How to Silence EA-18Gs

(On Paper)

1. Calculate Average Sound Levels Over Vast Less Used Areas

The altitude range for the Olympic MOA airspace begins at 6,000 feet above mean sea level (MSL) and extends to an upper limit of 18,000 feet MSL. In addition, aircraft in the Olympic MOAs may not operate below 1,200 feet AGL. Because of the terrain below this airspace, these restrictions only apply to the eastern edge of the MOAs (see Figure 4-1). Above the Olympic MOAs, the Olympic Air Traffic Control Assigned Airspace (ATCAA) extends the upper altitude limit of the combined airspace to 35,000 ft. MSL. The altitude range for W-237A and W-237B begins at sea level and extends to 50,000 ft. MSL.[ii] While the Warning areas W-237A and W-237B are not over land, they are included in this study to ensure that any noise from activities in these areas would be included in this analysis.

To reduce the likelihood of spilling out of an area, aircrews typically plan their flight maneuvers to avoid airspace boundaries. For modeling purposes, a 3 nm offset was applied to all SUA boundaries, effectively restricting the modeled aircraft from flying within 3 nm of the edges of the airspace. This offset is used to represent how the aircraft actually fly within the MOA. The result, in terms of acoustic modeling, is to concentrate the noise into the interior of the MOA.

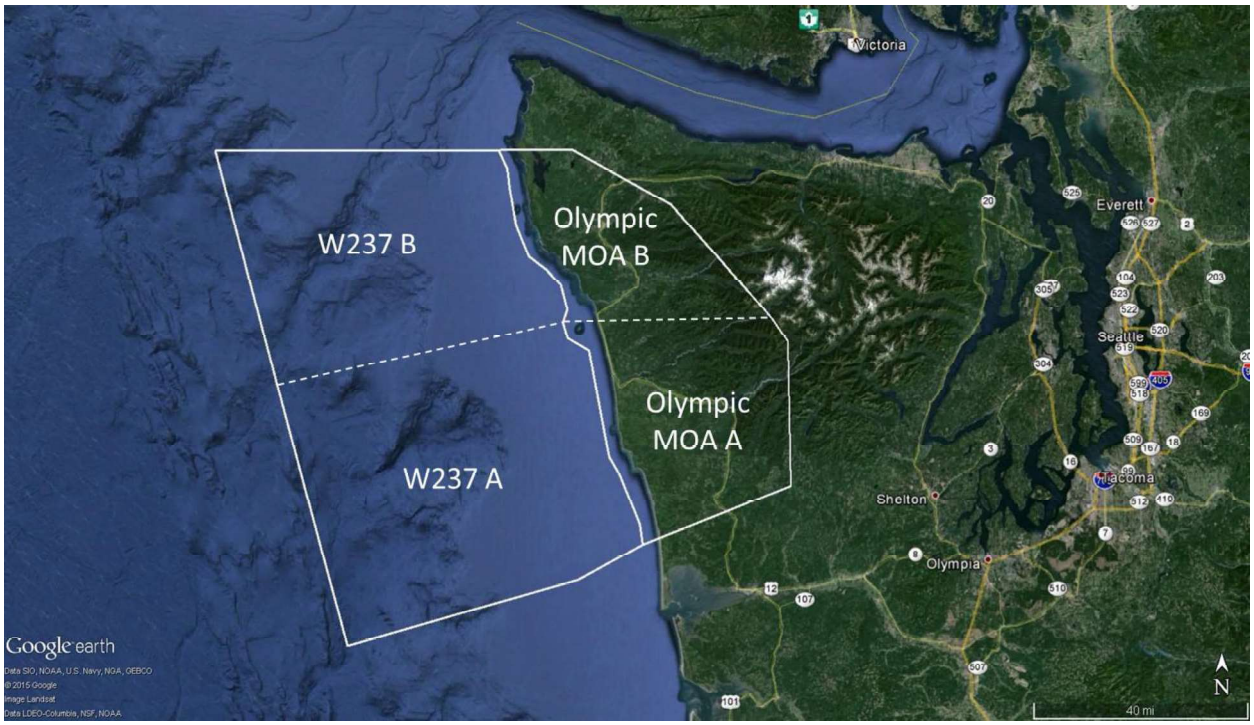


Figure 1-1. Special Use Airspace W-237 and the Olympic MOAs, with the A and B sections identified. The A and B sections were combined into a single airspace for this study.

2 Noise Metrics

Noise is one of the most prominent environmental issues associated with military training activities. The noise environment at military bases and training areas can include different types of noise sources that can either be classified as continuous noise (e.g., on-base vehicular traffic and aircraft training activities), or impulsive noise (e.g., weapons firing or detonation of explosives). Not all of these noise sources are directly associated with military training, such as civilian vehicular traffic or building heating, ventilation,

Introduction

This noise study is a component of the Northwest Training and Testing (NWTT) Environmental Impact Statement (EIS)/Overseas Environmental Impact Statement (OEIS). This study models the noise from aircraft training activities conducted in the Olympic Military Operations Areas (MOAs), and within the Warning Areas W-237A and W-237B.

1.1 Purpose

The EA-6B Prowler has been operating as an Airborne Electronic Attack (AEA) aircraft since 1971. Through systematic upgrades over the years, the airframe has remained operationally viable but is now approaching the end of its service life. A variant of the Navy's F/A-18 F "Super Hornet," designated the EA-18G Growler, has been developed to continue the AEA mission as the EA-6B is transitioned out of service. The purpose of this noise study is to document changes to the noise environment within the Special Use Airspace (SUA) of the Olympic MOA A, Olympic MOA B, and Warning Areas W-237A and W-237B during the transition from the EA-6B to the EA-18G. This gradual transition from the EA-6B to the EA-18G was initiated in June 2008 and was completed in June 2015. Therefore, this noise analysis compares the modeled noise environment between reference training activities based on historical data, and a future proposed state when the EA-6B will be fully retired. The reference activities includes analysis for the EA-6B, the EA-18G, the P-3C, the P-8, the F-16C, and the F-15. Because the proposed activities are post EA-6B retirement, they include analysis for all of the same aircraft as the reference activities, with the exception of the EA-6B.

For a discussion on the relative noise levels from the EA-6B and the EA-18G, please refer to the Noise Report from the 2012 Environmental Assessment for the EA-6B transition from the 2012 Final Environmental Assessment (http://www.whidbeyeis.com/HistoricDocuments.aspx)[i]. The comparison can be found starting on Page 37 of the Noise Appendix within that noise report. The analysis contained in the report shows that, in general, the EA-18G is a quieter aircraft then the EA-6B for most activities.

1.2 Description of the Special Use Air Space

The SUA analyzed in this study includes the Olympic MOAs and the Warning Areas W-237A and W-237B[1]. The Federal Aviation Administration established the Olympic MOAs and Warning Areas W-237A and W-237B in 1977. The Olympic MOAs begin roughly 53 nautical miles (nm) west of Seattle and extend 3 nautical miles off the coast of Washington State. Even though the Olympic MOAs are comprised of A and B sections, normal training activities utilize both sections as one unified block of airspace. W-237A and W-237B begin on the western edge of the Olympic MOAs, and they extend to the west offshore for approximately 50 nautical miles (nm). As with the Olympic MOAs, these two sections are normally used as a single block of airspace. For modeling purposes, these two units are identified simply as W-237. These airspace units are shown in Figure 1-1.

[1] Warning Area W-237 has several other sections. However, all of these are located farther off shore, away from acoustically sensitive receptors on land, and so were not considered in this noise analysis.

Once the airspace is defined, the user must describe the different types of missions occurring within each airspace segment. Individual aircraft missions include the altitude distribution, airspeed, and engine power settings. These individual profiles are coupled with airspace components and annual operational rates.

The noise model MRNMAP uses the airspace and operational parameters defined to calculate the desired noise metrics. The model calculates these noise metrics either for a user-defined grid or at user-defined specific points. The specific point calculation, used for this analysis, generates a table that provides the noise exposure, as well as the top contributors to the noise exposure.

A model that allows for the computation of audibility is the Noise Model Simulation (NMSim). NMSim was specifically developed by the National Park Service (NPS) to compute audibility[xi]. The following is a quote from the NPS regarding NMSim:

"Audibility is a fundamental component in the definition and measurement of natural quiet and natural sounds at Grand Canyon National Park and other NPS units. The NPS Aircraft Noise Model Validation study found NMSim to be the model best suited for computing audibility. Further, the National Environmental [Policy] Act's requirement for the use of the 'best available science' is met with the selection of NMSIM."

3 Airspace Training Activities

Flight training activities conducted within the Olympic MOAs and Warning Area W-237 include a range of aircraft and mission types. Specific mission types and associated aircraft for these missions are defined in the tables below. Mission definitions are broken out into the reference training missions, based on historical data, and the proposed training missions. Additional details on the modeled activities can be found in Chapter 2 (Description of Proposed Action and Alternatives) and Appendix A (Navy Activities Descriptions) of the NWTT EIS/OEIS. The numbers reflected in the following tables are based on the number of aircraft sorties, while the numbers in the EIS/OEIS are the number of activities; therefore, a comparison between the two sets of data is not easily made. One aircraft sortie could result in the completion of multiple training activities. Similarly, in some cases, one activity could include multiple aircraft sorties.

Aircraft modeled include the primary users of the airspace units, EA-6B and EA-18G, along with other users: P-3C, P-8A, F-15, and F-16. The F-15 and the F-16 activities were modeled with the Pratt and Whitney F100-PW-229 engines. For the P-8A (a modified Boeing 737), the Boeing 737 D9 with a JT8D engine was selected for the reference noise database within MRNMAP. These engine selections were made to provide the loudest available variants of these aircraft for the noise modeling.

The noise model relies on performance parameters (airspeed, altitude, and power settings) provided by the aircrews who fly the missions. Because the actual locations of any given event are unpredictable due to variables such as specific mission requirements and weather, the model assumes that the aircraft events are uniformly distributed throughout the SUA.

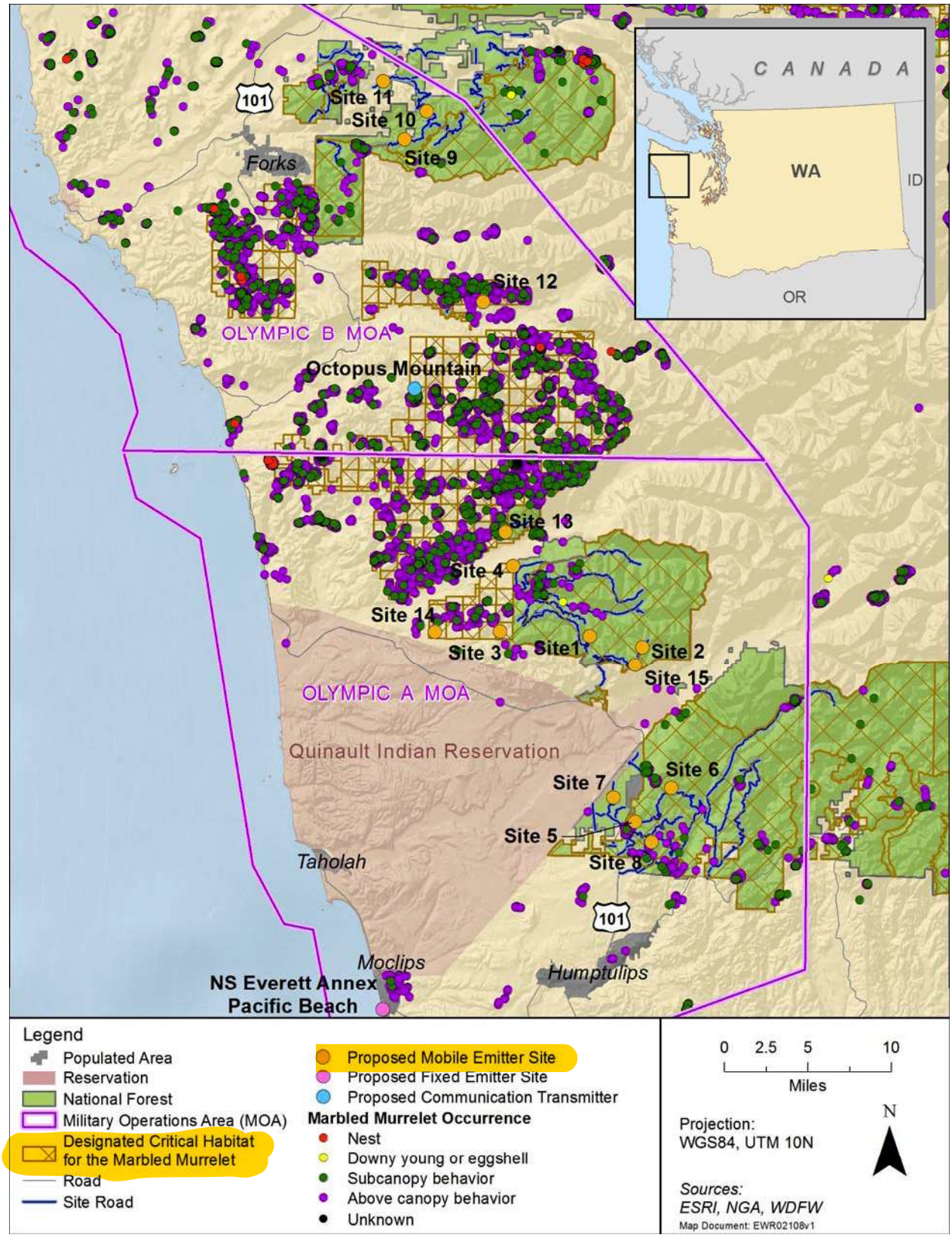


Figure 3.2-6: Marbled Murrelet Critical Habitat and Nesting Habitat in the Olympic Peninsula

36 More Growler EIS Scoping Document

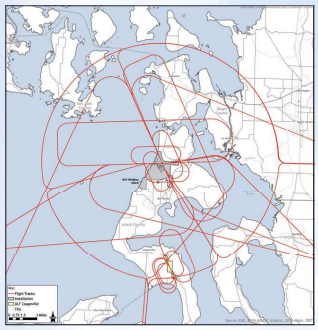
Fall 2014

Growler Operations

NAS Whidbey Island complex trains pilots for the challenges of providing DoD electronic attack.

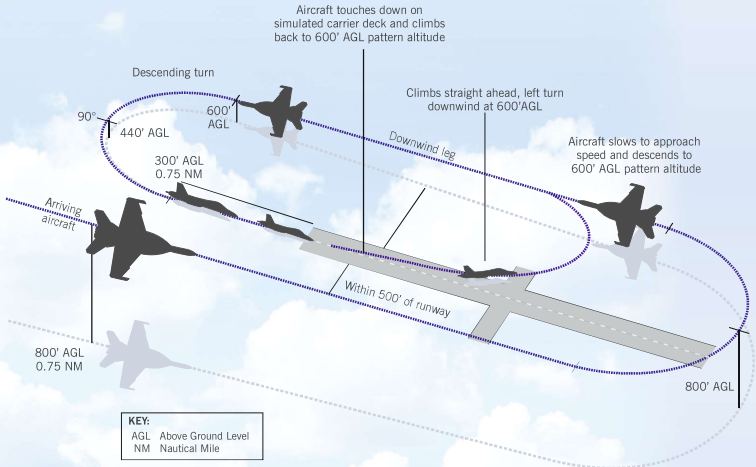
Electronic Attack (VAQ) Squadrons at NAS Whidbey Island and Their Training Operations

- NAS Whidbey Island has been the home of all Navy electronic attack (VAQ) squadrons in the U.S. since 1970
- Primary mission of the VAQ squadrons includes electronic surveillance/ attack through the use of jamming equipment and anti-radiation missiles
- Carrier Operations
  - ✓ Carrier-based squadrons and the training squadron use Ault Field and OLF Coupeville for FCLP
  - ✓ Expeditionary squadrons do not conduct FCLP



Field Carrier Landing Practice (FCLP)

- A graded flight exercise that trains pilots for landing on aircraft carriers
- Conducted on a runway designed to simulate the flight deck of an aircraft carrier
- OLF Coupeville provides the most realistic training location for landing on a carrier
- Groups of up to five aircraft fly in patterns, and each one makes multiple FCLP passes



Landing on an aircraft carrier is one of the most dangerous tasks a pilot can perform.

For more information, please visit the project website at *whidbeyeis.com*

How to Silence EA-18Gs

(On Paper)

2. Assume Fewer Aircraft than Actually Planned

Once the airspace is defined, the user must describe the different types of missions occurring within each airspace segment. Individual aircraft missions include the altitude distribution, airspeed, and engine power settings. These individual profiles are coupled with airspace components and annual operational rates.

The noise model MRNMAP uses the airspace and operational parameters defined to calculate the desired noise metrics. The model calculates these noise metrics either for a user-defined grid or at user-defined specific points. The specific point calculation, used for this analysis, generates a table that provides the noise exposure, as well as the top contributors to the noise exposure.

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3.2 Proposed Missions

Table 3-7. Proposed Training Missions for the EA-18G

	EA-18G - Proposed							
	Olympic A & B (including ATCAA)	W-237 A & B	Olympic A & B (including ATCAA)	W-237 A & B	Olympic A & B (including ATCAA)	W-237 A & B	Olympic A & B (including ATCAA)	W-237 A & B
Name/Identifier	Entry/Exit		Suppress Enemy Air Defenses[1]		Electronic Warfare Close Air Support[1]		Advanced Air Combat Tactics[3]	
# Aircraft/Year	1558	1533	572	518	245	323	741	692
% Day (0700L-2159L)	94%	97%	99%	98%	99%	99%	96%	100%
% Night (2200L-0659L)	6%	3%	1%	2%	1%	1%	4%	0%
Avg minutes in Airspace/Aircraft	10	10	90	90	90	90	60	60
Avg Power Setting in % NC	75	75	80	80	82	82	89	89
Avg Speed (Knots indicated)	250	250	265	265	298	298	342	342
Altitude MSL	Percent of total time spent at these altitudes.		Percent of total time spent at these altitudes.		Percent of total time spent at these altitudes.		Percent of total time spent at these altitudes.	
FLR - 2,000 ft				1.6%		1.6%		
2,000 - 4,000 ft				1.6%		1.6%		
4,000 - 6,000 ft				1.6%		1.6%		2.3%
6,000 - 8,000 ft		2.0%	2.0%	2.5%	2.0%	2.5%	3.2%	2.5%
8,000 - 10,000 ft		2.5%	2.5%	2.5%	2.5%	2.5%	3.3%	2.5%
10,000 - 12,000 ft		2.5%	2.5%	4.0%	2.5%	4.0%	3.3%	2.5%
12,000 - 14,000 ft		6.0%	6.0%	4.0%	6.0%	4.0%	13.8%	13.8%
14,000 - 16,000 ft	100.0%	6.0%	6.0%	4.0%	6.0%	4.0%	13.8%	13.8%
16,000 - 18,000 ft		6.0%	6.0%	4.0%	6.0%	4.0%	13.8%	13.8%
18,000 - 20,000 ft		6.0%	6.0%	4.2%	6.0%	4.2%	13.8%	13.8%
20,000 - 23,000 ft		32.0%	32.0%	32.5%	32.0%	32.5%	17.5%	17.5%
23,000 - 30,000 ft		32.0%	32.0%	32.5%	32.0%	32.5%	17.5%	17.5%
30,000 - 40,000 ft *		5.0%	5.0%	5.0%	5.0%	5.0%		
Total % Time	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

* Olympic MOA activities are all at or below 35,000 feet MSL, with over 97% of activities at or above 10,000 feet MSL.

1 Suppress Enemy Air Defenses and Electronic Warfare Close Air Support are two types of Electronic Warfare activities

3 Advanced Air Combat Tactics includes Air Combat Maneuvers

Biological Opinion

Table 45. Proposed annual training missions for EA-18G jets over the Olympic Military Operations Areas

Name/Identifier	Entry / Exit	Suppress Enemy Air Defenses (EW)	Electronic Warfare Close Air Support (EW)	Advanced Air Combat Tactics (ACM)
# Aircraft Flights / Year	1558	572	245	741
Avg time in Airspace/Aircraft (min)	10	90	90	60
Total Time of Flights / Year (hrs)	259.7	858.0	367.5	741
Avg Power Setting (% NC)	75	80	82	89
Avg Speed (Knots indicated)	250	265	298	342
Distance To Disturbance Threshold (DT^2)	1,250 ft	2,000 ft	3,000 ft	6,000 ft

Altitude MSL (ft)	Percent of total time spent at altitudes	Percent of total time spent at altitudes	Percent of total time spent at altitudes	Total time spent at altitudes	Habitat elevation within DT^2 (ft. msl)	Percent of total time spent at altitudes	Total time spent at altitudes	Habitat elevation within DT^2 (ft. msl)
6,000 - 8,000		2.0%	2.0%	7.4	3,000 - 4,000	3.2%	23.7	0 - 4,000
8,000 - 10,000		2.5%	2.5%			3.3%	24.5	2,000 - 4,000
10,000 - 12,000		2.5%	2.5%			3.3%		
12,000 - 14,000		6.0%	6.0%			13.8%		
14,000 - 16,000	100.0%	6.0%	6.0%			13.8%		
16,000 - 18,000		6.0%	6.0%			13.8%		
18,000 - 20,000		6.0%	6.0%			13.8%		
20,000 - 23,000		32.0%	32.0%			17.5%		
23,000 - 30,000		32.0%	32.0%			17.5%		
30,000 - 40,000		5.0%	5.0%					
Total % Time	100.0%	100.0%	100.0%			100.0%		
Total Time exceeding noise threshold (hrs)				**7.4**			**48.2**	

Note: Number, duration, power setting, and altitudes of flights are from Table 3-7 in Appendix J of the Northwest Training and Testing Activities Final Environmental Impact Statement/Overseas Environmental Impact Statement (U.S. Department of the Navy 2015c, Appendix J, p. 14).

Final NWTT EIS

Table 2. Proposed Training Activities.

Range Activity	Location	No. of events (per year)	Ordnance (Number per year)	Sonar - Hours and Source Bin*	Additional Items Used	Additional Information Provided During Consultation
Anti-Air Warfare						
Air Combat Maneuver	Offshore Area (Warning Area 237 [W-237]), Olympic MOA	550	None	None	Chaff, flares	Conducted 95 percent daytime, 5 percent nighttime. Typically 2 but up to 4 aircraft per event. 110 events per year use chaff/flares. For flights over land in the Olympic MOAs, the minimum flight altitude is typically greater than 4,000 ft above ground level for 90 percent of the airspace. When flying in the MOAs, Navy aircraft do not fly at the outer edges of the MOAs, to prevent spilling out of the airspace. Navy aircraft will not be lower than 2000 ft above ground level. Seventy percent of all Navy flights in the MOAs are above 20,000 ft and 95 percent of all flights are above 10,000 ft.
Missile Exercise (Air-to-Air)	Offshore Area (W-237)	24	30 (AIM-7/9/120) 15 HE warheads 15 NEPM	None	Targets: unmanned aerial drone, tactical air-launched decoy, illumination flare	Conducted day only, 50 nautical miles (nm) or greater from shore. Events all occur at high altitudes.
Gunnery Exercise (Surface-to-Air)	Offshore Area (W-237)	160	310 large-caliber rounds (230 HE) 16,000 medium-caliber rounds (6,320 HE 9,680 NEPM)	None	Targets: towed banners	Conducted day only, 20 nm or greater from shore. Target is towed 500 ft or greater above the ocean surface.
Missile Exercise (Surface-to-Air)	Offshore Area (W-237)	4	RIM-7/116 (8 HE warheads)	None	Targets: unmanned drones	Conducted day only, 50 nm or greater from shore.
Anti-Surface Warfare						
Gunnery Exercise (Surface-to-Surface) – Ship	Offshore Area	200	Small-caliber rounds (121,200 NEPM) Medium-caliber rounds (48 HE, 33,492 NEPM) Large-caliber rounds (80 HE, 2,720 NEPM)	None	Targets: floating and remote controlled high speed targets	Conducted day only, 20 nm or greater from shore.

Final NWTT EIS

Table 2. Proposed Training Activities.

Range Activity	Location	No. of events (per year)	Ordnance (Number per year)	Sonar - Hours and Source Bin*	Additional Items Used	Additional Information Provided During Consultation
Tracking Exercise – Maritime Patrol Aircraft Multistatic Active Coherent (MAC) (TRACKEX MPA MAC)	Offshore Area	24	None	720 ASW2	Targets: submarine, expendable mobile anti-submarine warfare training target, or recoverable training target	Conducted day and night, 12 nm or greater from shore in at least 600 ft water depth.
Electronic Warfare						
Electronic Warfare Operations	Offshore Area (W-237), Olympic MOAs	5,000 (aircraft) 275 (ship)	None	None	Chaff, flares	Conducted 99 percent daytime, 1 percent nighttime. Typically 1 to 4 aircraft per event. For Electronic Warfare flights over land in the Olympic MOAs, the flights are conducted more than 10,000 ft above ground level. When flying in the MOAs, Navy aircraft do not fly at the outer edges of the MOAs, to prevent spilling out of the airspace. Navy aircraft will not be lower than 2,000 ft above ground level. Seventy percent of all Navy flights in the MOAs are above 20,000 ft and 95 percent of all flights are above 10,000 ft.
Electronic Warfare Land-Based	Olympic MOA	780	None	None	Mobile Electronic Emitters (2 hrs/event)	Conducted 99 percent daytime, 1 percent nighttime.
Mine Warfare						
Mine Neutralization – Explosive Ordnance Disposal	Inland Waters (Crescent Harbor EOD Training Range)	3	Three 2.5 lb HE charges	None	None	Conducted day only.
		3	18 shock wave action generator (SWAG)	None	None	
	Inland Waters (Hood Canal EOD Training Range)	3	Three 2.5 lb HE charges	None	None	
		3	18 SWAG	None	None	
Submarine Mine Exercise	Offshore Area	8	None	32HF1	24 batho-thermograph buoys	Conducted day and night.

How to Silence EA-18Gs

(On Paper)

3. Ignore Low Level Military Training Routes

OLF Coupeville

The airspace above OLF Coupeville is designated as Alert Area-680, a type of SUA that is designated as such because it may contain a high volume or an unusual type of pilot training activities (Figure 3.1-2) (FAA, 2014). The Alert Area airspace around OLF Coupeville is:

- the airspace around OLF Coupeville that extends upward from the surface to 3,000 feet above MSL and within a 1.5-nm radius of the airport in all directions

Military Operations Areas

The Olympic MOAs overlay both land (the Olympic Peninsula) and sea (extending to 3 nm off the coast of Washington into the Pacific Ocean). The lower limit of the Olympic MOA is 6,000 feet above MSL but not below 1,200 feet above ground level (AGL), and the upper limit is up to but not including 18,000 feet above MSL, with a total area coverage of 1,614 square nautical miles (nm^2). Above the Olympic MOAs is the Olympic ATCAA, which has a floor coinciding with the Olympic MOAs' ceiling. The ATCAA has an upper limit of 35,000 feet.

The Chinook A and B MOAs are adjacent to R-6701 over the eastern portion of the Strait of Juan de Fuca (Chinook MOA A) and Admiralty Inlet (Chinook MOA B). Both Chinook MOAs cover 56 nm^2 of surface area and have a floor of 300 feet and a ceiling of 5,000 feet.

The Okanogan MOA is located above north-central Washington and covers 4,364 nm^2 in area. This MOA is divided into A, B, and C sections. Okanogan A is available from 9,000 feet to 18,000 feet. Okanogan MOAs B and C have a floor of 300 feet AGL and a ceiling of 9,000 feet. The ATCAAs corresponding to the Okanogan MOA extend the airspace to 50,000 feet.

The Roosevelt MOA is located just east of the Okanogan MOA and covers an area of 5,413 nm^2 (18,566 km^2). This MOA is divided into two sections. Roosevelt MOA A has a floor of 9,000 feet and a ceiling of 18,000 feet. Roosevelt MOA B has a floor of 300 feet AGL and a ceiling of 9,000 feet. ATCAAs associated with the Roosevelt MOA extend its airspace to 50,000 feet.

The Boardman MOA is located within 200 nm of NAS Whidbey Island, in Boardman, Oregon. The MOA, along with R-5701 and 5706, supports Naval Weapons Station Training Facility Boardman and is the Navy's primary training range on the west coast for conducting low-altitude air-combat maneuvers.

Military Training Routes

There are six VFR MTRs (VR-1350, VR-1351, VR-1352, VR-1353, VR-1354, and VR-1355) and six IFR MTRs (IR-341, IR-342, IR-343, IR-344, IR-346, and IR-348) that provide ingress or egress from the NAS Whidbey Island complex or other SUA within 250 nm of NAS Whidbey Island.

Operations on VFR MTRs are conducted only when the weather exceeds the minimum requirements. For example, flight visibility must be 5 miles or more and ceiling must be 3,000 feet or above. The VFR MTRs (VR) have a floor as low as 200 feet AGL on some routes. Additionally, aircraft are directed to avoid towns and populated areas by 1 nm or overfly 1,000 feet AGL and to avoid airports by 3 nm or overfly 1,500 AGL. Over sparsely populated areas, aircraft may not be operated closer than 500 feet to any person, vessel, vehicle, or structure.

Operations on IFR MTRs (IR) are conducted only when an ATC clearance has been obtained. Unless the route segment is annotated "For use in VMC conditions only," each route segment shall contain an

altitude that is suitable for flight in Instrument Meteorologic Conditions. The IFR MTRs (IR) have a floor of 500 feet AGL and a ceiling of over 11,000 feet.

MTR operations under the No Action Alternative are reflected in Table 3.1-1. Table 3.1-2 lists representative potential single event sound levels for Growler operations on the MTR routes listed in Table 3.1-1.

Table 3.1-1 Annual Military Training Route Operations in the Affected Environment

Route	*Annual Operations*
IR-341	12
IR-342	7
IR-343	0
IR-344	192
IR-346	62
IR-348	34
Total IFR Routes	**308**
VR-1350	743
VR-1351	108
VR-1352	62
VR-1353	26
VR-1354	5
VR-1355	1,058
Total VFR Routes	**2,002**
Total All Routes	**2,310**

Key:
IFR = Instrument Flight Rules
VFR = Visual Flight Rules

Table 3.1-2 Representative Sound Levels for Growler Aircraft in Level Flight

Aircraft Altitude above Ground[3] (ft)	*Aircraft Speed (Knots)*	*Power Setting[4] (%NC)*	*SEL[2] (dBA)*	
			Underneath Flight Path	*1 Mile to Either Side of Flight Path*
200	400	84.5[1]	116	77
500			109	82
2,000			97	84
5,000			87	81
10,000			77	75

Notes:
1 Power setting of 84.5% corresponds with MR_NMAP MID SPD TRAINING RT
2 Sound Exposure Level (SEL) computed using MR_NMAP v2.2; values rounded to nearest decibel
3 Modeled weather conditions: 55° Fahrenheit, 74% Relative Humidity; consistent with NAS Whidbey Island EIS modeling
4 Modeled Growler as FA-18E/F aircraft, which shares same engine and airframe

Figure 3.1-3 Aircraft Arrival and Departure Flight Tracks at NAS Whidbey Island Complex

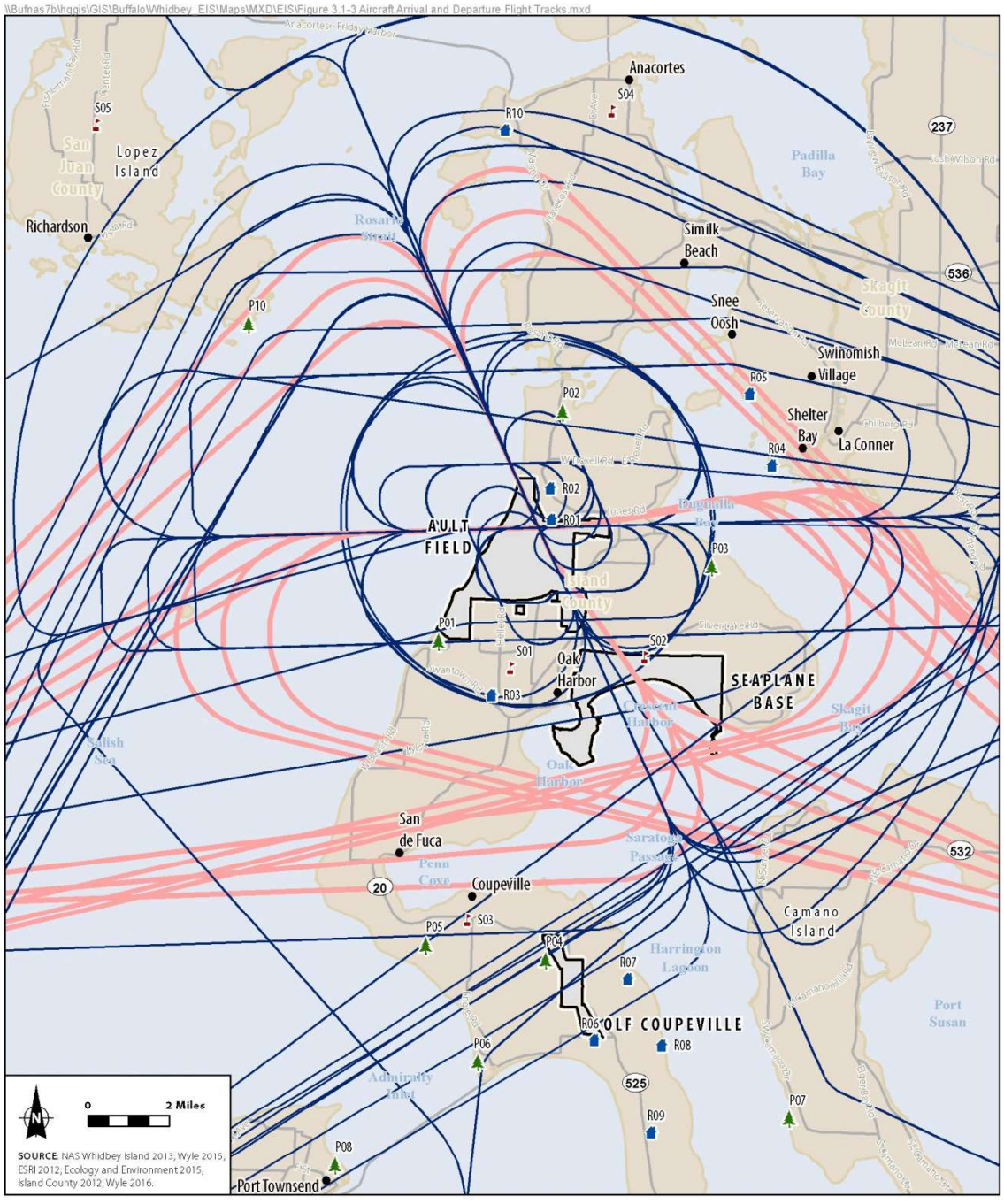

Figure 3.1-3
Aircraft Arrival and Departure Flight Tracks at NAS Whidbey Island Complex
Whidbey Island, Island County, WA

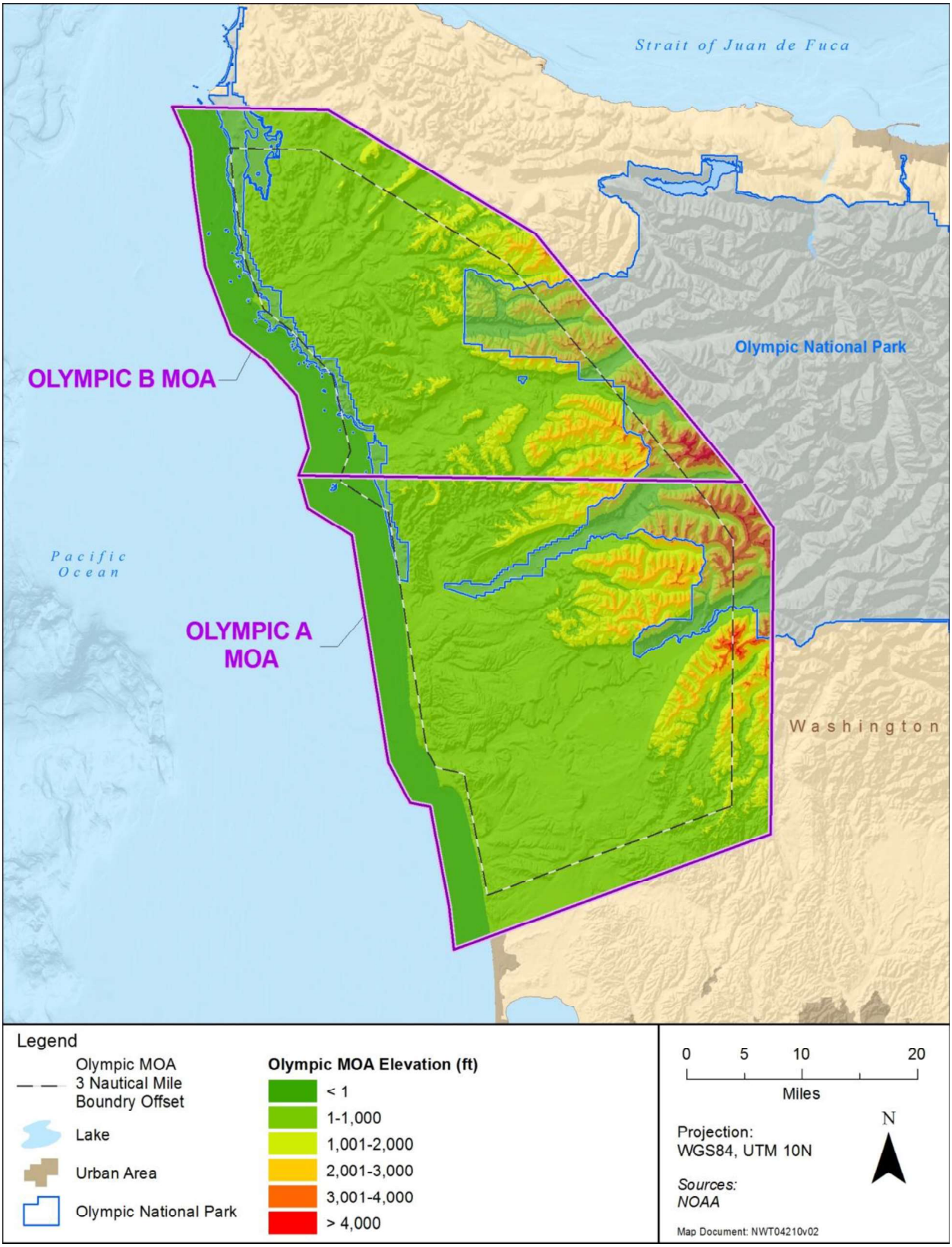

Figure 4-1. Altitude Distributions within the Olympic MOA

INTERNET CHAT ON BEST LOW LEVEL ROUTES

https://www.airwarriors.com/community/index.php

Best Low Level Routes

Discussion in 'Intermediate and Advanced Training (Jets)' started by p1brule, Nov 5, 2008.

Flash ***SEVAL/ECMO Super Moderator***

Flash said: ↑

> VR-1355, goes right through the Cascades. It is something else to weave through valleys with nothing but mountains on either side of you, doing ridge crossings over waterfalls and mountain lakes. If it was that good in a Prowler I can't imagine how good it will be in a non-G limited Growler.

SteveG75 ***Retired and starting that second career***

Steve said:

> Not bad....
>
> But I would go with a VR-1350 PT A entry down to Boardman and VR-1355 return.
>
> For unitiated, launch from Whidbey, hit PT A ~20 nm to the east. Low level over the Cascades and down the Columbia River valley. Get to the Boardman target range and get right on the 1355 without climbing. Back up the spince of the Cascades ending up ~15 nm east of Whidbey, VFR to the break.
>
> 1+45 (or so) flight with 1+30 at 200', 420 kts in a 6.5 G Intruder. Heck, we used to do 200' low levels in Prowlers as well.
>
> Here is the 1355 at 200' (north end of Bumping Lake if my memory is still working

How to Silence EA-18Gs

(On Paper)

4. Use Unsubstantiated Computer Generated EA-18G Sound Emission Data

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

OFFICE OF
ENVIRONMENTAL REVIEW
AND ASSESSMENT

March 8, 2017

Ms. Lisa Padgett
EA-18G Growler EIS Project Manager
Naval Facilities Engineering Command Atlantic
6506 Hampton Boulevard
Norfolk, Virginia 23508
Attn: Code EV21/SS

Dear Ms. Padgett:

The EPA recommends that the Navy establish a monitoring program to verify that actual noise impacts are similar to those projected in this EIS. As part of this monitoring program, a protocol should be established that outlines when or if adaptive management measures are required. The EPA believes this on-the-ground validation would help provide an assessment of actual noise impacts projected to be experienced by Whidbey Island and surrounding area residents and wildlife due to the proposed expansion. For example, monitoring sensitive receptor sites within each projected DNL noise contour of 65dB and greater may help characterize more fully the actual duration, frequency, and intensity of exposures to noise-related impacts within these loudest projected contour zones.

Sincerely,

R. David Allnutt, Director
Office of Environmental Review and Assessment

How to Silence EA-18Gs

(On Paper)

5. Overlook 40 EA-18Gs Planned For Purchase
(alternatively, Overlook a $3.2 Billion Dollar Order)

From: "Welding, Mike T CIV NAS Whidbey Is, N01P" <michael.welding@navy.mil>
Date: February 13, 2017 at 8:31:26 AM PST
To: Michael Monson <michaelmonson@outlook.com>
Cc: "mayor@townofcoupeville.org" <mayor@townofcoupeville.org>
Subject: RE: Now, is this true?

Michael,

Hopefully the following will provide some clarity on this issue. It is very different than the recent statements by Karen Sullivan you alluded to in your earlier note this week where she seems to confuse the program of record buy with the number of operational Growlers destined for NAS Whidbey Island.

The program of record, or the total number of EA-18G Growlers the Navy plans on buying over the expected life of the Growler program, is 160 aircraft. The program of record represents a pool of available assets – some aircraft will be in an operational flight status, while others will be in and inoperable (non-flying) or preservation status.

A pool of available assets is a business model that many municipalities, transportation agencies and companies use for their vehicle pools (i.e., school buses, garbage trucks and work vehicles). The only difference is that the Navy had to purchase additional aircraft while the manufacturing line was still operational. These additional aircraft are in a preservation status and will be used to replace aircraft at the end of their service life. Some of the preservation aircraft will be parked at NAS Whidbey Island, while other preservation aircraft will be parked at other locations.

The 117 or 118 operational Growler aircraft discussed in the DEIS will be assigned to carrier squadrons, expeditionary squadrons and the training squadron home based at NAS Whidbey Island.

Other carrier-based aircraft will be assigned overseas in Japan, while some test aircraft will be assigned to NAS Patuxent River, in Maryland and the Naval Air Weapons Station at China Lake, CA. There will also be some training aircraft assigned to NAS Fallon, NV, as part of the Weapons School located there.

The operational numbers projected in the DEIS is what's key operationally. The operational aircraft, currently 82, is based upon the number of aviators that need training. It's the aviators that need the training. The aircraft are used to facilitate that training. In addition, the key number to key on is number of total operations. As demonstrated in the past, we will not exceed the number of operations at the airfields studied in the EIS.

Best,

Mike

How to Silence EA-18Gs

(On Paper)

6. Assume Higher Flight Elevations and Lower Power Settings?

Table 44. Navy-provided and Service-estimated sound exposure levels (SELs) in dBA at different altitudes for the EA-18G operating at various power settings.

Flight Altitude (ft AGL)	Power Setting					
	78	**80**	**82**	**85**	**89**	**93**
400	101	*105*	*109*	114	*118*	120
1,250	92	*96*	*100*	105	*108*	110
2,000	87	*91*	*95*	100	*104*	106
3,000			*92*			
4,000	80	*84*	*88*	92	*96*	99
5,000	77	*81*	*85*	89	*93*	96
6,000					*92*	
8,000	71	*75*	*79*	83	*87*	90
10,000	68	*72*	*75*	79	*84*	87
12,500	64	*68*	*71*	75	*80*	83
16,000	60	*64*	*67*	71	*76*	80
20,000	56	*60*	*63*	67	*72*	76
25,000	52	*55*	*58*	62	*67*	71

Note: Estimated data are shaded in green, data provided by the Navy (Navy 2015a, p. 3.6-60) are unshaded.

On the Olympic Peninsula, marbled murrelet nesting habitat generally ranges between 0 and 4,000 ft above MSL in elevation (Davis et al. 2011; Raphael et al. 2015). As long as the ground elevation is below 4,000 ft, aircraft overflights that approach within the DT^2 of the ground could expose nesting habitat to noise levels that are disruptive to marbled murrelets. The following discussion is supplemented by Table 45. The Navy includes four types of training missions for EA-18G jets over the Olympic Peninsula in the proposed action:

1. Entering and exiting the Olympic MOAs,
2. Suppressing enemy air defenses,
3. Electronic warfare close air support, and
4. Advanced air combat tactics.

When entering into and exiting from the Olympic MOAs, jets will operate at 75 percent power for which the DT^2 is 1,250 ft. During this training component, jets will fly only between 14,000 and 16,000 ft above MSL. There is marbled murrelet habitat within the DT^2 of the altitudes proposed for this training component.

- http://breakingdefense.com/2014/10/navy-forges-new-ew-strategy-electromagnetic-maneuver-warfare/

  Air, Sea, Strategy & Policy

Navy Forges New EW Strategy: Electromagnetic Maneuver Warfare

By Sydney J. Freedberg Jr. on October 10, 2014 at 5:13 PM

A Navy electronic warfare technician.

WASHINGTON: The Navy is crafting a battle plan to retake control of the electromagnetic spectrum, which the Pentagon's chief of research says we've lost.

First of all, if adversaries can exploit rapid advances in commercial electronics to run circles around America's multi-billion dollar arsenal, our slow-moving procurement process needs to be more open to civilian innovation. But new technology is not enough.

What's really needed is a whole new concept of electronic warfare, officers told me this week. It's a concept in which jamming is not just an "enabler" for conventional attacks but a weapon in its own right. It's a concept in which electronic warfare is no longer largely relegated to specialized aircraft, like the Navy's venerable EA-6B Prowler and its replacement the EA-18G

Force retired much of their EW arsenal after the Cold War and left the job to Navy and Marine Corps Prowler squadrons.

Now the Navy — though not the Marine Corps — is replacing the aging Prowler with Boeing's EA-18G Growler. But the new electronic warfare concept goes far beyond the Growler.

"Everyone looks at the EA-18G as 'the' electronic warfare platform," said Capt. Scott Farr, deputy commander of the Pacific Fleet's electronic attack wing on Whidbey Island, Washington. "Well, in naval aviation, we are interweaving electronic warfare into every platform." That includes the new P-8 Poseidon patrol plane, the upgraded E-2D Hawkeye radar plane, even the MH-60R helicopter, plus the soon-to-arrive F-35 Joint Strike Fighter, he told me in a phone call: "All of those platforms are going to have a lot more play in… electronic warfare."

Navy MH-60R helicopter

"The whole basis of electronic maneuver warfare is to bring all those capabilities to bear," agreed Gamberg at the AOC conference. "The EA-18G with the Next Generation Jammer is really the cornerstone capability," he said, but only by using every possible platform — even submarines — to collect intelligence can the Navy detect elusive, low-power and rapidly changing enemy signals.

Those other platforms hardly replace the Growler, however. To the contrary, they feed it more information on the enemy so it can attack more effectively. "The role that the EA-18G is going to be play is going to be *more* robust," Farr said. As so-called "anti-access/area denial" systems grow more sophisticated and long-ranged, he explained, the EA-18G will be essential to break the electronic links of the "kill chain" connecting enemy sensors to commanders and weapons.

"Instead of running away bravely like we used to do with the Prowler, now we have the ability to fight and stay on station [with the Growler], said an appreciative Air Force officer, Lt. Col. Don "Buzz" Keen, currently assigned to a Navy EA-18G squadron on Whidbey Island. "As [enemy] radars get more and more powerful," he told the AOC conference, "we need to have a platform that can push in close and inject massive amounts of energy into enemy radar comms and links" — something only a dedicated jammer aircraft can do. "If we can quickly dispatch an air-to-air threat [using targeting radar], we can stay in position much longer to support the strike package."