United States Department of the Interior

FISH AND WILDLIFE SERVICE

Washington Fish and Wildlife Office
510 Desmond Dr. SE, Suite 102
Lacey, Washington 98503

In Reply Refer To:
13410-2011-I-0365

FEB 16 2012

Bill Van Hoesen
Department of the U.S. Army
Directorate of Public Works
Building 2012, Room 302 Liggett Avenue
Box 339500, MS 17
Joint Base Lewis-McChord, Washington 98433-9500

Dear Mr. Van Hoesen:

Subject: Northwest Aviation Operations, 160th Special Operations Aviation Regiment

This letter responds to your request for informal consultation under section 7(a)(2) of the Endangered Species Act of 1973, (Act) as amended (16 U.S.C. 1531 *et seq.*) on the proposed Northwest Aviation Operations, 160th Special Operations Aviation Regiment. Your Biological Assessment (BA; U.S. Army 2011), dated July, 2011, was received in the Washington Fish and Wildlife Office of the U.S. Fish and Wildlife Service (Service) on July 13, 2010.

In your letter, you requested our concurrence with your determinations that the project "may affect, is not likely to adversely affect" endangered Bradshaw's desert-parsley (*Lomatium bradshawii*), threatened golden paintbrush (*Castilleja levisecta*), threatened Kincaid's lupine (*Lupinus sulphureus*), threatened Nelson's checker-mallow (*Sidalcea nelsoniana*), threatened Ute's ladies' tresses (*Spiranthes diluvalis*), threatened water howelia (*Howellia aquatilis*), endangered Willamette daisy (*Erigeron decumbens* var. *decumbens*), endangered Fender's blue butterfly (*Icaricia icarioides*) and its critical habitat, threatened Oregon silverspot butterfly (*Speyeria zerene hippolyta*) and its critical habitat, threatened bull trout (*Salvelinus confluentus*) and its critical habitat, threatened northern spotted owl (*Strix occidentalis caurina*) (spotted owl) and its critical habitat, threatened marbled murrelet (*Brachyramphus marmoratus*) and its critical habitat, threatened western snowy plover (*Charadrius alexandrinus nivosus*) (snowy plover) and its critical habitat, threatened Canada lynx (*Lynx canadensis*), and endangered gray wolf (*Canis lupus*). Here we concur with your effect determinations. Activities described in the BA as having "no effect" to listed species or their critical habitats do not require our concurrence and are not addressed here.

Kent Livezey, of my staff, requested via an email message of July 21, 2011, and during phone conversations with you, whether two Conservation Measures (CMs) could be required rather than recommended. These CMs (the last CMs in Sections 4.14.5 and 4.15.5) deal with seasonal and altitudinal restrictions of flights over habitats of spotted owls and marbled murrelets. You agreed to these revisions, and in your email message of August 30, 2011, sent revisions of the pages in question including these revised CMs (Van Hoesen, pers. comm. 2011). We are grateful that you agreed to these revisions. On September 8, 2011, Kent requested your review of the project description and conservation measures, and you responded with comments on October 7. On October 11, you asked that we allow you to get "final buyoff" of the draft letter from your customers, and we agreed to wait. On December 5, Kent emailed you a reminder that we were waiting on your final approval of the letter. On January 27, 2012, we received your approval of the October 11 version of the letter. On February 6, Kent asked for and received from you the data supporting the 92-dB distances for the Chinook 47D. On February 8, 2012, you sent to Kent clarifications on the applicability of those data.

Summary of the Proposed Action

This project will establish three new helicopter aerial refueling routes, extend one existing aerial refueling route, establish a new low-level flight training area, and establish a new Terrain Following/Multi-Mode Radar (TF/MMR) training route. The routes and training area would support training operations of the 160th Special Operations Aviation Regiment (SOAR), a unit that provides aviation support to U.S. Army Special Forces.

To minimize the chance that fuel would be spilled during operations, Army Regulation 385-95 (Army Aviation Accident Prevention Program) will be followed; this regulation is included as an appendix in the BA and as a requirement in CM 4.1.5. The BA (p. 4-2) provides an estimate of the amount of fuel that may be released in the unlikely case of a spill during refueling, as follows.

> "To prevent a loss of fuel, aircraft are equipped with shut-off valves that automatically stop the flow of fuel in the event that a refueling hose breaks. Therefore, the amount of fuel released during such an event would be limited to the amount of fuel present in the hose at the time of breakage, which would be approximately 34 gallons. The amount of fuel reaching the ground would vary depending on numerous factors, such as the altitude and speed of the tanker, as well as atmospheric conditions, but under a worst-case scenario the amount reaching the ground would range from 16 gallons (61 liters) under average conditions to 25 gallons (95 liters) on a cold day. . . This quantity of fuel would be dispersed over a wide area, given the height of aerial refueling (1,000 feet [305 meters] AGL [above ground level] and higher). In a similar study for aerial refueling operations at 2,000 feet (610 meters), it was predicted that the spilled fuel would be spread out over an area of 31 acres. . .or about 0.75 milliliter of fuel per square meter of land. At 1,000 feet (305 meters), the area would presumably be smaller, depending on the conditions. . . . The 160th SOAR very rarely experiences fuel spills during refueling training. Since 1972, the 160th SOAR has experienced damage to refueling equipment that likely resulted in fuel releases on only three occasions on all of its refueling routes worldwide. These three incidents correspond to a rate of less than 1 event per 13,000 hours flown."

The refueling routes, flight route, and training area will be located in central and western Washington and northwestern Oregon (Figures 1–9 from the BA, included below).

At this time, the Service uses 92 dB as the harassment threshold for spotted owls, marbled murrelets, and, in this case, snowy plovers. Army personnel tested the decibel level of Chinook 47 helicopters as various distances. Of the 13 passes they sampled, one was pertinent for the flight speeds the helicopters would be flying over spotted owl, marbled murrelet, and snowy plover habitats (110 to 120 knots). In that sample, sound level was 86.3 dB at 400 feet, 88.4 dB at 315 feet, 90.5 dB at 250 feet, and 92.5 dB at 200 feet (Van Hoesen in litt. 2/8/2012, 2/10/2012).

Effects to Listed Plants

Bradshaw's desert-parsley, golden paintbrush, Kincaid's lupine, Nelson's checker-mallow, and water howelia occur in or near the project area. Ute's ladies' tresses is not known to occur in the project area, but it might. Nelson's checker-mallow is not known to occur near proposed landing sites, but it does occur beneath one of the aerial refueling routes. No other listed plants are known to occur near proposed landing sites or beneath aerial refueling routes or training areas. The only possible effect from the proposed action to these plants would be accidental release of fuel in the event of a mishap during refueling activities. The chance of such a spill affecting a listed plant is so low as to be discountable.

Effects to Bull Trout and Its Critical Habitat

The only possible effect from the proposed action to bull trout and its critical habitat would be accidental release of fuel in the event of a mishap during refueling activities. The chance of such affecting bull trout or bull trout critical habitat is so low as to be discountable.

Effects to Northern Spotted Owl and Its Critical Habitat

Helicopter flight paths pass over suitable spotted owl habitat and critical habitat in some areas (U.S. Army 2011, p. 4-59; Figures 6, 8). As stated in the BA (U.S. Army 2011, pp. 4-60 and 4-61) as amended (Van Hoesen pers. comm. 2011), the following CMs will be employed to minimize effects to spotted owls.

- One pilot would stay focused outside the aircraft when in flight to help avoid bird strikes.
- Where feasible, SOAR pilots would follow guidance in Federal Aviation Administration (FAA) Advisory Circular 91-36D, which recommends that pilots maintain a minimum altitude of 2,000 feet (610 meters) AGL when flying over noise sensitive areas, such as National Parks, National Wildlife Refuges, Wilderness Areas, and other areas where a quiet setting is a generally recognized feature or attribute of the land.
- To prevent damage to the refueling hose during fuel transfer, and other accidents, the 160th SOAR would follow the procedures discussed in Section 4.1.5.

- Between March 1st and July 31st, SOAR helicopters would fly at a minimum altitude of 400 feet (122 meters) above treetop level in the vicinity of northern spotted owl nests [above all suitable spotted owl habitat per page 4-59]. These restrictions apply to the TF/MMR route and much of the low-level training area, including travel to and from the proposed landing zones. Northern spotted owl centers would be clearly labeled on pilots' maps to ensure that these areas are avoided.

In addition to the above CMs, the BA states that aircraft will fly at least (1) 500 feet above ground when flying to and from proposed routes (U.S. Army 2001, p. 2-7), (2) 500 feet above ground between Joint Base Lewis-McChord and the training routes/areas (U.S. Army 2011, p. 4-59), and (3) 1,000 feet above ground along aerial refueling routes (U.S. Army 2011, p. 4-59). Based on data provided in the BA (U.S. Army 2001, p. 4-52) and subsequent clarifications (Van Hoesen in litt. 2/8/2012, 2/10/2012) as explained above, keeping the Chinook 47D helicopters at least 400 feet above ground would ensure they do not produce sound levels of 92 dBA or more at the level of spotted owl nests. Consequently, effects from project-generated noise to spotted owls are considered to be insignificant. Spotted owls are not known to fly above treetop levels, so the chance that one would be hit by a helicopter is discountable. The only other possible effect from the proposed action to the spotted owl and its critical habitat would be accidental release of fuel in the event of a mishap during refueling activities. The chance of such a spill affecting a spotted owl or its critical habitat is so low as to be discountable.

Effects to Marbled Murrelet and Its Critical Habitat

Only one of the proposed landing zones (CONF3) is located within 55 miles of the coast (Puget Sound). However, flight paths pass over marbled murrelet habitat and critical habitat (Figures 6, 7). As stated in the BA (U.S. Army 2011, p. 4-55) as amended (Van Hoesen pers. comm. 2011), the following CMs will be employed to minimize effects to marbled murrelets.

- One pilot would stay focused outside the aircraft when in flight to help avoid bird strikes.
- Where feasible, SOAR pilots would follow guidance in FAA Advisory Circular 91-36D, which recommends that pilots maintain a minimum altitude of 2,000 feet (610 meters) AGL when flying over noise sensitive areas, such as National Parks, National Wildlife Refuges, Wilderness Areas, and other areas where a quiet setting is a generally recognized feature or attribute of the land.
- To prevent damage to the refueling hose during fuel transfer, and other accidents, the 160th SOAR would follow the procedures discussed in Section 4.1.5.
- Between April 1st and September 15th, SOAR helicopters would fly at a minimum altitude of 400 feet (122 meters) above treetop level within the area of potential marbled murrelet presence (through Zone 2 on Figure 7, within 55 miles [89 kilometers] of the nearest marine habitat). These restrictions apply to the applicable portions of the TF/MMR route and low-level training area, including landing zone CONF3.

In addition to the above CMs, the BA states that aircraft will fly at least (1) 500 feet above ground when flying to and from proposed routes (U.S. Army 2001, p. 2-7), (2) 500 feet above ground between Joint Base Lewis-McChord and the training routes/areas (U.S. Army 2011, p. 4-

59), and (3) 1,000 feet above ground along aerial refueling routes (U.S. Army 2011, p. 4-59). Based on data provided in the BA (U.S. Army 2001, p. 4-55) and subsequent clarifications (Van Hoesen in litt. 2/8/2012, 2/10/2012) as explained above, keeping the Chinook 47D helicopters at least 400 feet above ground would ensure they do not produce sound levels of 92 dBA or more at the level of marbled murrelet nests. Consequently, effects from project-generated noise to marbled murrelets are considered to be insignificant. According to the BA (U.S. Army 2011, p. 4-53), the FAA has no reports of any aircraft/bird strikes in Washington or Oregon between 1990 and the beginning of 2011; consequently, we consider the chance of a helicopter hitting a marbled murrelet to be discountable. The only other possible effect from the proposed action to the marbled murrelets and its critical habitat would be accidental release of fuel in the event of a mishap during refueling activities. The chance of such a spill affecting a marbled murrelet or its critical habitat is so low as to be discountable.

Effects to Western Snowy Plover and Its Critical Habitat

Two proposed helicopter routes pass over the coast (Figure 9). All of the identified breeding and wintering habitat for snowy plovers in Washington is south of helicopter Route 1 (U.S. Army 2011, Figure 9). However, critical habitat units at Damon Point in Grays Harbor and at Midway Beach south of Grays Harbor are beneath proposed Route 2 (U.S. Army 2011, Figure 9). As stated in the BA (U.S. Army 2011, pp. 4-67), the following CMs will be employed to minimize effects to snowy plovers.

- One pilot would stay focused outside the aircraft when in flight to help avoid bird strikes.
- Where feasible, SOAR pilots would follow guidance in FAA Advisory Circular 91-36D, which recommends that pilots maintain a minimum altitude of 2,000 feet (610 meters) AGL when flying over noise-sensitive areas such as Grays Harbor and Willapa National Wildlife Refuges near western snowy plover breeding and wintering habitat.
- To prevent damage to the refueling hose during fuel transfer, and other accidents, the 160th SOAR would follow the procedures discussed in Section 4.1.5.

In addition to the above CMs, the BA states that aircraft will fly (1) at least 500 feet above ground when flying to and from proposed routes (U.S. Army 2001, p. 2-7), (2) at least 500 feet above ground between Joint Base Lewis-McChord and the training routes/areas (U.S. Army 2011, p. 4-59), (3) at least 1,000 feet above ground along aerial refueling routes (U.S. Army 2011, p. 4-59), and (4) 2,300 to 5,000 feet above ground during refueling along Route 2 (U.S. Army 2001, p. 4-66). Minimum flight levels required by the CMs and these descriptions of the proposed action ensure sound levels will be well below 92 dBA at ground level in the locations where snowy plovers may be nesting. Consequently, effects from project-generated noise to snowy plovers are considered to be insignificant. According to the BA (U.S. Army 2011, p. 4-66), the FAA does not report any aircraft/bird strikes in Washington or Oregon between 1990 and the beginning of 2011; consequently, we consider the chance of a helicopter hitting a snowy plover to be discountable. The only other possible effect from the proposed action to the snowy plover and its critical habitat would be accidental release of fuel in the event of a mishap during refueling activities. The chance of such a spill affecting a snowy plover or its critical habitat is so low as to be discountable.

Effects to Canada Lynx

The project area does not overlap with any Canada lynx breeding habitat or critical habitat, and there has been no confirmed evidence of Canada lynx in the project area in recent years (U.S. Army 2011, p. 4-69). The only possible effect from the proposed action to Canada lynx would be accidental release of fuel in the event of a mishap during refueling activities. The chance of such a spill affecting a Canada lynx is so low as to be discountable.

Effects to Gray Wolf

The project area does not overlap with any predicted gray wolf breeding habitats (WDFW and UW 2007 in U.S. Army 2011, p. 4-74). There have been three sightings of gray wolves in the proposed low-level training area, two of which also were beneath a proposed route (WDFW 2010 in U.S. Army 2011, p. 4-74). Therefore, there is a slight possibility that gray wolves could be present in the project area during operations. The only possible effect from the proposed action to the gray wolf would be accidental release of fuel in the event of a mishap during refueling activities. The chance of such a spill affecting a gray wolf is so low as to be discountable.

This concludes informal consultation pursuant to the regulations implementing the Act (50 CFR 402.13). This action should be re-analyzed if new information reveals effects of the action that may affect listed species or designated critical habitat in a manner or to an extent not considered in this consultation; if the action is subsequently modified in a manner that causes an effect to a listed species or designated critical habitat that was not considered in this consultation; and/or, if a new species or critical habitat is designated that may be affected by this project.

The Service appreciates your efforts to protect listed species and the habitats on which they depend while meeting your land management needs. If you have any questions regarding this letter or your responsibilities under the Act, please contact Kent Livezey (360.753.4372) or Carolyn Scafidi (360.753.4068) of this office.

Sincerely,

Carolyn Scafidi

for Ken S. Berg, Manager
Washington Fish and Wildlife Office

Literature Cited

U.S. Army. 2011. Final Biological Assessment: Northwest Aviation Operations, 160th Special Operations Aviation Regiment, Joint Base Lewis-McChord, Washington. AECOM, Seattle, Washington. July, 2011.

Van Hoesen. 2011. Email from Bill Van Hoesen, U.S. Army to Kent Livezey, U.S. Fish and Wildlife Service. August 30, 2011.

WDFW (Washington Department of Fish and Wildlife). 2010. WDFW priority habitats and species GIS data. December 6, 2010.

WDFW (Washington Department of Fish and Wildlife) and UW (University of Washington). 2007. Washington NatureMapping Program. Available on-line at: http://depts.washington.edu/natmap/.

In litteris References

Van Hoesen, B. 2/8/2012. Email from B. Van Hoesen, Joint Base Lewis-McChord, to Kent Livezey, U.S. Fish and Wildlife Service, Lacey, Washington, with attached spreadsheet of aircraft dB data and description of methods used to obtain the data.

Van Hoesen, B. 2/10/2012. Email from B. Van Hoesen, Joint Base Lewis-McChord, to Kent Livezey, U.S. Fish and Wildlife Service, Lacey, Washington, explaining appropriate use of data in spreadsheet of aircraft dB data.

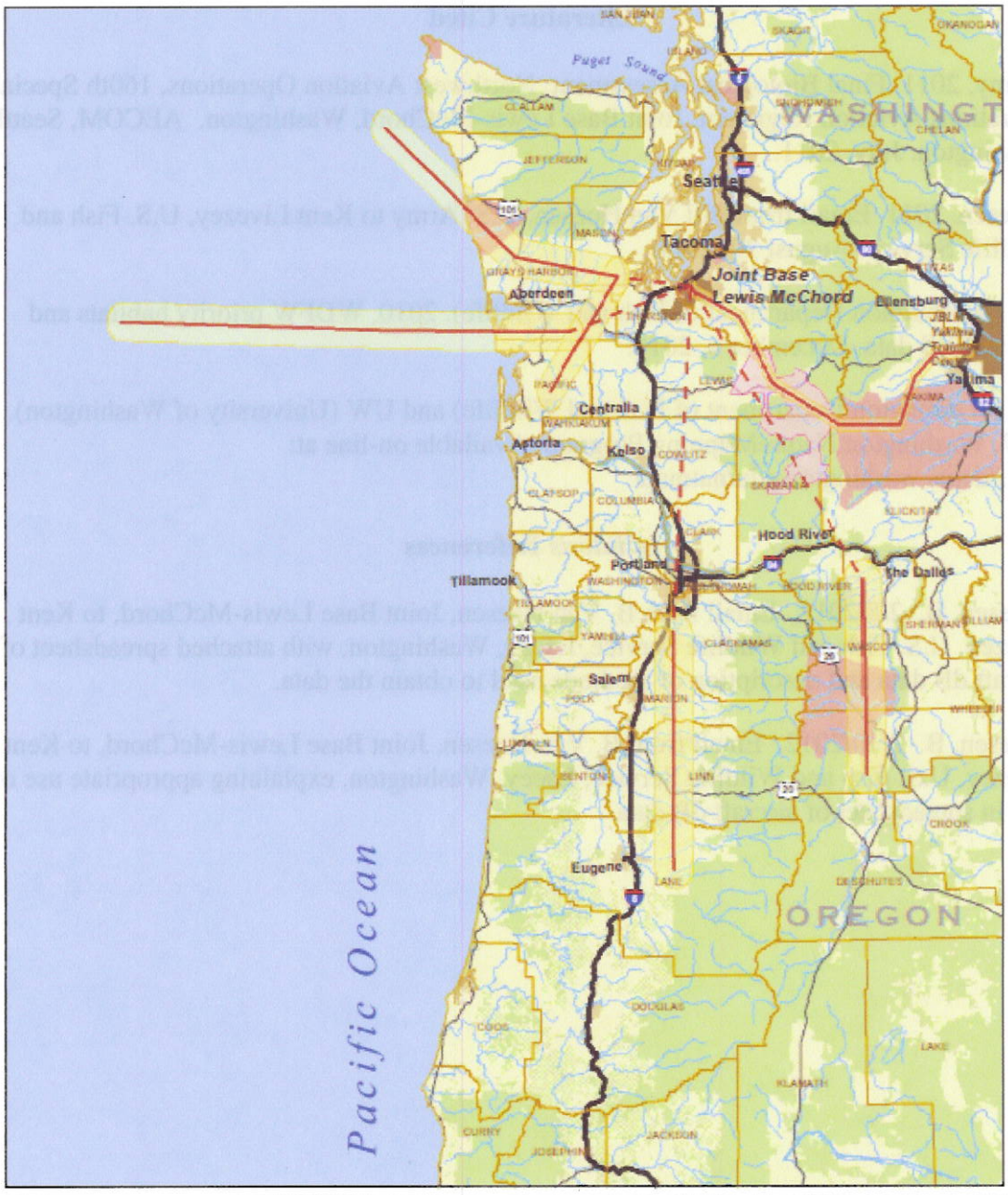

Figure 1. Project Location

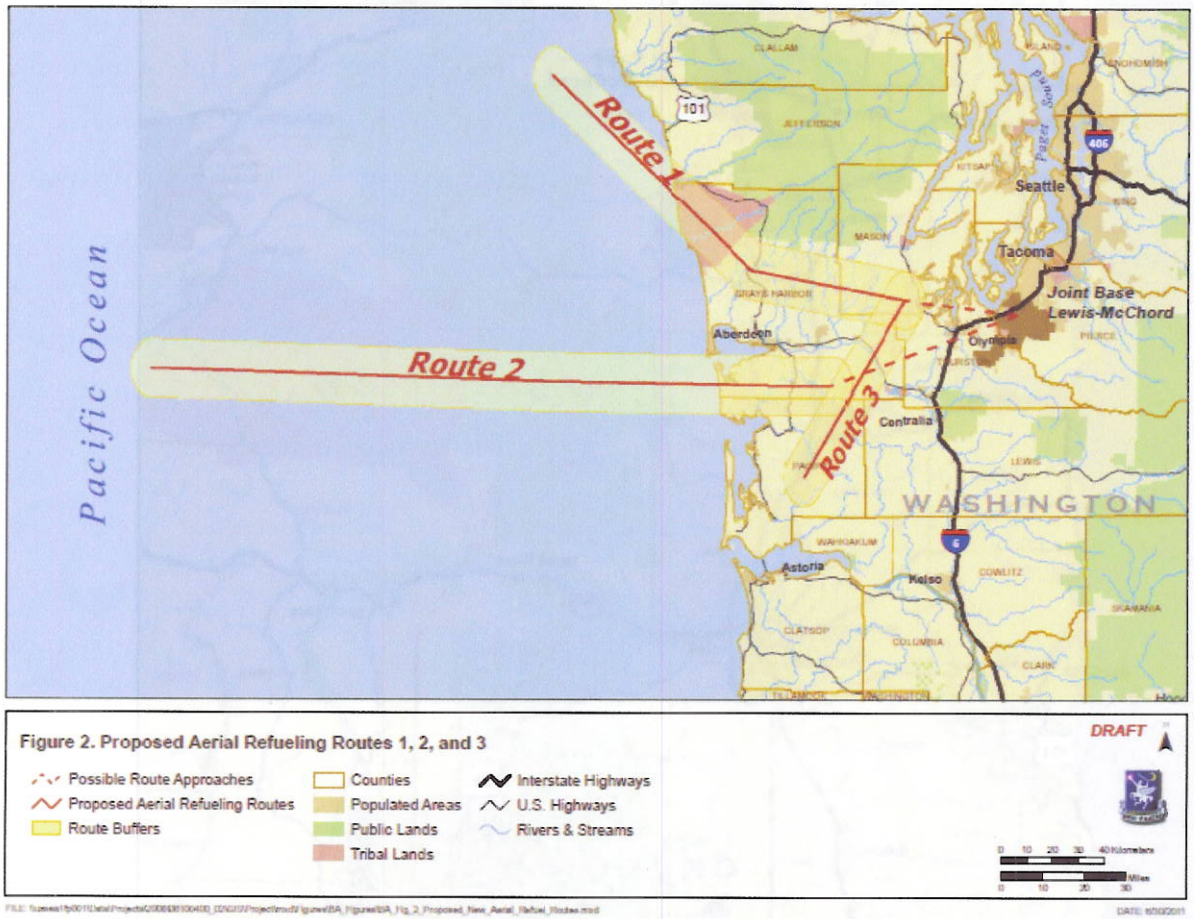

Figure 2. Proposed Aerial Refueling Routes 1, 2, and 3

Figure 3. Proposed Aerial Refueling Routes AR304 and AR305

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Possible Route Approaches
Existing Refueling Routes
Proposed Refuel Routes
Route Buffers
Counties
Populated Areas
Public Lands
Tribal Lands
Interstate Highways
U.S. Highways
Rivers & Streams

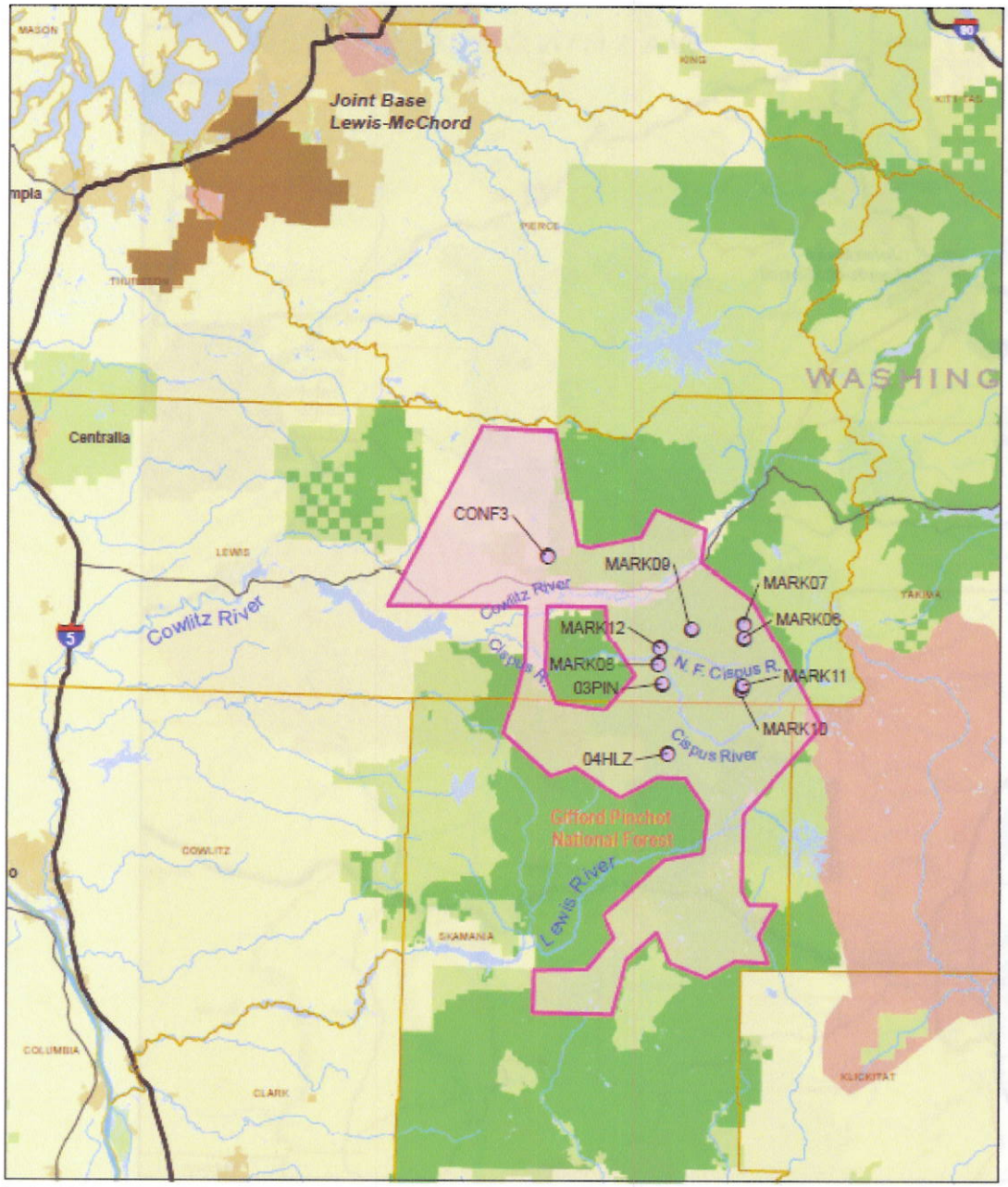


Figure 4. Proposed Low-Level Training Area

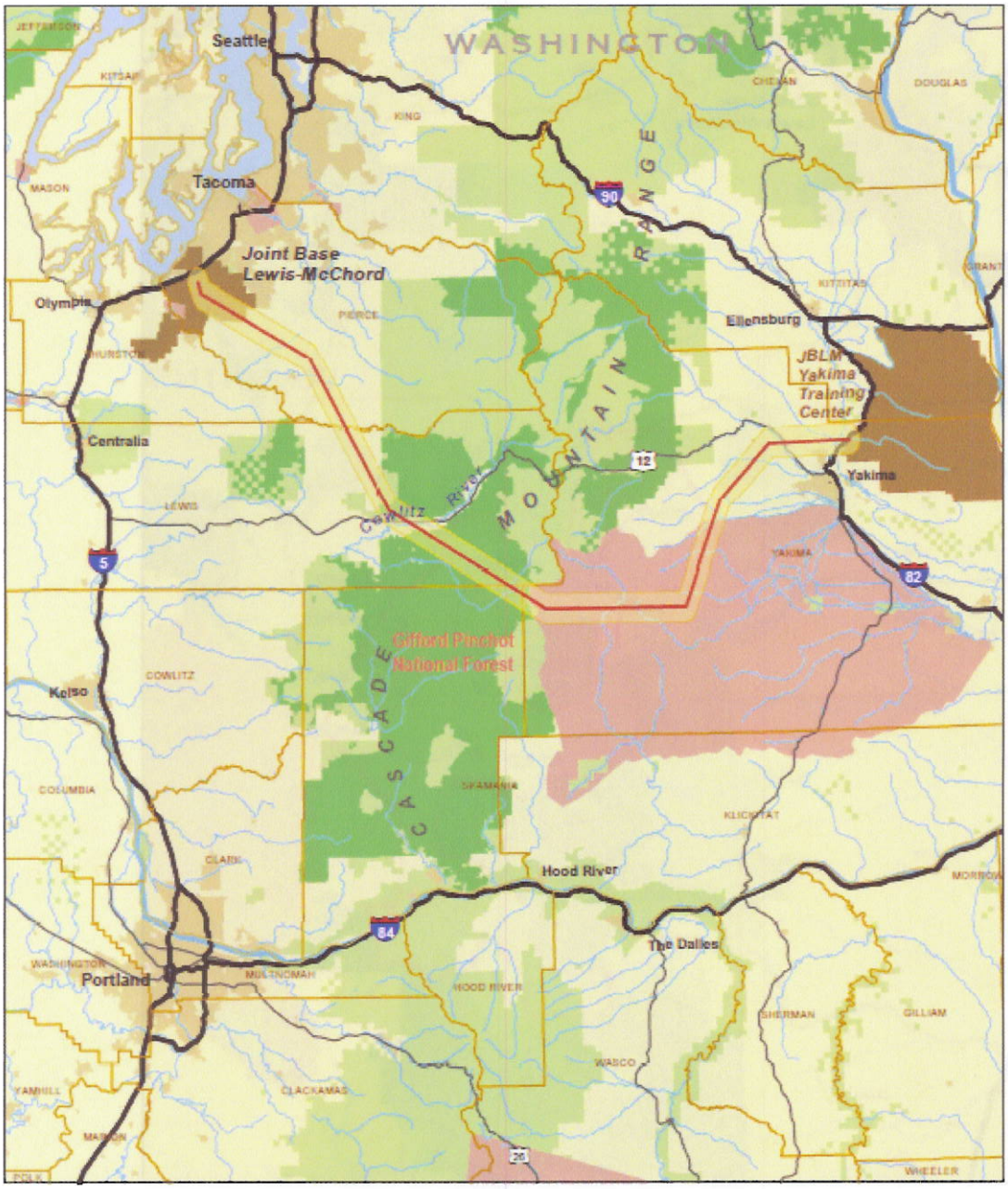
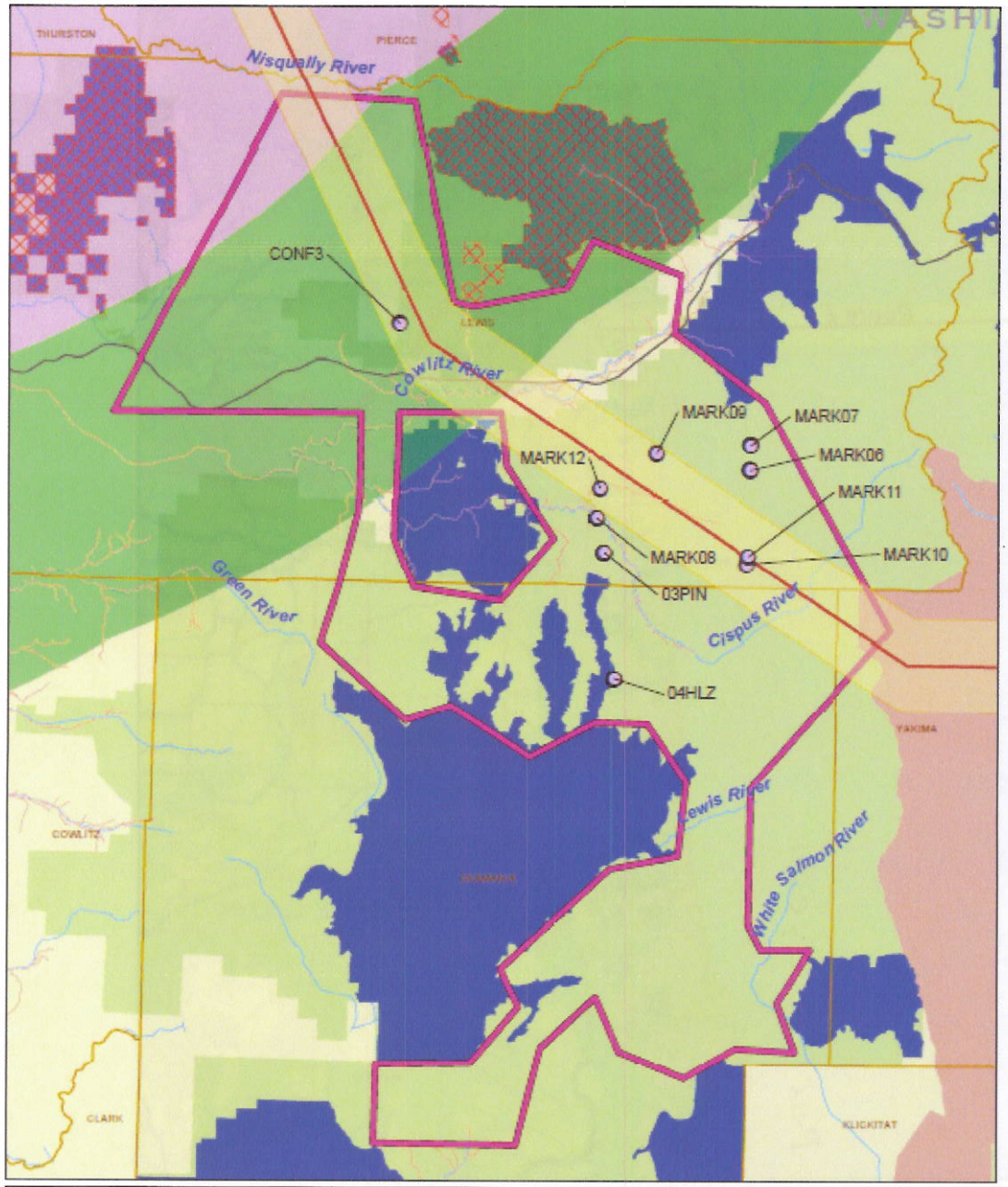


Figure 5. Proposed Terrain-Following/Multi-ModeRadar Route


THURSTON
PIERCE
Nisqually River
CONF3
Cowlitz River
MARK09
MARK07
MARK12
MARK06
MARK11
MARK08
MARK10
03PIN
Green River
Cispus River
04HLZ
YAKIMA
Lewis River
White Salmon River
COWLITZ
CLARK
KLICKITAT
Figure 6. Designated Critical Habitat in the Proposed Low-Level Training Area
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Proposed Low-Level Training Area
Helicopter Landing Zones
Northern Spotted Owl Designated Critical Habitat***
Marbled Murrelet Designated Critical Habitat*
Marbled Murrelet Zone of Occurrence**
Zone 1
Zone 2
Data Sources: USFWS
*1996, **2004, ***2008c
Listed Salmonid Designated Critical Habitat
Proposed Terrain-Following/MMR Route
Counties
Populated Areas
Public Lands
Tribal Lands
Interstate Highways
U.S. Highways
Rivers & Streams
Kilometers
Miles


Puget Sound
Seattle
Tacoma
Joint Base Lewis-McChord
Aberdeen
Route 1
Route 2
Route 3
Ellensburg
Yakima
Centralia
Kelso
Astoria
Hood River
Portland
Tillamook
The Dalles
Salem
Eugene
AR304
AR305
Pacific Ocean
OREGON
WASHINGTON
DRAFT
Figure 7. Marbled Murrelet Designated Critical Habitat
Marbled Murrelet Designated Critical Habitat*
Marbled Murrelet Zone of Occurrence**
Zone 1
Zone 2
Possible Route Approaches
Existing and Proposed Training Routes
Route Buffers/Airspace
Proposed Low-Level Training Area
Counties
Populated Areas
Public Lands
Tribal Lands
Interstate Highways
U.S. Highways
Rivers & Streams
Data Sources:
*USFWS 1996
**USFWS 2004
0 20 40 60 80 Kilometers
0 20 40 60 Miles


Puget Sound
Pacific Ocean
WASHINGTON
OREGON
Route 1
Route 2
Route 3
Seattle
Tacoma
Joint Base Lewis-McChord
Aberdeen
Ellensburg
Yakima Training Center
Yakima
Centralia
Kelso
Astoria
Tillamook
Portland
Hood River
The Dalles
Salem
Eugene
AR304
AR305
Proposed Low-Level Training Area
MR Route
Figure 8. Northern Spotted Owl Designated Critical Habitat
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Northern Spotted Owl Designated Critical Habitat*
Possible Route Approaches
Existing and Proposed Training Routes
Route Buffers/Airspace
Proposed Low-Level Training Area
Counties
Populated Areas
Public Lands
Tribal Lands
Data Source: *USFWS 2008c
Interstate Highways
U.S. Highways
Rivers & Streams
0 20 40 60 80 Kilometers
0 20 40 60 Miles


Damont Point
Route 2
Midway Beach
Leadbetter Pt.
Tillamook
Bayocean Spit
Aberdeen
Route 3
Centralia
Astoria
Kelso
Portland
MASON
GRAYS HARBOR
THURSTON
PACIFIC
LEWIS
WAHKIAKUM
COWLITZ
CLATSOP
COLUMBIA
TILLAMOOK
YAMHILL
Figure 9. Western Snowy Plover Designated Critical Habitat
DRAFT
Western Snowy Plover Designated Critical Habitat*
Possible Route Approaches
Existing and Proposed Training Routes
Route Buffers/Airspace
Counties
Populated Areas
Public Lands
Tribal Lands
Interstate Highways
U.S. Highways
Rivers & Streams
Data Source: *USFWS 2005