Fairchild AFB Silviculture Burning of Russian Olive Slash Piles

Environmental Assessment

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1.0 INTRODUCTION TO THE PROPOSED PROJECT

The purpose of this action is to remove and dispose of Russian olive trees from Fairchild AFB (FAFB) which are an invasive Class C Noxious Weed in Spokane County, Washington.

1.1. BACKGROUND

Russian olive is a thorny, small, sometimes shrubby tree that thrives in the semi-arid climate found on FAFB. This extremely hardy and adaptable plant originated in southern Europe and Western Asia. It tolerates drought, alkaline and saline soils, fixes nitrogen from the air and reproduces both by seed and root suckers. The small olive-like fruits are relished by many species of wildlife (particularly birds). However, Russian olive often crowds out native vegetation in riparian areas and forms an impenetrable barrier along fence lines and in seasonal wetlands. Its invasive, mature and thorny growth habit have led several Western states, including Washington State, to list Russian olive as a noxious weed.

1.2. PURPOSE AND NEED

If allowed to go unabated Russian olive would displace native plant communities. Of primary concern at Fairchild AFB is the habitat of the Spalding's Catchfly that is federally listed as a threatened species and is found on FAFB. If Russian olive is not kept in check utilizing silviculture practices (slash burning) it will threaten the survivability of the Spalding's Catchfly population on FAFB. It also provides habitat for birds that are a threat to the safety of flight operations.

2.0. ALTERNATIVES

Two alternatives have been developed to respond to the Purpose and Need identified during internal scoping: Alternative 1 (Proposed Action) and Alternative 2 (No Action).

2.1. ALTERNATIVE 1 (PROPOSED ACTION)

FAFB would burn Russian Olive slash piles within the 1,150 acre treatment area over multiple years. FAFB would use prescribed fire to burn slash piles to reduce fuel loading. The burn period would be limited to approximately October through May (i.e. when there is not a burn ban in Spokane County) to reduce wildfire risk and fire intensity. Slash burning is a preferred treatment of waste material due to the reduced disturbance in the area and the limited availability of large chippers. Onsite chipper(s) also leave the possibility of regrowth from viable reproductive fruit from the branches and limbs of the Russian olive trees, not to mention it's slow and tedious work complicated by the fact that Russian olive branches and limbs have large thorns.

Prior to conducting prescribed burns in the project area, a burn plan will be prepared to address burning objectives and operational concerns. The plan will identify mitigation

measures necessary to protect site-specific resource values, notification procedures for local area residents, potential fire behavior and precautions to be consistent with this Environmental Assessment. Pile consumption targets would remove 75–100 percent of piled Russian Olive slash pile biomass. Only Russian Olive slash and debris will be allowed to be in slash pile biomass. In addition, only properly trained personnel will be allowed to conduct slash pile burns.

Prescribed fire would be contained within a distance of 10 feet from each pile. This would be maintained by leveraging environmental factors in an approved burn plan that would limit the spread distance from each pile. These environmental factors include wind, precipitation (rain or snow), temperature, relative humidity, and fuel moistures.

2.2. ALTERNATIVE 2 (NO ACTION)

No prescribed burning activities would occur under this alternative. Russian Olives would either not be removed which would allow this invasive species to spread which would negatively impact native species including the threatened plant species, Spalding's Catchfly or the slash piles would remain in place creating habitat for undesirable species and creating fire hazards due to biomass load in the area.

3.0. AFFECTED ENVIRONMENT & ENVIRONMENTAL CONSEQUENCES

3.1. SOILS

3.1.1. SOILS AFFECTED ENVIRONMENT

Fairchild AFB is situated within the channeled scablands of the Columbia River Basin which has been shaped by large basalt flows, windblown soils, and the great floodwaters of the glacial ice dam break of Glacial Lake Missoula.

Topography in the area is flat. Soils in the channeled scablands can be quite variable and contrasting. Typically soils consist of shallow regolith underlain by basalt bedrock with a thin layer of volcanic ash influenced loess on the surface. Deeper soils occur associated with glacial flood and melt water deposits of sand, silts, and clays. These areas can retain subterranean water ways. Remnant clayey lacustrine materials or deeply weathered basalt bedrock often perch water tables in the area.

3.1.2. SOILS ENVIRONMENTAL CONSEQUENCES

3.1.2.1. Alternative 1 (Proposed Action)

Direct and Indirect Effects: The project activities or mechanisms that may directly affect soil resources would be largely limited pile diameter. Low to moderate intensity prescribed fire would consume 75-100 percent of the pile biomass. At these intensity levels, prescribed fire would preserve the existing root systems and would not cause excessive wind or water erosion. Overall,

the effects of prescribed fire treatments on soil resources are anticipated to be short-term and minor.

Cumulative Effects: The net treatment area would be less than 25 acres of the approximately 675 acres of fuel units. There are no reasonably foreseeable cumulative effects associated with this action such as wind and water erosion. Mitigation measures to prevent adverse effects to soil resources would include slope and consumption limitations of the piles and potential seeding.

3.1.2.2. Alternative 2 (No Action)

Direct and Indirect Effects: Soils would not be impacted but this alternative would not remove any of the residual fuels associated with the FAFB thinning project.

Cumulative Effects: Soils would not be impacted but by not removing the fuels associated with the piles, the intent of the original FAFB thinning project will not be met.

3.2. VEGETATION/SPECIAL STATUS PLANT SPECIES

3.2.1. VEGETATION AFFECTED ENVIRONMENT

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.

Spalding's catchfly (*Silene spaldingii*), a federally listed threatened species under the Endangered Species Act, is known to occur on the base but outside the project area. The primary habitats associated with Spalding's catchfly populations include the bunchgrass and shrub-steppe communities, although populations have also been observed within the mixed forested communities as well. Populations of Spalding's Catchfly are monitored and flagged annually and all slash piles are located away from the sites to avoid potential impact from burning. No other special status plant species are present within the proposed project areas.

3.2.2. VEGETATION/SPECIAL STATUS PLANT SPECIES ENVIRONMENTAL CONSEQUENCES

3.2.2.1. Alternative 1 (Proposed Action)

Direct and Indirect Effects: The proposed action will attempt to burn slash piles within the "fuel unit" project areas. For analysis purposes it is assumed that all piles will be burned

to the prescribed consumption target range of 75-100 percent biomass removal. In addition, it is assumed that surface burning of understory litter will be limited to a distance of 10 feet from each pile. This will limit the overall disturbed area.

Pile burning is an efficient means of fuel disposal; however, there can be adverse local effects due to intense heating necessary to consume the biomass to completion. Soil damage can occur under these burn piles resulting in scars that are susceptible to invasion of noxious weeds and other non-native plants (Korb et al. 2004). The small size of the individual piles should reduce the heat production to soil surface temperatures similar to a forest fire (200 to 300° C) and the piles should be consumed within one day. Soil temperatures may reach up to 500° C where piles are larger and where areas of greater duff accumulation are permitted to burn within the 10 foot buffer. At these temperatures it is anticipated that seed banks will be reduced, mortality to soil microbes will occur, and soil organic matter will be partially oxidized. In addition, a spike of available nitrogen (ammonium nitrogen and nitrate nitrogen) is anticipated in the short term, within one growing season. The removal of existing vegetation and the flush of soil nutrients may contribute to increased germination and establishment of invasive plants (Esquilin et al. 2007, Korb et al. 2004). However, since the forested plant communities are generally in-tact there may be sufficient native vegetation to colonize the burn scars and exclude invasive plants. Since the effects of the pile burn will be localized, the surrounding habitat is unlikely to change.

Adherence to the prescriptions identified in the burn plan should ensure that fire intensity will be controlled to prevent damage to large trees and shrubs near the slash piles. Many of the slash piles are within sites that have healthy perennial grasses and forbs, which may recolonize the sites following the burning.

Monitoring the burn-pile scars for three years following treatment would inform land managers of the success of re-colonization or the need for subsequent treatments, such as invasive species control and re-seeding with native plants.

No populations of Spalding's Catchfly occur within the perimeter of the slash piles or in the immediate vicinity as a result of avoidance measures during the hand-piling phase of the project. Therefore, special status plant species are not anticipated to be affected by the pile burning. Based on the specific habitat location and requirements for Spalding's Catchfly the proposed action would not have a direct or indirect effect to that species.

Cumulative Effects: Although burning each pile will have small direct effects on soil properties, the cumulative effect will be minimal ground disturbance within the project area. Removal of the slash piles should decrease the risk of fuels that could contribute to high-intensity stand replacing fires across the parcel. Substantial changes in forested plant community structure or composition are not anticipated with this project and should not contribute to a decline of forest lands within the project areas. Since Spalding's Catchfly populations have been avoided under the proposed action, no cumulative effects are anticipated from the slash pile burning.

3.2.2.2. Alternative 2 (No Action)

Direct and Indirect Effects: The No Action Alternative would leave the slash piles on site to slowly decompose over time. There would be no direct or indirect effects to native vegetation beyond the suppression of plants beneath the piles. No impacts to special status plant species, such as Spalding's Catchfly populations, are anticipated since the slash piles were placed away from known sites. The accumulation of woody material in the project area could increase the risk of high intensity surface fires. It is likely that stand replacing fires would have a patchy distribution based on fuel loading, seasonal and site conditions that would influence the fire severity, rather than assume complete destruction of all forest communities within the project areas.

Cumulative Effects: There are no anticipated cumulative effects to upland vegetation and special status plant species as a result of the No Action Alternative.

3.3. WILDLIFE

3.3.1. WILDLIFE AFFECTED ENVIRONMENT

The project area occurs on the southern portion of the base that contains the most 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. 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 annually since 2015.

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.

3.3.2. WILDLIFE ENVIRONMENTAL CONSEQUENCES

Alternative 1 (Proposed Action)

Direct and Indirect Effects: No environmental effects to wildlife are anticipated as a result of this proposed project. Activity that would potentially disturb hatched eggs will be minimized as per design features that establish seasonal and spatial buffers. Migratory birds of conservation concern will not be impacted because they use specific habitats (sagebrush, riparian) that do not contain slash piles. Smoke could be a very temporary, minor nuisance to wildlife. The prescribed burns are not taking place in vernal pool areas.

Cumulative Effects: No long-term environmental impact to wildlife are anticipated as a result of this proposed project other than negligible impacts of potential temporary displacement of nearby wildlife, so no cumulative effects are possible.

Alternative 2 (No Action)

Direct and Indirect Effects: No environmental effects to wildlife are anticipated as a result of this proposed project. Activity that would potentially disturb nesting would not occur. Migratory birds of conservation concern will not be impacted because they use specific habitats (sagebrush, riparian) that do not contain slash piles. Fire crew activity would not temporarily displace small mammals from active work areas.

Cumulative Effects: No environmental impacts to wildlife are anticipated as a result of this proposed project, so no cumulative effects are possible.

3.4. CULTURAL/PALENTOLOGICAL RESOURCES

3.4.1. CULTURAL/PALENTOLOGICAL AFFECTED ENVIRONMENT

The project area falls within lands traditionally used by multiple Tribes. In particular, Spokane or Spokan people are a Native American Plateau tribe who inhabited the area where FAFB now resides. Like other Native Americans of the Columbia Plateau, Spokane groups employed a settlement and subsistence pattern characterized by winter residence in semi-permanent villages along major streams, and travel to various resource procurement areas throughout the rest of the year to collect and process such staples as roots, berries, fish, and game (Anglin 1995, Wynecoop 1969). The land where FAFB resides was subsequently settled and used and tilled for agricultural purposes including attempts at establishing a series of irrigation ditches/canals from local lakes.

Present day Fairchild Air Force Base (AFB) is 10 miles west of Spokane, Washington and is a 5,823 acre installation founded in 1942 as Spokane Army Air Depot and it served as a repair depot for damaged aircraft returning from the Pacific Theater during World War II. In 1946, the base was transferred to the Strategic Air Command and hosted B-29 Superfortress bomb groups. With the creation of the U.S. Air Force (USAF) in 1948, the base was renamed Spokane AFB, and in 1950, it was renamed in honor of USAF Vice

Chief of Staff, General Muir Fairchild, a Washington native (e2M 2004). Today the base is home to the 92nd Air Refueling Wing and associated units, most notably the 336th Training Group (U.S. Air Force Survival School – Air Education and Training Command), 141st Air Refueling Wing (Washington Air National Guard).

Because of its rich history, historic-age buildings remain at Fairchild AFB, but only three buildings retain enough significance and integrity to be eligible for the National Register of Historic Places (NRHP): Buildings 2025, 2050, and 2245 which are not in the project area.

3.4.2. CULTURAL/PALENTOLOGICAL ENVIRONMENTAL CONSEQUENCES

3.4.2.1. Alternative 1 (Proposed Action)

Direct and Indirect Effects: The entirety of the project area is in a fairly undeveloped area; however, there were historical agricultural practices and more recently limited utility installation disturbances. Minimal subsurface soil disturbance from slash pile burning is expected to occur and there are no nearby historical structures or known cultural resources. Therefore, there should be no direct or indirect effects to known cultural resources within the project area.

Cumulative Effects: There are no known cultural resources that will be impacted by the proposed project. If archaeological sites are encountered during project implementation, the disturbing activity will be halted, the authorized FAFB official will be contacted, and the resource protected until a USAF archaeologist has assessed the historic significance of the resource. Thus, there will be no cumulative effects to cultural resources under this alternative.

3.4.2.2. Alternative 2 (No Action)

Direct and Indirect Effects: There would be no direct impacts to cultural resources of leaving the piles unburned. However, the piles add to the fuels problem indirectly in that they could create conditions that might cause higher burn intensities and spread rates in the event of a wildfire, if the piles were left untreated. This could pose additional threats to cultural sites outside of the proposed project area, regardless of the locations of the piles.

Cumulative Effects: There would be no cumulative impacts to cultural resources in the second alternative.

3.5. AIR QUALITY

3.5.1. AIR QUALITY AFFECTED ENVIRONMENT

Of the six criteria pollutants identified by the U.S. Environmental Protection Agency (EPA), two are of concern in Spokane County, specifically carbon monoxide (CO) and particulate matter (PM). Motor vehicles are the largest contributors to CO, with the highest concentrations occurring during the winter months. PM comes from a variety of sources

including dust from unpaved and paved roadways, construction activities, gas and diesel engines, and indoor/outdoor burning. Spokane County is within the Eastern Washington-Northern Idaho Interstate (EWNII) Air Quality Control Region. Spokane County is classified as being in attainment with all criteria pollutants (USEPA 2004b). CO and PM Attainment Plans rely on control strategies for tracking vehicle miles traveled; vehicle emissions inspection and maintenance programs; oxygenated fuels; transportation conformity; control measures for residential wood combustion and control strategies for windblown dust. Regional wind patterns generally transport air pollutants eastward from FAFB toward the Spokane Valley. Winter months have the highest incidences of degraded air quality due to wood burning stoves and vehicular emissions. These emissions are exacerbated by temperature inversions, stagnant air reduces air quality, and valley topography.

3.5.2. AIR QUALITY ENVIRONMENTAL CONSEQUENCES

3.5.2.1. Alternative 1 (Proposed Action)

Direct and Indirect Effects: Under the Proposed Action Alternative, prescribed fire activities would result in adverse short-term minor effects in the immediate vicinity of the project area. Prescribed fire treatments would be conducted in compliance with an approved burn plan under silvaculture exemption. The burn plan would establish criteria for burning activities, such as meteorological conditions, season, and treatment acreages, such that treatment activities would have only short-term minor adverse effects to local air quality. Burn plans would not be approved or allowed if the proposed treatments were expected to result in major effects to smoke sensitive areas, effects to nonattainment areas, or any exceedances of NAAQS.

Adverse smoke effects from the burning of slash piles would be short-term and minor. Adverse smoke effects from broadcast burning activities would be variable, but still within the permissible PM_{10} criteria. Smoke effects would be of short duration (2-5 days) and have only temporary effects. Smoke is expected to remain at nuisance or negligible levels rather than at levels that could impair human health.

Impaired visibility in the immediate area of burning is possible. FAFB public affairs office would be coordinated with and take any necessary actions. It is not expected that visibility would be reduced such that driving safety would be impaired.

The proposed slash pile burning treatments would, in the long term, result in a beneficial reduction of potential emissions during natural wildfire events in the project area by reducing the availability of fuels for future, unplanned wildland fires. In the long term, reduced fuel loads throughout the project area would have a minor beneficial effect on severity and extent of air quality effects as a result of future wildland fires.

In addition to potential smoke effects from fire treatments, the operation of heavy equipment and vehicles under Alternative 1 would generate low levels of particulate emissions (road and travel way dust) and exhaust emissions. Air quality effects as a result of these emissions would be short term adverse and negligible, and would be localized to active treatment units. Road dust would result in short-term adverse minor effects to the

private inholding. However, these effects would be limited primarily to the summer and early fall months when soil (i.e., road surface) moisture is low.

Cumulative Effects: Considering the increasing susceptibility of forests to high severity wildfires throughout the west, the proposed fuels treatments would result in minor long-term beneficial cumulative effects to air quality in the project area. The proposed treatments would ultimately delay, diminish, or altogether impede the effects of reasonably foreseeable future stand- replacing wildland fires and the subsequent high-volume PM_{10} emissions in the project area, thereby preserving local air quality conditions in the long term. On a regional scale, however, the Proposed Action Alternative would have no cumulative effect on air quality, as the project area is largely insignificant compared to the burnable area in proximity to population centers or smoke sensitive areas.

3.5.2.2. Alternative 2 (No Action)

Direct and Indirect Effects: The No Action Alternative would have no direct effect on local or regional air quality. Alternative 2 would indirectly perpetuate hazardous fuel accumulation and increase the potential for high severity wildland fires in the project area.

Cumulative Effects: Given that no direct effects are anticipated, the potential for indirect effects are largely unknown (e.g., future wildland fire), and the relatively small size of the project area, it is unlikely that this alternative's effects, when combined with the effects of other projects, would contribute to cumulative adverse effects to air quality.

4.0. COORDINATION AND CONSULTATION AND NOTICE OF AVAILABILITY

4.1. Air Force Coordination: The Air Force Wildland Fire Branch (AFWFB) develops burn plans and executes all prescribed burns on Fairchild Air Force Base. FAFB works cooperatively with the AFWFB to ensure that adoption of the findings of this EA will provide for reduced spread of invasive species and an improved ability to meet the FAFB mission.

4.2. Notice of Availability: A Notice of Availability (NOA) of the Draft EA and FONSI was published in the Spokesman Review, announcing the availability of the EA for review on 30 April 2021. Copies of the Draft EA and FONSI were also made available for review on the FAFB public web site. The NOA invited the public to review and comment on the Draft EA. The review period ended on 6 May 2021. Public and agency comments are provided below.

COMMENTS:

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Attachment - Russian Olive slash pile burning project area