Appendix D
Airspace Management

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ACRONYMS AND ABBREVIATIONS

AGL	above ground level
ARTCC	Air Route Traffic Control Center
ATC	Air Traffic Control
ATCAA	Air Traffic Control Assigned Airspace
CFA	Controlled Firing Area
CFR	Code of Federal Regulations
EIS	environmental impact statement
FAA	Federal Aviation Administration
ft	feet
FL	flight level
IFR	Instrument Flight Rules
JPARC	Joint Pacific Alaska Range Complex
LATN	Low-Altitude Tactical Navigation
MTR	Military Training Route
MOA	Military Operations Area
MSL	mean sea level
NM	nautical miles
RNAV	Area Navigation
Spb	Seaplane Base
SUA	Special Use Airspace
VFR	Visual Flight Rules

APPENDIX D
AIRSPACE MANAGEMENT

D.1 DEFINITION OF RESOURCE

The National Airspace System (NAS) is designed and managed by the Federal Aviation Administration (FAA) in a manner that strives to meet both the individual and common needs of all military, commercial, and general aviation interests. In general, all navigable airspace is categorized as either regulatory or nonregulatory. Regulatory consists of the Class A-E airspace areas, restricted areas, and prohibited areas while nonregulatory includes Military Operations Areas (MOAs), warning areas, alert areas, and controlled firing areas, all of which are described below. Within those two categories are four types of airspace: "controlled," "special use," "uncontrolled," and "other." Airspace is further defined in terms of classifications according to the operating and flight rules that apply to each airspace area. The manner in which airspace is classified depends on (1) the complexity or density of aircraft operations within an airspace area, (2) the nature of those operations, (3) the level of safety required, and (4) national and public interest. Airspace management discussions reference these types/classifications, where appropriate, as they relate to the JPARC proposal regions of influence (FAA 2008).

Table D-1 provides basic definitions of the more-common aeronautical terms used throughout the airspace management sections.

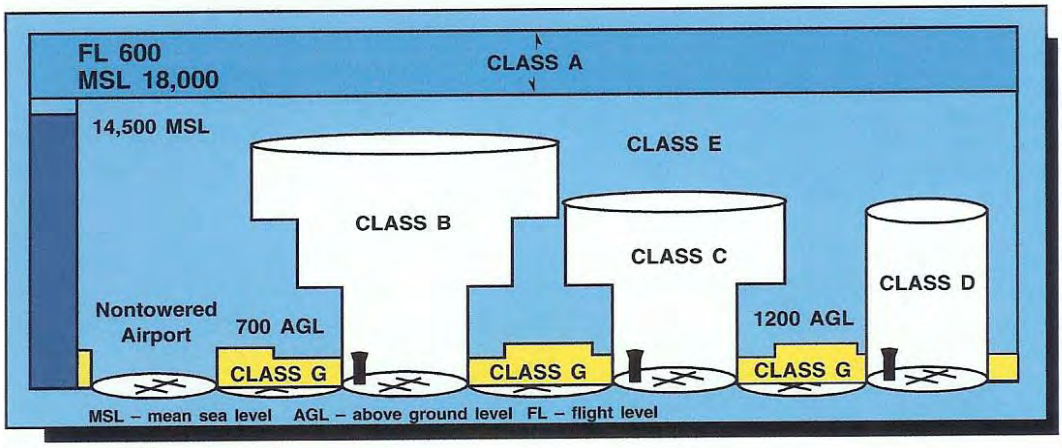
Table D-1. Aviation and Airspace Use Terminology

Term	Definition
Visual flight rules (VFR)	A standard set of rules that all pilots, both civilian and military, must follow when not operating under IFR and in visual meteorological conditions. These rules require that pilots remain clear of clouds and avoid other aircraft.
Instrument flight rules (IFR)	A standard set of rules that all pilots, civilian and military, must follow when operating under flight conditions that are more stringent than VFR. These conditions include operating an aircraft in clouds, operating above certain altitudes prescribed by FAA regulations, and operating in some locations such as major civilian airports. ATC agencies ensure separation of all aircraft operating under IFR.
Above ground level (AGL)	Altitude expressed in feet measured above the ground surface.
Mean sea level (MSL)	Altitude expressed in feet measured above average (mean) sea level.
Flight level (FL)	Manner in which altitudes at 18,000 feet MSL and above is expressed, as measured by a standard altimeter setting of 29.92. For instance, 20,000 feet MSL is expressed as FL200.
Sortie/sortie-operation	*Sortie* refers to an operational mission conducted by a single aircraft. *Sortie-operation* refers to a flight activity conducted by that single aircraft within a designated airspace area during the sortie mission. Airspace use tracking typically accounts for an aircraft sortie-operation within each area it operates throughout the course of the overall training mission.

Key: AGL=above ground level; ATC=air traffic control; FAA=Federal Aviation Administration; FL=flight level; MSL=mean sea level.
Source: FAA 2008.

Controlled airspace is airspace of defined dimensions within which Air Traffic Control (ATC) services are provided to instrument flight rule (IFR) and visual flight rule (VFR) flights in

accordance with the airspace classification (FAA 2011). Controlled airspace is categorized into five separate classes: Classes A through E. These classes identify airspace that is controlled, airspace supporting airport operations, and designated airways affording en route transit from place to place. The classes also dictate pilot qualification requirements, rules of flight that must be followed, and the type of equipment necessary to operate within that airspace class. Military aircrews fly under FAA rules when not conducting flight activities within special use airspace (SUA). Uncontrolled airspace (designated as Class G) has no specific prohibitions associated with its use. Figure D-1 illustrates the different types of airspace designations.



Source: FAA 2008.

Figure D-1. Airspace Designations

Definitions for various designations are provided below.

Class A airspace, generally, is that airspace from 18,000 feet above mean sea level (MSL) up to, and including, Flight Level (FL) 600. Unless otherwise authorized, all aircraft must operate IFR within Class A airspace.

Class B airspace, generally, is that airspace from the surface to 10,000 feet MSL surrounding the nation's busiest airports. The actual configuration of Class B airspace is individually tailored and consists of a surface area and two or more layers and is designed to contain all published instrument procedures (FAA 2008).

Class C is generally that airspace from the surface to 4,000 feet above the airport elevation (charted in MSL) surrounding those airports that have an operational control tower, are serviced by a radar approach control, and have a certain number of IFR operations or passenger enplanements. Although the actual configuration of Class C airspace is individually tailored, it usually consists of a surface area with a radius of 5 nautical miles (NM) and an outer circle with a 10-NM radius that extends from 1,200 to 4,000 feet above the airport elevation (FAA 2008).

Class D airspace, generally, is that airspace from the surface to 2,500 feet above the airport elevation (charted in MSL) surrounding those airports that have an operational control tower. The configuration of each Class D airspace area is individually tailored, and when instrument procedures are published, the airspace will normally be designed to contain those procedures. Arrival extensions for instrument approach procedures may be designated as Class D or Class E airspace (FAA 2008).

Class E airspace is controlled airspace that is not Class A, B, C, or D. The floor of Class E airspace is generally 700 feet above ground level (AGL). There are areas where Class E airspace begins at either the surface or 700 feet AGL that are used to transition to/from the terminal or en route environment (around airports without control towers). These areas are designated by VFR sectional charts. In most areas of the United States, Class E airspace extends from 1,200 feet AGL up to, but not including, 18,000 feet MSL, the lower limit of Class A airspace. No ATC clearance or radio communication is required for VFR flight in Class E airspace. VFR visibility requirements below 10,000 feet MSL are 3 statute miles visibility and cloud clearance of 500 feet below, 1,000 feet above, and 2,000 feet horizontal. Above 10,000 feet MSL the requirement is 5 statute miles visibility and cloud clearance of 1,000 feet below, 1,000 feet above, and 1 mile laterally (FAA 2008). There are seven types of Class E airspace:

Surface area designated for an airport. When so designated, this type of Class E airspace will be configured to contain all instrument procedures.

Extension to a surface area. These are Class E airspace areas that serve as extensions to Class B, C, and D surface areas designated for an airport. This airspace provides controlled airspace to contain standard instrument approach procedures without imposing a communications requirement on pilots operating under VFR.

Airspace used for transition. These are Class E airspace areas, beginning at either 700 or 1,200 feet AGL, used to transition to/from the terminal or en route environment.

En route domestic airspace areas. These areas are Class E airspace areas that extend upward from a specified altitude to provide controlled airspace where there is a requirement for IFR en route air traffic control services, but where the Federal Airways System is inadequate.

Federal airways. Federal airways (Victor airways) are Class E airspace areas, and, unless otherwise specified, extend upward from 1,200 feet to, but not including, 18,000 feet MSL.

Other. Unless designated at lower altitudes, Class E airspace begins at 14,500 feet MSL to, but not including, 18,000 feet MSL overlying: the 48 contiguous including the waters within 12 miles from the coast of the 48 contiguous states; the District of Columbia; Alaska (including the waters within 12 miles from the coast of Alaska and that airspace above FL600) and excluding the Alaska peninsula west of longitude 160°00'00" west and the airspace below 1,500 feet above the surface of the earth unless specifically so designated.

Offshore/control airspace areas. This includes airspace areas beyond 12 NM from the coast of the United States wherein air traffic control services are provided (FAA 2011).

Airspace that has not been designated as Class A, B, C, D, or E airspace is "uncontrolled airspace" (Class G). Class G airspace generally underlies Class E airspace with vertical limits up to 700 feet AGL, 1,200 feet AGL, or 14,500 feet AGL, whichever applies. Cloud clearance and visibility requirements differ by altitude and day versus night.

The FAA has charted and published SUA for military and other governmental activities. SUA is designated airspace within which flight activities are confined to participating aircraft or specific

operating limitations are placed on nonparticipating aircraft. Military operations areas (MOAs), restricted areas, controlled firing areas (CFAs), and warning areas are examples of SUA. Other airspace consists of advisory areas, areas that have specific flight limitations or designated prohibitions, areas designated for parachute jump operations, military training routes (MTRs), low-altitude tactical navigation (LATN) areas, and aerial refueling tracks. This category also includes air traffic control assigned airspace (ATCAA).

Management of SUA involves how airspace is designated, used, and administered to best accommodate the individual and common needs of commercial aviation, general aviation, the military, resource management agencies, and others. The FAA considers multiple and sometimes competing demands for aviation airspace in relation to airport operations, Federal airways, jet routes, military flight training activities, and other special needs to determine how the National Airspace System can best be structured to accommodate all user requirements. Airspace currently used for military training activities in Alaska includes the following types:

Military Operations Areas. A MOA is SUA of defined vertical and lateral limits established outside Class A airspace to separate and segregate certain nonhazardous military activities (i.e., no weapons use) from IFR traffic and to identify where these activities are conducted for VFR traffic (FAA 2011). Because MOAs are considered "joint use" airspace, nonparticipating aircraft operating under VFR are permitted to enter a MOA even when that MOA is active for military use. Aircraft operating under IFR must remain clear of an active MOA provided clearance through this airspace by the responsible ATC facility. If an IFR aircraft is approved for transit through a MOA, then military training is suspended in the affected portion of the MOA during the period of transit.

Air Traffic Control Assigned Airspaces. An ATCAA is airspace of defined vertical and lateral limits assigned by ATC for the purpose of segregating ongoing airspace activities from other IFR air traffic (FAA 2011). When not required for other needs, an ATCAA is authorized for military use by the managing Air Route Traffic Control Center (ARTCC). ATCAAs, which are in Class A airspace, are frequently structured and used to extend the horizontal and/or vertical boundaries of MOAs. ATCAAs can extend from FL180 to FL600 or higher.

Restricted Areas. Restricted areas are designated airspaces that support ground or flight activities that could be hazardous to nonparticipating aircraft. A restricted area is designated under Title 14 of the Code of Federal Regulations (CFR), Part 73 (14 CFR 73), within which the flight of aircraft is subject to restriction. Most restricted areas are designated "joint-use," and IFR/VFR operations in the area may be authorized by the controlling ATC facility when it is not being utilized by the using agency (FAA 2011).

Military Training Routes. MTRs are flight corridors developed and used by the U.S. Department of Defense (DoD) to practice high-speed, low-altitude flight, generally below 10,000 feet MSL. Specifically, MTRs are airspace of defined vertical and lateral dimensions established for the conduct of military flight training in excess of 250 knots indicated airspeed (KIAS).

Warning Areas. A warning area is airspace of defined dimensions, extending from 3 NM outward from the coast of the United States that features aerial activity that may be

hazardous to nonparticipating aircraft. The purpose of such warning areas is to warn nonparticipating pilots of the potential danger. A warning area may be located over domestic or international waters or both.

Controlled Firing Areas. A CFA is established for live-fire activities that, if not conducted in a controlled environment, would be hazardous to nonparticipating aircraft.

Low-Altitude Tactical Navigation Areas. LATN areas are airspace outside a MOA used for low-altitude training by aircraft such as the A-10 *Warthog* and C-130 *Hercules*, which can safely operate at speeds of 250-knots (287 mph) or less. At such speeds, these aircraft are capable of safely merging with general aviation traffic. Military aircraft engaged in this type of exercise, like all other aircraft, are required to comply with Federal aviation regulations concerning the visibility and avoidance of other aircraft and obstacles. FAA and Air Force regulations also require aircraft utilizing the LATN area to avoid airfields, towns, noise-sensitive areas, and wilderness areas by prescribed vertical and/or horizontal distances.

Figure D-2 depicts all existing Federal airways, jet routes, Area Navigation (RNAV) routes, and SUA within the general region of influence for the proposed JPARC airspace actions. This figure also includes the LATN area and MTRs for Chapter 3 references to these two training airspace types that are not included in the JPARC proposals.

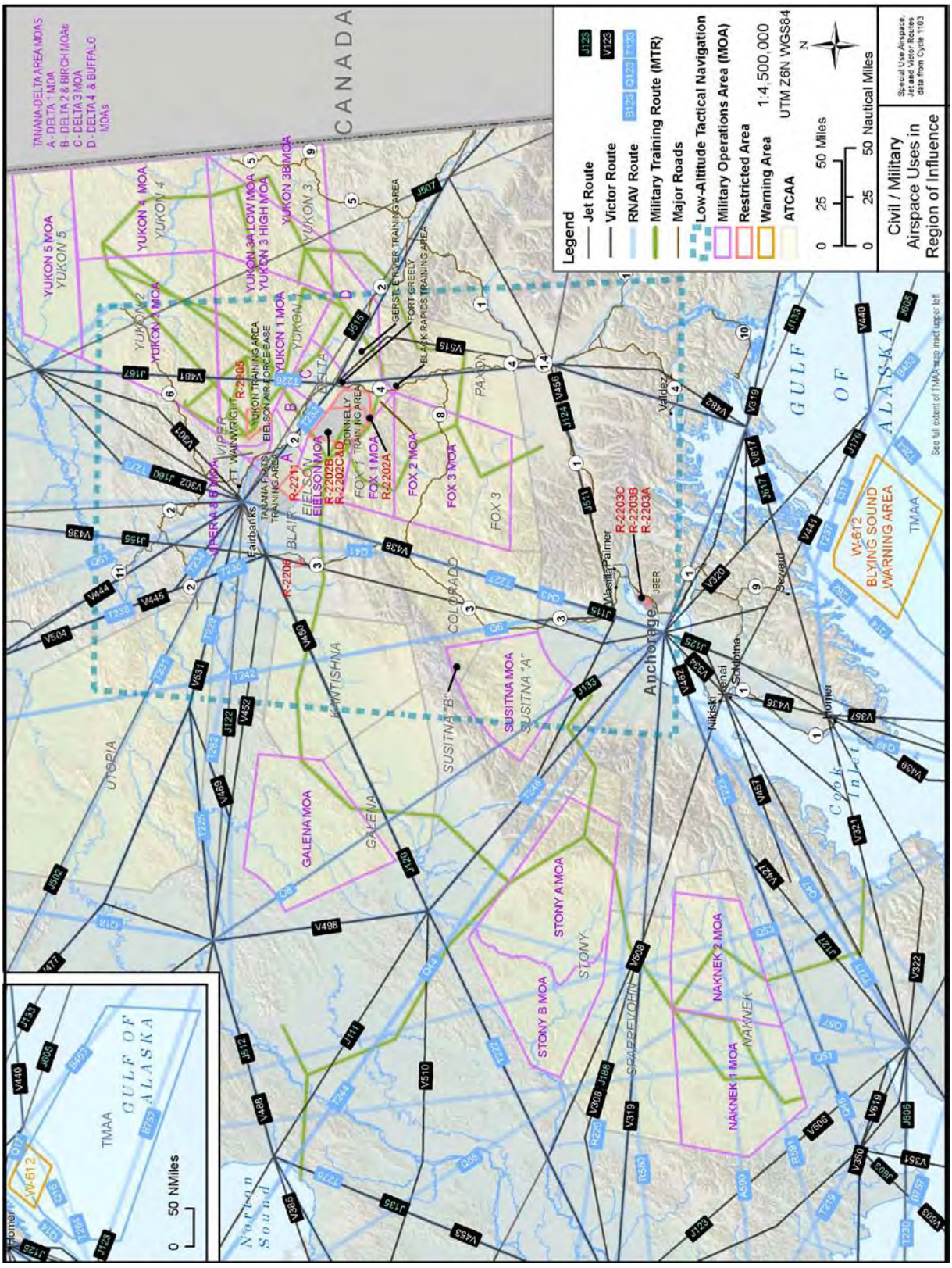


Figure D-2. Civil/Military Airspace in Region of Influence

D.2 MILITARY TRAINING AIRSPACE USES

Table D-2 and Table D-4 include the representative annual sorties-operations for all Alaska MOAs and restricted areas and Military Training Routes most frequently used by all Air Force, Army, and allied forces for routine and Major Flying Exercises. Table D-3 shows the portion of a training mission that is typically flown by the individual aircraft types within the different altitude blocks shown in this table. These altitudes are generally representative of most mission flight activities within SUA although fighter aircraft would conduct a greater portion of their sorties at lower altitudes within restricted airspace while performing air-to-ground maneuvers.

Table D-2. Description and Representative Annual Use of Alaska Training Airspace

Airspace Designation	Altitudes	Total Annual Sorties[1]	Total Annual Days Use[2]	Using/Controlling Agency[1]
Birch MOA	500 ft AGL – 5,000 ft MSL	4,708	58	Air Force 354th FW
Blair ATCAA	FL180 – FL600	6,233	58	Air Force 354th FW
Buffalo MOA	300 ft AGL up to, not including 7,000 ft MSL	4,711	58	Air Force 354th FW
Delta ATCAA	FL180 – FL600	6,330	58	Air Force 354th FW
Delta MOAs	Floors 3,000 ft AGL – 10,000 ft MSL, extending up to, not including FL180	5,429	52	Air Force 354th FW
Eielson MOA/ ATCAA	100 ft AGL up to, not including FL180; maximum altitude FL600 (when ATCAA activated)	10,603	220	Air Force 354th FW
Fox 1/2 MOA/ ATCAA	5,000/7,000 ft AGL up to, not including FL180; maximum altitude FL600 (when ATCAA activated)	10,525	220	Air Force 354th FW
Fox 3 MOA/ ATCAA	5,000 ft AGL up to, not including FL180; maximum altitude FL600 (when ATCAA activated)	9,877	211	Air Force 354th FW
Paxon ATCAA	FL180 – FL600	6,982	211	Air Force 354th FW
Viper A MOA	500 ft AGL up to, not including 10,000′ MSL	0	0	Air Force 354th FW Fairbanks ATCT
Viper B MOA/ ATCAA	10,000 ft MSL up to, not including FL180; maximum altitude FL600 (when ATCAA activated)	8,034	163	Air Force 354th FW
Yukon 1 MOA/ ATCAA	100 ft AGL up to, not including FL180; maximum altitude FL600 (when ATCAA activated)	8,034	163	Air Force 354th FW
Yukon 2 MOA/ ATCAA	100 ft AGL up to, not including FL180; maximum altitude FL600 (when ATCAA activated)	7,076	104	Air Force 354th FW
Yukon 3A Low/ 3 MOAs/ATCAAs	100/300 ft AGL up to, not including 7,000 ft MSL	6,274	52	Air Force 354th FW

Table D-2. Description and Representative Annual Use of Alaska Training Airspace *(continued)*

Airspace Designation	Altitudes	Total Annual Sorties[1]	Total Annual Days Use[2]	Using/Controlling Agency[1]
Yukon 3 Hi MOA	10,000 ft MSL up to, not including FL180; maximum altitude FL600 (when ATCAA activated)	6,270	52	Air Force 354th FW
Yukon 3B MOA	2,000 ft AGL up to, not including FL180	6,106	44	Air Force 354th FW
Yukon 4 MOA/ ATCAA	100 ft AGL up to, not including FL180; maximum altitude FL600 (when ATCAA activated)	6,286	56	Air Force 354th FW
Yukon 5 MOA/ ATCAA	5,000 ft MSL up to, not including FL180; maximum altitude FL600 (when ATCAA activated)	6,106	44	Air Force 354th FW
Stony A/B	100/2,000 ft AGL up to, not including FL180	2,499	212	Air Force 3rd Wing
R-2202 A/B	Surface up to, not including, 10,000 ft MSL	6,290	241	USARAK, Cold Regions Test Center
R-2202 C	10,000 ft MSL – FL600	6,290	241	USARAK, Cold Regions Test Center
R-2202 D	Above FL600 to unlimited	6,290	241	USARAK, Cold Regions Test Center
R-2205	Surface to 20,000 ft MSL	5,510	215	USARAK, JBER/ Fairbanks ATCT
R-2211	Surface to FL600	2,386	170	Air Force 354th FW Fairbanks ARTC

[1] FAA Controlling air traffic control agency is Anchorage Air Route Traffic Control Center unless otherwise indicated.

Key: AGL = above ground level; ATCAA = Air Traffic Control Assigned Airspace; ARTC = Air Route Traffic Control; ATCT = Air Traffic Control Tower; FL = flight level;:ft = feet; FW = Fighter Wing; JBER = Joint Base Elmendorf-Richardson; MOA = Military Operations Area; MSL = mean sea level; USARAK = U.S. Army Alaska

Source: Air Force 2010a, 2010b.

Table D-3. Typical Altitude Use by Representative Aircraft Types

Aircraft Type	Altitude Distribution (Percentage of Sortie Duration by Altitude)					
	500–1,000	**1,000 – 3,000**	**3,000 – 5,000**	**5,000 – 10,000**	**10,000 – FL180**	**FL180 and above**
A-10	33	17	16	24	10	0
F-15C	0	2	3	10	25	60
F-15E	5	5	5	10	25	50
F-16A	4	2	3	5	26	60
F-18A	5	2	3	12	28	50
F-22A	5	2	3	5	10	75
F-35B	4	2	3	5	26	60
Foreign Fighters	5	2	3	12	28	50
EA-6B	0	0	0	0	20	80
Rotary Wing Aircraft	20	27	28	25	0	0
B-1B	2	5	5	3	20	65
B-2	0	0	0	0	3	97
B-52	0	1	1	3	5	90
C-130	28	15	15	22	20	–
C-17	10	12	13	30	23	12
KC-135	0	0	0	0	20	80
KC-10	0	0	0	0	0	100
E-2	0	0	0	0	0	100
E-3	0	0	0	0	0	100

Table D-4. Description and Representative Annual Use of JPARC MTRs

MTR	Altitudes		Annual Sorties	Scheduling/Using Agency
	Min	Max		
IR-900 IR-916 VR-1900 VR-1916	100 AGL	10,800 ft above MSL	0 0	Air Force 354th FW
		1,500 ft AGL	39 0	
IR-909 IR-939 VR-1909 VR-1939	100 AGL	10,600 ft above MSL	0 0	Air Force 354th FW
		1,500 ft AGL	0 0	
IR-952 IR-953 VR-954 VR-955	100 AGL	17,000 ft above MSL	0 0	Air Force 354th FW
		9,500 ft above MSL	10 0	
IR-922 IR-923 VR-940 VR-941	100 AGL	16,200 ft above MSL	0 0 96 1,440	Air Force 354th FW
IR-919 IR-921 VR-937 VR-938	100 AGL	14,700 ft above MSL	87 15 1,428 96	Air Force 354th FW
IR-917 IR-918 VR-935 VR-936	100 AGL	10,600 ft above MSL	0 0	Air Force 354th FW
		9,500 ft above MSL	0 10	
IR-903 IR-913 VR-933 VR-934	100 AGL	12,000 ft above MSL	4 1 1 1	Air Force 3rd Wing
IR-902 IR-912 VR-1902 VR-1912	100 AGL	7,000 ft above MSL	2 1	Air Force 3rd Wing
		1,500 ft AGL	1 1	
IR-905 IR-915 VR-1905 VR-1915	100 AGL	13,700 ft above MSL	52 1	Air Force 3rd Wing
		1,500 ft AGL	1 1	
IR-901 IR-911 VR-931 VR-932	100 AGL	7,200 ft above MSL	2 1	Air Force 3rd Wing
		6,500 ft above MSL	1 1	

Key: AGL=above ground level; ft = feet; R=Instrument Route; MSL=mean sea level; MTR.=Military Training Route; VR=Visual Route.

Source: Air Force 2009.

D.3 PUBLIC AIRPORTS AND PRIVATE AIRFIELDS

Table D-5 and Figure D-3 identify and depict the charted public airports and private airfields that are located within 30 nautical miles of the inclusive JPARC proposed airspace.

Table D-5. Charted Public Airports and Private Airfields Located within 30 Nautical Miles of the JPARC Proposed Airspace

Public	Private	Name	FAA ID	Based Aircraft	Annual Operations	Year of Operations	Map Index
	X	All West Airport	AK77	–	–		C–2
	X	Anderson Lake Airport	0AK1	–	–		A–5
	X	Arctic Angel Airport	9AK4	–	–		C–2
	X	Bald Mountain Airport	2AK7	–	–		A–4
X		Beaver Lake Seaplane Base	D71	6	430	2009	A–5
X		Big Lake Airport	BGQ	11	20,000	2009	A–5
X		Birch Creek	Z91	–	–		A–4
X		Birchwood Airport	BCV	–	–		A–5
X		Black Rapids Airport	5BK	–	110	2005	C–3
X		Bold Airport	A13	–	–		A–5
X		Bradley Sky-Ranch Airport	9Z	76	9,855	2006	B–1
X		Brocker Lake Seaplane Base	6A7	1	–		A–5
X		Butte Municipal Airport	AK1	–	–		A–5
X		Cantwell Airport	TTW	–	–		A–3
	X	Carl's Landing	AK19	–	–		A–4
	X	Chena Hot Springs Airport	AK13	–	–		C–1
X		Chena River Seaplane Base	2Z5	–	–		B–1
X		Chistochina Airport	CZO	2	1,600	2005	D–4
X		Christiansen Lake Seaplane Base	AK8	12	–		A–4
X		Clear Airport	Z84	–	–		A–2
X		Clear Sky Lodge Airport	CLF	–	–		A–2
X		Clearwater Airport	Z86	–	–		B–3
X		Copper Center 2 Airport	Z93	12	225	2009	C–4
X		Cottonwood Lake Seaplane Base	3H3	–	180	1975	A–5
	X	Crosswind Lake Airport	1AK2	–	–		C–4
	X	Dalrymple's Airport	31AK	–	–		B–1
	X	Delta Daves Airport	AA22	16	–		C–2
X		Delta Junction Airport	D66	–	–		C–2
	X	Denali Airport	AK06	–	–		A–3
	X	Duffy's Tavern Airport	DDT	–	–		D–3
X		Eva Creek Airport	2Z3				A–2
X		Fairbanks International Airport	FAI	382	133,267	2010	B–1
	X	Farrars Airport	28AK				B–4
X		Finger Lake Seaplane Base	99Z	10	25	2005	A–5
X		Gold King Creek Airport	AK7	1	50	2005	B–2
	X	Golden North Airfield Airport	15AK	–	–		A–3
X		Goose Bay Airport	Z40	–	–		A–5
	X	Greg'n Sage Airport	AK41				B–2
X		Gulkana Airport	GKN	13	5,122	2006	C–4
	X	Hardrock Field Airport	32AK	–	–		B–1
X		Healy River Airport	HRR	–	–		A–2
	X	Hilltop Airport	AK24	–	–		A–5
	X	Hunter Creek Airport	AK66	–	–		A–5
X		Jones Landing Seaplane Base	L95	–	–		A–5
X		Jonesville Mine Airport (Closed)	JVM	0	0		A–5
	X	Kashwitna Lake Seaplane Base	AK34	–	–		A–4
	X	King Ranch Airport	AK59	–	–		B–4

Table D-5. Charted Public Airports and Private Airfields Located within 30 Nautical Miles of the JPARC Proposed Airspace *(continued)*

Public	Private	Name	FAA ID	Based Aircraft	Annual Operations	Year of Operations	Map Index
X		Lake Louise Airport (Closed)	Z55	0	0		C–4
X		Lake Louise Seaplane Base	13S	–	–		C–4
	X	Lakewood Airport	78AA	–	–		B–1
	X	Long Lake Airport	AK69	–	–		A–4
	X	Mankomen Lake Airport	4AK5	–	–		D–3
X		McKinley National Park Airport	INR	–	–		A–2
	X	Metro Field Airport	MTF	–	–		B–1
	X	Moen's Ranch Airport	AK52	–	–		B–1
	X	Montana Creek Airport	21AK	3	150	2005	A–4
X		Nancy Lake Seaplane Base	78Z	–	–		A–5
X		Nenana Municipal Airport	ENN	112	28,670	2007	A–2
	X	Newman Creek Airstrip	N/A	–	–		B–2
X		Palmer Municipal Airport	PAQ	–	–		A–5
X		Paxson Airport	PXK	–	–		C–3
	X	Pogo Mine Airstrip Airport	76AK	0	70	2005	C–2
	X	Remington Field Airport	26AK	–	–		C–2
X		Road Commission Nr 1 Airport	0Z2	–	–		B–3
	X	Rocking T Ranch Airport	11AK	–	–		C–2
	X	Rustic Wilderness Airport	02AK	–	–		A–4
	X	Scotts Airport	0AK0	14	2,200	2009	B–2
	X	Secluded Lake Airport	49AK	–	115	2009	A–4
X		Seymour Lake Seaplane Base (Spb)	3A3	–	–		A–5
X		Sheep Mountain Airport	SMU	–	–		B–4
	X	Shirley Lake Airport	AK90	–	–		A–4
	X	Sky Ranch At Pioneer Peak Airport	AK50	–	–		A–5
	X	Skyflight Airport	25AA	25	30,000	2009	B–1
X		Summit Airport	UMM	–	–		A–3
X		Talkeetna Airport	TKA	–	–		A–4
	X	Talkeetna Village Strip Airport	AK44	1	400	2005	A–4
X		Tanacross Airport	TSG	1	200	2010	D–3
X		Tazlina /Smokey Lake/ Seaplane Base	5AK	–	–		C–4
X		Tazlina Airport	Z14	38	2,700	2005	C–4
	X	Tok 2 Airport	8AK9	2	300	2005	D–3
X		Tok Junction Airport	6K8	–	–		D–3
X		Tolsona Lake Seaplane Base	58A	15	–		C–4
X		Totatlanika River Airport	9AK	–	–		B–2
X		Upper Wasilla Lake Seaplane Base	3K9	–	–		A–5
	X	Victory Airport	0AK6	87	–		B–4
X		Visnaw Lake Seaplane Base	T66	2	–		A–5
X		Wasilla Airport	IYS	–	–		A–5
	X	Wasilla Creek Airpark Airport	05AK	2	–		A–5
X		Wasilla Lake Seaplane Base	5L6	–	–		A–5
X		Willow Airport	UUO	–	–		A–4
	X	Wingsong Estates Airport	AK09	–	–		C–2
	X	Wolf Lake Airport	4AK6	–	–		A–5
	X	Wood River Lodge Airstrip	N/A	–	–		B–2

Key: FAA=Federal Aviation Administration.
Source: AirNav 2011; FAA 2008.

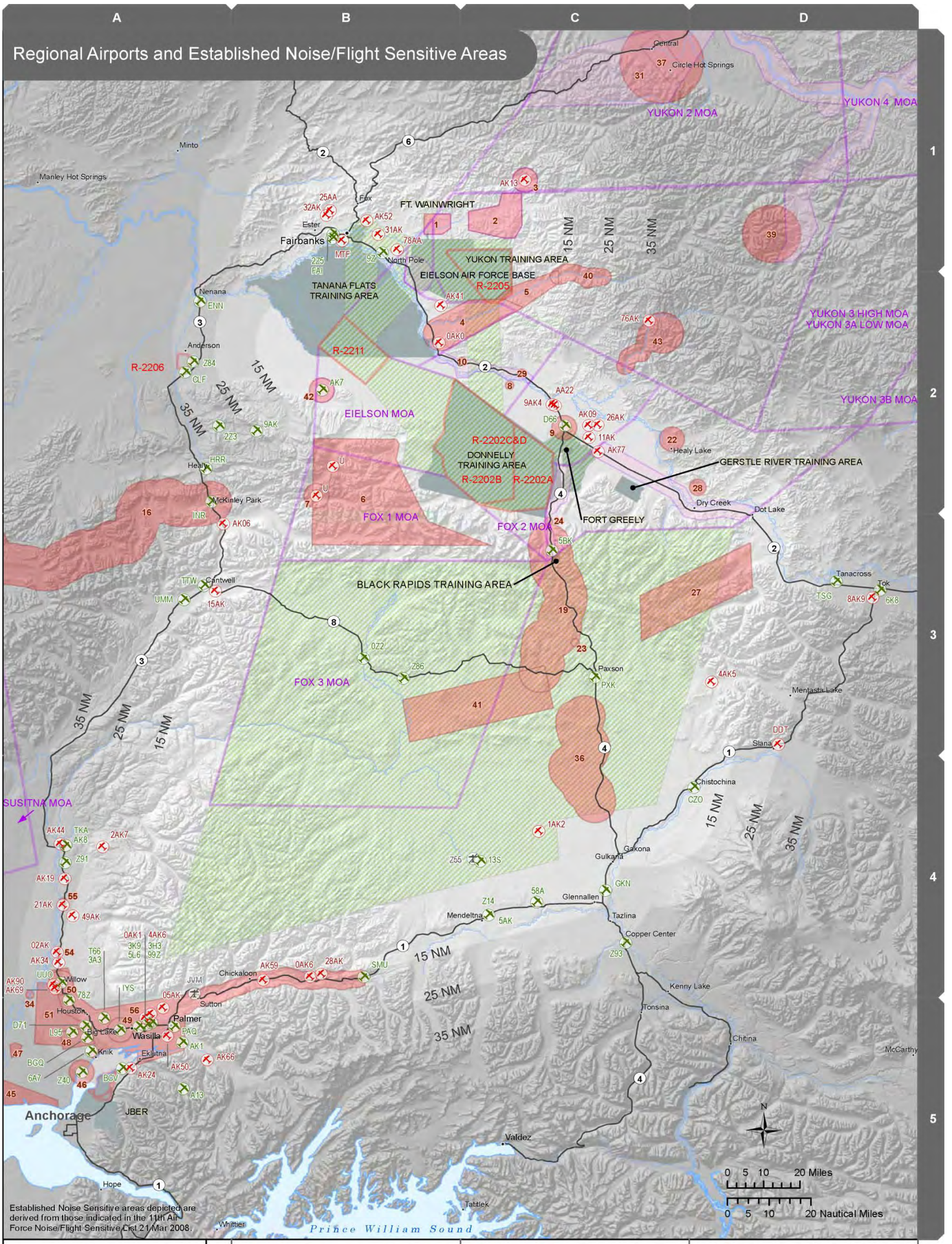


Figure D-3. Regional Airports and Established Noise Sensitive Areas

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D.4 FLIGHT AVOIDANCE AREAS

Table D-6 lists the many different flight avoidance areas that have been established by the Air Force to avoid those communities, airfields, and other sensitive areas where low-level aircraft flights and their noise levels may be a potential impact to those areas. These areas are depicted in Figure D-3. These avoidance areas were established both as a result of the Record of Decision for the *1997 Alaska Military Operations Area FEIS* and other Air Force initiatives to address public concerns over the aircraft intrusion and noise effects on these sensitive areas. Because of the dynamic nature of these flight noise/flight avoidance areas, an up-to-date listing is maintained in the 11th Air Force *Airspace Handbook*, which serves as the authority for identifying such areas.

Table D-6. Flight Avoidance Areas

#	Name	Altitude	Time(s) of Year
1	Pleasant Valley Subdivision (exclusion and adjustment to *Yukon 1*)	No flight below 6,000 ft above MSL. Flight at altitudes above 6,000 ft above MSL is restricted to nonmaneuvering, nonafterburning, navigational flight only.	Continuous
2	Chena Recreation Area (exclusion to *Yukon 1*)	Below 1,500 ft AGL	May 1 to Sep 30
3	Chena Hot Springs Resort (exclusion to *Yukon 2*)	Below 1,500 ft AGL	Continuous
4	Salcha River Area One (outside of MOAs)	Below 1,500 ft AGL	Continuous
5	Salcha River Area Two (adjustment to *Yukon 1*)	Below 1,000 ft AGL	May 1 to Aug 31
		Below 5,000 ft above MSL	Sep 1 to Sep 20
6	Sheep Lambing Area and Newman Creek Airstrip (adjustment to *Eielson* and below the floor of *Fox 1*)	Below 5,000 ft AGL	May 15 to Jun 15 Nov 15 to Dec 15
7	Wood River Lodge (below the floor of *Fox 1*)	Below 1,500 ft AGL	Continuous
8	Clear Creek Cabins (adjustment to *Birch*)	Below 1,500 ft AGL	Continuous
9	Delta Junction (outside of MOAs)	Below 1,500 ft AGL	Continuous
10	Birch Lake State Recreation Site (adjustment to *Birch*)	Below 2,000 ft AGL	May 15 to Sep 30
11	Harding Lake	Incorporated into *Salcha River Area One* (#4)	
12	Hog Farm	Removed Spring 08	
13	Ryan Lodge	Removed Spring 08	
14	Parks Highway (outside of MOAs)	Incorporated into *Parks Highway, Wasilla, Palmer, Palmer Hay Flats Bird Sanctuary, and Glenn Highway* (#56)	
15	Glenn Highway (outside of MOAs)	Incorporated into *Parks Highway, Wasilla, Palmer, Palmer Hay Flats Bird Sanctuary, and Glenn Highway* (#56)	
16	Denali Highway (outside of MOAs)	Below 2,000 ft AGL	May 15 to Sep 15
17	Yukon MOAs Peregrine Falcon Areas (exclusion and adjustment to *Yukon's 1, 2, 3A Low, 3B, 4*)	Moved to DOPAA listing	
18	Fox Farm	Ceased to exist	
19	Delta National Wild and Scenic River (Adjustment to *Buffalo and* below the floor of *Fox 2 and 3* and outside these MOAs)	Below 5,000 ft above MSL	Jun 27 to Jul 11
20	Mulchatna River Fishing Lodge (below the floor of *Naknek 2*)	Below 1,500 ft AGL	May 1 to Sep 30
21	Town of Nulato (outside of MOAs)	Below 1,000 ft AGL	Continuous
22	Healy Lake/Village (adjustment to *Buffalo*)	Below 6,000 ft above MSL	Continuous
23	Fielding Lake State Recreation Sites (outside of MOAs)	Below 2,000 ft AGL	May 15 to Sep 30
24	Donnelly Creek State Recreation Site (adjustment to *Buffalo*)	Below 2,000 ft AGL	May 15 to Sep 30
25	Summit Lake Lodge	Burned	

Table D-6. Flight Avoidance Areas *(continued)*

#	Name	Altitude	Time(s) of Year
26	Caribou Calving Area (below the floor of *Fox 3* and outside of MOAs)	Removed (summer of 2003)	
27	Sheep Lambing Area (outside of MOAs)	Below 1,000 ft AGL	May 1 to Jun 30
28	Lake George (adjustment to *Buffalo*)	Below 1,500 ft AGL	Continuous
29	Shaw Creek Youth Camp (adjustment to *Birch*)	Below 1,500 ft AGL	Continuous
30	Town of Circle City (adjustment to *Yukon 2*)	Below 6,000 ft above MSL	Continuous
31	Towns of Central and Circle Hot Springs (adjustment to *Yukon 2*)	Below 10,000 ft above MSL	Continuous
32	Mouth of Alexander Creek (outside of MOAs)	Below 1,500 ft AGL	May 1 to Oct 1
33	Mouth of Lake Creek (outside of MOAs)	Below 1,500 ft AGL	May 1 to Oct 1
34	Mouth of Kroto (Deshka) Creek (outside of MOAs)	Below 1,500 ft AGL	May 1 to Oct 1
35	Neil Lake	Removed Spring 08	
36	Gulkana National Wild and Scenic River (outside of MOAs)	Below 5,000 ft above MSL	Jun 27 to Jul 11
37	Towns of Central and Circle Hot Springs (Supersonic operations) (adjustment to *Yukon 2*)	Altitude: Below 30,000 ft above MSL	Continuous
38	Hunting areas in Yukon MOA	Replaced by *Salcha River Area One* (#4), *Salcha River Area Two* (#5), and *Salcha River Area Three* (#40)	
39	Cirque Lakes Dall Sheep Lambing Area (adjustment to *Yukon 1*)	Below 5,000 ft AGL	May 10 to Jun 15
40	Salcha River Area Three (adjustment to *Yukon 1*)	Below 5,000 ft above MSL for turbojet/turbofan aircraft Below 1,000 ft AGL for all other aircraft	Sep 1 to Sep 20
41	Caribou Hunting Area (below the floor of *Fox 3*)	Below 1,000 ft AGL	Aug 1 to Sep 30
42	Gold King Creek airstrip (exclusion to *Eielson*)	Below 1,500 ft AGL	Continuous
43	Pogo airstrip and Goodpaster River Valley (adjustment to *Yukon 1*)	500 ft AGL	Continuous
44	Nowitna National Wild River (adjustment to *Galena*)	Below 2,000 ft AGL	May 15 to July 15
45	Susitna Flats Sanctuary migratory waterfowl area (outside of MOAs)	Below 1,000 ft AGL	Apr 15 to May 31 Sep 1 to Oct 31
46	Goose Bay airstrip (outside of MOAs)	Below 1,500 ft AGL	Continuous
47	Flat Horn Lake airstrip and cabins (outside of MOAs)	Below 1,000 ft AGL	Continuous
48	Big Lake and Big Lake airstrip (outside of MOAs)	Below 1,500 ft AGL	Continuous
49	Wasilla airport (known locally as "New Wasilla", outside of MOAs)	Below 1,500 ft AGL	Continuous
50	Willow airport (outside of MOAs)	Below 1,500 ft AGL	Continuous
51	East Susitna Valley area (outside of MOAs)	Below 1,000 ft AGL	May 1 to Oct 31
52	Alexander Lake airstrip (outside of MOAs)	Below 1,500 ft AGL	Continuous
53	Kahiltna River cabins and airstrip (outside of MOAs)	Below 1,500 ft AGL	May 1 to Oct 1
54	Kashwitna airport (outside of MOAs)	Below 1,500 ft AGL	Continuous
55	Montana Creek airport (outside of MOAs)	Below 1,500 ft AGL	Continuous
56	Parks Highway, Wasilla, Palmer, Palmer Hay Flats Bird Sanctuary, and Glenn Highway (outside of MOAs)	Below 1,000 ft AGL	Continuous

Key: AGL = above ground level; ft = feet; MOA = Military Operations Area

The Special Use Airspace brochure follows.

I AM NOT A PILOT. WHY SHOULD I KNOW ABOUT MOAs AND SUAIS?

The information in this pamphlet is for all persons traveling in the vicinity of Military Operations Areas (MOAs) in Alaska. For persons on the ground, this pamphlet provides information on where low flying military aircraft and "jet noise" may occur.

SUAIS INFORMATION

For current information on MOA activity and range status, contact:

EIELSON RANGE CONTROL
VHF 125.3
1-800-758-8723
(907) 372-6913

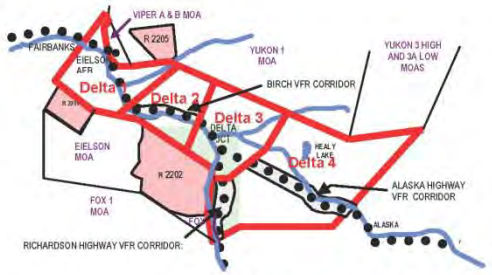
To file a **NOISE COMPLAINT** call the 24 HOUR FEEDBACK LINE
1-800-538-6647
1-800-JET-NOISE

GENERAL SAFETY REPORTING
Report unexpected encounters with military aircraft or other safety concerns
JBER - (907) 552-4128/4798
Eielson - (907) 377-1155/1025

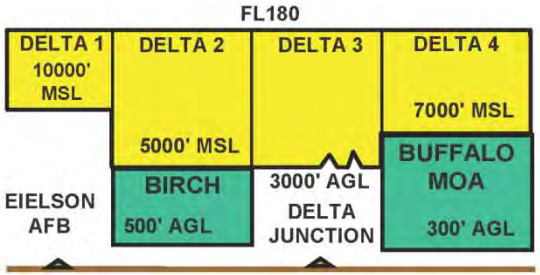
For **ADDITIONAL INFORMATION** about Air Force flight activity in Alaska see our web site at:
http://www.jber.af.mil/11af/alaskaairspaceinfo

THIS PAMPHLET IS PROVIDED FOR INFORMATION PURPOSES ONLY. IT IS NOT INTENDED TO REPLACE OFFICIAL GUIDANCE AVAILABLE THROUGH THE FAA. IT IS STRONGLY RECOMMENDED THAT PILOTS CONTACT THE NEAREST FLIGHT SERVICE STATION FOR THE LATEST NOTAM INFORMATION ON RESTRICTED/ SPECIAL USE AIRSPACE.

DELTA MOA



SIDE VIEW



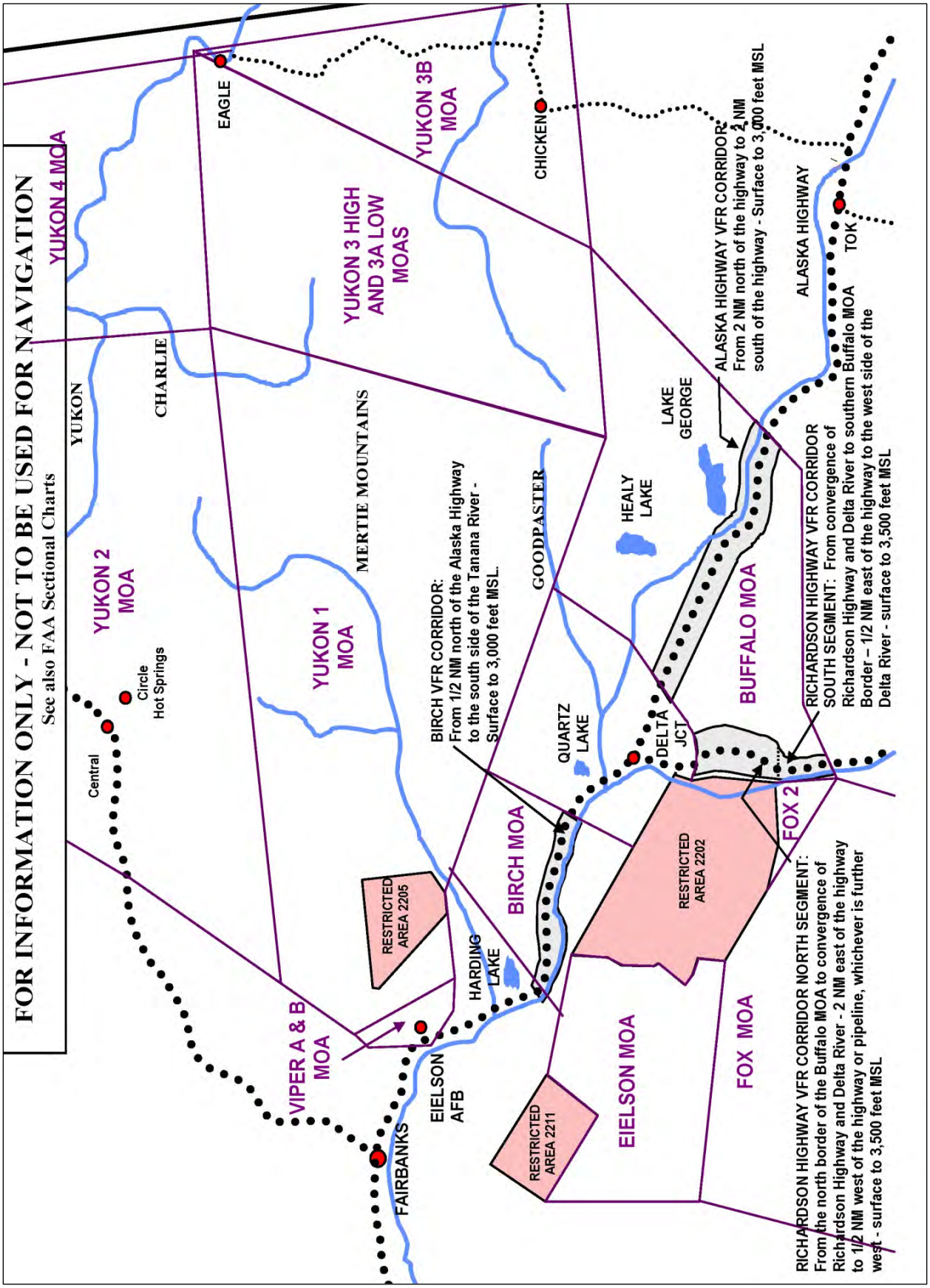
This MOA will only be utilized during major flying exercises (2011 dates listed on flip side). Usage times will be published 30 days prior to the start of each exercise. Exercise activation times will normally consist of a morning and evening period. Each period will last 1.5 – 2.5 hours. Reference the web page below and Eielson AFB NOTAMs for actual activation times. This MOA will be returned to the FAA immediately upon completion of military use. Activation times are published 30 days in advance to encourage pilots to plan their flights around the short activation windows. MOAs are "VFR see and avoid" airspace, and VFR flight through the MOA is not restricted, although extreme caution is advised due to the high speed/dynamic nature of military flying. Utilize SUAIS if you must transit an active MOA. Emergency aircraft, air evacuation, Life Flight, and fire fighting aircraft will always have priority over military training. Please refer to the Alaska Airspace webpage for the most current information:
http://www.jber.af.mil/11af/alaskaairspaceinfo

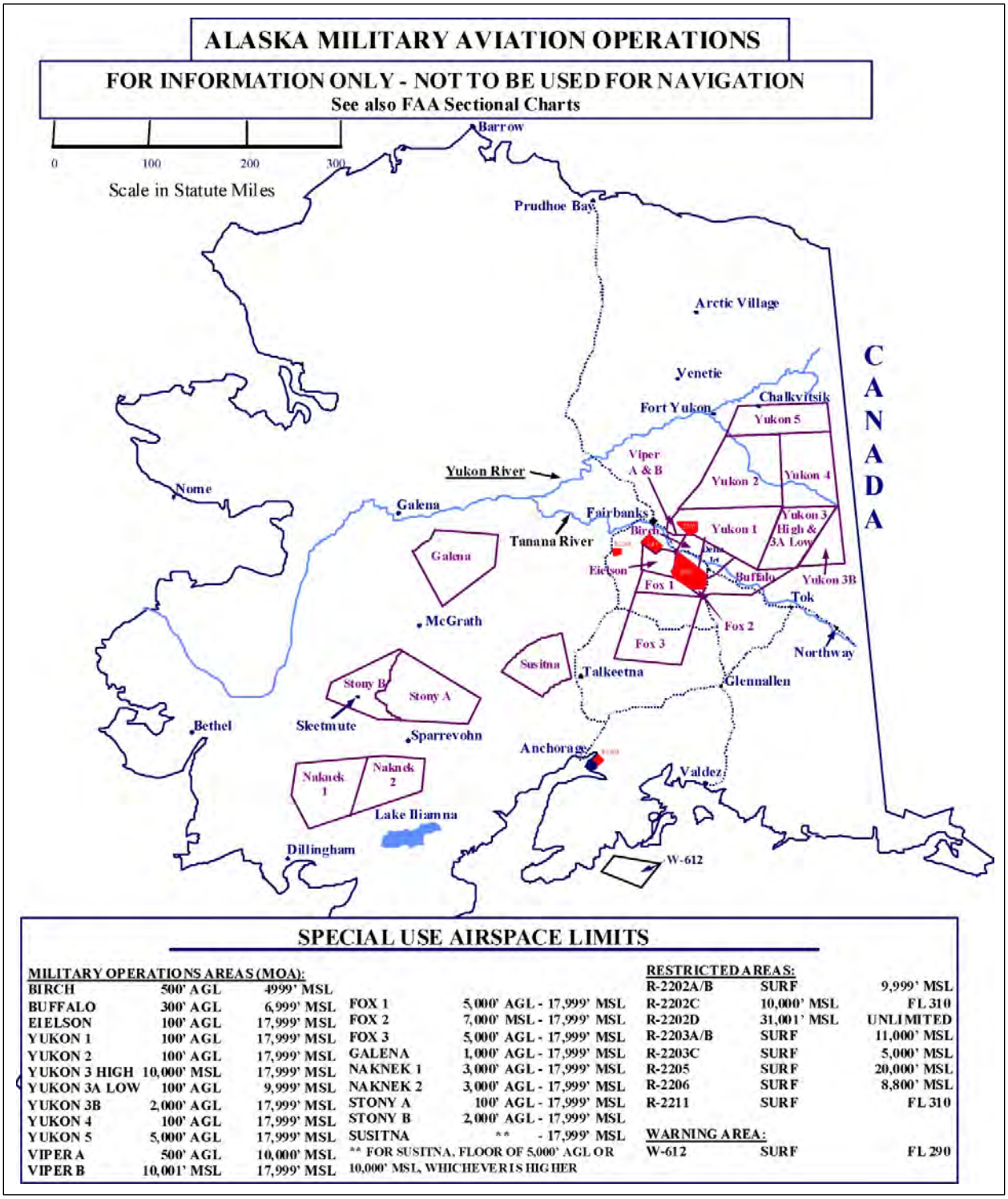
ALASKA
MILITARY OPERATIONS AREAS (MOAs)

Special Use Airspace Information Service (SUAIS)

IMPORTANT INFORMATION ON MILITARY AIRCRAFT OPERATIONS IN ALASKA FOR ALL PILOTS, RESIDENTS, AND VISITORS

2011 EDITION
DEPARTMENT OF THE AIR FORCE
11TH AIR FORCE
JOINT BASE ELMENDORF-RICHARDSON


FOR INFORMATION ONLY - NOT TO BE USED FOR NAVIGATION
See also FAA Sectional Charts
YUKON 4 MOA
EAGLE
YUKON 3B MOA
CHICKEN
YUKON 3 HIGH AND 3A LOW MOAS
ALASKA HIGHWAY VFR CORRIDOR From 2 NM north of the highway to 2 NM south of the highway - Surface to 3,000 feet MSL
ALASKA HIGHWAY
TOK
YUKON
CHARLIE
MERTIE MOUNTAINS
LAKE GEORGE
YUKON 2 MOA
Circle Hot Springs
Central
YUKON 1 MOA
BIRCH VFR CORRIDOR: From 1/2 NM north of the Alaska Highway to the south side of the Tanana River - Surface to 3,000 feet MSL.
GOODPASTER
HEALY LAKE
BUFFALO MOA
RICHARDSON HIGHWAY VFR CORRIDOR SOUTH SEGMENT: From convergence of Richardson Highway and Delta River to southern Buffalo MOA Border – 1/2 NM east of the highway to the west side of the Delta River - surface to 3,500 feet MSL
QUARTZ LAKE
DELTA JCT
RESTRICTED AREA 2205
BIRCH MOA
RESTRICTED AREA 2202
FOX 2
HARDING LAKE
VIPER A & B MOA
EIELSON AFB
FAIRBANKS
RESTRICTED AREA 2211
EIELSON MOA
FOX MOA
RICHARDSON HIGHWAY VFR CORRIDOR NORTH SEGMENT: From the north border of the Buffalo MOA to convergence of Richardson Highway and Delta River - 2 NM east of the highway to 1/2 NM west of the highway or pipeline, whichever is further west - surface to 3,500 feet MSL



SPECIAL USE AIRSPACE LIMITS

MILITARY OPERATIONS AREAS (MOA):

BIRCH	500' AGL	4999' MSL			
BUFFALO	300' AGL	6,999' MSL	FOX 1	5,000' AGL	17,999' MSL
EIELSON	100' AGL	17,999' MSL	FOX 2	7,000' MSL	17,999' MSL
YUKON 1	100' AGL	17,999' MSL	FOX 3	5,000' AGL	17,999' MSL
YUKON 2	100' AGL	17,999' MSL	GALENA	1,000' AGL	17,999' MSL
YUKON 3 HIGH	10,000' MSL	17,999' MSL	NAKNEK 1	3,000' AGL	17,999' MSL
YUKON 3A LOW	100' AGL	9,999' MSL	NAKNEK 2	3,000' AGL	17,999' MSL
YUKON 3B	2,000' AGL	17,999' MSL	STONY A	100' AGL	17,999' MSL
YUKON 4	100' AGL	17,999' MSL	STONY B	2,000' AGL	17,999' MSL
YUKON 5	5,000' AGL	17,999' MSL	SUSITNA	**	17,999' MSL
VIPER A	500' AGL	10,000' MSL	** FOR SUSITNA, FLOOR OF 5,000' AGL OR		
VIPER B	10,001' MSL	17,999' MSL	10,000' MSL, WHICHEVER IS HIGHER		

RESTRICTED AREAS:

R-2202A/B	SURF	9,999' MSL
R-2202C	10,000' MSL	FL 310
R-2202D	31,001' MSL	UNLIMITED
R-2203A/B	SURF	11,000' MSL
R-2203C	SURF	5,000' MSL
R-2205	SURF	20,000' MSL
R-2206	SURF	8,800' MSL
R-2211	SURF	FL 310

WARNING AREA:

W-612	SURF	FL 290

WHAT IS THE SPECIAL USE AIRSPACE INFORMATION SERVICE?

The Special Use Airspace Information Service (SUAIS) is a 24-hour service provided to civilian pilots. The SUAIS's primary function is to provide civilian pilots with information regarding Air Force flight operations in the MOAs and Restricted Airspace within central Alaska, so they may better plan their flights through and around the SUA. The service provides "near real time" information on Air Force flight activity in the Fairbanks and Delta Junction areas. SUAIS also provides information on Army artillery firing and known helicopter operations.

CONTACT INFORMATION AND HOURS OF OPERATION

Eielson Range Control is an airspace facilitator at Eielson Air Force Base, Alaska which is staffed during the 10 hour flying window. This window is normally from 9 a.m. to 7 p.m., Monday through Friday (except federal holidays), and times when military flying is in progress in the Interior Alaskan MOAs and Restricted Areas. After hours, telephone and radio callers will receive the airspace status through a recorded message. Eielson Range Control is equipped with UHF and VHF radios and radar displays.

Pilots can call SUAIS at 1-800-758-8723 or (372-6913 from the Fairbanks area). If airborne, contact Eielson Range Control, VHF 125.3. SUAIS information can also be found on the Joint Base Elmendorf-Richardson home page at:
http://www.jber.af.mil/11af/alaskaairspaceinfo
then select "Special Use Airspace Information Service". Beyond SUAIS radio range, Flight Service Stations can give status of special use airspace, to include Military Training Routes.

WHY USE SUAIS?

SAFETY. Eielson Range Control monitors all military activity in MOAs and can advise civilian pilots of high-speed military aircraft operating in them. The MOAs adjacent to the Richardson and ALCAN Highways between Tok, Delta Junction, and Fairbanks are areas of heavy general aviation use. VFR transit corridors have been established along the highways, but the MOAs are of special concern since they are subject to flights at high speed/low altitude by military aircraft.

EFFICIENCY: Military Restricted Areas are not always in use. Eielson Range Control can advise civilian aircraft of current restricted area status.

EMERGENCY: Eielson Range Control can assist in clearing military aircraft out of this airspace if requested by the FAA or other agencies for emergency operations such as air ambulance missions or fire fighting operations.

HOW TO USE SUAIS

PREFLIGHT: Call the SUAIS phone number to find out which MOAs along your route of flight are scheduled to be active and during what times.

INITIAL RADIO CONTACT WITH RANGE CONTROL: Provide your present position (with reference to a NAVAID or a well known geographic reference), altitude, and intended route of flight. Conveying intentions is critical to helping the system enhance flight safety in areas that lack low altitude radio coverage.

POSITION REPORTS: To promote safety and improve everyone's situational awareness, pilots are encouraged to provide routing and destination updates, particularly if their route of flight changes.

SUAIS RADIO AND RADAR COVERAGE

Radio relay stations permit pilots flying as low as a few hundred feet to contact Eielson Range Control in the Tanana Valley between Lake George and Fairbanks. Aircraft flying in mountainous terrain to the east of the Tanana River will need to be as high as the tops of the highest terrain in their immediate vicinity. The general area of coverage is bounded by 50 miles North of Circle, Fairbanks to the west, Black Rapids to the south, and Lake George to the east. The ability to detect light aircraft without transponders is limited. **Transponder use is highly recommended.**

Eielson Range Control ***does not*** provide air traffic control services. They can provide information on the status of airspace and the ***approximate*** locations of ***military aircraft*** in the area. IFR vectoring, processing of flight plans, etc., is not provided. ***Use of the SUAIS constitutes an acknowledgment, understanding, and acceptance of these limitations.***

MAJOR FLYING EXERCISE SCHEDULE

The following schedule lists dates when higher than usual levels of activity can be expected in Alaskan MOAs. Military flying activities ***are not limited*** to these dates. Military aircraft may be encountered at any time throughout the year.

Military flight activity will normally increase two business days prior to major exercises to allow pilots to familiarize themselves with the airspace. The major exercises dates are listed below.

Dates below subject to change
Check the web site for updates

Red Flag Alaska 11-01	**18 Apr -- 29 Apr 2011**
Northern Edge 11	**13 June -- 24 June 2011**
Red Flag Alaska 11-02	**11 July -- 22 July 2011**
Red Flag Alaska 11-03	**15 Aug -- 26 Aug 2011**
Red Flag Alaska 12-1	**10 Oct -- 21 Oct 2011**

http://www.jber.af.mil/11af/alaskaairspaceinfo

D.5 REFERENCES

Air Force (U.S. Air Force). 1997. Alaska Military Operations Areas Final Environmental Impact Statement Record of Decision. Department of the Air Force, 11th Air Force, Elmendorf AFB, Alaska. April.

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