APPENDIX A

FEDERAL REGISTER

The Oregonian
Hillsboro Argus
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Forest Grove Leader
1320 S.W. Broadway, Portland, OR 97201-3499

Affidavit of Publication

AMEC Environment & Infrastructure Inc

104 W Anapamu St Suite 204A

Santa Barbara, CA 93101

The Oregonian
Hillsboro Argus
OregonLive.com
Forest Grove Leader
1320 S.W. Broadway, Portland, OR 97201-3499

Affidavit of Publication

I, G. Hatter, duly sworn depose and say that I am the Principal Clerk Of The Publisher of The Oregonian, a newspaper of general circulation, as defined by ORS 193.010 and 193.020, published in the city of Portland, in Multnomah County, Oregon; that the advertisement was published without interruption in the entire and regular issue of The Oregonian or the issue on the following date(s):

6/2/2013

G. Hatter

Principal Clerk of the Publisher:

6-3-13

Subscribed and sworn to before me this date:

Christine D. Cassel

Notary:

Ad Order Number: 0003481002

OFFICIAL SEAL
CHRISTINE D CASSEL
NOTARY PUBLIC - OREGON
COMMISSION NO. 468251
MY COMMISSION EXPIRES MAY 27, 2016

NOTICE OF PUBLIC SCOPING MEETINGS

Environmental Impact Statement (EIS) for Proposed Establishment and Modification of Military Training Airspace, Oregon Air National Guard (ANG), OR

In accordance with the National Environmental Policy Act (NEPA) of 1969 (42 USC 4321-4347), Council on Environmental Quality Regulations for Implementing the Procedural Provisions of NEPA (40 CFR Parts 1500-1508), and 32 CFR Part 989 et seq., the National Guard Bureau (NGB) intends to prepare a Draft EIS that considers the potential consequences to the human and natural environment that may result from implementation of this action.

The purpose of the proposed Oregon Airspace Initiative is to provide adequately sized and configured airspace within close proximity to Oregon ANG flying units to support advanced 21st-century air-to-air tactical fighter technologies and training mission requirements.

The proposed action includes modification and addition to military training airspace located over northwestern, north-central and south-central Oregon and the Pacific Ocean. In addition, minor portions of the proposed action would be located above a small area of northwestern Nevada and the southwestern-most corner of Washington. It is important to note that this proposed action *would result in airspace changes only* and does not include any project components that would touch or otherwise directly affect the ground or water surface. For more details on the proposed action, please visit http://www.142fw.ang.af.mil/ or http://www.173fw.ang.af.mil/.

Public involvement is of primary importance in complying with NEPA and the Environmental Impact Analysis Process provides multiple opportunities for public involvement. The public has an important role in providing input during this process to help the NGB and Oregon ANG make more informed decisions about implementing this proposal. Scoping meetings will provide the opportunity for the public to engage with the NGB and Oregon ANG and provide comments on the proposed action prior to development of the Draft EIS. Scoping meetings will be open to the public at the following dates and locations, *with each meeting running from 6:00 PM to 9:00 PM:*

17 June 2013 – Tillamook Air Museum, 6030 Hangar Rd, Tillamook, OR 97141
18 June 2013 – Port of Astoria, 10 Pier One, Suite 209, Astoria, OR 97103
19 June 2013 – Condon High School, 210 East Bayard St, Condon, OR 97823
20 June 2013 – Harney County Center, 484 North Broadway Ave, Burns, OR 97720
21 June 2013 – City of Prineville Council Chambers, 387 NE Third St, Prineville, OR 97754

Written comments regarding the proposed action can be submitted to Mr. Robert Dogan, NGB/A7AM, Shepperd Hall, 3501 Fetchet Ave, Joint Base Andrews, MD 20762-5157, or by e-mail: ang.env.comments@ang.af.mil. Please include "Oregon Airspace Initiative" in the subject line. In order to be addressed in the Draft EIS, written comments must be received by 21 July 2013.

Please be advised that letters or other written comments provided may be published in the EIS. Any personal information provided to NGB will be used only to identify your intent to make a comment and only the names of the individuals making comments and their specific comments will be disclosed. Personal home addresses and phone numbers will *not* be published in the EIS.

3481002V01

Contracting Activity: Dept of the Army, W071 Endist Walla Walla, Walla Walla, WA.

Service Type/Location: Operations Support Service, Defense Health Headquarters, 7700 Arlington Blvd., Falls Church, VA.

NPA: Linden Resources, Inc., Arlington, VA.

Contracting Activity: Washington Headquarters Services (WHS), Acquisition Directorate, Washington, DC.

Deletion

On 4/5/2013 (78 FR 20622–20623), the Committee for Purchase From People Who Are Blind or Severely Disabled published notice of proposed deletions from the Procurement List.

After consideration of the relevant matter presented, the Committee has determined that the service listed below is no longer suitable for procurement by the Federal Government under 41 U.S.C. 8501–8506 and 41 CFR 51–2.4.

Regulatory Flexibility Act Certification

I certify that the following action will not have a significant impact on a substantial number of small entities. The major factors considered for this certification were:

1. The action will not result in additional reporting, recordkeeping or other compliance requirements for small entities.

2. The action may result in authorizing a small entity to provide the service to the Government.

3. There are no known regulatory alternatives which would accomplish the objectives of the Javits-Wagner-O'Day Act (41 U.S.C. 8501–8506) in connection with the service deleted from the Procurement List.

End of Certification

Accordingly, the following service is deleted from the Procurement List:

Service

Service Type/Location: Janitorial/Custodial Service, U.S. Army Reserve Center: Wilkes-Barre, 1001 Highway 315, Wilkes-Barre, PA.

NPA: United Rehabilitation Services, Inc., Wilkes-Barre, PA.

Contracting Activity: Dept of the Army, W6QM MICC-Ft Dix (RC–E), Fort Dix, NJ.

Barry S. Lineback,

Director, Business Operations.

[FR Doc. 2013–11766 Filed 5–16–13; 8:45 am]

BILLING CODE 6353–01–P

DEPARTMENT OF DEFENSE

Notice of Intent (NOI) To Prepare an Environmental Impact Statement (EIS) for Proposed Establishment and Expansion of Military Airspace in Support of the Oregon Air National Guard (ORANG), Portland International Airport, Portland, and Kingsley Field, Klamath Falls, OR

AGENCY: Department of the Air Force; DOD.

ACTION: Notice of Intent.

SUMMARY: Pursuant to the National Environmental Policy Act (NEPA) of 1969, as amended (42 U.S.C. 4321, et seq.), the Council on Environmental Quality (CEQ) Regulations for Implementing the Procedural Provisions of NEPA (40 CFR parts 1500–1508), and Air Force policy and procedures (32 CFR part 989), the Air Force is issuing this notice to advise the public of its intent to prepare an Environmental Impact Statement (EIS) for the proposed establishment and expansion of Special Use Airspace over portions of Oregon and a small area over northwestern Nevada and southwestern Washington. The proposal would provide adequately sized and configured airspace within close proximity to ORANG flying units to support advanced 21st-century air-to-air tactical fighter technologies and current and evolving training mission requirements and ensure efficient and realistic mission-oriented training. The training would take place Monday through Friday and during one weekend per month.

In support of the ORANG's 142d and 173d Fighter Wings, the Air Force and the National Guard Bureau (NGB) are proposing (Alternative A) to expand, modify, and establish air-to-air training airspace areas in four locations around the state: (1) Proposed expansion of Warning Area 570 (W–570) to the west over the Pacific Ocean; (2) proposed establishment of the Eel Military Operations Area (MOA) directly underneath the existing Eel Air Traffic Control Assigned Area which is aligned north/south along the Oregon coast from approximately Astoria to Lincoln City and adjacent to W–570; (3) proposed establishment of the Redhawk MOA in north central Oregon roughly bounded by Highway 97/197 on the west, the towns of Wasco and Lexington on the north, US Highway 395 on the east, and US Highway 26 on the south; and (4) proposed expansion of the existing Juniper/Hart MOA Complex to the east approximately 20 miles which would extend from approximately Burns to Frenchglen in Oregon and to Big Mountain in northwestern Nevada. Four alternatives and the No-Action Alternative will be analyzed. Alternative B includes the majority of airspace changes proposed for Alternative A; however, the Eel MOA would not be established. Alternative C includes the airspace changes proposed under Alternative A but the Redhawk MOA would not be established. Alternative D includes the airspace changes under Alternative A but would not include the eastward expansion of Juniper/Hart MOA Complex. Reasonable alternatives, which satisfy the underlying purpose and need for the proposed action, that are identified during the scoping process will also be assessed.

Information: NGB will conduct public scoping meetings to solicit input concerning the proposal. The scoping process assists in determining the scope of issues to be addressed and to help identify significant environmental issues to be analyzed in depth in the EIS. Comments will be accepted at any time during the environmental impact analysis process; however, to ensure that NGB has sufficient time to consider public feedback in the preparation of the Draft EIS, scoping comments should be submitted to the address below no later than 60 days from the date of this notice.

Scoping meetings will be held in the following Oregon communities: Tillamook (June 17), Astoria (June 18), Condon (June 19), Burns (June 20), and Prineville (June 21). Specific meeting times and locations will be provided in notices that will appear in *The Oregonian* and regional media outlets. Additional information will be made available at *www.142fw.ang.af.mil* and *www.173fw.ang.af.mil.*

ADDRESSES: Robert Dogan, National Guard Bureau/A7AM, 3501 Fetchet Avenue, Joint Base Andrews, MD 20762–5157. Email: *ang.env.comments@ang.af.mil.*

Henry Williams Jr.,

Acting Air Force Federal Register Liaison Officer.

[FR Doc. 2013–11800 Filed 5–16–13; 8:45 am]

BILLING CODE 5001–10–P

DEPARTMENT OF DEFENSE

Notice of Intent To Prepare an Environmental Impact Statement for the Main Operating Base 2 (MOB–2) for the Beddown of KC–46A Tanker Aircraft

AGENCY: Department of the Air Force, DOD.

APPENDIX B

SCOPING MATERIALS

SCOPING DISTRIBUTION LIST

Mr. Dick Pederson, Director
Oregon Department of Environmental Quality
DEQ Headquarters
811 SW 6th Avenue
Portland 97204-1390
(503) 229-5696

Mr. Roy Elicker, Director
Oregon Department of Fish and Wildlife
3406 Cherry Avenue N.E
Salem, OR 97303
(503) 947-6312

Ms. Linda Anderson, Acting Director
U.S. EPA, Region 10
Office of Ecosystems, Tribal, and Public Affairs
Mail Stop: ETPA-087
1200 Sixth Avenue, Suite 900
Seattle, WA 98101
(206) 553-2601

Ms. Carrie Lovellette
Oregon Parks and Recreation Department
Planning
725 Summer St NE, Suite C
Salem OR 97301
(503) 986-0733

Mr. Dennis Griffin, State Archaeologist
State Historic Preservation Office
725 Summer St NE, Suite C
Salem, OR 97301
(503) 986-0674

Ms. Robyn Thorson
U.S. Fish and Wildlife Service
Pacific Region 1
911 NE 11th Ave
Portland, OR 97232
(503) 231-6120

Mr. Randy Fisher, Director
Pacific States Marine Fisheries Commission
05 SE Spokane Street, Suite 100
Portland, OR 97202
(503) 595-3100

Mr. Lanny R. Quackenbush
Eastern Region Manager
Land Management Division
Oregon Department of State Lands
1645 Forbes Road, Suite 112
Bend, Oregon 97701
(541) 388-6355

Ms. Nancy Pustis
Western Region Manager
Land Management Division
Oregon Department of State Lands
775 Summer St NE, Suite 100
Salem, OR 97301-1279
(503) 986-5308

Mr. Mitch Swecker, Director
Oregon Department of Aviation
3040 25th St. SE Salem, OR
97302-1125
(503) 378-2340

Col John Eisenhauer, P.E.
Commander and District Engineer
U.S. Army Corps of Engineers
Portland District
P.O. Box 2946
Portland, OR 97208-2946
(503) 808-5150

Mr. Ron Alvarado, State Conservationist
Natural Resources Conservation Services
US Department of Agriculture
1201 NE Lloyd Blvd, Suite 900
Portland, Oregon 97232
(503) 414-3201

SCOPING DISTRIBUTION LIST

Mr. Max Etheridge, Regional Director
Northwest Area
U.S. Geological Survey
909 1st Avenue
Seattle, WA 98104
(206) 220-4600

Ms. Christine Lehnertz, Regional Director
National Park Service
Pacific West Region
333 Bush Street, Suite 500
San Francisco, CA 94104-2828
(415) 623-2100

Mr. Ben Meyer, Branch Chief
NOAA Fisheries (NMFS)
Habitat Conservation Division
1201 NE Lloyd Boulevard, Suite 1100
Portland, OR 97232
(503) 230-5400

Mr. Jerome E. Perez, State Director
Bureau of Land Management
P.O. Box 2965
Portland, OR 97208
(503) 808-6001

Ms. Jackie Andrew, Assistant Director of
Resource, Planning, and Monitoring
US Forest Service
Pacific Northwest Region
P.O. Box 3623
Portland, OR 97208-3623
(503) 808-2468

Ms. Rebecca L. Palmer, Acting State Historic
Preservation Officer
Nevada SHPO
901 S. Stewart Street, Suite 5004
Carson City, NV 89701-4285
(775) 684-3443

Mr. Matt Crall, Planning Services Division
Manager
Oregon Department of Land Conservation
and Development
635 Capitol Street NE
Suite 150
Salem, OR 97301
(503) 373-0050

Ms. Coleen Cripps, Administrator
Department of Conservation & Natural
Resources
Nevada Division of Environmental
Protection
901 South Stewart Street, Suite 4001
Carson City, Nevada 89701–5249
(775) 687–4670

Tony Wasley, Director
Nevada Department of Wildlife
1100 Valley Road
Reno, NV 89512
(775) 688-1500

3501 FETCHET AVENUE
JOINT BASE ANDREWS MD 20762-5157

NGB/A7AM

<<Contact>>
<<Address>>
<<Address>>
<<Address>>
<<Address>>

Subject: National Historic Preservation Act, Section 106 Consultation
Proposed Airspace Establishment and Modification
Oregon Air National Guard

Dear <<Contact>>

The National Guard Bureau (NGB) is preparing an Environmental Impact Statement (EIS) in accordance with the National Environmental Policy Act (NEPA) to evaluate the potential impacts on the human environment for the proposed establishment and expansion of Special Use Airspace over portions of Oregon and small areas over northwestern Nevada and southwestern Washington. The proposed action to be evaluated in the EIS constitutes an undertaking as defined in 36 CFR 800.16(y) and, therefore, the NGB is also reviewing the project under Section 106 of the National Historic Preservation Act (NHPA).

This letter is being sent to you as part of the scoping phase of the Environmental Impact Analysis Process. The purpose of scoping is to determine the issues to be addressed in the EIS. We are writing this letter to you to advise you of this proposal and to request your assistance in identifying any potential cultural resources issues. Following the scoping phase, the Draft EIS will be completed and sent to your office for further review and comments. We intend to maximize the use of electronic submittals during subsequent consultation phases. If you would prefer to receive a hardcopy of the Draft and Final EIS, please indicate in your response, otherwise, documents will be provided in electronic format.

In support of the Oregon Air National Guard's (ANG's) 142d and 173d Fighter Wings, the Air Force and the NGB are proposing (Alternative A) to expand, modify, and establish air-to-air training airspace areas in four locations around the state: 1) proposed expansion of Warning Area 570 (W-570) to the west over the Pacific Ocean; 2) proposed establishment of the Eel Military Operations Area (MOA) directly underneath the existing Eel Air Traffic Control Assigned Area which is aligned north/south along the Oregon coast from approximately Astoria to Lincoln City and adjacent to W-570; 3) proposed establishment of the Redhawk MOA in north central Oregon roughly bounded by Highway 97/197 on the west, the towns of Wasco and Lexington on the north, US Highway 395 on the east, and US Highway 26 on the south; and 4) proposed expansion of the existing Juniper/Hart MOA Complex to the east approximately 20

miles which would extend from approximately Burns to Frenchglen in Oregon and to Big Mountain in northwestern Nevada.

Four alternatives and the No-Action Alternative will be analyzed. Alternative B includes the majority of airspace changes proposed for Alternative A; however, the Eel MOA would not be established. Alternative C includes the airspace changes proposed under Alternative A but the Redhawk MOA would not be established. Alternative D includes the airspace changes under Alternative A but would not include the eastward expansion of Juniper/Hart MOA Complex. Reasonable alternatives that satisfy the intent of the proposed action identified during the scoping process will also be assessed.

Enclosed Figures 1 through 4 depict the location of the proposed military airspace establishment and modifications included under the proposed action. Together, these areas constitute the Area of Potential Effect (APE) for the undertaking. It is important to note that this proposed action *would involve airspace only* and does not include any project components that would touch or otherwise directly affect the ground or water surface.

As part of an effort to conduct early and continuous consultation, the Oregon Military Department and Oregon ANG, in collaboration with NGB, have conducted previous outreach via formal correspondence as well as telephone with ten potentially affected Native American tribes under Section 106 of the NHPA, as amended, and associated implementing regulations (36 CFR 800). The Native American tribes include the Burns Paiute Tribe, Confederated Tribes of Coos, Lower Umpqua and Siuslaw Indians, Coquille Indian Tribe, Cow Creek Band of Umpqua Tribe of Indians, Confederated Tribes of the Grand Ronde Community, Klamath Tribes, Confederated Tribes of the Siletz Indians, Summit Lake Paiute Tribe, Confederated Tribes of the Umatilla Indian Reservation, and the Confederated Tribes of the Warm Springs. A copy of correspondence with the Native American tribes is available upon request.

Based on current information, it does not appear that the Proposed Action would result in an adverse effect on historic properties or sites. Thank you for providing us with any comments or concerns you may have with regard to the proposed undertaking and its potential effects on historic properties.

Please forward your written comments to Mr. Robert Dogan, at NGB/A7AM, Shepperd Hall, 3501 Fetchet Avenue, Joint Base Andrews Maryland 20762-5157, or email to ang.env.comments@ang.af.mil. Please include “Oregon Airspace Initiative” in the subject line. Thank you for your assistance.

Sincerely

HARRY A. KNUDSEN, JR.
Chief, Resources Division

Attachments: Project Location Maps (Figures 1 through 4)

3501 FETCHET AVENUE
JOINT BASE ANDREWS MD 20762-5157

NGB/A7AM

<<Contact>>
<<Address>>
<<Address>>
<<Address>>
<<Address>>

Subject: Proposed Airspace Establishment and Modification
Oregon Air National Guard

Dear <<Contact>>

The National Guard Bureau (NGB) is preparing an Environmental Impact Statement (EIS) in accordance with the National Environmental Policy Act (NEPA) to evaluate the potential impacts on the human environment for the proposed establishment and expansion of Special Use Airspace over portions of Oregon and small areas over northwestern Nevada and southwestern Washington.

This letter is being sent to you as part of the scoping phase of the Environmental Impact Analysis Process. The purpose of scoping is to determine the issues to be addressed in the EIS. We are writing this letter to notify you of this proposal and to request your assistance in identifying any potential issues within your purview. Following the scoping phase, the Draft EIS will be completed and sent to your office for further review and comments. We intend to maximize the use of electronic submittals during subsequent consultation phases. If you would prefer to receive a hardcopy of the Draft and Final EIS, please indicate in your response, otherwise, documents will be provided in electronic format.

In support of the Oregon Air National Guard's (ANG's) 142d and 173d Fighter Wings, the Air Force and the NGB are proposing (Alternative A) to expand, modify, and establish air-to-air training airspace areas in four locations around the state: 1) proposed expansion of Warning Area 570 (W-570) to the west over the Pacific Ocean; 2) proposed establishment of the Eel Military Operations Area (MOA) directly underneath the existing Eel Air Traffic Control Assigned Area which is aligned north/south along the Oregon coast from approximately Astoria to Lincoln City and adjacent to W-570; 3) proposed establishment of the Redhawk MOA in north central Oregon roughly bounded by Highway 97/197 on the west, the towns of Wasco and Lexington on the north, US Highway 395 on the east, and US Highway 26 on the south; and 4) proposed expansion of the existing Juniper/Hart MOA Complex to the east approximately 20 miles which would extend from approximately Burns to Frenchglen in Oregon and to Big Mountain in northwestern Nevada.

Four alternatives and the No-Action Alternative will be analyzed. Alternative B includes the majority of airspace changes proposed for Alternative A; however, the Eel MOA would not be established. Alternative C includes the airspace changes proposed under Alternative A but the Redhawk MOA would not be established. Alternative D includes the airspace changes under Alternative A but would not include the eastward expansion of Juniper/Hart MOA Complex. Reasonable alternatives that satisfy the intent of the proposed action identified during the scoping process will also be assessed.

Enclosed Figures 1 through 4 depict the location of the proposed military airspace establishment and modifications included under the proposed action. It is important to note that this Proposed Action *would involve airspace only* and does not include any project components that would touch or otherwise directly affect the ground or water surface. In addition, the floor (lowest altitude at which aircraft would operate) of Eel MOA would be 8,000 feet or more above the ground, the Redhawk and Juniper/Hart MOA floors would be approximately 5,000 feet above surface elevations, and the Juniper East Low MOA would have a floor of 500 feet above ground level.

As part of the EIS scoping process, we request any further information or comments you may have with regard to the potential effects of the proposed action on sensitive natural resources or habitats.

Please forward your written comments to Mr. Robert Dogan, at NGB/A7AM, Shepperd Hall, 3501 Fetchet Avenue, Joint Base Andrews Maryland 20762-5157, or email to ang.env.comments@ang.af.mil. Please include "Oregon Airspace Initiative" in the subject line. Thank you for your assistance.

Sincerely

HARRY A. KNUDSEN, JR.
Chief, Resources Division

Attachments: Project Location Maps (Figures 1 through 4)

-----Original Message-----
From: Somers, Elaine [mailto:somers.elaine@epa.gov]
Sent: Tuesday, July 16, 2013 7:36 PM
To: ANGRC/NGB/A7A NEPA COMMENTS
Cc: Reichgott, Christine
Subject: Oregon Airspace Initiative, ORANG - EPA Scoping comments

Attn: Mr. Robert Dogan

Mr. Dogan,

Attached is an electronic copy of the EPA scoping comments for the Oregon Air National Guard Proposed Establishment and Expansion of Military Airspace in Oregon. The original signed copy is in the mail and should arrive soon. If you have any questions, please do not hesitate to contact me. Thank you for inviting our participation!

Elaine Somers

US EPA, Region 10

1200-6th Ave., Suite 900, ETPA-088

Seattle, WA 98101

206-553-2966

Somers.elaine@epa.gov

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
1200 Sixth Avenue, Suite 900
Seattle, WA 98101-3140

OFFICE OF
ECOSYSTEMS,
TRIBAL AND PUBLIC
AFFAIRS

July 16, 2013

Mr. Robert Dogan
National Guard Bureau/A7AM
Shepperd Hall
3501 Fetchet Avenue
Joint Base Andrews, Maryland 20762-5157

Re: Oregon Air National Guard Proposed Airspace Establishment and Modification – Notice of Intent to Prepare an Environmental Impact Statement (EPA Region 10 Project Number 13-0020-DOD).

Dear Mr. Dogan:

The U.S. Environmental Protection Agency has reviewed the Notice of Intent to Prepare an Environmental Impact Statement for Proposed Establishment and Expansion of Military Airspace in Support of the Oregon Air National Guard, Portland International Airport, Portland, and Kingsley Field, Klamath Falls, Oregon. We are submitting scoping comments in accordance with our responsibilities under the National Environmental Policy Act and Section 309 of the Clean Air Act. We appreciate your contacting us regarding the Oregon Airspace Initiative.

The proposed action (Alternative A) is to expand, modify, and establish training airspace areas in four Oregon locations. These proposed Military Operations Areas (MOAs) would also extend into southwestern Washington and northwestern Nevada. The four locations proposed include:

Coastal Oregon

- Expansion of Warning Area 570 to the west over the Pacific Ocean (1,000 feet above mean sea level to 50,000 MSL);
- Establish the Eel MOA, aligned north/south along the Oregon coast from approximately Astoria to Lincoln City and adjacent to W-570 (11,000 MSL to 18,000 MSL)

Central Oregon

- Expansion of existing Juniper/Hart MOA Complex to the east approximately 20 miles, from approximately Burns to Frenchglen and to Big Mountain in northwestern Nevada (11,000 MSL to 18,000 MSL, with the Juniper East Low MOA from 500 feet above ground level to 10,999 MSL);
- Establishment of the Redhawk MOA in north central Oregon roughly bounded by Highway 97/197 on the west, the towns of Wasco and Lexington on the north, US Highway 395 on the east, and US Highway 26 on the south (11,000 MSL to 18,000 MSL).

Based on the information provided in the NOI, we recommend the following issues be included among those analyzed in the EIS for direct, indirect, and cumulative effects:

- Noise and/or disturbance effects, including:
    - The difference in intensity/severity of effects with respect to height above ground and height above sea level for all effects;
    - New effects of military operations on previously undisturbed areas, and cumulative/increased effects (increased frequency, severity) on areas currently within Military Operations Areas (MOAs);
    - For affected species and habitats, disclose the area, location, and accessibility of remaining intact habitats and refugia unaffected by military operations;
- Effects on birds, including migratory birds, raptors, shorebirds, waterfowl, marine birds, ground dwelling birds, passerines, and overall effects on habitat quality/suitability for nesting, rearing, foraging, roosting, particularly within affected refugia, such as, National Wildlife Refuges, Wilderness Areas, Outstanding Natural Areas/Key Conservation Sites, and other important remaining habitat, and on threatened, endangered, candidate, sensitive, and other species of concern listed by Federal or State fish and wildlife agencies. Species of particular concern include, but are not limited to:
    - Golden eagle
    - Bald eagle
    - Western snowy plover
    - Sage grouse
- Effects on other terrestrial or aquatic wildlife species, including marine mammals;
- Effects on children's health and safety, including effects of noise/disturbance on school and other learning environments;
- Environmental Justice and effects on vulnerable/disadvantaged populations, including minorities, low income, elderly, disabled, Native American tribes, and children;
- Effects on recreation activities and experience;
- Cumulative and indirect effects on sensitive human and non-human animal receptors;
- Effects on air quality;
- Climate change effects, including contributions to greenhouse gas emissions, adaptation to predicted climate change effects, and potential effects on species' ability to adapt to climate change and other cumulative effects;
- Avoidance, minimization, and other mitigation for project impacts; and
- Monitoring of effects and potential need for adaptive management.

The following detailed scoping comments pertain to several of the issues identified above to assist with the analysis and disclosure of potential effects:

Birds, Marine Mammals, other Wildlife and Habitat

All potential military activities and associated impacts should be described with respect to their potential effects on wildlife and wildlife habitat areas. To clarify the potential effects on species and habitats, we recommend that flight elevations over land be provided as feet above ground level rather than as feet above mean sea level. The EIS should describe the current location, quality and capacity of habitat, its use by wildlife in the project area, and the potential to affect resident and migratory species. The EIS should compare and contrast the extent to which the various alternatives may impact or avoid impacts to wildlife. Impacts to consider should include disturbance, disruption of normal and necessary behaviors, such as, nesting, foraging/feeding, resting/roosting, rearing young, social interactions, dispersal, daily

and seasonal movement/migration patterns, use of available habitat, predator/prey interactions, and so on. Include the potential for direct mortality or injury due to aircraft/wildlife collisions or other mishap.

The US Fish and Wildlife Service states the following[1] with respect to aviation-related wildlife disturbance issues along the south coast of Oregon, which is also relevant to the Oregon north coast that would be affected by the proposed action:

> "...wildlife along the shore and on the offshore rocks, reefs and islands...comprise the Oregon Islands National Wildlife Refuge and are protected by law from human intrusion and disturbance. These National Wildlife Refuge lands support thousands of nesting and roosting seabirds as well as provide pupping and haul-out areas for marine mammals including seals and sea lions. All of the wildlife species that use these rocks, reefs and islands will readily abandon their nests and young if disturbed by low-flying aircraft. The USFWS requests that pilots of aircraft maintain 2000 feet AGL over rocks, islands, reefs, and cliffs and that they maintain a one half nautical mile of lateral distance to help protect and conserve wildlife resources. Both federal and state laws prohibit harassment of wildlife caused by aircraft to protect these sensitive, and in many cases, threatened and endangered species. In addition to the wildlife use of Oregon Islands National Wildlife Refuge, several beaches on the southern Oregon Coast also contain nesting populations of the endangered western snowy plover...Snowy plovers...are easily flushed from their nests when disturbed. Abandoned nests caused by aircraft, ATVs, dogs or other human activities are vulnerable to blowing sand and predation on both eggs and chicks. We ask that all aircraft users...avoid low level flights over these beaches and off-shore habitats to assist in snowy plover recovery efforts and to conserve marine wildlife."

Endangered, Threatened, Candidate, Sensitive Species

Where proposed project activities could affect species listed under the Endangered Species Act, the NEPA analysis should include the Biological Assessment and the associated USFWS or NOAA Fisheries Biological Opinion or formal concurrence, and discuss how the National Guard Bureau would contribute to the recovery of listed species[2]. In addition to federally listed species, there may also be state listed species, candidate state or federal species, and other sensitive or declining species and their habitats in the project area. The NEPA document should disclose these sensitive species and habitats, and the analyses of the alternatives should explore all possible measures to avoid and minimize disturbance or harm to them.

The NEPA analysis should also demonstrate compliance with the Bald and Golden Eagle Protection Act, the Migratory Bird Treaty Act, and should address potential impacts to Western snowy plover, sage grouse, and any other species of concern identified by federal or state fish and wildlife agencies. The NEPA analysis should consider effects to the full array of species that use high value habitat that would potentially be affected, such as, the Malheur National Wildlife Refuge, Steens Mountain Cooperative Management and Protection Area, Yaquina Head Outstanding Natural Area at Lincoln, Oregon, wilderness areas, and other areas of wildlife concentration.

Cumulative and Indirect Effects

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[1] USFWS, March 21, 2008 letter to Coos Aviation

[2] Endangered Species Act, Sec. 2(c)(1)

The environmental analysis should consider the effects of the proposed action when added to other past, present and reasonably foreseeable future actions within and outside the project area. Cumulative impacts can result from individually minor, but collectively significant actions taking place over time. For example, the proposed action may have the potential to contribute to cumulative impacts to seabirds that are already seriously stressed by human disturbance from recreational overuse of coastal areas, aircraft flying too low over nesting birds, predation, diminished habitat, climate change, and that are at risk from oil spills. Inland bird species, which are negatively affected by water diversions and over-appropriation for human uses, drought, climate change, pesticides and other pollutants, pests/disease, predation, parasitism, invasive species, fire, habitat loss, alteration, and fragmentation[3], would potentially be further affected by aircraft flying as low as 500 ft above ground level as proposed for the Juniper East Low MOA.

The EPA has issued guidance on how we are to provide comments on the assessment of cumulative impacts in *Consideration of Cumulative Impacts in EPA Review of NEPA Documents*, which can be found online at: http://www.epa.gov/compliance/resources/policies/nepa/cumulative.pdf . This guidance includes five key areas of focus when assessing cumulative effects:

- Identify resources, if any, that are being cumulatively affected;
- Determine the appropriate geographic (within natural ecological boundaries) area and the time period over which the effects have occurred and would occur;
- Look at all past, present, and reasonably foreseeable future actions that have affected, are affecting, or would affect resources of concern;
- Describe a benchmark or baseline;
- Include scientifically defensible threshold levels.

Indirect effects are those that are caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable. Indirect effects may include additional development or other activity inducing effects and other effects related to induced changes in the pattern of land use, road systems and access, number and frequency of human visits/uses, and related effects on air and water and other natural systems, including ecosystems (40 CFR Part 1508.8). These indirect effects must also be analyzed in the NEPA document.

Public Participation and Environmental Justice

The NEPA process should effectively engage the public in dialogue about the proposed project and its potential environmental, social, historical, cultural, and economic impacts – both positive and negative. In compliance with NEPA and with the Executive Order (E.O.) 12898 on Environmental Justice, actions should be taken to conduct adequate public outreach and participation that ensures the public and Native American tribes truly understand the possible impacts to their communities and trust resources. Minority and/or low income communities and tribes must be effectively informed, heard, and responded to regarding the project impacts and issues affecting their communities and natural and cultural resources. The information gathered from the public participation process and how this information is factored into decision-making should be disclosed in the NEPA document.

[3] North American Important Bird Areas – A Directory of 150 Key Conservation Sites. Commission for Environmental Cooperation. Montreal, Quebec, Canada, 1999

The EPA requests the following information from lead agencies, at a minimum, when reviewing NEPA documents to determine the adequacy of analysis:

- Describe the efforts that have/will be taken to inform the communities about the impacts of the project and to ensure "meaningful public participation" by the potentially affected communities/individuals.
- Identify low income and minority communities in the impact area(s) of the project.
- Disclose in the NEPA document what was heard from the community about the project during the public participation sessions by listing the impacts identified by the project proponent and the communities (perceived and real).
- Address whether these impacts are likely to occur and to whom, and evaluate all impacts for their potential to disproportionately impact low income and/or minority communities.
- Describe how what was heard from the public was/will be incorporated into the decisions made about the project (such as, the development of alternatives or choice of alternatives).
- Propose mitigation for the impacts that will or are likely to occur.

Public health and safety impacts and other impacts of concern to the public should be analyzed and disclosed in the NEPA document. The potential for disproportionate impacts and need for special consideration should extend to any vulnerable population, including the elderly, disabled, and children, as well as low income and minorities.

Noise

In addition to effects on wildlife, noise and disturbance impacts to human populations need to be assessed. The E.O. 13045 on Children's Health and Safety directs that each Federal agency shall make it a high priority to identify and assess environmental health and safety risks that may disproportionately affect children, and shall ensure that its policies, programs, activities, and standards address these risks. For the proposed action, it is important to consider the impacts from noise on quality of life and human experience, and on health and learning, especially near homes, schools, and daycare centers. Churches and other community gathering environments may also be negatively affected by new or increased noise and frequency of military flights.

Tribal Consultation

Government-to-government consultation with Indian tribal governments is required in accordance with E.O. 13175, Consultation and Coordination with Indian Tribal Governments, and other directives. In accord with federal tribal trust responsibilities, special attention should be paid to environmental impacts on resources held in trust or treaty resources. Among the issues that may be of concern to the Tribes include:

- Reservation lands;
- Formally identified trust and treaty resources;
- Grave and burial sites;
- Off-reservation sacred sites;
- Traditional cultural properties or landscapes;
- Hunting, fishing, and gathering areas (including impacts to ecosystems that support animals and plants that are or once were part of the Tribes' and tribal descendants' traditional resource areas);
- Access to traditional and current hunting, fishing, and gathering areas and species;

- Changes in hydrology or ecological composition of springs, seeps, wetlands and streams, that could be considered sacred or have traditional resource use associations;
- Water quality in streams, springs, wetlands and aquifers;
- Travel routes that were historically used, and travel routes that may be currently used;
- Historic properties and other cultural resources.

Climate Change
Changing climatic conditions should be taken into account as the NEPA document is being developed. In particular, we recommend including analyses of potential impacts of changing climate on the project, and the project's potential to contribute to or reduce climate change impacts through direct and indirect effects, adaptation, and mitigation.

We appreciate the opportunity to provide comments during the scoping process. If you have questions, would like to discuss these comments, or need more information, please contact me at (206)553-2966 or via electronic mail at somers.elaine@epa.gov.

Sincerely,

Elaine L. Somers
Environmental Review and Sediment Management Unit

-----Original Message-----
From: Carla Mclane [mailto:CMclane@co.morrow.or.us]
Sent: Friday, July 19, 2013 12:18 PM
To: ANGRC/NGB/A7A NEPA COMMENTS
Subject: Comment Letter: EIS for OR ANG

For Mr. Robert Dogan.

Please see attached.

Carla

Carla McLane

Planning Director

Morrow County

P.O. Box 40

Irrigon, OR 97844

541-922-4624

cmclane@co.morrow.or.us

COUNTY COURT

P. O. Box 788 • Heppner, Oregon 97836
(541) 676-5620 • FAX (541) 676-5621

TERRY K. TALLMAN, Judge
email: ttallman@co.morrow.or.us
Boardman, Oregon
LEANN REA, Commissioner
email: lrea@co.morrow.or.us
Heppner, Oregon
KEN GRIEB, Commissioner
email: kgrieb@co.morrow.or.us
Heppner, Oregon

July 16, 2013

Mr. Robert Dogan,
NGB/A7AM
Shepperd Hall
3501 Fetchet Avenue
Joint Base Andrews, MD 20762-5157

RE: Environmental Impact Statement for Proposed Establishment and Modification of Military Training Airspace, Oregon Air National Guard, OR

Dear Mr. Dogan:

The Morrow County Court appreciates the opportunity to comment during the initial Scoping phase of what we know will be a long and involved process. It is specifically the proposed Redhawk MOA of interest in Morrow County, which if approved, will cover the southern half of Morrow County.

At this early date the two Morrow County departments that have evaluated the proposal are Planning and Emergency Management. With a floor of 11,000 feet AGL we do not anticipate any concerns with land use or noise, however with the proposed winter training schedule over the Blue Mountains the County does have emergency preparedness and response concerns. For this reason we want to request Cooperating Agency status for this action and would like to ask you to add Carla McLane, Planning Director, to your contact list.

The County is currently acting or has recently acted as a Cooperating Agency with three other federal actions - the Boardman-to-Hemingway transmission line (BLM), the recently suspended Cascade Crossing transmission line (USFS) and the soon to be under construction Carty Lateral gas pipeline (FERC). Additionally we have been working with the Army and the Navy on separate actions underway concerning the Umatilla Army Depot closure and the enhanced uses proposed at the Boardman Bombing Range respectfully. Both of these actions also have Oregon Army National Guard components. We have an understanding of what it means to take on this role and the impacts it can have.

We look forward to working with you and others on this process. Should you have any questions concerning this letter or our request for Cooperator Agency status please contact Carla McLane, Planning Director. Her contact information is as follows: 205 NE Third Street, P.O. Box 40, Irrigon, Oregon, 97844, 541-922-4624, cmclane@co.morrow.or.us.

Thank you for your consideration of our request.

Cordially,

Terry K. Tallman
Judge

Ken Grieb
Commissioner

Leann Rea
Commissioner

-----Original Message-----
From: noreply@nps.gov [mailto:noreply@nps.gov]
Sent: Monday, July 15, 2013 9:49 AM
To: ANGRC/NGB/A7A NEPA COMMENTS
Cc: alan_schmierer@nps.gov; loretta_sutton@ios.doi.gov; shelley_hall@nps.gov; lochen_wood@nps.gov; thomas_flanagan@nps.gov
Subject: National Park Service Comments, Proposed Establishment and Expansion of Military Airspace in Support of the Oregon Air National Guard, Portland International Airport and Kingsley Field

Dear Sir/Madam,

Attached please find National Park Service comments on the NOI for the Proposed Establishment and Expansion of Military Airspace in Support of the Oregon Air National Guard, Portland International Airport, Portland, and Kingsley Field, Klamath Falls.

If you have questions, please contact Shelley Hall at shelley_hall@nps.gov or Lochen Wood at lochen_wood@nps.gov.

United States Department of the Interior

NATIONAL PARK SERVICE
John Day Fossil Beds National Monument
32651 Hwy 19
Kimberly, Oregon 97848

L7619 (JODA)

July 12, 2013

Robert Dogan, National Guard Bureau/A7AM
3501 Fetchet Ave.
Joint Base
Andrews, MD 20762-5157
ang.env.comments@ang.af.mil

Re: Notice of Intent to Prepare, Environmental Impact Statement, Proposed Establishment and Expansion of Military Airspace in Support of the Oregon Air National Guard, Portland International Airport, Portland, and Kingsley Field, Klamath Falls, ER-13/0349

Dear Mr. Dogan,

Thank you for the opportunity to comment on the Notice of Intent to prepare an Environmental Impact Statement for Proposed Establishment and Expansion of Military Airspace in Support of the Oregon Air National Guard, Portland International Airport, Portland, and Kingsley Field, Klamath Falls. The proposal includes additions to existing airspace and new airspace located over John Day Fossil Beds National Monument, Lewis & Clark National Historic Park, and Lewis & Clark National Historic Trail. These parks and the National Park Service (NPS) are tasked with managing, protecting and restoring natural and cultural resources within the park units, including the acoustic environment and soundscape.

The NPS manages soundscapes based on the 2006 Management Policies, which include Soundscapes Management in Section 4.9 and Cultural Soundscapes in Section 5.3.1.7. The policies state: "The Service will restore to the natural condition wherever possible those park soundscapes that have become degraded by unnatural sounds (noise), and will protect natural soundscapes from unacceptable impacts."

We understand that at this stage in the process the Oregon Air National Guard would not include information in the Notice of Intent regarding how the environmental impact analysis would be conducted. However, we are aware that typically the Air National Guard uses the day-night average sound level (DNL) metric in their environmental impact assessments. DNL is an energy-based noise averaging metric widely used by the Federal Aviation Administration (FAA) and the Department of Defense as the primary means for determining the cumulative noise energy exposure of individuals to noise resulting from aviation activities. Hence, thresholds of significance that have been established by the FAA are based on community response. FAA Order 1050.1E notes that special consideration needs to be given to the evaluation of the significance of noise impacts on noise sensitive areas within national parks. Since assumptions regarding DNL levels are community-based in relation to airports, this metric is not adequate to assess impacts of noise to park resources, values and visitor experience.

The NPS mission to conserve park resources and values unimpaired is a different standard than significance as defined by FAA and other agencies. In recognition of the agencies' differences in mission and acknowledgement that special consideration needs to be given to the evaluation of noise impacts on noise sensitive areas, it is imperative to provide information in the EIS for NPS to be able characterize the noise impacts from the proposed action and alternatives. Only then can park managers make decisions about impacts to park resources, values and visitor experience. NPS uses audibility based metrics, "time above" metrics, or single event metrics, such as SEL, in order to express the time the sound level is above ambient. This takes into account the duration of aircraft noise events, the number of aircraft noise events, and the absolute sound level of events. Time above metrics correlate better with flight operations than day-night average metrics, which obscure the dynamic range of acoustic events (www.fican.org/pdf/HanscomNoise.pdf). These supplemental metrics would also better satisfy the requirements under the National Environmental Policy Act (NEPA) to characterize impacts to the environment in terms of intensity, context and duration (40 CFR 1508.27).

The American public comes to parks with natural quiet in mind. They come for the soothing effect of a gurgling stream, a delicate bird song, or the rustle of leaves on a fall day. In fact, a majority of Americans say one of the most important reasons for preserving national parks is to provide opportunities to experience natural peace and the sounds of nature (Haas, G., & Wakefield, T. 1998. *National parks and the American public: a national public opinion survey on the national park system.* National Parks and Conservation Association, Colorado State University, Washington, D.C., Fort Collins, CO; and National Park Service. 1995. *Report to Congress, Report on Effects of Aircraft Overflights on the National Park System.* US Department of Interior, Washington, DC.

John Day Fossil Beds National Monument is a particularly quiet park unit in Oregon. It is far from urban, industrial or transportation sound sources and is a place where visitors have opportunities to experience natural sounds in an unimpaired condition. The sounds of civilization are generally confined to developed areas and specific hours of the day. Any addition to the ambient sounds levels from military overflights could impact visitor experience, wildlife behaviors and the overall acoustic environment of the park.

We seek mutually beneficial solutions related to impacts associated with the proposed project - solutions that articulate how natural and cultural values interrelate in healthy ecosystems/cultural landscapes, and how public enjoyment of these places as well as the need to ensure realistic training needed by the Oregon Air National Guard can be part of a strategy for ensuring the resources are protected unimpaired for future generations. NPS has worked with the Air National Guard through the Regional Airspace/Range Council meetings regarding military overflight issues and has found the Air National Guard to be very receptive to NPS concerns and willing to find mutually acceptable solutions. We have every confidence that this proactive interagency relationship will continue throughout this NEPA process and look forward to working with the Oregon Air National Guard regarding NPS concerns about the proposed establishment and expansion of military airspace in support of the Oregon Air National Guard.

Thank you very much for the opportunity to comment on this NOI. Please feel free to contact me at shelley_hall@nps.gov or 541-987-2333 or Lochen Wood, Natural Sounds & Night Skies Environmental Protection Specialist at lochen_wood@nps.gov or 970-267-2121.

Sincerely,

Shelley Hall

Shelley Hall
Superintendent

cc: Lochen Wood, NPS
Alan Schmierer, NPS PWR
Craig Ackerman, NPS CRLA

-----Original Message-----
From: noreply@nps.gov [mailto:noreply@nps.gov]
Sent: Wednesday, July 10, 2013 10:19 AM
To: ANGRC/NGB/A7A NEPA COMMENTS
Cc: alan_schmierer@nps.gov; ellen_singleton@nps.gov
Subject: No NPS Comments, ER-13/0349: Proposed Establishment and Expansion of Military Airspace in Support of the Oregon Air National Guard, Portland International Airport, Portland, and Kingsley Field, Klamath Falls

Dear Sir/Madam,

The NPS has no comments on ER-13/0349, the Proposed Establishment and Expansion of Military Airspace in Support of the Oregon Air National Guard, Portland International Airport, Portland, and Kingsley Field, Klamath Falls.

If you have questions, please contact Alan Schmierer (REC) at Alan_Schmierer@nps.gov.

-----Original Message-----
From: Tom V Peterson [mailto:tom.v.peterson@state.or.us]
Sent: Wednesday, June 26, 2013 3:55 PM
To: ANGRC/NGB/A7A NEPA COMMENTS
Subject: Oregon Airspace Initiative

Mr. Robert Dogan

NGB/A7AM

Shepperd Hall

Tom Peterson

Cottonwood Canyon State Park Manager

Box 32, Wasco, Or 97065

Dear Mr. Dogan,

I am writing to you about the proposed Redhawk fly zones A, B and C. Cottonwood Canyon is Oregon State Park's newest park, slated to open on Sept. 25. It is currently an 8,000 acre property in the John Day River Valley. The property falls both north and south from where Highway 206 crosses the John Day. There is potential to add 10,000 more acres for a total of approximately 20,000 public acres. Again, all of this property lies within the John Day River Valley north and south of Highway 206, where it crosses the John Day River.

As it was explained during the scoping meeting in Condon, there would be about 58 hours of flight time within the Redhawk fly zones, and that planes would be operating at 11,000 feet Median Sea Level. The timing of these flights would mostly fall between November and March.

While it appears this will have little effect on our visitors and we support a strong civil defense, we also remain concerned that the noise from jets may take away from our visitor's experience. We would appreciate a chance to continue to provide comments as well as be informed of the public process.

Sincerely,

Tom Peterson

Tom Peterson
Cottonwood Canyon State Park
PO Box 32, Wasco, Or 97065
541-705-7129
tom.v.peterson@state.or.us

LEO M. DROZDOFF, P.E.
Director
Department of Conservation and
National Resources

REBECCA L PALMER
Acting State Historic Preservation Officer

BRIAN SANDOVAL
Governor

STATE OF NEVADA

Address Reply to:
901 S. Stewart St, Suite 5004
Carson City, NV 89701-5248
Phone: (775) 684-3448
Fax: (775) 684-3442

www.nvshpo.org

DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES

STATE HISTORIC PRESERVATION OFFICE

July 5, 2013

Robert Dogan
NGB/A7AM
Shepperd Hall
3501 Fetchet Avenue
Joint Base Andrews, Maryland 20762-5157

RE: National Historic Preservation Act, Section 106 Consultation: Oregon Airspace Initiative – Oregon Air National Guard Proposed Airspace Establishment and Modification. Undertaking # 2013-2749.

Dear Mr. Dogan:

The Nevada State Historic Preservation Office (SHPO) has reviewed the subject documents in compliance with Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended. The SHPO offers the following comments:

All of the alternatives, with the exception of Alternative D, include Nevada airspace; therefore, the SHPO's comments do not apply should Alternative D be selected for the above-mentioned undertaking.

The SHPO notes that consultation with the affected Native American representatives has been initiated. If this consultation results in the identification of properties of religious or cultural significance that could be affected by the undertaking, the National Guard Bureau (NGB) must consult with this office concerning the National Register eligibility and possible effects of the undertaking. The SHPO would also recommend including the Reno-Sparks Indian Colony in this consultation effort. Michon Ebon is currently the Reno-Sparks Indian Colony Tribal Historic Preservation Officer with the following contact information:

Michon Ebon
Reno-Sparks Indian Colony
Tribal Historic Preservation Office
Cultural Resource Program
1937 Prosperity Street
Reno, Nevada 89502
(775) 785-1363 ext: 5402
meben@rsic.org

The agency must consult with affected members of the public and representatives of organizations that have a demonstrated interest in historic properties that could be affected by the undertaking (36 CFR Part 800.4.c.5.). If this consultation results in the identification of historic properties that could be affected by the undertaking, the NGB must consult with this office concerning the National Register

eligibility and possible effects of the undertaking. The SHPO would recommend offering an opportunity to comment on this undertaking to the representatives of the following organizations:

Bureau of Land Management – Winnemucca District Office

Bureau of Land Management – Surprise Field Office

NPS National Trails-Intermountain Region
Salt Lake City Field Office

Oregon-California Trails Association

If you have any questions concerning this correspondence, please contact Jessica Axsom by phone at (775) 684-3445 or by e-mail at jaxsom@shpo.nv.gov.

Sincerely,

Jessica Axsom
Review and Compliance Archaeologist

-----Original Message-----
From: Dogan, Robert L Civ USAF ANG NGB/A7AM [mailto:robert.dogan@ang.af.mil]
Sent: Tuesday, June 25, 2013 12:33 PM
To: Chen, Andrew L
Cc: Scherer, Devin CTR USAF ANG NGB/A7
Subject: PORTLAND EIS - OR Parks & Rec Correspondence

The subject correspondence was received today. See attachment.

//SIGNED//
ROBERT L. DOGAN, REM
AIR NATIONAL GUARD READINESS CENTER - SHEPPERD HALL PLANS AND REQUIREMENTS BRANCH - ASSET MANAGEMENT DIVISION NGB/A7AM
3501 Fetchet Avenue
Joint Base Andrews MD 20762-5157
Email: Robert.Dogan@ang.af.mil
Voice: (240) 612-8859 or DSN 612-8859
Fax: (240) 612-7696 or DSN 612-7696

Oregon
John A. Kitzhaber, MD, Governor

Parks and Recreation Department
State Historic Preservation Office
725 Summer St NE, Ste C
Salem, OR 97301-1266
(503) 986-0690
Fax (503) 986-0793
www.oregonheritage.org

June 20, 2013

Mr. Robert Dogan
NGB/A7AM Shepperd Hall
3501 Fetchet Ave
Joint Base Andrews, MD 20762-5157

RE: SHPO Case No. 13-0875
Airspace Estaqblishment & Modification Over Oregon, Nevada & SW Washington
EIS/establish & expand special use area over portions of Oregon
National Guard Bureau
Multiple legals, Various, Various County

Dear Mr. Dogan:

Our office recently received your letter about the project referenced above. I have reviewed your letter and agree that the project will have no effect on any known archaeological resources. No further archaeological research is needed with this project.

Please be aware, however, that if during development activities you or your staff encounters any cultural material (i.e., historic or prehistoric), all activities should cease immediately and an archaeologist should be contacted to evaluate the discovery. Under state law (ORS 358.905-955) it is a Class B misdemeanor to impact an archaeological site on public or private land in Oregon. Impacts to Native American graves and cultural items are considered a Class C felony (ORS 97.740-760). If you have any questions regarding any future discovery or my letter, feel free to contact our office at your convenience.

Sincerely,

Dennis Griffin, Ph.D., RPA
State Archaeologist
(503) 986-0674
dennis.griffin@state.or.us

-----Original Message-----
From: Mark Freese [mailto:markfreese@ndow.org]
Sent: Monday, July 08, 2013 1:52 PM
To: ANGRC/NGB/A7A NEPA COMMENTS
Subject: Oregon Airspace Initiative

Mr. Robert Dogan,

Attached is a letter with the Nevada Department of Wildlife's comments regarding the Oregon Airspace Initiative. Please let us know if you have any questions.

Thanks

Mark Freese

Western Region Supervising Habitat Biologist

Nevada Department of Wildlife

1100 Valley Road

Reno, NV 89512

P: (775) 688-1145

F: (775) 688-1889

"…I feel that the high tension at which the average man has been living is wrecking entirely too many nervous systems. Hunting and fishing is the best nerve tonic I know, and I believe that a greater opportunity for the average citizen to engage in this type of outdoor recreation would greatly promote both the health and happiness of our people." A. Willis Robertson

BRIAN SANDOVAL
Governor

STATE OF NEVADA
DEPARTMENT OF WILDLIFE
1100 Valley Road
Reno, Nevada 89512
(775) 688-1500 • Fax (775) 688-1595

TONY WASLEY
Director

RICHARD L. HASKINS, II
Deputy Director

PATRICK O. CATES
Deputy Director

July 8, 2013

Robert Dogan
NGB/A7AM
Shepperd Hall
3501 Fetchet Avenue
Joint Base Andrews Maryland 20762-5157

Dear Mr. Dogan:

Re: Oregon Airspace Initiative

The Nevada Department of Wildlife (NDOW) appreciates the opportunity to provide scoping comments on the Oregon Airspace Initiative EIS. NDOW understands and supports the military's mission with the hope that we can provide information and make recommendations that help guide management efforts set forth in the EIS. Specifically, it is our desire to ensure that wildlife resource values are conserved and that wildlife conservation measures are incorporated into this planning document.

We recommend including an assessment of current and proposed military actions and implications regarding wildlife. We recommend that such an assessment link military actions with wildlife impacts and assess these impacts in terms of the temporal, spatial, and magnitude of the impact. In particular, we are interested in noise levels from military activities and their impact on wildlife with noise sensitivities. Based upon the impact analysis, we recommend avoiding and minimizing wildlife impacts as necessary. For example, noise generated from low flying aircraft may impact sage-grouse during the breeding season. Providing an appropriate noise buffer around sage-grouse leks during while birds are strutting could avoid disturbance activities to the birds.

NDOW appreciates the opportunity to provide scoping comments on the Oregon Airspace Initiative EIS and is optimistic that our recommendations will be considered. If you have questions, concerns, or need additional information, please let us know.

Sincerely,

Mark Freese
Supervisory Habitat Biologist

-----Original Message-----
From: Ted Buerger [mailto:ted_buerger@fws.gov]
Sent: Friday, June 28, 2013 12:53 PM
To: ANGRC/NGB/A7A NEPA COMMENTS
Cc: Nancy Gilbert; Daniel Elbert; David Leal; Laura Todd
Subject: Oregon Airspace Initiative

Mr. Dogan:

The USFWS's Oregon Fish and Wildlife Office received the EIS scoping letter for the subject activity and we offer the following comments for your consideration regarding potential effects to species under our jurisdiction.

At http://www.fws.gov/pacific/eagle/otheractivity.html you will note that aircraft may not be operated within 1,000 feet of a bald eagle nest during nesting season (January 1 to August 15) without a permit. Given that some of the Juniper East Low MOA floor is 500 feet AGL, this permitting requirement might impact Oregon Air National Guard activities. The USFWS is developing similar requirements for golden eagles but they are not yet in place and no permitting is currently required. In the interim, we are recommending that aircraft not operate within 1,000 feet of a golden eagle nest during nesting season (January 1 to August 15).

The Eel MOA zone described in the scoping letter overlaps Snowy Plover Management Areas that are being developed as part of Oregon Parks and Recreation Department's Habitat Conservation Plan; these areas are intended to facilitate the growth and expansion of the western snowy plover population northward along the Oregon coast. We recommend that aircraft fly no lower than 1,000 feet above plover nesting areas. The 8,000-foot floor described in the scoping letter is well above the altitude threshold that we are concerned with for western snowy plover. Although the scoping letter states that the Proposed Action involves airspace only, we want to note for you that takeoff and landing near snowy plover nesting or winter grounds present situations that may expose snowy plovers to increased risks. In case you need to address this in some way in your analysis, we offer the following language from the western snowy plover recovery plan regarding low-flying aircraft.

Western snowy plover

Low-flying aircraft (e.g., within 152 meters [500 feet] of the ground) can

cause disturbances to breeding and wintering western snowy plovers (Charadrius nivosus nivosus). Hatch (1997) found that all types of low-flying aircraft potentially may be perceived by western snowy plovers as predators. She also found that the general response of roosting western snowy plovers to low-flying aircraft at Ocean Beach, San Francisco, California, was to increase vigilance and crouch in depressions on the beach, whereas foraging western snowy plovers frequently took flight. Helicopters can cause excessive noise, which can also disturb western snowy plovers, even at an altitude of 152 meters (500 feet) (Howard et al. 1993, Watkins 1999).

Hatch, D. 1997. Draft snowy plover management plan for Ocean Beach, Golden Gate National Recreation Area. 58 pp. plus tables and appendices.

Howard, J.M., R.J. Safran, and S.M. Melvin. 1993. Biology and conservation of piping plovers at Breezy Point, New York. Unpublished report. Department of Forestry and Wildlife Management, University of Massachusetts, Amherst. 34 pp.

Watkins, J. 1999. U.S. Fish and Wildlife Service, Arcata, California. Electronic message to U.S. Fish and Wildlife Service, Sacramento, California, on the working draft of the Western Snowy Plover Recovery Plan. 11 pp.

If you have any questions related to our comments about eagles, please contact David Leal at 503-231-6179, or david_leal@fws.gov. Any questions about western snowy plover should be directed to Dan Elbert of our Newport Field Office at 541-867-4558, ext. 239, or daniel_elbert@fws.gov.

Thank you for the opportunity to comment on the scoping of your activity.

Ted Buerger

Theodore T. Buerger, Ph.D.

Acting Deputy State Supervisor

Environmental Contaminants Division Manager

U.S. Fish and Wildlife Service

Oregon Fish and Wildlife Office

2600 SE 98th Avenue, Suite 100

Portland, Oregon 97266

Phone: 503-231-6179

FAX: 503-231-6195

ted_buerger@fws.gov

-----Original Message-----
From: David Leal [mailto:david_leal@fws.gov]
Sent: Friday, June 28, 2013 2:28 PM
To: Ted Buerger; ANGRC/NGB/A7A NEPA COMMENTS
Cc: Nancy Gilbert; Daniel Elbert; Laura Todd
Subject: RE: Oregon Airspace Initiative

Mr. Donegan, I just wanted to try and clarify one thing regarding disturbance to nesting golden eagles. Disturbance of nesting golden eagles (flights under 1000 feet) may also result in take for which a permit would be required. Because we currently have a "no net loss" threshold for golden eagles we generally have not done disturbance permits for them, however, if disturbance take is permitted there would likely need to be offsetting mitigation for any anticipated take.

Feel free to call me or Jeff Everett if you would like to talk more about the specifics of eagle disturbance.

David A. Leal

Oregon Fish and Wildlife Office

U.S. Fish and Wildlife Service

2600 SE 98th Ave. Suite 100

Portland, OR 97266

(503) 231-6179 office

(503) 807-8597 cell

From: Ted Buerger [mailto:ted_buerger@fws.gov]
Sent: Friday, June 28, 2013 9:53 AM
To: ang.env.comments@ang.af.mil
Cc: Nancy Gilbert; Daniel Elbert; David Leal; Laura Todd
Subject: Oregon Airspace Initiative

Mr. Dogan:

The USFWS's Oregon Fish and Wildlife Office received the EIS scoping letter for the subject activity and we offer the following comments for your

consideration regarding potential effects to species under our jurisdiction.

At http://www.fws.gov/pacific/eagle/otheractivity.html you will note that aircraft may not be operated within 1,000 feet of a bald eagle nest during nesting season (January 1 to August 15) without a permit. Given that some of the Juniper East Low MOA floor is 500 feet AGL, this permitting requirement might impact Oregon Air National Guard activities. The USFWS is developing similar requirements for golden eagles but they are not yet in place and no permitting is currently required. In the interim, we are recommending that aircraft not operate within 1,000 feet of a golden eagle nest during nesting season (January 1 to August 15).

The Eel MOA zone described in the scoping letter overlaps Snowy Plover Management Areas that are being developed as part of Oregon Parks and Recreation Department's Habitat Conservation Plan; these areas are intended to facilitate the growth and expansion of the western snowy plover population northward along the Oregon coast. We recommend that aircraft fly no lower than 1,000 feet above plover nesting areas. The 8,000-foot floor described in the scoping letter is well above the altitude threshold that we are concerned with for western snowy plover. Although the scoping letter states that the Proposed Action involves airspace only, we want to note for you that takeoff and landing near snowy plover nesting or winter grounds present situations that may expose snowy plovers to increased risks. In case you need to address this in some way in your analysis, we offer the following language from the western snowy plover recovery plan regarding low-flying aircraft.

Western snowy plover

Low-flying aircraft (e.g., within 152 meters [500 feet] of the ground) can cause disturbances to breeding and wintering western snowy plovers (Charadrius nivosus nivosus). Hatch (1997) found that all types of low-flying aircraft potentially may be perceived by western snowy plovers as predators. She also found that the general response of roosting western snowy plovers to low-flying aircraft at Ocean Beach, San Francisco, California, was to increase vigilance and crouch in depressions on the beach, whereas foraging western snowy plovers frequently took flight.
Helicopters can cause excessive noise, which can also disturb western snowy plovers, even at an altitude of 152 meters (500 feet) (Howard et al. 1993, Watkins 1999).

Hatch, D. 1997. Draft snowy plover management plan for Ocean Beach, Golden Gate National Recreation Area. 58 pp. plus tables and appendices.

Howard, J.M., R.J. Safran, and S.M. Melvin. 1993. Biology and conservation of

piping plovers at Breezy Point, New York. Unpublished report. Department of Forestry and Wildlife Management, University of Massachusetts, Amherst. 34 pp.

Watkins, J. 1999. U.S. Fish and Wildlife Service, Arcata, California. Electronic message to U.S. Fish and Wildlife Service, Sacramento, California, on the working draft of the Western Snowy Plover Recovery Plan. 11 pp.

If you have any questions related to our comments about eagles, please contact David Leal at 503-231-6179, or david_leal@fws.gov. Any questions about western snowy plover should be directed to Dan Elbert of our Newport Field Office at 541-867-4558, ext. 239, or daniel_elbert@fws.gov.

Thank you for the opportunity to comment on the scoping of your activity.

Ted Buerger

Theodore T. Buerger, Ph.D.

Acting Deputy State Supervisor

Environmental Contaminants Division Manager

U.S. Fish and Wildlife Service

Oregon Fish and Wildlife Office

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APPENDIX C

INTERGOVERNMENTAL REVIEW

APPENDIX C
INTERGOVERNMENTAL REVIEW

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Department
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Ms. Jackie Andrew, Assistant Director of Resource, Planning, and Monitoring
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Pacific Northwest Region
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Ms. Rebecca L. Palmer, Acting State Historic Preservation Officer
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Mr. Matt Crall, Planning Services Division Manager
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Salem, OR 97301

Ms. Coleen Cripps, Administrator
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Nevada Division of Environmental Protection
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Ms. Allyson Brooks, Ph.D.
State Historic Preservation Officer, DAHP Director
Department of Archaeology and Historic Preservation
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Olympia, WA 98504-8343

FEDERALLY RECOGNIZED TRIBES

Mr. Les Minthorn
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Pendleton, OR 97801

Ms. Randi DeSoto
Tribal Chairwoman
Summit Lake Paiute Tribe
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Sparks, NV 89431

Ms. Delores Pigsley
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Mr. Gary Frost
Tribal Chair
Klamath Tribes
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Mr. Reynold Leno
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Mr. Dan Courtney
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Ms. Brenda Meade
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Mr. Bob Garcia
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Ms. Sally Bird, Cultural Resources Manager
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APPENDIX D

DESCRIPTION OF AIRSPACES

FAAO 7400.2J
Section 3. SUA PROPOSALS

21-3-3. PROPOSAL CONTENT

a. Proponent's Transmittal Letter. See proceeding**.**

b. Area Description.

W-570A Warning Area, OR Renamed from W-570

Boundaries.	Remain the same as published
Altitudes.	Remain the same
Times of use.	Remain the same
Controlling agency.	Remain the same
Using agency.	**Change to:** USAF, Air National Guard, 142 FW, Portland ANGB, OR

W-570B Warning Area, OR

Boundaries.	Beginning	at lat. 45°51'35"N, long. 125°30'00"W; to lat. 46°20'00"N, long. 124°46'00"W; to lat. 46°20'00"N, long. 124°21'00"W; thence south 12nm from and parallel to US shoreline to lat. 46°09'59"N, long. 124°20'05"W; to lat. 45°44'59"N, long. 125°30'05"W; to the point of beginning.
Altitudes.		1,000 feet MSL up to but not including FL500
Times of use.		Intermittent by NOTAM
Controlling agency.		FAA, Seattle ARTCC
Using agency.		USAF, Air National Guard, 142 FW, Portland ANGB, OR

W-570C Warning Area, OR

Boundaries.	Beginning	at lat. 46°09'59"N, long. 124°20'05"W;

thence south 12nm from and parallel to US shoreline
to lat. 45°58’00”N, long. 124°15’53”W;
thence south 12nm from and parallel to US shoreline
to lat. 45°36’00”N, long. 124°13’29”W;
thence south 12nm from and parallel to US shoreline
to lat. 45°12’00”N, long. 124°15’26”W;
thence south 12nm from and parallel to US shoreline
to lat. 44°41’53”N, long. 124°20’22”W;
to lat. 44°37’59”N, long. 124°28’04”W;
to lat. 44°50’35”N, long. 124°21’21”W;
to lat. 44°54’02”N, long. 124°20’04”W;
to the point of beginning.

Altitudes. 11,000 feet MSL up to but not including FL500

Times of use. Intermittent by NOTAM

Controlling agency. FAA, Seattle ARTCC

Using agency. USAF, Air National Guard, 142 FW, Portland ANGB, OR

W-570D Warning Area, OR

Boundaries. Beginning at lat. 45°10’00”N, long. 126°34’30”W;
to lat. 45°17’00”N, long. 126°22’00”W;
to lat. 45°51’35”N, long. 125°30’00”W;
to lat. 45°44’59”N, long. 125°30’05”W;
to lat. 44°10’59”N, long. 125°30’05”W;
to lat. 44°04’00”N, long. 125°48’30”W;
to lat. 43°43’30”N, long. 126°28’00”W;
to lat. 43°55’00”N, long. 126°37’00”W;
to lat. 45°00’00”N, long. 126°30’00”W;
to the point of beginning.

Altitudes. 1,000 feet MSL up to but not including FL500

Times of use. Intermittent by NOTAM

Controlling agency. FAA, Seattle ARTCC

Using agency.		USAF, Air National Guard, 142 FW, Portland ANGB, OR

Eel A MOA, OR

Boundaries.	Beginning	at lat. 46°20’00”N, long. 124°21’00”W; to lat. 46°20’00”N, long. 123°50’00”W; to lat. 46°07’00”N, long. 123°30’00”W; to lat. 45°58’00”N, long. 123°30’00”W; to lat. 45°58’00”N, long. 124°15’53”W; thence north 12nm from and parallel to US shoreline to the point of beginning. to lat. 46°09’59”N, long. 124°20’05”W; thence north 12nm from and parallel to US shoreline to the point of beginning.
Altitudes.		11,000 feet MSL up to but not including FL180
Times of use.		Intermittent by NOTAM
Controlling agency.		FAA, Seattle ARTCC
Using agency.		USAF, Air National Guard, 142 FW, Portland ANGB, OR

Eel B MOA, OR

Boundaries.	Beginning	at lat. 45°58’00”N, long. 124°15’53”W; to lat. 45°58’00”N, long. 123°30’00”W; to lat. 45°36’00”N, long. 123°30’00”W; to lat. 45°36’00”N, long. 124°13’29”W; thence north 12nm from and parallel to US shoreline to the point of beginning.
Altitudes.		11,000 feet MSL up to but not including FL180
Times of use.		Intermittent by NOTAM
Controlling agency.		FAA, Seattle ARTCC
Using agency.		USAF, Air National Guard, 142 FW, Portland ANGB, OR

Eel C MOA, OR

Boundaries.	Beginning	at lat. 45°36'00"N, long. 124°13'29"W; to lat. 45°36'00"N, long. 123°30'00"W; to lat. 45°12'00"N, long. 123°30'00"W; to lat. 45°12'00"N, long. 124°15'26"W; then north 12nm from and parallel to US shoreline to the point of beginning.
Altitudes.		11,000 feet MSL up to but not including FL180
Times of use.		Intermittent by NOTAM
Controlling agency.		FAA, Seattle ARTCC
Using agency.		USAF, Air National Guard, 142 FW, Portland ANGB, OR

Eel D MOA, OR

Boundaries.	Beginning	at lat. 45°12'00"N, long. 124°15'26"W; to lat. 45°12'00"N, long. 123°30'00"W; to lat. 45°07'00"N, long. 123°30'00"W; to lat. 44°41'53"N, long. 124°20'22"W; then north 12nm from and parallel to US shoreline to the point of beginning.
Altitudes.		11,000 feet MSL up to but not including FL180
Times of use.		Intermittent by NOTAM
Controlling agency.		FAA, Seattle ARTCC
Using agency.		USAF, Air National Guard, 142 FW, Portland ANGB, OR

c. Airspace Statement of Need and Justification.

1. Describe the purpose and need for the proposed airspace.

Currently, there is a need to modify the configuration and vertical limits of W-570 and convert the Bass / Bass South ATCAAs into Warning Areas to more effectively meet the training requirements for the 142d Fighter Wing (FW). Additionally, due to frequent

persistent poor weather which causes dangerous sea states and prohibits over-water training due to Air Force regulations, there is a need to establish a MOA underneath the existing Eel ATCAA and to expand the vertical confines of the existing airspace. By establishing this increased airspace it will provide the 142 FW a viable training area, close to base, to conduct mission requirements of Basic Fighter Maneuvers (BFM) and Air Combat Maneuvers (ACM) training when weather conditions preclude over-water flights.

The 142 FW employs a fourth generation F-15C Single Seat Fighter Jet which can rapidly transit altitudes from the surface to 50,000 feet and fly at speeds exceeding 12 NM per minute. Although, the over-water airspace of W-570 is uniquely suited for air-to-air combat training by providing the pilots the ability to train high and low altitude, conduct supersonic flight tactics and featureless terrain, the current boundaries severely limit the tactical training available. W-570 is roughly 90 by 50 NM in size, which was adequate for training with F-4 Phantoms and older versions of the F-15. The advancements in avionics and weapons systems in the current generation of the F-15 have made the vertical and lateral boundaries of W-570 constrained and are insufficient to maximize pilot proficiency and experience to meet current training requirement.

The W-570 Bass/ Bass South ATCAAs proposal is a unique situation in that there are no changes to the current airspace lateral dimensions or altitudes based on scheduling agreements. Yet this configuration change dramatically improves the realistic mission-oriented training of the 142 FW pilots. As advancements in threat technologies and tactics have improved, the requirement to train at all altitudes and longer ranges has increased. By simply reconfiguring the internal divisions of W-570 Bass/Bass South ATCAAs and increasing the vertical dimensions of Eel ATCAA you instantly provided the increased training and flexibility of scheduling. This airspace also improves the viability of the Oregon ANG and the 142 FW to potentially receive the latest Fifth Generation aircraft like the F-22 Raptor or F-35 Lightning II.

Adjustments to the W-570 Bass/ Bass South ATCAAs are proposed to be broken up as W-570A, B, C, and D segments. These segments would only be activated on an as-needed basis individually, or as a whole, based upon mission requirements. This increased flexibility would allow for more responsible and efficient stewardship of the airspace by the 142 FW by not activating un-needed extra airspace. For example, if a training mission requirement only called for basic fighter maneuvers (BFM), which does not require large volumes of airspace, then W-570 C and D would not be activated while only W-570 A and B are. If rough seas or high wind velocity are reported in only one of the segments of W-570, a different segment could be activated individually and provide the appropriate training opportunities.

As mentioned to above, weather conditions over the Pacific Ocean, referred to as sea-states, prohibit training when wind velocity are greater than 25 knots and sea conditions that have wind-wave heights exceeding 5 feet. Due to operational safety guidelines contained in Air Force Instructions (AFI), these conditions prohibit over-water training operations, specifically in W-570 and the Bass/Bass South ATCAAs. Historically on

average, sea-states were out of limits approximately 23 percent of the scheduled time (2008-2011); reaching as high as 75 percent in a given month. In addition to inclement weather, factors such as adversary support, naval operations, and over-land training requirements further restrict airspace availability, requiring the 142 FW to utilize compatible backup airspace elsewhere, primarily utilizing the Juniper/Hart MOA Complex. This annual average of unavailability represents a significant impact to training.

Options for other suitable airspace areas are limited by their distance from Portland, size, or by scheduling needs of other military units in the region. In most cases, for distance, scheduling and availability, the only suitable over-land airspace is the Eel ATCAA, located adjacent to W-570 along the Oregon coast. Even though the over-land portions of Eel ATCAA are available when sea states preclude over-water training, it is rarely utilized (except for air-to-air refueling) due to the limited (i.e., vertically constrained) altitude structure of 18,000 feet MSL to 27,000 feet MSL. This limited altitude block provides almost no benefit for F-15 mission requirement subsets of Advanced Handling Considerations (AHC), BFM, and ACM, and cannot accommodate larger Offensive Counter-Air (OCA) or Defensive Counter-Air (DCA) training missions. Since realistic combat training requires a block of altitude much lower and higher than what is currently available within Eel ATCAA, the 142 FW currently utilizes the Juniper South and Hart North MOAs for BFM, ACM, Tactical Intercepts (TI), Aerospace Control Authority (ACA), OCA, and DCA training missions as a poor-weather, over-land backup airspace. The nearest border of Juniper South and Hart North MOAs however, is located approximately 170 NM from Portland. The closest over-land airspace suitable for BFM is the the Boardman MOA which is located 140 NM away, and the closest over-land airspace most appropriate to support both BFM and ACM airspace when not using the Juniper/Hart or Boardman MOAs is the Olympic MOA, which is also located 140 NM from Portland. The large distance and length of time required to reach these training areas cause mission degradation. Between 22 and 36 percent of fuel that could be used for training is expended during transit to and from the Juniper/Hart, Boardman, or Olympic MOAs. This results in reduced time for training in the MOA and less flexibility to repeat a difficult mission task, which be the difference between a successful training flight and a failed mission.

With the over-water weather conditions unique to the Northwest and the lack of a suitable over-land alternative, approximately 320 additional transit hours are flown by the 142d FW to and from the Juniper/Hart MOA complex per year. This equates to nearly 10 percent of the 142 FW's annual flying hour allocation and is enough hours to maintain three pilot's combat mission ready requirements throughout the year. These hours – if reallocated – would be used to better provide 142 FW pilots with sufficient flying hours to achieve higher mission readiness. Finally, increased transit time results in additional fuel and maintenance costs for the F-15. This issue is further exacerbated by the implementation of the Domestic Reduced Vertical Separation Minimum (DRVSM) airspace. The long distances flown to other over-land airspaces that would normally be flown at higher altitudes, to conserve fuel, are now more difficult to schedule due to the FAA-mandated procedures for non- DRVSM approved aircraft such as the F-15.

Potential suitable airspace for the 142 FW include the Juniper/Hart MOA Complex and the Boardman and Olympic MOAs which all exceed the researched maximum desired distances to training airspace (RAND Corporation 2001). Airspace areas that meet the prescribed maximum desired distance criteria from the 142 FW in Portland that could potentially be modified include W-570 and the Bass/Bass South ATCAAs (both over-water) as well as the Eel ATCAA. Establishment of a new MOA underneath the existing Eel ATCAA would provide over-land training airspace that would comply with the maximum desired distance to airspace for training missions.

142 FW is the primary ACA, or alert squadron, for the Pacific Northwest Western Area Defense Sector (WADS). To maintain proficiency in operating air defense combat air patrols, protecting Temporary Flight Restrictions (TFR) for President of the United States (POTUS) support missions, and intercepts escorting distressed civilian aircraft, the 142 FW conducts weekly practice scrambles out of its alert facility. This end-to-end system training provides WADS controllers, PDX Tower, FAA TRACON, Seattle Center controllers, and pilots proficiency for this critical no fail mission in defense of the United States. Often, due to poor over-water weather conditions, this training is cancelled for lack of adequate airspace or the ability to move a supporting Target of Interest (TOI) to over-land airspace. These cancelations could be avoided by increasing the vertical confines of Eel ATCAA/MOA and therefor allowing increased training opportunity of the ACA mission.

Moreover, the majority of mission ready pilots in the 142 FW are what is known as, “traditional guardsmen.” Traditional guardsmen have full time employment outside the Air National Guard. This limits the number of days they are available to participate in training. Regardless, these pilots are required to perform the same RAP requirements as full time pilots but accomplish them with approximately only 20 percent of the flying opportunities. Consequently, when weather prohibits use of W-570 and Juniper/Hart MOAs are not available, the time constraints for these pilots increase the difficulty of maintaining their CMR status. Furthermore, the increased transit time and loss of on station training time available compounds this problem for our “traditional guardsmen.” This year, the 142 FW requested 3700 flying hours to maintain proficiency and conduct training requirements. The NGB has only authorized the 142 FW to fly 3319 hours for the year. Budgetary requirements are beginning to reduce the much needed flying hours and the trend is anticipated to only continue. As flight hours are reduced, the cumulative effect of 320 plus hours of transit time is magnified through the lack of on station training time available to each pilot. The ability to fly for a reduced time while maintaining, or increasing training time is profound in its ability to generate more sorties and improve the overall fighting ability of the unit.

In the current economic climate, Air National Guard units must find ways to maintain mission readiness and avoid losing critical capabilities by increasing training efficiency in difficult budgetary times. By creating alternative airspace closer to the home station, units are able to balance their needs against fiscal challenges and, in this case, increase training efficiency by as much as 36 percent per flying hour. To be good stewards of our tax-payers dollars it is appropriate to expand Eel ATCAA and create a

MOA to provide the 142 FW the ability to bolster the nation's combat effectiveness through reduce transit and increased on-station training time.

Reconfiguring the W-570 and Bass/ Bass South ATCAAs and the creation of Eel MOA and Eel ATCAA vertical expansion will allow the 142 FW to be to be good stewards of our tax-payers dollars, ensure the full implementation of the F-15's combat capability and tactics against current and future threats, and providing future mission operations compatibility with Fifth Generation aircraft. The increased training of the 142 FW in their primary airspace will insure the success of the United States in any future conflict or defense of the Pacific Northwest.

PROPOSED ACTION

Under the Proposed W-570, Bass ATCAA, and Bass South ATCAA Action, the vertical limits and lateral configuration of W-570, Bass ATCAA, and Bass South ATCAA would be modified within their existing boundaries to meet training requirements of the 142 FW. W-570 would be renamed as W-570A, a new segment to be named W-570C would be created adjacent to the eastern boundary of W-570A from 11,000 feet above Mean Sea Level (MSL) to FL 500, Bass ATCAA and Bass South ATCAA would be converted and reconfigured to W-570B and W-570D respectively and the floor of these segments would be lowered from FL 180 (18,000 feet MSL) to 1,000 feet MSL. The ceilings of W-570A as well the existing Bass South ATCAA (to be renamed W-570C and portion of W-570D) would remain at Flight Level (FL) 500 (50,000 feet MSL) while the ceiling of the existing Bass South ATCAA (remaining portion to be renamed W-570D) would be raised from FL 270 (27,000 feet MSL) to FL 500. The proposed modification of the W-570 and Bass/Bass South ATCAA Complex would not have an increase in total 142 FW sorties; however, it would result in increased operations and time spent within the airspace complex over existing conditions. This increase of approximately 253 hours annually within the airspace would be in part due to the expanded vertical limits of the airspace accommodating additional training operations that cannot currently be supported.

Under the Proposed Action, the western-most ~3 NM of the existing Eel ATCAA would be converted into W-570C and the vertical limits of Eel would be expanded to include airspace from 11,000 feet MSL to FL 500 (50,000 feet MSL). The proposed Eel MOAs would be established directly underneath the resulting configuration of Eel ATCAA from 11,000 feet MSL up to but not including FL 180 (18,000 feet MSL). In addition, the proposed Eel High ATCAAs would be established directly above the existing Eel ATCAA from FL 270 (27,000 feet MSL) to FL 500 (50,000 feet MSL). Finally, the Eel MOA/ATCAA Complex would be divided into four segments (A, B, C, and D). The proposed establishment and modifications to the Eel MOA/ATCAA Complex would not result in an increase of total of 142 FW scheduled sorties per year largely because W-570 would remain the primary airspace and the expanded horizontal limits of Eel remain mostly unchanged. Aircraft currently transit through this airspace on their way to W-570. The Eel MOA/ATCAA Complex would see an increase of activity of approximately

305 hours annually over existing conditions. This increase would be from additional training operations that cannot currently be supported inside the Eel ATCAA.

Aeronautical impact:

The proposed action will have minimal impact on Jet routes, civilian traffic or Victor Route 27 which runs below the existing Eel ATCAA. When the Eel MOA is in use, it would be active down to 11,000' which would impact VFR traffic on this route however this would remain only a backup option in poor weather conditions. Through a Letter of Agreement with Seattle ARTCC, when the Victor Routes are needed, controllers can curtail military operations in order to allow joint use of the airspace and ensure deconfliction. Additionally, coordination is already in place to de-conflict with other aircraft requiring transit through the airspace.

2. Joint use. The Airspace will be available for joint use. The FAA joint-use policy per FAAO 7400.2J para 21-1-8 will be recognized. A Letter of Agreement with Denver ARTCC will outline procedures for scheduling, activating, and de-activating the airspace.

d. Air Traffic Control Assigned Airspace (ATCAA). Yes, the existing ATCAAs will also be expanded to support the proposed airspace. The existing Bass ATCAA will be incorporated into the proposed W-570 complex.

Eel A ATCAA, OR

Boundaries.	Beginning	at lat. 46°20'00"N, long. 124°21'00"W; to lat. 46°20'00"N, long. 123°50'00"W; to lat. 46°07'00"N, long. 123°30'00"W; to lat. 45°58'00"N, long. 123°30'00"W; to lat. 45°58'00"N, long. 124°15'53"W; thence north 12nm from and parallel to US shoreline to the point of beginning. to lat. 46°09'59"N, long. 124°20'05"W; thence north 12nm from and parallel to US shoreline to the point of beginning.
Altitudes.		FL180 up to but not including FL270
Times of use.		Intermittent by NOTAM
Controlling agency.		FAA, Seattle ARTCC
Using agency.		USAF, Air National Guard, 142 FW, Portland ANGB, OR

Eel B ATCAA, OR

Boundaries.	Beginning	at lat. 45°58’00”N, long. 124°15’53”W; to lat. 45°58’00”N, long. 123°30’00”W; to lat. 45°36’00”N, long. 123°30’00”W; to lat. 45°36’00”N, long. 124°13’29”W; thence north 12nm from and parallel to US shoreline to the point of beginning.
Altitudes.		FL180 up to but not including FL270
Times of use.		Intermittent by NOTAM
Controlling agency.		FAA, Seattle ARTCC
Using agency.		USAF, Air National Guard, 142 FW, Portland ANGB, OR

Eel C ATCAA, OR

Boundaries.	Beginning	at lat. 45°36’00”N, long. 124°13’29”W; to lat. 45°36’00”N, long. 123°30’00”W; to lat. 45°12’00”N, long. 123°30’00”W; to lat. 45°12’00”N, long. 124°15’26”W; thence north 12nm from and parallel to US shoreline to the point of beginning.
Altitudes.		FL180 up to but not including FL270
Times of use.		Intermittent by NOTAM
Controlling agency.		FAA, Seattle ARTCC
Using agency.		USAF, Air National Guard, 142 FW, Portland ANGB, OR

Eel D ATCAA, OR

Boundaries.	Beginning	at lat. 45°12’00”N, long. 124°15’26”W; to lat. 45°12’00”N, long. 123°30’00”W; to lat. 45°07’00”N, long. 123°30’00”W; to lat. 44°41’53”N, long. 124°20’22”W; then north 12nm from and parallel to US shoreline to the point of beginning.

Altitudes. FL180 up to but not including FL270

Times of use. Intermittent by NOTAM

Controlling agency. FAA, Seattle ARTCC

Using agency. USAF, Air National Guard, 142 FW, Portland ANGB, OR

Eel A High ATCAA, OR

Boundaries. Beginning at lat. 46°20’00”N, long. 124°21’00”W;
to lat. 46°20’00”N, long. 123°50’00”W;
to lat. 46°07’00”N, long. 123°30’00”W;
to lat. 45°58’00”N, long. 123°30’00”W;
to lat. 45°58’00”N, long. 124°15’53”W;
thence north 12nm from and parallel to US shoreline to the point of beginning.
to lat. 46°09’59”N, long. 124°20’05”W;
thence north 12nm from and parallel to US shoreline to the point of beginning.

Altitudes. FL270 up to but not including FL500

Times of use. Intermittent by NOTAM

Controlling agency. FAA, Seattle ARTCC

Using agency. USAF, Air National Guard, 142 FW, Portland ANGB, OR

Eel B High ATCAA, OR

Boundaries. Beginning at lat. 45°58’00”N, long. 124°15’53”W;
to lat. 45°58’00”N, long. 123°30’00”W;
to lat. 45°36’00”N, long. 123°30’00”W;
to lat. 45°36’00”N, long. 124°13’29”W;
then north 12nm from and parallel to US shoreline to the point of beginning.

Altitudes. FL270 up to but not including FL500

Times of use. Intermittent by NOTAM

Controlling agency. FAA, Seattle ARTCC

Using agency.		USAF, Air National Guard, 142 FW, Portland ANGB, OR

Eel C High ATCAA, OR

Boundaries.	Beginning	at lat. 45°36’00”N, long. 124°13’29”W; to lat. 45°36’00”N, long. 123°30’00”W; to lat. 45°12’00”N, long. 123°30’00”W; to lat. 45°12’00”N, long. 124°15’26”W; then north 12nm from and parallel to US shoreline to the point of beginning.
Altitudes.		FL270 up to but not including FL500
Times of use.		Intermittent by NOTAM
Controlling agency.		FAA, Seattle ARTCC
Using agency.		USAF, Air National Guard, 142 FW, Portland ANGB, OR

Eel D High ATCAA, OR

Boundaries.	Beginning	at lat. 45°12’00”N, long. 124°15’26”W; to lat. 45°12’00”N, long. 123°30’00”W; to lat. 45°07’00”N, long. 123°30’00”W; to lat. 44°41’53”N, long. 124°20’22”W; then north 12nm from and parallel to US shoreline to the point of beginning.
Altitudes.		FL270 up to but not including FL500
Times of use.		Intermittent by NOTAM
Controlling agency.		FAA, Seattle ARTCC
Using agency.		USAF, Air National Guard, 142 FW, Portland ANGB, OR

e. Activities.

1. For areas that will contain aircraft operations.

(a) The number and types of aircraft that will normally use the area.

F-15C: W-570 – 6,200 sorties per year
Eel MOAs – 1,600 sorties per year
Eel ATCAAs – 6,300 sorties per year

(b) Specific Activities and the maximum altitudes required for each type of activity planned.

Tactical combat maneuvering by fighter fixed wing aircraft involving abrupt, unpredictable changes in altitude, attitude, and direction of flight. Maximum altitude FL510.

(c) Supersonic Flight. N/A. Supersonic flight operations will be conducted only over open water within the W-570 Warning Areas down to 10,000 feet MSL.

2. Surface-to-surface or surface-to-air weapons firing. N/A.

f. Environmental and land use information.

1. Mr. Devin Scherer
NGB/A7AM, Bldg 3501
JB Andrews, MD 20762-5157
devin.scherer.ctr@ang.af.mil

2. 142 FW agrees to provide reasonable and timely aerial access to the underlying public and private land. This access will be coordinated via a proposed direct communication line with the 142 FW Airspace Office.

3. Not applicable.

g. Communications and Radar.

1. Ground based radar and radio communications will be used by Seattle ARTCC to monitor the airspace.

2. Longracks MRU may provide occasional military radar coverage.

h. Safety considerations.

1. Activity will be contained within the MOA using geographic references, inertial navigation, global positioning systems and TACAN radial/DME references. In addition, the 140WG uses a Situational Awareness DATA Link (SADL) display in which airspace boundaries are depicted and area borders easily defined.

2. Malfunctions will be handled in accordance with aircraft technical orders, Service Directives, and FARs.

i. Coordination summary.

National Guard Bureau/A3AA,
Seattle ARTCC,
Air Force Representative, Lt Col Richard Farnsworth, FAA Western Services Area

j. Area Chart. See attached

k. Environmental Documents. All applicable environmental documents will be provided separately.

l. Graphic Notice Information. N/A

m. Other. N/A

FAAO 7400.2J
Section 3. SUA PROPOSALS

21-3-3. PROPOSAL CONTENT

a. Proponent's Transmittal Letter. See proceeding**.**

b. Area Description.

Change <u>Juniper North MOA, OR</u> to read:

<u>Juniper A MOA, OR</u>

Times of Use.	Intermittent by NOTAM
Using agency.	USAF, Air National Guard, 173 FW, Kingsley Field, OR
	all other information remains the same

Change <u>Juniper South MOA, OR</u> to read:

<u>Juniper B MOA, OR</u>

Times of Use.	Intermittent by NOTAM
Using agency.	USAF, Air National Guard, 173 FW, Kingsley Field, OR
	all other information remains the same

Change <u>Juniper Low MOA, OR</u> Using Agency to read:

Times of Use.	Intermittent by NOTAM
Using agency.	USAF, Air National Guard, 173 FW, Kingsley Field, OR
	all other information remains the same

Change <u>Hart North MOA, OR</u> to read:

<u>Hart A MOA, OR</u>

Times of Use.	Intermittent by NOTAM

Using agency. USAF, Air National Guard, 173 FW, Kingsley Field, OR

all other information remains the same

Change <u>Hart South MOA, OR</u> to read:

<u>Hart B MOA, OR</u>

Times of Use. Intermittent by NOTAM

Using agency. USAF, Air National Guard, 173 FW, Kingsley Field, OR

all other information remains the same

New Airspace:

<u>Juniper East Low MOA, OR</u>

Boundaries. Beginning at lat. 43°38'00"N, long. 119°34'04"W;
to lat. 43°33'19"N, long. 119°20'17"W;
to lat. 43°26'41"N, long. 119°09'26"W;
to lat. 43°04'20"N, long. 118°55'21"W;
to lat. 42°46'00"N, long. 118°55'21"W;
to lat. 42°46'00"N, long. 119°12'27"W;
to the point of beginning.

Altitudes. 500 feet AGL up to but not including 11,000 feet MSL

Times of use. Intermittent by NOTAM

Controlling agency. FAA, Seattle ARTCC

Using agency. USAF, Air National Guard, 173 FW, Kingsley Field, OR

<u>Juniper C MOA, OR</u>

Boundaries. Beginning at lat. 43°38'00"N, long. 119°34'04"W;
to lat. 43°33'19"N, long. 119°20'17"W;
to lat. 43°26'41"N, long. 119°09'26"W;
to lat. 43°10'08"N, long. 118°59'03"W;
to lat. 43°10'08"N, long. 119°22'26"W;
to the point of beginning.

Altitudes.		11,000 feet MSL up to but not including FL180
Times of use.		Intermittent by NOTAM
Controlling agency.		FAA, Seattle ARTCC
Using agency.		USAF, Air National Guard, 173 FW, Kingsley Field, OR

Juniper D MOA, OR

Boundaries.	Beginning	at lat. 43°10’08”N, long. 119°22’26”W; to lat. 43°10’08”N, long. 118°59’03”W; to lat. 42°46’00”N, long. 118°43’53”W; to lat. 42°40’00”N, long. 118°43’53”W; to lat. 42°40’00”N, long. 119°10’04”W; to the point of beginning.
Altitudes.		11,000 feet MSL up to but not including FL180
Times of use.		Intermittent by NOTAM
Controlling agency.		FAA, Seattle ARTCC
Using agency.		USAF, Air National Guard, 173 FW, Kingsley Field, OR

Hart C MOA, OR

Boundaries.	Beginning	at lat. 42°40’00”N, long. 119°10’04”W; to lat. 42°40’00”N, long. 118°43’53”W; to lat. 42°26’00”N, long. 118°43’53”W; to lat. 42°26’00”N, long. 119°13’34”W; to the point of beginning.
Altitudes.		11,000 feet MSL up to but not including FL180
Times of use.		Intermittent by NOTAM
Controlling agency.		FAA, Seattle ARTCC
Using agency.		USAF, Air National Guard, 173 FW,

Kingsley Field, OR

Hart D MOA, OR

Boundaries. Beginning at lat. 42°26’00”N, long. 119°13’34”W;
to lat. 42°26’00”N, long. 118°43’53”W;
to lat. 42°22’34”N, long. 118°43’53”W;
to lat. 41°52’44”N, long. 118°52’07”W;
to lat. 41°30’00”N, long. 119°18’36”W;
to lat. 41°30’00”N, long. 119°27’04”W;
to the point of beginning.

Altitudes. 11,000 feet MSL up to but not including FL180

Times of use. Intermittent by NOTAM

Controlling agency. FAA, Seattle ARTCC

Using agency. USAF, Air National Guard, 173 FW, Kingsley Field, OR

Hart E MOA, OR

Boundaries. Beginning at lat. 41°30’00”N, long. 119°55’04”W;
to lat. 41°30’00”N, long. 119°27’04”W;
to lat. 41°30’00”N, long. 119°18’36”W;
to lat. 41°10’00”N, long. 119°41’40”W;
to lat. 41°10’00”N, long. 119°47’30”W;
to the point of beginning.

Altitudes. 11,000 feet MSL up to but not including FL180

Times of use. Intermittent by NOTAM

Controlling agency. FAA, Seattle ARTCC

Using agency. USAF, Air National Guard, 173 FW, Kingsley Field, OR

Hart F MOA, OR

Boundaries. Beginning at lat. 41°52’44”N, long. 118°52’07”W;
to lat. 41°30’00”N, long. 118°58’19”W;
to lat. 41°10’00”N, long. 119°23’36”W;

	to lat. 41°10’00”N, long. 119°41’40”W; to lat. 41°30’00”N, long. 119°18’36”W; to the point of beginning.
Altitudes.	11,000 feet MSL up to but not including FL180
Times of use.	Intermittent by NOTAM
Controlling agency.	FAA, Seattle ARTCC
Using agency.	USAF, Air National Guard, 173 FW, Kingsley Field, OR

c. Airspace Statement of Need and Justification.

1. Describe the purpose and need for the proposed airspace.

This Airspace Proposal, in conjunction with the Oregon Military Training Airspace EIS, proposes modification of the Juniper/Hart MOA Complex to increase efficiencies of ANG/USAF realistic mission-oriented training, considering the 173 FW increased aircraft inventory and student production, improved technology within the F-15C, and the advanced longer range employment tactics that are inherent in training for combat against emerging technologies of adversary aircraft.

Historically, the Juniper/Hart MOAs, and their associated ATCAAs, have accommodated high altitude supersonic Beyond Visual Range (BVR) mission set-up ranges. However, due to the increased long range capabilities of the F-15C, and similar emerging threat capabilities of adversary aircraft, existing space within the Juniper/Hart MOAs has been inefficient within recent years to provide realistic mission-oriented training. The Air Education and Training Command (AETC) formal F-15C Syllabus requires approximately 40% of the syllabus training missions to be BVR. Half of these missions require setup ranges in excess of 80NM.

In 2003, the 173 FW flew eight aircraft in the morning go, and six aircraft in the afternoon go (8-turn-6), with approximately 3800 programmed flying hours and 2800 sorties. In 2005, the 173 FW’s aircraft inventory increased from 18 Primary Assigned Aircraft (PAA) to 21 PAA. With this increase came an increase in programed student training and associated flying hours. In 2008, the 173 FW became the sole F-15C Formal Training Unit (FTU) in the US, and has nearly doubled its student production in the past five years. In 2013, it flew a 10-turn-8 flying schedule and executed 4700 hours with culminating in 3800 sorties; a 23% increase in flying hours and a 35% increase in sorties. In 2014, to meet Combat Air Force student production throughput, programmed flying training requires a 12-turn-10 flying operation flexing to an occasional 14-turn-10. The 173 FW is poised to increase student production even more pending approval from

the Air Force, which will add additional aircraft and flying hours. Under current flying hour programming, the 173 FW has been authorized up to 6200 flying hours as required to meet current and potential student throughput.

Whereas in the past the Juniper/Hart MOA accommodated two simultaneous BVR 2 v 2 tactical intercept missions, one in Juniper North/South and one in Hart North/South, each with approximately 50-60NM set-up range, increased F-15C capabilities have caused these missions to be staggered in time to afford safety and training realism. In the past, the 173 FW typically had 4-6 students that could be in the BVR portion of their syllabus, this requirement has grown to 6-8 students. With this number of students in the BVR portions of the syllabus at one time, it is very likely three to four 2 v 2 tactical intercept missions or four to five 1 v 1 tactical missions could be required during a single flying period. This is not possible within the current airspace configuration without staggering takeoff times; significantly increasing the total amount of time the airspace is activated.

In addition to the 173 FW mission, the 142 FW uses the Juniper/Hart Complex, including Juniper Low MOA, as a primary airspace when accomplishing over land Low Altitude Step-down Training (LASDT). It also uses the Juniper/Hart Complex as back-up airspace during winter months when there's significant weather or sea states are out of limits under its primary airspace, W-570. For these periods, the 142 FW is routinely scheduled/NOTAM'd to use the Juniper/Hart Complex 45 min prior to 173 FW mission start time and historically activates the airspace 30% of the time for this purpose.

Since 2010, as a measure for better airspace stewardship, the 173FW moved to a NOTAM and airspace activation process that has reduced the total NOTAM'd airspace time and more accurately aligns airspace NOTAM time with airspace activation time. In addition, 173 FW tracks utilization (actual time in the MOA) as a percentage of activation time. On average, the airspace is utilized 80% of the time it is activated. Currently, the 173 FW makes schedule requests to NOTAM Juniper/Hart Complex (0900-1200 PST) and (1300-1600 PST). The first 45 min of each block are to accommodate the 142 FW if they need to activate the airspace as a back-up option. On a normal day, without slips in takeoff times, the 173 FW is done with missions in Juniper/Hart Complex at 1130 and 1530 PST and returns the airspace back to Seattle Air Route Traffic Control Center (ZSE). Without an increase in the airspace requested in this proposal, there will be continued increases in activation time, and larger blocks of requested NOTAM times during times when long range BVR training peaks.

The proposed Juniper/Hart Complex airspace expansion would add significant flexibility to both Oregon ANG's flying wings and other NAS users. The 173 FW could expand into the new MOA segments when needed during increased BVR syllabus mission requirements, allowing two simultaneous 4 v 4 scenarios, three 2 v 2 scenarios, or four to five 1 v 1 scenarios, mitigating the increase in airspace activation time by minimizing staggered launches. It would also allow concurrent missions of the 173 FW operating in the south and the 142 FW operating in the north with minimal impact on each other, reducing what currently can be an additional 45 minutes of activation time.

Although Dolphin MOA is the 173FW's primary back-up airspace, the ATCAA above it is capped approximately 20 percent of the time at FL230 due to Air-to-Air Refueling operations conducted in AR-8A/B. While Dolphin can adequately accommodate some types of BVR training, its supersonic restrictions preclude realistic long range high altitude training. Its lateral dimensions also preclude the full realm of maneuvering often required during long range tactics.

PROPOSED ACTION

Under the Proposed Action, the eastern boundary of the existing Juniper/Hart airspace complex would be extended approximately 20 miles to the east and the southern boundary would be extended approximately 20 miles to the south. Once established, the existing and proposed airspace segments would be renamed alphabetically to include: Juniper A through D MOAs and Hart A through E MOAs. Expansion of the existing Juniper Low MOA would include the proposed Juniper East Low MOA which would be located directly underneath the proposed Juniper C MOA and a majority of the proposed Juniper D MOA. The proposed Juniper East Low MOA would be established from 500 feet above ground level (AGL) to 10,999 feet MSL. In addition, the Proposed Action would include raising the floor of the existing Juniper Low MOA from 300 feet AGL to 500 feet AGL. New ATCAAs would be established directly above the proposed Juniper/Hart MOAs. The proposed new airspace segments would be activated on an as-needed basis as a whole or individually. 173 FW training activity within the existing portions of the Juniper/Hart MOA Complex would decrease given that the distribution of total airspace usage would now be spread out to include operations within the expanded Juniper/Hart MOA Complex, distributing flight activities across a broader geography. Training missions would spend the majority of the time within the overall Juniper/Hart MOA Complex above 11,000 feet MSL. By segmenting the proposed MOAs and ATCAAs, the 173 FW would be able to activate the required airspace to meet the mission objectives during any specific training exercise. In previous years, the Juniper/Hart MOA Complex has been expanded to similar lateral dimensions on a temporary basis to support the ANG's largest air-to-air combat exercise, Exercise Sentry Eagle, which typically includes multiple units from across the country.

Aeronautical impact: The proposed action will have minimal impact on Victor Routes 122 and 357 as they currently run through the existing Juniper/Hat MOAs. Through a current Letter of Agreement with ZSE, when the Victor Routes are needed, controllers can curtail military operations in order to allow joint use of the airspace. The proposed expansion will have minimal impact on the Burns (BNO) and Roaring Springs (Pvt) airports. Burns airport sits approximately 15NM outside of the proposed northeast boundary of Juniper C and Juniper East Low MOAs. The floor of the proposed Hart C MOA is 11,000' MSL (6,400' AGL) above the Roaring Springs airport. Military training routes VR1301, VR319/VR316 currently fall within the Juniper Low MOA and scheduling conflicts have been mitigated through internal military scheduling. The proposed Juniper Low East would expand into a segment of VR1352. Similar military scheduling coordination would mitigate conflicts. High altitude Q-35 route will pass

approximately 10NM from the eastern boundary of the Juniper C ATCAA if established. Similar control measures used by controllers and pilots for other boundaries would be used to mitigate spill outs. Hart E MOA/ATCAA could pose a challenge to efficient routing for commercial traffic when Reno MOA/ATCAA is also activated. This could be mitigated through military scheduling coordination with Reno MOA Scheduling Agency and real time activation restrictions set by Seattle ARTCC.

2. Joint use. The Airspace will be available for joint use. The FAA joint-use policy per FAAO 7400.2J para 21-1-8 will be recognized. A Letter of Agreement with Seattle ARTCC will outline procedures for scheduling, activating, and de-activating the airspace.

d. Air Traffic Control Assigned Airspace (ATCAA). Yes, ATCAAs will be created to support the proposed airspace.

Juniper A ATCAA, OR

Boundaries.	Beginning	at lat. 43°55'59"N, long. 120°44'04"W; to lat. 43°57'05"N, long. 120°26'24"W; to lat. 43°50'30"N, long. 120°07'48"W; to lat. 43°21'00"N., long.120°31'48"W; to the point of beginning.
Altitudes.		FL180 up to but not including FL510
Times of use.		Intermittent by NOTAM
Controlling agency.		FAA, Seattle ARTCC
Using agency.		USAF, Air National Guard, 173 FW, Kingsley Field, OR

Juniper B ATCAA, OR

Boundaries.	Beginning	at lat. 43°21'00"N, long. 120°31'48"W; to lat. 43°50'30"N, long. 120°07'48"W; to lat. 43°38'00"N, long. 119°34'04"W; to lat. 42°40'00"N, long. 119°10'04"W; to lat. 42°40'00"N, long. 120°18'04"W; to the point of beginning.
Altitudes.		FL180 up to but not including FL510
Times of use.		Intermittent by NOTAM
Controlling agency.		FAA, Seattle ARTCC

Using agency. USAF, Air National Guard, 173 FW, Kingsley Field, OR

Juniper C ATCAA, OR

Boundaries. Beginning at lat. 43°38’00”N, long. 119°34’04”W;
to lat. 43°33’19”N, long. 119°20’17”W;
to lat. 43°26’41”N, long. 119°09’26”W;
to lat. 43°10’08”N, long. 118°59’03”W;
to lat. 43°10’08”N, long. 119°22’26”W;
to the point of beginning.

Altitudes. FL180 up to but not including FL510

Times of use. Intermittent by NOTAM

Controlling agency. FAA, Seattle ARTCC

Using agency. USAF, Air National Guard, 173 FW, Kingsley Field, OR

Juniper D ATCAA, OR

Boundaries. Beginning at lat. 43°10’08”N, long. 119°22’26”W;
to lat. 43°10’08”N, long. 118°59’03”W;
to lat. 42°46’00”N, long. 118°43’53”W;
to lat. 42°40’00”N, long. 118°43’53”W;
to lat. 42°40’00”N, long. 119°10’04”W;
to the point of beginning.

Altitudes. FL180 up to but not including FL510

Times of use. Intermittent by NOTAM

Controlling agency. FAA, Seattle ARTCC

Using agency. USAF, Air National Guard, 173 FW, Kingsley Field, OR

Hart A ATCAA, OR

Boundaries. Beginning at lat. 42°40'00"N, long. 120°18'04"W.;
to lat. 42°40'00"N, long. 119°10'04"W;
to lat. 42°26'00"N, long. 119°13'34"W;
to lat. 42°26'00"N, long. 120°13'06"W;

		to the point of beginning.
Altitudes.		FL180 up to but not including FL510
Times of use.		Intermittent by NOTAM
Controlling agency.		FAA, Seattle ARTCC
Using agency.		USAF, Air National Guard, 173 FW, Kingsley Field, OR

Hart B ATCAA, OR

Boundaries.	Beginning	at lat. 42°26'00"N, long. 120°13'06"W; to lat. 42°26'00"N, long. 119°13'34"W; to lat. 41°30'00"N, long. 119°27'04"W; to lat. 41°30'00"N, long. 119°55'04"W; to the point of beginning.
Altitudes.		FL180 up to but not including FL510
Times of use.		Intermittent by NOTAM
Controlling agency.		FAA, Seattle ARTCC
Using agency.		USAF, Air National Guard, 173 FW, Kingsley Field, OR

Hart C ATCAA, OR

Boundaries.	Beginning	at lat. 42°40’00”N, long. 119°10’04”W; to lat. 42°40’00”N, long. 118°43’53”W; to lat. 42°26’00”N, long. 118°43’53”W; to lat. 42°26’00””N, long. 119°13’34”W; to the point of beginning.
Altitudes.		FL180 up to but not including FL510
Times of use.		Intermittent by NOTAM
Controlling agency.		FAA, Seattle ARTCC
Using agency.		USAF, Air National Guard, 173 FW, Kingsley Field, OR

Hart D ATCAA, OR

Boundaries.	Beginning	at lat. 42°26’00”N, long. 119°13’34”W; to lat. 42°26’00”N, long. 118°43’53”W; to lat. 42°22’34”N, long. 118°43’53”W; to lat. 41°52’44”N, long. 118°52’07”W; to lat. 41°30’00”N, long. 119°18’36”W; to lat. 41°30’00”N, long. 119°27’04”W; to the point of beginning.
Altitudes.		FL180 up to but not including FL510
Times of use.		Intermittent by NOTAM
Controlling agency.		FAA, Seattle ARTCC
Using agency.		USAF, Air National Guard, 173 FW, Kingsley Field, OR

Hart E ATCAA, OR

Boundaries.	Beginning	at lat. 41°30’00”N, long. 119°55’04”W; to lat. 41°30’00”N, long. 119°27’04”W; to lat. 41°30’00”N, long. 119°18’36”W; to lat. 41°10’00”N, long. 119°41’40”W; to lat. 41°10’00”N, long. 119°47’30”W; to the point of beginning..
Altitudes.		FL180 up to but not including FL510
Times of use.		Intermittent by NOTAM
Controlling agency.		FAA, Seattle ARTCC
Using agency.		USAF, Air National Guard, 173 FW, Kingsley Field, OR

Hart F ATCAA, OR

Boundaries.	Beginning	at lat. 41°52’44”N, long. 118°52’01”W; to lat. 41°30’00”N, long. 118°58’19”W; to lat. 41°10’00”N, long. 119°23’36”W; to lat. 41°10’00”N, long. 119°41’40”W; to lat. 41°30’00”N, long. 119°18’36”W; to the point of beginning.

Altitudes.	FL180 up to but not including FL280
Times of use.	Intermittent by NOTAM
Controlling agency.	FAA, Seattle ARTCC
Using agency.	USAF, Air National Guard, 173 FW, Kingsley Field, OR

e. Activities.

1. For areas that will contain aircraft operations.

(a) The number and types of aircraft that will normally use the area.

F-15C: Juniper Low MOAs – 1,149 sorties per year
Juniper MOAs – 4,133 sorties per year
Hart MOAs – 1,504 sorties per year

(b) Specific Activities and the maximum altitudes required for each type of activity planned.

Tactical combat training maneuvering by fighter fixed wing aircraft involving abrupt, unpredictable changes in altitude, attitude, and direction of flight. Maximum altitude for training missions can be up to FL510.

(c) Supersonic Flight. Supersonic flight operations will only be conducted above FL300.

2. Surface-to-surface or surface-to-air weapons firing. N/A.

f. Environmental and land use information.

1. Comments regarding environmental and land use aspects of this proposal may be sent to:

Mr. Devin Scherer
NGB/A7AM, Bldg 3501
JB Andrews, MD 20762-5157
devin.scherer.ctr@ang.af.mil

2. Areas underneath the proposed Juniper/Hart MOAs where there are underlying private or public use airfields will be provided reasonable and timely aerial access to such land. Deconfliction and avoidance will be accomplished by a combination of Seattle ARTCC advisories to VFR aircraft in the confines of the MOA, F-15 own-ship radars and visual separation at a minimum of 1000 feet.

3. N/A

g. Communications and Radar.

1. Ground based radar and radio communications will be provided by Seattle ARTCC to monitor the airspace.

2. Shadow MRU may provide occasional military radar coverage.

h. Safety considerations.

1. Activity will be contained within the MOA using geographic references, inertial navigation, global positioning systems and TACAN radial/DME references. In addition, the 173FW uses a Fighter Data Link (Link-16) displays in which flight and own-ship positions and area boundaries are depicted.

2. The employment of flares above 5,000 feet AGL will be authorized. The 173 FW and 142 FW aircrew will reference and take into consideration the fire danger and restrict usage when the fire danger is high. The employment of chaff will be authorized. No other types of ordnance will be released.

3. Malfunctions will be handled in accordance with aircraft technical orders, Service Directives, and FARs.

i. Coordination summary.

National Guard Bureau
NGB/A3AA, Mr. Jamie Flanders
NGB/A7AM, Mr. Devin Scherer
Federal Aviation Administration
Seattle ARTCC, Ms. Lisa Faulk
Western Service Area Air Traffic Representative, Michele Cruz
Western Service Area Environmental Specialist, Dr. Caroline Poyurs
Air Force Representative, Lt Col Richard Farnsworth, FAA Western Services Area

j. Area Chart. Falcon View depictions

k. Environmental Documents. All applicable environmental documents will be provided separately.

l. Graphic Notice Information. N/A

m. Other.

21-3-3. PROPOSAL CONTENT

a. Proponent's Transmittal Letter. See proceeding**.**

b. Area Description.

Redhawk A MOA, OR

Boundaries.	Beginning	at lat. 45°33'00"N, long. 120°52'00"W; to lat. 45°30'00"N, long. 120°15'30"W; to lat. 45°00'00"N, long. 120°24'00"W; to lat. 45°06'00"N, long. 121°01'00"W; to the point of beginning.
Altitudes.		11,000 feet MSL up to but not including FL180
Times of use.		Intermittent by NOTAM
Controlling agency.		FAA, Seattle ARTCC
Using agency.		USAF, Air National Guard, 142 FW, Portland ANGB, OR

Redhawk B MOA, OR

Boundaries.	Beginning	at lat. 45°30'00"N, long. 120°15'30"W; to lat. 45°23'00"N, long. 119°08'00"W; to lat. 44°35'00"N, long. 119°09'00"W; to lat. 45°00'00"N, long. 120°24'00"W; to the point of beginning.
Altitudes.		11,000 feet MSL up to but not including FL180
Times of use.		Intermittent by NOTAM
Controlling agency.		FAA, Seattle ARTCC
Using agency.		USAF, Air National Guard, 142 FW, Portland ANGB, OR

Redhawk C MOA, OR

Boundaries.	Beginning	at lat. 45°06'00"N, long. 121°01'00"W; to lat. 45°00'00"N, long. 120°24'00"W; to lat. 44°35'00"N, long. 119°09'00"W; to lat. 44°25'00"N, long. 119°09'00"W; to lat. 44°27'00"N, long. 121°01'00"W; to the point of beginning.
Altitudes.		11,000 feet MSL up to but not including FL180
Times of use.		Intermittent by NOTAM
Controlling agency.		FAA, Seattle ARTCC
Using agency.		USAF, Air National Guard, 142 FW, Portland ANGB, OR

c. Airspace Statement of Need and Justification.

1. Describe the purpose and need for the proposed airspace.

This Airspace Proposal, in conjunction with the Oregon Military Training Airspace EIS, proposes the establishment of a new over-land Redhawk MOA Complex which is needed by the 142d Fighter Wing as a "weather contingency" airspace to enable air-to-air training when weather or sea states restrict overflight of the coastal airspace areas. The location, size and proximity of this airspace will ensure that the 142 FW will be able to maintain proficiency and training requirements in preparation for combat against emerging technologies of adversary aircraft.

The 142 FW employs fourth generation F-15C Single Seat Fighter Jets which can rapidly transit altitudes from the surface to 50,000 feet and fly at speeds exceeding 12 NM per minute. The primary training area for the 142 FW is W-570, an over-water airspace off the coast of Oregon. Frequent weather conditions over the Pacific Ocean that extend into the coastal airspace ranges often produce sea states and weather conditions that prohibit over-water training. Airspace further inland and east of the Cascade Mountain range is generally unaffected by these weather systems. Further, although the proposed modification to the Eel ATCAA would provide valuable over-land training airspace that the 142 FW needs, it would not support all mission types in which the pilots are required to train. The modified Eel airspace would only provide space for Advanced Handling Characteristics (AHC), Basic Fighter Maneuvers (BFM), Air Combat Maneuvering (ACM), and Aerospace Control Authority (ACA)missions. Therefore, the 142 FW has a need for suitable over-land airspace that will allow its pilots to more efficiently conduct the full suite of realistic training operations of Tactical Intercepts (TI),

Defensive Counter Air (DCA) and Offensive Counter Air (OCA) to be prepared to fulfill their mission requirements.

Weather conditions over the Pacific Ocean cause out of limit sea-states which prohibit training when wind velocities are greater than 25 knots and/or wind-wave heights exceed 5 feet. Due to operational safety guidelines contained in Air Force Instructions (AFI), these conditions prohibit over-water training operations in W-570 and the Bass/Bass South ATCAAs. Historically, sea-states were out of limits approximately 23 percent of the scheduled time (2008-2011); reaching as high as 75 percent in a given month. In addition to inclement weather, factors such as adversary support, naval operations, and over-land training requirements further restrict airspace availability, requiring the 142 FW to utilize compatible airspace elsewhere, primarily the Juniper/Hart MOA Complex. This annual average of unavailability represents a significant impact to training.

Options for other suitable airspace areas are limited by their distance from Portland, size, or by scheduling needs of other military units in the region. In most cases, for distance, scheduling and availability, the only suitable over-land airspace is the proposed Eel ATCAA/ MOA complex, located adjacent to W-570 along the Oregon coast. Unfortunately, this airspace isn't a functional alternative to accommodate larger TI, OCA) or DCA training missions.

The 142 FW currently utilizes the Juniper South and Hart North MOAs for BFM, ACM, TI, ACA, OCA, and DCA training missions when poor weather conditions require over-land training. The nearest border of Juniper South and Hart North MOAs is located approximately 170 NM from Portland. The distance and time required to reach this area for over-land training causes mission degradation. Between 22 and 36 percent of fuel that could be used for training is expended during transit to and from the available backup areas; Juniper/Hart, Boardman, and Olympic MOA. This results in reduced time for training in the MOA and less flexibility to repeat a difficult mission task, which could be the difference between a successful training flight and a failed mission. With the over-water weather conditions unique to the Northwest, and the lack of a suitable alternative airspace, approximately 320 additional transit hours are flown by the 142d FW transit to and from the Juniper/Hart MOA Complex per year. This is nearly 10 percent of the 142 FW's annual flying hour allocation and is enough hours to maintain three pilot's combat mission ready requirements throughout the year. These hours – if reallocated – would be used to better provide 142 FW pilots with sufficient flying training to achieve higher mission readiness. Finally, increased transit time results in additional fuel and maintenance costs for the F-15. This issue is further exacerbated by the implementation of the Domestic Reduced Vertical Separation Minimum (DRVSM) airspace. The long distances flown to other over-land airspaces that would normally be flown at higher altitudes to conserve fuel are now more difficult to schedule due to the FAA-mandated procedures for non- DRVSM approved aircraft such as the F-15. Potential suitable airspace for the 142 FW includes the Juniper/Hart MOA Complex and the Boardman and Olympic MOAs, which all exceed the reasearched maximum desired distances to training airspace (RAND Corporation 2001). Establishment of a new

Redhawk MOA Complex would provide excellent over-land backup training airspace, within the maximum desired distance, for small Offensive Counter-Air (OCA) or Defensive Counter-Air (DCA) training missions.

142 FW is the primary Aerospace Control Authority (ACA) squadron for the Pacific Northwest Western Area Defense Sector (WADS). To maintain proficiency in operating air defense combat air patrols, protecting Temporary Flight Restrictions (TFR) for President of the United States (POTUS) support missions, and intercepts escorting distressed civilian aircraft, the 142 FW conducts weekly practice scrambles out of its alert facility. This end-to-end system training provides WADS controllers, PDX Tower, FAA TRACON, Seattle Center controllers, and pilots proficiency for this critical no fail mission in defense of the United States. Often, due to poor over-water weather conditions, this training is cancelled for lack of adequate airspace or the ability to move a supporting Target of Interest (TOI) to over-land airspace. These cancelations could be avoided throughthe establishment of a new over-land Redhawk MOA Complex therefor allowing increased training opportunity of the ACA mission.

Moreover, the majority of mission ready pilots in the 142 FW are what is known as, “traditional guardsmen.” Traditional guardsmen have full time employment outside the Air National Guard. This limits the number of days they are available to participate in training. Regardless, these pilots are required to perform the same RAP requirements as full time pilots but accomplish them with approximately only 20 percent of the flying opportunities. Consequently, when weather prohibits use of W-570 and Juniper/Hart MOAs are not available, the time constraints for these pilots increase the difficulty of maintaining their CMR status.

This year the 142 FW requested 3700 flying hours to maintain proficiency and conduct training requirements. The NGB has only authorized the 142 FW to fly 3319 hours for the year. Budgetary requirements are beginging to reduce the much needed flying hours and the trend is anticipated to only continue. As flight hours are reduced, the cumulative effect of 320 plus hours of transit time is magnified through the lack of on station training time available to each pilot. The ability to fly for a reduced time while maintaining, or increasing training time is profound in its ability to generate more sorties, increase training, and improve the overall fighting ability of the unit.

In the current economic climate, Air National Guard units must find ways to maintain mission readiness and avoid losing critical capabilities by increasing training efficiency in difficult budgetary times. By creating alternative airspace closer to the home station, units could balance their needs against fiscal challenges and increase training efficiency by as much as 36 percent per flying hour. As good stewards of our tax-payers dollars it is only right to create a new over-land Redhawk MOA Complex and provide the 142 FW the ability to bolster the nation’s combat effectiveness through reduce transit, increased on station time, and improved tactics.

PROPOSED ACTION

Under the Proposed Action, a new over-land MOA Complex would be established approximately 100 miles east-southeast of Portland in central/northern Oregon, roughly bound by Highway 97/197 on the West, the towns of Wasco and Lexington on the North, U.S. Highway 395 on the East, and U.S. Highway 26 on the South. This location was determined through coordination with the FAA Seattle ARTCC, which controls the airspace in this area. The proposed Redhawk MOAs (A, B, and C) would be established from 11,000 feet MSL to, but not including FL 180 (18,000 feet MSL). Given that the majority of residents in this region of Oregon generally reside at elevations of 5,000 feet MSL or below, the proposed MOAs would be established at an elevation equivalent to approximately 6,000 feet above ground level (AGL). In addition, associated ATCAAs would be established directly above the proposed Redhawk MOA from FL 180 to FL 500 (50,000 feet MSL). The proposed Redhawk MOA Complex would have the sufficient lateral and vertical space to efficiently provide enough maneuvering airspace to support the majority of Ready Aircrew Program (RAP) training requirements for the 142 FW.

Establishment of the proposed Redhawk MOA Complex would help to alleviate concerns related to scheduling conflicts, or prohibitive weather conditions, with other regional airspaces. Dividing the complex into three segments would allow for the greatest scheduling flexibility and efficient use and responsible stewardship of the airspace. The proposed airspace segments would be activated on an as-needed basis as a whole, or individually.

Aeronautical impact:

The proposed action will have minimal impact on the multiple Victor Routes which run below the proposed Redhawk MOA. When the MOA is in use, it would be active down to 11,000’ which would impact VFR traffic on these routes however this airspace would remain only a backup option in poor weather conditions and further be limited through the activation of only those segments that are needed. Through a Letter of Agreement with Seattle ARTCC that will be created, when the Victor Routes are needed, controllers can curtail military operations in order to allow joint use of the airspace and ensure deconfliction. Additionally, the location for this airspace will have the least impact on civilian traffic through the prior coordination with Seattle Center providing the historical flight path data around that area. One feeder point on the published HHOOD TWO arrival is located inside the western boarder of Redhawk A MOA. After discussions with Seattle Center, Redhawk A MOA would only be released so to not interfear with inbound airline traffic into Portland and therefore be restricted in altitude. This will have no effect on civilian traffic, only to military operations.

2. Joint use. The Airspace will be available for joint use. The FAA joint-use policy per FAAO 7400.2J para 21-1-8 will be recognized. A Letter of Agreement with Denver ARTCC will outline procedures for scheduling, activating, and de-activating the airspace.

d. Air Traffic Control Assigned Airspace (ATCAA). Yes, ATCAAs will be required to support the proposed airspace.

Redhawk A ATCAA, OR

Boundaries.	Beginning	at lat. 45°33'00"N, long. 120°52'00"W; to lat. 45°30'00"N, long. 120°15'30"W; to lat. 45°00'00"N, long. 120°24'00"W; to lat. 45°06'00"N, long. 121°01'00"W; to the point of beginning.
Altitudes.		FL180 up to but not including FL510
Times of use.		Intermittent by NOTAM
Controlling agency.		FAA, Seattle ARTCC
Using agency.		USAF, Air National Guard, 142 FW, Portland ANGB, OR

Redhawk B ATCAA, OR

Boundaries.	Beginning	at lat. 45°30'00"N, long. 120°15'30"W; to lat. 45°23'00"N, long. 119°08'00"W; to lat. 44°35'00"N, long. 119°09'00"W; to lat. 45°00'00"N, long. 120°24'00"W; to the point of beginning.
Altitudes.		FL180 up to but not including FL510
Times of use.		Intermittent by NOTAM
Controlling agency.		FAA, Seattle ARTCC
Using agency.		USAF, Air National Guard, 142 FW, Portland ANGB, OR

Redhawk C ATCAA, OR

Boundaries.	Beginning	at lat. 45°06'00"N, long. 121°01'00"W; to lat. 45°00'00"N, long. 120°24'00"W; to lat. 44°35'00"N, long. 119°09'00"W; to lat. 44°25'00"N, long. 119°09'00"W; to lat. 44°27'00"N, long. 121°01'00"W; to the point of beginning.

Altitudes.	FL180 up to but not including FL510
Times of use.	Intermittent by NOTAM
Controlling agency.	FAA, Seattle ARTCC
Using agency.	USAF, Air National Guard, 142 FW, Portland ANGB, OR

e. Activities.

1. For areas that will contain aircraft operations.

(a) The number and types of aircraft that will normally use the area.

F-15C:

Redhawk MOAs – 800 sorties per year
Redhawk ATCAAs – 1,100 sorties per year

(b) Specific Activities and the maximum altitudes required for each type of activity planned.

Tactical combat training maneuvering by fighter fixed wing aircraft involving abrupt, unpredictable changes in altitude, attitude, and direction of flight. Maximum altitude for training missions can be up to FL510.

(c) Supersonic Flight. Supersonic flight operations will only be conducted above FL300.

2. Surface-to-surface or surface-to-air weapons firing. N/A.

f. Environmental and land use information.

1. Mr. Devin Scherer
NGB/A7AM, Bldg 3501
JB Andrews, MD 20762-5157
devin.scherer.ctr@ang.af.mil

2. 173 FW agrees to provide reasonable and timely aerial access to the underlying public and private land. This access will be coordinated via a proposed direct communication line with the 173 FW Airspace Office.

3. Not applicable.

g. Communications and Radar.

1. Ground based radar and radio communications will be used by Seattle ARTCC to monitor the airspace.

2. N/A.

h. Safety considerations.

1. Activity will be contained within the MOA using geographic references, inertial navigation, global positioning systems and TACAN radial/DME references. In addition, the 140WG uses a Situational Awareness DATA Link (SADL) display in which airspace boundaries are depicted and area borders easily defined.

2. The employment of flares above 5,000 feet AGL will be authorized. The all aircrew will reference and take into consideration the fire danger and restrict usage when the fire danger is high.

3. Malfunctions will be handled in accordance with aircraft technical orders, Service Directives, and FARs.

i. Coordination summary.

National Guard Bureau/A3AA,
Seattle ARTCC,
Air Force Representative, Lt Col Richard Farnsworth, FAA Western Services Area

j. Area Chart. Please see attached.

k. Environmental Documents. All applicable environmental documents will be provided separately.

l. Graphic Notice Information. N/A

m. Other. N/A

APPENDIX E

NOISE

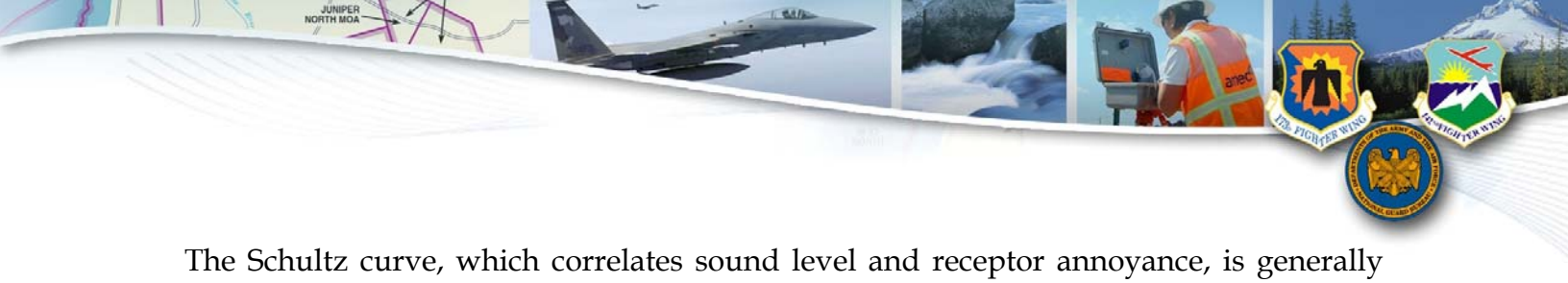
Onset Rate-Adjusted Day-Night Average

Aircraft operations in Special Use Airspace (SUA), such as Military Operating Areas (MOAs) and Warning Areas, generate a noise environment somewhat different from other community noise environments. Overflights are sporadic, occurring at random times and varying from day to day and week to week. This situation differs from most community noise environments, in which noise tends to be continuous or patterned (e.g., airfields). Individual military overflight events also differ from typical community noise events in that noise from a low-altitude, high airspeed flyover can have a rather sudden onset (i.e., a rapid increase in noise).

To represent these differences, the conventional Day-Night Average A-Weighted Sound Level (DNL) metric is adjusted to account for the "surprise" effect of the sudden onset of aircraft noise events on humans (Plotkin *et al.* 1987; Stusnick *et al.* 1992; Stusnick *et al.* 1993). For aircraft exhibiting a rate of increase in sound level (called onset rate) of from 15 to 150 dB per second, an adjustment or penalty ranging from 0 to 11 dB is added to the normal SEL (refer to Sections 3.2 and 4.2 as well as Appendix E in the Preliminary Draft Environmental Impact Statement). Onset rates above 150 dB per second require an 11 dB penalty, while onset rates below 15 dB per second require no adjustment. The DNL is then determined in the same manner as for conventional aircraft noise events and is designated as Onset-Rate Adjusted Day-Night Average Sound Level (L_{dnmr}). Because of their regular occurrences of aircraft operations, the number of average daily operations is determined by using the calendar month with the highest number of operations. The monthly average is denoted L_{dnmr}. Noise levels are calculated the same way for both DNL and L_{dnmr}. L_{dnmr} is interpreted by the same criteria as used for DNL.

$$\mathbf{L_{dnmr} \geq DNL}$$

L_{dnmr} is always equal to or greater than DNL, so the impact is generally higher than would have been predicted if the onset rate and busiest-month adjustments were not accounted for. There are several points of interest in the noise-annoyance relation. The first is DNL of 65 dB. This is a level most commonly used for noise planning purposes and represents a compromise between community impact and the need for activities like aviation which do cause noise. Areas exposed to DNL above 65 dB are generally not considered suitable for residential use. The second is DNL of 55 dB, which was identified by USEPA as a level "...requisite to protect the public health and welfare with an adequate margin of safety," (USEPA 1974) which is essentially a level below which adverse impact is not expected. The third is DNL of 75 dB. This is the lowest level at which adverse health effects could be credible (USEPA 1974). The very high annoyance levels correlated with DNL of 75 dB make such areas unsuitable for residential land use.



The Schultz curve, which correlates sound level and receptor annoyance, is generally applied to annual average DNL; however, the Schultz curve can also be used with L_{dnmr} as the noise metric as L_{dnmr} is always equal to or greater than DNL.

Relation to FAA Order 1050.1E

Section 14 within Appendix A, *Analysis of Environmental Impact Categories*, of FAA Order 1050.1E describes the requirements and procedures to be used in environmental impact analysis with regard to noise impacts. Within this section subsection 14.2b states that:

> "…AEE has approved the DoD computer models MR_NMAP and MR_BOOMMAP for use and analysis of Special Use Airspace (SUA)."

As the Proposed Action is associated with the establishment and modification of SUA, MR_NMAP version 3.0 was used to determine existing and proposed sound levels, using the metric L_{dnmr}.

Precedent for L_{dnmr} Noise Metric

The L_{dnmr} noise metric has been used and approved for a number of NEPA documents supporting different DoD airspace actions within the FAA Western Service Center, where the FAA has been both as a cooperating and reviewing agency:

Western Service Center

- *Draft Environmental Impact Statement for Proposed Continued Use and Projected Future Operations at Naval Weapons System Training Facility Boardman (2012)*
- *Environmental Assessment for Proposed Aircraft Robust and Short-term Construction Projects at the 173rd Fighter Wing Klamath Falls Airport-Kingsley Field (2007)*
- *Environmental Impact Statement for White Elk Military Operations Area EIS (2011)*

Other FAA Service Center

- *Environmental Impact Statement for United States Air Force F-35A Operational Basing (2012)*
- *Environmental Assessment for F-22A Beddown Environmental Assessment (2006)*

***** MOA RANGE NOISEMAP *****
Version 3.0
Release Date 2/7/2013

CASE INFORMATION

Case Name:BASELINE W570 - Baseline Scenario
Site Name:OREGON ANG AIRSPACE

SETUP PARAMETERS

Number of MOAs and Ranges = 1 Number of tracks = 0
Lower Left Corner of Grid in feet (X Y pair) = -224550., -404550.
Upper Right Corner of Grid in feet (X Y pair) = 224550., 404550.
Grid spacing = 900. feet Number of events above an SEL of 65.0 dB
Temperature = 59 F Humidity = 70 Flying days per month = 30

MOA SPECIFICATIONS

MOA name W570

Lat (deg)	Long (deg)
45.74973	-125.50140
46.16640	-124.33471
44.90055	-124.33443
44.84305	-124.35583
44.63305	-124.46777
44.18304	-125.50140
45.74973	-125.50140

Floor = 0 feet AGL Ceiling = 18000 feet AGL

MISSION DATA

Mission name = 142 W570 BASELINE
Aircraft code =FM0430300 Speed = 400 kias Power = 90.0

Altitude Distribution

Lower Alt (feet AGL)	Upper Alt (feet AGL)	Percent Utilization
1000	3000	5.0
3000	5000	5.0
5000	7000	5.0
7000	18000	85.0

MOA OPERATION DATA

MOA name = W570

Mission Name	Daily Day OPS	Daily Night OPS	Monthly Day OPS	Monthly Night OPS	Yearly Day OPS	Yearly Night OPS	Time On Range (minutes)	
142 W570 BASELINE		5.000	0.000	150.00	0.00	1800.	0.	30.

***** MOA RANGE NOISEMAP *****
RESULTS

The noise metric is Ldnmr.

MOA RESULTS

MOA Name	MOA Area (sq statute miles)	Uniform Distributed Sound Level (dB)	Number of Daily Events Above SEL of 65.0 dB
W570	5940.8	40.1	0.1

<Run Log>
Date: 10/15/2014
Start Time: 15:34:22
Stop Time: 15:34:39
Total Running Time: 0 minutes and 18 seconds.

***** MOA RANGE NOISEMAP *****
Version 3.0
Release Date 2/7/2013

CASE INFORMATION
Case Name:BASELINE JUNIPER HART - Baseline Scenario
Site Name:OREGON ANG AIRSPACE

SETUP PARAMETERS
Number of MOAs and Ranges = 4 Number of tracks = 0
Lower Left Corner of Grid in feet (X Y pair) = 141159., -312267.
Upper Right Corner of Grid in feet (X Y pair) = 770259., 676833.
Grid spacing = 900. feet Number of events above an SEL of 65.0 dB
Temperature = 59 F Humidity = 70 Flying days per month = 30

MOA SPECIFICATIONS

MOA name MOA US HART NORTH

Lat (deg)	Long (deg)
42.66667	-120.30109
42.66668	-119.16775
42.43334	-119.22608
42.43334	-120.21832
42.66667	-120.30109

Floor = 6000 feet AGL Ceiling = 13000 feet AGL

MOA name MOA US HART SOUTH

Lat (deg)	Long (deg)
42.43334	-120.21832
42.43334	-119.22608
41.49999	-119.45109
41.49999	-119.91776
42.43334	-120.21832

Floor = 6000 feet AGL Ceiling = 13000 feet AGL

MOA name MOA US JUNIPER NORTH

Lat (deg)	Long (deg)
43.93308	-120.73444
43.95141	-120.43999
43.84169	-120.12998
43.35001	-120.52999
43.93308	-120.73444

Floor = 6000 feet AGL Ceiling = 12000 feet AGL

MOA name MOA US JUNIPER SOUTH

Lat (deg)	Long (deg)
43.35001	-120.52999
43.84169	-120.12998

43.63335 -119.56664
42.66668 -119.16775
42.66667 -120.30109
43.35001 -120.52999
Floor = 6000 feet AGL Ceiling = 12000 feet AGL

MISSION DATA

Mission name = 142 HART NORTH BASELINE
Aircraft code =FM0430300 Speed = 400 kias Power = 90.0

Altitude Distribution

Lower Alt (feet AGL)	Upper Alt (feet AGL)	Percent Utilization
6000	10000	50.0
10000	13000	50.0

Mission name = 142 HART SOUTH BASELINE
Aircraft code =FM0430301 Speed = 350 kias Power = 85.0

Altitude Distribution

Lower Alt (feet AGL)	Upper Alt (feet AGL)	Percent Utilization
6000	10000	50.0
10000	13000	50.0

Mission name = 142 JUNIPER NORTH BASELINE
Aircraft code =FM0430300 Speed = 350 kias Power = 90.0

Altitude Distribution

Lower Alt (feet AGL)	Upper Alt (feet AGL)	Percent Utilization
6000	10000	50.0
10000	13000	50.0

Mission name = 142 JUNIPER SOUTH BASELINE
Aircraft code =FM0430300 Speed = 400 kias Power = 90.0

Altitude Distribution

Lower Alt (feet AGL)	Upper Alt (feet AGL)	Percent Utilization
6000	10000	50.0
10000	13000	50.0

Mission name = 173 HART NORTH BASELINE
Aircraft code =FM0430300 Speed = 400 kias Power = 90.0

Altitude Distribution

Lower Alt (feet AGL)	Upper Alt (feet AGL)	Percent Utilization
6000	10000	50.0
10000	13000	50.0

Mission name = 173 HART SOUTH BASELINE

Aircraft code =FM0430300 Speed = 400 kias Power = 90.0

Altitude Distribution

Lower Alt (feet AGL)	Upper Alt (feet AGL)	Percent Utilization
6000	10000	50.0
10000	13000	50.0

Mission name = 173 JUNIPER NORTH BASELINE

Aircraft code =FM0430302 Speed = 350 kias Power = 89.0

Altitude Distribution

Lower Alt (feet AGL)	Upper Alt (feet AGL)	Percent Utilization
6000	10000	50.0
10000	13000	50.0

Mission name = 173 JUNIPER SOUTH BASELINE

Aircraft code =FM0430300 Speed = 400 kias Power = 90.0

Altitude Distribution

Lower Alt (feet AGL)	Upper Alt (feet AGL)	Percent Utilization
6000	10000	50.0
10000	13000	50.0

MOA OPERATION DATA

MOA name = MOA US HART NORTH

Mission Name	Daily Day OPS	Daily Night OPS	Monthly Day OPS	Monthly Night OPS	Yearly Day OPS	Yearly Night OPS	Time On Range (minutes)
142 HART NORTH BASELINE	1.389	0.000	41.67	0.00	500.	0.	10.
173 HART NORTH BASELINE	6.419	0.000	192.58	0.00	2311.	0.	3.

MOA name = MOA US HART SOUTH

Mission Name	Daily Day OPS	Daily Night OPS	Monthly Day OPS	Monthly Night OPS	Yearly Day OPS	Yearly Night OPS	Time On Range (minutes)
142 HART SOUTH BASELINE	0.556	0.000	16.67	0.00	200.	0.	5.
173 HART SOUTH BASELINE	5.111	0.000	153.33	0.00	1840.	0.	11.

MOA name = MOA US JUNIPER NORTH

Mission Name	Daily Day OPS	Daily Night OPS	Monthly Day OPS	Monthly Night OPS	Yearly Day OPS	Yearly Night OPS	Time On Range (minutes)
142 JUNIPER NORTH BASELINE	1.667	0.000	50.00	0.00	600.	0.	25.
173 JUNIPER NORTH BASELINE	1.442	0.000	43.25	0.00	519.	0.	4.

MOA name = MOA US JUNIPER SOUTH

Mission Name	Daily Day OPS	Daily Night OPS	Monthly Day OPS	Monthly Night OPS	Yearly Day OPS	Yearly Night OPS	Time On Range (minutes)		
142 JUNIPER SOUTH BASELINE	4.167	0.000	125.00	0.00	1500.	0.	25.		
173 JUNIPER SOUTH BASELINE	9.042	0.000	271.25	0.00	3255.	0.	12.		

***** MOA RANGE NOISEMAP *****
RESULTS

The noise metric is Ldnmr.

MOA RESULTS

MOA Name	MOA Area (sq statute miles)	Uniform Distributed Sound Level (dB)	Number of Daily Events Above SEL of 65.0 dB
MOA US HART NORTH	874.6	41.4	0.3
MOA US HART SOUTH	2416.1	38.2	0.2
MOA US JUNIPER NORTH	640.9	43.9	0.3
MOA US JUNIPER SOUTH	3800.9	41.5	0.8

<Run Log>
Date: 10/15/2014
Start Time: 15:52: 3
Stop Time: 15:53: 2
Total Running Time: 0 minutes and 60 seconds.

***** MOA RANGE NOISEMAP *****
Version 3.0
Release Date 2/7/2013

CASE INFORMATION
Case Name:BASELINE JUNIPER LOW - Baseline Scenario
Site Name:OREGON ANG AIRSPACE

SETUP PARAMETERS
Number of MOAs and Ranges = 1 Number of tracks = 0
Lower Left Corner of Grid in feet (X Y pair) = 125398., 155778.
Upper Right Corner of Grid in feet (X Y pair) = 664498., 694878.
Grid spacing = 900. feet Number of events above an SEL of 65.0 dB
Temperature = 59 F Humidity = 70 Flying days per month = 30

MOA SPECIFICATIONS

MOA name MOA US JUNIPER LOW

Lat (deg)	Long (deg)
43.93308	-120.73444
43.95141	-120.43999
43.63335	-119.56776
42.76668	-119.20747
42.76667	-120.33360
43.93308	-120.73444

Floor = 300 feet AGL Ceiling = 6000 feet AGL

MISSION DATA
Mission name = 142 JUNIPER LOW BASELINE
Aircraft code =FM0430300 Speed = 420 kias Power = 90.0
Altitude Distribution

Lower Alt (feet AGL)	Upper Alt (feet AGL)	Percent Utilization
500	1000	35.0
1000	3000	35.0
3000	5000	20.0
5000	6001	10.0

Mission name = 173 JUNIPER LOW BASELINE
Aircraft code =FM0430300 Speed = 420 kias Power = 90.0
Altitude Distribution

Lower Alt (feet AGL)	Upper Alt (feet AGL)	Percent Utilization
500	999	20.0
1000	2999	40.0
3000	5000	35.0
5000	6001	5.0

MOA OPERATION DATA

MOA name = MOA US JUNIPER LOW

Mission Name	Daily Day OPS	Daily Night OPS	Monthly Day OPS	Monthly Night OPS	Yearly Day OPS	Yearly Night OPS	Time On Range (minutes)		
142 JUNIPER LOW BASELINE	1.667	0.000	50.00	0.00	600.	0.	10.		
173 JUNIPER LOW BASELINE	1.833	0.000	55.00	0.00	660.	0.	13.		

***** MOA RANGE NOISEMAP *****
RESULTS

The noise metric is Ldnmr.

MOA RESULTS

MOA Name	MOA Area (sq statute miles)	Uniform Distributed Sound Level (dB)	Number of Daily Events Above SEL of 65.0 dB
MOA US JUNIPER LOW	4044.8	46.5	0.0

<Run Log>
Date: 10/15/2014
Start Time: 15:45:29
Stop Time: 15:45:55
Total Running Time: 0 minutes and 27 seconds.

***** MOA RANGE NOISEMAP *****
Version 3.0
Release Date 2/7/2013

CASE INFORMATION
Case Name:BASELINE MTR - Baseline Scenario
Site Name:OREGON ANG AIRSPACE

SETUP PARAMETERS
Number of MOAs and Ranges = 0 Number of tracks =10
Lower Left Corner of Grid in feet (X Y pair) = -851125., -1.
Upper Right Corner of Grid in feet (X Y pair) = 1., 2.
Grid spacing = 0. feet Number of events above an SEL of 65.0 dB
Temperature = 59 F Humidity = 70 Flying days per month = 30

TRACK SPECIFICATIONS
Track name IR300/313

Flag Notation	Latitude	Longitude	Left (feet)	Right (feet)	Floor 1 (feet AGL)	Floor 2 (feet AGL)	Radius (feet)	Angle (degrees)
LW	42.28333	-120.25832	24304.	24304.	100			
LW	42.10000	-120.05831	24304.	24304.	100			
LW	40.94999	-119.14997	24304.	24304.	100			
LW	40.89999	-118.98331	24304.	18228.	100			
LW	41.08665	-118.49996	24304.	18228.	100			
LW	41.34999	-117.81663	24304.	24304.	100			
LW	41.44999	-117.73331	18228.	24304.	100			
LW	41.89166	-117.64993	18228.	24304.	100			
LW	41.99166	-117.63329	18228.	24304.	100			
LW	42.08333	-117.61662	24304.	24304.	100			
LW	42.14167	-117.58330	24304.	24304.	100			
LW	42.64167	-117.20829	24304.	24304.	100			
LW	42.65746	-117.19821	24304.	24304.	100			
LW	42.71667	-117.16660	24304.	24304.	100			
LW	42.90001	-117.15829	54685.	24304.	100			
LW	43.79169	-117.15827	54685.	18228.	100			
LW	43.85002	-117.15827	24304.	18228.	100			
LW	43.91669	-117.18330	24304.	24304.	100			

Track name IR342

Flag Notation	Latitude	Longitude	Left (feet)	Right (feet)	Floor 1 (feet AGL)	Floor 2 (feet AGL)	Radius (feet)	Angle (degrees)
LW	44.31669	-119.71664	24304.	24304.	0			
LW	43.93336	-119.71664	24304.	24304.	0			
LW	43.30502	-119.69997	24304.	24304.	500			
LW	42.90334	-120.76333	24304.	24304.	500			
LW	43.46835	-120.74999	24304.	24304.	500			
LW	44.16503	-120.08331	24304.	24304.	500			
LW	45.21672	-120.49999	24304.	24304.	500			
LW	45.33336	-120.30832	24304.	24304.	500			
LW	45.72504	-119.68331	24304.	24304.	500			

Track name IR343

Flag Notation	Latitude	Longitude	Left (feet)	Right (feet)	Floor 1 (feet AGL)	Floor 2 (feet AGL)	Radius (feet)	Angle (degrees)

LW	46.57033	-120.44460	24304.	24304.	7000			
LW	45.93338	-119.29997	24304.	24304.	6000			
LW	46.06172	-118.89996	24304.	24304.	6000			
LW	45.91504	-118.38329	24304.	24304.	6000			
LW	45.56671	-117.92496	24304.	24304.	8000			
LW	45.38671	-118.30830	24304.	24304.	500			
LW	44.75170	-119.63331	24304.	24304.	500			
LW	45.29838	-120.13665	24304.	24304.	5000			
LW	45.38338	-120.44999	24304.	24304.	5000			
LW	45.58336	-121.18333	24304.	24304.	5000			
LW	45.98838	-121.08167	24304.	24304.	6000			
LW	46.21670	-120.94999	24304.	24304.	11000			
LW	46.98340	-120.53332	24304.	24304.	11000			
LW	47.22506	-120.05331	24304.	24304.	7000			
LW	47.60506	-119.28330	24304.	24304.	7000			
LW	47.75008	-119.58331	24304.	24304.	7000			

Track name VR316

Flag Notation	Latitude	Longitude	Left (feet)	Right (feet)	Floor 1 (feet AGL)	Floor 2 (feet AGL)	Radius (feet)	Angle (degrees)
LW	43.23335	-117.24994	36457.	36457.	100			
LW	43.18335	-117.68330	60761.	60761.	100			
LW	43.12501	-118.49996	60761.	60761.	100			
LW	42.91668	-119.49998	60761.	30381.	100			
LW	43.09168	-120.07498	30381.	30381.	100			
LW	43.70002	-120.11665	60761.	60761.	100			
LW	43.91669	-119.49997	60761.	60761.	100			
LW	43.79502	-118.99997	60761.	30381.	100			
LW	43.67002	-118.49996	60761.	60761.	100			
LW	43.55835	-118.04996	60761.	60761.	100			
LW	43.52502	-117.37496	24304.	24304.	100			
LW	43.51668	-117.14162	24304.	24304.	100			

Track name VR319

Flag Notation	Latitude	Longitude	Left (feet)	Right (feet)	Floor 1 (feet AGL)	Floor 2 (feet AGL)	Radius (feet)	Angle (degrees)
LW	43.51668	-117.14162	24304.	24304.	100			
LW	43.52502	-117.37496	60761.	60761.	100			
LW	43.55835	-118.04996	60761.	60761.	100			
LW	43.67002	-118.49996	30381.	60761.	100			
LW	43.79502	-118.99997	60761.	60761.	100			
LW	43.91669	-119.49997	60761.	60761.	100			
LW	43.70002	-120.11665	30381.	30381.	100			
LW	43.09168	-120.07498	30381.	60761.	100			
LW	42.91668	-119.49998	60761.	60761.	100			
LW	43.10835	-118.49996	60761.	60761.	100			
LW	43.18335	-117.68330	36457.	36457.	100			
LW	43.23335	-117.24994	36457.	36457.	100			

Track name VR1251

Flag Notation	Latitude	Longitude	Left (feet)	Right (feet)	Floor 1 (feet AGL)	Floor 2 (feet AGL)	Radius (feet)	Angle (degrees)
LW	39.83331	-124.50004	12152.	12152.	200			
LW	40.24998	-124.36670	12152.	12152.	200			
LW	40.69999	-123.75003	12152.	12152.	200			
LW	41.13332	-123.85003	12152.	12152.	200			
LW	41.61666	-123.58336	12152.	12152.	1000			

LW	41.93333	-122.98335	12152.	12152.	200
LW	42.16667	-122.46668	12152.	12152.	200
LW	42.68334	-122.13334	12152.	12152.	200
LW	42.65001	-121.11666	12152.	12152.	200
LW	41.88333	-120.59999	12152.	12152.	200
LW	41.66666	-119.81665	12152.	12152.	200
LW	40.20831	-119.54165	12152.	12152.	200
LW	39.88331	-118.65830	12152.	12152.	200
LW	40.05831	-118.36663	12152.	12152.	200
LW	40.01664	-118.14996	12152.	12152.	200
LW	39.93331	-118.24163	12152.	12152.	200

Track name VR1254

Flag Notation	Latitude	Longitude	Left (feet)	Right (feet)	Floor 1 (feet AGL)	Floor 2 (feet AGL)	Radius (feet)	Angle (degrees)
LW	41.63333	-121.30000	12152.	12152.	200			
LW	41.88333	-120.59999	12152.	12152.	200			
LW	41.66666	-119.83331	12152.	12152.	200			
LW	41.06665	-120.11665	12152.	12152.	200			
LW	40.20831	-119.54165	12152.	12152.	200			
LW	39.88331	-118.65830	12152.	12152.	200			
LW	40.05831	-118.36663	12152.	12152.	200			
LW	40.01664	-118.14996	12152.	12152.	200			
LW	39.93331	-118.24163	12152.	12152.	200			

Track name VR1301

Flag Notation	Latitude	Longitude	Left (feet)	Right (feet)	Floor 1 (feet AGL)	Floor 2 (feet AGL)	Radius (feet)	Angle (degrees)
LW	44.31669	-116.54995	30381.	30381.	100			
LW	44.58336	-117.46661	30381.	30381.	100			
LW	44.15002	-118.09995	30381.	30381.	100			
LW	44.08336	-118.98330	30381.	30381.	100			
LW	43.35001	-119.88332	30381.	30381.	100			
LW	42.76667	-118.96664	30381.	30381.	100			
LW	42.59055	-117.86810	30381.	30381.	100			
LW	42.53334	-116.99993	30381.	30381.	100			

Track name VR1352

Flag Notation	Latitude	Longitude	Left (feet)	Right (feet)	Floor 1 (feet AGL)	Floor 2 (feet AGL)	Radius (feet)	Angle (degrees)
LW	44.77003	-119.63664	24304.	24304.	200			
LW	43.20668	-119.13831	24304.	24304.	200			
LW	42.73334	-118.29996	24304.	24304.	200			
LW	42.31667	-117.81660	24304.	24304.	200			
LW	40.98332	-117.98329	24304.	24304.	200			
LW	40.13331	-118.06663	24304.	24304.	200			
LW	40.01664	-118.14996	24304.	24304.	200			

Track name VR1353

Flag Notation	Latitude	Longitude	Left (feet)	Right (feet)	Floor 1 (feet AGL)	Floor 2 (feet AGL)	Radius (feet)	Angle (degrees)
LW	41.31665	-118.79996	24304.	24304.	1000			
LW	42.20000	-119.53331	24304.	24304.	1000			
LW	42.51667	-120.24998	24304.	24304.	500			
LW	43.06334	-120.79166	24304.	24304.	500			
LW	43.46668	-120.74999	24304.	24304.	500			
LW	43.72502	-120.34998	24304.	24304.	200			
LW	45.20003	-120.49998	24304.	24304.	200			

LW 45.63338 -119.83331 24304. 24304. 200

MISSION DATA

Mission name = IR300 A10
Aircraft code =FM0090100 Speed = 325 kias Power = 5333.0

Altitude Distribution

Lower Alt (feet AGL)	Upper Alt (feet AGL)	Percent Utilization
500	1000	65.0
1000	4000	35.0

Mission name = IR300 C17
Aircraft code =FM0200100 Speed = 250 kias Power = 92.0

Altitude Distribution

Lower Alt (feet AGL)	Upper Alt (feet AGL)	Percent Utilization
500	1000	65.0
1000	4000	35.0

Mission name = IR300 F15
Aircraft code =FM0430300 Speed = 420 kias Power = 90.0

Altitude Distribution

Lower Alt (feet AGL)	Upper Alt (feet AGL)	Percent Utilization
500	1000	65.0
1000	4000	35.0

Mission name = IR342 EA6B
Aircraft code =FM0370100 Speed = 301 kias Power = 90.0

Altitude Distribution

Lower Alt (feet AGL)	Upper Alt (feet AGL)	Percent Utilization
500	1000	65.0
1000	4000	35.0

Mission name = IR343 EA6B
Aircraft code =FM0370100 Speed = 301 kias Power = 90.0

Altitude Distribution

Lower Alt (feet AGL)	Upper Alt (feet AGL)	Percent Utilization
500	1000	65.0
1000	4000	30.0
4000	11000	5.0

Mission name = VR316 A10
Aircraft code =FM0090100 Speed = 325 kias Power = 5333.0

Altitude Distribution

Lower Alt	Upper Alt	Percent

(feet AGL)	(feet AGL)	Utilization
500	1000	65.0
1000	4000	35.0

Mission name = VR316 C130
Aircraft code =FM0290300 Speed = 170 kias Power = 970.0
Altitude Distribution

Lower Alt (feet AGL)	Upper Alt (feet AGL)	Percent Utilization
500	1000	65.0
1000	4000	35.0

Mission name = VR319 A10
Aircraft code =FM0090100 Speed = 325 kias Power = 5333.0
Altitude Distribution

Lower Alt (feet AGL)	Upper Alt (feet AGL)	Percent Utilization
500	1000	100.0

Mission name = VR1251 C17
Aircraft code =FM0200100 Speed = 250 kias Power = 92.0
Altitude Distribution

Lower Alt (feet AGL)	Upper Alt (feet AGL)	Percent Utilization
500	1000	65.0
1000	4000	35.0

Mission name = VR1251 C130
Aircraft code =FM0290300 Speed = 170 kias Power = 970.0
Altitude Distribution

Lower Alt (feet AGL)	Upper Alt (feet AGL)	Percent Utilization
500	1000	65.0
1000	4000	35.0

Mission name = VR1251 F16
Aircraft code =FM0440200 Speed = 420 kias Power = 90.0
Altitude Distribution

Lower Alt (feet AGL)	Upper Alt (feet AGL)	Percent Utilization
500	1000	65.0
1000	4000	35.0

Mission name = VR1251 F18
Aircraft code =FM0450100 Speed = 420 kias Power = 92.0
Altitude Distribution

Lower Alt (feet AGL)	Upper Alt (feet AGL)	Percent Utilization

500	1000	65.0
1000	4000	35.0

Mission name = VR1254 C17
Aircraft code =FM0200100 Speed = 250 kias Power = 92.0

Altitude Distribution

Lower Alt (feet AGL)	Upper Alt (feet AGL)	Percent Utilization
500	1000	65.0
1000	4000	35.0

Mission name = VR1254 C130
Aircraft code =FM0290300 Speed = 170 kias Power = 970.0

Altitude Distribution

Lower Alt (feet AGL)	Upper Alt (feet AGL)	Percent Utilization
500	1000	65.0
1000	4000	35.0

Mission name = VR1254 F18
Aircraft code =FM0450100 Speed = 420 kias Power = 92.0

Altitude Distribution

Lower Alt (feet AGL)	Upper Alt (feet AGL)	Percent Utilization
500	1000	65.0
1000	4000	35.0

Mission name = VR1301 A10
Aircraft code =FM0090100 Speed = 325 kias Power = 5333.0

Altitude Distribution

Lower Alt (feet AGL)	Upper Alt (feet AGL)	Percent Utilization
500	1000	65.0
1000	4000	35.0

Mission name = VR1301 C130
Aircraft code =FM0290300 Speed = 170 kias Power = 970.0

Altitude Distribution

Lower Alt (feet AGL)	Upper Alt (feet AGL)	Percent Utilization
500	1000	65.0
1000	4000	35.0

Mission name = VR1301 F15
Aircraft code =FM0430300 Speed = 420 kias Power = 90.0

Altitude Distribution

Lower Alt (feet AGL)	Upper Alt (feet AGL)	Percent Utilization

500	1000	65.0
1000	4000	35.0

Mission name = VR1301 F18
Aircraft code =FM0450100 Speed = 420 kias Power = 92.0

Altitude Distribution

Lower Alt (feet AGL)	Upper Alt (feet AGL)	Percent Utilization
500	1000	65.0
1000	4000	35.0

Mission name = VR1352 EA6B
Aircraft code =FM0370100 Speed = 300 kias Power = 90.0

Altitude Distribution

Lower Alt (feet AGL)	Upper Alt (feet AGL)	Percent Utilization
500	1000	65.0
1000	4000	35.0

Mission name = VR1353 EA6B
Aircraft code =FM0370100 Speed = 300 kias Power = 90.0

Altitude Distribution

Lower Alt (feet AGL)	Upper Alt (feet AGL)	Percent Utilization
500	1000	65.0
1000	4000	35.0

TRACK OPERATION DATA

Track name = IR300/313

Mission Name	Daily Day OPS	Daily Night OPS	Monthly Day OPS	Monthly Night OPS	Yearly Day OPS	Yearly Night OPS
IR300 F15	0.108	0.000	3.25	0.00	39.	0.

Track name = IR342

Mission Name	Daily Day OPS	Daily Night OPS	Monthly Day OPS	Monthly Night OPS	Yearly Day OPS	Yearly Night OPS
IR342 EA6B	0.025	0.000	0.75	0.00	9.	0.

Track name = IR343

Mission Name	Daily Day OPS	Daily Night OPS	Monthly Day OPS	Monthly Night OPS	Yearly Day OPS	Yearly Night OPS
IR343 EA6B	0.011	0.000	0.33	0.00	4.	0.

Track name = VR316

Mission Name	Daily Day OPS	Daily Night OPS	Monthly Day OPS	Monthly Night OPS	Yearly Day OPS	Yearly Night OPS
VR316 C130	0.083	0.000	2.50	0.00	30.	0.

Track name = VR319

Mission Name	Daily Day OPS	Daily Night OPS	Monthly Day OPS	Monthly Night OPS	Yearly Day OPS	Yearly Night OPS
VR319 A10	0.006	0.000	0.17	0.00	2.	0.

Track name = VR1251

Mission Name	Daily Day OPS	Daily Night OPS	Monthly Day OPS	Monthly Night OPS	Yearly Day OPS	Yearly Night OPS
VR1251 F18	0.056	0.000	1.67	0.00	20.	0.

Track name = VR1254

Mission Name	Daily Day OPS	Daily Night OPS	Monthly Day OPS	Monthly Night OPS	Yearly Day OPS	Yearly Night OPS
VR1254 F18	0.008	0.000	0.25	0.00	3.	0.

Track name = VR1301

Mission Name	Daily Day OPS	Daily Night OPS	Monthly Day OPS	Monthly Night OPS	Yearly Day OPS	Yearly Night OPS
VR1301 F18	0.011	0.000	0.33	0.00	4.	0.

Track name = VR1352

Mission Name	Daily Day OPS	Daily Night OPS	Monthly Day OPS	Monthly Night OPS	Yearly Day OPS	Yearly Night OPS
VR1352 EA6B	0.014	0.000	0.42	0.00	5.	0.

Track name = VR1353

Mission Name	Daily Day OPS	Daily Night OPS	Monthly Day OPS	Monthly Night OPS	Yearly Day OPS	Yearly Night OPS
VR1353 EA6B	0.161	0.000	4.83	0.00	58.	0.

***** MOA RANGE NOISEMAP *****
RESULTS

The noise metric is Ldnmr.

TRACK RESULTS

Track Name = IR300/313

Track Segment	Maximum Centerline Level (dB)	Number of Events Above SEL of 65.0 dB
01 - 02	43.5	0.1
02 - 03	43.5	0.1
03 - 04	43.5	0.1
04 - 05	44.1	0.1
05 - 06	44.1	0.1
06 - 07	43.5	0.1
07 - 08	44.1	0.1
08 - 09	44.1	0.1
09 - 10	44.1	0.1
10 - 11	43.5	0.1
11 - 12	43.5	0.1
12 - 13	43.5	0.1
13 - 14	43.5	0.1
14 - 15	43.5	0.1
15 - 16	41.5	0.1
16 - 17	41.8	0.1
17 - 18	44.1	0.1

Track Name = IR342

Track Segment	Maximum Centerline Level (dB)	Number of Events Above SEL of 65.0 dB
01 - 02	30.6	0.0
02 - 03	30.6	0.0
03 - 04	30.6	0.0
04 - 05	30.6	0.0
05 - 06	30.6	0.0
06 - 07	30.6	0.0
07 - 08	30.6	0.0
08 - 09	30.6	0.0

Track Name = IR343

Track Segment	Maximum Centerline Level (dB)	Number of Events Above SEL of 65.0 dB
01 - 02	15.4	0.0
02 - 03	16.0	0.0
03 - 04	16.0	0.0
04 - 05	16.0	0.0
05 - 06	15.0	0.0
06 - 07	27.1	0.0
07 - 08	27.1	0.0
08 - 09	16.6	0.0
09 - 10	16.6	0.0
10 - 11	16.6	0.0

11 - 12	16.0	0.0
12 - 13	13.8	0.0
13 - 14	13.8	0.0
14 - 15	15.4	0.0
15 - 16	15.4	0.0

Track Name = VR316

Track Segment	Maximum Centerline Level (dB)	Number of Events Above SEL of 65.0 dB
01 - 02	21.8	0.0
02 - 03	19.6	0.0
03 - 04	19.6	0.0
04 - 05	20.8	0.0
05 - 06	22.5	0.0
06 - 07	19.6	0.0
07 - 08	19.6	0.0
08 - 09	20.8	0.0
09 - 10	19.6	0.0
10 - 11	19.6	0.0
11 - 12	23.4	0.0

Track Name = VR319

Track Segment	Maximum Centerline Level (dB)	Number of Events Above SEL of 65.0 dB
01 - 02	10.4	0.0
02 - 03	7.0	0.0
03 - 04	7.0	0.0
04 - 05	8.0	0.0
05 - 06	7.0	0.0
06 - 07	7.0	0.0
07 - 08	9.5	0.0
08 - 09	8.0	0.0
09 - 10	7.0	0.0
10 - 11	7.0	0.0
11 - 12	8.8	0.0

Track Name = VR1251

Track Segment	Maximum Centerline Level (dB)	Number of Events Above SEL of 65.0 dB
01 - 02	39.8	0.0
02 - 03	39.8	0.0
03 - 04	39.8	0.0
04 - 05	39.8	0.0
05 - 06	34.2	0.0
06 - 07	39.8	0.0
07 - 08	39.8	0.0
08 - 09	39.8	0.0
09 - 10	39.8	0.0
10 - 11	39.8	0.0
11 - 12	39.8	0.0
12 - 13	39.8	0.0
13 - 14	39.8	0.0
14 - 15	39.8	0.0
15 - 16	39.8	0.0

Track Name = VR1254

Track Segment	Maximum Centerline Level (dB)	Number of Events Above SEL of 65.0 dB
01 - 02	31.6	0.0
02 - 03	31.6	0.0
03 - 04	31.6	0.0
04 - 05	31.6	0.0
05 - 06	31.6	0.0
06 - 07	31.6	0.0
07 - 08	31.6	0.0
08 - 09	31.6	0.0

Track Name = VR1301

Track Segment	Maximum Centerline Level (dB)	Number of Events Above SEL of 65.0 dB
01 - 02	30.6	0.0
02 - 03	30.6	0.0
03 - 04	30.6	0.0
04 - 05	30.6	0.0
05 - 06	30.6	0.0
06 - 07	30.6	0.0
07 - 08	30.6	0.0

Track Name = VR1352

Track Segment	Maximum Centerline Level (dB)	Number of Events Above SEL of 65.0 dB
01 - 02	28.1	0.0
02 - 03	28.1	0.0
03 - 04	28.1	0.0
04 - 05	28.1	0.0
05 - 06	28.1	0.0
06 - 07	28.1	0.0

Track Name = VR1353

Track Segment	Maximum Centerline Level (dB)	Number of Events Above SEL of 65.0 dB
01 - 02	35.3	0.1
02 - 03	35.3	0.1
03 - 04	38.7	0.1
04 - 05	38.7	0.1
05 - 06	38.7	0.1
06 - 07	38.7	0.1
07 - 08	38.7	0.1

<Run Log>
Date: 10/15/2014
Start Time: 15:38:45
Stop Time: 15:38:47
Total Running Time: 0 minutes and 2 seconds.

***** MOA RANGE NOISEMAP *****
Version 3.0
Release Date 2/7/2013

CASE INFORMATION
Case Name:PROPOSED W570 - Baseline Scenario
Site Name:OREGON ANG AIRSPACE

SETUP PARAMETERS
Number of MOAs and Ranges = 4 Number of tracks = 0
Lower Left Corner of Grid in feet (X Y pair) = -420311., -585692.
Upper Right Corner of Grid in feet (X Y pair) = 298789., 403408.
Grid spacing = 900. feet Number of events above an SEL of 65.0 dB
Temperature = 59 F Humidity = 70 Flying days per month = 30

MOA SPECIFICATIONS

MOA name W570A

Lat (deg)	Long (deg)
45.74973	-125.50140
46.16640	-124.33471
44.90055	-124.33443
44.84305	-124.35582
44.63305	-124.46777
44.18304	-125.50140
45.74973	-125.50140

Floor = 0 feet AGL Ceiling = 18000 feet AGL

MOA name W570B

Lat (deg)	Long (deg)
45.74973	-125.50140
45.85973	-125.50000
46.33335	-124.76666
46.33335	-124.33472
46.16640	-124.33471
45.74973	-125.50140

Floor = 1000 feet AGL Ceiling = 18000 feet AGL

MOA name W570C

Lat (deg)	Long (deg)
46.33335	-124.33472
46.33335	-124.21665
44.76666	-124.21666
44.63194	-124.46777
44.84305	-124.35582
44.90055	-124.33443
46.16640	-124.33471
46.33335	-124.33472

Floor = 11000 feet AGL Ceiling = 18000 feet AGL

MOA name W570D

Lat (deg)	Long (deg)
45.85973	-125.50000
45.28334	-126.36668
45.16667	-126.57502
45.00000	-126.50002
43.92498	-126.61668
43.72498	-126.46668
44.06665	-125.80834
44.18304	-125.50140
45.74973	-125.50140
45.85973	-125.50000

Floor = 1000 feet AGL Ceiling = 18000 feet AGL

MISSION DATA

Mission name = 142 W570A PROPOSED
Aircraft code =FM0430300 Speed = 400 kias Power = 90.0

Altitude Distribution

Lower Alt (feet AGL)	Upper Alt (feet AGL)	Percent Utilization
1000	3000	5.0
3000	5000	5.0
5000	7000	5.0
7000	18000	85.0

Mission name = 142 W570B PROPOSED
Aircraft code =FM0430300 Speed = 400 kias Power = 90.0

Altitude Distribution

Lower Alt (feet AGL)	Upper Alt (feet AGL)	Percent Utilization
1000	3000	5.0
3000	5000	5.0
5000	7000	5.0
7000	18000	85.0

Mission name = 142 W570C PROPOSED
Aircraft code =FM0430300 Speed = 400 kias Power = 90.0

Altitude Distribution

Lower Alt (feet AGL)	Upper Alt (feet AGL)	Percent Utilization
11000	14999	50.0
14999	18000	50.0

Mission name = 142 W570D PROPOSED
Aircraft code =FM0430300 Speed = 400 kias Power = 90.0

Altitude Distribution

Lower Alt (feet AGL)	Upper Alt (feet AGL)	Percent Utilization

1000	3000	5.0
3000	5000	5.0
5000	7000	5.0
7000	18000	85.0

MOA OPERATION DATA

MOA name = W570A

Mission Name	Daily Day OPS	Daily Night OPS	Monthly Day OPS	Monthly Night OPS	Yearly Day OPS	Yearly Night OPS	Time On Range (minutes)	
142 W570A PROPOSED		5.000	0.000	150.00	0.00	1800.	0.	30.

MOA name = W570B

Mission Name	Daily Day OPS	Daily Night OPS	Monthly Day OPS	Monthly Night OPS	Yearly Day OPS	Yearly Night OPS	Time On Range (minutes)	
142 W570B PROPOSED		1.667	0.000	50.00	0.00	600.	0.	10.

MOA name = W570C

Mission Name	Daily Day OPS	Daily Night OPS	Monthly Day OPS	Monthly Night OPS	Yearly Day OPS	Yearly Night OPS	Time On Range (minutes)	
142 W570C PROPOSED		1.528	0.000	45.83	0.00	550.	0.	8.

MOA name = W570D

Mission Name	Daily Day OPS	Daily Night OPS	Monthly Day OPS	Monthly Night OPS	Yearly Day OPS	Yearly Night OPS	Time On Range (minutes)	
142 W570D PROPOSED		1.944	0.000	58.33	0.00	700.	0.	12.

***** MOA RANGE NOISEMAP *****
RESULTS

The noise metric is Ldnmr.

MOA RESULTS

MOA Name	MOA Area (sq statute miles)	Uniform Distributed Sound Level (dB)	Number of Daily Events Above SEL of 65.0 dB
W570A	5940.9	40.1	0.1
W570B	871.2	40.6	0.1

W570C	673.0	35.0	0.7
W570D	5592.4	35.0	0.0

<Run Log>
Date: 10/15/2014
Start Time: 15:31:50
Stop Time: 15:33:21
Total Running Time: 1 minutes and 31 seconds.

***** MOA RANGE NOISEMAP *****
Version 3.0
Release Date 2/7/2013

CASE INFORMATION
Case Name:PROPOSED EEL MOA - Baseline Scenario
Site Name:OREGON ANG AIRSPACE

SETUP PARAMETERS
Number of MOAs and Ranges = 4 Number of tracks = 0
Lower Left Corner of Grid in feet (X Y pair) = -134550., -326702.
Upper Right Corner of Grid in feet (X Y pair) = 134550., 302398.
Grid spacing = 900. feet Number of events above an SEL of 65.0 dB
Temperature = 59 F Humidity = 70 Flying days per month = 30

MOA SPECIFICATIONS

MOA name EEL A MOA

Lat (deg)	Long (deg)
46.33334	-124.21667
46.33334	-123.83334
46.11667	-123.50000
45.96667	-123.50000
45.96667	-124.21667
46.33334	-124.21667

Floor = 11000 feet AGL Ceiling = 50000 feet AGL

MOA name EEL B MOA

Lat (deg)	Long (deg)
45.96667	-123.50000
45.96667	-124.21667
45.60000	-124.21667
45.60000	-123.50000
45.96667	-123.50000

Floor = 11000 feet AGL Ceiling = 50000 feet AGL

MOA name EEL C MOA

Lat (deg)	Long (deg)
45.60000	-124.21667
45.60000	-123.50000
45.19999	-123.50000
45.19999	-124.21667
45.60000	-124.21667

Floor = 11000 feet AGL Ceiling = 50000 feet AGL

MOA name EEL D MOA

Lat (deg)	Long (deg)
45.19999	-123.50000

45.19999 -124.21667
44.76665 -124.21667
45.11666 -123.50000
45.19999 -123.50000
Floor = 11000 feet AGL Ceiling = 50000 feet AGL

MISSION DATA

Mission name = 142 EEL A PROPOSED
Aircraft code =FM0430300 Speed = 350 kias Power = 90.0

Altitude Distribution

Lower Alt (feet AGL)	Upper Alt (feet AGL)	Percent Utilization
11000	15000	50.0
15000	18000	50.0

Mission name = 142 EEL B PROPOSED
Aircraft code =FM0430300 Speed = 350 kias Power = 90.0

Altitude Distribution

Lower Alt (feet AGL)	Upper Alt (feet AGL)	Percent Utilization
11000	15000	50.0
15000	18000	50.0

Mission name = 142 EEL C PROPOSED
Aircraft code =FM0430300 Speed = 350 kias Power = 90.0

Altitude Distribution

Lower Alt (feet AGL)	Upper Alt (feet AGL)	Percent Utilization
11000	15000	50.0
15000	18000	50.0

Mission name = 142 EEL D PROPOSED
Aircraft code =FM0430300 Speed = 350 kias Power = 90.0

Altitude Distribution

Lower Alt (feet AGL)	Upper Alt (feet AGL)	Percent Utilization
11000	15000	50.0
15000	18000	50.0

MOA OPERATION DATA

MOA name = EEL A MOA

Mission Name	Daily Day OPS	Daily Night OPS	Monthly Day OPS	Monthly Night OPS	Yearly Day OPS	Yearly Night OPS	Time On Range (minutes)	
142 EEL A PROPOSED		0.500	0.000	15.00	0.00	180.	0.	20.

MOA name = EEL B MOA

Mission Name	Daily Day OPS	Daily Night OPS	Monthly Day OPS	Monthly Night OPS	Yearly Day OPS	Yearly Night OPS	Time On Range (minutes)	
142 EEL B PROPOSED		0.750	0.000	22.50	0.00	270.	0.	20.

MOA name = EEL C MOA

Mission Name	Daily Day OPS	Daily Night OPS	Monthly Day OPS	Monthly Night OPS	Yearly Day OPS	Yearly Night OPS	Time On Range (minutes)	
142 EEL C PROPOSED		0.750	0.000	22.50	0.00	270.	0.	20.

MOA name = EEL D MOA

Mission Name	Daily Day OPS	Daily Night OPS	Monthly Day OPS	Monthly Night OPS	Yearly Day OPS	Yearly Night OPS	Time On Range (minutes)	
142 EEL D PROPOSED		0.500	0.000	15.00	0.00	180.	0.	20.

***** MOA RANGE NOISEMAP *****
RESULTS

The noise metric is Ldnmr.

MOA RESULTS

MOA Name	MOA Area (sq statute miles)	Uniform Distributed Sound Level (dB)	Number of Daily Events Above SEL of 65.0 dB
EEL A MOA	751.2	35.0	0.4
EEL B MOA	876.9	35.0	0.4
EEL C MOA	963.2	35.0	0.4
EEL D MOA	625.0	35.0	0.5

<Run Log>
Date: 10/15/2014
Start Time: 16: 2:41
Stop Time: 16: 2:46
Total Running Time: 0 minutes and 5 seconds.

***** MOA RANGE NOISEMAP *****
Version 3.0
Release Date 2/7/2013

CASE INFORMATION
Case Name:PRPOSED JUNIPER HART MOAs - Baseline Scenario
Site Name:OREGON ANG AIRSPACE

SETUP PARAMETERS
Number of MOAs and Ranges = 10 Number of tracks = 0
Lower Left Corner of Grid in feet (X Y pair) = -314550., -584550.
Upper Right Corner of Grid in feet (X Y pair) = 314550., 584550.
Grid spacing = 900. feet Number of events above an SEL of 65.0 dB
Temperature = 59 F Humidity = 70 Flying days per month = 30

MOA SPECIFICATIONS

MOA name HART A MOA

Lat (deg)	Long (deg)
42.66667	-120.30112
42.66667	-119.16777
42.43333	-119.22610
42.43333	-120.21834
42.66667	-120.30112

Floor = 6000 feet AGL Ceiling = 13000 feet AGL

MOA name HART B MOA

Lat (deg)	Long (deg)
42.43333	-120.21834
42.43333	-119.22610
41.49998	-119.45111
41.49999	-119.91778
42.43333	-120.21834

Floor = 6000 feet AGL Ceiling = 13000 feet AGL

MOA name HART C MOA

Lat (deg)	Long (deg)
42.66667	-119.16777
42.66667	-118.73138
42.43333	-118.73138
42.43333	-119.22610
42.66667	-119.16777

Floor = 6000 feet AGL Ceiling = 13000 feet AGL

MOA name HART D MOA

Lat (deg)	Long (deg)
42.43333	-119.22610
42.43333	-118.73138

42.37611 -118.73138
41.87888 -118.86860
41.49999 -119.31000
41.49998 -119.45111
42.43333 -119.22610
Floor = 6000 feet AGL Ceiling = 13000 feet AGL

MOA name HART E MOA
Lat Long
(deg) (deg)
41.49999 -119.91778
41.49998 -119.45111
41.49999 -119.31000
41.16665 -119.69444
41.16665 -119.79445
41.49999 -119.91778
Floor = 6000 feet AGL Ceiling = 13000 feet AGL

MOA name HART F MOA
Lat Long
(deg) (deg)
41.87888 -118.86860
41.49999 -118.97194
41.16665 -119.39333
41.16665 -119.69444
41.49999 -119.31000
41.87888 -118.86860
Floor = 6000 feet AGL Ceiling = 13000 feet AGL

MOA name JUNIPER A MOA
Lat Long
(deg) (deg)
43.93307 -120.73446
43.95141 -120.44001
43.84168 -120.13000
43.35001 -120.53001
43.93307 -120.73446
Floor = 6000 feet AGL Ceiling = 13000 feet AGL

MOA name JUNIPER B MOA
Lat Long
(deg) (deg)
43.35001 -120.53001
43.84168 -120.13000
43.63335 -119.56667
42.66667 -119.16777
42.66667 -120.30112
43.35001 -120.53001
Floor = 6000 feet AGL Ceiling = 13000 feet AGL

MOA name JUNIPER C MOA
Lat Long
(deg) (deg)
43.63335 -119.56667

43.51307 -119.20000
43.17112 -118.98555
43.17112 -119.37555
43.63335 -119.56667
Floor = 6000 feet AGL Ceiling = 13000 feet AGL

MOA name JUNIPER D MOA

Lat (deg)	Long (deg)
43.17112	-119.37555
43.17112	-118.98555
42.76611	-118.73221
42.66667	-118.73221
42.66667	-119.16777
43.17112	-119.37555

Floor = 6000 feet AGL Ceiling = 13000 feet AGL

MISSION DATA

Mission name = 142 HART A PROPOSED
Aircraft code =FM0430300 Speed = 400 kias Power = 90.0

Altitude Distribution

Lower Alt (feet AGL)	Upper Alt (feet AGL)	Percent Utilization
6000	10000	50.0
10000	13000	50.0

Mission name = 142 HART B PROPOSED
Aircraft code =FM0430301 Speed = 350 kias Power = 85.0

Altitude Distribution

Lower Alt (feet AGL)	Upper Alt (feet AGL)	Percent Utilization
6000	10000	50.0
10000	13000	50.0

Mission name = 142 HART C PROPOSED
Aircraft code =FM0430301 Speed = 350 kias Power = 85.0

Altitude Distribution

Lower Alt (feet AGL)	Upper Alt (feet AGL)	Percent Utilization
6000	10000	50.0
10000	13000	50.0

Mission name = 142 HART D PROPOSED
Aircraft code =FM0430301 Speed = 350 kias Power = 85.0

Altitude Distribution

Lower Alt (feet AGL)	Upper Alt (feet AGL)	Percent Utilization
6000	10000	50.0
10000	13000	50.0

Mission name = 142 HART E PROPOSED
Aircraft code =FM0430301 Speed = 350 kias Power = 85.0

Altitude Distribution

Lower Alt (feet AGL)	Upper Alt (feet AGL)	Percent Utilization
6000	10000	50.0
10000	13000	50.0

Mission name = 142 HART F PROPOSED
Aircraft code =FM0430301 Speed = 350 kias Power = 85.0

Altitude Distribution

Lower Alt (feet AGL)	Upper Alt (feet AGL)	Percent Utilization
6000	10000	50.0
10000	13000	50.0

Mission name = 142 JUNIPER A PROPOSED
Aircraft code =FM0430300 Speed = 350 kias Power = 90.0

Altitude Distribution

Lower Alt (feet AGL)	Upper Alt (feet AGL)	Percent Utilization
6000	10000	50.0
10000	13000	50.0

Mission name = 142 JUNIPER B PROPOSED
Aircraft code =FM0430300 Speed = 400 kias Power = 90.0

Altitude Distribution

Lower Alt (feet AGL)	Upper Alt (feet AGL)	Percent Utilization
6000	10000	50.0
10000	13000	50.0

Mission name = 142 JUNIPER C PROPOSED
Aircraft code =FM0430300 Speed = 400 kias Power = 90.0

Altitude Distribution

Lower Alt (feet AGL)	Upper Alt (feet AGL)	Percent Utilization
6000	10000	50.0
10000	13000	50.0

Mission name = 142 JUNIPER D PROPOSED
Aircraft code =FM0430300 Speed = 400 kias Power = 90.0

Altitude Distribution

Lower Alt (feet AGL)	Upper Alt (feet AGL)	Percent Utilization
6000	10000	50.0
10000	13000	50.0

Mission name = 173 HART A PROPOSED
Aircraft code =FM0430300 Speed = 400 kias Power = 90.0

Altitude Distribution

Lower Alt (feet AGL)	Upper Alt (feet AGL)	Percent Utilization
6000	10000	50.0
10000	13000	50.0

Mission name = 173 HART B PROPOSED
Aircraft code =FM0430300 Speed = 400 kias Power = 90.0

Altitude Distribution

Lower Alt (feet AGL)	Upper Alt (feet AGL)	Percent Utilization
6000	10000	50.0
10000	13000	50.0

Mission name = 173 HART C PROPOSED
Aircraft code =FM0430300 Speed = 400 kias Power = 90.0

Altitude Distribution

Lower Alt (feet AGL)	Upper Alt (feet AGL)	Percent Utilization
6000	10000	50.0
10000	13000	50.0

Mission name = 173 HART D PROPOSED
Aircraft code =FM0430300 Speed = 400 kias Power = 90.0

Altitude Distribution

Lower Alt (feet AGL)	Upper Alt (feet AGL)	Percent Utilization
6000	10000	50.0
10000	13000	50.0

Mission name = 173 HART E PROPOSED
Aircraft code =FM0430300 Speed = 400 kias Power = 90.0

Altitude Distribution

Lower Alt (feet AGL)	Upper Alt (feet AGL)	Percent Utilization
6000	10000	50.0
10000	13000	50.0

Mission name = 173 HART F PROPOSED
Aircraft code =FM0430300 Speed = 400 kias Power = 90.0

Altitude Distribution

Lower Alt (feet AGL)	Upper Alt (feet AGL)	Percent Utilization
6000	10000	50.0
10000	13000	50.0

Mission name = 173 JUNIPER A PROPOSED
Aircraft code =FM0430302 Speed = 350 kias Power = 89.0

Altitude Distribution

Lower Alt (feet AGL)	Upper Alt (feet AGL)	Percent Utilization
6000	10000	50.0
10000	13000	50.0

Mission name = 173 JUNIPER B PROPOSED
Aircraft code =FM0430300 Speed = 400 kias Power = 90.0

Altitude Distribution

Lower Alt (feet AGL)	Upper Alt (feet AGL)	Percent Utilization
6000	10000	50.0
10000	13000	50.0

Mission name = 173 JUNIPER C PROPOSED
Aircraft code =FM0430300 Speed = 400 kias Power = 90.0

Altitude Distribution

Lower Alt (feet AGL)	Upper Alt (feet AGL)	Percent Utilization
6000	10000	50.0
10000	13000	50.0

Mission name = 173 JUNIPER D PROPOSED
Aircraft code =FM0430300 Speed = 400 kias Power = 90.0

Altitude Distribution

Lower Alt (feet AGL)	Upper Alt (feet AGL)	Percent Utilization
6000	10000	50.0
10000	13000	50.0

MOA OPERATION DATA

MOA name = HART A MOA

Mission Name	Daily Day OPS	Daily Night OPS	Monthly Day OPS	Monthly Night OPS	Yearly Day OPS	Yearly Night OPS	Time On Range (minutes)	
142 HART A PROPOSED		1.111	0.000	33.33	0.00	400.	0.	10.
173 HART A PROPOSED		6.419	0.000	192.58	0.00	2311.	0.	3.

MOA name = HART B MOA

Mission Name	Daily Day OPS	Daily Night OPS	Monthly Day OPS	Monthly Night OPS	Yearly Day OPS	Yearly Night OPS	Time On Range (minutes)	
142 HART B PROPOSED		0.417	0.000	12.50	0.00	150.	0.	5.
173 HART B PROPOSED		5.111	0.000	153.33	0.00	1840.	0.	9.

MOA name = HART C MOA

Mission Name	Daily Day OPS	Daily Night OPS	Monthly Day OPS	Monthly Night OPS	Yearly Day OPS	Yearly Night OPS	Time On Range (minutes)	
142 HART C PROPOSED		0.111	0.000	3.33	0.00	40.	0.	5.
173 HART C PROPOSED		3.014	0.000	90.42	0.00	1085.	0.	3.

MOA name = HART D MOA

Mission Name	Daily Day OPS	Daily Night OPS	Monthly Day OPS	Monthly Night OPS	Yearly Day OPS	Yearly Night OPS	Time On Range (minutes)	
142 HART D PROPOSED		0.028	0.000	0.83	0.00	10.	0.	5.
173 HART D PROPOSED		3.014	0.000	90.42	0.00	1085.	0.	3.

MOA name = HART E MOA

Mission Name	Daily Day OPS	Daily Night OPS	Monthly Day OPS	Monthly Night OPS	Yearly Day OPS	Yearly Night OPS	Time On Range (minutes)	
142 HART E PROPOSED		0.003	0.000	0.08	0.00	1.	0.	1.
173 HART E PROPOSED		1.967	0.000	59.00	0.00	708.	0.	3.

MOA name = HART F MOA

Mission Name	Daily Day OPS	Daily Night OPS	Monthly Day OPS	Monthly Night OPS	Yearly Day OPS	Yearly Night OPS	Time On Range (minutes)	
142 HART F PROPOSED		0.003	0.000	0.08	0.00	1.	0.	1.
173 HART F PROPOSED		1.967	0.000	59.00	0.00	708.	0.	2.

MOA name = JUNIPER A MOA

Mission Name	Daily Day OPS	Daily Night OPS	Monthly Day OPS	Monthly Night OPS	Yearly Day OPS	Yearly Night OPS	Time On Range (minutes)	
142 JUNIPER A PROPOSED		1.111	0.000	33.33	0.00	400.	0.	25.
173 JUNIPER A PROPOSED		1.442	0.000	43.25	0.00	519.	0.	2.

MOA name = JUNIPER B MOA

Mission Name	Daily Day OPS	Daily Night OPS	Monthly Day OPS	Monthly Night OPS	Yearly Day OPS	Yearly Night OPS	Time On Range (minutes)	
142 JUNIPER B PROPOSED		1.389	0.000	41.67	0.00	500.	0.	15.
173 JUNIPER B PROPOSED		9.042	0.000	271.25	0.00	3255.	0.	9.

MOA name = JUNIPER C MOA

Mission Name	Daily Day OPS	Daily Night OPS	Monthly Day OPS	Monthly Night OPS	Yearly Day OPS	Yearly Night OPS	Time On Range (minutes)

142 JUNIPER C PROPOSED	0.317	0.000	9.50	0.00	114.	0.	10.
173 JUNIPER C PROPOSED	3.014	0.000	90.42	0.00	1085.	0.	2.

MOA name = JUNIPER D MOA

Mission Name	Daily Day OPS	Daily Night OPS	Monthly Day OPS	Monthly Night OPS	Yearly Day OPS	Yearly Night OPS	Time On Range (minutes)	
142 JUNIPER D PROPOSED	0.239	0.000	7.17	0.00	86.	0.	10.	
173 JUNIPER D PROPOSED	3.014	0.000	90.42	0.00	1085.	0.	2.	

***** MOA RANGE NOISEMAP *****
RESULTS

The noise metric is Ldnmr.

MOA RESULTS

MOA Name	MOA Area (sq statute miles)	Uniform Distributed Sound Level (dB)	Number of Daily Events Above SEL of 65.0 dB
HART A MOA	874.7	41.0	0.3
HART B MOA	2416.5	37.1	0.2
HART C MOA	382.6	39.7	0.3
HART D MOA	1411.3	35.0	0.1
HART E MOA	423.0	36.9	0.2
HART F MOA	612.0	35.0	0.1
JUNIPER A MOA	640.8	42.2	0.1
JUNIPER B MOA	3800.8	38.5	0.2
JUNIPER C MOA	486.4	38.5	0.2
JUNIPER D MOA	773.2	36.3	0.1

<Run Log>
Date: 10/15/2014
Start Time: 15:47:13
Stop Time: 15:50: 0
Total Running Time: 2 minutes and 47 seconds.

***** MOA RANGE NOISEMAP *****
Version 3.0
Release Date 2/7/2013

CASE INFORMATION
Case Name:PROPOSED JUNIPER LOW and JUNIPER LOW EAST MOAs - Baseline Scenario
Site Name:OREGON ANG AIRSPACE

SETUP PARAMETERS
Number of MOAs and Ranges = 2 Number of tracks = 0
Lower Left Corner of Grid in feet (X Y pair) = -330311., -26505.
Upper Right Corner of Grid in feet (X Y pair) = 208789., 512595.
Grid spacing = 900. feet Number of events above an SEL of 65.0 dB
Temperature = 59 F Humidity = 70 Flying days per month = 30

MOA SPECIFICATIONS

MOA name JUNIPER EAST LOW MOA

Lat (deg)	Long (deg)
43.63335	-119.56667
43.55946	-119.34110
43.44473	-119.15721
43.07612	-118.92693
42.76667	-118.92693
42.76667	-119.20750
43.63335	-119.56667

Floor = 500 feet AGL Ceiling = 11000 feet AGL

MOA name MOA US JUNIPER LOW

Lat (deg)	Long (deg)
43.93307	-120.73446
43.95141	-120.44001
43.63335	-119.56778
42.76667	-119.20750
42.76667	-120.33362
43.93307	-120.73446

Floor = 500 feet AGL Ceiling = 11000 feet AGL

MISSION DATA
Mission name = 142 JUNIPER EAST LOW PROPOSED
Aircraft code =FM0430300 Speed = 420 kias Power = 90.0
Altitude Distribution

Lower Alt (feet AGL)	Upper Alt (feet AGL)	Percent Utilization
500	1000	35.0
1000	3000	35.0
3000	5000	20.0
5000	6000	10.0

Mission name = 142 JUNIPER LOW PROPOSED
Aircraft code =FM0430300 Speed = 420 kias Power = 90.0

Altitude Distribution

Lower Alt (feet AGL)	Upper Alt (feet AGL)	Percent Utilization
500	1000	35.0
1000	3000	35.0
3000	5000	20.0
5000	6000	10.0

Mission name = 173 JUNIPER EAST LOW PROPOSED
Aircraft code =FM0430300 Speed = 420 kias Power = 90.0

Altitude Distribution

Lower Alt (feet AGL)	Upper Alt (feet AGL)	Percent Utilization
500	1000	20.0
1000	3000	40.0
3000	5000	35.0
5000	6000	5.0

Mission name = 173 JUNIPER LOW PROPOSED
Aircraft code =FM0430300 Speed = 420 kias Power = 90.0

Altitude Distribution

Lower Alt (feet AGL)	Upper Alt (feet AGL)	Percent Utilization
500	1000	20.0
1000	3000	40.0
3000	5000	35.0
5000	6000	5.0

MOA OPERATION DATA

MOA name = JUNIPER EAST LOW MOA

Mission Name	Daily Day OPS	Daily Night OPS	Monthly Day OPS	Monthly Night OPS	Yearly Day OPS	Yearly Night OPS	Time On Range (minutes)		
142 JUNIPER EAST LOW PROPOSED			0.167	0.000	5.00	0.00	60.	0.	10.
173 JUNIPER EAST LOW PROPOSED			1.181	0.000	35.42	0.00	425.	0.	5.

MOA name = MOA US JUNIPER LOW

Mission Name	Daily Day OPS	Daily Night OPS	Monthly Day OPS	Monthly Night OPS	Yearly Day OPS	Yearly Night OPS	Time On Range (minutes)		
142 JUNIPER LOW PROPOSED			1.500	0.000	45.00	0.00	540.	0.	10.
173 JUNIPER LOW PROPOSED			1.833	0.000	55.00	0.00	660.	0.	10.

***** MOA RANGE NOISEMAP *****
RESULTS

The noise metric is Ldnmr.

MOA RESULTS

MOA Name	MOA Area (sq statute miles)	Uniform Distributed Sound Level (dB)	Number of Daily Events Above SEL of 65.0 dB
JUNIPER EAST LOW MOA	975.9	46.3	0.0
MOA US JUNIPER LOW	4044.5	45.8	0.0

<Run Log>
Date: 10/15/2014
Start Time: 15:40:30
Stop Time: 15:41:17
Total Running Time: 0 minutes and 47 seconds.

***** MOA RANGE NOISEMAP *****
Version 3.0
Release Date 2/7/2013

CASE INFORMATION
Case Name:PROPOSED REDHAWK MOA - Baseline Scenario
Site Name:OREGON ANG AIRSPACE

SETUP PARAMETERS
Number of MOAs and Ranges = 3 Number of tracks = 0
Lower Left Corner of Grid in feet (X Y pair) = -314550., -208789.
Upper Right Corner of Grid in feet (X Y pair) = 314550., 330311.
Grid spacing = 900. feet Number of events above an SEL of 65.0 dB
Temperature = 59 F Humidity = 70 Flying days per month = 30

MOA SPECIFICATIONS

MOA name REDHAWK A MOA

Lat (deg)	Long (deg)
45.10001	-121.01668
45.55001	-120.86668
45.50001	-120.25834
45.00001	-120.40000
45.10001	-121.01668

Floor = 7500 feet AGL Ceiling = 14500 feet AGL

MOA name REDHAWK B MOA

Lat (deg)	Long (deg)
45.50001	-120.25834
45.38334	-119.13332
44.58333	-119.14999
45.00001	-120.40000
45.50001	-120.25834

Floor = 7500 feet AGL Ceiling = 14500 feet AGL

MOA name REDHAWK C MOA

Lat (deg)	Long (deg)
45.10001	-121.01668
45.00001	-120.40000
44.58333	-119.14999
44.41666	-119.14999
44.45000	-121.01668
45.10001	-121.01668

Floor = 7500 feet AGL Ceiling = 14500 feet AGL

MISSION DATA
Mission name = 142 REDHAWK A PROPOSED
Aircraft code =FM0430300 Speed = 350 kias Power = 90.0

Altitude Distribution

Lower Alt (feet AGL)	Upper Alt (feet AGL)	Percent Utilization
7500	11500	50.0
11500	14500	50.0

Mission name = 142 REDHAWK B PROPOSED
Aircraft code =FM0430300 Speed = 350 kias Power = 90.0

Altitude Distribution

Lower Alt (feet AGL)	Upper Alt (feet AGL)	Percent Utilization
7500	11500	50.0
11500	14500	50.0

Mission name = 142 REDHAWK C PROPOSED
Aircraft code =FM0430300 Speed = 350 kias Power = 90.0

Altitude Distribution

Lower Alt (feet AGL)	Upper Alt (feet AGL)	Percent Utilization
7500	11500	50.0
11500	14500	50.0

MOA OPERATION DATA

MOA name = REDHAWK A MOA

Mission Name	Daily Day OPS	Daily Night OPS	Monthly Day OPS	Monthly Night OPS	Yearly Day OPS	Yearly Night OPS	Time On Range (minutes)
142 REDHAWK A PROPOSED	0.278	0.000	8.33	0.00	100.	0.	20.

MOA name = REDHAWK B MOA

Mission Name	Daily Day OPS	Daily Night OPS	Monthly Day OPS	Monthly Night OPS	Yearly Day OPS	Yearly Night OPS	Time On Range (minutes)
142 REDHAWK B PROPOSED	1.389	0.000	41.67	0.00	500.	0.	20.

MOA name = REDHAWK C MOA

Mission Name	Daily Day OPS	Daily Night OPS	Monthly Day OPS	Monthly Night OPS	Yearly Day OPS	Yearly Night OPS	Time On Range (minutes)
142 REDHAWK C PROPOSED	1.389	0.000	41.67	0.00	500.	0.	20.

***** MOA RANGE NOISEMAP *****
RESULTS

The noise metric is Ldnmr.

MOA RESULTS

MOA Name	MOA Area (sq statute miles)	Uniform Distributed Sound Level (dB)	Number of Daily Events Above SEL of 65.0 dB
REDHAWK A MOA	1016.1	35.0	0.0
REDHAWK B MOA	2674.9	35.0	0.0
REDHAWK C MOA	2808.4	35.0	0.0

<Run Log>
Date: 10/15/2014
Start Time: 15:37:30
Stop Time: 15:37:41
Total Running Time: 0 minutes and 12 seconds.

***** MOA RANGE NOISEMAP *****
Version 3.0
Release Date 2/7/2013

CASE INFORMATION
Case Name:PROPOSED ALT B REDHAWK MOA - Baseline Scenario
Site Name:OREGON ANG AIRSPACE

SETUP PARAMETERS
Number of MOAs and Ranges = 3 Number of tracks = 0
Lower Left Corner of Grid in feet (X Y pair) = -239169., -133408.
Upper Right Corner of Grid in feet (X Y pair) = 299931., 315692.
Grid spacing = 900. feet Number of events above an SEL of 65.0 dB
Temperature = 59 F Humidity = 70 Flying days per month = 30

MOA SPECIFICATIONS

MOA name REDHAWK A MOA

Lat (deg)	Long (deg)
45.10001	-121.01668
45.55001	-120.86668
45.50001	-120.25834
45.00001	-120.40000
45.10001	-121.01668

Floor = 7500 feet AGL Ceiling = 14500 feet AGL

MOA name REDHAWK B MOA

Lat (deg)	Long (deg)
45.50001	-120.25834
45.38334	-119.13332
44.58333	-119.14999
45.00001	-120.40000
45.50001	-120.25834

Floor = 7500 feet AGL Ceiling = 14500 feet AGL

MOA name REDHAWK C MOA

Lat (deg)	Long (deg)
45.10001	-121.01668
45.00001	-120.40000
44.58333	-119.14999
44.41666	-119.14999
44.45000	-121.01668
45.10001	-121.01668

Floor = 7500 feet AGL Ceiling = 14500 feet AGL

MISSION DATA
Mission name = 142 EEL A PROPOSED
Aircraft code =FM0430300 Speed = 350 kias Power = 90.0

Altitude Distribution

Lower Alt (feet AGL)	Upper Alt (feet AGL)	Percent Utilization
11000	15000	50.0
15000	18000	50.0

Mission name = 142 EEL B PROPOSED
Aircraft code =FM0430300 Speed = 350 kias Power = 90.0

Altitude Distribution

Lower Alt (feet AGL)	Upper Alt (feet AGL)	Percent Utilization
11000	15000	50.0
15000	18000	50.0

Mission name = 142 EEL C PROPOSED
Aircraft code =FM0430300 Speed = 350 kias Power = 90.0

Altitude Distribution

Lower Alt (feet AGL)	Upper Alt (feet AGL)	Percent Utilization
11000	15000	50.0
15000	18000	50.0

Mission name = 142 EEL D PROPOSED
Aircraft code =FM0430300 Speed = 350 kias Power = 90.0

Altitude Distribution

Lower Alt (feet AGL)	Upper Alt (feet AGL)	Percent Utilization
11000	15000	50.0
15000	18000	50.0

Mission name = 142 REDHAWK A PROPOSED
Aircraft code =FM0430300 Speed = 350 kias Power = 90.0

Altitude Distribution

Lower Alt (feet AGL)	Upper Alt (feet AGL)	Percent Utilization
7500	11500	50.0
11500	14500	50.0

Mission name = 142 REDHAWK B PROPOSED
Aircraft code =FM0430300 Speed = 350 kias Power = 90.0

Altitude Distribution

Lower Alt (feet AGL)	Upper Alt (feet AGL)	Percent Utilization
7500	11500	50.0
11500	14500	50.0

Mission name = 142 REDHAWK C PROPOSED
Aircraft code =FM0430300 Speed = 350 kias Power = 90.0

Altitude Distribution

Lower Alt (feet AGL)	Upper Alt (feet AGL)	Percent Utilization
7500	11500	50.0
11500	13500	50.0

MOA OPERATION DATA

MOA name = REDHAWK A MOA

Mission Name	Daily Day OPS	Daily Night OPS	Monthly Day OPS	Monthly Night OPS	Yearly Day OPS	Yearly Night OPS	Time On Range (minutes)	
142 EEL A PROPOSED	0.500	0.000	15.00	0.00	180.	0.	20.	
142 REDHAWK A PROPOSED	0.278	0.000	8.33	0.00	100.	0.	20.	

MOA name = REDHAWK B MOA

Mission Name	Daily Day OPS	Daily Night OPS	Monthly Day OPS	Monthly Night OPS	Yearly Day OPS	Yearly Night OPS	Time On Range (minutes)	
142 EEL B PROPOSED	0.750	0.000	22.50	0.00	270.	0.	20.	
142 REDHAWK B PROPOSED	1.389	0.000	41.67	0.00	500.	0.	20.	

MOA name = REDHAWK C MOA

Mission Name	Daily Day OPS	Daily Night OPS	Monthly Day OPS	Monthly Night OPS	Yearly Day OPS	Yearly Night OPS	Time On Range (minutes)	
142 EEL C PROPOSED	0.750	0.000	22.50	0.00	270.	0.	20.	
142 EEL D PROPOSED	0.500	0.000	15.00	0.00	180.	0.	20.	
142 REDHAWK C PROPOSED	1.389	0.000	41.67	0.00	500.	0.	20.	

***** MOA RANGE NOISEMAP *****
RESULTS

The noise metric is Ldnmr.

MOA RESULTS

MOA Name	MOA Area (sq statute miles)	Uniform Distributed Sound Level (dB)	Number of Daily Events Above SEL of 65.0 dB
REDHAWK A MOA	1016.1	35.0	0.0
REDHAWK B MOA	2674.9	35.0	0.0
REDHAWK C MOA	2808.4	35.0	0.2

<Run Log>
Date: 10/15/2014
Start Time: 15:36:10
Stop Time: 15:36:27
Total Running Time: 0 minutes and 17 seconds.

***** MOA RANGE NOISEMAP *****
Version 3.0
Release Date 2/7/2013

CASE INFORMATION
Case Name:PROPOSED EEL MOA - Baseline Scenario
Site Name:OREGON ANG AIRSPACE

SETUP PARAMETERS
Number of MOAs and Ranges = 4 Number of tracks = 0
Lower Left Corner of Grid in feet (X Y pair) = -134550., -326702.
Upper Right Corner of Grid in feet (X Y pair) = 134550., 302398.
Grid spacing = 900. feet Number of events above an SEL of 65.0 dB
Temperature = 59 F Humidity = 70 Flying days per month = 30

MOA SPECIFICATIONS

MOA name EEL A MOA

Lat (deg)	Long (deg)
46.33334	-124.21667
46.33334	-123.83334
46.11667	-123.50000
45.96667	-123.50000
45.96667	-124.21667
46.33334	-124.21667

Floor = 11000 feet AGL Ceiling = 50000 feet AGL

MOA name EEL B MOA

Lat (deg)	Long (deg)
45.96667	-123.50000
45.96667	-124.21667
45.60000	-124.21667
45.60000	-123.50000
45.96667	-123.50000

Floor = 11000 feet AGL Ceiling = 50000 feet AGL

MOA name EEL C MOA

Lat (deg)	Long (deg)
45.60000	-124.21667
45.60000	-123.50000
45.19999	-123.50000
45.19999	-124.21667
45.60000	-124.21667

Floor = 11000 feet AGL Ceiling = 50000 feet AGL

MOA name EEL D MOA

Lat (deg)	Long (deg)
45.19999	-123.50000

45.19999 -124.21667
44.76665 -124.21667
45.11666 -123.50000
45.19999 -123.50000
Floor = 11000 feet AGL Ceiling = 50000 feet AGL

MISSION DATA

Mission name = 142 EEL A PROPOSED
Aircraft code =FM0430300 Speed = 350 kias Power = 90.0
Altitude Distribution

Lower Alt (feet AGL)	Upper Alt (feet AGL)	Percent Utilization
11000	15000	50.0
15000	18000	50.0

Mission name = 142 EEL B PROPOSED
Aircraft code =FM0430300 Speed = 350 kias Power = 90.0
Altitude Distribution

Lower Alt (feet AGL)	Upper Alt (feet AGL)	Percent Utilization
11000	15000	50.0
15000	18000	50.0

Mission name = 142 EEL C PROPOSED
Aircraft code =FM0430300 Speed = 350 kias Power = 90.0
Altitude Distribution

Lower Alt (feet AGL)	Upper Alt (feet AGL)	Percent Utilization
11000	15000	50.0
15000	18000	50.0

Mission name = 142 EEL D PROPOSED
Aircraft code =FM0430300 Speed = 350 kias Power = 90.0
Altitude Distribution

Lower Alt (feet AGL)	Upper Alt (feet AGL)	Percent Utilization
11000	15000	50.0
15000	18000	50.0

Mission name = 142 REDHAWK A PROPOSED
Aircraft code =FM0430300 Speed = 350 kias Power = 90.0
Altitude Distribution

Lower Alt (feet AGL)	Upper Alt (feet AGL)	Percent Utilization
7500	11500	50.0
11500	14500	50.0

Mission name = 142 REDHAWK B PROPOSED

Aircraft code =FM0430300 Speed = 350 kias Power = 90.0

Altitude Distribution

Lower Alt (feet AGL)	Upper Alt (feet AGL)	Percent Utilization
7500	11500	50.0
11500	14500	50.0

Mission name = 142 REDHAWK C PROPOSED

Aircraft code =FM0430300 Speed = 350 kias Power = 90.0

Altitude Distribution

Lower Alt (feet AGL)	Upper Alt (feet AGL)	Percent Utilization
7500	11500	50.0
11500	13500	50.0

MOA OPERATION DATA

MOA name = EEL A MOA

Mission Name	Daily Day OPS	Daily Night OPS	Monthly Day OPS	Monthly Night OPS	Yearly Day OPS	Yearly Night OPS	Time On Range (minutes)	
142 EEL A PROPOSED		0.500	0.000	15.00	0.00	180.	0.	20.
142 REDHAWK A PROPOSED		0.139	0.000	4.17	0.00	50.	0.	20.

MOA name = EEL B MOA

Mission Name	Daily Day OPS	Daily Night OPS	Monthly Day OPS	Monthly Night OPS	Yearly Day OPS	Yearly Night OPS	Time On Range (minutes)	
142 EEL B PROPOSED		0.750	0.000	22.50	0.00	270.	0.	20.
142 REDHAWK B PROPOSED		0.389	0.000	11.67	0.00	140.	0.	20.

MOA name = EEL C MOA

Mission Name	Daily Day OPS	Daily Night OPS	Monthly Day OPS	Monthly Night OPS	Yearly Day OPS	Yearly Night OPS	Time On Range (minutes)	
142 EEL C PROPOSED		0.750	0.000	22.50	0.00	270.	0.	20.
142 REDHAWK C PROPOSED		0.389	0.000	11.67	0.00	140.	0.	20.

MOA name = EEL D MOA

Mission Name	Daily Day OPS	Daily Night OPS	Monthly Day OPS	Monthly Night OPS	Yearly Day OPS	Yearly Night OPS	Time On Range (minutes)	
142 EEL D PROPOSED		0.500	0.000	15.00	0.00	180.	0.	20.

***** MOA RANGE NOISEMAP *****

RESULTS

The noise metric is Ldnmr.

MOA RESULTS

MOA Name	MOA Area (sq statute miles)	Uniform Distributed Sound Level (dB)	Number of Daily Events Above SEL of 65.0 dB
EEL A MOA	751.2	35.0	0.0
EEL B MOA	876.9	35.0	0.0
EEL C MOA	963.2	35.0	0.2
EEL D MOA	625.0	35.0	0.5

<Run Log>
Date: 10/15/2014
Start Time: 16: 1:35
Stop Time: 16: 1:43
Total Running Time: 0 minutes and 9 seconds.

***** MOA RANGE NOISEMAP *****
Version 3.0
Release Date 2/7/2013

CASE INFORMATION
Case Name:PRPOSED JUNIPER HART MOAs - Baseline Scenario
Site Name:OREGON ANG AIRSPACE

SETUP PARAMETERS
Number of MOAs and Ranges = 10 Number of tracks = 0
Lower Left Corner of Grid in feet (X Y pair) = -314550., -584550.
Upper Right Corner of Grid in feet (X Y pair) = 314550., 584550.
Grid spacing = 900. feet Number of events above an SEL of 65.0 dB
Temperature = 59 F Humidity = 70 Flying days per month = 30

MOA SPECIFICATIONS

MOA name HART A MOA

Lat (deg)	Long (deg)
42.66667	-120.30112
42.66667	-119.16777
42.43333	-119.22610
42.43333	-120.21834
42.66667	-120.30112

Floor = 6000 feet AGL Ceiling = 13000 feet AGL

MOA name HART B MOA

Lat (deg)	Long (deg)
42.43333	-120.21834
42.43333	-119.22610
41.49998	-119.45111
41.49999	-119.91778
42.43333	-120.21834

Floor = 6000 feet AGL Ceiling = 13000 feet AGL

MOA name HART_ C MOA

Lat (deg)	Long (deg)
42.66667	-119.16777
42.66667	-118.73138
42.43333	-118.73138
42.43333	-119.22610
42.66667	-119.16777

Floor = 6000 feet AGL Ceiling = 13000 feet AGL

MOA name HART_D MOA

Lat (deg)	Long (deg)
42.43333	-119.22610
42.43333	-118.73138

42.37611 -118.73138
41.87888 -118.86860
41.49999 -119.31000
41.49998 -119.45111
42.43333 -119.22610
Floor = 6000 feet AGL Ceiling = 13000 feet AGL

MOA name HART_E MOA
Lat Long
(deg) (deg)
41.49999 -119.91778
41.49998 -119.45111
41.49999 -119.31000
41.16665 -119.69444
41.16665 -119.79445
41.49999 -119.91778
Floor = 6000 feet AGL Ceiling = 13000 feet AGL

MOA name HART_F MOA
Lat Long
(deg) (deg)
41.87888 -118.86860
41.49999 -118.97194
41.16665 -119.39333
41.16665 -119.69444
41.49999 -119.31000
41.87888 -118.86860
Floor = 6000 feet AGL Ceiling = 13000 feet AGL

MOA name JUNIPER A MOA
Lat Long
(deg) (deg)
43.93307 -120.73446
43.95141 -120.44001
43.84168 -120.13000
43.35001 -120.53001
43.93307 -120.73446
Floor = 6000 feet AGL Ceiling = 13000 feet AGL

MOA name JUNIPER B MOA
Lat Long
(deg) (deg)
43.35001 -120.53001
43.84168 -120.13000
43.63335 -119.56667
42.66667 -119.16777
42.66667 -120.30112
43.35001 -120.53001
Floor = 6000 feet AGL Ceiling = 13000 feet AGL

MOA name JUNIPER C MOA
Lat Long
(deg) (deg)
43.63335 -119.56667

43.51307 -119.20000
43.17112 -118.98555
43.17112 -119.37555
43.63335 -119.56667
Floor = 6000 feet AGL Ceiling = 13000 feet AGL

MOA name JUNIPER D MOA

Lat (deg)	Long (deg)
43.17112	-119.37555
43.17112	-118.98555
42.76611	-118.73221
42.66667	-118.73221
42.66667	-119.16777
43.17112	-119.37555

Floor = 6000 feet AGL Ceiling = 13000 feet AGL

MISSION DATA

Mission name = 142 HART A PROPOSED
Aircraft code =FM0430300 Speed = 400 kias Power = 90.0
Altitude Distribution

Lower Alt (feet AGL)	Upper Alt (feet AGL)	Percent Utilization
6000	10000	50.0
10000	13000	50.0

Mission name = 142 HART B PROPOSED
Aircraft code =FM0430301 Speed = 350 kias Power = 85.0
Altitude Distribution

Lower Alt (feet AGL)	Upper Alt (feet AGL)	Percent Utilization
6000	10000	50.0
10000	13000	50.0

Mission name = 142 HART C PROPOSED
Aircraft code =FM0430301 Speed = 350 kias Power = 85.0
Altitude Distribution

Lower Alt (feet AGL)	Upper Alt (feet AGL)	Percent Utilization
6000	10000	50.0
10000	13000	50.0

Mission name = 142 HART D PROPOSED
Aircraft code =FM0430301 Speed = 350 kias Power = 85.0
Altitude Distribution

Lower Alt (feet AGL)	Upper Alt (feet AGL)	Percent Utilization
6000	10000	50.0
10000	13000	50.0

Mission name = 142 HART E PROPOSED
Aircraft code =FM0430301 Speed = 350 kias Power = 85.0

Altitude Distribution

Lower Alt (feet AGL)	Upper Alt (feet AGL)	Percent Utilization
6000	10000	50.0
10000	13000	50.0

Mission name = 142 HART F PROPOSED
Aircraft code =FM0430301 Speed = 350 kias Power = 85.0

Altitude Distribution

Lower Alt (feet AGL)	Upper Alt (feet AGL)	Percent Utilization
6000	10000	50.0
10000	13000	50.0

Mission name = 142 JUNIPER A PROPOSED
Aircraft code =FM0430300 Speed = 350 kias Power = 90.0

Altitude Distribution

Lower Alt (feet AGL)	Upper Alt (feet AGL)	Percent Utilization
6000	10000	50.0
10000	13000	50.0

Mission name = 142 JUNIPER B PROPOSED
Aircraft code =FM0430300 Speed = 400 kias Power = 90.0

Altitude Distribution

Lower Alt (feet AGL)	Upper Alt (feet AGL)	Percent Utilization
6000	10000	50.0
10000	13000	50.0

Mission name = 142 JUNIPER C PROPOSED
Aircraft code =FM0430300 Speed = 400 kias Power = 90.0

Altitude Distribution

Lower Alt (feet AGL)	Upper Alt (feet AGL)	Percent Utilization
6000	10000	50.0
10000	13000	50.0

Mission name = 142 JUNIPER D PROPOSED
Aircraft code =FM0430300 Speed = 400 kias Power = 90.0

Altitude Distribution

Lower Alt (feet AGL)	Upper Alt (feet AGL)	Percent Utilization
6000	10000	50.0
10000	13000	50.0

Mission name = 142 REDHAWK PROPOSED 2
Aircraft code =FM0430300 Speed = 350 kias Power = 90.0

Altitude Distribution

Lower Alt (feet AGL)	Upper Alt (feet AGL)	Percent Utilization
6000	10000	50.0
10000	13000	50.0

Mission name = 142 REDHAWK PROPOSED 3
Aircraft code =FM0430300 Speed = 350 kias Power = 90.0

Altitude Distribution

Lower Alt (feet AGL)	Upper Alt (feet AGL)	Percent Utilization
6000	10000	50.0
10000	13000	50.0

Mission name = 142 REDHAWK PROPOSED 5
Aircraft code =FM0430300 Speed = 350 kias Power = 90.0

Altitude Distribution

Lower Alt (feet AGL)	Upper Alt (feet AGL)	Percent Utilization
6000	10000	50.0
10000	13000	50.0

Mission name = 142 REDHAWK PROPOSED 6
Aircraft code =FM0430300 Speed = 350 kias Power = 90.0

Altitude Distribution

Lower Alt (feet AGL)	Upper Alt (feet AGL)	Percent Utilization
6000	10000	50.0
10000	13000	50.0

Mission name = 142 REDHAWK PROPOSED 7
Aircraft code =FM0430300 Speed = 350 kias Power = 90.0

Altitude Distribution

Lower Alt (feet AGL)	Upper Alt (feet AGL)	Percent Utilization
6000	10000	50.0
10000	13000	50.0

Mission name = 142 REDHAWK A PROPOSED 8
Aircraft code =FM0430300 Speed = 350 kias Power = 90.0

Altitude Distribution

Lower Alt (feet AGL)	Upper Alt (feet AGL)	Percent Utilization
6000	10000	50.0
10000	13000	50.0

Mission name = 142 REDHAWK PROPOSED 4
Aircraft code =FM0430300 Speed = 350 kias Power = 90.0

Altitude Distribution

Lower Alt (feet AGL)	Upper Alt (feet AGL)	Percent Utilization
6000	10000	50.0
10000	13000	50.0

Mission name = 173 HART A PROPOSED
Aircraft code =FM0430300 Speed = 400 kias Power = 90.0

Altitude Distribution

Lower Alt (feet AGL)	Upper Alt (feet AGL)	Percent Utilization
6000	10000	50.0
10000	13000	50.0

Mission name = 173 HART B PROPOSED
Aircraft code =FM0430300 Speed = 400 kias Power = 90.0

Altitude Distribution

Lower Alt (feet AGL)	Upper Alt (feet AGL)	Percent Utilization
6000	10000	50.0
10000	13000	50.0

Mission name = 173 HART C PROPOSED
Aircraft code =FM0430300 Speed = 400 kias Power = 90.0

Altitude Distribution

Lower Alt (feet AGL)	Upper Alt (feet AGL)	Percent Utilization
6000	10000	50.0
10000	13000	50.0

Mission name = 173 HART D PROPOSED
Aircraft code =FM0430300 Speed = 400 kias Power = 90.0

Altitude Distribution

Lower Alt (feet AGL)	Upper Alt (feet AGL)	Percent Utilization
6000	10000	50.0
10000	13000	50.0

Mission name = 173 HART E PROPOSED
Aircraft code =FM0430300 Speed = 400 kias Power = 90.0

Altitude Distribution

Lower Alt (feet AGL)	Upper Alt (feet AGL)	Percent Utilization
6000	10000	50.0
10000	13000	50.0

Mission name = 173 HART F PROPOSED
Aircraft code =FM0430300 Speed = 400 kias Power = 90.0

Altitude Distribution

Lower Alt (feet AGL)	Upper Alt (feet AGL)	Percent Utilization
6000	10000	50.0
10000	13000	50.0

Mission name = 173 JUNIPER A PROPOSED
Aircraft code =FM0430302 Speed = 350 kias Power = 89.0

Altitude Distribution

Lower Alt (feet AGL)	Upper Alt (feet AGL)	Percent Utilization
6000	10000	50.0
10000	13000	50.0

Mission name = 173 JUNIPER B PROPOSED
Aircraft code =FM0430300 Speed = 400 kias Power = 90.0

Altitude Distribution

Lower Alt (feet AGL)	Upper Alt (feet AGL)	Percent Utilization
6000	10000	50.0
10000	13000	50.0

Mission name = 173 JUNIPER C PROPOSED
Aircraft code =FM0430300 Speed = 400 kias Power = 90.0

Altitude Distribution

Lower Alt (feet AGL)	Upper Alt (feet AGL)	Percent Utilization
6000	10000	50.0
10000	13000	50.0

Mission name = 173 JUNIPER D PROPOSED
Aircraft code =FM0430300 Speed = 400 kias Power = 90.0

Altitude Distribution

Lower Alt (feet AGL)	Upper Alt (feet AGL)	Percent Utilization
6000	10000	50.0
10000	13000	50.0

MOA OPERATION DATA

MOA name = HART A MOA

Mission Name	Daily Day OPS	Daily Night OPS	Monthly Day OPS	Monthly Night OPS	Yearly Day OPS	Yearly Night OPS	Time On Range (minutes)	
142 HART A PROPOSED		1.389	0.000	41.67	0.00	500.	0.	10.

173 HART A PROPOSED	6.419	0.000	192.58	0.00	2311.	0.	3.

MOA name = HART B MOA

Mission Name	Daily Day OPS	Daily Night OPS	Monthly Day OPS	Monthly Night OPS	Yearly Day OPS	Yearly Night OPS	Time On Range (minutes)	
142 HART B PROPOSED	0.417	0.000	12.50	0.00	150.	0.	5.	
142 REDHAWK PROPOSED 2	0.178	0.000	5.33	0.00	64.	0.	5.	
173 HART B PROPOSED	5.111	0.000	153.33	0.00	1840.	0.	9.	

MOA name = HART_ C MOA

Mission Name	Daily Day OPS	Daily Night OPS	Monthly Day OPS	Monthly Night OPS	Yearly Day OPS	Yearly Night OPS	Time On Range (minutes)	
142 HART C PROPOSED	0.111	0.000	3.33	0.00	40.	0.	5.	
142 REDHAWK PROPOSED 3	0.047	0.000	1.42	0.00	17.	0.	5.	
173 HART C PROPOSED	3.014	0.000	90.42	0.00	1085.	0.	3.	

MOA name = HART_D MOA

Mission Name	Daily Day OPS	Daily Night OPS	Monthly Day OPS	Monthly Night OPS	Yearly Day OPS	Yearly Night OPS	Time On Range (minutes)	
142 HART D PROPOSED	0.028	0.000	0.83	0.00	10.	0.	5.	
142 REDHAWK PROPOSED 4	0.011	0.000	0.33	0.00	4.	0.	5.	
173 HART D PROPOSED	3.014	0.000	90.42	0.00	1085.	0.	3.	

MOA name = HART_E MOA

Mission Name	Daily Day OPS	Daily Night OPS	Monthly Day OPS	Monthly Night OPS	Yearly Day OPS	Yearly Night OPS	Time On Range (minutes)	
142 HART E PROPOSED	0.003	0.000	0.08	0.00	1.	0.	1.	
173 HART E PROPOSED	1.967	0.000	59.00	0.00	708.	0.	3.	

MOA name = HART_F MOA

Mission Name	Daily Day OPS	Daily Night OPS	Monthly Day OPS	Monthly Night OPS	Yearly Day OPS	Yearly Night OPS	Time On Range (minutes)	
142 HART F PROPOSED	0.003	0.000	0.08	0.00	1.	0.	1.	
173 HART F PROPOSED	1.967	0.000	59.00	0.00	708.	0.	2.	

MOA name = JUNIPER A MOA

Mission Name	Daily Day OPS	Daily Night OPS	Monthly Day OPS	Monthly Night OPS	Yearly Day OPS	Yearly Night OPS	Time On Range (minutes)	
142 JUNIPER A PROPOSED	1.111	0.000	33.33	0.00	400.	0.	25.	
142 REDHAWK PROPOSED 5	0.469	0.000	14.08	0.00	169.	0.	25.	
173 JUNIPER A PROPOSED	1.442	0.000	43.25	0.00	519.	0.	2.	

MOA name = JUNIPER B MOA

Mission Name	Daily Day OPS	Daily Night OPS	Monthly Day OPS	Monthly Night OPS	Yearly Day OPS	Yearly Night OPS	Time On Range (minutes)
142 JUNIPER B PROPOSED	1.389	0.000	41.67	0.00	500.	0.	15.
142 REDHAWK PROPOSED 6	0.775	0.000	23.25	0.00	279.	0.	15.
173 JUNIPER B PROPOSED	9.042	0.000	271.25	0.00	3255.	0.	9.

MOA name = JUNIPER C MOA

Mission Name	Daily Day OPS	Daily Night OPS	Monthly Day OPS	Monthly Night OPS	Yearly Day OPS	Yearly Night OPS	Time On Range (minutes)
142 JUNIPER C PROPOSED	0.317	0.000	9.50	0.00	114.	0.	10.
142 REDHAWK PROPOSED 7	0.133	0.000	4.00	0.00	48.	0.	10.
173 JUNIPER C PROPOSED	3.014	0.000	90.42	0.00	1085.	0.	2.

MOA name = JUNIPER D MOA

Mission Name	Daily Day OPS	Daily Night OPS	Monthly Day OPS	Monthly Night OPS	Yearly Day OPS	Yearly Night OPS	Time On Range (minutes)
142 JUNIPER D PROPOSED	0.239	0.000	7.17	0.00	86.	0.	10.
142 REDHAWK A PROPOSED 8	0.100	0.000	3.00	0.00	36.	0.	10.
173 JUNIPER D PROPOSED	3.014	0.000	90.42	0.00	1085.	0.	2.

***** MOA RANGE NOISEMAP *****
RESULTS

The noise metric is Ldnmr.

MOA RESULTS

MOA Name	MOA Area (sq statute miles)	Uniform Distributed Sound Level (dB)	Number of Daily Events Above SEL of 65.0 dB
HART A MOA	874.7	41.3	0.3
HART B MOA	2416.5	37.2	0.2
HART_ C MOA	382.6	39.8	0.3
HART_D MOA	1411.3	35.0	0.1
HART_E MOA	423.0	36.9	0.2
HART_F MOA	612.0	35.0	0.1
JUNIPER A MOA	640.8	43.6	0.1
JUNIPER B MOA	3800.8	39.0	0.2
JUNIPER C MOA	486.4	39.1	0.2
JUNIPER D MOA	773.2	36.7	0.1

<Run Log>
Date: 10/15/2014
Start Time: 15:56:45
Stop Time: 16: 0:30
Total Running Time: 3 minutes and 46 seconds.

***** MOA RANGE NOISEMAP *****
Version 3.0
Release Date 2/7/2013

CASE INFORMATION
Case Name:BASELINE JUNIPER HART - Baseline Scenario
Site Name:OREGON ANG AIRSPACE

SETUP PARAMETERS
Number of MOAs and Ranges = 4 Number of tracks = 0
Lower Left Corner of Grid in feet (X Y pair) = 141159., -312267.
Upper Right Corner of Grid in feet (X Y pair) = 770259., 676833.
Grid spacing = 900. feet Number of events above an SEL of 65.0 dB
Temperature = 59 F Humidity = 70 Flying days per month = 30

MOA SPECIFICATIONS

MOA name MOA US HART NORTH

Lat (deg)	Long (deg)
42.66667	-120.30109
42.66668	-119.16775
42.43334	-119.22608
42.43334	-120.21832
42.66667	-120.30109

Floor = 6000 feet AGL Ceiling = 13000 feet AGL

MOA name MOA US HART SOUTH

Lat (deg)	Long (deg)
42.43334	-120.21832
42.43334	-119.22608
41.49999	-119.45109
41.49999	-119.91776
42.43334	-120.21832

Floor = 6000 feet AGL Ceiling = 13000 feet AGL

MOA name MOA US JUNIPER NORTH

Lat (deg)	Long (deg)
43.93308	-120.73444
43.95141	-120.43999
43.84169	-120.12998
43.35001	-120.52999
43.93308	-120.73444

Floor = 6000 feet AGL Ceiling = 13000 feet AGL

MOA name MOA US JUNIPER SOUTH

Lat (deg)	Long (deg)
43.35001	-120.52999
43.84169	-120.12998

43.63335 -119.56664
42.66668 -119.16775
42.66667 -120.30109
43.35001 -120.52999
Floor = 6000 feet AGL Ceiling = 13000 feet AGL

MISSION DATA

Mission name = 142 HART NORTH ALT D
Aircraft code =FM0430300 Speed = 400 kias Power = 90.0

Altitude Distribution

Lower Alt (feet AGL)	Upper Alt (feet AGL)	Percent Utilization
6000	10000	50.0
10000	13000	50.0

Mission name = 142 HART SOUTH BASELINE
Aircraft code =FM0430301 Speed = 350 kias Power = 85.0

Altitude Distribution

Lower Alt (feet AGL)	Upper Alt (feet AGL)	Percent Utilization
6000	10000	50.0
10000	13000	50.0

Mission name = 142 JUNIPER NORTH ALT D
Aircraft code =FM0430300 Speed = 350 kias Power = 90.0

Altitude Distribution

Lower Alt (feet AGL)	Upper Alt (feet AGL)	Percent Utilization
6000	10000	50.0
10000	13000	50.0

Mission name = 142 JUNIPER SOUTH ALT D
Aircraft code =FM0430300 Speed = 400 kias Power = 90.0

Altitude Distribution

Lower Alt (feet AGL)	Upper Alt (feet AGL)	Percent Utilization
6000	10000	50.0
10000	13000	50.0

Mission name = 173 HART NORTH BASELINE
Aircraft code =FM0430300 Speed = 400 kias Power = 90.0

Altitude Distribution

Lower Alt (feet AGL)	Upper Alt (feet AGL)	Percent Utilization
6000	10000	50.0
10000	13000	50.0

Mission name = 173 HART SOUTH BASELINE

Aircraft code =FM0430300 Speed = 400 kias Power = 90.0

Altitude Distribution

Lower Alt (feet AGL)	Upper Alt (feet AGL)	Percent Utilization
6000	10000	50.0
10000	13000	50.0

Mission name = 173 JUNIPER NORTH BASELINE

Aircraft code =FM0430302 Speed = 350 kias Power = 89.0

Altitude Distribution

Lower Alt (feet AGL)	Upper Alt (feet AGL)	Percent Utilization
6000	10000	50.0
10000	13000	50.0

Mission name = 173 JUNIPER SOUTH BASELINE

Aircraft code =FM0430300 Speed = 400 kias Power = 90.0

Altitude Distribution

Lower Alt (feet AGL)	Upper Alt (feet AGL)	Percent Utilization
6000	10000	50.0
10000	13000	50.0

MOA OPERATION DATA

MOA name = MOA US HART NORTH

Mission Name	Daily Day OPS	Daily Night OPS	Monthly Day OPS	Monthly Night OPS	Yearly Day OPS	Yearly Night OPS	Time On Range (minutes)
142 HART NORTH ALT D	1.111	0.000	33.33	0.00	400.	0.	10.
173 HART NORTH BASELINE	6.419	0.000	192.58	0.00	2311.	0.	3.

MOA name = MOA US HART SOUTH

Mission Name	Daily Day OPS	Daily Night OPS	Monthly Day OPS	Monthly Night OPS	Yearly Day OPS	Yearly Night OPS	Time On Range (minutes)
142 HART SOUTH BASELINE	0.556	0.000	16.67	0.00	200.	0.	5.
173 HART SOUTH BASELINE	5.111	0.000	153.33	0.00	1840.	0.	11.

MOA name = MOA US JUNIPER NORTH

Mission Name	Daily Day OPS	Daily Night OPS	Monthly Day OPS	Monthly Night OPS	Yearly Day OPS	Yearly Night OPS	Time On Range (minutes)
142 JUNIPER NORTH ALT D	1.222	0.000	36.67	0.00	440.	0.	25.
173 JUNIPER NORTH BASELINE	1.442	0.000	43.25	0.00	519.	0.	4.

MOA name = MOA US JUNIPER SOUTH

Mission Name	Daily Day OPS	Daily Night OPS	Monthly Day OPS	Monthly Night OPS	Yearly Day OPS	Yearly Night OPS	Time On Range (minutes)	
142 JUNIPER SOUTH ALT D	1.742	0.000	52.25	0.00	627.	0.	15.	
173 JUNIPER SOUTH BASELINE	9.042	0.000	271.25	0.00	3255.	0.	12.	

***** MOA RANGE NOISEMAP *****
RESULTS

The noise metric is Ldnmr.

MOA RESULTS

MOA Name	MOA Area (sq statute miles)	Uniform Distributed Sound Level (dB)	Number of Daily Events Above SEL of 65.0 dB
MOA US HART NORTH	874.6	40.9	0.3
MOA US HART SOUTH	2416.1	38.1	0.2
MOA US JUNIPER NORTH	640.9	42.8	0.1
MOA US JUNIPER SOUTH	3800.9	39.6	0.2

<Run Log>
Date: 10/15/2014
Start Time: 15:54:25
Stop Time: 15:55:23
Total Running Time: 0 minutes and 59 seconds.

***** MOA RANGE NOISEMAP *****
Version 3.0
Release Date 2/7/2013

CASE INFORMATION

Case Name:PROPOSED JUNIPER LOW and JUNIPER LOW EAST MOAs - Baseline Scenario
Site Name:OREGON ANG AIRSPACE

SETUP PARAMETERS

Number of MOAs and Ranges = 1 Number of tracks = 0
Lower Left Corner of Grid in feet (X Y pair) = -330311., -26505.
Upper Right Corner of Grid in feet (X Y pair) = 208789., 512595.
Grid spacing = 900. feet Number of events above an SEL of 65.0 dB
Temperature = 59 F Humidity = 70 Flying days per month = 30

MOA SPECIFICATIONS

MOA name MOA US JUNIPER LOW

Lat (deg)	Long (deg)
43.93307	-120.73446
43.95141	-120.44001
43.63335	-119.56778
42.76667	-119.20750
42.76667	-120.33362
43.93307	-120.73446

Floor = 500 feet AGL Ceiling = 11000 feet AGL

MISSION DATA

Mission name = 142 JUNIPER EAST LOW PROPOSED
Aircraft code =FM0430300 Speed = 420 kias Power = 90.0
Altitude Distribution

Lower Alt (feet AGL)	Upper Alt (feet AGL)	Percent Utilization
500	1000	35.0
1000	3000	35.0
3000	5000	20.0
5000	6000	10.0

Mission name = 142 JUNIPER LOW PROPOSED
Aircraft code =FM0430300 Speed = 420 kias Power = 90.0
Altitude Distribution

Lower Alt (feet AGL)	Upper Alt (feet AGL)	Percent Utilization
500	1000	35.0
1000	3000	35.0
3000	5000	20.0
5000	6000	10.0

Mission name = 173 JUNIPER LOW PROPOSED
Aircraft code =FM0430300 Speed = 420 kias Power = 90.0

Altitude Distribution

Lower Alt (feet AGL)	Upper Alt (feet AGL)	Percent Utilization
500	1000	20.0
1000	3000	40.0
3000	5000	35.0
5000	6000	5.0

MOA OPERATION DATA
MOA name = MOA US JUNIPER LOW

Mission Name	Daily Day OPS	Daily Night OPS	Monthly Day OPS	Monthly Night OPS	Yearly Day OPS	Yearly Night OPS	Time On Range (minutes)		
142 JUNIPER EAST LOW PROPOSED	0.167	0.000	5.00	0.00	60.	0.	10.		
142 JUNIPER LOW PROPOSED	1.500	0.000	45.00	0.00	540.	0.	10.		
173 JUNIPER LOW PROPOSED	1.833	0.000	55.00	0.00	660.	0.	13.		

***** MOA RANGE NOISEMAP *****
RESULTS

The noise metric is Ldnmr.

MOA RESULTS

MOA Name	MOA Area (sq statute miles)	Uniform Distributed Sound Level (dB)	Number of Daily Events Above SEL of 65.0 dB
MOA US JUNIPER LOW	4044.5	46.5	0.0

<Run Log>
Date: 10/15/2014
Start Time: 15:43:31
Stop Time: 15:44: 6
Total Running Time: 0 minutes and 35 seconds.

E3_F15_220_LMAX - Baseline - MRNMap.txt
***** MOA RANGE NOISEMAP *****
Version 3.0
Release Date 2/7/2013

CASE INFORMATION
Case Name:F15 PW-220 LMAX - Baseline Scenario

Site Name:VOLK SAA

SETUP PARAMETERS
Number of MOAs and Ranges = 0 Number of tracks = 6
Lower Left Corner of Grid in feet (X Y pair) = -359550., -269550.
Upper Right Corner of Grid in feet (X Y pair) = 359550., 269550.
Grid spacing = 900. feet Number of events above an LMAX of 65.0 dB
Temperature = 59 F Humidity = 70 Flying days per month = 30

TRACK SPECIFICATIONS

Track name F15 LMAX_1K

Flag Notation	Latitude	Longitude	Left (feet)	Right (feet)	Floor 1 (feet AGL)	Floor 2 (feet AGL)	Radius (feet)	Angle (degrees)
LW	43.96788	-90.77038	101.	101.	1000			
LW	43.77851	-90.20390	101.	101.	1000			

Track name F15 LMAX_2K

Flag Notation	Latitude	Longitude	Left (feet)	Right (feet)	Floor 1 (feet AGL)	Floor 2 (feet AGL)	Radius (feet)	Angle (degrees)
LW	43.73819	-90.14280	101.	101.	2000			
LW	43.49285	-89.28254	101.	101.	2000			

Track name F15 LMAX_4K

Flag Notation	Latitude	Longitude	Left (feet)	Right (feet)	Floor 1 (feet AGL)	Floor 2 (feet AGL)	Radius (feet)	Angle (degrees)
LW	43.51856	-88.96410	101.	101.	4000			
LW	44.14748	-88.95306	101.	101.	4000			

Track name F15 LMAX_8K

Flag Notation	Latitude	Longitude	Left (feet)	Right (feet)	Floor 1 (feet AGL)	Floor 2 (feet AGL)	Radius (feet)	Angle (degrees)
LW	44.53044	-88.94405	101.	101.	8000			
LW	44.53946	-89.95574	101.	101.	8000			

Track name F15 LMAX_10K

Flag Notation	Latitude	Longitude	Left (feet)	Right (feet)	Floor 1 (feet AGL)	Floor 2 (feet AGL)	Radius (feet)	Angle (degrees)
LW	44.42927	-88.94902	101.	101.	10000			
LW	44.48355	-89.95984	101.	101.	10000			

Track name F15 LMAX_500

Flag Notation	Latitude	Longitude	Left (feet)	Right (feet)	Floor 1 (feet AGL)	Floor 2 (feet AGL)	Radius (feet)	Angle (degrees)
LW	44.02644	-90.72537	101.	101.	500			
LW	43.80704	-90.19390	101.	101.	500			

MISSION DATA

Mission name = F15 LMAX_1K
Aircraft code =FM0430300 Speed = 400 kias Power = 90.0

Altitude Distribution

Lower Alt (feet AGL)	Upper Alt (feet AGL)	Percent Utilization
1000	1050	100.0

Mission name = F15 LMAX_2K
Aircraft code =FM0430300 Speed = 400 kias Power = 90.0

Altitude Distribution

Lower Alt (feet AGL)	Upper Alt (feet AGL)	Percent Utilization
2000	2050	100.0

Mission name = F15 LMAX_4K
Aircraft code =FM0430300 Speed = 400 kias Power = 90.0

Altitude Distribution

Lower Alt (feet AGL)	Upper Alt (feet AGL)	Percent Utilization
4000	4050	100.0

Mission name = F15 LMAX_8K
Aircraft code =FM0430300 Speed = 400 kias Power = 90.0

Altitude Distribution

Lower Alt (feet AGL)	Upper Alt (feet AGL)	Percent Utilization
8000	8050	100.0

Mission name = F15 LMAX_10K
Aircraft code =FM0430300 Speed = 400 kias Power = 90.0

Altitude Distribution

Lower Alt (feet AGL)	Upper Alt (feet AGL)	Percent Utilization
10000	10050	100.0

Mission name = F15 LMAX_500
Aircraft code =FM0430300 Speed = 400 kias Power = 90.0

Altitude Distribution

Lower Alt (feet AGL)	Upper Alt (feet AGL)	Percent Utilization
500	550	100.0

TRACK OPERATION DATA

Track name = F15 LMAX_1K

Mission Name	Daily Day OPS	Daily Night OPS	Monthly Day OPS	Monthly Night OPS	Yearly Day OPS	Yearly Night OPS
F15 LMAX_1K	1.014	0.000	30.42	0.00	365.	0.

Track name = F15 LMAX_2K

Mission Name	Daily Day OPS	Daily Night OPS	Monthly Day OPS	Yearly Night OPS
F15 LMAX_2K	1.014	0.000	30.42	0.00
	365.	0.		

Track name = F15 LMAX_4K

Mission Name	Daily Day OPS	Daily Night OPS	Monthly Day OPS	Yearly Night OPS
F15 LMAX_4K	1.014	0.000	30.42	0.00
	365.	0.		

Track name = F15 LMAX_8K

Mission Name	Daily Day OPS	Daily Night OPS	Monthly Day OPS	Yearly Night OPS
F15 LMAX_8K	1.014	0.000	30.42	0.00
	365.	0.		

Track name = F15 LMAX_10K

Mission Name	Daily Day OPS	Daily Night OPS	Monthly Day OPS	Yearly Night OPS
F15 LMAX_10K	1.014	0.000	30.42	0.00
	365.	0.		

Track name = F15 LMAX_500

Mission Name	Daily Day OPS	Daily Night OPS	Monthly Day OPS	Yearly Night OPS
F15 LMAX_500	1.014	0.000	30.42	0.00
	365.	0.		

***** MOA RANGE NOISEMAP *****
RESULTS

The noise metric is Lmax.

TRACK RESULTS

Track Name = F15 LMAX_1K

Track Segment	Maximum Centerline Level (dB)	Number of Events Above LMAX of 65.0 dB
01 - 02	110.7	1.0

Track Name = F15 LMAX_2K

Track Segment	Maximum Centerline Level (dB)	Number of Events Above LMAX of 65.0 dB
01 - 02	104.9	1.0

Track Name = F15 LMAX_4K

Track Segment	Maximum Centerline Level (dB)	Number of Events Above LMAX of 65.0 dB
01 - 02	98.2	1.0

Track Name = F15 LMAX_8K

Track Segment	Maximum Centerline Level (dB)	Number of Events Above LMAX of 65.0 dB
01 - 02	90.1	1.0

Track Name = F15 LMAX_10K

Track Segment	Maximum Centerline Level (dB)	Number of Events Above LMAX of 65.0 dB
01 - 02	87.2	1.0

Track Name = F15 LMAX_500

Track Segment	Maximum Centerline Level (dB)	Number of Events Above LMAX of 65.0 dB
01 - 02	116.0	1.0

<Run Log>

Date:	11/ 5/2014
Start Time:	22:51:46
Stop Time:	22:51:46
Total Running Time:	0 minutes and 1 seconds.

APPENDIX F

AIR QUALITY

RECORD OF NON-APPLICABILITY (RONA)
FOR CLEAN AIR CONFORMITY
PROPOSED ESTABLISHMENT AND MODIFICATION
OF OREGON MILITARY TRAINING AIRSPACE

The Proposed Action falls under the Record of Non-Applicability (RONA) category and is documented with this RONA. The U.S. Environmental Protection Agency (USEPA) published Determining Conformity of General Federal Actions to State or Federal Implementation Plans: Final Rule, in the 30 November 1993, Federal Register (40 Code of Federal Regulations [CFR] Parts 6, 51, and 93). The U.S. Air Force (USAF) published the *United States Air Force Conformity Guide*, dated August 2010. These publications provide implementing guidance to document Clean Air Act Conformity Determination requirements.

Federal regulations state that no department, agency, or instrumentality of the Federal Government shall engage in, support in any way or provide financial assistance for, license to permit, or approve any activity that does not conform to an applicable implementation plan. It is the responsibility of the Federal agency to determine whether a Federal action conforms to the applicable implementation plan, before the action is taken (40 CFR Part 1 51.850[a]).

Federal action may be exempt from conformity determinations if they do not exceed designated *de minimis* levels for criteria pollutants (40 CFR Part 51.853[b]). Federal actions may also be exempt from conformity determinations if they would result in no emissions increase or an increase in emissions that is clearly *de minimis*, including the routine movement of mobile assets, such as ships and aircraft, in home port reassignments and stations (when no new support facilities or personnel are required) to perform as operational groups and/or for repair or overhaul (Oregon State Implementation Plan [SIP] 340-250-0020[4][b][H]). The Proposed Action, described below, involves the proposed establishment and modification of military training airspace for use by the 142d Fighter Wing (142 FW) and 173d Fighter Wing (173 FW) of the Oregon Air National Guard (ANG).

Table 1. *De minimis* Threshold Levels for Criteria Pollutants Pursuant to 40 CFR Part 51.853

Criteria Pollutant	Attainment Status	*De minimis* Threshold (tons/year)
Ozone (VOC or NO_x)	Serious nonattainment	50
	Severe nonattainment	25
	Extreme nonattainment	10
	Other areas outside an ozone transport region	100
Ozone (NO_x)	Marginal and moderate nonattainment inside an ozone	100
	Maintenance	100
Ozone (VOC)	Marginal and moderate nonattainment inside an ozone	50
	Maintenance within an ozone transport region	50
	Maintenance outside an ozone transport region	100
Carbon monoxide (CO), sulfur dioxide (SO_2), and nitrogen dioxide (NO_2)	All nonattainment & maintenance	100
PM_{10}	Serious nonattainment	70
	Moderate nonattainment & maintenance	100
Lead (Pb)	All nonattainment & maintenance	25

PROPOSED ACTION

Action Proponent: Oregon ANG

Action Title: Establishment and Modification of Oregon Military Training Airspace

Action Location: The affected and proposed airspace included in the Proposed Action would be located over coastal, Central, and Eastern Oregon as well as the Pacific Ocean. In addition, small portions of the proposed airspace included in the Proposed Action would be located above northwestern Nevada and the southwestern-most corner of Washington State.

Of the counties underlying the proposed airspaces, only Polk County, OR and Washoe County, NV are in a *nonattainment* or *maintenance* status for one or more criteria pollutants. Polk County, underlying a small portion of the proposed Eel D MOA is in *nonattainment* for CO and *maintenance* for O_3. Additionally, Washoe County, underlying a portion of the proposed Hart E MOA and Hart F MOA is in *nonattainment* for PM_{10} and *maintenance* for CO and O_3.

Anticipated Date and Duration of Proposed Action: The Proposed Action would result in the establishment of Special Use Airspace (SUA) for as military training airspace over the foreseeable future. The proposed airspace would be established upon completion of the National Environmental Policy Act (NEPA) planning and review process and approval of the airspace proposal by the Federal Aviation Administration (FAA), anticipated in Calendar Year (CY) 2014.

Proposed Action: The Proposed Action includes the modification and establishment of SUA including Air Traffic Control Assigned Airspaces (ATCAAs) and Military Operations Areas (MOAs). The proposed airspace improvements would be used by the 142 FW and the 173 FW of the Oregon ANG, to conduct F-15 training exercises.

Under the Proposed Action, the vertical limits and lateral configuration of Warning Area (W)-570, Bass ATCAA, and Bass South ATCAA would be modified within their existing external boundaries to meet training requirements of the 142 FW. The floors of Bass ATCAA and Bass South ATCAA would be lowered to 1,000 feet above mean sea level (MSL), and a new segment to be named W-570C, with a floor of 11,000 feet MSL, would be established adjacent to the west of the existing W-570 airspace. These airspace areas are located over the Pacific Ocean with the western boundary of W-570C paralleling the coastline at a distance of 12 nautical miles (NM).

The establishment of the Eel MOAs (A-D) and Eel High ATCAA would occur over western Oregon and would be partially located over the Pacific Ocean and coastal Oregon. The Eel proposed MOAs would have a floor of 11,000 feet MSL, while the floor of Eel High ATCAA would be established at the ceiling of existing Eel ATCAA, at 27,000 feet MSL.

The expansion of the Juniper/Hart MOA Complex in Eastern Oregon would include the establishment of Juniper MOAs C and D as well as Hart MOAs C, D, E, and F

adjacent and to the east of the existing MOA complex. These MOAs would be established with floors of 11,000 feet MSL. Additionally, the proposed Juniper East Low MOA would be established with a floor of 500 feet AGL adjacent and to the east of the existing Juniper Low MOA beneath Juniper C and the majority of the Juniper D.

The proposed Redhawk MOA Complex would be established with a ceiling at 11,000 feet MSL above Central Oregon.

EMISSIONS SUMMARY:

The Proposed Action does not include any changes to the existing inventories of F-15 aircraft at the 142 FW and 173 FW and implementation would not result in any increases to total annual flight hour or sortie authorizations for either unit. Further, the Proposed Action would not include any ground disturbance or the development or construction of any support facilities. Additionally, the Proposed Action would not result in any changes to manpower levels at either unit.

Training hours within the proposed Eel MOA/ATCAA and W-570 would increase slightly due to decreased transit time associated with the modification of existing airspace and establishment of new airspace; however, the concentration of each pollutant within the existing Eel ATCAA would decrease as training operations would be distributed throughout the airspace utilizing newly available altitude blocks and diluting emissions. Total training hours within the existing Juniper/Hart MOA Complex would be reduced as these operations would be redistributed within the proposed airspaces (i.e., Redhawk MOA Complex), reducing total emissions within the existing Juniper/Hart MOA Complex. Therefore, overall aircraft operational emissions would not be expected to change substantially. Establishment of the Redhawk MOA Complex would introduce new air-to-air F-15 training operations to the area. While establishment of the Redhawk MOA Complex would introduce new military aircraft related criteria pollutant emissions, the Proposed Action would not be expected to substantially increase pollutant emissions or alter relative pollutant concentrations in the airspace. Table 2 below illustrates the total anticipated annual mobile emissions associated with the modification and establishment of the proposed airspaces.

EMISSIONS EVALUATION AND CONCLUSION:

With respect to the General Conformity Rule, effects on air quality would be considered significant if a proposed action would result in emissions that exceed *de minimis* threshold levels established in 40 CFR 93.153(b) for individual pollutants in *nonattainment* or maintenance areas.

As described above, only Polk County, OR and Washoe County, NV are in *nonattainment* or *maintenance* for at least one criteria pollutant. However, the proposed airspace above these counties would be established at 11,000 feet MSL under the Proposed Action. The Federal Aviation Administration (FAA) conducted a study of ground level concentrations caused by elevated aircraft emissions released above ground level (AGL) using USEPA-approved models and conservative assumptions. The study concluded that aircraft operations at or above the average mixing height of 3,000 feet AGL have a very small effect on ground level concentrations and could not directly result in a violation of the Nation Ambient Air Quality Standards (NAAQS) in a local area. Therefore, USEPA's final rule (40 CFR 93.153) exempts as *de minimis* aircraft emissions above the 3,000 foot AGL mixing height, including the subject mobile aircraft emissions resulting from the implementation of the Proposed Action. All other proposed airspaces would be established over counties that are in *attainment* for all criteria pollutants. Consequently, a General Conformity Determination would not be needed.

General Conformity under the Clean Air Act (CAA), Section 176, has been evaluated for the Proposed Action according to the requirements of 40 CFR 93, Subpart B. The requirements of this rule are not applicable to the Proposed Action because mobile aircraft emissions above 3,000 feet AGL are exempted as *de minimis* under USEPA's final rule 40 CFR 93.153. Therefore, the General Conformity Rule Determination procedures are not required, resulting in this RONA.

W-570: Existing emissions and emission concentrations from generated from military flights within the airspace.			
Pollutant	lbs/year	tpy	Exsisting concentration of pollutant (µg/m3)
CO	24599.68	12.30	0.047115124
VOC	2739.04	1.37	0.005246012
Nox	738145.44	369.07	1.413750673
SOx	27338.72	13.67	0.052361136
PM	9302.4	4.65	0.017816644
HAPs	1051.305568	0.53	0.002013538

W-570 & Eel MOAs: Proposed emissions and emission concentrations from generated from military flights within the airspace.			
Pollutant	lbs/year	tpy	Proposed concentration of pollutant (µg/m3)
CO	22848.00	11.42	0.040114454
VOC	2544.00	1.27	0.004466525
Nox	685584.00	342.79	1.20368645
SOx	25392.00	12.70	0.04458098
PM	8640.00	4.32	0.015169331
HAPs	1505.35	0.75	0.002642962

Juniper & Hart: Existing emissions and emission concentrations from generated from military flights within the airspace.			
Pollutant	lbs/year	tpy	Exsisting concentration of pollutant (µg/m3)
CO	45258.08	22.63	0.179021844
VOC	5039.24	2.52	0.019933104
Nox	1358027.64	679.01	5.371783609
SOx	50297.32	25.15	0.198954948
PM	17114.4	8.56	0.067697336
HAPs	3046.507776	1.52	0.012050698

Juniper & Hart: Proposed emissions and emission concentrations from generated from military flights within the airspace.			
Pollutant	lbs/year	tpy	Proposed concentration of pollutant (µg/m3)
CO	34443.36	17.22	0.107495148
VOC	3835.08	1.92	0.011968998
Nox	1033517.88	516.76	3.225531918
SOx	38278.44	19.14	0.119464145
PM	13024.8	6.51	0.040649426
HAPs	2585.137608	1.29	0.008068021

Redhawk: Existing emissions and emission concentrations from generated from military flights within the airspace.			
Pollutant	lbs/year	tpy	Exsisting concentration of pollutant (µg/m3)
CO	0	0	0
VOC	0	0	0
Nox	0	0	0
SOx	0	0	0
PM	0	0	0
HAPs	0	0	0

Redhawk: Proposed emissions and emission concentrations from generated from military flights within the airspace.			
Pollutant	lbs/year	tpy	Proposed concentration of pollutant (µg/m3)
CO	6987.68	3.49	0.015795117
VOC	778.04	0.39	0.0017587
Nox	209674.44	104.84	0.473953058
SOx	7765.72	3.88	0.017553817
PM	2642.40	1.32	0.005972943
HAPs	406.85	0.20	0.000919658

Eel W570	hours
Existing	900
Proposed	1200

Juni/Hart	hours
Existing	2377
Proposed	1809

Redhawk	hours
Existing	0
Proposed	367

Existing	3277
Proposed	3376

Existing

Installation	Airspace Clusters	Time in Airspace Clusters (hr/yr)	Total
142	W-570	900	1976
	Juniper and Hart	1076	
	Redhawk	0	
173	Juniper and Hart	1301	1301

Proposed

Installation	Airspace Clusters	Time in Airspace Clusters (hr/yr)	Total
142	W-570 and Eel MOAs	1200	2076
	Juniper and Hart	509	
	Redhawk	367	
173	Juniper and Hart	1300	1300

		142	**173**
Class A	1.88	**0.058148**	**0.0457592**
hours	100000	3093	2434
Class B	4.97	**0.153722**	**0.1209698**
hours	100000	3093	2434

Airspace	Change in GHG Emissions (proposed - existing) (tons/yr)
W-570 and Bass/Bass South ATCAA	4727
Eel ATCAA	5699
Juniper/Hart MOA Complex	-10595
Total change in GHG Emissions	-168

Engine Type	Power Setting	Fuel Flow Rate (lb/hr)	Emission Factor (lb/1000lb fuel)
F100-PW-220	Military	9679	3252.46
F100-PW-229	Military	11490	3252.46

	Existing		Proposed Action		Difference
Airspace	Annual Usage	GHG Emissions (tons/yr)	Annual Usage	GHG Emissions (tons/yr)	(proposed - existing) tons/yr
W-570	900 hrs	16817	900 hrs	16817	0
(surface to FL 500)	1,800 ops		1,800 ops		
Bass ATCAA	42 hrs	785	100 hrs	1869	1084
(FL 180 to FL 500)	250 ops		600 ops		
Bass South ATCAA	17 hrs	318	142 hrs	2653	2336
(FL 180 to FL 270)	100 ops		700 ops		
W-570 C	N/A		70 hrs	1308	1308
(11,000 MSL to FL 500)			550 ops		

Total difference (Proposed - Existing) 4727

Assumed all engines types are F100-PW-229

Emission Factor and fuel usage rate from "Air Emissions Guide for Air Force Mobile Sources", August 2012

Engine Type	Power Setting	Fuel Flow Rate (lb/hr)	Emission Factor (lb/1000lb fuel)
F100-PW-220	Military	9679	3252.46
F100-PW-229	Military	11490	3252.46

	Existing		Proposed Action		Difference
Airspace	Annual Usage	GHG Emissions (tons/yr)	Annual Usage	GHG Emissions (tons/yr)	(proposed - existing) tons/yr
Eel MOA A	N/A	0	60 hrs	1121	1121
(11,000 MSL to FL 180)		0	180 ops		
Eel MOA B		0	90 hrs	1682	1682
(11,000 MSL to FL 180)		0	270 ops		
Eel MOA C		0	90 hrs	1682	1682
(11,000 MSL to FL 180)		0	270 ops		
Eel MOA D		0	60 hrs	1121	1121
(11,000 MSL to FL 180)		0	180 ops		
Eel ATCAA A	333 hrs	6222	60 hrs	1121	-5101
(FL 180 to FL 270)	4,000 ops		720 ops		
Eel ATCAA B		0	90 hrs	1682	1682
(FL 180 to FL 270)			1,080 ops		
Eel ATCAA C		0	90 hrs	1682	1682
(FL 180 to FL 270)			1,080 ops		
Eel ATCAA D		0	60 hrs	1121	1121
(FL 180 to FL 270)			720 ops		
Eel High ATCAA A	N/A	0	7.6 hrs	142	142
(FL 270 to FL 500)			90 ops		
Eel High ATCAA B		0	11.4 hrs	213	213
(FL 270 to FL 500)			135 ops		
Eel High ATCAA C		0	11.4 hrs	213	213
(FL 270 to FL 500)			135 ops		
Eel High ATCAA D		0	7.6 hrs	142	142
(FL 270 to FL 500)			90 ops		

Total difference (Proposed - Existing)	5699

Assumed all engines types are F100-PW-229

Emission Factor and fuel usage rate from "Air Emissions Guide for Air Force Mobile Sources", August 2012

Engine Type	Power Setting	Fuel Flow Rate (lb/hr)	Emission Factor (lb/1000lb fuel)
F100-PW-220	Military	9679	3252.46
F100-PW-229	Military	11490	3252.46

	Baseline		Proposed Action		Difference
Airspace	Annual Usage	GHG Emissions (tons/yr)	Annual Usage	GHG Emissions (tons/yr)	(proposed - existing) tons/yr
Juniper Low MOA	243 hrs	4541	204 hrs	3812	-729
(300 AGL to 11,000 MSL)	1,260 ops		1,200 ops		
Juniper North MOA	286 hrs	5344	188 hrs	3513	-1831
(11,000 MSL to FL 180)	1,119 ops		919 ops		
Juniper South MOA	1,278 hrs	23880	624 hrs	11660	-12220
(11,000 MSL to FL 180)	4,755 ops		3,755 ops		
Hart North MOA	205 hrs	3831	188 hrs	3513	-318
(11,000 MSL to FL 180)	2,811 ops		2,711 ops		
Hart South MOA	365 hrs	6820	281.5 hrs	5260	-1560
(11,000 MSL to FL 180)	2,040 ops		1,990 ops		
Juniper East Low MOA	--		45 hrs	841	841
(500 AGL to			485 ops		
11,000 MSL)					
Juniper C MOA	--		56 hrs	1046	1046
(11,000 MSL to			1,199 ops		
FL 180)					
Juniper D MOA	--		59 hrs	1102	1102
(11,000 MSL to			1,171 ops		
FL 180)					
Hart ATCAA F	--		58.5 hrs	1093	1093
(FL 180 to			1,125 ops		
FL 280)					
Hart ATCAA F	--		56 hrs	1046	1046
(FL 180 to			1,095 ops		
FL 280)					
Hart ATCAA F	--		32 hrs	598	598
(FL 180 to			708 ops		
FL 280)					
Hart ATCAA F	--		18 hrs	336	336
(FL 180 to			708 ops		
FL 280)					
Juniper ATCAA	1,000 hrs	18685	1,000 hrs	18685	0
(FL 180 to	4,500 ops		4,500 ops		
FL 510**)**					
Hart ATCAA	367 hrs	6858	330 hrs	6166	-691
(FL 180 to	2,000 ops		1,800 ops		
FL 510					
Hart ATCAA F	--		37 hrs	691	691
(FL 180 to			200 ops		
FL 280)					
			Total difference (Proposed - Existing)		-10595

Assumed all engines types are F100-PW-229

Emission Factor and fuel usage rate from "Air Emissions Guide for Air Force Mobile Sources", August 2012

APPENDIX G

LAND USE

APPENDIX G
LAND USE AND LAND MANAGEMENT

The following provides a detailed description of available land use and land management information for public and private lands beneath the affected and proposed airspaces.

Land use and management decisions occur at the local level within county and city governments, state level for State Parks and State Forests, and at the federal level for National Forests, National Wildlife Refuges (NWRs), Wild and Scenic Rivers, National Historic Areas, Areas of Critical Environmental Concern (ACEC), Marine Protected Areas (MPAs), and Research Natural Areas (RNAs).

- *Areas of Critical Environmental Concern* are public lands managed by the BLM that require special management in order to protect the area's resource values. The resources may be wildlife habitat, special viewsheds, or, areas of cultural or historical importance. The ACEC may also require special management due to hazards.

- *Marine Protected Areas* are designated ocean areas that are set aside by state or national authority for a variety of conservation and management methods. Protected areas may be established to protect ecosystems, preserve cultural resources, aid in marine or coastal research, or sustain fisheries production (National Oceanic and Atmospheric Association [NOAA] 2013).

- *Research Natural Areas* are reserved areas, which contain important ecological and scientific values and are managed for minimum human disturbance. The goals of RNAs are to preserve examples of all significant natural ecosystems for comparison with those influenced by man; to provide educational and research areas for ecological and environmental studies; and to preserve gene pools of typical and endangered plants and animals (BLM 2007a).

Additionally, affected and proposed airspace occurs over areas of tribal lands, where local land use decisions regarding management and allowable activities

are made and enforced by tribal governments. This section provides an overview of the land use and management beneath the proposed areas of airspace modification.

REGIONAL SETTING

The majority of proposed airspace actions are located within the State of Oregon. However, the proposed expansion of the Juniper/Hart Military MOA Complex would include airspace over portions of Humboldt and Washoe counties in northwestern Nevada. Additionally, modifications to the Eel Air Traffic Control Assigned Airspace (ATCAA) would include airspace over a small portion of Pacific County in Washington and modification to W-570 and the Bass/Bass South ATCAAs would occur over the Pacific Ocean. Land uses below the airspace are varied and include urbanized regions (e.g., Astoria, Condon, Frenchglen, etc.), rural farmland and timberlands, and remote and virtually unaltered open spaces that provide recreational opportunities and wildlife protection. The Great Basin Desert occupies the southeastern third of Oregon, with the predominant land use consisting of farmland and National Forest lands. The western half of the state is predominately forestland, with land uses consisting primarily of private timberlands, National Forest, and pockets of urban areas.

EEL ATCAA AND W-570 AIRSPACE

Local Land Use Management

The Eel ATCAA is located over portions of Clatsop, Tillamook, Yamhill, Polk, and Lincoln counties in coastal Oregon as well as a small inclusion over Pacific County in Washington. The W-570 airspace is located entirely offshore over the Pacific Ocean. Northwestern Oregon and southwestern Washington are predominately characterized by forestland, which extends from the rocky coastline into coastal foothills and the mountainous Coast Range. Land uses in this region consist primarily of private timberlands, federal and state-owned lands, and pockets of urban areas. Private land use and management underlying the Eel ATCAA are predominantly governed at the local level by county and city governments. However, state agencies also manage substantial areas underlying the airspace, including 38 State Parks and two State Forests. Federally managed

lands underlying the existing and proposed airspace include one National Forest, five NWRs, Areas of Critical Environmental Concern (ACEC) and one National Historic Park. No Wild and Scenic Rivers occur within these areas.

Local Land Use and Management

Under the Proposed Action Eel MOA A-D would be established beneath the existing Eel ATCAA over coastal Oregon above the counties of Clatsop, Tillamook, Yamhill, Polk, and Lincoln in Oregon, and Pacific County in Washington. These counties are predominantly rural, containing a few pockets of urban areas and numerous unincorporated communities. Incorporated cities tend to control local land use decisions; whereas land use in and around unincorporated communities are often made at the county government level. Population density and incorporated and unincorporated areas are provided in Table G-1.

Table G-1. Population and Urban Areas beneath Eel ATCAA and W-570

Location	Area Square Miles	Population per Square Mile	Incorporated Cities	Unincorporated Communities
Clatsop Co., OR	1,085	41	5	35
Tillamook Co., OR	1,333	23	7	33
Yamhill Co., OR	718	139	10	24
Polk Co., OR	741	102	17	24
Lincoln Co., OR	1,194	47	7	27
Pacific Co., WA	1,224	22	10	14

Source: U.S. Census Bureau 2010.

Clatsop County

Clatsop County encompasses 1,085 square miles, including 180 square miles of Pacific Ocean and freshwater. The population of Clatsop County is 37,039 people (U.S. Census Bureau 2010). The population density is approximately 41 people per square mile, with most urban development located along the coast.[1] Inland areas are primarily rural and densely forested. The county contains five

[1] As a point of reference the population densities for the cities of Portland and Salem are approximately 4,376 persons per square mile and 3,229 persons per square mile respectively (U.S. Census Bureau 2010).

incorporated cities (Astoria, Cannon Beach, Gearhart, Seaside, and Warrenton) and 35 unincorporated communities.

The confluence of the Columbia River with the Pacific Ocean supports a world-renowned fishery that enables a healthy local marine services industry that includes worldwide shipping, boat construction, repair and maintenance. Just inland, dense temperate rain forest environments provide important habitat and recreational opportunities as well as resource extraction (i.e., logging). Logging occurs in areas that are set back from water features and provides substantial employment. The natural beauty and natural resources drive tourism, recreation, and resource-based industries, which are primary economic drivers in the county.

Land ownership in the county is primarily private; however, substantial areas of publicly owned lands also occur. In particular, Clatsop (154,000 acres) and Tillamook State Forests (364,000 acres) comprise a substantial portion of the eastern and southern part of the county, respectively.

Tillamook County

Tillamook County is a coastal county that encompasses 1,333 square miles, including 231 square miles of Pacific Ocean and freshwater. The population of Tillamook County is 25,250 (U.S. Census Bureau 2010). The population density is approximately 23 people per square mile, with the majority of urban development located along the coast. Similar to Clatsop County, inland areas are primarily rural and densely forested. The county contains seven incorporated cities (Bay City, Garibaldi, Manzanita, Nehalem, Rockaway Beach, Tillamook, and Wheeler) and 33 unincorporated communities.

Urban development is concentrated near Tillamook Bay in the City of Tillamook in the northern part of the county as well as in Pacific City in the southern part of the county. Primary industries that drive land use include agriculture, timber harvest, tourism, and fishing. Dairy farming is a major industry in the county, along with timber harvest. Approximately 44 percent of the county is under state ownership, primarily within Tillamook State Forest.

Yamhill County

Yamhill County encompasses 718 square miles including 2.8 square miles of freshwater located the Willamette Valley region. The population of Yamhill County is 99,193 (U.S. Census Bureau 2010). The population density is approximately 139 people per square mile. The county contains ten incorporated cities and 24 unincorporated communities.

The major industries of the county are agriculture, forest products, manufacturing, and education. Timber is Yamhill County's number one basic export, with approximately one third of the county consisting of state and privately owned commercial timber holdings (Yamhill County 1996). Substantial agricultural operations also occur, including wheat, barley, horticulture, and dairy farming. Additionally, Yamhill County contains substantial grape wine cultivation, with over 80 wineries and 200 vineyards located within the county. Urban development is greater in the eastern half of the county in McMinnville, Carlton, Newberg, and Sheridan in the southern part of the county. Forest dominates the western half of the county.

Land area affiliated with the Confederate Tribes of Grand Ronde Community is located in the southwestern part of the county.

Polk County

Polk County encompasses approximately 741 square miles located the Willamette Valley region. The population of Polk County is 76,353 (U.S. Census Bureau 2010). The population density is approximately 102 people per square mile. The county contains 17 incorporated cities and 24 unincorporated communities.

Land area affiliated with the Confederate Tribes of Grand Ronde Community is located in the northwestern part of the county.

Lincoln County

Lincoln County is a coastal county that encompasses 1,194 square miles, including 214 square miles of Pacific Ocean and freshwater. The population of Lincoln County is 46,034 (U.S. Census Bureau 2010). The population density is approximately 47 people per square mile. The county contains seven incorporated cities and 27 unincorporated communities. Urban development is concentrated along the coast in Lincoln County. Major cities include Lincoln City, Newport, and Toledo. Inland areas of Lincoln County are forested.

Land area affiliated with the Confederated Tribes of the Siletz Indians is located in the northeastern part of the county.

Pacific County

Pacific County is the southernmost coastal county in Washington and encompasses 1,224 square miles, including 291 square miles of Pacific Ocean and freshwater. The population of Pacific County is 20,930 (U.S. Census Bureau 2010). The population density is approximately 22 people per square mile. The county contains ten incorporated cities and 14 unincorporated communities. Urban development in Pacific County, Washington is concentrated on the Long Beach Peninsula and along the Willapa River. Inland Pacific County is forested and logging is a prominent land use.

The Shoalwater Bay Tribe has land located on the north shore of Willapa Bay, to the north of the proposed Eel MOA/ATCAA Complex.

State Land Use and Management

Areas managed by the State of Oregon include state forests and state parks. State and federally owned and managed areas are multi-use, with recreation often a primary component of land use management.

State Forests

State forest lands comprise a significant percentage of public forest lands in northwest Oregon and provide important timberlands as well as a wide variety of recreational opportunities for local residents and visitors. The *Northwest Oregon State Forests Management Plan* provides management direction for over 615,000 acres of state forest land, located in twelve northwest Oregon counties (Oregon Department of Forestry 2010). State forests that occur beneath the Eel airspace include portions of the Clatsop and Tillamook State Forests. The majority of state forest lands in northwestern Oregon are owned and managed by the Board of Forestry and managed in accordance with the *Northwestern Oregon State Forests Management Plan*. This plan takes a comprehensive, multi-resource approach to forest management and includes a description of each forest resource, and information about current management programs for these resources. The resource management goals and strategies are intended to achieve a proper land use balance among the resources and achieve the greatest permanent value through a system of integrated management (Oregon Department of Forestry 2010).

Recreational use of the state forest lands primarily occur dispersed along roads, rivers, and streams. Recreational activities include hunting, target shooting, fishing, dispersed or campground camping, and off-highway vehicle use. Other uses are hiking, horse riding, mountain biking, and scenic viewing (at viewpoints). Hunting use is concentrated in the fall deer and elk seasons, beginning with the opening of bow season in late August (Oregon Department of Forestry 2010).

Tillamook State Forest is comprised of approximately 364,000 acres of forest land. Prior to 1933 the land within Tillamook State Forest was almost entirely privately owned. After a series of severe wildfires in the 1930s, known as the Tillamook Burn, many landowners allowed the forestlands to be foreclosed by the counties rather than pay taxes. Counties began to deed land in the Tillamook Burn to the Board of Forestry in 1940, and about 255,000 acres eventually came under state ownership.[2] In June 1973, the former Tillamook Burn was dedicated

[2] Most of the remaining 100,000 acres is owned by private timber companies and Bureau of Land Management (BLM).

as the new Tillamook State Forest. The 364,000 acre forest includes 255,000 acres from the Tillamook Burn, and other unburned forest land. Tillamook State Forest contains an extensive trail network that provides recreational opportunities for hiking, horse riding, mountain bike riding, and Off-Highway Vehicle (OHV) use. There are ten designated campgrounds in the forest.

Clatsop State Forest is 98 percent controlled by Board of Forestry Lands with the remaining two (2) percent of the Clatsop State Forest is Common School Fund Land. These lands were privately owned, logged between 1910 and 1940, and then became tax-delinquent. Clatsop and Columbia Counties foreclosed when landowners could not pay their taxes, and ownership reverted to the county. Many landowners filed for bankruptcy and lost their land during the Great Depression. Eventually, the counties deeded these cutover and unmanaged forest lands to the Board of Forestry to manage as a state forest. According to the agreement, the Department of Forestry would replant the lands, protect them from fire, and manage the new forest. Then, as timber was harvested, the counties would receive two-thirds of the net revenue.

State Parks

Oregon State Parks are managed and maintained by the Oregon Parks and Recreation Department. Management is focused on providing for multiple uses including recreation, education, and conservation. The mission of the Parks and Recreation Department is to provide and protect outstanding natural, scenic, cultural, historic and recreational sites for the enjoyment and education of present and future generations. State Parks are governed primarily by regulations and policies contained within the individual State Park plans (i.e., *Tillamook County Coastal State Parks Master Plan*). There are 72 State Parks located below the Eel airspace, which are listed below:

- Fort Stevens SP
- Del Rey Beach SP
- Arcadia Beach SP
- Ecola SP
- Tolovana Beach SP
- Gleneden Beach SP
- Boiler Bay SP
- Cape Kiwanda SP
- Fogarty Creek SP
- Bradley SP
- Saddle Mountain SP
- Nehalem Bay SP

- Vermonia SP
- Lewis and Clark Historical SP
- Rocky Creek SP
- Twin Rocks SP
- Elmer Feldenheimer SP
- Otter Crest SP
- Hug Point SP
- Devil's Punchbowl SP
- Oswald West SP
- Bald Peak SP
- Cape Lookout SP
- Beverly Beach SP
- Erratic Rock SP
- Robert Straub SP
- Agate Beach SP
- Champoeg SP
- Manhattan Beach SP
- Yaquina Bay SP
- Roads End SP
- Maud Williamson SP
- South Beach SP
- Ona Beach SP
- Neskowin Beach SP
- Lost Creek SP
- Beachside SP
- Governor Patterson Memorial SP
- Driftwood Beach SP
- Smelt Sands SP
- Yachats Ocean Road SP
- Cape Meares SP
- Ellmaker SP
- William B. Nelson Devil's Lake SP
- Tillicum Beach SP
- Seal Rock SP
- Oceanside Beach SP
- Grayland Beach SP
- Yachats SP
- Neahkahnie-Manzanita SP
- Haystack Hill SP
- Pacific Pines SP
- H.B. Van Duzer Forest SP
- Cougar Valley SP
- Roads End SP
- Leadbetter Point SP
- Gleneden Beach SP
- Fishing Rock SP
- Depoe Bay Whale Watch Center SP
- Sunset Beach SP
- D River SP
- Oceanside Beach SP
- Gearhart Ocean SP
- Symons SP
- Rockaway Beach SP
- Sunset Highway SP
- Sand Lake SP
- Clay Myers SP
- Munson Creek SP
- Devil's Lake SP
- Cape Disappointment SP
- Fort Columbia SP

Federal Land Use and Management

Federal lands below the existing and proposed airspace modifications include lands managed by the U.S. Department of Agriculture - Forest Service (USFS), the U.S. Fish and Wildlife Service (USFWS), the National Park Service, the BLM, and the National Marine Fisheries Service (NMFS), as discussed below.

National Forests

The USFS manages lands for multiple use and sustained yields of various products and services, for example, timber harvesting, recreation, grazing, watershed protection, and fish and wildlife habitats. Most of USFS lands are designated national forests, but there are also national grasslands and other lands. Portions of one national forest occur beneath the Eel MOA.

Siuslaw National Forest extends along the Central Oregon coast and east into the Coast Range mountains. The forest encompasses approximately 630,000 acres, of which the Eel airspace overlies the northern-most portion of the forest. Special management areas within the forest include the Sand Lake Recreation Area, Cascade Head Scenic Research Area, Mary's Peak Scenic Botanical Area, Cape Perpetua Scenic Area, Oregon Dunes National Recreation Area, Drift Creek Wilderness, Cummins Creek Wilderness, and Rock Creek Wilderness. The only special management areas beneath the airspaces are Sand Lake Recreation Area and Cascade Head Research Natural Area. Recreation uses within the park include hiking, whale watching, birding, horseback riding, dune buggy driving, swimming, camping, and fishing (USFS 2012).

- *Sand Lake Recreation Area* consists of 1,076 acres of open sand dunes surrounded by forest and the Pacific Ocean. Recreation options available within the recreation area include fishing, swimming crabbing and kayaking in the Sand lake Estuary; hiking, wildlife viewing and camping. Off-Highway Vehicle (OHV) riding is available on the dunes and is managed by county law enforcement and the USFS in compliance with permits and regulations set by the State of Oregon (USFS 2012).
- *Sand Lake Research Natural Area* consists of 220 acres of unstabilized dune grassland communities found along the Oregon Coast. It is managed by

the USFS and is located in the northwest portion of the Siuslaw National Forest, just north of the Sand Lake Recreation Area. Purposes for the establishment of the area includes research on the long-term community succession following catastrophic fire within an undisturbed parabola dune system, and the protection of unstabilized dune grass and associated sitka spruce and western hemlock forest (Pacific Northwest Interagency Natural Areas Network 2013).

- *Cascade Head Research Natural Area* includes an 11,890 acre experimental forest and a 9,670 acre scenic research area. The entire area is designated a Biosphere Reserve as part of the United Nations Biosphere Reserve system. It is managed jointly by the USFS and research partners. Research partners include The Nature Conservancy, state and private universities in Oregon and Washington, Oregon Department of Fish and Wildlife (ODFW), Oregon Department of Agriculture, National Aeronautic and Space Administration, U.S. Environmental Protection Agency (USEPA), and NMFS. Listed endangered species found within the area include the northern spotted owl (*Strix occidentalis caurina*), marbled murrelet (*Brachyramphus marmoratus*), Coho salmon (*Oncorhynchus kisutch*), and Oregon silver spot butterfly (*Speyeria zerene hippolyta*) (Forest Science Lab 2013). Recreation available within the Natural Area is limited to hiking only. Overnight camping is not permitted (USFS 2012).
- *Neskowin Crest Research Natural Area* consists of a 1,190 acre area managed by the USFS and located in the northwestern corner of the Cascade Head Experimental Forest. It is managed in an undisturbed condition as much as possible where compatible with objectives of the Cascade Head Experimental Forest and the Cascade Head Scenic Research Area (USFS 1990). Neskowin Crest Research Natural Area is located within the boundaries of both the Cascade Head Research Natural Area and the Siuslaw National Forest.
- *Reneke Creek Research Natural Area* consists of 480 acres managed by the USFS. The most notable scientific feature of this RNA is an ecosystem dominated by red alder that is drained by two matched perennial streams. These streams are particularly useful for studying nutrient cycling in a deciduous forest (USFS 1990). Reneke Creek Research Natural Area is located within the boundaries of the Suislaw National Forest, but outside of the Cascade Head Research Area.
- *High Peak – Moon Creek Research Natural Area* consists of a 1,526 acre tract of coniferous forest containing stands of 100- to 150-year-old Douglas-fir, a small, old-growth (500+) years Douglas-fir dominated stand, and riparian vegetation. It is managed by the BLM. Research within the Natural Area has focused on distribution, habitat, and population for

various species, and studies focusing on old-growth stand characterizations and conditions for forest communities (USFS 2006). High Peak – Moon Creek Research Natural Area is within the boundaries of the Eel MOA, but outside the boundaries of the Cascade Head Research Natural Area and the Suislaw National Forest.

- *Hebo and Little Hebo Experimental Research Areas* are plots within the Siuslaw National Forest that are part of a Long-term Ecosystem Productivity study taking place at various sites on the Olympic Peninsula, Oregon Cascades, Coastal Siskiyous, Oregon Coast Range, and the Washington Cascades. The experiment is led by the Forest Science Laboratory, which is managed under the USFS. The experiment seeks to evaluate the 200-year effects of plant assemblage and woody-debris changes on soil properties linked to productivity and on actual net primary productivity and diversity of these assemblages (Forest Science Lab 2000).
- *Saddle Bag Mountain Research Natural Area* is a 300-acre tract of land occupying the summit and western slopes of Saddle Bag Mountain managed by the BLM. A notable scientific feature of the RNA includes populations of Pacific silver fire and noble fire that have been isolated on and near Saddle Bag Mountain for hundreds of years representing genetically unique populations due to their long periods of isolation. Research in the RNA has focused on Old Growth communities, biological monitoring studies, and the establishment of four permanent vegetation plots to characterize and monitor change in forest composition and structure (USFS 2007). Saddle Bag Mountain Research Natural Area is within the boundaries of the Eel MOA, but outside the boundaries of the Cascade Head Research Natural Area and the Suislaw National Forest.

National Parks

The National Park System is comprised of diverse units ranging from historical structures to cultural and natural areas. National Parks are managed for the protection of natural and cultural resources and for public recreation and sight-seeing. Portions of one National Park occur beneath the Eel airspace.

Lewis and Clark National Historical Parks is made up of 12 separate park sites located along an approximate 40-mile stretch of the Pacific Coast from Long Beach, Washington to Cannon Beach, Oregon. Parks include: Cape Disappointment State Park, Washington; Fort Columbia State Park, Washington; Fort Stevens State Park, Oregon; Ecola State Park, Oregon; and Sunset Beach

State Park, Oregon. The parks commemorate the Lewis and Clark expedition and Native American cultures on the Pacific Coast by providing historical and cultural information, displays and interactive experiences (National Park Service 2006).

National Wildlife Refuges

The USFWS manages 95.4 million acres nationally, primarily to conserve and protect wildlife and plants. The 793 units of the NWR System include refuges, waterfowl production areas, and wildlife coordination units. Units can be created by an act of Congress or executive order, and the USFWS also may acquire lands for migratory bird purposes. Five NWRs occur beneath the Eel airspace.

Lewis and Clark NWR is located within Clatstop County beneath the northeastern boundary of Eel A and encompasses approximately 35,000 acres of tidelands and open water in the Columbia River estuary. Of the 35,000 acres, approximately 8,300 acres are made up of islands and sand bars. The refuge is managed by the USFWS and includes monitoring wildlife populations, improving island habitats, regulating waterfowl hunting, and coordinating with local, state, and other federal agencies relative to human activities in the estuary. Wildlife found in the refuge includes a variety of shorebirds, waterfowl, fish, and mammal species. Recreation and education opportunities available include fishing, hunting, and wildlife observation and photography (USFWS 2013).

Oregon Islands NWR is divided into a number of small units that include all rocks and islands off the shore of Oregon and above the mean high tide line. That equates to approximately 1,853 rocks, reefs and islands, two headland areas, and approximately 320 miles of the Oregon coast, underlying the Eel MOA/ATCAA Complex. Wildlife found in the refuge includes seabirds, seals, and sea lions. Recreation includes beach going, environmental education, photography, and wildlife observation. Boaters are requested to maintain a distance of 500 feet from all rocks and islands. Further, aircraft are requested to maintain 2,000 feet above ground level (AGL) from all rocks, reefs, and islands (USFWS 2013).

Cape Meares NWR is located within Tillamook County beneath Eel C and includes approximately 138 acres managed by the USFWS. The refuge

encompasses old-growth forest dominated by Sitka spruce and western hemlock. Wildlife common to the refuge includes tufted puffins (*Fratercula cirrhata*), common murres (*Uria aalge*), bald eagles (*Haliaeetus leucocephalus*), sea lions, harbor seals (*Phoca vitulina*), and grey whales (*Eschrichtius robustus*). Recreation opportunities include guided tours of the historic lighthouse, wildlife observation, and photography (USFWS 2013).

Siletz Bay NWR is located within Lincoln County beneath Eel D and encompasses 513 acres of protected salt marsh, brackish marsh, tidal sloughs, mudflats, and coniferous and deciduous forestland. It provides nursery habitat for salmon, steelhead, and cutthroat trout (*Oncorhynchus* spp.). Wildlife found in the refuge includes a variety of waterfowl, raptors, amphibians, reptiles, and mammal species. Recreation opportunities include wildlife observation, photography, and interpretive paddle tours through Siletz Bay Refuge (USFWS 2013).

Nestucca Bay NWR is located within Tillamook County and underlies the boundary between Eel C and D encompassing approximately 888 acres of tidal marsh, tidal mudflats, grassland, woodland, pasture, forested lag, and freshwater bogs. A major purpose of the refuge is to provide wintering habitat for geese. The Nestucca Bay NWR supports about one tenth of the world's Dusky Canada Goose (*Branta canadensis occidentalis*) population. The refuge is closed to all public use, except on two occasions in February and October.

Areas of Critical Environmental Concern

The BLM manages 261.5 million acres nationally and has a multiple-use, sustained-yield mandate that supports a variety of uses and programs, including energy development, timber harvesting, recreation, grazing, wild horses and burros, cultural resources, and conservation. BLM managed lands beneath the existing Eel ATCAA include four Areas of Critical Environmental Concern (ACEC):

- *Elk Creek ACEC* is located within Tillamook County and underlies segment C of the Eel Airspace. Resources designated for special management include botanical, fish and wildlife, and natural process resources.

- *Nestucca River ACEC* is located within Tillamook County and underlies with eastern boundary of segment C of the Eel Airspace. Resources designated for special management include fish and wildlife, and scenic resources.
- *Lost Prairie ACEC* is located within Lincoln County and underlies with segment D of the Eel Airspace near the southeastern boundary of the segment. Resources designated for special management include botanical and natural process resources.

Wild and Scenic Rivers

There are no designated wild and scenic rivers within Clatstop, Tillamook, Yamhill, Lincoln or Pacific counties.

Tribal Lands

The Confederated Tribes of the Siletz Indians is located in the northeastern part of Lincoln County, but outside of the proposed Eel MOA/ATCAA. Land area affiliated with the Confederate Tribes of Grand Ronde Community is located in the northwestern region of Polk County and the southwestern portion of Yamhill County beneath the proposed Eel MOA/ATCAA. Additionally, the Shoalwater Bay Tribe has land located on the north shore of Willapa Bay. See Section 3.5, *Cultural Resources* for additional information regarding Native American tribes.

Marine Protected Areas

On-going activities off the coast of Oregon include commercial fishing, recreational fishing, and wildlife viewing (Oregon State University 2012). Numerous marine protected areas have been established off of the Oregon coast, which are managed by state and federal resource agencies.

Marine Protected Areas existing below the Eel and W-570 airspaces are listed below with usage descriptions applicable to each area. National marine protected areas have the conservation and protection focus identified for each area (ODFW 2013, NOAA 2012).

- *Columbia River Salmon Conservation Zone* is located off the coast of Clastop County and underlies segment A of the Eel Airspace. Commercial and

recreational fishing are restricted. The conservation focus is natural heritage and sustainable fishery production.

- *Haystack Rock Marine Garden* is located off the coast of Clastop County and underlies segment B of the Eel Airspace. Commercial and recreational fishing are restricted. The conservation focus for the reserve is natural heritage and the protection focus is on intertidal and seabird colony resources.
- *Boiler Bay Research Reserve* is located off the coast of Lincoln County and crosses the boundary between segment D of the Eel Airspace and undesignated airspace near the southern boundary of the segment. Commercial and recreational fishing are restricted. The conservation focus for the reserve is natural heritage and the protection focus is on diverse intertidal habitat.
- *Cape Kiwanda Marine Garden* is located off the coast of Tillamook County and underlies segment C of the Eel Airspace near the southern boundary of the segment. Commercial and recreational fishing are restricted. The conservation focus for the reserve is natural heritage and the protection focus is on intertidal communities and seabird nesting
- *Netarts Bay Shellfish Preserve* is located off the coast of Tillamook County and underlies segment C of the Eel Airspace. Commercial and recreational fishing are restricted. The conservation focus for the reserve is natural heritage and the protection focus is on Olympia oysters.
- *Cascade Head North Marine Protected Area* is located off the coast of Lincoln County and Tillamook County. It underlies segment D of the Eel Airspace. Commercial and recreational salmon, crabbing, and groundfish fishing are permitted. All other extractive uses including new ocean development are prohibited.
- *Cascade Head West Marine Protected Area* is located off the coast of Lincoln County near the northern boundary between Lincoln County and Tillamook County, along the western boarder of Cascade Head Marine Reserve. It underlies segment D of the Eel Airspace. Commercial and recreational salmon fishing and crabbing are allowed. All other extractive uses including new ocean development are prohibited.
- *Cascade Head South Marine Protected Area* is located off the coast of Lincoln County near the northern boundary between Lincoln County and Tillamook County. It underlies segment D of the Eel Airspace. Use of trawls, nets, and new ocean development are prohibited.
- *Cascade Head Marine Reserve* is located off the coast of Lincoln County near the northern boundary between Lincoln County and Tillamook County. It

underlies segment D of the Eel Airspace. No extractive activities are allowed.

- *Cape Falcon Shoreside Marine Protected Area* is located off the coast of Lincoln County near the northern boundary between Lincoln County and Tillamook County. It underlies segment B of the Eel Airspace. Recreational fishing and crabbing are allowed from shore.
- *Cape Falcon West Marine Protected Area* is located off the coast of Clatsop County and Tillamook County, along the western boundary of Cape Falcon Marine Reserve. It underlies segment B of the Eel Airspace. Commercial and recreational salmon fishing and crabbing are allowed. All other extractive uses including new ocean development are prohibited.
- *Cape Falcon Marine Reserve* is located off the coast of Lincoln County near the northern boundary between Lincoln County and Tillamook County. It underlies segment B of the Eel Airspace. No extractive activities are allowed.

JUNIPER/HART MOA COMPLEX

The existing Juniper/Hart MOA Complex overlies approximately 7,928 square miles extending in a north to south direction from approximately 25 miles south of the Grant/Harney County line, in Oregon to approximately 15 miles north of the Humboldt/Pershing County line in Nevada. Central Oregon and northern Nevada are primarily arid due to the rain shadow effect of the Cascades on the western boundary of the region. Outdoor recreational activities, timber, and ranching are the primary economic activities. Lands underlying the Juniper/Hart MOA Complex are predominantly managed by the BLM. Other federally managed lands underlying the existing and proposed airspace include three NWRs and one Wild and Scenic River. Private land holdings are governed at the local level by county and city governments. No National Parks occur within these areas.

Local Land Use and Management

Proposed modifications to the Juniper MOA Complex would extend the training space east from the existing Juniper North and South MOAs, including the Juniper Low MOA. However, this extension would remain within Harney County. The extension of Hart North and South MOA east and south from its existing dimensions would extend the airspace in Harney County in Oregon and

establish airspace over Humboldt County and Washoe County in northwestern Nevada. Modifications would also affect the existing Juniper Low MOA airspace over Crook, Deschutes, Lake and Harney County by raising the airspace floor from 300 feet to 500 feet AGL. The small section of airspace extending into the California would be unchanged under the Proposed Action.

Table G-2. Population and Urban Areas beneath the Proposed Juniper/Hart MOA Complex

Location	Area Square Miles	Population per Square Mile	Incorporated Cities	Unincorporated Communities
Harney County, OR	10,226	1	2	23
Lake County, OR	8,358	1	2	12
Deschutes County, OR	3,055	38	4	19
Crook County, OR	2,987	7	1	8
Humboldt County, NV	9,658	2	1	7
Washoe County, NV	6,551	67	2	66

Source: U.S. Census Bureau 2010.

Harney County

Harney County has a total area of 10,226 square miles, of which 10,134 square miles are land and 92 square miles are water, mostly as part of Malheur Lake. The population of Harney County is 7,422 with a population density of approximately one (1) person per square mile (U.S. Census Bureau 2010). The county contains two incorporated cities (Burns and Hines) and 23 unincorporated communities. Urban development is concentrated within the City of Burns, with the rest of the county being very rural.

Harney County is in the eastern half of the state and falls into the Farm Zoning as designated by the Oregon Department of Land Conservation and Development (State of Oregon 2009). Prominent land uses include farming and ranching (Harney County 2009).

Land area affiliated with the Summit Lake Paiute Tribe is located in the northern part of the county.

Lake County

Lake County has a total area of 8,358 square miles, of which 8,136 square miles are land and 223 square miles are water. The population of Lake County is 7,895 with a population density of approximately one (1) person per square mile (U.S. Census Bureau 2010). The county contains two incorporated cities (Lakeview and Paisley) and 12 unincorporated communities. Lake County is in the south eastern half of the state and falls into the Farm Zoning as designated by the Oregon Department of Land Conservation and Development (Oregon Department of Land Conservation and Development 2009). Land use is focused on lumber and agricultural uses (Lake County 2011).

Deschutes County

Deschutes County has a total area of 3,055 square miles, of which 3,018 square miles are land and 37 square miles are water. The population of Deschutes County is 157,733 with a population density of approximately 38 people per square mile (U.S. Census Bureau 2010). The county contains four incorporated cities (Lakeview and Paisley) and 19 unincorporated communities. Urban development is concentrated the cities of Bend, Redmond, and La Pine, with the rest of the county being very rural.

Deschutes County is in the center of the state and falls primarily into the Farm Zoning as designated by the Oregon Department of Land Conservation and Development (State of Oregon 2009), though forest zoning may be found along the western boundary of the county as the landscape enters the Cascade Mountain Range. Prominent land uses include management for recreation and tourism activities, logging, and farming (Deschutes County 2011). The most southeastern portion of the county is covered by the airspace.

Crook County

Crook County has a total area of 2,987 square miles, of which 2,979 square miles are land and 8 square miles are water. The population of Crook County is 20,978 with a population density of approximately seven (7) people per square mile (U.S. Census Bureau 2010). The county contains one incorporated city (Prineville)

and eight (8) unincorporated communities. Crook County is located to the north of Deschutes County. The airspace would only cover a portion along the southern boundary of the county. Land use includes ranching, logging, recreation, agriculture and farming (Crook County 2012).

Humboldt County

Humboldt County is located in northern Nevada and has a total area of 9,658 square miles, of which 9,648 square miles are land and 10 square miles are water. The population of Humboldt County is 16,528 with a population density of approximately two (2) people per square mile (U.S. Census Bureau 2010). The county contains one incorporated city (Winnemucca) and seven (7) unincorporated communities. Mining and agriculture are two of the main types of land use (Humboldt County 2005). The major city within Humboldt County is Winnemucca.

Washoe County

Washoe County is located in the western part of Nevada. Washoe County has a total area of 6,551 square miles, of which 6,342 square miles are land and 209 square miles are water. The population of Washoe County is 421,407 with a population density of approximately 67 people per square mile (U.S. Census Bureau 2010). The county contains two incorporated cities (Reno and Sparks) and 66 unincorporated communities.

Urban development is concentrated in the southern part of the county in and around the cities of Reno and Sparks. The proposed airspace expansion would only extend into the northern part of the county. The northern part of the county is rural. The major land use designation in the northern part of the county is public lands with significant portions identified as wilderness area, and wilderness study areas.

State Land Use and Management

Areas managed by agencies of the State of Oregon include state forests and state parks. No state forests occur within the existing Juniper/Hart MOA Complex.

State Parks

Management of Oregon state parks is focused on providing for multiple uses including recreation, education, and conservation. State parks are governed primarily by regulations and policies contained within the individual or regional state park plans. There are 15 state parks located below the existing Juniper/Hart MOA Complex and the proposed Juniper/Hart Expansion Area, which are listed below:

- Frenchglen State Park
- Pete French Round Barn State Park
- Fort Rock State Park
- Three Sisters
- Smith Rock State park
- Redmond-Bend Juniper State Park
- Robert Sawyer Shop State Park
- La Pine State Park
- Chandler State Park
- Booth State Park
- Goose Lake State Park
- Peter Skene Ogden State Park
- Cline Falls State Park
- Tumalo State Park
- Pilot Butte State Park

Federal Land Use and Management

Federally managed areas existing below the proposed airspace modifications include lands managed by the USFS, USFWS, and BLM, as described below.

National Forests

Malheur National Forest is located in Eastern Oregon and encompasses approximately 1.7 million acres that are managed by the USFS. The forest is managed under a multi-use principle, which includes recreation, logging, and conservation. Vegetation includes high desert grasslands, sage, juniper, pine, fir, and alpine meadows (USFS 2012). Recreation uses are consistent with those described for the Umatilla National Forest above.

Fremont-Winema National Forest, framed by major migratory bird flyways, offers a setting of classic Western beauty derived from the land's volcanic legacy. The ecosystem ranges from towering snow-capped peaks to wide-open sage basins. Pivotal

to the economy and communities of south central Oregon, this 2.3 million acre forest is known for its many recreational opportunities, scenic vistas and wild places where visitors can still find solitude.

National Wildlife Refuges

Malheur NWR consists of 187,000 acres in central Harney County, including Malheur, Mud, and Harney Lakes, and 120,000 acres of lake associated wetlands. The Diamond Craters Outstanding Natural Area is located adjacent to the eastern boundary of the refuge. It is managed by the USFWS and was established by President Theodore Roosevelt in 1908.

The refuge is located within the Pacific Flyway and serves as an important resting point for migratory bird species. Bird watching is a popular recreational activity at this refuge. Other wildlife in the area includes waterfowl and deer (*Odocoileus* spp.). Vegetation includes sagebrush, greasewood and wild rye (USFWS 2012).

Sheldon NWR, located in northern Nevada, consists of more than half a million acres of protected high desert habitat managed by the USFWS. It is part of the Sheldon-Hart Mountain NWR Complex that includes the Sheldon NWR in Nevada, and the Hart Mountain National Antelope Refuge in Oregon. Hart Mountain National Antelope Refuge is not located below any of the airspace proposed for modification. Sheldon NWR encompasses varied landscapes of deep gorges, lush springs, rolling hills, and rugged tablelands. Protected wildlife includes wintering herds of pronghorn antelope and bands of bighorn sheep. Old homesteads, the Virgin Valley mining district and geothermal hot springs can also be found within the refuge (USFWS 2011).

Hart Mountain Antelope NWR, is located on a massive fault block ridge that ascends abruptly nearly three quarters of a mile above the Warner Valley floor in a series of rugged cliffs, steep slopes, and knife-like ridges. Visitors experience views of the beautiful Warner Valley Wetlands while ascending the west side, which is cut by several deep gorges. Hart, Potter, and DeGarmo canyons, the most rugged, extend from the valley floor to the top of the main ridge. The east side of the mountain is less precipitous, descending in a series of rolling hills and low ridges to the sagebrush-grasslands typical of southeastern Oregon and the Great Basin. The rugged diversity of the terrain creates a rich mix of habitat types, home to more than 300 species of wildlife.

Featured species include pronghorn antelope, California bighorn sheep, mule deer, sage grouse, and redband trout. The 278,000-acre refuge is one of the most expansive wildlife habitats in the arid West free of domestic livestock. Since its creation in 1936 as a range for remnant herds of pronghorn antelope, management of the refuge has broadened to include conservation of all wildlife species characteristic of this high desert habitat and restoration of native ecosystems for the public's enjoyment education, and appreciation.

Bureau of Land Management

Steens Mountain Cooperative Management and Protection Area (CMPA) consists of approximately 428,156 acres located in central Harney County and is managed by the BLM and the Steens Mountain Advisory Council. Land within the CMPA is to be maintained and enhanced through cooperative projects between the BLM, private landowners, tribes, and other public interests. Sustainable grazing and recreational use is permitted in designated areas. The Steens Mountain Wilderness surrounds part of Steens Mountain making up approximately 170,166 acres of the CMPA's total 428,156 acres. Approximately 100,000 acres of this wilderness area is designated as livestock free. Land protections in addition to the designated CMPA and Wilderness Areas include approximately 900,000 acres of federal land in southeastern Oregon allocated as off limits to mineral and geothermal extraction (BLM 2012). This area also includes two Wild and Scenic Rivers.

Hawksie-Walksie Research Natural Area is a 17,328-acre Research Natural Area managed by the BLM in southern Oregon.

East Fork High Rock Canyon Wilderness Area is located in northern Nevada and is managed by the BLM. The 52,618-acre Wilderness Area includes large areas of broad volcanic uplands and deeply cut drainages. The main vegetation type is sagebrush, with willows, aspens and other riparian vegetation found in the canyons. Remains of early homesteads can be found in the East Fork of High Rock Canyon. Wildlife in the area includes California bighorn sheep, mule deer, pronghorn antelope, mountain lions, coyotes, and sage-grouse. Nesting habitat for raptors can be found in the canyons. The Applegate-Lassen Emigrant Trail is located along the western boundary of the area.

North Black Rock Range Wilderness Area is located in northern Nevada and encompasses the northern portion of the Black Rock Range. The 30,648-acre area is

managed by the BLM. The dominant vegetation is sagebrush and willows, cottonwoods, aspens, and riparian species, which can be found in canyons. Wildlife found in this area includes the threatened Lahontan cutthroat trout, as well as California bighorn sheep, mule deer, pronghorn antelope, mountain lions, coyotes, and sage-grouse.

Little High Rock Lake Wilderness Area consists of 48,355 acres in northern Nevada and is managed by the BLM. The area includes broad volcanic uplands, deep cut drainages, and Mahogany Mountain. The dominant vegetation type is sagebrush, with willows (*Salix* spp.), chokecherry (*Aronia* spp.), and other riparian vegetation found in canyons. Wildlife includes California bighorn sheep (*Ovis canadensis californiana*), mule deer (*Odocoileus hemionus*), pronghorn antelope (*Antilocapra americana*), and sage-grouse (*Centrocercus urophasianus*). Habitat for nesting raptors can be found in the canyons.

High Rock Wilderness Area, located in Northern Nevada and managed by the BLM, is comprised of 59,107 acres. Sagebrush is the dominant vegetation type, with saltbush and greasewood occurring at lower elevations. Willows, cottonwoods, aspens, and other riparian species can be found in canyons. High Rock Lake occasionally fills with waters flowing from High Rock and Little High Canyons. A portion of the Applegate-Lassen Emigrant Trail crosses through the northern portion of the Wilderness Area and extends across Washoe County into California.

Other smaller wilderness areas include Mt. Washington NWA, Gearhart Mountain NWA, North Black Rock Range NWA, Three Sisters NWA, and Black Canyon NWA.

Areas of Critical Environmental Concern located below the Juniper/Hart MOA Complex are listed below with the resource area responsible for the areas designation.

- *High Rock Canyon ACEC*: Resources designated for special management include scenic, and fish and wildlife resources.
- *Warner Wetlands ACEC*: Resources designated for special management include cultural, fish and wildlife, natural processes, and scenic resources.
- *Lake Abert ACEC*: Resources designated for special management include cultural, fish and wildlife, natural processes, and scenic resources.
- *Abert Rim ACEC*: Resources designated for special management include botanical, cultural, and fish and wildlife resources.

- *Soldier Meadows ACEC:* In 1982, 307 acres were designated as the Soldier Meadows Area of Critical Environmental Concern to protect special natural heritage resources. The ACEC now contains 2,077 acres to protect these rare natural and cultural resources. Special rules apply to recreation and commercial uses in the ACEC

Wild and Scenic Rivers

Wild and Scenic Rivers are preserved for possessing outstandingly remarkable scenic, recreational, geologic, fish and wildlife, historic, cultural, or other similar values. Rivers or segments of rivers so designated are preserved in their free-flowing condition and are not dammed or otherwise impeded. National wild and scenic designation essentially vetoes the licensing of new hydropower projects on or directly affecting the river. It also provides very strong protection against bank and channel alterations that adversely affect river values, protects riverfront public lands from oil, gas and mineral development, and creates a federal reserved water right to protect flow-dependent values (USFS 2009). The modified airspace would extend over three Wild and Scenic Rivers.

The BLM is the agency responsible for managing the five segments of one National Wild and Scenic River. The Donner und Blitzen Wild and Scenic River system has nine river segments, though only five would be located below the airspace. The Donner und Blitzen Wild and Scenic River, along with two other rivers designated as Wild and Scenic (Wildhorse River and Kiger River) fall within Steens Mountain Cooperative Management and Protection Area (CMPA) (BLM 2005).

Tribal Lands

The Summit Lake Paiute Tribe is located south of the Sheldon NWR in the western part of Humboldt County. The reservation was established in 1913 and is 12,573 acres with 10,098 acres of trust lands. Tribal headquarters are located in Sparks, Nevada.

Wind Development

Wind development testing is currently ongoing below the Juniper/Hart MOA Complex. There are two stages of wind development land use identified below the airspace. The first is an authorized right of way (ROW). This means that the land within

the ROW is approved for wind tower development. The second is developed and existing wind towers. The authorized Wagontire wind test ROW is located predominately in Lake County, though a small portion of it extends into Harney County. The entire ROW is located below the existing Juniper Low MOA. Three existing Met towers are located in Lake County below the existing Juniper Low MOA. Met towers are used to gather wind data necessary for site evaluation and development of wind energy project. All three are identified by the BLM, though none are identified within the FAA's database of wind development. The first two, Wagontire Met1 and Wagontire Met2, are located within the authorized Wagontire ROW. The third tower, Little Glass Butte, is located north of the Wagontire ROW in a relinquished test ROW. A relinquished ROW is a test area that has been authorized for wind development but development has not been pursued. None of the existing ROWs or Met towers adversely impact training activities within the existing Juniper Low MOA (Oregon ANG 2013). No other authorized or existing wind developments exist below the existing Juniper/Hart MOA Complex.

REDHAWK MOA COMPLEX

The proposed establishment of the Redhawk MOA Complex would create an approximately 6,518-square mile training space in north-central Oregon over portions of Sherman, Gilliam, Morrow, Grant, Wheeler, Jefferson, and Wasco counties. Central Oregon is primarily arid due to the rain shadow effect of the Cascades on the western boundary of the region. Outdoor recreational activities, timber, and ranching are the primary economic activities. Lands underlying the proposed Redhawk MOA Complex are predominantly privately owned. Private land holdings are governed at the local level by county and city governments. State controlled lands include 11 state parks. Federally managed lands underlying the proposed airspace include portions of three national forests, one national monument, and two wild and scenic rivers.

Local Land Use and Management

The proposed Redhawk MOA Complex would overlie Sherman, Gilliam, Morrow, Grant, Wheeler, Jefferson, Crook, and Wasco counties. This area is predominantly privately owned lands utilized for agriculture, primarily ranching, as well as some timber production.

Table G-3. Population and Urban Areas within Proposed Redhawk MOA Complex

Location	Area Square Miles	Population per Square Mile	Incorporated Cities	Unincorporated Communities
Sherman County	831	2	4	10
Gilliam County	1,223	2	3	8
Morrow County	2,047	5	5	11
Grant County	4,529	2	9	18
Wheeler County	1,715	1	3	9
Jefferson County	1,791	12	3	12
Crook County	2,987	7	1	8
Wasco County	2,395	10	6	23

Source: U.S. Census Bureau 2010.

Sherman County

Sherman County has a total area of 831 square miles, of which 823 square miles are land and eight (8) square miles are water. The population of Harney County is 1,765 with a population density of approximately two (2) people per square mile (U.S. Census Bureau 2010). The county contains four incorporated cities (Grass Valley, Moro, Rufus, and Wasco) and 10 unincorporated communities.

Sherman County is sparsely populated; the largest city within the county has a population of just 380 people. The economy is rural and major type of land use is farming and ranching. The Sherman Agricultural Research Station is located outside of Moro in the northern portion of the county (Sherman County 2012). The county is predominantly an agricultural county, primarily wheat and barley, although the local economy includes ranching and tourism. The county contains the Biglow Canyon Wind Farm, the largest wind farm in Oregon. Additionally two wind energy generating facilities have been proposed within Sherman County (Oregon State University 2012).

Gilliam County

Gilliam County has a total area of 1,223 square miles, of which 1,204 square miles is land and 19 square miles is water. The population of Gilliam County is 1,871 with a population density of approximately two (2) people per square mile (U.S. Census

Bureau 2010). The county contains three incorporated cities (Arlington, Condon, Lonerock) and eight unincorporated communities.

Gilliam County is predominantly an agricultural county, with urban development concentrated in the county's two major cities; Arlington and Condon (Gilliam County 2012). Additionally, there are four proposed wind energy generating facilities located within Gilliam County (Oregon State University 2012).

Morrow County

Morrow County has a total area of 2,047 square miles, of which 2,031 square miles are land and 16 square miles are water. The population of Morrow County is 11,173 with a population density of approximately five (5) people per square mile (U.S. Census Bureau 2010). The county contains five incorporated cities (Boardman, Heppner, Ione, Irrigon, Lexington) and 11 unincorporated communities.

Morrow County is bisected by the Blue Mountains; north of the mountains land use is predominantly agricultural, south of the mountains the land is forested with land use more oriented around forestry. Three wind energy generating facilities are proposed within Morrow County (Oregon State University 2012). Urban development that would be located below the airspace is limited to the City of Heppner.

Grant County

Grant County has a total area of 4,529 square miles, of which 5,228 square miles are land and one (1) square mile is water. The population of Grant County is 7,445 with a population density of approximately two (2) people per square mile (U.S. Census Bureau 2010). The county contains nine incorporated cities and 18 unincorporated communities. Grant County has a forested and mountainous landscape. Land use is predominantly forestry and ranching uses.

Wheeler County

Wheeler County has a total area of 1,715 square miles, including approximately 1 square mile of water. The population of Wheeler County is 1,441 with a population density of approximately one (1) person per square mile (U.S. Census Bureau 2010). The

county contains three incorporated cities (i.e., Fossil, Mitchell, and Spray) and nine unincorporated communities. Wheeler County contains a mix of mountainous and forested terrain. Ranching and forestry are the predominant land uses within the county.

Jefferson County

Jefferson County has a total area of 1,791 square miles, of which 1,781 square miles are land and 10 square miles are water. The population of Jefferson County is 21,720 with a population density of approximately 12 people per square mile (U.S. Census Bureau 2010). The county contains three incorporated cities (i.e., Culver, Madras, Metolius) and 12 unincorporated communities.

Agriculture is the predominant source of income in this county, with vegetable, grass and flower seeds, garlic, mint and sugar beets cultivation. Jefferson County also has vast rangelands and an industrial base related to forest products.

The Confederated Tribes of the Warm Springs area located in the northwestern area of the county. The proposed airspace would only extend over the eastern half of the county and the airspace above the Confederated Tribes of the Warm Springs would not be impacted.

Crook County

Crook County has a total area of 2,987 square miles, of which approximately eight square miles is water. The population of Crook County is 20,978 with a population density of approximately seven (7) people per square mile (U.S. Census Bureau 2010). The county contains one incorporated city (i.e., Prineville) and eight unincorporated communities.

Agriculture and forestry are the predominant land uses, which include the cultivation of hay, grain, mint, potatoes, and seed. Range and forest lands allow grazing for a sizable livestock industry. The proposed airspace would cover the northern-most extent of the county. Land use in this northern extent is predominantly within the Ochoco National Forest, which is a main source of lumber as well as popular for tourism and recreation (Crook County 2012).

Wasco County

Wasco County has a total area of 2,395 square miles, of which 2,381 square miles are land and 14 square miles are water. The population of Wasco County is 25,213 with a population density of approximately 10 people per square mile (U.S. Census Bureau 2010). The county contains six incorporated cities (i.e., Antelop, Dufur, Maupin, Mosier, Shniko, The Dalles) and 23 unincorporated communities.

The county's economy is based upon agriculture, including orchards, wheat farming, and livestock ranching, as well as lumber, manufacturing, electric power, transportation, and tourism. Land use in the northern and eastern parts of the county is dominated by agriculture, and land use in the western part of the county contains more forested areas utilized for timber production and recreation. Additionally, two wind energy generating facilities have been proposed within Wasco County (Oregon State University 2012).

Wind Development

Multiple wind towers have been approved and proposed within Sherman County along the northern boundary of the proposed Redhawk MOA Complex. A single tower has been proposed and approved within Wasco County beneath the proposed Redhawk MOA Complex. The towers in Sherman County are proposed at a height of 500 feet and the wind tower in Wasco County is proposed at a height of 265 feet (Oregon State University 2012).

State Lands and Management

Areas managed by agencies of the State of Oregon include state forests and state parks. No state forests occur beneath the proposed Redhawk MOA Complex.

State Parks

As previously described, the management of Oregon state parks is focused on providing for multiple uses including recreation, education, and conservation. State parks are governed primarily by regulations and policies contained within the

individual or regional state park plans. There are 11 state parks located below the proposed Redhawk MOA Complex, which are listed below:

- Cottonwood Canyon State Park
- White River Falls State Park
- Memaloose State Park
- Koberg Beach State Park
- J.S. Burres State Park
- Deschutes-Hilderbrand State Park
- Mayer State Park
- Somers State Park
- Cove Palisades State Park
- Deschutes-Hilderbrand State Park
- John Day Chaparral Access State Park

Federal Lands and Management

The proposed Redhawk MOA Complex overlies approximately 6,518 square miles in a roughly rectangular shape above parts of Sherman, Gilliam, Morrow, Grant, Wheeler, Jefferson, and Wasco counties. Federally managed areas existing below the proposed airspace modifications include lands managed by the USFS, National Park Service, and BLM, as described below.

National Forests

Umatilla National Forest extends through northeastern Oregon and southeastern Washington encompassing approximately 1.4 million acres managed by the USFS. Only the most western portion of the Umatilla National Forest would be covered by the proposed Redhawk MOA Complex. There are no designated wildernesses that would be covered by the proposed airspace. Recreation uses within the park include campgrounds, lake activities, river rafting, snow activities, hiking, and mushroom and huckleberry gathering. Wildlife found within this area include a variety of fish, bird, and mammal species (USFS 2012).

Malheur National Forest is located in Eastern Oregon and encompasses approximately 1.7 million acres that are managed by the USFS. The proposed Redhawk MOA Complex would only extend above a northwestern portion of the forest. The forest is managed under a multi-use principle, which includes recreation, logging, and conservation. Vegetation includes high desert grasslands, sage, juniper, pine, fir, and alpine meadows

(USFS 2012). Recreation uses are consistent with those described for the Umatilla National Forest above.

Ochoco National Forest encompasses 850,000 acres of which approximately 95,000 are estimated to be old growth. It is managed by the USFS and occupies lands within Crook, Harney, Wheeler, and Grant counties. Wilderness areas within the Ochoco National Forest are: Black Canyon Wilderness, Bridge Creek Wilderness, and Mill Creek Wilderness. The proposed Redhawk MOA Complex would only extend over Bridge Creek and Mill Creek Wildernesses (USFS 2012).

Bridge Creek Wilderness is a 5,357 acre wilderness area in Wheeler County managed by the USFS. The wilderness area includes a portion of the Ochoco Mountains with North Point peak and East Point peak located within Bridge Creek Wilderness. Vegetation includes white fir (*Abies concolor*), lodgepine (*Pinus contorta*), sagebrush, and bunchgrass. Water features within the area include: Thompson, Pisgah, Masterson, Nelson, and Maxwell springs.

Mill Creek Wilderness is a 17,323 acre wilderness area in Crook County managed by the USFS. It includes two tributaries of the Ochoco Creek, Mill Creek and Marks Creek, which are home to small trout. Vegetation includes prairie and open meadow communities, lodgepole pine forest, and ponderosa pine (*Pinus ponderosa*).

National Parks

John Day Fossil Beds National Monument consists of three widely separated units (i.e., Sheep Rock, Painted Hills, and Clarno) in east-central Oregon. The proposed airspace would be located over the Clarno and Painted Hills units. The National Monument is managed by the National Park Service and is known for its well-preserved layers of fossil plants and animals. The area is an important area of paleontological research, but is also popular for camping, hiking, river rafting, fishing, and mountain biking (National Park Service 2013).

Wild and Scenic Rivers

The BLM and the USFS are the agencies responsible for managing the two National Wild and Scenic Rivers beneath the proposed Redhawk MOA Complex. Two wild and

scenic rivers occur beneath the proposed Redhawk MOA Complex: the Deschutes River and the John Day River. The Deschutes River is designated a National Scenic River for 30 miles and a National Recreation River for 143 miles.

Tribal Lands

The Confederated Tribes of the Warm Springs are located west of the proposed airspace; no portion of tribal land is located below the proposed airspace.

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APPENDIX H

TRIBAL OUTREACH

TRIBAL DISTRIBUTION LIST

Mr. Les Minthorn
Tribal Chair
Confederated Tribes of the Umatilla Indian Reservation
46411 Timíne Way
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Teara Farrow-Ferman, Culture Resources Program Manager Confederated Tribes of the Umatilla Indian Reservation
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Ms. Randi DeSoto
Tribal Chairwoman
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Natural Resource Department Director
Summit Lake Paiute Tribe
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Mr. Austin Greene
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Confederated Tribes of Warm Springs
P.O. Box C
Warm Springs, OR 97761

Ms. Sally Bird, Cultural Resources Manager
Confederated Tribes of Warm Springs
P.O. Box C
Warm Springs, OR 97761

OREGON MILITARY DEPARTMENT
JOINT FORCE HEADQUARTERS, OREGON NATIONAL GUARD
OFFICE OF THE ADJUTANT GENERAL
P.O. BOX 14350
SALEM, OREGON 97309-5047

<<Contact.>>
<<Address>>
<<Address>>
<<Address>>
<<Address>>

Subject: National Historic Preservation Act Section 106 Consultation for the Environmental Impact Statement for Proposed Airspace Establishment and Modification, Oregon Air National Guard

Dear <<Contact>>:

This letter is intended to follow up on previous correspondence regarding the Airspace Establishment and Modification proposed by the Oregon Air National Guard (ANG). The Oregon ANG is proposing to expand and establish air-to-air training airspace areas in four locations around the state (Attachment 1). As part of the scoping process for the Environmental Impact Statement currently in development, we will be conducting public scoping meetings to solicit input concerning the proposed Airspace Establishment and Modification.

Public scoping meetings will be held in the following Oregon communities from 6:00 p.m.-9:00 p.m.: Tillamook (June 17), Astoria (June 18), Condon (June 19), Burns (June 20), and Prineville (June 21).

The Oregon ANG, National Guard Bureau, and OMD are committed to early and continuous consultation with all potentially affected Native American tribes under Section 106 of the National Historic Preservation Act of 1966, as amended, and associated implementing regulations (36 CFR 800). Because we recognize the Burns Paiute Tribe as a sovereign nation, and as an important stakeholder in this process, we would like to offer to consult with you, government-to-government, in order to facilitate a meaningful and collaborative dialogue and ensure your concerns for this region regarding natural resources, cultural resources, and properties of traditional, customary, or religious importance are addressed. We invite your staff to participate at any of the planned public scoping meetings during the week of June 17-21. In addition, we will make all reasonable attempts to coordinate direct government-to-government consultation or staff level meetings as requested, potentially during closed sessions prior to the scheduled public scoping meetings or an alternate time at your convenience.

OREGON MILITARY DEPARTMENT
JOINT FORCE HEADQUARTERS, OREGON NATIONAL GUARD
OFFICE OF THE ADJUTANT GENERAL
P.O. BOX 14350
SALEM, OREGON 97309-5047

We look forward to further discussions with the <<Tribe>> to further define the appropriate level of continued engagement concerning this action. If you would like to participate in direct consultation, attend any of the upcoming public scoping meetings, or have any questions about this project, please feel free to contact Lt. Col. Chris Casson, Joint Force Headquarters/Oregon ANG at (541) 885-6531 or chris.casson@ang.af.mil.

Sincerely,

RAYMOND F. REES
Major General
The Adjutant General

Enclosures

Attachment 1 – Regional Location Map

Cc: <<Contact>>

Mr. Kris C. Mitchell, Tribal Coordinator, OMD

Mr. Dennis Griffin, State Archaeologist, Oregon SHPO

Mr. Chris Eck, Cultural Resources Program Manager (NGB/A7AN)

From: FRENCH, FREDERICK LtCol USAF ANG 173 FW/JFHQ/A3 [frederick.french@ang.af.mil]
Sent: Tuesday, July 24, 2012 2:09 PM
To: Don Ivy
Cc: Chen, Andrew L; Scherer, Devin CTR USAF ANG NGB/A7
Subject: RE: ANG Airspace- Establishment and Modification of Airspace in Oregon and Nevada

Thank you Mr. Ivy for you and the Tribe's time in reviewing the letters.

Lt Col Wes "Pappy" French
Oregon ANG A3
JFHQ-OR-AC-A3
BB (541) 205-2340, W (541) 885-6531
DSN 830-6531
Salem (503) 584-2218, DSN 355

-----Original Message-----
From: Don Ivy [mailto:donivy@coquilletribe.org]
Sent: Tuesday, July 24, 2012 1:17 PM
To: FRENCH, FREDERICK LtCol USAF ANG 173 FW/JFHQ/A3
Cc: Nicole Norris
Subject: ANG Airspace- Establishment and Modification of Airspace in Oregon and Nevada

July 24, 2012

Sirs:

The coquille tribe has no objections or comments to make regarding the above referenced matter. We thank you for the opportunity to comment, and wish you well in your project.

Sincerely,

Donald B. Ivy

Tribal Historic Preservation Office

Cultural Resources Program

-----Original Message-----
From: Mitchell, Kris C Mr CIV NG [mailto:kris.c.mitchell@us.army.mil]
Sent: Monday, July 30, 2012 8:57 AM
To: FRENCH, FREDERICK LtCol USAF ANG 173 FW/JFHQ/A3
Cc: Elliott, Gerald E Mr CIV NG
Subject: FW: Oregon National Guard (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: FOUO

LtCol French--
I sent the following response to the Warm Springs Tribe in response to their question. Thought you should have a copy for your Administrative Record. Please let me know if you have questions. Thanks.

Kris Mitchell
NEPA/Cultural Resources Manager
Oregon Military Department (AGI-E)
Office: 503-584-3164 Cell: 503-779-7504
email: kris.c.mitchell@us.army.mil

-----Original Message-----
From: Mitchell, Kris C Mr CIV NG
Sent: Monday, July 30, 2012 8:12 AM
To: Sally Bird
Subject: RE: Oregon National Guard (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Sally--
Good morning, the short answer is "yes", you are reading the letter correctly!

Thanks for attaching the letter, even though I'm cc'd on it along with you, I haven't received it yet! The letter refers to an EIS for airspace modification by the Air National Guard. They do their own environmental stuff, but I have been involved with their project a little and think that I understand what they are proposing. You are correct in that it is all airspace related with nothing proposed on the ground. In fact, the majority of it is above 5,000 feet. They are located at Kingsley Field in K-Falls (Perry's daughter works there) and are the Nation's only fighter pilot training school for the F-15 Eagle, so most of their training is high altitude fighter jet against fighter jet. The airspace marked "Juniper Low" is the only one that would extend as low as 500 feet above the ground in places.

Though they show "Boardman" airspace on the map, they are not proposing anything there. However, there is another project that I am working on for the Army National Guard in cooperation with the Navy that does include ground disturbing proposals on the Navy property at Boardman, as well as the unmanned aerial (drone) training in the restricted airspace above it. We are working

with CTUIR for this project, in fact I will be headed over to Pendleton this afternoon for a meeting with Catherine Dickson tomorrow morning regarding a TCP study that they are going to do for us. You had indicated at a past CRCG meeting that since our proposed ground disturbance is located east of Willow Springs, it would be appropriate to coordinate with CTUIR.

If you need more detail on the Army Guard/Navy project at Boardman, I can provide that. If you need more detail on the Air Guard project referred to in the letter, then I can put you in touch with the folks that are running that project. Either way, let me know if you have questions or need additional info. Thanks!

Kris Mitchell
NEPA/Cultural Resources Manager
Oregon Military Department (AGI-E)
Office: 503-584-3164 Cell: 503-779-7504
email: kris.c.mitchell@us.army.mil

-----Original Message-----
From: Sally Bird [mailto:sally.bird@wstribes.org]
Sent: Friday, July 27, 2012 3:45 PM
To: Mitchell, Kris C Mr CIV NG
Subject: Fwd: Oregon National Guard

Hello Kris,
So, I had a question for you...

The Tribe has recently looked at developed of airspace for unmanned drone testing. There are some ground disturbing issues that come up...roads, airstrips, etc., am I reading this correctly and there will be none of that, pacifically on the Juniper, Redhawk and Boardman project areas?

If there is, has a survey been completed yet?

Thanks,
Sally

Classification: UNCLASSIFIED
Caveats: NONE

Classification: UNCLASSIFIED
Caveats: FOUO

Summary of Tribal Outreach for the Proposed Establishment and Modification of Oregon Military Training Airspace

Federally Recognized Native American Tribe	Outreach Letter	Written Response Received	Phone Call	Face-to-Face Meeting	Tribal Persons Contacted	Concerns	Concurrence
Burns Paiute Tribe	2 July 2012 25 May 2013 5 June 2013	-	17 May 2013 13 June 2013	-	Jason Fenton (Environmental Manager) and Agnes Castronuevo (Cultural Resources)	None to Date	
Confederated Tribes of Coos Lower Umpqua & Siuslaw Indians	2 July 2012 25 May 2013 5 June 2013	-	17 May 2013 (voicemail) 13 June 2013	-	Howard Crombie (Environmental Coordinator) and Jesse Beers (Cultural Resources)	None to Date	
Coquille Indian Tribe	2 July 2012 25 May 2013 5 June 2013	24 July 2012	17 May 2013 (voicemail) 11 June 2013	-	Nicole Norris (THPO)	None to Date	
Cow Creek Band of Umpqua Tribe of Indians	2 July 2012 25 May 2013 5 June 2013	-	17 May 2013 (voicemail) 10 June 2013	-	Amy Amoroso (Natural Resources) and Rhonda Malone (Cultural Resources)	None to Date	
Confederate Tribes of Grand Ronde Community	2 July 2012 25 May 2013 5 June 2013	-	17 May 2013 10 June 2013	22 April 2013	Mike Wilson (Natural Resources Director) and Eirik Thorsgard (THPO)	None to Date	
Klamath Tribes	2 July 2012 25 May 2013 5 June 2013	-	17 May 2013 (voicemail) 21 May 2013 10 June 2013 (voicemail)	-	Will Hatcher (Natural Resources Director) and Perry Chocktoot (Cultural and Heritage Director)	None to Date	
Confederate Tribes of Siletz	2 July 2012 25 May 2013 5 June 2013	-	17 May 2013 10 June 2013 (voicemail)	-	Mike Kennedy (Natural Resources Manager) and Robert Kentta (Cultural Resources Director)	None to Date	
Summit Lake Paiute Tribe	2 July 2012 25 May 2013 5 June 2013	-	3 April 2014 (voicemail) 29 April 2014 (voicemail)	-	Randi DeSoto (Chairperson)	None to Date	
Confederated Tribes of the Umatilla Indian Reservation	2 July 2012 25 May 2013 5 June 2013	24 April 2013	17 May 2013 10 June 2013 (voicemail) 12 June 2013	-	Audie Huber (Natural Resources) and Teara Ferman (Cultural Resources Manager)	None to Date	
Confederated Tribes of Warm Springs	2 July 2012 25 May 2013 5 June 2013	27 July 2012	17 May 2013 (voicemail) 13 June 2013 (voicemail)	-	Robert Bruno (Natural Resources General Manager) and Sally Bird (Cultural Resources Manager)	Requested confirmation that no ground disturbing activities were included in the Proposed Action (Confirmed by Mr. Kris Mitchell, Oregon Military Department)	
Reno-Sparks Indians Colony	-	-	7 February 2013 (voicemail) 12 February 2013	-	Michon Ebon (THPO)	None to Date	