

**U. S. AIR FORCE INTEGRATED
NATURAL RESOURCES
MANAGEMENT PLAN (INRMP)
2018 - 2022
Fairchild Air Force Base**



ABOUT THIS PLAN

This installation-specific Environmental Management Plan (EMP) is based on the U.S. Air Force's (AF) standardized Integrated Natural Resources Management Plan (INRMP) template. This INRMP has been developed in cooperation with applicable stakeholders, which may include Sikes Act cooperating agencies and/or local equivalents, to document how natural resources will be managed. Non-U.S. territories will comply with applicable Final Governing Standards (FGS). Where applicable, external resources, including Air Force Instructions (AFIs); AF Playbooks; federal, state, local, FGS, biological opinion and permit requirements, are referenced.

Certain sections of this INRMP begin with standardized, AF-wide "common text" language that address AF and Department of Defense (DoD) policy and federal requirements. This common text language is restricted from editing to ensure that it remains standard throughout all plans. Immediately following the AF-wide common text sections are installation sections. The installation sections contain installation-specific content to address local and/or installation-specific requirements. Installation sections are unrestricted and are maintained and updated by AF environmental Installation Support Teams (ISTs) and/or installation personnel.

NOTE: The terms 'Natural Resources Manager', 'NRM' and 'NRM/POC' are used throughout this document to refer to the installation person responsible for the natural resources program, regardless of whether this person meets the qualifications within the definition of a natural resources management professional in DODI 4715.03.

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DOCUMENT CONTROL

Record of Review – The INRMP is updated not less than annually, or as changes to natural resource management and conservation practices occur, including those driven by changes in applicable regulations. In accordance with (IAW) the Sikes Act and AFI 32-7064, *Natural Resources Management*, the INRMP is required to be reviewed for operation and effect not less than every five years. Annual reviews and updates are accomplished by the base Natural Resources Manager (NRM), and/or an Installation Support Team Natural Resources Media Manager. The installation shall establish and maintain regular communications with the appropriate federal and state agencies. At a minimum, the installation NRM (with assistance as appropriate from the NR Media Manager) conducts an annual review of the INRMP in coordination with internal stakeholders and local representatives of the United States Fish and Wildlife Service (USFWS), state fish and wildlife agency, and National Oceanic and Atmospheric Administration (NOAA) Fisheries, where applicable, and accomplishes pertinent updates. Installations will document the findings of the annual review in an Annual INRMP Review Summary. By signature to the Annual INRMP Review Summary, the collaborating agency representative asserts concurrence with the findings. Any agreed updates are then made to the document, at a minimum updating the work plans.

INRMP APPROVAL/SIGNATURE PAGES

Approving Officials:

U.S. Air Force:

A handwritten signature in black ink, appearing to read "D. Salmi".

20 Dec 2018

DEREK M. SALMI, Colonel, USAF
Commander, 92d Air Refueling Wing
Fairchild AFB, WA

Date



United States Department of the Interior



FISH AND WILDLIFE SERVICE

Washington Fish and Wildlife Office

510 Desmond Drive, Suite 102

Lacey, Washington, 98503

January 30, 2019

Colonel Derek M. Salmi, Commander
Headquarters 92nd Air Refueling Wing (AMC)
1 East Bong Street
Fairchild Air Force Base, Washington 99011-2892

Dear Colonel Salmi:

The U.S. Fish and Wildlife Service (Service) has reviewed the U.S. Air Force's *Integrated Natural Resources Management Plan Fairchild Air Force Base 2018-2022* (INRMP). This INRMP updates an INRMP previously signed in 2012 for Fairchild Air Force Base, Washington and the Air Mobility Command. This letter has been prepared under the authority of, and in accordance with, the Sikes Act (16 U.S.C. 67a et seq.), Sikes Act Improvement Amendments, and the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 et seq.).

Pursuant to enacting legislation, the Service considers three criteria to determine if an INRMP will provide adequate special management or protection. These three criteria are whether the plan will provide a conservation benefit to Federal trust resource species that are present at the installation; gives assurances that the plan will be implemented, and provides assurances that conservation efforts will be effective.

Based on our review of the draft plan and the supplemental materials provided, we conclude that the INRMP for Fairchild Air Force Base will meet all three criteria. By this letter and the enclosed signature page for the INRMP, the Service acknowledges that effects from your proposal on Federal trust-resources have been considered and we have no outstanding concerns about impacts from any of the proposed actions to be covered by the plan.

The Service also recommends that the INRMP for Fairchild Air Force Base address migratory bird conservation in accordance with:

- Executive Order 13186, dated January 17, 2001, which addresses the responsibilities of Federal agencies to protect migratory birds (66 FR 3853).
- The Service's Director Order 172, dated June 9, 2004, which also addresses the responsibilities of Federal agencies to protect migratory birds.

Colonel Salmi

2

- A Memorandum of Understanding, dated September 5, 2014, between the U.S. Department of Defense and the Service to promote the conservation of migratory birds.

Thank you for your stewardship of our Nation's natural resources. We look forward to continued cooperation with you and your staff on this matter. If you or your staff has any questions concerning this letter, our enclosed comments, or future Service coordination to implement the INRMP, please contact Heather Fuller at our Eastern Washington Field Office in Spokane at (509) 893-8017. Thank you for the opportunity to review the Fairchild Air Force Base INRMP.

Sincerely,



Brad Thompson, Acting State Supervisor
Washington Fish and Wildlife Office

Enclosure

cc:

Fairchild AFB, WA (S. Woodard)
WDFW, Spokane, WA

U.S. Fish and Wildlife Service (USFWS):

A handwritten signature in blue ink, appearing to read "Brad Thompson", is written over a horizontal line.

Brad Thompson, PhD
Acting State Supervisor
Washington Fish and Wildlife Office

1/30/2019

Date

WA Department of Fish and Wildlife (WDFW):



12/17/2018

Mr. Michael Atamian

Spokane District Wildlife Biologist
Washington Department Fish & Wildlife
2315 North Discovery Place
Spokane Valley, WA 99216

Date

EXECUTIVE SUMMARY

This Integrated Natural Resources Management Plan (INRMP) has been developed for Fairchild Air Force Base (AFB), Washington and the Air Mobility Command (AMC) in accordance with Air Force Instruction (AFI) 32-7064, Integrated Natural Resources Management - the Sikes Act (including amendments), and Air Force Policy Directive (AFPD) 32-70, Environmental Quality. This INRMP provides Fairchild AFB with a description of the Installation and their surrounding environments, and presents various management practices designed to mitigate negative impacts and enhance the positive effects of the Installation's mission on regional ecosystems. These recommendations are balanced against the requirements of Fairchild AFB to accomplish their mission at the highest possible level of efficiency. To obtain an accurate assessment of Fairchild AFB's influences, analyses were conducted to determine the physical and biotic nature of Fairchild AFB and the surrounding environment, as well as the operational activities taking place.

This INRMP is an ecosystem management plan—a guide for the management and stewardship of all natural resources present on Fairchild AFB while ensuring the successful accomplishment of their respective missions. A multiple-use approach is used to allow for the presence of mission-oriented activities while efficiently managing the natural resources to conserve biodiversity and environmental quality. The maintenance and enhancement of biological diversity is particularly important in the management of natural resources and is accomplished through the implementation of specific management practices identified in this INRMP. Biodiversity is simply defined as “the variety of life and its processes.” Biodiversity does not describe how many species there are or how evenly they are represented in a given community. Rather, biodiversity can be applied on four basic levels: genetic diversity, species richness, ecosystem diversity, and landscape diversity. Genetic diversity refers to the variation of genotypes within a species that influences different characteristics among individuals or populations. Species richness refers to the number of different kinds of species within a given area. Ecosystem diversity refers to the variety of ecosystems across a given landscape. Finally, landscape diversity refers to the variation of the ecosystems that interact across a large land area. By protecting habitats that support the greatest variety of life and its processes, this INRMP will help perpetuate viable populations of native species and communities.

The plan presents practicable alternatives and recommendations that can ensure minimal impact on the missions at Fairchild AFB while providing for the management and stewardship of natural resources as well as the conservation and enhancement of existing ecosystems on the Installation. Consequently, in some cases, the implementation of certain recommendations could sacrifice the improvement of Fairchild AFB's natural resources in deference to the safety and efficiency of the flying mission. The overriding goals for this INRMP are:

- No net loss in the capability of Fairchild AFB lands to support the military mission
- Minimize habitat fragmentation and promote the natural pattern and connectivity of habitats
- Protect native species and discourage nonnative, exotic species
- Protect rare and ecologically important species and unique or sensitive environments
- Maintain or mimic natural processes

- Protect genetic diversity
- Rehabilitate damaged ecosystems, communities, and species
- Monitor biodiversity impacts

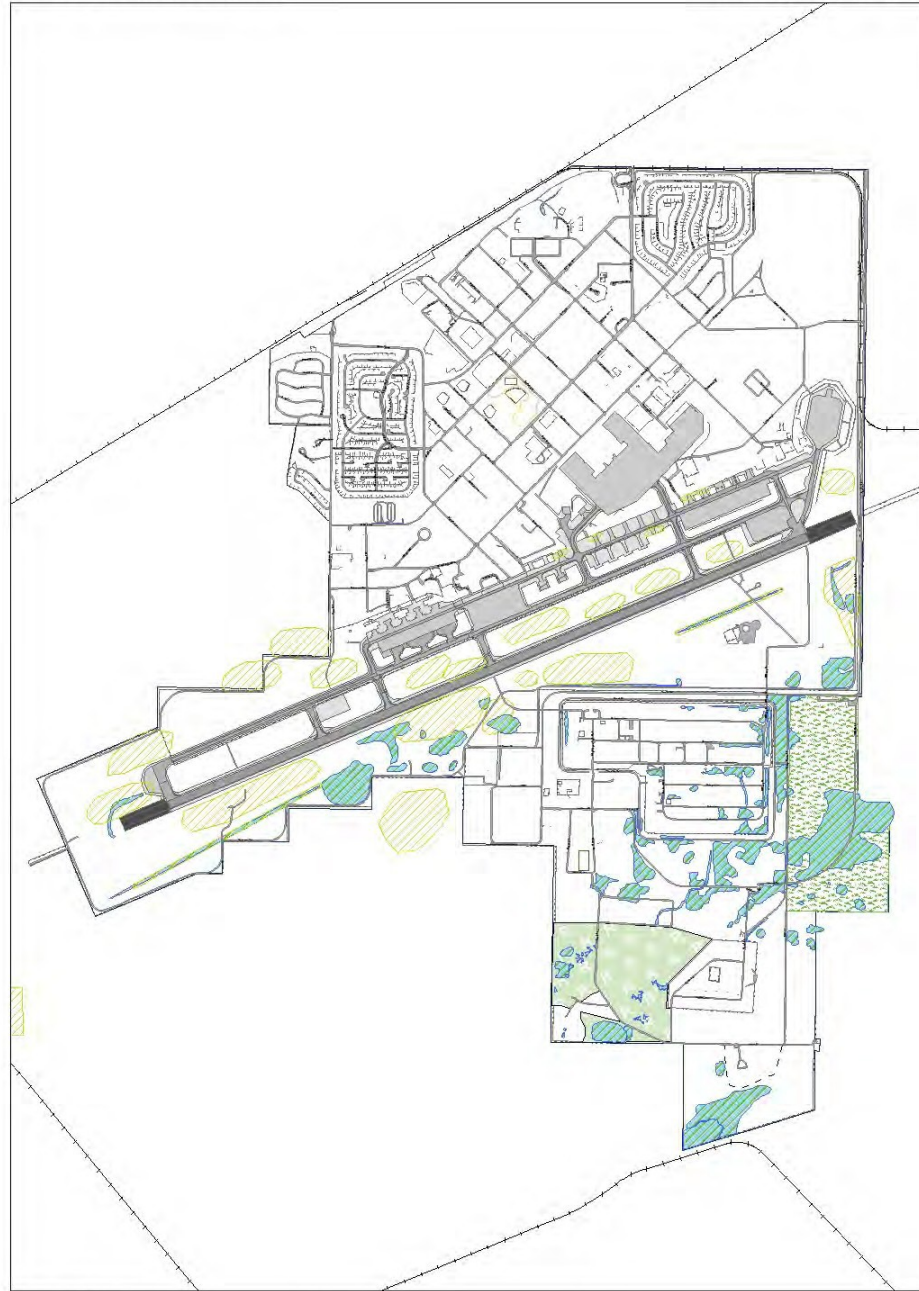
From these goals, objectives and management actions were identified that structure this plan's guidance. Monitoring criteria are included as metrics to measure attainment of goals and effectiveness of management actions. The overall purpose is to promote an adaptive management environment where changes can be made when necessary to better meet goals or to identify when environmental conditions change. Monitoring the effectiveness of natural resource management programs is performed with results considered in implementing adaptive management strategies and updating the base's Environmental Management System. Adaptive management can apply remedies to operational actions that adversely affect the function and composition of ecosystems.

Throughout the development of this INRMP, management issues, referred to as "topics of concern," were identified in a number of natural resources subject areas. Some of these natural resources topics of concern could have an adverse impact on Fairchild AFB's flying mission or future planning operations. The potential negative impacts could range from delays in the construction of new buildings to loss of life and/or severely damaged aircraft from bird strikes.

One of the purposes of this INRMP is to identify goals and objectives for natural resource management and to identify workable and useful solutions where potential negative impacts or constraints to installation planning and mission operations are anticipated. The topics of concern of greatest potential impact to operations and mission are identified in the following list and are used to shape the context of this Plan. Goals, objectives, actions, and monitoring criteria for the INRMP are presented in Management Goals and Objectives. An implementation schedule is presented in Annual Work Plans. The areas associated with these topics of concern are further depicted in Natural Resources Constraints at Fairchild AFB.

- Federally-listed, threatened plant species, Spalding's catchfly (*Silene spaldingii*) and suitable habitat has been identified on the Installation. The Recovery Plan recommends continuous monitoring and protection on Fairchild AFB. The Endangered Species Act, Section 7 requires that federal actions that may impact a protected species or its habitat must be evaluated in consultation with the U.S. Fish and Wildlife Service (USFWS). In addition, there are several federally listed species of concern and state priority species and habitats on the Installation that US Air Force policy requires protection whenever feasible.
- There are 215 acres of wetlands on Fairchild AFB. Federal and Washington state Clean Water Acts and supplemental decisions require protection of these areas and their function from adverse impact. Mission operations that have potential for impact to wetlands or their functions must be evaluated using mitigation sequencing and then coordinated with the appropriate regulatory agency.
- The base supports numerous native species and habitats. Monitoring and inventory is necessary to properly assess and manage habitat and native species. Several birds and mammals have been identified as Bird/Wildlife Aircraft Strike Hazard (BASH) threat species that could impact flying operations. Bird/aircraft strikes on the runway and during take-offs and landings have been

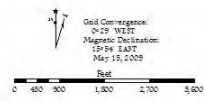
documented. The association between existing habitat as an attractant to BASH species, and management of BASH hazards, poses a management challenge that requires decisions based upon the best available information. Captive deer populations within Fairchild AFB fencing could migrate into improved areas on the Installation posing a threat to safety on the airfield and roadways along with potentially damaging landscaping in improved areas.



Projection: UTM, Zone 11N
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- Legend**
- T & E Species Habitat
 - Surface Water
 - Wetland Areas
 - Vernal Pools



Scale: 1:20,000

70,000 CEPT, 10280, GeotBase
 USAF, Air Mobility Command
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Natural Resources Constraints at Fairchild AFB

1.0 OVERVIEW AND SCOPE

This INRMP was developed to provide for effective management and protection of natural resources. It summarizes the natural resources present on the installation and outlines strategies to adequately manage those resources. Natural resources are valuable assets of the United States Air Force. They provide the natural infrastructure needed for testing weapons and technology, as well as for training military personnel for deployment. Sound management of natural resources increases the effectiveness of Air Force adaptability in all environments. The Air Force has stewardship responsibility over the physical lands on which installations are located to ensure all natural resources are properly conserved, protected, and used in sustainable ways. The primary objective of the Air Force natural resources program is to sustain, restore and modernize natural infrastructure to ensure operational capability and no net loss in the capability of AF lands to support the military mission of the installation. The plan outlines and assigns responsibilities for the management of natural resources, discusses related concerns, and provides program management elements that will help to maintain or improve the natural resources within the context of the installation's mission. The INRMP is intended for use by all installation personnel. The Sikes Act is the legal driver for the INRMP.

1.1 Purpose and Scope

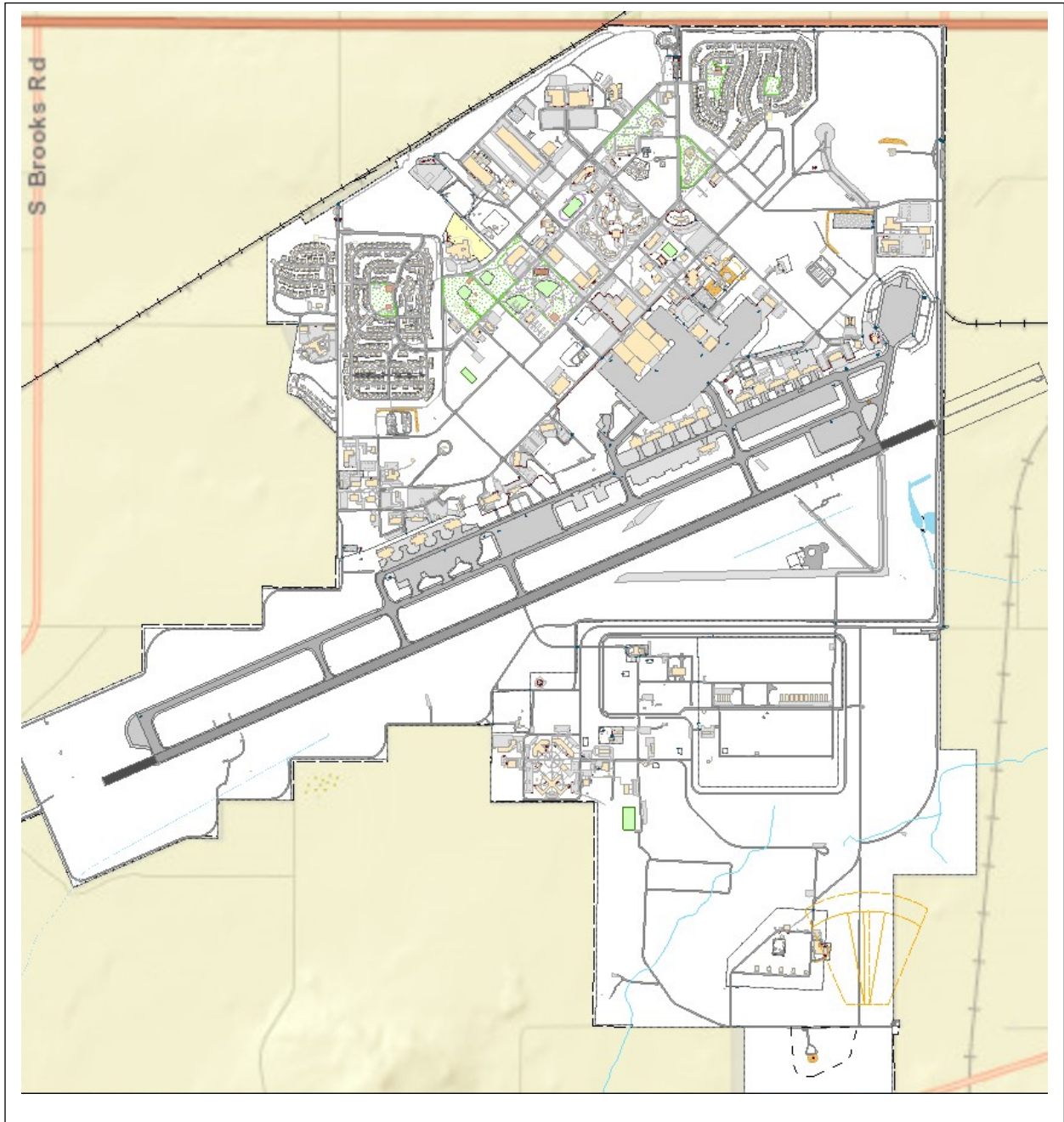
This INRMP has been developed in accordance with AFI 32-7064 - Integrated Natural Resources Management, AFD 32-70 - Environmental Quality, and the provisions of the Sikes Act (16 United States Code [U.S.C.] 670a et seq.).

The INRMP integrates all aspects of natural resources management with the mission of Fairchild AFB. The INRMP, therefore, becomes the primary tool for effectively managing the associated ecosystems while ensuring the successful accomplishment of the military mission at the highest possible levels of efficiency. A multiple-use approach is implemented to allow for the presence of mission-oriented activities, as well as environmental quality through the efficient management of natural resources.

Specific management practices identified in this INRMP have been developed to enhance and maintain biological diversity, while providing connectivity to the ecosystems of which the installation is a part. Specifically, management practices should:

- (1) minimize habitat fragmentation; promote natural pattern and connectivity of habitats
- (2) protect native species and discourage nonnative, exotic species
- (3) protect rare and ecologically important species
- (4) protect unique or sensitive environments
- (5) maintain or mimic natural processes
- (6) protect genetic diversity
- (7) restore ecosystems, communities, and species
- (8) monitor biodiversity impacts

Detail Map of Fairchild AFB



However, each of the management practices described in this Plan should be monitored so that modifications can be made during implementation as conditions change and to assure goals and objectives are met.

The comprehensive planning process, which includes logistics and operations of Fairchild AFB, incorporates the concerns presented in this INRMP, so installation development can progress in a manner consistent with, and complementary to, the objectives of the USAF with respect to the protection of natural resources. Additionally, geographic information system (GIS) digital maps are a useful tool for planning, implementation, and monitoring and are included as the Comprehensive Base Plan's as a Tab for Natural and Cultural Resources and Tab for Natural Resources Constraints. Please note that the cultural resources present on Fairchild AFB are briefly discussed in Section 7.14 Cultural Resources. In-depth management and classification of cultural resources on the installation is in a separate plan, the Fairchild AFB Integrated Cultural Resources Management Plan (ICRMP).

1.2 Management Philosophy

As part of its mission, the USAF has chosen to be a national leader in environmental and natural resources stewardship. The vitality of natural resources must be ensured in order to achieve its military mission. As a steward of natural resources, Fairchild AFB acknowledges its commitment to be a conservation leader by carrying out its mission with an ecosystem approach by managing lands and resources for long-term sustainability.

Conservation is an integration or blending of natural resources management and preservation designed to maintain ecosystem integrity. This INRMP is structured to successfully accomplish conservation. It is a dynamic document that will be maintained and adapted, as necessary, to reflect updated natural resources information. The development and implementation of this INRMP indicates that senior management at Fairchild AFB is committed to natural resources management as reflected in Department of Defense Instruction (DODI) 4715.3, Environmental Conservation Program.

The INRMP was developed using an interdisciplinary approach and information gathered from a variety of organizations. Information and guidance was also solicited from a variety of Federal, state, and local agencies and groups. Representatives from the following Federal, State, and local regulatory agencies and groups were consulted to provide input on this INRMP: USFWS, WDFW, and the Washington Natural Heritage Program (WNHP).

Coordination and correspondence with these agencies is documented and satisfies a portion of the EIAP requirements (32 CFR Part 989) and AFI 32-7061, The Environmental Impact Analysis Process.

Consultation and congruence with representatives from USFWS and WDFW satisfies the provisions of the Sikes Act (16 U.S.C. 670a et seq.) and its amendments. The Sikes Act Improvement Act (SAIA) requires the preparation of an INRMP in cooperation with the USFWS and the appropriate state fish and wildlife agency (i.e., WDFW). In addition, it is required that the resulting Plan reflects the mutual agreement of the parties concerning conservation, protection, and management of fish and wildlife resources. The SAIA also requires public comment on the INRMP at its inception, as well as after each required 5-year revision.

The INRMP implements the AF principles for ecosystem management as addressed in AFI 32- 7064, Section 2.9, presenting practicable alternatives and recommendations that allow for the protection and enhancement of natural resources and conservation of existing ecosystems, while minimizing impacts on the Installation’s missions. Consequently, the implementation of some of these recommendations could sacrifice improvement of Fairchild AFB natural resources in deference to the safety and efficiency of the flying mission.

1.3 Authority

This INRMP is developed under, and proposes actions in accordance with, applicable Department of Defense (DOD) and USAF policies, directives, and instructions. AFI 32-7064, Integrated Natural Resources Management, provides the necessary direction and instructions for preparing an INRMP. Issues are addressed in this Plan using guidance provided under legislation, Executive Orders (EOs), Directives, and Instructions that include DOD Directive 4715.3, Environmental Conservation Program; AFPD 32-70, Environmental Quality; AFI 32-7065, Cultural Resources Management; and AFI 32-7064. DOD Directive 4715.3 provides direction for DOD installations to establish procedures for an integrated program for multiple-use management of natural resources. AFPD 32-70 discusses general environmental quality issues, including proper cleanup of polluted sites, compliance with applicable regulations, conservation of natural resources, and pollution prevention. AFI 32-7065 provides guidance on the preservation of cultural resources at USAF installations.

Installation-Specific Policies (including State and/or Local Laws and Regulations)	
<i>Bald Eagle Protection Rules, implemented through Washington Administrative Code (WAC), 220-610-100</i>	Helps maintain the highest possible standards to insure the purity of all waters of the state consistent with public health and public enjoyment thereof, the propagation and protection of wild life, birds, game, fish and other aquatic life, and the industrial development of the state, and to that end require the use of all known available and reasonable methods by industries and others to prevent and control the pollution of the waters of the state of Washington.
<i>Growth Management Act (GMA), implemented through the Revised Code of Washington (RCW), 36.70A</i>	The GMA requires state and local governments to manage Washington’s growth by identifying and protecting critical areas and natural resource lands, designating urban growth areas, preparing comprehensive plans and implementing them through capital investments and development regulations.
<i>Shoreline Management Act of 1971 (SMA), implemented through the RCW, 90.48, Water Pollution Control</i>	Helps maintain the highest possible standards to insure the purity of all waters of the state consistent with public health and public enjoyment thereof, the propagation and protection of wild life, birds, game, fish and other aquatic life, and the industrial development of the state, and to that end require the use of all known available and reasonable methods by industries and others to prevent and control the pollution of the waters of the state of Washington.
<i>SMA implemented through the RCW, 90.58</i>	Provides for the management of the shorelines of the state by planning for and fostering all reasonable and appropriate uses. This policy is designed to insure the development of these shorelines in a manner which, while allowing for limited reduction of rights of the public in the navigable waters, will promote and enhance the public interest.

Installation-Specific Policies (including State and/or Local Laws and Regulations)	
<i>State Hydraulic Code, implemented through WAC173- 201A, Water Quality Standards for Surface Waters of the State of Washington</i>	Establishes water quality standards for surface waters of the state of Washington consistent with public health and public enjoyment of the waters and the propagation and protection of fish, shellfish, and wildlife, pursuant to the provisions of chapter 90.48 RCW.

1.4 Integration with Other Plans

This section describes the current status of the installation’s natural resources management programs including the status of each resource and its inventories, management practices, monitoring or education programs, and any issues addressed under each resource category. The USAF has determined that Fairchild AFB has sufficient habitat to warrant the preparation of this INRMP.

Plans and inventories that contribute support and information for the natural resources program are listed below:

- Air Installation Compatible Use Zone (AICUZ), 2007
- Installation Development Plan, 2014
- Biological Resource Inventory (Small Mammals and Birds Monitoring Report), 2005
- Bird Aircraft Strike Hazard (BASH), 2018
- Integrated Cultural Resources Management Plan, 2018
- Integrated Pest Management Plan (IPMP), 2018
- Soil Investigation in Sensitive Environments of Fairchild AFB, 2007
- Soil Survey of Fairchild AFB, 2006
- Spalding’s catchfly (*Silene spaldingii*) Annual Monitoring Report, FY17
- Storm Water Pollution Prevention Plan, 2015
- Vegetation of Fairchild AFB, 2010
- Vernal Pool Site Monitoring Report, FY17

2.0 INSTALLATION PROFILE

Office of Primary Responsibility	92 nd Air Refueling Wing Commander has overall responsibility for implementing the Natural Resources Management program and is the lead organization for monitoring compliance with applicable federal, state and local regulations
Natural Resources Manager/POC	Shawn Woodard, 92 CES/CEIE (509)247-8116
State and/or local regulatory POCs (For US-bases, include agency name for Sikes Act cooperating agencies)	<p>Department of the Army, Corps of Engineers Spokane Regulatory Field Office Area Office 624 West Hastings Road, Suite 10 Spokane, WA 99218</p> <p>U.S. Department of Agriculture - Natural Resource Conservation Service West 316 Boone Avenue, Suite 450 Spokane, WA 99201 (509) 323-2900</p> <p>U.S. Department of Agriculture – APHIS Wildlife Services 720 O’Leary Street, NW Olympia, WA 98502</p> <p>U.S. Environmental Protection Agency - Region 10, Water Programs 1200 Sixth Avenue WD-134 Seattle, WA 98101 (206) 553-8399</p> <p>U.S. Fish and Wildlife Service 11103 E. Montgomery Drive Spokane Valley, WA 99206</p> <p>Washington Department of Fish and Wildlife 2315 N. Discovery Place Spokane Valley, WA 99216</p>
Total acreage managed by installation	5800
Total acreage of wetlands	215
Total acreage of forested land	0
Does installation have any Biological Opinions? (If yes, list title and date, and identify where they are maintained)	No
NR Program Applicability	<input type="checkbox"/> Invasive species <input type="checkbox"/> Wetlands Protection Program

(Place a checkmark next to each program that must be implemented at the installation. Document applicability and current management practices in Section 7.0)	<input type="checkbox"/> Grounds Maintenance Contract/SOW <input type="checkbox"/> Forest Management Program <input type="checkbox"/> Wildland Fire Management Program <input type="checkbox"/> Agricultural Outleasing Program <input type="checkbox"/> Integrated Pest Management Program <input type="checkbox"/> Bird/Wildlife Aircraft Strike Hazard (BASH) Program <input type="checkbox"/> Coastal Zones/Marine Resources Management Program <input type="checkbox"/> Cultural Resources Management Program
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2.1 Installation Overview

2.1.1 Location and Area

Fairchild AFB is situated in eastern Washington located in Spokane County, the fourth most populous county in the State. The base proper includes approximately 4,200 acres within the base perimeter. An additional approximately 1,800 acres surrounding the base is under various types of easements and other in-grants to minimize encroachment, etc. Improved and semi-improved areas make up approximately 2,800 acres and are mostly located in the north portion of the base. The table below lists Fairchild AFB and its additional installations (with their four letter property codes) within an approximately 10-mile radius; these installations are shown in the Figure Fairchild AFB and Land Holdings.

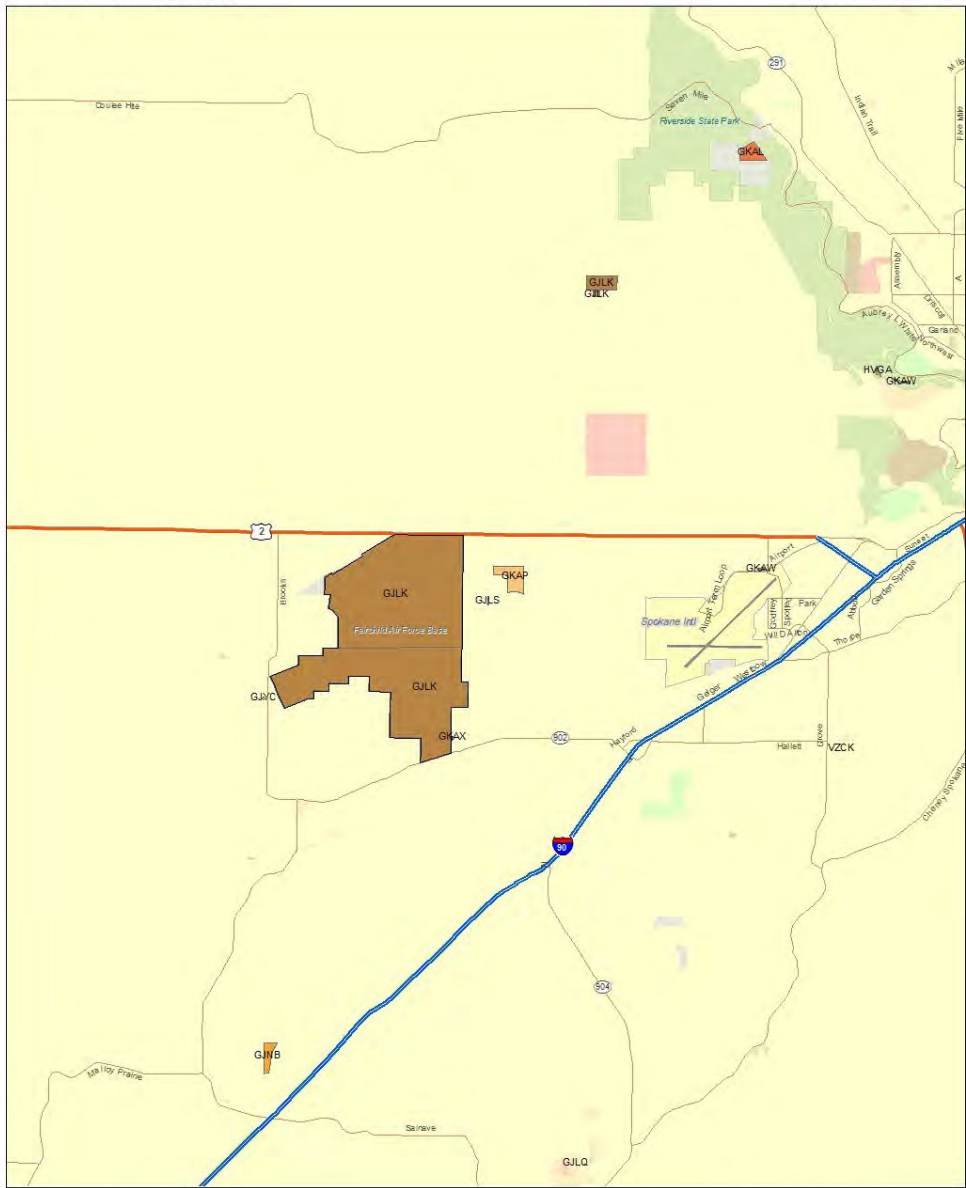
Installation/GSU Location and Area Descriptions

Base/GSU Name	Main Use/Mission	Acreeage	Addressed in INRMP?	Describe NR Implications
Fairchild AFB (GJKZ)	Mixed	4.200	INRMP Coverage	Wetlands, Outdoor Recreation, Migratory Birds, Resident Wildlife, T&E Species, and Invasive Species
Fairchild Waste Annex – Craig Road Landfill (GKAP)	Reclaimed Land	101	INRMP Coverage	Migratory Birds and Invasive Species
Fairchild 0-1 10 M (Outer Marker) (GJYC)	Ops/Maint	3	Category II	Exempt due to lack of significant natural resources
Helicopter Training Annex (GKAL)	Air Field	34	INRMP Coverage	Migratory Birds, Wildlife, and Invasive Species
ILS Middle Marker Annex (GJLS)	Ops/Maint	2	Category II	Exempt due to lack of significant natural resources
Clear Lake Recreation Area (GJNB)	Recreational	35	INRMP Coverage	Outdoor Recreation and Invasive Species
JPRA, White Bluff Site (GJLK)	Ops/Maint	86	INRMP Coverage	Invasive Species
Water System Annex No. 1 (GKAW)	Ops/Maint	43	INRMP Coverage	Wetlands, Wildlife, and Invasive Species

Base/GSU Name	Main Use/Mission	Acreage	Addressed in INRMP?	Describe NR Implications
Water System Annex No. 2 (GKAX)	Ops/Maint	5	<i>INRMP Coverage</i>	Invasive Species
Fort Wright Cemetery Annex (HVGA)	Cemetery	4	Category II	Exempt due to lack of significant natural resources

Base Land Holdings

Fairchild AFB



Projection: UTM, Zone 11N
Datum & Spheroid: WGS84

Map data layers continuously updated by aerial and ground surveys. Contact Fairchild AFB GeoBase Office for current map.

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Map: C1_11X17_v3.mxd

Legend

Off Base Sites

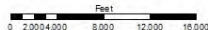
Text_

- GJLK
- GJLS
- GJNB
- GJYC
- GKAL
- GKAP
- GKAW
- GKAX
- HVGA



Grid Convergence: 0°29' WEST
Magnetic Declination: 10°24' EAST
July 25, 2006

Scale 1:93,629



USAF, Air Mobility Command
Fairchild AFB, WA 99011

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Fairchild AFB and Base Holdings

2.1.2 Installation History

Originally, the land in the area of the base was an extensive prairie composed of mid-length perennial grasses such as Bluebunch wheatgrass and Idaho fescue. By the 1870s, immigrants settled the prairies around the area of the future air base. In the early 1900s, irrigation from Silver Lake commenced and irrigates plots located along the eastern and southern edge of the future air base, which lead to the construction of dwellings, railroad, and school on future air base land. The irrigation system was terminated in 1922 and most homes were abandoned (Fairchild AFB, 2018).

The Main Base site was chosen in 1941 for Spokane Air Depot (an AMC Depot) because of its strategic location for the defense of Alaska. Land was purchased by public subscription of Spokane citizens at a price of \$101,078.66, and the title passed to the Federal government in January 1942. The base was officially activated in 1942 as an AMC Depot. The airfield was transferred to Fifteenth Air Force, Strategic Air Command in 1947, and in February 1948 was designated as Spokane AFB.

After numerous name changes, the base received its present name of Fairchild AFB in 1950, in memory of Vice Chief of Staff for Air, General Muir S. Fairchild, of Bellingham, Washington. In 1950–51, a new primary instrument runway with supporting taxiway and petroleum, oil, and lubricant (POL) facilities was constructed. Subsequently, an extensive construction program was undertaken. In 1952, Fairchild AFB received its first B-36 aircraft and received all jet B-52s in 1957 and KC-135 tanker aircraft in 1958. The first class of aircraft crew members began survival training with the 336th Combat Crew Training Group in 1966.

The 1980s brought several significant changes to the base. From 1980 to 1984, Fairchild developed facilities to support the Air Launch Cruise Missile. Between 1965 and 1986, the mission converted to "H" model B-52 aircraft. In July 1994, the base's mission changed again to support the 92nd ARW. The Fairchild AFB ICRMP contains additional information on the base's history (Fairchild AFB, 2018)), and is available from the Cultural Resources Manager.

2.1.3 Military Missions

Fairchild is home to the 92d Air Refueling Wing and many associate units including the 141st Air Refueling Wing of the Washington Air National Guard and the 336th Training Group. The mission of the 92 ARW is to provide immediately responsive Boeing KC-135 air "Stratotanker" refueling and airlift support to the United States and friendly forces; ensure the highest standards in safety, training, and combat capability are maintained; ensure quality support for all personnel and organizations associated with the wing; and provide an environment which fosters personal growth and continuous improvement. The 141st Air Refueling Wing also fliers the KC-135. The 336th Training Group executes Survive, Evade, Resist, and Escape (SERE) training for the Air Force.

Tenant units that may impact natural resources include the 336th Training Group; Joint Personnel Recovery Agency (JPRA); and Armed Forces Reserve Center (AFRC).

Listing of Tenants and NR Responsibility

Tenant Organization	NR Responsibility
141 st Air Refueling Wing	Fairchild AFB
336th Training Group	Fairchild AFB

AFRC	Fairchild AFB
JPRA	Fairchild AFB

2.1.4 Surrounding Communities

Fairchild Air Force Base is located in Spokane County, WA near the city of Spokane. The second largest city in Washington State, Spokane, is located approximately 12 miles east of the base with a population of 202,319 (2008 U.S. Census Bureau Population Estimate) and is considered the regional economic hub for the Inland Northwest. Sparsely populated open country and forested hills separates small communities in most of Spokane County. Several smaller communities located adjacent to or near the base support the Spokane region. These smaller communities include the cities of Airway Heights, Cheney, and Medical Lake. The 2008 population estimate for Spokane County is 462,677 (U.S. Census Bureau 2009) and population estimates for City of Airway Heights is 5,289; City of Cheney is 10,385; and the City of Medical Lake is 4,710.

The land immediately adjacent to Fairchild AFB is currently zoned Rural Traditional and, for the most part, is agricultural with some light industrial. However, increasing growth and development could affect future land uses and encroachment on Fairchild AFB. This encroachment could limit the ability to train and maintain operational readiness.

The base is working closely with Spokane County, and the cities of Airway Heights, Medical Lake, and Spokane, to minimize the potential of incompatible land uses impacting Fairchild AFB flying operations. A Joint Land Use Study (JLUS) involved input from the aforementioned groups to develop strategies to promote compatible land use planning (Fairchild AFB, September 2009). Several strategies apply to natural resource issues including BASH (for control of bird and wildlife attractions near Fairchild AFB) and establishing conservation easements.

Politically, the surrounding cities are governed by elected officials. There are nearby land holdings and businesses owned by the Spokane and Kalispel Indian Tribes. From a social and economic perspective, Fairchild AFB was the second largest employer in the Greater Spokane area in 2007. The base has a resident population of approximately 5,500 and a working population of over 10,000. The base work population is comprised of approximately active duty personnel; Washington Air National Guard (ANG); military families; and civilian employee (appropriated, non-appropriated, and contractors).

The land immediately surrounding Fairchild AFB that does not lie within the municipalities of Airway Heights or Medical Lake but is under Spokane County's jurisdiction (including lands to the north, west, and southeast of the Main Base). Land use outside of the incorporated areas of Fairchild AFB and Airway Heights is zoned Rural Traditional and Light Industrial. The predominant land use along US 2 is Small Tract Agricultural and Rural Traditional (Spokane County 2009). Open spaces surrounding Fairchild AFB contain scattered ponderosa pine and bunchgrass (sparse rabbitbrush) with invasive weeds. Crops grown in the area include hay and grain while surrounding industrial uses include landfills, gravel pits, and small manufacturing.

The eco-regional boundaries of Fairchild AFB are located within the Intermountain Semi-Desert Province, Columbia Basin Section, and Channeled Scablands Subsection according to the National Hierarchical Framework of Ecological Units (Bailey 1980; McNab and Avers 1994).

2.1.5 Local and Regional Natural Areas

Natural areas and their recreational opportunities are plentiful in the region, so there is no public demand for recreational use of the small areas of unimproved USAF lands. In addition, security measures do not allow for public access. High-security areas and potential future developments require current buffering and clear zones. The Fairchild AFB Clear Lake Recreation Area, operated exclusively for military personnel and their families, is described in Outdoor Recreation and Public Use.

Eastern Washington and North Idaho offer a diverse range of natural areas. Although there are public natural areas in the region (Colville National Forest, the Turnbull Wildlife Refuge, Dishman Hills Natural Conservation Area (NRCA), Pinecroft Natural Area Preserve (NAP), Riverside State Park, Mt. Spokane State Park, and the Spokane River Centennial Trail), none are within five miles of the base; however, one park and numerous lakes and creeks are present within that range.

2.2 Physical Environment

2.2.1 Climate

Fairchild AFB has four distinct seasons. In general, the weather has the characteristics of a mild, arid climate during the summer months and a cold, wet climate in the winter. Annual precipitation is generally between 11 and 20 inches (Climate Summary for Fairchild AFB, 1971-2000). Approximately 70 percent of the total annual precipitation falls between the first of October and the end of March, with a slight precipitation peak in May or June. Very little rain falls in late summer and fall. Most winter precipitation is in the form of snow. Snowfall averages about 46 inches a year, based on a 23 year history. An extreme high at just over 90 inches of snowfall occurred in 2008 and an extreme low at just over 10 inches occurred in 1976 (National Weather Service 2008).

During winter, Chinook winds can rapidly melt snow accumulations. If the ground is frozen during melting, surface water cannot infiltrate into soils and, therefore, becomes surface runoff. Runoff sometimes accumulates in low areas and attracts wildlife.

Climate Summary for Fairchild AFB, 1971-2000

Month	Normal Temperature (°F)—Daily			Normal Precipitation (Inches)—Monthly
	Maximum	Minimum	Mean	
January	32.8	21.7	27.3	1.82
February	39.3	25.7	32.5	1.51
March	48.6	30.4	39.5	1.53
April	57.5	35.5	46.5	1.28
May	66.2	42.6	54.4	1.60
June	73.9	49.2	61.6	1.18
July	82.5	54.6	68.6	0.76
August	82.6	54.5	68.6	0.68
September	72.5	45.9	59.2	0.76
October	58.5	35.8	47.2	1.06

November	41.1	28.7	34.9	2.24
December	32.8	21.6	27.2	2.25

Source: NOAA 2004 (Spokane International Airport weather reporting station)

2.2.2 Landforms

General topography of Fairchild AFB is flat and the average elevation is approximately 2,340 feet (709 km) above mean sea level. Fairchild is surrounded by mountain ranges. The Cascade Range is oriented north-northwest to south-southwest, 180 miles (290 km) west of Fairchild AFB. The foothills of this range are at a distance of 115 miles (185 km). Approximately 55 miles (89 km) to the northeast of Fairchild AFB lay the Selkirk Mountains. They are oriented north to south and connect with the Rockies to the east. The Okanogan Range lies approximately 130 miles (209 km) and the Kettle River Range lies approximately 45 miles (72 km), both to the northwest of Fairchild AFB. Both ranges are oriented north to south and connect to the Cascades to the west. To the east of Fairchild is the Bitterroot Range of the Rocky Mountains, oriented northwest to southeast at a distance of 90 miles (140 km). South of Fairchild are the Blue Mountains which are oriented northeast and southwest at a distance of 100 miles (160 km).

The base is situated on the channeled scablands of the Columbia Basin which consist of a thin layer of soil alternating with basalt outcroppings and areas of deeper soils (also referred to as islands because of the dominance of the basalt outcroppings). To the south of the base, the terrain blends into the rolling, deep loess topography of the Palouse that extends southward to the Snake River and its characteristic rough, barren volcanic topography. The scablands extend north and west of the base to the foothills of the Selkirk Mountains.

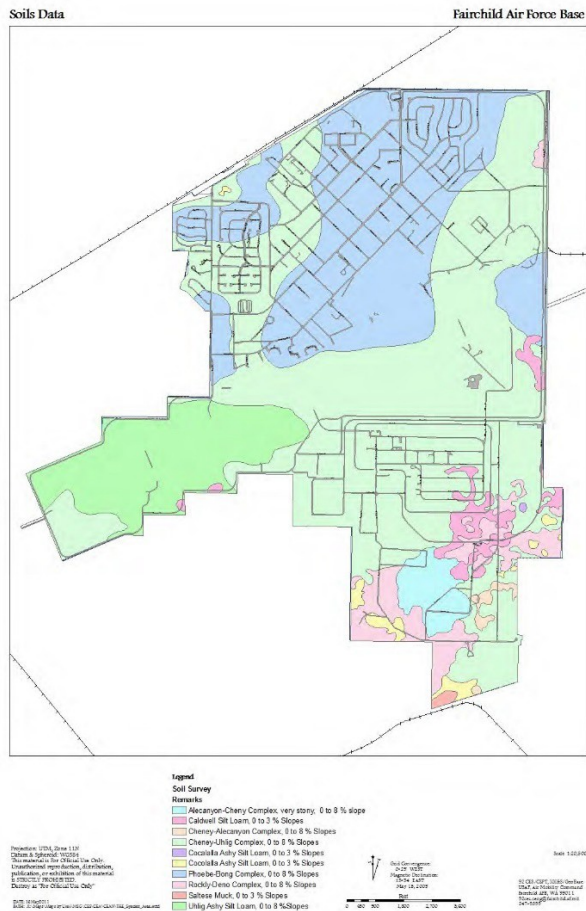
2.2.3 Geology and Soils

Geologically, the Spokane region was formed by the Columbia Plateau lava flows and glacial floodwaters that widened the Spokane River valley and deposited a layer of gravel up to 500 feet (152 meters) thick. Bedrock underlying the Columbian Basin is basalt that covered and lapped up against Precambrian granitic rock during a series of lava flows 5 to 24 million years ago (Miocene Epoch). Basalt outcroppings, the result of the cooled lava, are the predominant geological features and can be seen along the eastern edge of the Main Base, at the Satellite Tracking Site, and Clear Lake Recreation Area (Joseph 1990). The predominant geomorphologic feature of the base and surrounding countryside is that of the channeled scablands caused by erosion and floodwater deposition by the Great Spokane Flood 12,000 to 20,000 years ago and small soil mounds or "biscuits" formed from redistribution of windblown loess. Pleistocene glaciations and associated fluvial events made major changes in the landscape. Although glaciers were never present in this area, a series of catastrophic floods scoured the basalt plateau, deposited various unsorted and highly sorted outwash gravels and sands, and cut channels that generally tend southwesterly. These flows created pothole ponds and rolling topography. Following the last flood, loess and volcanic was deposited over the mix of flood debris and exposed basalt (Joseph 1990).

There are ten soil types present at Fairchild AFB. Figure Soil Types Present at Fairchild AFB lists and illustrates these soil types as mapped by the USDA NRCS in the 2006 update to the 1968 Soil Survey of Spokane County, Washington. Some of these soil types require special management considerations and

may cause limitations to management actions. Mounded soil landscapes located in the southern end of the Main Base are home to threatened and endangered species. The WNHP has identified several plant species federally and/or state listed in vernal pool areas between the mounds and one federally listed species growing on the mounds. Further investigation, from the 2007 Electromagnetic Induction Survey conducted by Professor Brad Lee of Purdue University, confirmed that surface topography is indicative of soil depth in that the soils are very shallow between the mounded landscapes and are thicker on the mounds themselves. The higher water holding capacities on the deeper soils of the mounds are a more suitable environment for the Spalding's catchfly (*Silene spaldingii*), a federally listed threatened plant species. Vernal wetlands have been identified in shallow soil areas as they collect and pond seasonal runoff. Several state-listed threatened and sensitive plant species have been identified within these vernal pool areas. Shallow soils over hard basalt bedrock do not always produce vernal pools but can increase design and construction costs particularly for buried utilities and foundations. Stormwater management is also a challenge. Perched water tables occur in many areas of the Main Base and are associated with stratified sand and clay soil layers deposited by the historic catastrophic floods. These areas present challenges to design, stormwater management, location of buried utilities and foundations, construction scheduling, and groundwater management.

Soil Types Present at Fairchild AFB



2.2.4 Hydrology

Watersheds and Drainage Patterns

The Main Base lies on a nearly flat plain and hydrologic divide within the Spokane River watershed. There are no defined, natural stream courses on the Main Base. Seasonal runoff disperses across relatively flat landscape and ponds in natural depression areas, as described in Section Geology and Soils, prior to infiltrating or evaporating or is collected in engineered drains in the developed areas of the base and is eventually infiltrated. The lack of surface water connection was further confirmed during the wetland delineation update of 2006 by Cascadia Technical Services, PLLC, where wetlands on the base were determined to be jurisdictionally isolated.

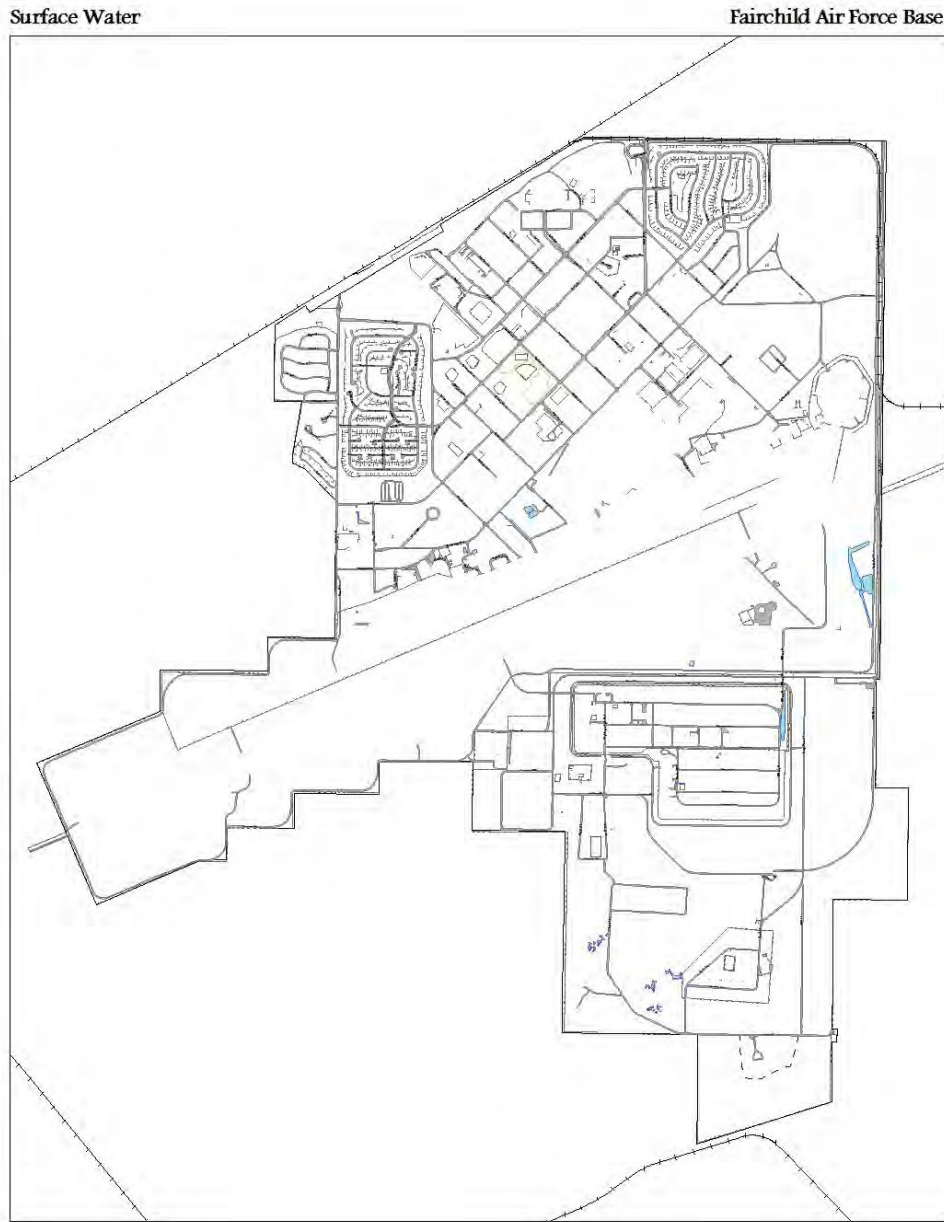
Numerous lakes, wetlands, and large ponds are found south of the base, including Silver Lake approximately 1.5 miles from the base. Other lakes south of the base include Granite Lake, Clear Lake, Medical Lake, West Medical Lake, and Otter Lake. Stream channels originate several miles removed from the Fairchild AFB property boundary.

There is a historic ditch, constructed prior to Fairchild AFB ownership, in fractured bedrock across the southern end of the base that was intended to divert water from Silver Lake for a fruit orchard development. This ditch is abandoned and does not flow water except for occasional seasonal stormwater ponding. A separate overflow ditch, informally called "No Name Ditch", was constructed for stormwater management and flows east to an agricultural field where the water infiltrates into the soil. The ditch was probably constructed from modification of an existing drainage by agricultural owners and further modified by the Army and Air Force. See Surface Waters at Fairchild AFB for a map of surface waters occurring on Fairchild AFB.


Groundwater

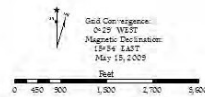
Perched groundwater exists on the Main Base and depth to the unconfined water table varies from 5 to 20 feet in some places. Shallow aquifers and groundwater movement from 20-100 feet in depth are correlated with bedrock fractures filled with gravel or deep deposits of stratified sands and gravels. Where Fairchild AFB's Environmental Restoration Program investigations have been conducted, groundwater monitoring suggests that the overall trend for groundwater movement is easterly and

northeasterly from the base. Deeper confined aquifers are correlated with basalt layers and with major aquifers at 100-200 feet and 400 feet.



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Legend
 Surface Water



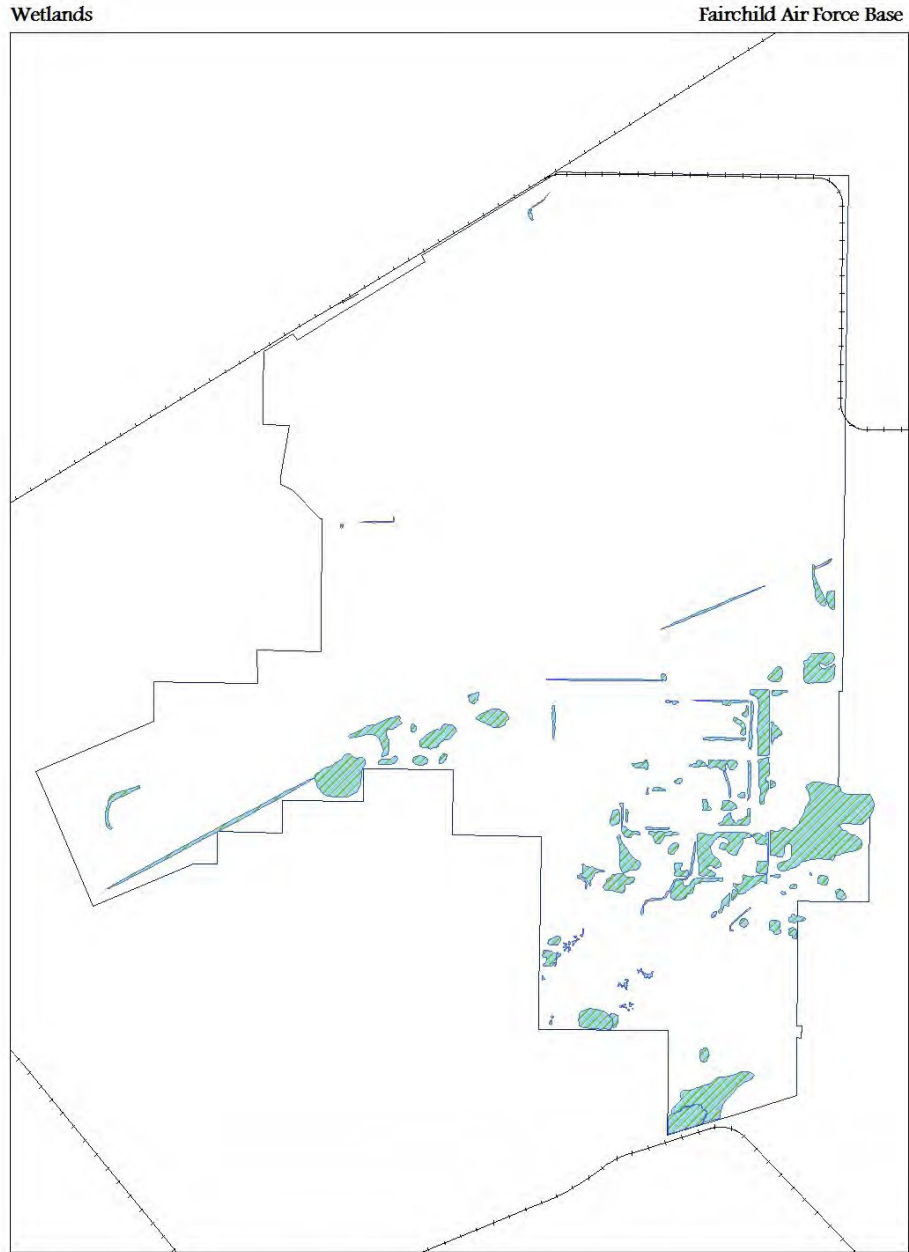
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Surface Waters at Fairchild AFB

Floodplains. Of the off base land holdings owned or controlled by Fairchild AFB, two are in the 100-year floodplain, as determined by review of Floodplain Insurance Rate Maps and contact with the USACE and the Spokane County Floodplain Administrator. The first site, GKAW Water System Annex No 1, is on the Spokane River. The second site is the Clear Lake Recreation Area facility (GJNB); the 100-year floodplain elevation for the lake is considered to be 2,350 feet. Although federal lands are exempt from both local and state floodplain regulations and ordinances, it is Fairchild AFB's policy to comply with local regulations.

Wetlands. Most wetlands are located in the southern portion of the Main Base (Wetlands at Fairchild AFB). The 2006 wetlands delineation update provides recent delineations and a functional value rating for wetlands managed by Fairchild AFB. All of the wetlands within Fairchild AFB are isolated depressions, constructed drainage ditches, or vernal pools. Wetland condition ranges from nearly undisturbed to significantly disturbed with the highest functions being for groundwater recharge, runoff attenuation, and wildlife habitat. Vernal pools are included in the Conservation Area established for suitable habitat for the Spalding's catchfly.

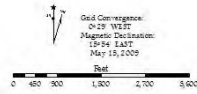


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Legend

- Vernal Pool
- Wetland Area
- Surface Water



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Wetlands at Fairchild AFB

2.3 Ecosystems and the Biotic Environment

2.3.1 Ecosystem Classification

Fairchild AFB is managed using an ecosystem perspective. Supporting ecosystem integrity is the best way to protect biodiversity, ensure continued long-term use, and minimize the effort and cost of management. Native and natural communities, and the processes behind them, are unique expressions of the evolutionary and geologic histories that are essential to sustaining current system function and resilience.

Ecosystem Classification

The U.S. Forest Service's National Hierarchical Framework of Ecological Units is a regionalization classification and mapping system that links soils, physiography, and habitat types to stratify the landscape into progressively smaller areas. Fairchild AFB is located within the Intermountain Semi-Desert Province, Columbia Basin Section, and Channeled Scablands Subsection according to the National Hierarchical Framework of Ecological Units (Bailey 1980; McNab and Avers 1994). The Intermountain Semi-Desert Province covers the plains and tablelands of the Columbia-Snake River Plateaus and Wyoming Basin, while the Columbia Basin Section covers the Columbia River basin, a large dissected plain high above sea level.

Like the U.S. Forest Service, the U.S. Environmental Protection Agency (EPA) has created their own spatial framework for environmental resource management; ecoregions denote areas within which ecosystems (and the type, quality, and quantity of environmental resources) are generally similar. Fairchild AFB is located within the Columbia Plateau Ecoregion (Level III). The Columbia Plateau Ecoregion occurs in the southeast corner of Washington and the north-central portions of Oregon, and is bisected by the Columbia River. The Columbia Plateau Ecoregion is dominated by shrub-steppe and grasslands.

Within the Columbia Basin Section, native sagebrush, bunchgrasses and ponderosa pine plant communities are the most common native vegetation on drier sites, with Douglas fir, aspen and wetland plant associations found in wetter areas. Soil types are diverse and plant community composition can vary with soil type. Representative plant associations are bluebunch wheatgrass/Idaho fescue; Ponderosa pine/needle and thread grass; stiff sagebrush/Sandberg's bluegrass, Ponderosa pine/common snowberry; and Ponderosa pine/bluebunch wheatgrass. Natural disturbance regimes include high frequency, low severity wildfire events and wind. Fire and soil type has had the most influence on forest distribution. Wind influences biodiversity of plant species and wildlife habitat components. Man's development disturbance has influenced composition and successional sequences of some communities through agricultural practices and the introduction of animal species. Fire suppression has altered the distribution and character of forests in undeveloped areas in the Columbia Basin Section (McNab and Avers 1994)

The Columbia Plateau Ecoregion is biologically rich, supporting 18 endemic plant species and 192 species of birds including numerous at-risk birds. Nearly 45 percent of Washington's 829 species of vertebrates are found in the Columbia Plateau Ecoregion (Washington Biodiversity Project 2009). Deer are the dominant ungulates. Other mammals represented are coyote, whitetailed jackrabbit, cottontail rabbit,

marmot, badger, and ground squirrels. Raptors are common avian components as well as songbirds (McNab and Avers 1994).

2.3.2 Vegetation

2.3.2.1 Historic Vegetative Cover

Fairchild AFB is in the northeastern portion of the Columbia Basin Section where grassland or shrub-steppe vegetation grades into ponderosa pine forest (Franklin and Dyrness 1973). Vegetative agricultural communities in this region show a wide range of diversity depending on soil conditions, hydrology, topographic aspect, and microclimate. Perennial grassland community associations dominated by Idaho fescue or bluebunch wheatgrass are found in drier sites, while ponderosa pine, aspen, and wetland associations exist in moist sites.

The Idaho fescue—parsnip-flower buckwheat herbaceous vegetation association forms a small scale mosaic with the bluebunch wheatgrass—parsnip-flower buckwheat herbaceous vegetation association. Within that general landscape pattern, the stiff sagebrush/Sandberg's bluegrass dwarf-shrub herbaceous vegetation association is found as a scabland community on rocky sites. A letter response from the WNHP indicates that they recognize both the Idaho fescue—parsnip-flower buckwheat herbaceous vegetation association and the stiff sagebrush/Sandberg's bluegrass dwarf-shrub herbaceous vegetation association as high quality terrestrial ecosystems that occur or have the potential to occur on Fairchild AFB (Moody 2004).

Other potential plant associations identified in close proximity to the base, and likely associated with the landscape on the base, include: Ponderosa pine/bluebunch wheatgrass; bluebunch wheatgrass/Sandberg's bluegrass; Ponderosa pine/needle and thread grass. Also, in moist sites in association with potholes and vernal pools, ponderosa pine/common snowberry and ponderosa pine/Idaho fescue woodland associations have been identified (Daubenmire 1970).

During pre-settlement times, ponderosa pine trees periodically invaded the grassland plateau but fire kept the trees at low numbers or eradicated them. Today's abundant tree cover may be a result of fire suppression.

Quaking aspen/red-osier dogwood communities lined most wetlands prehistorically and represent an important potential vegetation type. Other potential wetland communities are not predictable because the degree of alteration of wetland hydrology, species composition, and soil development has eliminated all baseline sites and has altered the environment enough to create new vegetation development patterns.

2.3.2.2 Current Vegetative Cover

The developed areas of the base are categorized for land planning purposes as improved or semi-improved. Natural areas are categorized for land planning purposes as unimproved areas. Improved and semi-improved areas make up approximately 2,800 acres and are mostly found in the northern portion of the base. Approximately 1,400 acres in the northeast corner and southern portion of the base are primarily unimproved areas and are covered with open non-native grass fields, wetlands, Russian olive thicket, scattered ponderosa pine stands, native grassland with some invasive plants, and shrub fields. Non-native invasive plants and noxious weeds are apparent throughout the base.

The development of Fairchild AFB has caused the replacement of the historic vegetative cover with nonnative landscaping materials or roadside vegetation. The Ft Wright cemetery, JPRA White Bluffs Site, and the Water Annex have also been landscaped to varying degrees. The open spaces remaining on the base and most of its holdings remain in native vegetative cover. Most vegetation communities on Fairchild AFB have been altered by:

- Past farming that replaced the original vegetation with crops.
- Grazing that simplified plant communities.
- Military development and training that displaced or changed the original vegetation and natural processes.

Much of the unimproved portions of the base are dominated by pasture grasses and weeds. These areas are relatively uniform swaths of grasses not native to North America. Old fields have a low diversity of plants, although some aggressive native species might be present. Most of the vegetation along the Fairchild airfield falls in this category.

Scattered portions of the Main Base and outlying tracts support remnants, albeit altered occurrences, of natural vegetation. Native bunchgrass communities appear in mowed and unmowed condition. The mowed sites are dominated by native species tolerant to clipping and give a vegetation structure more typical of severe scabland sites with shrubs. Unmowed sites vary by past and present land use, generally resembling potential bunchgrass communities.

Although restricted in extent, forest communities are present at each site. Ponderosa pine forms stands generally with a shrubby understory although it grows with bunchgrass at Clear Lake and the JPRA White Bluffs site.

There are approximately 215 acres of wetlands on Fairchild AFB and associated installations. Wetlands and associated fringing communities are seen around potholes and vernal pools in the southern portion of the base. Cattail and rushes grow on sites with more permanent water, and quaking aspen rings these ponds, often accompanied by ponderosa pine. Vernal pools have spikerush and many alien plant species. The southeast edge of the Main Base supports a large wetland vegetation community of Russian olive shrub and a mosaic of grasses and grass-like plants that varies in pattern according to water availability. In general, most undeveloped habitat at the Main Base occurs in the southern half, an area that contains a mix of disturbed and semi-native wetlands. This area provides habitat suitable for wildlife such as hawks, owls, deer, songbirds, waterfowl, and upland birds. The main base contains no fish habitat. A riparian community dominated by a variety of trees and shrubs appears at the Water System Annex (GKAW) property along the Spokane River and along the less developed perimeter of Clear Lake Recreation Area.

2.3.2.3 Turf and Landscaped Areas

The importance of the functional and aesthetic aspects of plants and landscaping is recognized by the base. Cultivated vegetation on base consists of landscaped and turf areas surrounding buildings, residences, play areas, and recreation fields. The base's landscaping policy is to provide an attractive, low-maintenance landscaping environment that enhances the natural and human-made features of the base. However, burrowing animals such as ground squirrels, moles, voles, and pocket gophers cause turf

damage to lawns, gardens, and fields as well as possibly transmitting diseases. Controlling these animals by eliminating their food source has effectively controlled these pests.

An Urban Tree Inventory, conducted in 2004 on approximately 65% of the Installation, identified over 1,000 trees of varying species with ages ranging from sapling to mature.

2.3.3 Fish and Wildlife

Clear Lake Recreation Area contains suitable habitat for conserving and managing fish and wildlife, therefore, is classified as a Category I installation, as defined in AFI 32-7064, Section 2.2. Category I installations require “an INRMP and have natural resources requiring protection and management, such as habitat for protected species, aquatic resources, or any habitat that is suitable for conserving and managing wildlife.”

In general, most undeveloped habitat on the Main Base occurs in the southern half. This area contains a mixture of disturbed and semi-native wetlands, open grass/shrubland, and two small patches of ponderosa pine. This area provides habitat suitable for wildlife such as hawks, owls, deer, songbirds, waterfowl, and upland birds. The northern portion of the Main Base is mostly developed and contains habitats and species typical of urban areas. Several of these species pose a safety hazard to the base’s flying mission (see Section Bird/Wildlife Aircraft Strike Hazard). The Main Base contains no fish habitat. Low water levels within wetlands, drainage channels, and stormwater detention areas are insufficient to support fish populations (Fairchild 1999). The Clear Lake Recreation Area and the Fairchild Water Annex along the Spokane River are the only facilities covered by this INRMP that contain fish. Clear Lake contains rainbow trout and largemouth bass, and the Spokane River (adjacent to the Water Annex) contains rainbow, eastern brook, and brown trout. Fisheries resources at these areas are managed by the WDFW and are not under the authority of Fairchild AFB.

Birds

As stated earlier, preliminary bird studies were conducted by the Nature Conservancy in 1993 and 1994. However, a more recent bird survey was done by Eastern Washington University in 2005 on the southeastern portion of Fairchild AFB. Of the 78 species reported in the 1993-1994 surveys, 52 were observed and recorded in 2005, as well as another 13 species that had not been previously recorded. Bird species present at Fairchild AFB include year-long residents, neotropical migrants, occasional winter residents, and migrants that stop over in spring and fall.

Mammals

As part of the Biological Resource Inventory conducted by Eastern Washington University in 2005, a small-mammal study was done on the southeastern portion of Fairchild AFB. The following table (Small-Mammal Species Captured at Fairchild AFB, 2005) lists the small-mammal species captured during the 2005 Eastern Washington University survey.

Small-Mammal Species Captured at Fairchild AFB, 2005

Species	Spring	Autumn	Total
Montane vole (<i>Microtus montanus</i>)	10	101	111
Meadow vole (<i>Microtus pennsylvanicus</i>)	4	5	9
Vole (<i>Microtus sp.</i>)	2	--	2
Ermine (<i>Mustela ermine</i>)	1	1	2
Species	Spring	Autumn	Total
Deer mouse (<i>Peromyscus maniculatus</i>)	93	92	185
Great Basin pocket mouse (<i>Perognathus parvus</i>)	--	1	1
Western harvest mouse (<i>Reithrodontomys megalotis</i>)	1	--	1
Vagrant shrew (<i>Sorex vagrans</i>)	4	3	7

Ground dwelling squirrels, such as yellow-bellied marmots and three colonies of Columbian ground squirrels, were also observed. Other mammals observed include red squirrels, coyote adults and pups, white-tailed and mule deer, and long-tailed weasels.

Reptiles and Amphibians

A total of seven species, three amphibian and four reptilian, (Pacific treefrog; Columbia spotted frog; Western terrestrial garter snake; Valley (Common) Garter Snake; Racer snake; Long-toed salamander; Painted turtle) were documented in May 2013 Reptiles and Amphians of FAFB Report. An additional two species, the Western rattlesnake (*Crotalus viridis*) and Rubber boa (*Charina bottae*) were identified at FAFB during the time period of the 2012 surveys performed in support of this report, although not by survey researchers. Amphibians and reptiles were documented across the majority of the southern portion of the base. Abundances of several species, including the Washington State candidate species Columbia spotted frog, appeared to be very high in certain areas. No individual reptiles or amphibians were detected at the northern (more developed) sections of the installation, likely due to lack of suitable habitat. Of particular note, the Columbia spotted frog, a state candidate species, was detected in very large numbers on the base, particularly in the constructed ditch within the flightline area.

Wildlife Management Challenges

Three of the most challenging wildlife resources to manage at Fairchild AFB include a deer herd, resident and non-resident raptors, and flocks of water fowl.

White-tailed deer are currently found throughout the 10 eastern Washington counties, with the highest populations found in northeastern Washington (Stevens, Pend Oreille, and Spokane). Many white-tailed deer live their entire lives in relatively small areas (1-3 sq. miles), as is the case with the deer herd at Fairchild AFB. White-tailed deer habitat includes riparian areas, mixed species woodlands, fields and open slopes, all of which are available at Fairchild AFB (WDFW, no date). Mule deer are only found east of the Cascade Mountains in Washington, and prefer open forests and sagebrush meadows. Mule deer/white-tailed deer hybrids are uncommon, but may occur where both species occur in close proximity (WDFW 2010)², like at Fairchild AFB. This particular deer herd is primarily landlocked and may have a reduced potential for genetic diversity, because they are isolated from other deer.

The year-round presence of raptors and seasonal flocks of migrating water fowl at Fairchild AFB increases the risk of bird-aircraft strike (see Section Bird/Aircraft Strike Hazard [BASH] program for details). Fairchild AFB has documented Red-tailed Hawk nest sites (2005 and 2006 raptor surveys), and others are known on adjacent lands. Fairchild AFB is within a major migratory flyway for the Canada Goose and the geese occur on the base primarily in the summer. Geese and other waterfowl are protected under the Migratory Bird Treaty Act.

Main Base Management Areas

This plan classifies the Main Base into five natural resource management areas, based on existing habitat conditions.

South Base Area

Taken collectively, the southern portion of the base contains the most valuable wildlife habitat in terms of area available, species present, and management potential. The area contains open grass fields, two small stands of ponderosa pines, extensive wetland areas, and patches of native grassland vegetation. Mule deer, white-tailed deer, coyote, badger, Great Basin pocket mouse, gopher and garter snakes, red-tailed hawk, northern harrier, great horned owl, ring-necked pheasant, and several species of waterfowl are likely to occur in this area.

Wetland complexes in the area have open water, aquatic bed, emergent and scrub-shrub wetland habitats and contain habitat suitable for waterfowl, upland game birds, and a variety of songbirds and small mammals.

Fifteen vernal pools have been described and monitored on Fairchild AFB. The WA State Department of Natural Resources Natural Heritage Program (NHP) performed surveying and monitoring between 2002 and 2005, between 2008 and 2011, and again in 2013. The United States Fish and Wildlife Service Land Management Research Demonstration Program (LMRD) visited the pools in 2015; 2016; and 2017. Vernal pools are known to provide essential habitat for amphibians and can also serve as a seasonal habitat for waterfowl, upland game birds, and a variety of songbirds and small mammals.

During the fall, several types of migratory birds use the Russian olive shrub community within wetlands on the southeast portion of the base (Fairchild AFB 1999). Some of these birds are classified as neotropical migrant birds, which are those that travel south of the United States during winter. Examples of such migrant birds present at Fairchild AFB include Wilson's Warbler, Solitary Vireo, Orange-crowned Warbler, and Golden-crowned Kinglet.

The Explosive Ordnance Disposal (EOD) facility, also within the southern portion of the base, consists of an open field with mowed/disked grasses. Due to the proximity of wetlands and more natural vegetation, this area is likely used by a variety of birds, voles, mice, and foraging hawks and owls. The survival/resistance training area contains patches of native grasses and shrubs and a stand of ponderosa pine. This area provides habitat for a greater diversity of species than the more developed areas of the Main Base.

There is also a small weapon storage area, south of the airfield, with vegetation and wetlands to support birds and wildlife.

On-Base Privatized Housing Areas

Two housing areas are situated at the northern portion of the base. These areas are typical of traditional urban residential areas, and they contain landscaped trees and vegetation. No large, undeveloped open space is present. Likewise, wildlife species and habitat present are typical of urban areas, with no large mammals, few small mammals (mostly deer mice, voles, and moles), and bird communities dominated by fruit-eating or omnivorous species, such as American Robin, Cedar Waxwing, and House Finch.

Commerical/Administrative/Community Area

This area contains the office buildings; and storage, parking, and related facilities of the Main Base. Rows of mature hardwood and evergreen trees grow along roadways, and several types of shrubs grow along buildings. Wildlife habitat and species present are similar to those present within the base housing communities.

Airfield/Industrial Area

Most of the airfield area contains paved runways, taxiways and associated facilities. Vegetation near the runway has been managed to minimize avian use in accordance with the BASH Plan. Seasonal water in drainage ditches and the large amount of open fields adjacent to the paved runways provide some habitat value, but for the most part, this area is of low value to wildlife and wildlife is not encouraged in this area.

Open Space Area

An open field in the northeast corner of the Main Base is used for various activities including a security forces training area and a walking path. It also contains open space that is likely used by some wildlife associated with pasture and other open agricultural uses (brown headed cowbird, European starling, and Brewer's blackbird, for example). The area would also support voles, mice, red-tailed hawks, kestrels, and northern harriers. During winter, rough-legged hawks hunt in this area as well. This area includes fields supporting mixed native and nonnative grasses and weeds.

Off-Base Facilities

Several off-base facilities also contain wildlife habitat suitable for conservation and are classified as Category I facilities, as defined in AFI 32-7064, Section 2.2. A brief description of each facility's habitat suitability follows and the Figure Fairchild AFB and Base Holdings shows the locations of these facilities.

Fairchild Waste Annex – Craig Road Landfill (GKAP)

Craig Road Landfill is a closed and capped landfill managed under the CERCLA program and an Army Reserve training area sits adjacent to the capped landfill. The area contains mostly weedy vegetation. Some wildlife, such as California Quail, Gray Partridge, Horned Lark, western skink, yellow-bellied marmot, and coyotes, might use this area.

Water System Annex (GKAW)

Water System Annex is situated along the Spokane River and contains semi-improved vegetation surrounded by some large ponderosa pines. The shoreline consists of an approximately 10-foot-wide band of shrubs and small deciduous trees bordered by semi-improved vegetative area. Mowing to

control noxious weeds limits expansion of riparian vegetation and habitat in this area. Because this site is adjacent to the river, it has the potential to be used by a variety of wildlife species.

Clear Lake Recreation Area (GJNB)

The Clear Lake Recreational Area contains developed beach and picnic areas, a boat dock, cabins, and campsites. About half of the site contains open areas and landscaped trees. The remaining half contains ponderosa pine forest. The shoreline is mostly sand, although the east and west ends of the site contain some emergent and shrub-scrub wetland vegetation. The facility is on a narrow inlet adjacent to a WDFW boat launch. Wildlife use of the inlet includes Great Blue Heron foraging and abundant waterfowl wintering. The campground area contains ponderosa pine forest that is typically used by a variety of bird species. The western edge of the site contains a small area of dense native shrubs and a wetland area. Several types of birds, including woodpeckers, quail, warblers, wrens, and finches, probably use it. The lake is managed by WDFW for bass and trout fisheries.

Helicopter Training Annex (GKAL)

The helicopter pad is situated on a flat-topped hill of open grass and shrubs surrounded by a relatively dense stand of ponderosa pine growing along the slopes of the hill. This area is likely used by a variety of birds and small mammals. The presence of trees adjacent to open fields makes this area a typical red-tailed hawk nesting and foraging area.

Joint Personnel Recovery Agency (JPRA)

The JPRA site consists of a fenced area containing several offices and training facilities. The fenced area contains a clear zone supporting open, mowed grass areas. The area does not support a diversity of wildlife, and it is most likely used by bird species associated with agricultural areas, such as European Starling, Western Meadowlark, and Brewer's Blackbird. The annex includes an open grass field immediately southwest of the main facility. This area is unfenced and provides open space for hawks, upland gamebirds, and other types of wildlife present in the area.

The remaining off-base facilities contain no significant wildlife habitat and are considered Category II facilities. A brief description of each facility's justification for lack of significant habitat suitability follows.

Outer Marker (GJYC)

The outer marker consists of a small (less than 900 square feet) fenced area with annual grasses and weeds. Because of the small area and lack of important wildlife features, this facility has essentially no habitat value.

Water System Annex - Geiger Reservoir (GKAK)

As with the outer marker facility, the water system annex consists of a very small area surrounded by a high fence with no important wildlife features.

ILS Middle Marker Annex (GJLS)

This area is less than 0.1 acre and contains weedy vegetation and has little wildlife habitat value.

Fort Wright Cemetery Annex (HVGA)

The cemetery annex is a small, fenced area that is mowed and well-maintained. The cemetery is bordered by a mowed field containing well-spaced ponderosa pines and deciduous trees. This area is probably used most by species typically associated with suburban areas and agricultural lands. Deer are known to move through the area between upland habitat and riverine habitat and may be a nuisance for browsing ornamental trees and shrubs. It does not contain sufficient area to be managed as wildlife habitat and may be a nuisance for browsing ornamental trees and shrubs.

2.3.4 Threatened and Endangered Species and Species of Concern

An installation's overall ecosystem management strategy must provide for protection and recovery of threatened and endangered species. As a policy, the USAF gives the same protection, when practical, to any state-listed threatened, endangered, or other rare species. The USFWS and WDFW cooperate in managing the presence of threatened and endangered species in the geographic area of Fairchild AFB pursuant to the requirements of Section 7(c) of the Endangered Species Act (16 U.S.C. 1536) and the Endangered, Threatened, and Sensitive Wildlife Species Classification Rule (WAC 220-610-110). Under the Endangered Species Act, an "endangered species" is defined as any species that is in danger of extinction throughout all or a significant portion of its range. A "threatened species" is defined as any species that is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range. The USFWS has also presented an updated list of species that are regarded as candidates for possible listing under the Endangered Species Act. Although candidate species receive no statutory protection under the Endangered Species Act, the USFWS believes it is important to advise Government agencies, industry, and the public that these species are at risk and could warrant protection under the Act.

The purpose of the Washington Endangered, Threatened, and Sensitive Wildlife Species Classification Rule (WAC 232-12-297) is to identify and classify native wildlife species that have need of protection or management to ensure their survival as free-ranging populations in Washington and to define the process by which listing, management, recovery, and delisting of a species can be achieved. These rules are established to ensure that consistent procedures and criteria are followed when classifying wildlife as endangered, or the protected wildlife subcategories threatened or sensitive. The rule defines endangered wildlife species as "any wildlife species native to Washington that is seriously threatened with extinction throughout all or a significant portion of its range in the state." Threatened species are defined as "any wildlife species native to the state of Washington that is likely to become an endangered species within the foreseeable future throughout a significant portion of its range within the state without cooperative management or removal of threats." Sensitive species are defined as "any wildlife species native to the state of Washington that is vulnerable or declining and is likely to become endangered or threatened in a significant portion of its range within the state without cooperative management or removal of threats." The below Table Federally and State-Listed Threatened, Endangered, and Rare Species Occurring on or in Proximity to Fairchild AFB presents the Federal and state-listed species identified as either occurring or potentially occurring on Fairchild AFB based on surveys.

Federally and State-Listed Threatened, Endangered, and Rare Species Occurring on or in Proximity to Fairchild AFB

Common Name	Scientific Name	Observed on Base	Federal Status	State Status
BIRDS				
Bald eagle	<i>Haliaeetus leucocephalus</i>	Y	Delisted, SOC, M	
Golden eagle	<i>Aquila chrysaetos</i>	Y		C
Ferruginous hawk	<i>Buteo regalis</i>		SOC	T
Northern goshawk	<i>Accipitor gentilis</i>		SOC	C
Peregrine falcon	<i>Falco peregrinus</i>		SOC	
Merlin	<i>Falco columbianus</i>			
Burrowing owl	<i>Athene cunicularia</i>		SOC	C
Flammulated owl	<i>Otus flammeolus</i>			C
Common loon	<i>Gavia immer</i>			S
American white pelican	<i>Pelicanus erythrorhynchus</i>			T
Sharp-tailed grouse	<i>Tympanuchus phasianellus</i>		SOC	E
Pileated woodpecker	<i>Drycopus pileatus</i>			C
Black-backed woodpecker	<i>Picoides arcticus</i>			C
Black tern	<i>Chlidonias niger</i>	Y	SOC	
Lewis' woodpecker	<i>Melanerpes lewis</i>			
Loggerhead shrike	<i>Lanius ludovicianus</i>		SOC	C
Upland sandpiper	<i>Bartramia longicauda</i>			E
Sagebrush sparrow	<i>Artemisiospiza nevadensis</i>			C
Sage thrasher	<i>Oreoscoptes montanus</i>			C
Vaux's swift	<i>Chaetura vauxi</i>			C
Western grebe	<i>Aechmophorous occidentalis</i>			C
Willow flycatcher	<i>Empidonax traillii</i>	Y	SOC	
MAMMALS				
Townsend's big-eared bat	<i>Coryhorhinus townsendii</i>		SOC	C
Black-tailed jackrabbit	<i>Lepus californicus</i>			C
White-tailed jackrabbit	<i>Lepus townsendii</i>			C
Washington ground squirrel	<i>Spermophilus washingtoni</i>		C	C
REPTILES / AMPHIBIANS				
Northern leopard frog	<i>Rana pipiens</i>		SOC	E
Columbia spotted frog	<i>Rana luteiventris</i>			C
Western toad	<i>Bufo boreas</i>		SOC	C

Common Name	Scientific Name	Observed on Base	Federal Status	State Status
INVERTEBRATES				
Mann’s mollusk-eating ground beetle	<i>Scaphinotus manni</i>			C
Juniper hairstreak	<i>Mitoura grynea barryi</i>			C
Shepherd’s parnassian	<i>Parnassius clodius shepherdii</i>			C
Silver-bordered fritillary	<i>Boloria selene atrocotalis</i>			C
VASCULAR PLANTS				
Grand redstem	<i>Ammannia robusta</i>			T
Nuttall’s pussy-toes	<i>Antennaria parvifolia</i>			S
Bristly sedge	<i>Carex comosa</i>			S
Yellow lady’s-slipper	<i>Cypripedium parviflorum</i>			T
Green keeled cotton-grass	<i>Eriophorum viridicarinatum</i>			S
Gray stickseed	<i>Hackelia cinerea</i>			S
Palouse goldenweed	<i>Haplopappus liatriformis</i>		SOC	T
Howellia	<i>Howellia aquatilis</i>		T	T
Canadian St. John’s-wort	<i>Hypericum majus</i>			S
Dwarf rush	<i>Juncus hemiendytus var. hemiandytus</i>			T
Inch-high rush	<i>Juncus uncialis</i>	Y		S
Marsh muhly	<i>Muhlenbergia glomerata</i>			S
Mousetail	<i>Myosurus clavicaulis</i>	Y		S
Wilcox’s penstemon	<i>Penstemon wilcoxi</i>			S
American pillwort	<i>Pilularia americana</i>	Y		T
Austin’s knotweed	<i>Polygonum austini</i>			T
Idaho gooseberry	<i>Ribes oxycanthoides</i>			S
Lowland toothcup	<i>Rotala ramosior</i>			T
Black snake-root	<i>Sanicula marilandica</i>			S
Rocky Mountain bulrush	<i>Scirpus saximontanus</i>			T
Northwestern yellowflax	<i>Sclerolinon digynum</i>	Y		T
Spalding’s catchfly	<i>Silene spaldingi</i>	Y	T	T
Silver-bordered Fritillary	<i>Boloria selene atrocotalis</i>			C
Prairie cordgrass	<i>Spartina pectinata</i>			S
Kidney-leaved violet	<i>Viola renifolia</i>			S

Source: WDFW 2004, WDNR 2004 and 2006

¹Observations made from the 2005 Eastern Washington University field survey and the 1993-1994 The Nature Conservancy field survey.

Notes: E – Federally or state-listed endangered species

T–Federally or state-listed threatened species

S–State-listed sensitive species

SOC–Federal species of concern C–Federal or state candidate for listing M–Monitor

Special Flora

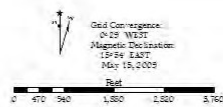
Fairchild Air Force Base



Projection: UTM, Zone 11N
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DATE: 18 May 2011
 PATH: X:\Map\Maps by Unit\ASD-CES\CEA\CEN\TRM_Special_Flora.mxd

Legend
 T & E Sensitive Area
 Spalding's Catchfly



Scale: 1:21,787

90 CES, CEPT, 02163 / GeoBase
 USAF, Air Mobility Command
 Fairchild AFB, WA 99011
 E-mail: cept@fairchild.af.mil
 247-3599

Flora Species at Fairchild AFB

2.3.5 Wetlands and Floodplains

Wetlands are an important natural system and habitat because of the diverse biologic and hydrologic functions they perform. These functions include water quality improvement, groundwater recharge and discharge, pollution mitigation, nutrient cycling, wildlife habitat provision, unique flora and fauna niche provision, stormwater attenuation and storage, sediment detention, and erosion protection. Wetlands are protected for "no net loss" under Section 404 of the CWA. The USACE defines wetlands as "those areas that are inundated or saturated with ground or surface water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted to life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas" (33 CFR 328).

Under federal law, Fairchild AFB is required to seek approval and permits for actions potentially affecting wetlands with the Army Corps of Engineers, the federal agency with delegated responsibility for regulation. In addition, Ecology exerts their authority under state law to oversee actions with potential effects to wetlands. Recently, a court ruling further defined regulatory jurisdiction in that, isolated wetlands without hydrologic connection to waters of the United States are outside the regulatory purview of USACE. The state of Washington continues to maintain regulatory authority over all wetlands in the state. This ruling is relevant to Fairchild AFB as all of the wetlands on the Main Base have been determined to be "isolated" under the ruling's definition. The position of these rulings continues to be in flux requiring current review of policies prior to seeking regulatory coordination for actions potentially impacting wetlands on the Main Base at Fairchild AFB.

Most wetlands on the Main Base are significantly disturbed, most from practices previous to Fairchild AFB. Wetlands have been filled, drained, land has been graded, surface runoff has been altered, and vegetation has been altered. Many wetlands have a component of nonnative weed species and some are completely dominated by nonnative, highly competitive species. Only less disturbed wetlands with a higher incidence of native vegetation and significant functional value are designated conservancy wetlands.

The "no net loss" requirement in the Clean Water Act and Executive Order 11990, Protection of Wetlands require federal actions to protect natural values of all wetlands. Mitigation of potential impacts by federal actions include approaches to avoid impacts first, minimize impacts if avoidance is not possible, and mitigate at last resort by creation, restoration, or enhancement of wetland function. Presently, Fairchild AFB has conducted activities that either avoid or minimize impacts. The preponderance of disturbed wetlands and natural hydrology on the Main Base provides potential opportunity for restoration and creation if needed for mitigation of future actions.

In 2006, Cascadia Technical Services, PLLC conducted a wetland inventory update and functional value assessment on Fairchild AFB and associated installations. The GIS data layer was updated using 2004 color aerial photography. Wetlands were identified and delineated using the methodology contained in the 1987 Federal Manual for Identifying and Delineating Jurisdictional Wetlands (Federal Interagency Committee for Wetland Delineation 1987). Approximately 215 acres of wetlands were identified on the base and associated installations. Most wetlands are located in the southern portion of the main base. All of the wetlands on the Main Base were determined to be "isolated" and were categorized as depressionnal, constructed drainage ditches, or vernal pools. Cowardin (1979) classification includes palustrine aquatic bed, emergent bed, and shrub-scrub types on the Main Base with monotypic,

palustrine emergent, or and palustrine scrub-shrub being the most common. Dominant vegetation in most wetlands consisted of reed canary grass (*Phalaris arundinacea*) and other nonnative weed species (Cascadia 2006). These wetlands have significant contribution to groundwater regulation, and depending on disturbance, wildlife habitat. Wetlands delineated on other land holdings are riparian wetlands and significantly contribute to many wetland functional categories including wildlife habitat. The highest value wetlands on the Main Base are those wetlands designated as conservancy wetlands in the 1999 effort.

Riparian wetlands, located at Water System Annex , are scrub-shrub type and provide shoreline stability to the Spokane River. The riparian vegetation and its functional habitat is limited to the steeper banks by mowing for weed and fire control. Wetlands at Clear Lake Recreation Area are emergent and scrub-shrub type with a diversity of native plant species and were rated as having the highest functional value of all the wetlands managed by Fairchild AFB. The highest functional value is for regulating water quantity and quality within the lake habitat (Cascadia 27, 2006).

Vernal pools were initially mapped and described by the Washington Natural Heritage program in 2003 and subsequently have been monitored periodically including in 2013, 2015, 2016, and 2017. Fifteen areas have been identified as of 2017 and are in the southern part of the base within Spalding's catchfly habitat (see Natural Resources Constraints at Fairchild AFB.). Vernal pools are small relatively shallow water areas which remain wet during the cool season but become completely dry during most of the warm season. Seasonal water accumulation is the result of a combination of climate, topography, substrate, and hydrology conditions of the area.

In 2017, a total of 49 plant species were found in the vernal pools. Since 2003, six rare plant species have been identified in the vernal pools though their presence has varied from year to year. The timing of when the monitoring is performed combined with a myriad of other factors has significantly impacted which plant species are present during monitoring. Many of the species identified are unique to vernal pools or their margins.

2.3.6 Other Natural Resource Information

N/A.

2.4 Mission Impacts on Natural Resources

2.4.1 Natural Resource Constraints to Mission and Mission Planning

For successful natural resource management at Fairchild AFB, it is necessary to recognize existing constraints or potential adverse impacts to current and anticipated future operations. The natural resources constraints to base planning and missions are summarized below

- The base supports numerous native species and habitats, as well as a Federal threatened and endangered species and state sensitive species. Protection of the species and suitable habitat for the federally listed plant species currently limits available area for SERE School training and future development.
- Bird aircraft strikes on the runway and during takeoffs and landings have been documented as an ongoing hazard in the BASH program. Limiting habitat in the airfield area is imperative. Nesting and foraging habitats for raptors exist on the base both in unimproved and improved

areas as well as adjacent to the base on private lands. The base is located on a migration flyway for waterfowl as well as other migratory birds.

- Deer utilize unimproved areas as well as improved areas of the base impacting landscaping as well as posing a safety hazard to vehicular traffic. They require extensive fencing to limit access to the airfield where they would become a serious hazard to taxiing, take-off, and landing.
- Noxious weeds impact the native prairie communities in the South Base area reducing opportunity for training and recreational experience in a natural prairie landscape. Noxious weeds also have an adverse effect on the Spalding's catchfly population, a federally-listed threatened plant species, and further constrain management flexibility. Uncontrolled proliferation of noxious weeds increases cost for control and places the base at risk for legal violation of requirements for noxious weed control.
- Vernal pools on the South Base serve as priority habitat for state-listed sensitive plant species. Protection of species and these unique wetlands removes area available for training and future development.
- Wetland resources on Fairchild AFB are subject to the loss of land area for development or increased cost for mitigation. Degraded wetlands represent an opportunity to be used as mitigation sites to offset development in other wetlands.

2.4.2 Land Use

Fairchild AFB encompasses approximately 4,200 acres and a total of nearly 1,300 buildings and facilities. Existing land use on the base is shown in Figure Land Uses at Fairchild AFB, and is derived from the 2014 Installation Development Plan. Improved and semi-improved areas make up approximately 2,800 acres and are mostly located in the north portion of the base. Primarily unimproved areas, including wetlands, open fields, stands of ponderosa pine, and shrub areas make up approximately 1,400 acres in the northeast corner and south portion of the base.

Land Uses on Fairchild AFB

Category	Acreage
Administrative	83
Aircraft operations and maintenance	225
Airfield	1,070
Community (Commercial)	70
Community (Service)	61
Housing (Accompanied)	292
Housing (Unaccompanied)	50
Industrial	727
Medical	15
Open Space	1,398
Outdoor Recreation	203
Water	7
Total	4,201

Source: Fairchild AFB Base Installation Development Plan, 2014

2.4.3 Current Major Impacts

This discussion focuses on the base’s current major impacts on the local environment, including training areas, hazardous materials/wastes, water quality, noise, air pollution, fire, and pest management.

Air Emissions

The base has obtained synthetic minor source status for nitrogen oxide and is natural minor status for all other criteria pollutants. The installation is in an attainment area for all pollutants. The base is outside the Spokane County maintenance area for particulate matter and carbon monoxide. The below table indicates the criteria pollutants and their respective major sources occurring at the base.

Air Emissions at Fairchild AFB

Criteria Pollutant	Source(s)
Carbon Monoxide (CO)	Boilers and Emergency Generators
Nitrogen Oxide (NOx)	Boilers and Emergency Generators
Particulate Matter <10 microns (PM10)	Roads, dust, grinding operations
Particulate Matter <2.5 microns (PM2.5)	Roads, dust, grinding operations
Sulfur Dioxide (SO2)	Fuel combustion
Ozone (O3)/Volatile Organic Compounds (VOCs)	Surface coating, fuel dispensing, and storage operations

Hazardous Materials and Waste

The use of hazardous materials at Fairchild AFB is important to the management of natural resources, primarily because of the potential for release into the environment and contamination of soil, air, and surface and ground waters. Hazardous materials are used on the base in association with aircraft maintenance and various industrial processes on base as part of the mission. To minimize additional, avoidable releases of hazardous materials into the environment, the base has implemented a number of safeguards in the storage, use, and disposal of hazardous materials.

As defined by 40 CFR 262.34, Fairchild AFB is considered to be a large quantity hazardous waste generator because it generates more than 1,000 kilograms of hazardous waste in a calendar month. Hazardous materials management programs include inventory control, storage area inspections, and material resale programs. Bulk storage systems at the base include fuel and petroleum aboveground and underground tanks, drum storage areas for oils and maintenance materials, hazardous waste storage and accumulation areas, and storage areas. The Fairchild AFB Hazardous Waste Management Plan and the Fairchild AFB Hazardous Material Management Plan govern management of hazardous wastes and materials on the base and are, hereby, incorporated into this document by reference.

Underground Storage Tanks (USTs)

Fairchild AFB manages a regulated tank inventory of 21 underground storage tanks (17 in-service, 4 out-of-service). All of these tanks meet the regulatory compliance criteria outlined under WAC 173-360. There are another 28 underground storage tanks managed by the base that are exempt from the

regulatory requirements (made up of oil/water separators, emergency spill tanks, and oil/water separator used oil tanks).

Ordnance Disposal

Training for ordnance disposal is conducted at Fairchild AFB, but actual disposal is not done on base or at any outlying installations.

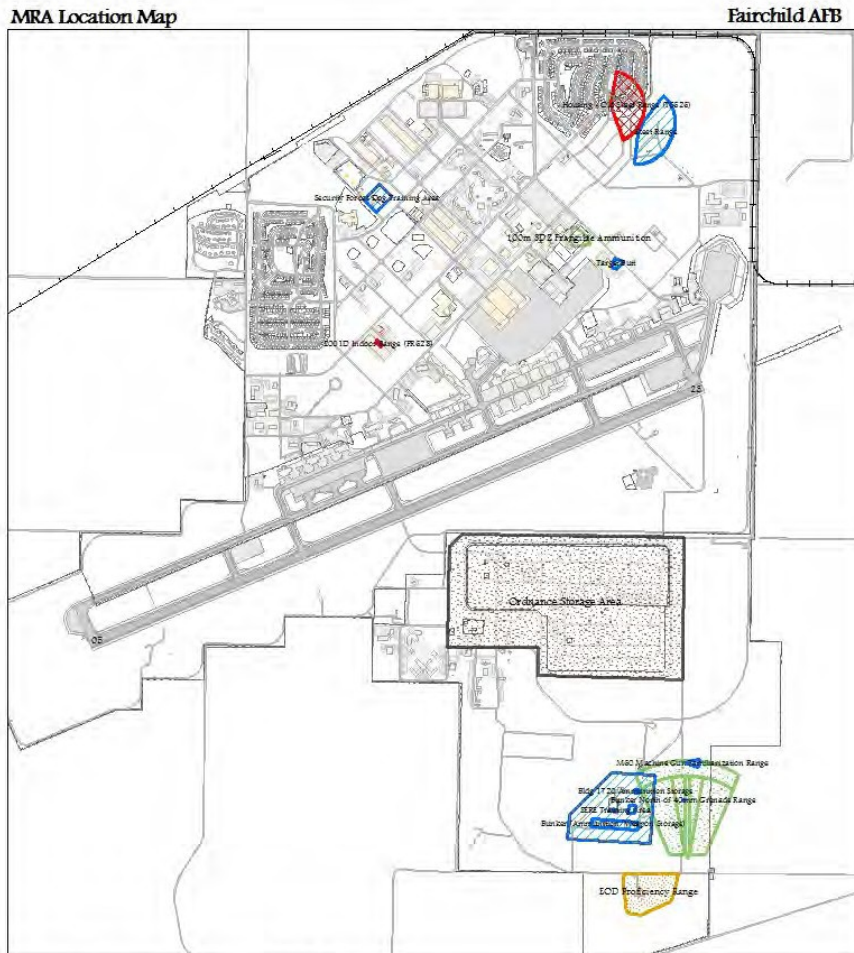
Environmental Restoration/Clean Up

Areas of the base that have been contaminated by past waste and resource management practices are addressed by the AFCEC Environmental Restoration Program (ERP). Activities performed under these programs support full restoration of the base. Currently, contaminants are primarily subsurface and don't pose a threat to migratory birds. Records are publicly available via the base's CERCLA administrative record.

The Munitions Maintenance Response Program (MMRP) currently encompasses seven closed ranges or munitions response areas (MRAs), which include two former skeet ranges, an M60 machine gun range, target buttress, grenade range, and two former training areas (Figure Munitions Response Areas at Fairchild AFB).

The majority of the ERP sites are in the main base area and away from sensitive natural resources (Figure Environmental Restoration Protection Sites at Fairchild AFB). None of the ERP sites are within the Spalding's catchfly habitat, which include vernal pools and sensitive species habitat. Approximately a half dozen ERP sites have wetlands within their boundaries or adjacent to the sites. Protection measures for migratory birds (flagging tape, harassment techniques, etc.) will be conducted prior to and during future clean-up actions as appropriate near wetland areas.

INTEGRATED NATURAL RESOURCES MANAGEMENT PLAN



Projection: UTM, Zone 11N
 Datum & Spheroid: WGS84

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- Legend**
- Ordnance Storage Area
 - MRA
 - New MRA
 - Active Firing Range
 - EOD Range

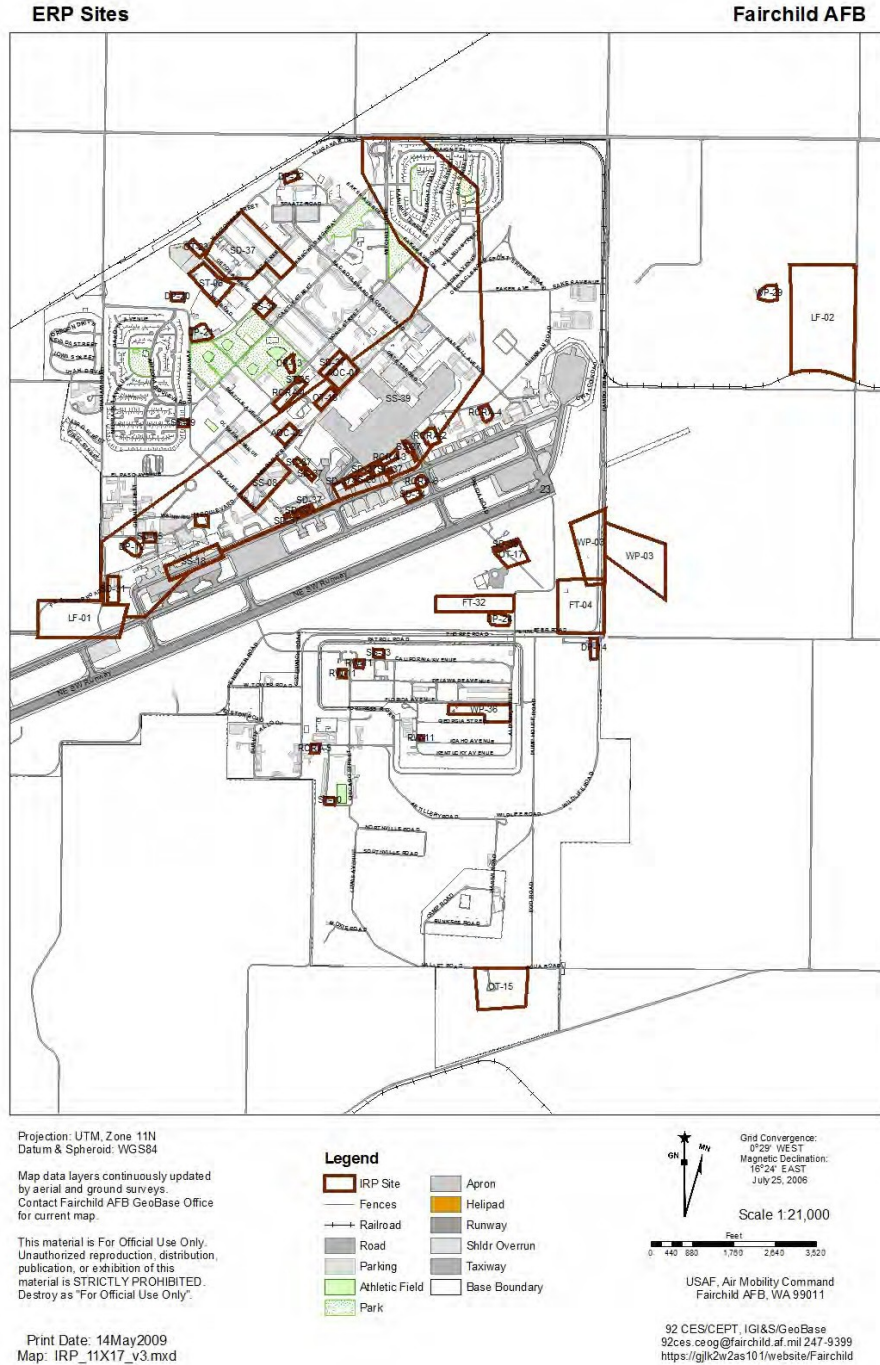
Fairchild AFB
 Magnetic Declination 1 P 54 EAST
 Annual Change 0-10 WEST
 May 18, 2008

Scale 1:27,000

0 700 1,400 2,800 4,200 5,600
 Feet

82 CES/CEFT/IGI&S/GeoBase
 82cesceog@fairchild.af.mil 247-9399

INTEGRATED NATURAL RESOURCES MANAGEMENT PLAN



Environmental Restoration and Munitions Maintenance Response Sites at Fairchild AFB

Water Quality

Domestic/Industrial Sewage Management

Sanitary sewage from the base is conveyed to the City of Spokane Wastewater Treatment Facility that treats and then discharges treated water into the Spokane River. The City of Spokane Wastewater Treatment Facility has established local discharge limits and routinely analyzes sanitary sewer discharges to ensure compliance. The base has eliminated the majority of its industrial shop floor drains and has an aggressive oil/water separator program that minimizes the potential of industrial waste releases to the sanitary sewer system. Further, the base requires all floor wash water (mechanical floor scrubber, mop and bucket, etc.) in industrial areas to be analyzed for contaminants. For those shops exceeding local discharge limits, a system to collect floor wash water has been established.

There are two septic systems on base that support the Resistance Training Area encampment area only. The administrative building in the Area is connected to the main sewer line.

The remote sites operated by the base, including the Joint Personnel Recovery Center, Clear Lake Recreation Area, and Cusick Survival Training facility, each have a septic/drain field system.

Storm Water Management

The Water Quality Act of 1987 amended the Clean Water Act to include the regulation of storm water discharges. In November 1990, USEPA published its Phase I storm water regulations that required large municipalities and specific industrial classes to be covered under a National Pollution Discharge Elimination System (NPDES) storm water permit by October 1, 1993.

Fairchild AFB has industrial operations storm water permit coverage under EPA's NPDES Multi-Sector General Permit for Storm Water Discharges Associated with Industrial Activities. Multi-sector general permits allow industries with similar types of activities and operations to group together during the application process and receive coverage under a general permit tailored to their special requirements.

The Fairchild AFB Storm Water Pollution Prevention Plan (SWPPP) was written to identify existing and potential sources of storm water pollution at the base and base holdings. It describes practices to reduce pollution and ensure compliance with Federal storm water regulations.

The base is also required to obtain permit coverage for all construction activities over 1 acre under EPA's NPDES General Permit for Storm Water Discharges from Construction Activities to ensure that sedimentation due to erosion does not impact water quality. No construction activities over 1 acre are authorized to begin until a SWPPP is developed and reviewed by the Environmental Element followed by submittal and approval of an EPA Notice of Intent.

Noise

Noise is perhaps the most identifiable environmental problem associated with aircraft operations. Although many other sources of noise are present in today's communities, aircraft noise is often singled out for special attention. The primary aircraft operating at Fairchild AFB are KC-135 refueling aircraft in support of the 92d and 141st ARWs and HU-1 helicopters in support of the Air Force Survival School mission. Transient aircraft also use Fairchild AFB and its surrounding airspace.

The primary noise source at Fairchild AFB is the result of aircraft warm-ups, maintenance and testing, taxiing, takeoffs, approaches, and landings. While the noise generated from low-altitude military overflights might be initially startling, habituation to jet aircraft noise occurs with most wildlife and domestic species. Species-specific responses to low-altitude overflights vary considerably. Variations in responses have also been documented among homogeneous species under similar environmental conditions (USDA 1992). However, animal responses to aircraft noise depend on numerous factors, such as the physical features of the environment and the animals' own physiological attributes. Wildlife populations are usually affected only when a variety of factors combine to affect them, including declines or fluctuations in the availability of a food source, habitat destruction or alteration, predation, hunting, trapping, poaching, disease, or inclement weather, rather than noise alone. Normally, it would be unrealistic to predict or attribute any wildlife population decline to a single stressor, such as noise. In addition, no published scientific evidence was identified that indicated harm could occur to wildlife as a result of exposure to the levels of noise generated by military aircraft that utilize Fairchild AFB.

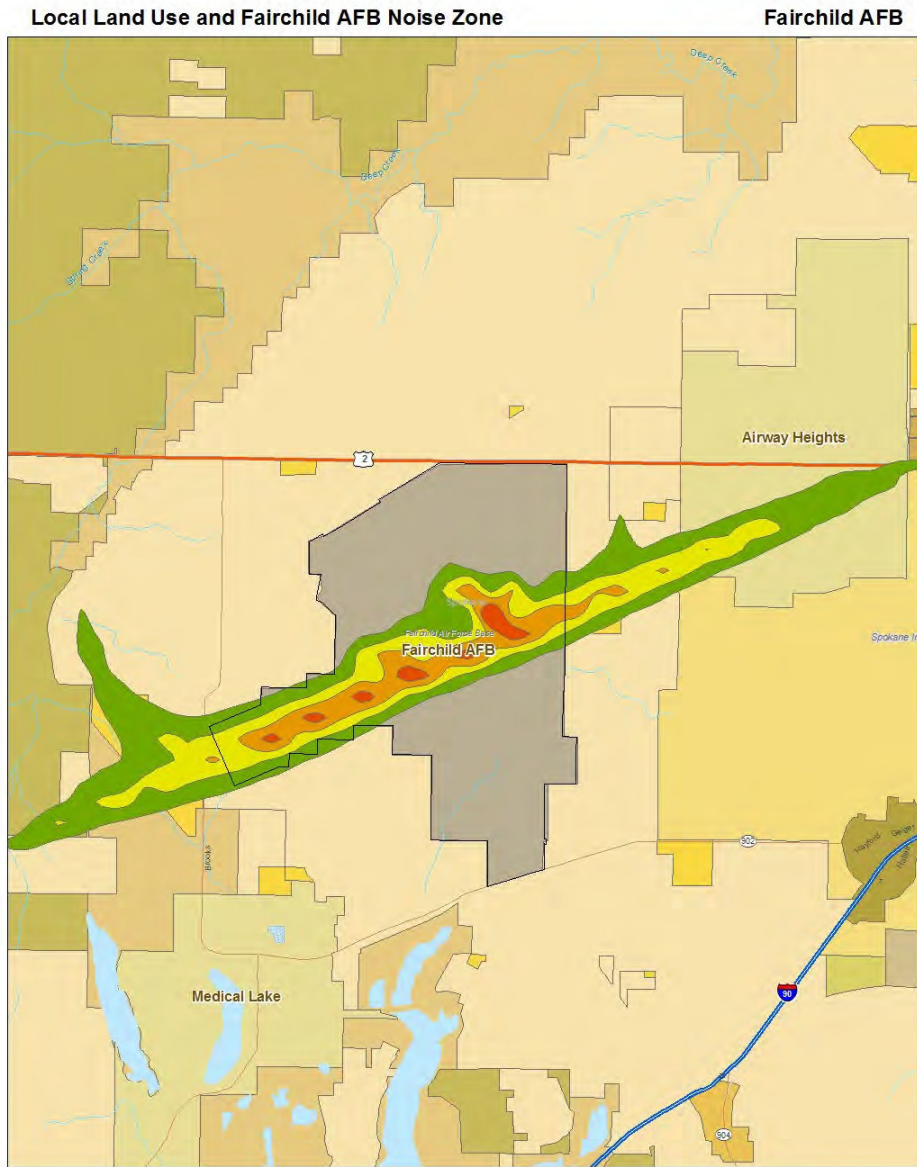
In addition to the aircraft noise generated at Fairchild AFB, the wildlife in and around Fairchild AFB is subjected to other sources of noise, such as the aircraft noise at the nearby Spokane International Airport, heavy equipment operation, train traffic surrounding the base, and road traffic from Highway 2 and Highway 902.

The response of invertebrates, reptiles and amphibians to noise is not conclusive. However, the most comprehensive studies on the subject are on species of small breeding birds, that appear to avoid areas in proportion to noise levels, although roadside ditches can provide breeding habitat for birds (Kasello and Tyson, 2004).

An Air Installation Compatible Use Zone (AICUZ) study was prepared for Fairchild AFB in 2007. An AICUZ study addresses safety issues and identifies hazard potential due to aircraft accidents, obstructions to navigation, and compatible land uses based on exposure levels to aircraft noise in the surrounding area. The primary goal of the AICUZ program is to promote compatibility with existing local land uses around military airfields.

Surrounding land uses that would be compatible with the Fairchild AFB operations include agricultural, mining, roads and vacant lands. Agricultural, vacant, and, to some extent, mining land uses would benefit wildlife and their ability to choose habitat that would not be impacted by noise.

Local Land Uses and their Compatibilities within Noise Zones at Fairchild AFB



Projection: UTM, Zone 11N
Datum & Spheroid: WGS84

Map data layers continuously updated by aerial and ground surveys. Contact Fairchild AFB GeoBase Office for current map.

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Print Date: 5/12/2011
Map: C1_11X17_v3.mxd

Legend

Noise Zone Area

- Db Mean
- 65
- 70
- 75
- 80

Land Use

CATEGORY

- City
- Community Center
- Community Commercial
- Forest Land
- Heavy Industrial
- High Density Residential
- LDA Commercial-Industrial
- LDA Residential
- Large Tract Agriculture
- Light Industrial
- LowDensity Residential
- LowDensity Residential -
- Medium Density Residential
- Fairchild AFB
- Mineral Land
- Mixed Use
- Neighborhood Commercial
- Regional Commercial
- Rural Activity Center
- Rural Conservation
- Rural Traditional
- Rural-S
- Rural Traditional
- Small Tract Agriculture
- Urban Activity Center
- Urban Reserve



Grid Convergence: 0°29' WEST
Magnetic Declination: 16°24' EAST
July 25, 2006

Scale 1:48,246



USAF, Air Mobility Command
Fairchild AFB, WA 99011

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92ces.ceog@fairchild.af.mil 247-9399
<https://gjjk2w2as101/website/Fairchild>

2.4.4 Potential Future Impacts

Future facility development on Fairchild AFB must respond to the existing and future missions of the units it supports. Various projects are included in the Installation Development Plan; however, most of the projects are proposed on improved and semi-improved areas in the northern portion of the base where habitat and wildlife diversity is low and suitable habitat has not been identified. Future development largely avoids the south portion of the base where natural resource values are the highest. Fairchild AFB has and will continue to construct new buildings and facilities in support of its tenants' changing missions.

2.4.5 Natural Resources Needed to Support the Military Mission

The U.S. Air Force recognizes their role in natural resource management as a cooperators with other federal agencies as land stewards; as leaders in meeting requirements established by the nation, and as benefactors in the contribution natural resources make to the military mission. Conservation of natural resources assures there are adequate and available resources for operational needs and that other responsibilities as land stewards are met.

Fairchild AFB, through this INRMP, reflects this commitment to conserve, protect, and enhance the natural resources. Specific activities at Fairchild AFB are directly affected by availability of natural resources.

The SERE School training center is located at Fairchild AFB. The natural landscape and associated resources, as well as the relatively isolated setting of the South Base, offer an excellent long term base of operations and training area for SERE School. Their training mission requires ample diversity in



isolated natural settings to conduct survival skill training. Below is pictured a bivouac training area, located in a ponderosa pine stand on the southwestern edge of the base where survival skills are demonstrated. A bivouac is an encampment made with tents or improvised shelters (see photo below)

Providing outdoor recreational opportunities to military personnel and their families is essential to maintaining well-being and fitness for duty. The open space and wildlife of the South Base provide an opportunity for solitude, fitness exercise, wildlife viewing, hiking, picnicing, and hunting. The cold water lake and fisheries of the 32-acre Clear Lake Recreation Area offer exceptional outdoor recreational opportunities as well. The park-like environment established by landscaping and urban forest of the Main Base also offer important benefits to personnel and their families for outdoor recreation, fitness exercise, and well-being. Potential conflicts with wildlife and airfield operations are mitigated by providing more suitable habitat for recreational activities away from the airfield. Also, maintaining suitable habitat at a distance from the airfield may reduce potential conflicts that could be created if suitable habitat was diminished.

3.0 ENVIRONMENTAL MANAGEMENT SYSTEM

The AF environmental program adheres to the Environmental Management System (EMS) framework and its Plan, Do, Check, Act cycle for ensuring mission success. AFI 32-7001, *Environmental Management*, provides guidance on how environmental programs should be established, implemented, and maintained to operate under the EMS framework.

The natural resources program employs EMS-based processes to achieve compliance with all legal obligations and current policy drivers, effectively managing associated risks, and instilling a culture of continuous improvement. The INRMP serves as an administrative operational control that defines compliance-related activities and processes.

4.0 GENERAL ROLES AND RESPONSIBILITIES

General roles and responsibilities that are necessary to implement and support the natural resources program are listed in the table below. Specific natural resources management-related roles and responsibilities are described in appropriate sections of this plan.

Office/Organization/Job Title (Listing is not in order of hierarchical responsibility)	Installation Role/Responsibility Description
Installation Commander	The 92nd Air Refueling Wing (ARW) /CC ensures that an integrated natural resources management program is developed and is fully coordinated among key base staff, and the proper Federal and State of Washington agencies.
AFCEC Natural Resources Media Manager/Subject Matter Expert (SME)/ Subject Matter Specialist (SMS)	Coordinates with installation natural resources managers (NRM)/points of contact (NR POC) to: identify changes to each respective base’s program; changes to execution strategy (to include accomplishing in-house) and/or execution agent; confirm funding amounts, distribution date, and mission/situational changes that may initiate the emergent requirement process; as well as serve as liaison with the AFWFC (AFCEC/CZOF) on all matters pertaining to coordination of support activities of the AFWFC with installation POCs.
Base Civil Engineer	The Fairchild AFB Base Civil Engineer (92 CES/CC) ensures the management of the base’s natural resources by ensuring the preparation and implementation of an INRMP and implementing appropriate cooperative agreements.
Installation Natural Resources Manager	The Fairchild AFB Natural Resources Program Manager (92 CES/CEIE) coordinates and ensures implementation of all aspects of this INRMP. The Natural Resources Program Manager ensures that all natural resources management activities comply with natural resources protection and conservation mandates.
Installation Security Forces	Responds to incidences of wildlife poaching or illegal takes of threatened or endangered species.

Office/Organization/Job Title (Listing is not in order of hierarchical responsibility)	Installation Role/Responsibility Description
Installation Unit Environmental Coordinators (UECs); see AFI 32-7001 for role description	Support the implementation of this Plan as requested.
Installation Wildland Fire Program Manager	Develop and maintain a Wildland Fire Management Plan.
Pest Manager	Develop and implement the Fairchild AFB Integrated Pest Management Program.
NEPA/Environmental Impact Analysis Process (EIAP) Manager	Ensure base compliance with the National Environmental Policy Act (NEPA).
National Oceanic and Atmospheric Administration (NOAA)/ National Marine Fisheries Service (NMFS)	The NOAA/NMFS NOAA may provide technical assistance to Fairchild AFB if requested.
US Forest Service (USFS)	The USFS may provide technical assistance to Fairchild AFB as requested.
US Fish and Wildlife Service (USFWS)	The USFWS issues Migratory Bird Treaty Act (MBTA) permits and may provide technical assistance to Fairchild AFB as requested. USFWS is responsible for the execution of Air Force natural resources conservation funds and associated projects on Fairchild AFB unless specifically determined outside of capabilities.
US Dept of Agriculture, Animal and Plant Health Inspection Service, Wildlife Services (USDA APHIS WS)	Wildlife Services may provide technical assistance and skill to resolve wildlife interactions that threaten public health and safety.
Washington Department of Fish and Wildlife (WDFW)	Washington Department of Fish and Wildlife (WDFW) may provide technical assistance to Fairchild AFB as requested.
Washington State Department of Natural Resources (DNR)	Washington Department of Natural Resources (DNR) may provide technical assistance to Fairchild AFB as requested.
Washington State Department of Ecology (Ecology)	Washington State Department of Ecology (DOE) may provide technical assistance to Fairchild AFB as requested.
Grounds Maintenance Government QA	Responsible for administering the grounds maintenance contract and for coordinating grounds maintenance activities with the Natural Resources Manager to ensure environmental compliance and implementation of this Plan.
Director, Fairchild AFB Outdoor Recreation	Responsible for administering the outdoor recreation program and ensuring outdoor recreation programs and projects are coordinated with the Natural Resources Program Manager at an early stage to ensure environmental compliance. The Outdoor Recreation Director supervises outdoor recreation program staff, and oversees the daily management of outdoor recreation programs and maintenance of outdoor recreation area facilities.

5.0 TRAINING

AF installation NRMs/POCs and other natural resources support personnel require specific education, training and work experience to adequately perform their jobs. Section 107 of the Sikes Act requires that professionally trained personnel perform the tasks necessary to update and carry out certain actions required within this INRMP. Specific training and certification may be necessary to maintain a level of competence in relevant areas as installation needs change, or to fulfill a permitting requirement.

Installation Supplement – Training

5.1. Natural Resources Manager (92 CES/CEIE): Shall attend the DoD Natural Resources Compliance Course provided by the Navy's Civil Engineer Corps Officers School (CECOS).

5.2. Unit Environmental Coordinator (UEC): The Natural Resources Manager provides a briefing about the natural resources at UEC training. Training shall emphasize the protection of the T&E species and wetlands along with the opportunities for outdoor recreation throughout the installation.

5.3. Newcomers Environmental Training: The Environmental Element provides a brief overview of the Base's natural resources to all new Fairchild AFB personnel during comprehensive monthly Right Start briefings.

5.4. SERE Students: Shall receive a briefing regarding the protection of the T&E habitat and wetlands areas during training performed on the south side of the base.

5.5. BASH Program: Personnel shall be trained IAW BASH Plan and Integrated Pest Management Plan.

6.0 RECORDKEEPING AND REPORTING

6.1 Recordkeeping

The installation maintains required records IAW Air Force Manual 33-363, *Management of Records*, and disposes of records IAW the Air Force Records Management System (AFRIMS) records disposition schedule (RDS). Numerous types of records must be maintained to support implementation of the natural resources program. Specific records are identified in applicable sections of this plan, in the Natural Resources Playbook and in referenced documents.

Installation Supplement – Recordkeeping

6.1.1. Reports and Surveys: Natural Resources Program Manager shall maintain a copy of all reports and surveys performed in support of the natural resources program including T&E monitoring reports; vernal pool monitoring reports; wildlife surveys; wetland evaluations; and documents to substantiate required reports.

6.1.2. Pesticide Applications: Base Entomology Supervisor is responsible for maintaining records of all pesticide applications on the base IAW the Integrated Pest Management Plan.

6.2 Reporting

The installation NRM is responsible for responding to natural resources-related data calls and reporting requirements. The NRM and supporting AFCEC Media Manager and Subject Matter Specialists should

refer to the Environmental Reporting Playbook for guidance on execution of data gathering, quality control/quality assurance, and report development.

Installation Supplement –Reporting

6.2.1. USFWS Migratory Bird Treaty Act (MBTA) Annual Report: Natural Resources Program Manager is responsible for submitting annual report NLT 31 Jan each year for review by USWS and in support of annual permit request. Members of the BASH working group provide input as requested including maintaining required information regarding all depredation and/or harassment activities.

6.2.2. Tree City USA: Natural Resources Program Manager shall submit annually NLT 15 Dec the Tree City USA application and supporting documentation.

6.2.3. Semi-Annual Environmental Data Call: Natural Resources Program Manager shall submit via EESOH-MIS requested information to AFCEC as part of the semi-annual environmental data call.

7.0 NATURAL RESOURCES PROGRAM MANAGEMENT

This section describes the current status of the installation's natural resources management program and program areas of interest. Current management practices, including common day-to-day management practices and ongoing special initiatives, are described for each applicable program area used to manage existing resources. Program elements in this outline that do not exist on the installation are identified as not applicable and include a justification, as necessary.

Installation Supplement –Natural Resources Program Management

This section describes the current status of the installation's natural resources management programs including the status of each resource and its inventories, management practices, monitoring or education programs, and any issues addressed under each resource category. The USAF has determined that Fairchild AFB has sufficient habitat to warrant the preparation of this INRMP.

7.1 Fish and Wildlife Management

Applicability Statement

This section applies to all AF installations that maintain an INRMP including Fairchild AFB.

Program Overview/Current Management Practices

7.1.1. Fish and Wildlife Program Management

Fish and wildlife management is defined as manipulation of the environment and fish and wildlife populations to produce desired objectives. Management might be performed in a manner that enhances biodiversity through the reestablishment of native habitat including vegetation. Conversely, habitat management could be required to decrease the abundance of certain wildlife species to reduce animal damage or bird strike hazards.

The southern portion of the base collectively contains the most valuable wildlife habitat in terms of area available, species present, and management potential. The area contains open grass fields, two small stands of ponderosa pine, wetland areas, and patches of native grassland. Coyote, badger, Great Basin pocket mouse, gopher and garter snakes, Red-tailed Hawk, Northern Harrier, Great Horned Owl, Ring-

necked Pheasant, and several species of waterfowl occur in this area. A small herd of mule deer and white-tailed deer are also found in this unimproved area.

Wetland complexes in the southern portion of the site contain habitat suitable for waterfowl, upland game birds, and a variety of songbirds and small mammals. The wetland at the extreme south end of the base contains a variety of native trees and shrubs and supports a diversity of wildlife species.

The three goals of fish and wildlife management for Fairchild Air Force Base are to minimize aircraft exposure to potentially hazardous bird strikes; protect state-listed and federally listed wildlife species; and establish management methods, project schedules, assigned responsibilities, and monitoring systems. These goals and corresponding objectives are further specified and delineated in section 8.0. of this Plan.

7.1.2. Enforcement of Fish and Wildlife Laws

Fairchild AFB does not have a Conservation Law Enforcement Officer (CLEO) assigned. The Natural Resources Manager will promote awareness of the laws and notify base Security Forces and/or regulatory partners when a violation of fish and wildlife laws is suspected.

7.1.3. Demand for Hunting and Fishing

Management for the consumptive use of game species is limited due to the operational mission of the base and limited acreage. An archery hunting season may be offered to control the population of mule deer or white-tailed deer (found mainly on the south side of the base) and minimize the potential of having them encroach on roadways and populated areas on the base while providing an outdoor recreation opportunity. However, interest in an archery season has typically been limited and given the desire to target large bucks, has a limited impact on controlling the population. Additionally, the hunting area is limited and is the same area in which the deer can safely be managed and not impact roadways or the flightline. If an archery season is offered, it is executed in cooperation with the WDFW and hunting permit fees are also collected during years when a hunt is carried out.

Fishing habitat is limited to the Clear Lake Recreation Area. All fishing on Clear Lake is under the control of WDFW.

7.1.4. Wildlife Education and Interpretation Programs

The Natural Resources Manager, with the support of other base agencies, develops activities and educational materials using the wildlife trail and other natural areas as outdoor interpretive areas, for outreach events, such as National Public Lands Day, Earth Day, Arbor Day, and other environmental education venues. Materials shall include information pamphlets, etc. to promote the positive aspects of Fairchild AFB including management and preservation of natural resources. The Natural Resources Manager also seeks opportunities to partner with local outdoor education groups (ex: Boy Scouts of America, Girl Scouts of the USA, 4-H groups, and school groups) to develop and promote natural resource public outreach events.

7.1.5. Nuisance Wildlife Problems and Techniques Used for Wildlife Control

The primary nuisance wildlife problems are those that impact the airfield. Nuisance wildlife encroachment on the airfield can include badgers, coyotes, deer, voles, mice, and birds. These nuisance

problems and controls are detailed within the BASH Plan and the Integrated Pest Management Plan. In addition, the base has and will continue to partner with USDA APHIS Wildlife Services to perform nuisance wildlife surveys and implement recommendations accordingly.

Wildlife nuisance problems within populated areas of the Base have been limited. The Natural Resources manager with support from the Base Entomologists uses several techniques to eliminate nuisance wildlife. The primary strategy is to encourage wildlife to remain in nonpopulated areas on the south side of the base. When wildlife do become a nuisance, they are harassed to discourage their presence within populated areas. If harassment and other techniques are not successful, depredation of nuisance wildlife can be necessary. Depredations are coordinated with USFWS and USDA APHIS WS as needed.

7.1.6. Policies, Programs, and Methods Used to Control Feral Animals

Due to the rural nature of the Base and limited access to the Base, there has not historically been many issues with feral animals. Reports of feral animals are followed up on by the base entomologist who will work with the local humane society and base veterinarian as needed to trap and remove any feral animals.

7.1.7. Requirements for Fish and Wildlife Habitat Improvement

Fairchild AFB does not encourage the population growth of prey species because of their incompatibility with flying operations. Therefore, any habitat enhancement opportunity is evaluated carefully to determine its effect on the flying mission. Habitat management on Fairchild AFB will attempt to (1) deter animals from foraging or roosting in areas near or adjacent to the runway, (2) attract wildlife away from the runway, and (3) protect and conserve threatened and endangered species through habitat conservation at selected locations on the base. This approach has been chosen due to the relative abundance and variety of wildlife species present on Fairchild AFB and the unlikelihood of excluding all wildlife species from the base that pose a major threat to the safety of the flying mission.

7.1.8. Measures to Protect Significant Fossil Resources

Fairchild AFB does not have any significant fossil resources.

7.2 Outdoor Recreation and Public Access to Natural Resources

Applicability Statement

This section applies to all AF installations that maintain an INRMP. Fairchild AFB is required to implement this element.

Program Overview/Current Management Practices

The surrounding region provides private and public lands with an array of recreational activities from fishing and boating to camping and hunting. The primary outdoor recreation goal on base is to conserve and protect current resources in an effort to foster the morale of base employees.

7.2.1. Areas Suitable for Outdoor Recreation Activities

7.2.1.1. Open Use

Outdoor recreation activities on Fairchild AFB are restricted from public use by the current military mission and security concerns.

7.2.1.2. Restricted Use

The Base has limited open space but has maximized outdoor recreation opportunities for personnel with base access. There are a variety of parks and athletic fields on the Base and the Clear Lake Recreation Area all of which are restricted to use by military and civilian employees and retirees.

7.2.1.2.1. General Recreation Areas

Parks and Play Structures: There are four main parks on the Base for personnel to enjoy. Miller Park, located on Castle Street, is commonly used for big events such as squadron parties. It features bathroom facilities, two pavilions, play structures, basketball courts, a softball field, picnic tables, and barbecue grills. Warrior Park, located on Castle Street and Foulois Avenue, has a variety of recreational activities including lighted tennis courts, a softball field, basketball courts, pavilions with picnic tables and barbecue grills, as well as a sled hill for winter participants. A running trail is also located in Warrior Park. Memorial Park, located on Fairchild Highway, is dedicated to the men and women of Team Fairchild who have lost their lives. It features an asphalt walking path connecting multiple memorial commemorations. Finally, Heritage Park, at the corner of Mitchell Drive and Eaker Avenue, has static display aircraft on display which represent a large part of United States Air Force History and are adjoined by a paved walking path. Several play structures are also located throughout the privatized base housing areas.

7.2.1.2.2. Athletic Fields

There are four softball fields and four baseball fields that support leagues and squadron ball games. Leagues are formed each year for both adults and youth. The adult teams are directed and managed by the Fitness Center, whereas the youth teams are managed by the Youth Center. Additionally, there is a footfield field located near the education center with a outdoor running track around the perimeter.

7.2.1.2.3. Clear Lake Recreation Area

The main recreation area for the base is Clear Lake, a facility approximately 10 miles (16 km) from the base. It offers boating, swimming, and fishing, as well as overnight cabin and tent camping accommodations for military personnel and their families. An annual Spokane Kids Fishing Event coordinated with WDFW and the Inland Northwest Wildlife Council serving 1000 youth in the local community has been held for many years. Facilities include a recreation building, RV sites, marina with boat rentals, and a shower/bathroom house.

7.2.1.3. Off-Limits

There are a few unimproved areas on the south side of the base which are off-limits for any type of outdoor recreation and are clearly marked with posted signs. These include the T&E habitat area; the EOD range; and the Security Forces Range.

7.2.2. *Use of Fairchild AFB Unimproved Lands for Dispersed Outdoor Recreation*

Unimproved land on the Base is primarily located on the south side. Other than the few off-limits areas detailed above, these unimproved areas are available to base personnel for walking, running, hiking, bird watching, and snow shoeing.

7.2.3. *Demand for Outdoor Recreation Opportunity on Fairchild AFB*

There are abundant opportunities in the surrounding region for a wide variety of outdoor recreation experiences. On base personnel utilize the base parks, athletic fields/courts, and wildlife interpretive trail and viewing area.

A few of the off-base outdoor recreational areas are detailed below:

- Colville National Forest is approximately 50 miles to the north of Spokane and includes in its boundaries the Salmo-Priest Wilderness Area.
- Turnbull National Wildlife Refuge is approximately 20 miles south of the base, outside of Cheney.
- Dishman Hills Natural Conservation Area is a 518-acre natural area just east of Spokane described as the wilderness version of New York City's Central Park that preserves rocks, landforms, and vegetation as it was before this area was settled.
- Pincroft Natural Area Preserve is a 100-acre preserve on a knoll just east of Spokane that preserves the largest of the few remaining examples of ponderosa pine/grassland ecosystems that were historically more common in the Spokane Valley.
- Riverside State Park covers 7,655 acres with 44,000 feet (13,333 meters) of shoreline along the Spokane River.
- Mt. Spokane State Park is northeast of the base, offering year-round recreation opportunities, including downhill and cross country skiing, snowmobiling, and hiking.
- The Little Spokane River Natural Area is about 16 miles northwest of the base and encompasses 7.3 river miles within its 1,993 acres.

- The Spokane River Centennial Trail is a 35-mile multiuse paved trail that runs along the Spokane River from 8 miles east of Coeur d'Alene, Idaho, to Nine Mile Falls, Washington.

Numerous lakes and large ponds occur south of Fairchild AFB, including Silver Lake approximately 1.5 miles (2.37 km) from the base. Other lakes south of the base include Clear, Medical, West Medical, Granite, and Otter. In addition, there are three major lakes in northern Idaho within 1 hour of Spokane: Lake Pend Oreille, Priest Lake, and Lake Coeur d'Alene. There are also many rivers associated with these water bodies, making canoeing, kayaking, motor boating, and waterskiing readily accessible.

7.2.4. 92 FSS Outdoor Recreation Program

The Base has an Outdoor Adventure Program encompassing a variety of off-base outdoor activities. These include whitewater rafting, kayaking, canoeing, snowmobiling, downhill and cross-country skiing, backpacking, mountain climbing, and bicycling. On-base the south side offers roads that receive low volume traffic for running and walking and a paved Nature Trail for nature interpretation and wildlife-viewing. A cross country ski course is groomed on closed roads when there is adequate snow depth in the winter. There are indoor and outdoor swimming pools and an RV park (Fam Camp) on the Installation. Group activities and team sports are coordinated through the Sports and Fitness Program on Base. There are several national forests, two national parks, and several state parks within a 200- to 400-mile (316- to 632-km) proximity to Fairchild AFB in Washington, Idaho, and Oregon. Camping, hiking, horseback riding, cross-country skiing, and hunting are activities to partake in some of the most stunning landscapes in the Inland Northwest. There are also numerous recreational opportunities available in British Columbia, approximately 100 miles (158 km) north of Fairchild AFB. See below for a list of National Wildlife Refuges (NWRs), National Forests, State Parks, and other natural and recreational areas in the vicinity of Fairchild AFB

For those who prefer to rent rather than buy, outdoor equipment checkout offers a number of supplies. Everything from boat and camp trailers to recreational equipment is available.

7.2.5. Outdoor Recreation Policy, Regulations, and Fees

92 FSS determines fees and policies based upon their higher headquarters guidance.

7.2.6. Off-Road Vehicle and Mountain Bike Use on Fairchild AFB

No recreational off-road travel by either vehicles or mountain bikes is allowed on Fairchild AFB. There are abundant opportunities in the surrounding region for off-road vehicles and bikes.

7.2.7. Hunting and Fishing Management, Policy, and Access

Hunting on Fairchild AFB is strictly limited to a deer archery season in the Fall administered in accordance with WDFW timelines and requirements. The need for a deer hunting season is evaluated each year by the Natural Resources Manager who will make a recommendation to senior leaders if a season is warranted. This hunt is strictly limited to personnel with base access and is administered with the highest regard for safety, security, and on-going mission needs.

Fishing season at Clear Lake Recreation Area is administered in accordance with WDFW timelines and requirements including a requirement for appropriate WDFW fishing license. Fishing from the docks is strictly limited to personnel with base access.

7.3 Conservation Law Enforcement

Applicability Statement

This section applies to all AF installations that maintain an INRMP. The installation is required to implement this element.

Program Overview/Current Management Practices

Fairchild AFB does not have a conservation law enforcement officer. The Natural Resources Manager and 92 SFS shall monitor any illegal activities involving wildlife and/or T&E species and report to base senior leaders and/or regulatory partners as appropriate.

7.4 Management of Threatened and Endangered Species, Species of Concern and Habitats

Applicability Statement

This section applies to AF installations that have threatened and endangered species on AF property. This section is applicable to Fairchild AFB.

Program Overview/Current Management Practices

7.4.1. Status of T&E Species Inventories

A Significant Natural Resources Inventory conducted 1993 through 1994 by The Nature Conservancy provided extensive observation for rare species and their habitats occurring on Fairchild AFB and its land holdings. Supplemental monitoring was conducted in 2005 by Eastern Washington University's small mammal and bird survey. In 2013-2014 the US Army Engineer Research and Development Center performed a reptile and amphibian survey. Fairchild AFB uses the WDFW Priority Habitats and Species Database to prepare and maintain a current inventory of threatened or endangered species and habitats on the base.

Currently, there are four birds and species of special concern listed by USFWS and/or WDFW that might occur at Fairchild AFB (Eastern Washington University 2006) some of which are listed as threatened or endangered by WDFW but not by the USFWS. The table Federally and State Listed Threatened and Endangered and Rare Species Occurring on or in Proximity of Fairchild AFB is a comprehensive list of species of special concern in the proximity of Fairchild AFB. There are three amphibian species (Northern leopard frog (*Rana pipiens*), Columbia spotted frog (*Rana luteiventris*), and Boreal toad (*Bufo boreas*)) identified to potentially occur on the base. During the 2013 survey, only the Columbia spotted frog, a state candidate species, was detected on the base. Four bird species have been observed at Fairchild AFB or on one of its landholdings. The Bald Eagle (*Haliaeetus leucocephalus*), a federal species of concern and state threatened species, has been observed at Clear Lake Recreation Area. The Golden Eagle (*Aquila chrysaetos*) has been observed on the Main Base.

There are twenty-five plant species that are state-listed, threatened, sensitive or candidate, with potential of occurring on or in proximity of Fairchild AFB and its land holdings; see The table Federally and State Listed Threatened and Endangered and Rare Species Occurring on or in Proximity of Fairchild AFB for a comprehensive list of species and their designation. Three of these twenty-five species are federally listed as threatened or species of concern by the USFWS. Plant surveys conducted by the WDNR Natural Heritage Program have confirmed five of these species to be growing on Fairchild AFB;

one of which is the federally listed threatened Spalding’s catchfly (*Silene spaldingi*) and the other four are state listed sensitive or threatened and are associated with vernal pools.

Birds

The Nature Conservancy conducted field surveys at Fairchild AFB in 1993 and 1994 for resident and migratory bird species in both the breeding and non-breeding seasons at four study areas. A more recent inventory was conducted in 2005 by Eastern Washington University. The primary emphasis of this inventory was determining the presence of avian species of concern located in the southeastern portion of the base. The survey was done in the fall and spring. According to WDFW (2006), a total of nine species of birds that are Federal or Washington State species of concern could potentially occur at Fairchild AFB (See Table Federally and State-Listed Threatened, Endangered, and Rare Species Occurring on or in Proximity to Fairchild AFB) (Eastern Washington University 2005): Bald Eagle, Ferruginous Hawk, Merlin, Upland Sandpiper, Black Tern, Burrowing Owl, Vaux’s Swift, Willow Flycatcher, and Loggerhead Shrike.

Although the Willow Flycatcher, a Federal species of concern, was observed in 1994, it was not observed in 2005 and is unlikely to be a resident at the Main Base due to the absence of a riparian zone. This species is more likely to use the Clear Lake Recreation Area or Water System Annex No. 1. The Bald Eagle (Federal species of concern and state sensitive species), Golden Eagle (state candidate), and Western Bluebird (state sensitive species) were also observed on Fairchild AFB in the 1993-1994 survey but were not observed in 2005 (see figures below for photographs of the species). While these species were not observed, they are likely to inhabit the area.

Mammals

Preliminary surveys were conducted by the Nature Conservancy in 1993 and 1994. As part of the bird survey conducted by Eastern Washington University in 2005, a small mammal survey was also done at this time. Although 14 mammal species were observed and seven species captured, limited surveys for mammals were conducted. The survey and capture sites were conducted in the southern portion of the base during the spring and fall. No lagomorphs (jackrabbits or cotton tails including the white-tailed jackrabbit – a state candidate species) or signs were observed and no species of concern were observed within the areas observed (Eastern Washington University 2005).

According to WDFW (2006), one mammal species that is a Federal and state listed species of concern



could potentially occur at Fairchild: the Washington ground squirrel (*Spermophilus washingtoni*) (Figure Photo of Washington Ground Squirrel) (Eastern Washington University 2006). Other sensitive species that have been documented as having suitable habitat, but have not been observed, include the American badger, a species being carefully monitored by the WDFW Wildlife Program; and the Townsend’s big-eared bat (*Corynorhinus townsendii*), a Federal species of concern and state candidate species.

Reptiles and Amphibians

In 2013-2014 the US Army COE Construction Engineering Research Laboratory (CERL) performed a survey for reptiles and amphibians both on main base and at Clear Lake and JPRA. No species with a potential to be found on FAFB have Federal conservation status. Only one species, the Northern leopard frog (*Rana pipiens*), has Washington State endangered status. Two species, the Western (boreal) toad (*Bufo boreas*) and the Columbia spotted frog (*Rana luteiventris*), are listed as candidate species for the state of Washington. The Northern leopard frog was documented to occur at Clear Lake WDFW boat ramp adjacent to Air Force Clear Lake property. The Columbia spotted frog was found on main base and the Western Boreal Toad was found at JPRA.

Plants

The Nature Conservancy conducted field surveys for the Significant Natural Features Inventory at Fairchild AFB in 1993 and 1994. These surveys occurred specifically on May 13, 1993 (Main Base, Satellite Tracking Site 01), June 8, 1993 (Main Base), August 23, 1993 (Main Base), August 26, 1993 (Main Base, Water System Annex No. 1), August 27 in 1993 (Clear Lake Recreation Area), and August 16 through 18, 1994 (Main Base).

During the course of the inventory, The Nature Conservancy found a population of Spalding's catchfly (*Silene spaldingii*), a federally listed as threatened and state-listed as endangered species, on the southern portion of the base. The plant is protected on Fairchild AFB.

Other plants identified included:

Inch-high rush (*Juncus uncialis*) is a small annual rush found in Adams, Lincoln, Grant, Douglas and Spokane counties in Washington. It has been found in swales, moist places, and vernal pools. Associated species include Geyer's onion (*Allium geyeri*), Douglas onion (*Allium douglassii*), meadow popcorn-flower (*Plagiobothrys scouleri*), and dense-flower knotweed (*Polygonum watsonii*). This species is known from less than 10 populations, consisting of 10 to 500 individuals. Habitat destruction of vernal pools is its primary concern (WNHP 2005). The state of Washington lists this species as sensitive.



Photo by Jane Wentworth

Mousetail (*Myosurus clavicaulis*) is a small annual found in Klickitat, Lincoln, Adams, and Spokane counties in Washington. This species can be found in hard, bare desiccated clay or in sparsely vegetated areas of shallow vernal pools. Associated species include popcorn-flower, annual hairgrass (*Deschampsia danthonoides*), white-flower navarretia (*Navarretia leucocephala*), and tiny mousetail (*Myosurus minimis*). There is a limited number of populations and habitat present; this species is known from less than 10 recent occurrences. Noxious weeds in vernal pools pose a threat if the vernal pools remain unflooded for several years (WNHP 2005). The state of Washington lists this species as sensitive.

American pillwort (*Pilularia americana*) is a tiny fern found in Adams, Spokane, and Lincoln counties in Washington. This species has been found in the middle zone of ungrazed vernal pools. Associated species includes mosses, annual hairgrass, tiny mousetail, Geyer's onion, and others. There are less than

five populations of American pillwort in Washington. Its absence in heavily grazed vernal pools suggests sensitivity to grazing (WNHP 2005). The State of Washington lists this species as threatened.

Northwestern yellowflax (*Sclerolinon digynum*) is an annual found in Spokane County, Washington. It is found within and on the margins of vernal pools in grasslands and mound and swale topography. Associated species include hairy owl's-clover (*Castilleja tenuis*), camas (*Camassia quamash*), thyme-leaf broomspurge (*Euphorbia serpyllifolia*) and others. This species is known from 7 occurrence sites (5 current and 2 historic) in Spokane County. Loss of habitat and invasive species are primary concerns of the species (WNHP 2005). The State of Washington lists this species as threatened.

7.4.2. Ongoing T&E Monitoring Program

The USFWS Recovery Plan for Spalding's catchfly identifies Fairchild AFB as one of the lower priority sites for recovery because of its small potential habitat area and number of individuals. The USFWS recommendation is for continued monitoring and protection of the current population on Fairchild AFB.

T&E Management on FAFB consists of monitoring and protecting the current population. A conservation area has been designated for known sites of Spalding's catchfly and similar habitat and for the area supporting vernal pools. The area is located on the South Base where SERE School conducts training and where hunting and other forms of outdoor recreation are focused. The area has been signed and entry to the area has been restricted by number and frequency. Any proposed increase in activity or new activity is to be coordinated through the Natural Resource Program Manager.

The Washington State Department of Natural Resources Natural Heritage Program performed monitoring of the species in 1999, 2001 – 2004 and 2008 – 2011. Subsequently, Air Force shifted funding for the natural resource program to US Fish and Wildlife Services (USFWS) who performed monitoring in 2014 – 2018.

No specific management plans have been developed for species that aren't federal T&E listed. An area on the east side of the South Base has been dedicated to wildlife habitat which contains wetlands, scattered forest, and prairie habitat suitable or capable for nesting and foraging habitat. The native vegetation condition ranges from highly to moderately disturbed and it is unknown how its condition may be affecting functional value. Development of outdoor recreation facilities at Clear Lake and management of Water System Annex No. 1 are consistent with the Shorelines Management Act which provides protection of nesting habitat for the bald eagle.

7.4.3. T&E Biological Opinions

FAFB has worked with USFWS to develop Biological Opinions to enable control of aggressive, noxious weeds within the habitat of concern of the Spalding's Catchfly.

7.4.4. Consultations Under ESA Section 7

FAFB shall perform ESA Section 7 consultations for any proposed actions that may impact the critical habitat of the Spalding's Catchfly.

7.4.5. Health of Existing On-Base Habitat of Concern

In 2017, USFWS surveyed eight sites within the habitat of concern for the Spalding's Catchfly. One hundred and thirty-four live SISF plants were found. This was a 5% decrease from 2016, the best year

ever recorded. Two sites have been the focus of restoration efforts including hand weeding, reseeding of native grasses and forbs, and native forb plug planting. The overall population at the site appears to be nearly static.

Visual estimates were also made of the percent cover of non-native species at each site in 2017. St. John's Wort (*Hypericum perforatum*) cover appears further diminished in 2017 at only 1.8% cover across sites. In all, eight different non-native species (*Bromus* lumped) were observed within *Silene spaldingii* sites. An analysis by year clusters indicates a declining trend for invasives at the site. Total non-native cover decreased from an average of 48% from 2001-2004, to 23% from 2013-2017. The thirteen-year average was 36%. Some native forbs exhibit weedy behavior. Tarweed (*Madia gracilis*) was 22% cover at sites 4 and 7 in 2017 and pervasive throughout the biscuits of the conservation area, though its impact on SISP is unknown. Rush skeleton (*Chondrilla juncea*) weed continues to spread and inches closer to SISP clusters.

7.4.6. Relationship of On-Base Habitats of Concern with Similar Local/Regional Critical Habitat

Spalding's catchfly is a herbaceous perennial that occurs within open native grasslands with a minor shrub component and scattered conifers. Populations tend to be small and isolated. Much of its historic habitat has been lost through conversion or degradation. Grading and recreational activities in its known sites should be avoided and weed control should be accomplished (WNHP 2005).

7.5 Water Resource Protection

Applicability Statement

This section applies to AF installations that have water resources. This section is applicable to Fairchild AFB.

Program Overview/Current Management Practices

7.5.1. Regional Issues Related to Watersheds Affected by FAFB

The overall regional issue for water resources significant to Fairchild AFB is water supply and conservation. Fairchild AFB lies within the Lower Spokane River watershed planning unit (WRIA 54). Management priorities and strategies have been identified and documented in the WRIA 54 Plan for water quality and water supply issues (GeoEngineers, 2009). Issues identified for Fairchild AFB are: 1) Water System Annex No. 2 extracts water from a West Plains aquifer that is shared by many users and current depletion rate of the aquifer surpasses the recharge rate 2) there has been a lack of coordination and planning for water supply needs and infrastructure for the West Plains water source and use area, and 3) wetlands on the West Plains, including on Fairchild AFB, are a significant source for recharge of shallow groundwater aquifers. Fairchild AFB is cooperating with officials from Airway Heights, Four Lakes, Medical Lake, Cheney, Spokane County, and the state to work together to address the problem.

7.5.2. Wastewater and Storm Water Management

Fairchild AFB's wastewater is transferred to City of Spokane treatment facilities and then discharged into the Spokane River; consequently, the base has permitted limits on wastewater discharge. The Spokane

River is an impaired water under Clean Water Act 303(d) and is regulated under a total maximum daily load (TMDL) Management Plan.

The base operates under the nationwide NPDES General Permit for discharge of storm water. The base has a Storm Water Pollution Prevention Plan (SWPPP) and performs monitoring of storm water outfalls in accordance with the SWPPP. Additionally, individual SWPPPs are a requirement for construction sites impacting greater than one acre.

7.5.3. Non-Point Source Pollution

Isolated wetlands are the only surface waters at the Main Base of Fairchild AFB. No non-point source pollution issues have been identified or are they likely to be a problem in the future. Opportunities do exist for creation, enhancement and restoration of wetlands which could improve capacity for groundwater recharge.

Two land holdings managed by Fairchild AFB have management requirements for surface waters: Water System Annex No. 1 is located along the Spokane River; and Clear Lake Recreation Area is located on Clear Lake. Management measures are monitored through visual effectiveness reviews.

Milfoil blooms occur at the boat dock at Clear Lake which results in a decrease in habitat quality and recreational beneficial uses; control measures (such as a bottom barrier installed next to the docks, hand pulling by diver, mowing/harvesting, and spraying) have been conducted in the past and will likely be needed in the future. Also in 2005, it was determined that storm runoff from the asphalt surface of the boat ramp area concentrates at the shoreline causing a small amount of sediment to enter the lake. Fairchild AFB coordinates with appropriate state and county regulatory agencies prior to improvements or expansion plans at Clear Lake.

7.5.4. Water Quality Monitoring and Sampling Points

Water quality monitoring and sampling are performed in accordance with the base's wastewater permit with City of Spokane and NPDES permit.

7.6 Wetland Protection

Applicability Statement

This section applies to AF installations that have existing wetlands on AF property. This section is applicable to Fairchild AFB.

Program Overview/Current Management Practices

7.6.1. Status of Wetland Inventories/Delineations

A wetland inventory on Fairchild AFB was originally performed in 1991. In 2006 an wetland inventory of main base and associated installations at the southern end of Clear Lake and along the Spokane River was conducted by Cascadia Technical Services to classify and delineate the jurisdictional waters and wetlands and to rate their relative functional value. Approximately 215 acres of wetlands were identified on the base and associated installations, with the majority located in the southern portion of the base.

7.6.2. Health of Existing Wetlands

Wetlands were rated from poor to good condition with fair to good functional value for habitat. Restoration in the form of removal of concrete fill debris has taken place in some wetlands. Reed canarygrass, an invasive grass, is pervasive throughout and has altered hydrology in some areas. Several wetlands have open water with emergent bed vegetation at their shoreline and offer greater habitat diversity.

7.6.3. Long-Term Monitoring, Restoration, and Enhancement of Wetlands

Wetlands are primarily managed through monitoring, protection, and conservation. Wetlands are mapped on the base GIS system so that any proposed project or siting does not impact them. Service requests, dig permits, sitings, and projects are all reviewed to ensure there is no impact to wetlands. The base strives to have any underground utility work parallel existing roads.

Restoration and enhancement of wetlands has historically been limited to removal of concrete and other debris from wetland areas along with control of noxious weeds. The base will continue to enhance wetlands as opportunities are identified.

7.6.4. Existing and Pending Section 404 and 401 Permits

There are no pending Section 404 and 401 permits at the base and the Rivers and Harbors Act does not apply to Fairchild AFB.

The base Natural Resources Manager coordinates with the U.S. Army Corps of Engineers (the regulatory agency for wetland protection), the state of Washington (the regulatory authority over isolated wetlands), or the WA Department of Ecology as required. Required analysis will be performed prior to engaging in wetland disturbance activities.

7.6.5. Wetland Banking

The base has not and is not projecting to participate in any local or regional wetland banking programs.

7.7 Grounds Maintenance

Applicability Statement

This section applies to AF installations that perform ground maintenance activities that could impact natural resources. This section is applicable to Fairchild AFB.

Program Overview/Current Management Practices

7.7.1. General Maintenance Issues Associated with Turf Areas and Ornamental Planting Areas

Diseases are an on-going challenge with turf and ornamental plantings. Pesticides and fertilizers are applied to turf areas in designated improved areas. Diseases trees are sprayed and/or removed as funding allows.

7.7.2. Non-point Source Pollution Issues Associated with Pesticides and Fertilizers

Fertilizers and pesticides are applied to grassy improved areas in accordance with the grounds maintenance contract. Pesticides are also applied by the entomology shop in accordance with the

Integrated Pest Management Plan. Fertilizers and pesticides are not generally applied near surface water with the exception of mosquito control near storm water collection ponds. However, no storm water from the base has the potential to reach rivers, lakes, or streams.

7.7.3. Solid Wastes Associated with Grounds Maintenance Activities

There is no composting operation on the base. The grounds maintenance contractor mulches all grass clippings in place. Leaves and other debris are shredded and disposed of off-base. All trees, branches, and other green debris generated by Snow Barn or other in-house operations are also chipped and/or disposed of off-base.

7.7.4. Urban Forestry Program

Fairchild AFB is a Tree City USA member and supports a prolific, diverse urban forest located in parks, along roads, and in courtyards next to administrative buildings and residential areas on the Main Base. Fort George Wright Cemetery has a planted sapling forest; some trees are heirloom progeny. The forest is supplemented annually by tree planting in celebration of Arbor Day each year. An Urban Tree Inventory was conducted in 2004 and provides a GIS database for location, condition, size, age, and species on over 65% of the land area on the Main Base. The base's Urban Tree Management Plan is: improve species diversity to offset species-specific diseases; protect tree boles from chronic damage from mowers and trimmers; replace old trees and those with low vigor; and improve pruning methods.

The base arboretum is sited in a corner of Miller Park and has a selection of deciduous and nondeciduous trees that have been and will continue to be planted during Arbor Day activities each year.

7.7.5. Recommended and Prohibited Landscape Plants

The Base Design Standard (BDS) includes a list of recommended ornamental trees, shrubs, and turf for the base. The overall emphasis is on native, low maintenance, drought resistant plants and trees.

7.7.6. Grounds Maintenance Contract

Most grounds maintenance activities at Fairchild AFB are performed by contracted base grounds maintenance personnel. The 92d Civil Engineer Squadron Operations Engineering Element is responsible for the development and oversight of the grounds maintenance contract. Typical grounds maintenance activities consist of lawn mowing, mulching, sprinkling, and shrub pruning in improved and semi-improved areas.

7.8 Forest Management

Applicability Statement

This section applies to AF installations that maintain forested land on AF property. This section is applicable to Fairchild AFB.

Program Overview/Current Management Practices

Fairchild AFB does not have any commercial forestry program. Land capability to support a sustainable commercial forest on Fairchild AFB is severely limited by soil depth and/or precipitation. Scattered

clumps of ponderosa pine exist in the unimproved portion of the base and are representative of ecological transition between forest and prairie.

A 1993 resource survey mapped two areas with significant stands of trees. The survey determined these ponderosa pine stands to be unsuitable for commercial harvest because (1) they are less than 5 acres, (2) they do not contain sufficient volume to cover the cost of harvest, and (4) they are being used for survival training exercises. In 1996, 1997, and 1999, approximately 215 acres of unimproved ground were planted with ponderosa pine. Survival of these plantings has had mixed results. Survival has been impacted by grass competition, wetland hydrology, and wildlife foraging.

A small old growth ponderosa pine stand and sapling age ponderosa pine stand exists at Clear Lake Recreational Area. The forest is used for a developed campground area. An occasional tree in the old growth forest dies from western pine beetle and becomes a safety hazard to the campground; these trees are removed. Compaction and damage from campers increase stress on trees which attracts beetle infestation. The forest has no long term management plan and lacks understory regeneration which would support long term succession and replacement of this old growth stand. Stand size and campground objectives limit treatment options that could promote natural forest succession. Currently the treatment is to remove dead and dying hazard trees and remove or treat wood with viable beetle larvae to reduce potential for re-infection. This solution will sustain the existing forest for 50-100 more years and then a new younger forest would take its place. The adjacent sapling pine stand has low vigor and is severely infected by mistletoe. The only alternative for improving this stand is to completely remove all infected trees prior to replanting. This was deemed not satisfactory from aesthetics and outdoor recreational objectives. The stand "as is" provides screening and solitude for campers.

7.9 Wildland Fire Management

Applicability Statement

This section applies to AF installations with unimproved lands that present a wildfire hazard and/or installations that utilize prescribed burns as a land management tool. This section is applicable to Fairchild AFB.

Program Overview/Current Management Practices

7.9.1. History and Frequency of Wildfires on the Installation

Historically, there have been minimal wildfires on the installation with no routine frequency. There is a potential for flares from SERE training or sparks from lawn mowing to start a fire. However, standard operating procedures have been implemented which further reduce the likelihood of a wildfire. Flare training is performed in designated, disked areas only with prior notification to the base fire department. Extinguishers, radios, and/or cell phones are routinely carried on lawn mowers in areas where sparks may be an issue.

7.9.2. Threat of Wildfire to the Mission and Natural Resources

The threat of wildfire to the mission or base natural resources is very low. Except for known regional concerns, there are no specific identified natural fire hazards within the base or on adjacent privately owned lands. Adjacent lands around the main base are a patchwork of plowed fields and unimproved prairie. Wildfire events occur annually in the Spokane area affecting a range of from one to hundreds of

acres. However, the base maintains firebreaks along the perimeter of the South Base and mowed strips of semi-improved and unimproved areas along other perimeters.

Inside property boundaries, potential ignition sources and vegetation are kept in a manner to reduce ignition and severity of fire. No open fires are permitted except for fire pits at the developed campground at Clear Lake Campground which is regulated by Fairchild personnel under state fire prevention protocol.

7.9.3. Organizational Structure for Wildland Fire Protection and Response Protocols

The Fire Department maintains interagency cooperation with other fire control organizations such as WA Department of Natural Resources and Spokane County. Wildfire management on other landholdings such as Fort Wright George Cemetery, Water Annex No. 1, JPRA, and Clear Lake Recreational Area, are reliant on adjacent private lands management and fire control cooperation through interagency fire control command.

7.9.4. Use of Prescribed Fires on the Installation and Program Objectives

Managing fire risk by using controlled burns is a method being implemented in the area near Fairchild AFB. For example, prescribed fire has been utilized for ecosystem management in the nearby Turnbull Wildlife Refuge to control weeds and to improve habitat.

A prescribed fire program has periodically been researched at main base to provide wildland fire control training and/or control noxious weeds. Challenges to implementation of this program have been coordinating a suitable air quality window, fire department schedules, and a time when conditions present a high potential for success in fire spread control and vegetation management outcome. Vegetation management by fire is reliant on the ability to conduct prescribed fire at the correct time and intensity for a repeated sequence of years. The administrative challenges of the program have yet to realize a successful outcome.

Another challenge to the use of prescribed fire at Fairchild AFB is the habitat supporting Spalding's catchfly. The effects of fire, both natural and prescribed, on the mesic fescue communities that support Spalding's catchfly have not been thoroughly investigated and need further research (Hill and Gray 2004). Consultation with USFWS is required prior to administering prescribed fire in this area. Use of fire at Spalding's catchfly populations would be carefully evaluated if any invasive weeds occur at or near the site. Pre-burn and post-burn inventory and monitoring of Spalding's catchfly plants, weed infestations, and the associated plant community would be conducted where fire is being considered as a management tool.

7.10 Agricultural Outleasing

Applicability Statement

This section applies to AF installations that lease eligible AF land for agricultural purposes. This section is not applicable to Fairchild AFB.

Program Overview/Current Management Practices

7.11 Integrated Pest Management Program

Applicability Statement

This section applies to AF installations that perform pest management activities in support of natural resources management, e.g. invasive species, forest pests, etc. This section is applicable to Fairchild AFB.

Program Overview/Current Management Practices

7.11.1. Pest Species That Potentially Affect Natural Resources Management

Fairchild AFB and its land holdings have experienced a proliferation of noxious weeds and have conducted major efforts to control these weeds over the years. The proliferation on the base and their effective control is confounded by lack of control efforts on adjacent private and public lands and that no effective means of control exists. This requires an annual program of monitoring and control to effectively reduce the spread through impacting seed generation as well as plant mortality.

The area of most serious infestation and most challenging to apply control measures is the South Base. Wetlands, shallow water tables, and T&E species habitat for Spalding's catchfly present limitations to the type and timing of weed control. Informal consultation with USFWS along with a biological assessment describing treatment methods in Spalding's catchfly habitat has been completed in the past but will need to be re-accomplished prior to any actions in this area.

Biological control was initiated in the last 1990s on knapweed and Canada thistle with a supplemental release conducted in 2006 and 2016. Biological controls have had mixed results but should be further pursued as part of an overall control strategy.

7.11.2. Exotic and Invasive Species and Ongoing Control Initiatives

Invasive plant and tree species are an on-going challenge to control on the main base and GSUs. The base uses a combination of mowing, spraying, and removal to control noxious weeds. The grounds maintenance contractor and/or entomology shop are responsible to control weeds within the improved and semi-improved areas of the base while the base Natural Resources Manager is responsible for programming and executing funds to control noxious weeds in the unimproved areas on the south side of the base. Natural resources funding currently is executed by the USFWS who is responsible for spraying and removal of noxious plants and trees.

7.11.3. Species Designated as Noxious Weeds

Both federal and state law requires noxious weed control. Executive Order 13112, Exotic and Invasive Species, and the State of Washington's RCW 17.10 require noxious weed control to reduce economic loss as well as ecological impact. Management of state law is delegated to the counties. The Spokane County Noxious Weed Board maintains a list of state qualified weeds known to be a threat in Spokane County on their web site.

7.11.4. Natural Resources Program Support of the Integrated Pest Management Plan (IPMP)

An IPMP is updated annually and is managed by 92d CES Entomology shop. The Plan is reviewed by the Natural Resources Program Manager as well as other departments to assure technical competency, environmental compliance, and relevance. The IPMP employs mechanical, physical, cultural, biological,

and educational methods to maintain pests at populations low enough to prevent undesirable damage or annoyance. In addition, if chemicals are needed as a last resort, the least-toxic chemical capable of performing the control is utilized.

7.12 Bird/Wildlife Aircraft Strike Hazard (BASH)

Applicability Statement

This section applies to AF installations that maintain a BASH program to prevent and reduce wildlife-related hazards to aircraft operations. This section is applicable to Fairchild AFB.

Program Overview/Current Management Practices

7.12.1. Existing and Potential Hazards to Aircraft Operations Posed by Wildlife

A variety of wildlife poses a threat to aircraft operations on FAFB including coyotes, badgers, deer, and birds. Badgers dig holes under the airfield fence enabling coyotes and other small mammals to enter the airfield area. Coyotes have no natural predators to keep their population controlled and have frequented the airfield area in search of food and habitat. The airfield fence has generally been a sufficient deterrent to keep deer outside the airfield area with the biggest vulnerability being gates either breaking or being accidentally left open. Birds are the most consistent threat to the safety of airfield operations. Ducks, pigeons, starlings, and red-tailed hawks are the largest problems at Fairchild AFB.

7.12.2. BASH Program Issues Relative to Natural Resources Management

Wildlife and control of associated habitat is an on-going issue for BASH and the NR program. Compliance with the Sikes Act and other regulatory requirements for conservation of NR assets must be performed in concert with ensuring the safety of aircraft and aircrews as the primary objective.

7.12.3. Federal/State Permits That Support the BASH Program

The Natural Resources Manager is responsible for submitting the annual Migratory Bird Treaty Act (MBTA) report and permit application to USFWS. Personnel authorized by permit holder to perform depredations necessary for the safe operation of aircraft shall keep required training and records and submit to NRM as requested to support report and permit compliance.

7.12.4. Natural Resources Program Management Support of BASH Plan

NR management must always have the safety of aircraft and aircrews as a primary objective. Wildlife and habitat management will strive to ensure birds and wildlife are kept away from the airfield area and encouraged to utilize other areas on base and, preferably, off base. The NRM shall lead partnering opportunities with USFWS, WDFW, and USDA Wildlife Services to identify and control wildlife hazards on the base.

7.13 Coastal Zone and Marine Resources Management

Applicability Statement

This section applies to AF installations that are located along coasts and/or within coastal management zones. This section is not applicable to Fairchild AFB.

Program Overview/Current Management Practices

Coastal zone management is not applicable to Fairchild AFB.

7.14 Cultural Resources Protection

Applicability Statement

This section applies to AF installations that have cultural resources that may be impacted by natural resource management activities. This section is applicable to Fairchild AFB.

Program Overview/Current Management Practices

Cultural resources management is detailed within the base Integrated Cultural Resources Management Plan (ICRMP). On main base the only cultural resources of significance are three buildings that have been determined to be potentially eligible. These buildings are located in the developed areas of the base.

An archaeological survey of Clear Lake Recreation Area, JPRA, Water Annex, and Helicopter Training Area was performed in 2017. The only archaeological site identified was at the Water Annex. Any natural resources management initiatives for the riparian area along the river will need to consider the presence of this site.

As detailed in the ICRMP, Fairchild AFB has a policy that in the event of an inadvertent discovery of bones or artifacts, the discoverer will (1) cease work within 100 feet of the find until further notice, and (2) immediately contact the Cultural Resource Manager.

7.15 Public Outreach

Applicability Statement

This section applies to all AF installations that maintain an INRMP. Fairchild AFB is required to implement this element.

Program Overview/Current Management Practices

7.15.1. Organizations Involved in Outreach for Natural Resources Programs

The Natural Resources Manager leads the outreach activities with support from other agencies on the base. The 92 ARW Public Affairs office serves as the focal point for press releases and all media engagements. Additionally, they maintain the base web site and newspaper to which the Natural Resources Manager can submit information for publication. Additionally, 336 TRG provides critical training to all instructors and students regarding off-limits areas like the T&E habitat and other natural resource management strategies for both on and off base sites.

7.15.2. Natural Resources Awareness Programs on FAFB

Natural resources awareness is incorporated into a variety of outreach opportunities. Key topics are briefed at the monthly newcomer's briefings and published in the annual environmental awareness

brochure. New senior leaders also get a letter detailing the unique aspects of FAFB environmental management including natural resources. Partnering opportunities with the base elementary school include the annual Arbor Day celebration and several Boy Scout projects have also benefitted natural resources on the base.

7.15.3. Natural Resources Program Educational Materials

The base Environmental Office and specifically the Natural Resources Manager maintain educational material including watchable wildlife brochures and various briefings.

7.16 Geographic Information Systems (GIS)

Applicability Statement

This section applies to all AF installations that maintain an INRMP, since all geospatial information must be maintained within the AF GeoBase system. Fairchild AFB is required to implement this element.

Program Overview/Current Management Practices

7.16.1. Geospatial Data Acquisition and Management Methods Associated with Natural Resources Management

The base has a robust geographic information system (GIS) used to manage and catalogue information acquired in natural resources research. The GIS assists in planning by charting areas of environmental concern and providing a baseline for analyzing the potential impacts of any proposed natural resources management action.

The USAF has embarked on a common GIS operating system for all bases called GeoBase, where the primary focus is on the local infrastructure. GeoBase is fully compliant with the Tri- Service Spatial Data Standards. Some data management and oversight for GIS environmental quality data is being transitioned to the AFCEC Installation Support Teams.

It is important that any new natural resources surveys or reports be required to provide data electronically in a format compatible with existing GIS data.

Data layers that are specific to natural resources management planning and decision making include:

- Aerial photography: real world imaging to show changes land use changes overtime.
- ERP area and sites: limits degradation of natural resources through knowledge of contaminated areas and management of ERP sites.
- Historic and archaeological sites: aids management of the Cultural Heritage at Fairchild AFB, and identifies areas for avoidance.
- Infrastructure: takes into account what structures, pipelines, electrical systems, etc. may impact or may be affected by natural resource issues.
- Land use: assists management of land use category for undeveloped areas and identifies potential for future wildlife areas.
- Red-tailed hawk nest site locations: helps monitor location changes and management actions including administration of the BASH Plan.
- Sensitive species: helps monitor locations and focus management actions of species and their habitat.

- Soil surveys: helps manage the influence of soil types on wildlife and other natural resources.
- Special flora species (including invasive species): aids monitoring of locations and facilitates management actions.
- Urban Forest Inventory: assists landscape management prioritization of tree removal, planting, and pruning needs.
- Vegetation Survey: Shows distribution of vegetation complexes on the natural/semi-natural portions of the base; used to plan noxious weed control and other wildlife studies.
- Vernal pools: helps monitor locations and manage the susceptible (rare) plants supported by vernal pools.
- Wetlands: assists in preserving and perpetuating existing functions, and identifying candidates for mitigation.

8.0 MANAGEMENT GOALS AND OBJECTIVES

The installation establishes long term, expansive goals and supporting objectives to manage and protect natural resources while supporting the military mission. Goals express a vision for a desired condition for the installation's natural resources and are the primary focal points for INRMP implementation. Objectives indicate a management initiative or strategy for specific long or medium range outcomes and are supported by projects. Projects are specific actions that can be accomplished within a single year. Also, in cases where off-installation land uses may jeopardize AF missions, this section may list specific goals and objectives aimed at eliminating, reducing or mitigating the effects of encroachment on military missions. These natural resources management goals for the future have been formulated by the preparers of the INRMP from an assessment of the natural resources, current condition of those resources, mission requirements, and management issues previously identified. Below are the integrated goals for the entire natural resources program.

The installation goals and objectives are displayed in the 'Installation Supplement' section below in a format that facilitates an integrated approach to natural resource management. By using this approach, measurable objectives can be used to assess the attainment of goals. Individual work tasks support INRMP objectives. The projects are key elements of the annual work plans and are programmed into the conservation budget, as applicable.

Installation Supplement – Management Goals and Objectives

8.1. GIS Management Goals and Objectives

Goal GIS-1: Utilize GIS as a tool for developing and implementing natural resource management goals and objectives.

Objective GIS-1.1: Continue development, use, and maintenance of GeoBase for Natural Resources Management in accordance with USAF data quality and accuracy standards ensuring proper staff training and equipment needs.

Project GIS-1.1.1: Annually conduct a natural resources GIS review for quality and comprehensiveness. Compile a list of gaps and program for additional needs as required.

Project GIS-1.1.1: Perform annual evaluation of hardware, software, and staff training needs and program for additional needs.

8.2. Fish and Wildlife Management Goals and Objectives

Goal FW-1: Provide for the management of fish and wildlife on Fairchild AFB managed lands using an ecosystem-based management system that will sustain wildlife resources and their habitats without compromising military mission sustainment.

Objective FW-1.1: Improve overall knowledge of base species and populations.

Project FW-1.1.1.: Conduct a detailed biological survey to assess mammalian and insect species and populations on the base.

Project FW-1.1.2.: Develop a monitoring protocol to monitor wildlife populations on base.

Objective FW-1.2: Restore native prairie habitat in designated grassland areas.

Project FW-1.2.1: Identify and prioritize restoration areas based upon highest likelihood of success, ability to protect from re-infestation of noxious weeds, and ability to produce conditions favorable to protection of Spalding's catchfly.

Project FW-1.2.2: Treat for noxious weeds and remove Russian Olives in prairie areas and monitor native and exotic species pre- and post- treatments to assess effectiveness of treatment and goal attainment. Restore native willows or the appropriate shrub where Russian olive is removed.

Objective FW-1.3: Maintain deer population at a level that minimizes encroachment into the populated areas of the base.

Project FW-1.3.1: Conduct an inventory of deer on base prior to hunting season on an annual basis to determine the need for annual hunting.

Project FW-1.3.2: Coordinate annually, or as needed, with WDFW to assist in determining bag limits and number of hunting permits to achieve desired deer population levels.

Project FW-1.3.3: Partner with USDA Wildlife Services to have an updated wildlife hazard assessment performed and identify/implement additional deer management strategies.

Goal FW-2: Improve and maintain diversity of wildlife in areas on the base where there will be no conflict with the mission.

Objective FW-2.1: Develop a proactive wildlife habitat management program.

Project FW-2.1.1: Identify the appropriate elements of a wildlife habitat management program to be compatible with needs of species on base.

Project FW-2.1.2: Restore native plant communities within habitat conservation areas.

Goal FW-3: Remain in compliance with applicable Federal, State, and local laws and regulations governing fish and wildlife while fostering partnerships with private, state, and federal agencies to further stewardship opportunities on Fairchild AFB installations.

Objective FW-3.1: Ensure compliance with ESA and other laws and regulations by reviewing all future construction projects scheduled on base.

Project FW-3.1.1: Annually review updated future development plans and conduct Section 7 consultations as needed.

Objective FW-3.2.: Maintain communication with USFWS, WDFW, and USDA Wildlife Services annually.

Project FW-3.2.1: Hold meetings in person or via teleconference with USFWS and WDFW to discuss fish and wildlife management issues and re-visit INRMP goals and objectives as needed.

8.3. Threatened & Endangered Species Management Goals and Objectives

Goal TE-1: Manage and protect sensitive species and priority habitats while protecting operational functionality of the Installation's missions.

Objective TE-1.1: Manage, develop plans, and monitor existing populations of T&E sensitive species and survey for species lacking in data on base.

Project TE-1.1.1: Annually review, update, and evaluate the list of T&E species that potentially occur on Fairchild AFB.

Project TE-1.1.2: Collaborate with USFWS to monitor identified federally-listed species occurring on the installation, such as Spalding's catchfly. Coordinate with WDFW and WNHP to monitor identified state-listed species and priority habitats.

Project TE-1.1.3: Maintain and update a GIS database of location, observations, and trends of T&E and sensitive species.

Project TE-1.1.4: Continue survey and monitoring of Vernal Pool habitats, incorporating locations into GIS layers.

Project TE-1.1.5: Conduct an assessment of health of vernal pool systems and sensitive species populations associated with them. From this assessment, identify and enact management strategies to ensure that vernal pool systems remain ecologically viable.

Objective TE-1.2: Ensure protection for sensitive species while minimizing restrictions on SERE School training activities.

Project TE-1.2.1: Collaborate and coordinate with SERE School to assess potential to impact habitat for Spalding's catchfly. Consultation with USFWS as needed for any proposed entry into the conservation area.

Project TE-1.2.2: Monitor training activities for potential of accidental entry into the T&E Conservation Area. If accidental entry by parachute training occurs, it would be reported within 12 hours to Environmental Flight – Natural Resources Program Manager.

Goal TE-2: Remain in compliance with the ESA and continue to cooperatively support state protection goals.

Objective TE-2.1: Ensure development plans on base consider T&E species and species of concern and their associated habitats by maintaining on-going communication with project planning personnel.

Project TE-2.1.1: Discuss potential sensitive species constraints with base planning personnel as early as possible to avoid, minimize, and mitigate potential adverse impacts as a result of future development planning. Incorporate any species constraints into the base general plan.

Objective TE-2.2: Maintain correspondence with USFWS, WDFW, and WNHP regarding updates to federal and state T&E lists.

Project TE-2.2.1: Annually request a revised species list, or verbal confirmation of the existing species list, from the Spokane Field Office of the USFWS.

8.4. Water Resource Goals and Objectives

Goal WR-1: Remain in compliance with the Fairchild AFB SWPPP.

Objective WR-1.1: Annually assess that all BMP's are installed and implemented correctly in accordance with the Fairchild AFB SWPPP.

Project WR-1.1.1: Conduct meetings, as required, with the Fairchild AFB Water Quality Manager to discuss BMP's and associated natural resource protection issues.

8.5. Wetland and Waters of the U.S. Management Goals and Objectives

Goal WT-1: Manage for no net loss of wetland acreage, while maintaining and restoring healthy, functional wetlands in areas that will not affect the military mission.

Objective WT-1.1: Protect wetland acres, function, and value and wetland buffers.

Project WT-1.1.1: Develop a wetland restoration plan for degraded wetland areas, using the 2006 wetland inventory update as a baseline, and include a list of priority wetlands for enhancement or restoration based upon potential for improved functional value.

Project WT-1.1.2: Update wetland boundary delineations every 5 years using the current protocol required by USACE and Washington State Department of Ecology (Ecology) including an assessment of functionality of the wetlands.

8.6. Grounds Maintenance Management Goals and Objectives

Goal GM-1: Make maximum use of regionally native plant species and avoid introductions of invasive and exotic species in re-vegetation and landscaping activities.

Objective GM-1.1: Plant and maintain trees, shrubs, and turf that is low maintenance and drought resistant.

Project GM-1.1.1.: Continue to reseed exposed soils after ground-disturbing activities are conducted using a native grass mix. Installation of native plants should be conducted in order to minimize maintenance costs and maximize survivability.

Project GM-1.1.2.: Monitor the use of native grasses to rehabilitate exposed soils and the use of regionally native species for landscape plantings.

Project GM-1.1.3.: Annually inventory trees and shrubs to identify trees that need pruning, replacement, or removal, to ensure they are not impacting buildings and base infrastructure.

Project GM-1.1.4.: Remove problem trees identified in the annual inventory between September and March to avoid migratory bird nesting season, unless the action is necessary for safety concerns. The Natural Resources Manager should be contacted before any removal of trees.

8.7. Forest Management Goals and Objectives

Goal FM-1: Improve base forest management

Objective FM-1.1: Maintain and expand current inventories of urban and native forests on base and make available in GIS.

Project FM-1.1.1.: Remove diseased trees and replant with new native trees.

8.8. Integrated Pest Management Goals and Objectives

Goal PM-1: Prevent short- and long-term damage to natural resources by implementing coordinated pest and noxious species control.

Objective PM-1.1: Develop a noxious weed control strategy.

Project PM-1.1.1.: Continue to coordinate noxious weed control by ground maintenance, natural resources, and Operations.

Project PM-1.1.2.: Monitor progress of noxious weed control and implement changes.

Project PM-1.1.3.: Coordinate with state and local regulators to obtain appropriate permits for nonnative and nuisance plant species eradication in wetland areas and T&E habitat areas.

8.9. BASH Management Goals and Objectives

Goal BM-1: Continue to implement BASH Plan protocols and strategies in consideration of their impacts to the natural environment.

Objective BM-1.1: Minimize aircraft exposure to potentially hazardous bird and/or animal strikes.

Project BM-1.1.1: Monitor and report bird watch condition codes.

Project BM-1.1.2: Decrease attractiveness of airfield to wildlife by doing the following:

- (a) Keep airfield grasses between 7 and 14 inches by disking and re-seeding long grass areas with short grass species.
- (b) Keep airfield and clear zone clear of trees and shrubs.
- (c) Control insects and rodents as necessary.
- (d) Employ active bird control techniques as necessary.

Project BM-1.1.3: Prior to any application of pesticides to control rodents, the base NRM will consult with the USFWS, the WDFW, and USDA Wildlife Services.

Project BM-1.1.4: Continue program for trapping and banding of resident and migratory red-tailed hawks, relocating juvenile and migratory red-tailed hawks, and conducting egg-replacement on resident nests to reduce juvenile populations.

8.10. Outdoor Recreation Management Goals and Objectives

Goal OR-1: Provide quality outdoor recreation experiences in the natural environment while sustaining ecosystem integrity.

Objective OR-1.1: Conserve and protect current environmental resources used in outdoor recreation.

Project OR-1.1.1: Monitor activities that have a direct effect on recreational resources using the natural environment and determine if mitigation is necessary to alleviate any negative impacts.

8.11. Public Outreach Goals and Objectives

Goal PO-1: Promote natural resource education and awareness.

Objective PO-1.1: Enhance partnering efforts between the base and community.

Project PO-1.1.1: Volunteer for community service events, including cleanup of natural areas.

Project PO-1.1.2: Develop information materials (i.e., pamphlets) to promote the positive aspects of Fairchild AFB including management and preservation of natural resources.

Objective PO-1.2: Continue to develop activities and educational materials using the wildlife trail and other natural areas as public outdoor interpretive areas, for outreach events, such as National Public Lands Day, Earth Day, Arbor Day, and other environmental education venues.

Project PO-1.2.1: Develop additional and maintain existing interpretive signs along the wildlife trail to include other natural areas of importance.

Project PO-1.2.2: Develop and promote natural resource public outreach events with local outdoor education groups (ex: Boy Scouts of America, Girl Scouts of the USA, 4-H groups, and school groups).

9.0 INRMP IMPLEMENTATION, UPDATE, AND REVISION PROCESS

9.1 Natural Resources Management Staffing and Implementation

The Natural Resources Manager in the 92d CES Environmental Element is responsible for the annual updating of this Plan and working with other personnel across the base to implement the recommendations of the INRMP. Other organizations on base that support the implementation of this Plan include the 92d CES Operations Flight, 92d ARW Flight Safety, 92d FSS Outdoor Recreation Office, 92d OSS Airfield Manager, 92 SFS, and 92 ARW Public Affairs. The NRM works with the AFCEC Installation Support Team to program for environmental funding to support NR projects.

The Natural Resources Manager is a single position that also manages the base Cultural Resources. Turnover in this position has been an on-going challenge and will result in negative impacts to the overall program.

9.2 Monitoring INRMP Implementation

This INRMP is a “living” document that is based on several short-, medium-, and long-term planning goals. Short-range goals include activities that are planned to occur in 0 to 5 years, while medium-range goals include activities in a 6- to 10-year period. Long-range goals are usually scheduled beyond 10 years. (A majority of the goals and objectives discussed in this INRMP are based on short-term natural resources management goals.) Because an INRMP is a “living” document, goals can be revised over time to reflect evolving environmental conditions. In addition, medium- and long-range planning goals could eventually become short-range activities that also require implementation.

Monitoring implementation of the INRMP both in the field and office is conducted through annual self-inspections and reviews by the NRM and 92d CES leadership. An INRMP accomplishment report is to be completed and reviewed as part of the annual tri-party review of the INRMP.

9.3 Annual INRMP Review and Update Requirements

The INRMP requires annual review, in accordance with DoDI 4715.03, *Natural Resources Conservation Program*, and AFI 32-7064, to ensure the achievement of mission goals, verify the implementation of projects, and establish any necessary new management requirements. The NRM will work in

coordination with external agencies to review the INRMP. The NRM documents the findings of the annual review in an Annual INRMP Review Summary and obtains signatures from the coordinating agencies on review findings. By signing the Annual INRMP Review Summary, the collaborating agency representatives assert concurrence with the findings.

The USFWS, WDFW, and the NRM conduct an Annual INRMP Review Meeting as needed. During this meeting the NRM updates the external stakeholders/parties with the end of the year execution report and coordinates future work plans and any necessary changes to management methods etc. All parties review the INRMP and begin preliminary collaborative work on updating the INRMP (new policies, procedures, impacts, mitigations, etc.) as applicable.

10.0 ANNUAL WORK PLANS

The INRMP Annual Work Plans are included in this section. These projects are listed by fiscal year, including the current year and four succeeding years. For each project and activity, a specific timeframe for implementation is provided (as applicable), as well as the appropriate funding source, and priority for implementation. The work plans provide all the necessary information for building a budget within the AF framework. Priorities are defined as follows:

- High: The INRMP signatories assert that if the project is not funded the INRMP is not being implemented and the Air Force is non-compliant with the Sikes Act; or that it is specifically tied to an INRMP goal and objective and is part of a “Benefit of the Species” determination necessary for ESA Sec 4(a)(3)(B)(i) critical habitat exemption.
- Medium: Project supports a specific INRMP goal and objective, and is deemed by INRMP signatories to be important for preventing non-compliance with a specific requirement within a natural resources law or by EO 13112 on Invasive Species. However, the INRMP signatories would not contend that the INRMP is not be implemented if not accomplished within programmed year due to other priorities.
- Low: Project supports a specific INRMP goal and objective, enhances conservation resources or the integrity of the installation mission, and/or support long-term compliance with specific requirements within natural resources law; but is not directly tied to specific compliance within the proposed year of execution.

Annual Work Plan	Action	OPR	Funding Source	Priority Level
2018				
Treat Noxious Weeds in prairie	FW-1.2.2	CEI	OS1152G	Medium
Deer Inventory	FW-1.3.1	CEI	Personnel	Medium
Deer Coordination with WDFW	FW-1.3.2	CEI	Personnel	Medium
Restore native plant communities	FW-1.2.1.	CEI	GJKZ137418	Medium
Review Future Development Plans	FW-3.1.1	CEI	Personnel	Medium
USFWS, WDFW Meeting	FW-3.2.1	CEI	Personnel	High

INTEGRATED NATURAL RESOURCES MANAGEMENT PLAN

Annual Work Plan 2018	Action	OPR	Funding Source	Priority Level
Review T&E Species List	TE-1.1.1	CEI	Personnel	High
Coordination and Monitoring of T&E and Sensitive Species	TE-1.1.2	CEI	GJKZ035218	High
Update GIS Database with T&E Species Information	TE-1.1.3	CEI	Personnel	Medium
Vernal Pools Survey and Monitoring	TE-1.1.4	CEI	OS055211L (Not Funded)	Medium
Coordination with SERE School Concerning Access to Spalding's Catchfly Conservation Areas	TE-1.2.1	CEI	Personnel	Medium
Report accidental entry into the T&E Conservation Area.	TE-1.2.2	CEI	Personnel	Medium
Review Future Development Plans	TE-2.1.1	CEI	Personnel	High
T&E USFWS Coordination	TE-2.2.1	CEI	Personnel	High
Coordination with Water Quality Manager	WR-1.1.1	CEI	Personnel	Medium
Reseed Exposed Soils	GM-1.1.1.	CEI	Project Proponent	Medium
Monitor Native Plantings	GM-1.1.2.	CEI	GJKZ137418	Medium
Tree and Shrub Inventory and Assessment	GM-1.1.3	CEI	CEI	Low
Tree Removal	GM1.1.4. FM-1.1.1.	CEI	CEO	Medium
Noxious Weed Control Monitoring	PM-1.1.2	CEI	OS11521G	Medium
Monitor Bird Watch Condition Codes	BM-1.1.1	CEI	Personnel	Medium
Airfield Management	BM-1.1.2	CEO	SRM/FSRM	Medium
Agency Consultation for BASH threats	BM-1.1.3	CEI	Personnel	Medium
Activity Monitoring and Natural Resources Conservation	OR-1.1.1	CEI	Personnel	Medium
Community Service Events	PO-1.1.1	CEI	Outreach	Low
Interpretive Signs on Wildlife Trail Maintenance and Development	PO-1.2.1	CEI	Outreach	Low
Develop and Promote Natural Resource Outreach Events	PO-1.1.2 PO-1.2.2.	CEI	Outreach	Low

INTEGRATED NATURAL RESOURCES MANAGEMENT PLAN

Annual Work Plan 2019	Action	OPR	Funding Source	Priority Level
Review Natural Resources GIS Files and Identify Needs	GIS-1.1.1	CEI	Personnel	Medium
Evaluate GIS Needs	GIS-1.1.2	CEI	Personnel	Medium
Treat Noxious Weeds in prairie	FW-1.2.2	CEI	OS115211H	Medium
Deer Inventory	FW-1.3.1	CEI	Personnel	Medium
Deer Coordination with WDFW	FW-1.3.2	CEI	Personnel	Medium
Restore native plant communities	FW-1.2.1.	CEI	GJKZ137419	Medium
USDA Wildlife Hazard Assessment	FW-1.3.3.	CEI	GJKZ552119	Medium
Review Future Development Plans	FW-3.1.1	CEI	Personnel	Medium
USFWS, WDFW Meeting	FW-3.2.1	CEI	Personnel	High
Review T&E Species List	TE-1.1.1	CEI	Personnel	High
Coordination and Monitoring of T&E and Sensitive Species	TE-1.1.2	CEI	GJKZ035219	High
Update GIS Database with T&E Species Information	TE-1.1.3	CEI	Personnel	Medium
Vernal Pools Survey and Monitoring	TE-1.1.4	CEI	OS055211M	Medium
Coordination with SERE School Concerning Access to Spalding's Catchfly Conservation Areas	TE-1.2.1	CEI	Personnel	Medium
Report accidental entry into the T&E Conservation Area.	TE-1.2.2	CEI	Personnel	Medium
Review Future Development Plans	TE-2.1.1	CEI	Personnel	High
T&E USFWS Coordination	TE-2.2.1	CEI	Personnel	High
Coordination with Water Quality Manager	WR-1.1.1	CEI	Personnel	Medium
Reseed Exposed Soils	GM-1.1.1.	CEI	Project Proponent	Medium
Monitor Native Plantings	GM-1.1.2.	CEI	GJKZ137419	Medium
Tree and Shrub Inventory and Assessment	GM-1.1.3	CEI	CEI	Low
Tree Removal	GM1.1.4. FM-1.1.1.	CEI	CEO	Medium
Noxious Weed Control Coordination	PM-1.1.1	CEI	Personnel	Medium

INTEGRATED NATURAL RESOURCES MANAGEMENT PLAN

Annual Work Plan 2019	Action	OPR	Funding Source	Priority Level
Noxious Weed Control Monitoring	PM-1.1.2	CEI	OS115211G	Medium
Permit Coordination for Nuisance Plant Species Removal in Wetlands	PM-1.1.3	CEI	Personnel	Medium
Monitor Bird Watch Condition Codes	BM-1.1.1	CEI	Personnel	Medium
Airfield Management	BM-1.1.2	CEO	SRM/FSRM	Medium
Agency Consultation for BASH threats	BM-1.1.3	CEI	Personnel	Medium
Raptor Monitoring Program	BM-1.1.4	CEO CEI SEF	Personnel GJKZ552119 BASH Contract	Medium
Activity Monitoring and Natural Resources Conservation	OR-1.1.1	CEI	Personnel	Medium
Community Service Events	PO-1.1.1	CEI	Outreach	Low
Interpretive Signs on Wildlife Trail Maintenance and Development	PO-1.2.1	CEI	Outreach	Low
Develop and Promote Natural Resource Outreach Events	PO-1.1.2 PO-1.2.2.	CEI	Outreach	Low

Annual Work Plan 2020	Action	OPR	Funding Source	Priority Level
Review Natural Resources GIS Files and Identify Needs	GIS-1.1.1	CEI	Personnel	Medium
Evaluate GIS Needs	GIS-1.1.2	CEI	Personnel	Medium
Treat Noxious Weeds in prairie	FW-1.2.2	CEI	OS1152111	Medium
Deer Inventory	FW-1.3.1	CEI	Personnel	Medium
Deer Coordination with WDFW	FW-1.3.2	CEI	Personnel	Medium
Restore native plant communities	FW-1.2.1.	CEI	GJKZ137420	Medium
Review Future Development Plans	FW-3.1.1	CEI	Personnel	Medium
USFWS, WDFW Meeting	FW-3.2.1	CEI	Personnel	High
Develop Wildlife Monitoring Protocol	FW1.1.2.	CEI	Personnel GJKZ552120	Medium
Wildlife Habitat Mngt Plan	FW-2.1.1.	CEI	Personnel GJKZ552120	Medium
Review T&E Species List	TE-1.1.1	CEI	Personnel	High

INTEGRATED NATURAL RESOURCES MANAGEMENT PLAN

Annual Work Plan 2020	Action	OPR	Funding Source	Priority Level
Coordination and Monitoring of T&E and Sensitive Species	TE-1.1.2	CEI	GJKZ035220	High
Update GIS Database with T&E Species Information	TE-1.1.3	CEI	Personnel	Medium
Vernal Pools Survey and Monitoring	TE-1.1.4	CEI	OS055211N	Medium
Coordination with SERE School Concerning Access to Spalding's Catchfly Conservation Areas	TE-1.2.1	CEI	Personnel	Medium
Report accidental entry into the T&E Conservation Area.	TE-1.2.2	CEI	Personnel	Medium
Review Future Development Plans	TE-2.1.1	CEI	Personnel	High
T&E USFWS Coordination	TE-2.2.1	CEI	Personnel	High
Wetland Boundary Delineation Update	WT-1.1.2.	CEI	GJKZ TBD	Medium
Coordination with Water Quality Manager	WR-1.1.1	CEI	Personnel	Medium
Reseed Exposed Soils	GM-1.1.1.	CEI	Project Proponent	Medium
Monitor Native Plantings	GM-1.1.2.	CEI	GJKZ137420	Medium
Tree and Shrub Inventory and Assessment	GM-1.1.3	CEI	CEI	Low
Tree Removal	GM1.1.4. FM-1.1.1.	CEI	CEO	Medium
Noxious Weed Control Monitoring	PM-1.1.2	CEI	OS115211I	Medium
Permit Coordination for Nuisance Plant Species Removal in Wetlands	PM-1.1.3	CEI	Personnel	Medium
Monitor Bird Watch Condition Codes	BM-1.1.1	CEI	Personnel	Medium
Airfield Management	BM-1.1.2	CEO	SRM/FSRM	Medium
Agency Consultation for BASH threats	BM-1.1.3	CEI	Personnel	Medium
Raptor Monitoring Program	BM-1.1.4	CEI CEO SEF	Personnel GJKZ552120	Medium
Activity Monitoring and Natural Resources Conservation	OR-1.1.1	CEI	Personnel	Medium
Community Service Events	PO-1.1.1	CEI	Outreach	Low

INTEGRATED NATURAL RESOURCES MANAGEMENT PLAN

Annual Work Plan 2020	Action	OPR	Funding Source	Priority Level
Interpretive Signs on Wildlife Trail Maintenance and Development	PO-1.2.1	CEI	Outreach	Low
Develop and Promote Natural Resource Outreach Events	PO-1.1.2 PO-1.2.2.	CEI	Outreach	Low

Annual Work Plan 2021	Action	OPR	Funding Source	Priority Level
Review Natural Resources GIS Files and Identify Needs	GIS-1.1.1	CEI	Personnel	Medium
Evaluate GIS Needs	GIS-1.1.2	CEI	Personnel	Medium
Treat Noxious Weeds in prairie	FW-1.2.2	CEI	OS115211J	Medium
Deer Inventory	FW-1.3.1	CEI	Personnel	Medium
Deer Coordination with WDFW	FW-1.3.2	CEI	Personnel	Medium
Restore native plant communities	FW-1.2.1.	CEI	GJKZ137421	Medium
Review Future Development Plans	FW-3.1.1	CEI	Personnel	Medium
USFWS, WDFW Meeting	FW-3.2.1	CEI	Personnel	High
Review T&E Species List	TE-1.1.1	CEI	Personnel	High
Coordination and Monitoring of T&E and Sensitive Species	TE-1.1.2	CEI	GJKZ035221	High
Update GIS Database with T&E Species Information	TE-1.1.3	CEI	Personnel	Medium
Vernal Pools Survey and Monitoring	TE-1.1.4	CEI	OS055211O	Medium
Coordination with SERE School Concerning Access to Spalding's Catchfly Conservation Areas	TE-1.2.1	CEI	Personnel	Medium
Report accidental entry into the T&E Conservation Area.	TE-1.2.2	CEI	Personnel	Medium
Review Future Development Plans	TE-2.1.1	CEI	Personnel	High
T&E USFWS Coordination	TE-2.2.1	CEI	Personnel	High
Wetland Boundary Delineation Update	WT-1.1.2.	CEI	GJKZ TBD	Medium

INTEGRATED NATURAL RESOURCES MANAGEMENT PLAN

Annual Work Plan 2021	Action	OPR	Funding Source	Priority Level
Coordination with Water Quality Manager	WR-1.1.1	CEI	Personnel	Medium
Reseed Exposed Soils	GM-1.1.1.	CEI	Project Proponent	Medium
Monitor Native Plantings	GM-1.1.2.	CEI	GJKZ137421	Medium
Tree and Shrub Inventory and Assessment	GM-1.1.3	CEI	CEI	Low
Tree Removal	GM1.1.4. FM-1.1.1.	CEI	CEO	Medium
Noxious Weed Control Monitoring	PM-1.1.2	CEI	OS115211J	Medium
Permit Coordination for Nuisance Plant Species Removal in Wetlands	PM-1.1.3	CEI	Personnel	Medium
Monitor Bird Watch Condition Codes	BM-1.1.1	CEI	Personnel	Medium
Airfield Management	BM-1.1.2	CEO	SRM/FSRM	Medium
Agency Consultation for BASH threats	BM-1.1.3	CEI	Personnel	Medium
Raptor Monitoring Program	BM-1.1.4	CEI CEO SEF	Personnel GJKZ552121	Medium
Activity Monitoring and Natural Resources Conservation	OR-1.1.1	CEI	Personnel	Medium
Community Service Events	PO-1.1.1	CEI	Outreach	Low
Interpretive Signs on Wildlife Trail Maintenance and Development	PO-1.2.1	CEI	Outreach	Low
Develop and Promote Natural Resource Outreach Events	PO-1.1.2 PO-1.2.2.	CEI	Outreach	Low
Biological Survey for Mammals and Insects	FW-1.1.1.	CEI	Project # TBD	Medium
Wetland Restoration Plan	WT-1.1.1.	CEI	Project # TBD	Medium

Annual Work Plan 2022	Action	OPR	Funding Source	Priority Level
Review Natural Resources GIS Files and Identify Needs	GIS-1.1.1	CEI	Personnel	Medium
Evaluate GIS Needs	GIS-1.1.2	CEI	Personnel	Medium
Treat Noxious Weeds in prairie	FW-1.2.2	CEI	OS115211K	Medium

INTEGRATED NATURAL RESOURCES MANAGEMENT PLAN

Annual Work Plan 2022	Action	OPR	Funding Source	Priority Level
Deer Inventory	FW-1.3.1	CEI	Personnel	Medium
Deer Coordination with WDFW	FW-1.3.2	CEI	Personnel	Medium
Restore native plant communities	FW-1.2.1.	CEI	GJKZ137422	Medium
Review Future Development Plans	FW-3.1.1	CEI	Personnel	Medium
USFWS, WDFW Meeting	FW-3.2.1	CEI	Personnel	High
Review T&E Species List	TE-1.1.1	CEI	Personnel	High
Coordination and Monitoring of T&E and Sensitive Species	TE-1.1.2	CEI	GJKZ035222	High
Update GIS Database with T&E Species Information	TE-1.1.3	CEI	Personnel	Medium
Vernal Pools Survey and Monitoring	TE-1.1.4	CEI	OS055211P	Medium
Coordination with SERE School Concerning Access to Spalding's Catchfly Conservation Areas	TE-1.2.1	CEI	Personnel	Medium
Report accidental entry into the T&E Conservation Area.	TE-1.2.2	CEI	Personnel	Medium
Review Future Development Plans	TE-2.1.1	CEI	Personnel	High
T&E USFWS Coordination	TE-2.2.1	CEI	Personnel	High
Wetland Boundary Delineation Update	WT-1.1.2.	CEI	GJKZ TBD	Medium
Coordination with Water Quality Manager	WR-1.1.1	CEI	Personnel	Medium
Reseed Exposed Soils	GM-1.1.1.	CEI	Project Proponent	Medium
Monitor Native Plantings	GM-1.1.2.	CEI	GJKZ137422	Medium
Tree and Shrub Inventory and Assessment	GM-1.1.3	CEI	CEI	Low
Tree Removal	GM1.1.4. FM-1.1.1.	CEI	CEO	Medium
Noxious Weed Control Monitoring	PM-1.1.2	CEI	OS115211K	Medium
Permit Coordination for Nuisance Plant Species Removal in Wetlands	PM-1.1.3	CEI	Personnel	Medium
Monitor Bird Watch Condition Codes	BM-1.1.1	CEI	Personnel	Medium

Annual Work Plan 2022	Action	OPR	Funding Source	Priority Level
Airfield Management	BM-1.1.2	CEO	SRM/FSRM	Medium
Agency Consultation for BASH threats	BM-1.1.3	CEI	Personnel	Medium
Raptor Monitoring Program	BM-1.1.4	CEI CEO SEF	Personnel GJKZ552122	Medium
Activity Monitoring and Natural Resources Conservation	OR-1.1.1	CEI	Personnel	Medium
Community Service Events	PO-1.1.1	CEI	Outreach	Low
Interpretive Signs on Wildlife Trail Maintenance and Development	PO-1.2.1	CEI	Outreach	Low
Develop and Promote Natural Resource Outreach Events	PO-1.1.2 PO-1.2.2.	CEI	Outreach	Low
Vernal Pool Health Assessment and Mngt Plan	TW-1.1.5.	CEI	Project # TBD	Medium

11.0 REFERENCES

11.1 Standard References (Applicable to all AF installations)

- AFI 32-7064, *Integrated Natural Resources Management*
- Sikes Act
- eDASH Natural Resources Program Page
- Natural Resources Playbook – a Internal AF reference

11.2 Installation References

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12.0 ACRONYMS

12.1 Standard Acronyms (*Applicable to all AF installations*)

- See eDASH Acronym Library
- See Natural Resources Playbook – Acronym Section

12.2 Installation Acronyms

- **ADP** - Area Development Plan
- **AOC** - Area of Concern

- **AFB** -Fairchild Air Force Base
- **AMC** - Air Mobility Command
- **ANG** - Washington Air National Guard
- **APZ** - Accident Potential Zone
- **ARNG** - Washington Army National Guard
- **92 ARW** - 92nd Air Refueling Wing
- **CoC** - Code of Conduct
- **CSARA** - Combat Search and Rescue Agency
- **CRP** - Compliance Restoration Program
- **CSE** - Comprehensive Site Evaluation
- **CZ** - Clear Zone
- **DNR** - Washington State Department of Natural Resources
- **Ecology** - Washington State Department of Ecology
- **FFA** - Federal Facility Agreement
- **GMA** - Growth Management Act
- **JCSAR** - Joint Combat Search and Rescue
- **JLUS** -Joint Land Use Study
- **JPRA** - Joint Personnel Recovery Agency
- **JSSA** - Joint Services Support Agency's
- **LMUs** -Land Management Units
- **LTM** - Long-term Monitoring
- **MAP** - Management Action Plan
- **MMRP** - Military Munitions Response Program
- **NAR** - Non-conventional Assisted Recovery
- **NCP** -National Contingency Plan
- **P1, P2, and P3** -Priority 1, 2, and 3
- **PR** - Personnel recovery
- **RCW** -Revised Code of Washington

- **RDT&E** - Research, Development, Testing, & Evaluation
- **RI/FS** - Remedial Investigation/Feasibility Study
- **SERE** - Survival, Evasion, Resistance, & Escape
- **SMA** - Shoreline Management Act
- **TCE** - Trichloroethylene
- **TMDL** - Total Maximum Daily Load
- **USJFCOM** - U.S. Joint Forces Command
- **WAC** - Washington Administrative Code
- **WDFW** - Washington Department of Fish and Wildlife
- **WNHP** - Washington Natural Heritage Program

13.0 DEFINITIONS

13.1 Standard Definitions *(Applicable to all AF installations)*

- See Natural Resources Playbook – Definitions Section

14.0 APPENDIX - Annotated Summary of Key Legislation Related to Design and Implementation of the INRMP

Federal Public Laws and Executive Orders	
National Defense Authorization Act of 1989, Public Law (P.L.) 101-189; Volunteer Partnership Cost-Share Program	Amends two Acts and establishes volunteer and partnership programs for natural and cultural resources management on DoD lands.
Defense Appropriations Act of 1991, P.L. 101-511; Legacy Resource Management Program	Establishes the “Legacy Resource Management Program” for natural and cultural resources. Program emphasis is on inventory and stewardship responsibilities of biological, geophysical, cultural, and historic resources on DoD lands, including restoration of degraded or altered habitats.
EO 11514, Protection and Enhancement of Environmental Quality	Federal agencies shall initiate measures needed to direct their policies, plans, and programs to meet national environmental goals. They shall monitor, evaluate, and control agency activities to protect and enhance the quality of the environment.
EO 11593, Protection and Enhancement of the Cultural Environment	All Federal agencies are required to locate, identify, and record all cultural resources. Cultural resources include sites of archaeological, historical, or architectural significance.
EO 11987, Exotic Organisms	Agencies shall restrict the introduction of exotic species into the natural ecosystems on lands and waters which they administer.
EO 11988, Floodplain Management	Provides direction regarding actions of Federal agencies in floodplains, and requires permits from state, territory and Federal review agencies for any construction within a 100-year floodplain and to restore and preserve the natural and beneficial values served by floodplains in carrying out its responsibilities for acquiring, managing and disposing of Federal lands and facilities.
EO 11989, Off-Road vehicles on Public Lands	Installations permitting off-road vehicles to designate and mark specific areas/trails to minimize damage and conflicts, publish information including maps, and monitor the effects of their use. Installations may close areas if adverse effects on natural, cultural, or historic resources are observed.
EO 11990, Protection of Wetlands	Requires Federal agencies to avoid undertaking or providing assistance for new construction in wetlands unless there is no practicable alternative, and all practicable measures to minimize harm to wetlands have been implemented and to preserve and enhance the natural and beneficial values of wetlands in carrying out the agency's responsibilities for (1) acquiring, managing, and disposing of Federal lands and facilities; and (2) providing Federally undertaken, financed, or assisted construction and improvements; and (3) conducting Federal activities and programs affecting land use, including but not limited to water and related land resources planning, regulating, and licensing activities.

Federal Public Laws and Executive Orders	
EO 12088, Federal Compliance With Pollution Control Standards	This EO delegates responsibility to the head of each executive agency for ensuring all necessary actions are taken for the prevention, control, and abatement of environmental pollution. This order gives the U.S. Environmental Protection Agency (US EPA) authority to conduct reviews and inspections to monitor Federal facility compliance with pollution control standards.
EO 12898, Environmental Justice	This EO requires certain federal agencies, including the DoD, to the greatest extent practicable permitted by law, to make environmental justice part of their missions by identifying and addressing disproportionately high and adverse health or environmental effects on minority and low-income populations.
EO 13112, Exotic and Invasive Species	To prevent the introduction of invasive species and provide for their control and to minimize the economic, ecological, and human health impacts that invasive species cause.
EO 13186, Responsibilities of Federal Agencies to Protect Migratory Birds	The U.S. Fish and Wildlife Service (USFWS) has the responsibility to administer, oversee, and enforce the conservation provisions of the Migratory Bird Treaty Act, which includes responsibility for population management (e.g., monitoring), habitat protection (e.g., acquisition, enhancement, and modification), international coordination, and regulations development and enforcement.
United States Code	
Animal Damage Control Act (7 U.S.C. § 426-426b, 47 Stat. 1468)	Provides authority to the Secretary of Agriculture for investigation and control of mammalian predators, rodents, and birds. DoD installations may enter into cooperative agreements to conduct animal control projects.
Bald and Golden Eagle Protection Act of 1940, as amended; 16 U.S.C. 668-668c	This law provides for the protection of the bald eagle (the national emblem) and the golden eagle by prohibiting, except under certain specified conditions, the taking, possession and commerce of such birds. The 1972 amendments increased penalties for violating provisions of the Act or regulations issued pursuant thereto and strengthened other enforcement measures. Rewards are provided for information leading to arrest and conviction for violation of the Act.
Clean Air Act, (42 U.S.C. § 7401– 7671q, July 14, 1955, as amended)	This Act, as amended, is known as the Clean Air Act of 1970. The amendments made in 1970 established the core of the clean air program. The primary objective is to establish Federal standards for air pollutants. It is designed to improve air quality in areas of the country which do not meet Federal standards and to prevent significant deterioration in areas where air quality exceeds those standards.
Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980 (Superfund) (26 U.S.C. §	Authorizes and administers a program to assess damage, respond to releases of hazardous substances, fund cleanup, establish clean-up standards, assign liability, and other efforts to address environmental contaminants. Installation Restoration Program guides cleanups at DoD installations.

Federal Public Laws and Executive Orders	
4611–4682, P.L. 96-510, 94 Stat. 2797), as amended	
Endangered Species Act (ESA) of 1973, as amended; P.L. 93-205, 16 U.S.C. § 1531 et seq.	Protects threatened, endangered, and candidate species of fish, wildlife, and plants and their designated critical habitats. Under this law, no Federal action is allowed to jeopardize the continued existence of an endangered or threatened species. The ESA requires consultation with the USFWS and the NOAA Fisheries (National Marine Fisheries Service) and the preparation of a biological evaluation or a biological assessment may be required when such species are present in an area affected by government activities.
Federal Aid in Wildlife Restoration Act of 1937 (16 U.S.C. § 669–669i; 50 Stat. 917) (Pittman-Robertson Act)	Provides Federal aid to states and territories for management and restoration of wildlife. Fund derives from sports tax on arms and ammunition. Projects include acquisition of wildlife habitat, wildlife research surveys, development of access facilities, and hunter education.
Federal Environmental Pesticide Act of 1972	Requires installations to ensure pesticides are used only in accordance with their label registrations and restricted-use pesticides are applied only by certified applicators.
Federal Land Use Policy and Management Act, 43 U.S.C. § 1701–1782	Requires management of public lands to protect the quality of scientific, scenic, historical, ecological, environmental, and archaeological resources and values; as well as to preserve and protect certain lands in their natural condition for fish and wildlife habitat. This Act also requires consideration of commodity production such as timbering.
Federal Noxious Weed Act of 1974, 7 U.S.C. § 2801–2814	The Act provides for the control and management of non-indigenous weeds that injure or have the potential to injure the interests of agriculture and commerce, wildlife resources, or the public health.
Federal Water Pollution Control Act (Clean Water Act [CWA]), 33 U.S.C. §1251–1387	The CWA is a comprehensive statute aimed at restoring and maintaining the chemical, physical, and biological integrity of the nation’s waters. Primary authority for the implementation and enforcement rests with the US EPA.
Fish and Wildlife Conservation Act (16 U.S.C. § 2901–2911; 94 Stat. 1322, PL 96-366)	Installations encouraged to use their authority to conserve and promote conservation of nongame fish and wildlife in their habitats.
Fish and Wildlife Coordination Act (16 U.S.C. § 661 et seq.)	Directs installations to consult with the USFWS, or state or territorial agencies to ascertain means to protect fish and wildlife resources related to actions resulting in the control or structural modification of any natural stream or body of water. Includes provisions for mitigation and reporting.

Federal Public Laws and Executive Orders	
Lacey Act of 1900 (16 U.S.C. § 701, 702, 32 Stat. 187, 32 Stat. 285)	Prohibits the importation of wild animals or birds or parts thereof, taken, possessed, or exported in violation of the laws of the country or territory of origin. Provides enforcement and penalties for violation of wildlife related Acts or regulations.
Leases: Non-excess Property of Military Departments, 10 U.S.C. § 2667, as amended	Authorizes DoD to lease to commercial enterprises Federal land not currently needed for public use. Covers agricultural outleasing program.
Migratory Bird Treaty Act 16 U.S.C. § 703–712	The Act implements various treaties for the protection of migratory birds. Under the Act, taking, killing, or possessing migratory birds is unlawful without a valid permit.
National Environmental Policy Act of 1969 (NEPA), as amended; P.L. 91-190, 42 U.S.C. § 4321 et seq.	Requires Federal agencies to utilize a systematic approach when assessing environmental impacts of government activities. Establishes the use of environmental impact statements. NEPA proposes an interdisciplinary approach in a decision-making process designed to identify unacceptable or unnecessary impacts on the environment. The Council of Environmental Quality (CEQ) created Regulations for Implementing the National Environmental Policy Act [40 Code of Federal Regulations (CFR) Parts 1500– 1508], which provide regulations applicable to and binding on all Federal agencies for implementing the procedural provisions of NEPA, as amended.
National Historic Preservation Act, 16 U.S.C. § 470 et seq.	Requires Federal agencies to take account of the effect of any federally assisted undertaking or licensing on any district, site, building, structure, or object included in or eligible for inclusion in the National Register of Historic Places (NRHP). Provides for the nomination, identification (through listing on the NRHP), and protection of historical and cultural properties of significance.
National Trails Systems Act (16 U.S.C. § 1241–1249)	Provides for the establishment of recreation and scenic trails.
National Wildlife Refuge Acts	Provides for establishment of National Wildlife Refuges through purchase, land transfer, donation, cooperative agreements, and other means.
National Wildlife Refuge System Administration Act of 1966 (16 U.S.C. § 668dd–668ee)	Provides guidelines and instructions for the administration of Wildlife Refuges and other conservation areas.
Native American Graves Protection and Repatriation Act of 1990 (25 U.S.C. § 3001–13; 104 Stat. 3042), as amended	Established requirements for the treatment of Native American human remains and sacred or cultural objects found on Federal lands. Includes requirements on inventory, and notification.
Rivers and Harbors Act of 1899 (33 U.S.C. § 401 et seq.)	Makes it unlawful for the USAF to conduct any work or activity in navigable waters of the United States without a Federal Permit. Installations should coordinate with the U.S. Army Corps of Engineers (USACE) to obtain permits for the discharge of refuse affecting

Federal Public Laws and Executive Orders	
	navigable waters under National Pollutant Discharge Elimination System (NPDES) and should coordinate with the USFWS to review effects on fish and wildlife of work and activities to be undertaken as permitted by the USACE.
Sale of certain interests in land, 10 U.S.C. § 2665	Authorizes sale of forest products and reimbursement of the costs of management of forest resources.
Soil and Water Conservation Act (16 U.S.C. § 2001, P.L. 95-193)	Installations shall coordinate with the Secretary of Agriculture to appraise, on a continual basis, soil/water-related resources. Installations will develop and update a program for furthering the conservation, protection, and enhancement of these resources consistent with other Federal and local programs.
Sikes Act (16 U.S.C. § 670a–670l, 74 Stat. 1052), as amended	Provides for the cooperation of DoD, the Departments of the Interior (USFWS), and the State Fish and Game Department in planning, developing, and maintaining fish and wildlife resources on a military installation. Requires development of an Integrated Natural Resources Management Plan and public access to natural resources, and allows collection of nominal hunting and fishing fees. NOTE: AFI 32-7064 sec 3.9. Staffing. As defined in DoDI 4715.03, use professionally trained natural resources management personnel with a degree in the natural sciences to develop and implement the installation INRMP. (T-0). 3.9.1. Outsourcing Natural Resources Management. As stipulated in the Sikes Act, 16 U.S.C. § 670 et. seq., the Office of Management and Budget Circular No. A-76, Performance of Commercial Activities, August 4, 1983 (Revised May 29, 2003) does not apply to the development, implementation and enforcement of INRMPs. Activities that require the exercise of discretion in making decisions regarding the management and disposition of government owned natural resources are inherently governmental. When it is not practicable to utilize DoD personnel to perform inherently governmental natural resources management duties, obtain these services from federal agencies having responsibilities for the conservation and management of natural resources.
DoD Policy, Directives, and Instructions	
DoD Instruction 4150.07 DoD Pest Management Program dated 29 May 2008	Implements policy, assigns responsibilities, and prescribes procedures for the DoD Integrated Pest Management Program.
DoD Instruction 4715.1, Environmental Security	Establishes policy for protecting, preserving, and (when required) restoring and enhancing the quality of the environment. This instruction also ensures environmental factors are integrated into DoD decision-making processes that could impact the environment, and are given appropriate consideration along with other relevant factors.
DoD Instruction (DODI) 4715.03, Natural Resources Conservation Program	Implements policy, assigns responsibility, and prescribes procedures under DoDI 4715.1 for the integrated management of natural and cultural resources on property under DoD control.

Federal Public Laws and Executive Orders	
OSD Policy Memorandum – 17 May 2005 – Implementation of Sikes Act Improvement Amendments: Supplemental Guidance Concerning Leased Lands	Provides supplemental guidance for implementing the requirements of the Sikes Act in a consistent manner throughout DoD. The guidance covers lands occupied by tenants or lessees or being used by others pursuant to a permit, license, right of way, or any other form of permission. INRMPs must address the resource management on all lands for which the subject installation has real property accountability, including leased lands. Installation commanders may require tenants to accept responsibility for performing appropriate natural resource management actions as a condition of their occupancy or use, but this does not preclude the requirement to address the natural resource management needs of these lands in the installation INRMP.
OSD Policy Memorandum – 1 November 2004 – Implementation of Sikes Act Improvement Act Amendments: Supplemental Guidance Concerning INRMP Reviews	Emphasizes implementing and improving the overall INRMP coordination process. Provides policy on scope of INRMP review, and public comment on INRMP review.
OSD Policy Memorandum – 10 October 2002 – Implementation of Sikes Act Improvement Act: Updated Guidance	Provides guidance for implementing the requirements of the Sikes Act in a consistent manner throughout DoD and replaces the 21 September 1998 guidance Implementation of the Sikes Act Improvement Amendments. Emphasizes implementing and improving the overall INRMP coordination process and focuses on coordinating with stakeholders, reporting requirements and metrics, budgeting for INRMP projects, using the INRMP as a substitute for critical habitat designation, supporting military training and testing needs, and facilitating the INRMP review process.
USAF Instructions and Directives	
32 CFR Part 989, as amended, and AFI 32-7061, Environmental Impact Analysis Process	Provides guidance and responsibilities in the EIAP for implementing INRMPs. Implementation of an INRMP constitutes a major federal action and therefore is subject to evaluation through an Environmental Assessment or an Environmental Impact Statement.
AFI 32-7062, Air Force Comprehensive Planning	Provides guidance and responsibilities related to the USAF comprehensive planning process on all USAF-controlled lands.
AFI 32-7064, Integrated Natural Resources Management	Implements AFD 32-70, Environmental Quality; DODI 4715.03, Natural Resources Conservation Program; and DODI 7310.5, Accounting for Sale of Forest Products. It explains how to manage natural resources on USAF property in compliance with Federal, state, territorial, and local standards.
AFI 32-7065, Cultural Resources Management	This instruction implements AFD 32-70 and DoDI 4710.1, Archaeological and Historic Resources Management. It explains how to manage cultural resources on USAF property in compliance with Federal, state, territorial, and local standards.

Federal Public Laws and Executive Orders	
<p>AFPD 32-70, Environmental Quality</p>	<p>Outlines the USAF mission to achieve and maintain environmental quality on all USAF lands by cleaning up environmental damage resulting from past activities, meeting all environmental standards applicable to present operations, planning its future activities to minimize environmental impacts, managing responsibly the irreplaceable natural and cultural resources it holds in public trust and eliminating pollution from its activities wherever possible. AFPD 32-70 also establishes policies to carry out these objectives.</p>
<p>Policy Memo for Implementation of Sikes Act Improvement Amendments, HQ USAF Environmental Office (USAF/ILEV) on January 29, 1999</p>	<p>Outlines the USAF interpretation and explanation of the Sikes Act and Improvement Act of 1997.</p>

WA Department of Fish and Wildlife (WDFW):



12/17/2018

Mr. Michael Atamian

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Washington Department Fish & Wildlife
2315 North Discovery Place
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Date



United States Department of the Interior



FISH AND WILDLIFE SERVICE

Washington Fish and Wildlife Office

510 Desmond Drive, Suite 102

Lacey, Washington, 98503

January 30, 2019

Colonel Derek M. Salmi, Commander
Headquarters 92nd Air Refueling Wing (AMC)
1 East Bong Street
Fairchild Air Force Base, Washington 99011-2892

Dear Colonel Salmi:

The U.S. Fish and Wildlife Service (Service) has reviewed the U.S. Air Force's *Integrated Natural Resources Management Plan Fairchild Air Force Base 2018-2022* (INRMP). This INRMP updates an INRMP previously signed in 2012 for Fairchild Air Force Base, Washington and the Air Mobility Command. This letter has been prepared under the authority of, and in accordance with, the Sikes Act (16 U.S.C. 67a et seq.), Sikes Act Improvement Amendments, and the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 et seq.).

Pursuant to enacting legislation, the Service considers three criteria to determine if an INRMP will provide adequate special management or protection. These three criteria are whether the plan will provide a conservation benefit to Federal trust resource species that are present at the installation; gives assurances that the plan will be implemented, and provides assurances that conservation efforts will be effective.

Based on our review of the draft plan and the supplemental materials provided, we conclude that the INRMP for Fairchild Air Force Base will meet all three criteria. By this letter and the enclosed signature page for the INRMP, the Service acknowledges that effects from your proposal on Federal trust-resources have been considered and we have no outstanding concerns about impacts from any of the proposed actions to be covered by the plan.

The Service also recommends that the INRMP for Fairchild Air Force Base address migratory bird conservation in accordance with:

- Executive Order 13186, dated January 17, 2001, which addresses the responsibilities of Federal agencies to protect migratory birds (66 FR 3853).
- The Service's Director Order 172, dated June 9, 2004, which also addresses the responsibilities of Federal agencies to protect migratory birds.

Colonel Salmi

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- A Memorandum of Understanding, dated September 5, 2014, between the U.S. Department of Defense and the Service to promote the conservation of migratory birds.

Thank you for your stewardship of our Nation's natural resources. We look forward to continued cooperation with you and your staff on this matter. If you or your staff has any questions concerning this letter, our enclosed comments, or future Service coordination to implement the INRMP, please contact Heather Fuller at our Eastern Washington Field Office in Spokane at (509) 893-8017. Thank you for the opportunity to review the Fairchild Air Force Base INRMP.

Sincerely,



Brad Thompson, Acting State Supervisor
Washington Fish and Wildlife Office

Enclosure

cc:

Fairchild AFB, WA (S. Woodard)
WDFW, Spokane, WA

U.S. Fish and Wildlife Service (USFWS):

A handwritten signature in blue ink, appearing to read "Brad Thompson", is written over a horizontal line.

Brad Thompson, PhD
Acting State Supervisor
Washington Fish and Wildlife Office

1/30/2019

Date