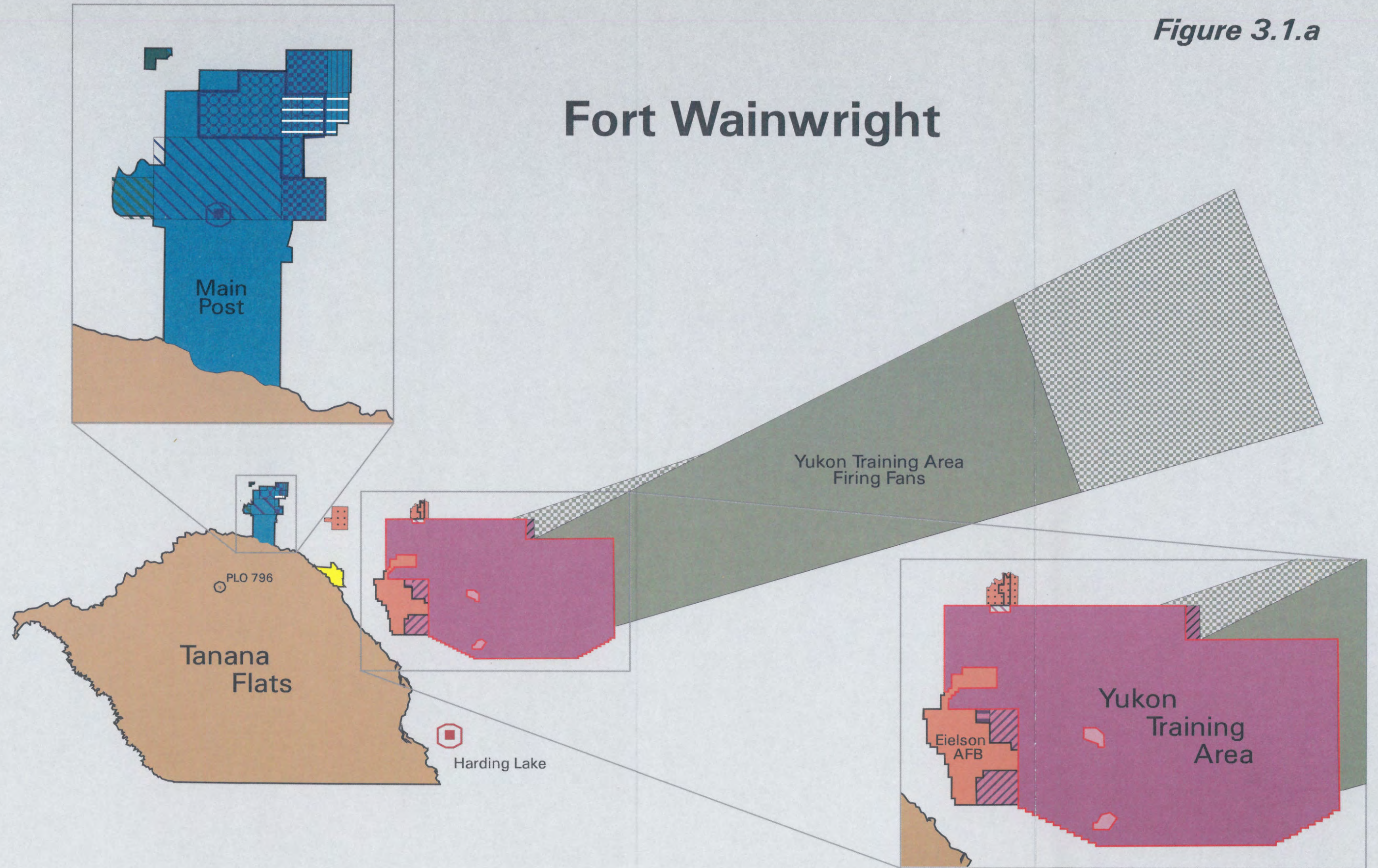


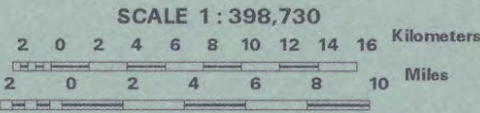
Figure 3.1.b

Property History
of
Fort Greely

Legend

PL99-606 Withdrawal
Boundary

Present Installation
Boundary



Sources:
US Army, Alaska
US Army Corps of Engineers

Permittee	Permit	Term	Use	Size
AT&T Alascom	DACA85-1-85-11	2/15/85 to 2/14/10	Communications Site	4.2 acres
State of Alaska-ARNG	DACA85-3-82-4	12/1/71	Indefinite Use of Road	0 acres
USAF	DACA85-4-94-85	8/1/94 to 7/31/99	Radome Radar Shelter and Equipment	8 acres
USAF	DACA85-4-95-86	9/1/95 to 11/5/01	Yukon Measurement and Debriefing System	3 acres
State of Alaska	DACA85-9-80-61	7/9/80 to 7/8/00	Communications Site	2.5 acres
Alaska Pipeline Service Co.	DACA85-9-92-57	9/1/92 to 12/31/98	Oil Spill Response Equipment	2 acres
BLM for Alyeska Pipeline	DACA85-9-97-25	3/4/92 to 3/3/02	Sale of Gravel	40 acres
MFS Network Technologies, Inc.	DACA85-9-97-50		Fiber Optic Cable	

East Training Area
52,390.70 Total Acres
Plus 206.91 Acres of Permits and ROWs

- PLO 1153**
5/23/55 Nonexpiring Withdrawal
160.7 acres Withdrawal for Army
- Letter Permit**
6/26/59 for Six Months. 51,750 acres
Withdrawal for Army. Month-to-Month
Renewal Pending PL87-334.
- PL 87-334**
10/3/61 to 10/3/71
160 acres Returned. Total Withdrawal
for Army is 51,590 acres
- PLO 2948**
2/20/63 Nonexpiring Withdrawal
640 acres Withdrawal for Army
Buffer for Midas Tracking Site
- PLO 5237**
7/14/72 to 10/3/76
51,590 acres Extended PL 87-334
Withdrawal
- PL 99-606**
11/6/86 to 11/6/01
51,590 acres Withdrawal for Army

West Training Area
571,995 Total Acres

- SLUP**
11/7/50 to 11/7/56
572,000 acres Permit for Army
- SLUP**
11/7/56 to 11/7/59
572,000 acres Series of Six Month Extensions
Pending PL 87-327
- PL 87-327**
9/26/61 to 9/26/71
572,000 acres Withdrawal for Army
- PLO 5238**
9/26/71 to 9/26/76
571,995 acres Extended PL 87-327
Excluded 5 acres Trade and Manufacturing
Site from Withdrawal
- PL 99-606**
11/6/86 to 11/6/01
571,995 acres Withdrawal for Army

Main Post
18,740 Total Acres

- ANS WD 162**
6/25/41 Nonexpiring Withdrawal
3,840 acres Big Delta Airfield
Withdrawal for Department of
Commerce
- Letter Permit**
10/30/43 to 10/28/57
3,840 acres Transferred to War
Department
- Memo**
6/6/51
3,840 acres Transferred Big Delta
Airfield from Air Force to Army
- PLO 3216**
8/30/63
3,983 acres Revoked ANS WD 162
Land Included in PLO 255
- PLO 255**
12/15/44 to Six Months following
National Emergency 14,900 acres
Withdrawal for War Department
Includes Big Delta Airfield
- Letter**
10/27/52 Nonexpiring Withdrawal
14,900 acres Amended PLO255 to
Remove Expiration of Use
- Order**
10/16/53 Nonexpiring Withdrawal
26 acres Inter-Departmental Order
Increased ANS WD 162 to 3,866 acres
- Order**
10/16/53 Nonexpiring Withdrawal
117 acres Inter-Departmental Order
Increased ANS WD 162 to 3,984 acres
- PLO 2418**
6/27/61
143 acres Returned Portion of PLO 255
All Land North of Alaska Highway

Whistler Creek Rock Climbing Area (NWTC)
Black Rapids Rock Climbing Training Area
531.69 Total Acres

- PLO 794**
2/18/58 Nonexpiring Withdrawal
36.40 acres Acquired for Army
- Permit**
3/3/58 Nonexpiring Withdrawal 1.03 acres
Acquired from Department of Commerce for Army
- PLO 1804**
2/25/59 Nonexpiring Withdrawal
494.26 acres Acquired for Army

Gerstle River Test Site
19,000 Total Acres

- PLO 910**
8/7/53 Nonexpiring Withdrawal
20,000 acres Withdrawal for Army
- PLO 991**
8/13/54
1,000 acres Revoked Portion of
PLO 910 and Returned
- SLUP**
10/1/64 to 10/1/69
13,719 acres Temporary Withdrawal
for Army
Returned 6/26/70
- Lease DA-95-507-eng-2103**
11/1/64 to 6/30/65 Renewable to
6/30/75. 64,829 acres Granted from
State of Alaska Division of Lands
Terminated 6/30/72

Black Rapids Training Site
2,779.03 Total Acres

- Permit**
1/23/53 to 1/23/59
1220.97 acres Use Permit
Granted to Army
Including One Year Extension
- 1/22/59**
1220.97 acres Returned Portion
of Tract
- PLO 1503**
9/10/57 Nonexpiring Withdrawal
480 acres Withdrawal for Army
- PLO 2622**
3/9/62 Nonexpiring Withdrawal
2,299.03 acres Withdrawal for Army

Figure 3.1.b

