

**Why Single Siting the Navy's Electronic Warfare Asset
Risks Operational Security and Military Readiness**
Siting new Growlers elsewhere presents an opportunity to remedy both

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Few people know it, but on an idyllic Island in the Pacific Northwest, the US military houses its entire fleet of electronic warfare jet aircraft. Accessible only by bridge or ferry, this concentration of defense technology at a vulnerable location poses a severe operational security risk. Even more concerning, the Department of Defense is planning to double the amount of aircraft based in this location, seemingly without consideration of security risk. Operationally, economically and environmentally it doesn't make sense.

How did this happen? What should be done?

The Unique Concentration of Electronic Warfare Jets

The US Navy relies on the E/A-18G Growler as its main asset for airborne electronic warfare (EW). The Growler is a fixed-wing jet aircraft used to monitor and suppress surface-to-air missile radar as well as other ground-based electronic signals in times of war. It can be land-based or carrier-based.

Growlers are considered a high-value unit, and two fly with each US military mission over enemy territory, accompanied by either Navy or Air Force fighter/bomber aircraft. The Growler replaced the Navy's prior EW aircraft, the E/A-6B Prowler when it retired in 2015. The Growlers, their crews, maintenance equipment, personnel and training facilities are all home-ported in one geographic location, NAS Whidbey Island, where the Navy has single sited its electronic warfare jets for 40 years.¹ (One squadron of Growlers is forward deployed to Atsugi, Japan.²) This single siting of bases is unique to the Growler, with all other Navy aircraft having at least two bases in the Continental US.³

It's never been clear why the Navy has concentrated its EW jet aircraft in one geographic location. Single siting of any military function is a violation of the Technical Joint Cross Service Group (TJCSG) guidelines. TJCSG was formed in the wake of the Base Realignment and Closure Act of 1990 (BRAC) to make recommendations to optimize defense structure for cost and strategy. One of the TJCSG's two guiding principles was *"Maintain competition of ideas by retaining at least two geographically separated sites, each of which would have similar combination of technologies and functions. This will also provide continuity of operations in the event of unexpected disruption."*⁴

Perhaps Navy EW single siting was allowed because historically, other branches of the US Armed Forces maintained electronic warfare jet aircraft. At the time of BRAC, the US Air Force flew the EF-111 Raven and the US Marine Corps flew the E/A-6B Prowler. However, in 1998 the Air Force retired the EF-111 and it was not replaced. Its electronic warfare duties were transferred to the Navy, which then developed land-based ("expeditionary") squadrons to accommodate.⁵ The Marine Corps is now in the process of decommissioning its E/A-6B Prowlers, which will retire at the end of FY 2016.⁶ The Marines plan to utilize the F-35 Joint Strike Fighter for some of their electronic warfare functions⁷, but the aircraft is not fleet-ready. The F-35 reached initial operating capability in August 2016, but has since been grounded due to electrical problems.⁸

This leaves the Navy in the unique position of holding the entire US military electronic warfare jet aviation asset of 82 Growlers in one vulnerable location. And it has plans to increase this concentration of aircraft. Per its 2016 Draft Environmental Impact Statement (DEIS), the Navy plans to add 35-36 more aircraft to NAS Whidbey, bringing the total number of Growlers to 118. This operational increase is due to a change in the strategy of Growler use, with the goal to dedicate three aircraft per mission instead of two⁹, making the aircraft an even more valuable asset to all forces.

In the same DEIS, the Navy maintains this single siting decision is reviewed annually under the Chief of Naval Operations' Strategic Laydown and Dispersal plan, "*...and is consistent with Navy aviation policy to maximize efficiency of operations by co-locating operational squadrons with support functions, training ranges, and airfields.*"¹⁰ The reasons cited for the concentration of Growlers are operational synergy, proximity to training regions and airspace and efficient use of current infrastructure.

Upon review of the references in the DEIS however, there is no citation of the Strategic Laydown and Dispersal Plan and no verification of the Navy's claim of review. The Navy's 2012 Environmental Assessment for the Prowler to Growler transition references the 2008 version of the plan as a rationale to homeport the expeditionary squadrons at Whidbey.¹¹ Unfortunately, neither the 2008 nor 2011 versions of the Strategic Laydown and Dispersal Plan are available publicly. Operational review of this single siting decision therefore cannot be verified.

The Navy shows no signs of stopping its concentration of EW assets on Whidbey Island even after its proposal in the current DEIS. Per the Selected Acquisition Report from the Department of Defense, the Navy plans to procure another 42 Growlers, bringing the total number of Growlers to 160 aircraft, nearly double the current fleet size.¹² The Navy has not publicly documented where these additional 42 Growlers will be assigned. Less the 7 aircraft forward deployed to Japan that leaves 153 aircraft that will likely be stationed at NAS Whidbey Island.

This means that 95% of the entire US fleet of electronic warfare jets is based on a coastal island served only by a bridge and two ferries.

Whidbey Island – Idyllic and Extremely Vulnerable

Whidbey Island lies in the northern part of Puget Sound in Washington State, 30 miles northwest of Seattle. The Island is home to about 60,000 residents and is part of Island County. Oak Harbor is the largest town on the Island, and has been home to Naval Air Station Whidbey Island since 1942.

Whidbey Island is accessible from the North by the Deception Pass Bridge, which was built in 1935 by the Civilian Conservation Corps, and is on the National Register of Historic Places.¹³ The two-lane bridge encompasses two spans and is a total of 1,487 feet long, 180 feet above the water, with an average daily traffic of between 17,000-20,000 vehicles.^{14, 15} As Whidbey Island is served by an EPA-designated sole-source aquifer, the Deception Pass Bridge also brings in a 24-inch water line that serves NAS Whidbey and the city of Oak Harbor.¹⁶ The Deception Pass Bridge lies on State Highway 20 and joins Whidbey Island to Fidalgo Island, its neighbor to the North. Fidalgo Island is then connected to the mainland by another bridge near LaConner, Washington.

The only remaining way to access Whidbey Island is by its two ferry routes – from Port Townsend on the Peninsula to Coupeville in Central Whidbey, and from Mukilteo on the mainland to Clinton on

South Whidbey.¹⁷ These ferries are operated by the Washington State Ferry System (WSF), which is the largest in the nation. In 2016, the Clinton to Mukilteo route carried just over 4 million passengers, and 2.2 million vehicles, while the Coupeville to Port Townsend route carried 372,000 vehicles and 819,000 passengers.¹⁸ The ferries operate from 14 to 20 hours per day. Outside these two ferry routes and the Deception Pass Bridge, there are no other ways for vehicles to access the Island.

These limited forms of access can serve as a choke point to limit egress from the Island in an emergency or prevent access of needed commodities or first responders. The 2007 **Hazard Identification and Vulnerability Assessment** from Island County confirms that Whidbey Island is "...vulnerable to several types of transportation emergencies including blocked bridges and interrupted ferry service."¹⁹ Studying them in depth exposes just how vulnerable.

Deception Pass – A Critical Bridge

Given the limited accessibility of the Island, it's no surprise that the Deception Pass Bridge meets the Federal Highway Administration's criteria of a nationally critical bridge according to a paper from the American Association of State Highway and Transportation Officials (AASHTO) titled "**National Needs Assessment for Ensuring Transportation Infrastructure Security.**"²⁰

The Deception Pass Bridge is a critical bridge due to the following criteria -

- Casualty risk – its bridge span significantly greater than 50 feet
- Economic risk – it is located on the Department of Defense-defined Strategic Highway Network (STRAHNET),²¹ and the bridge's nearest detour is greater than 5 miles away.
- Military support function – due to bridge length and STRAHNET status
- Emergency relief function – it is the major evacuation route for the Island
- National recognition – it is on National Register of Historic Places
- Collateral damage exposure – as it carries utilities (specifically water)

Per the **National Needs Assessment** cited above, the greatest risk to the bridge is an explosive attack scenario. The report goes on to say; "*bridges and tunnels cannot be fully protected against significant disruption to roadway decks from even modest explosive quantities.*" In its analysis the AASHTO notes that as little as 100 to 500 pounds of TNT (placed by hand on members, or driving in a moving van across the bridge) could easily make the bridge non-operational. It is unknown whether any security measures have been taken to reduce risks of a terrorist attack to the Deception Pass Bridge, or what measures are possible on this historic bridge on a public highway.

Additionally, as NAS Whidbey Island is within 15 miles of five earthquake fault lines,²² Deception Pass Bridge is at high risk of earthquake damage. The bridge remains on the unfunded Washington State list for seismic retrofitting.²³ A major earthquake that damaged the bridge would cripple both the base and the Island for weeks to months.

Whether the risk is from terrorism or natural disaster, Deception Pass Bridge remains a significant point of vulnerability for NAS Whidbey Island, as it is the only method of entrance or egress available 24 hours per day.

Washington State Ferries – Most Likely Terrorism Targets

Ferries, especially ones that carry vehicles, are one of the most vulnerable modes of transport for terrorist attacks. According to the State of New Jersey Office of Homeland Security and Preparedness (NJOHSP) 2016 intelligence briefing, “...ferries remain susceptible to terrorist attacks because they transport large volumes of people, have limited security, and offer minimal escape options during incidents.”²⁴

After the September 11, 2001 terrorist attacks, the US Coast Guard was directed to increase general marine security by the Maritime Transportation Security Act of 2002.²⁵ Further security measures were implemented by the Washington State Ferry system in 2004, after the FBI reported 157 suspicious incidents since 2001, with 19 of them highly likely to involve terrorist surveillance. WSF increased security safeguards to include K-9 screening of 15 percent of cars and 25 percent of box trucks, vans and larger vehicles as well as increased use of sea marshals, aircraft surveillance and armed US Coast Guard fast boats for ferry protection.²⁶

Even with security measures in place, the Washington State Ferry system remained highly vulnerable according to analysts. In 2004, a team of Navy and Marines from the Naval Postgraduate School in Monterey, California conducted a “red team” analysis on the vulnerabilities of domestic port security on the West coast. Using a red team approach, military officers strategized according to Al-Qaeda directives about how to best infiltrate and disable ports. They visited Seattle and found security checks to be cursory and were able to easily gain access to restricted areas. The Seattle team concluded the most effective terror strategy would be to detonate explosives simultaneously on five WSF ferries.²⁷ Their results were unsettling enough that they presented them to local law enforcement, officials of the ferry system, and a national meeting of US mayors in late 2004 before publication of their report.²⁸

The FBI went a step further in its risk assessment. In its 2006 report “**The Federal Bureau of Investigation’s Efforts to Protect The Nation’s Seaports,**” the Department of Justice’s Inspector General stated, “the FBI believes that ferries in the Seattle area and fuel tankers in the Gulf Coast Region appear to be the most likely targets of maritime terrorism.”²⁹

The Government Accounting Office (GAO) acknowledged the vulnerability of ferries, noting that the risk of such events was increasing. In its 2010 report “**Maritime Security: Ferry Security Measures Have Been Implemented, but Evaluating Existing Studies Could Enhance Further Security,**” the GAO reported that “in April 2010, Coast Guard officials stated that the relative risk to ferries is increasing, as evidenced by attacks against land-based mass transit and other targets overseas.” However, the report also notes: “the Coast Guard may be missing opportunities to enhance ferry security,” as the Guard had not evaluated or acted on all findings of five agency-contracted studies from 2005-2006.³⁰

There is ample agreement from a number of federal agencies and the Coast Guard that ferries are highly vulnerable to terrorist attacks, with Seattle area ferries being one of the two most likely targets in the United States. Agencies continue to implement security measures and train for the worst. The Coast Guard, with local law enforcement conducted SWAT-style drills on Seattle ferries in 2012 that were covered by the local press.³¹ WSF implemented a Coast Guard approved security plan in 2013.³²

However, given that ferries travel on water, there is no way all risks can be mitigated. A humorous video of a sleepy (but fortunate) sailboat captain on autopilot being surprised by a ferry collision

prompted a few chuckles from Seattle locals in late 2016.³³ Taking the red team approach however, it would not be difficult to imagine damaging a ferry with a boat full of explosives in the same manner. The dependence on vulnerable ferry traffic to NAS Whidbey Island represents a security risk the US military cannot afford to take.

Given Operational Security Risks, Does Single Siting Make Operational Sense?

As stated before, having all of one type of jet aircraft in one location is unique to the Growler in the US Navy, and due to retirement of Air Force and Marine Corps EW jets, the Navy now holds all of the US active EW jet aircraft. Is there a benefit to this? The answer from at least one service seems to be no.

The Marine Corps predict a three- to five-year gap in expeditionary warfare capability as they phase out the E/A-6B Prowler, and await the deployment of the F-35. This leaves the USMC dependent on the Navy to provide EW assets to the Marines, according to an editorial on the website of the US Naval Institute (USNI).³⁴ The author, Col. H. Wayne Whitten, USMC Retired, states that home porting all E/A-18Gs at NAS Whidbey Island *“raises operational readiness issues.... It’s noble in intent but highly questionable from a roles and mission standpoint that all land-based EW aircraft will be owned by the Navy, the service with the least natural ties and expertise in ground combat operations.”*

The USNI article also describes that single-siting all EW assets in the Pacific Northwest makes it difficult to provide proper cross-training, as *“over half of the Army, Marine Corps, SOF and tactical Air Force units are in the eastern U.S. Additionally, DoD has a sizable investment in East Coast ranges that continue to be under-utilized for EW training.”* Siting new expeditionary Growlers on the East Coast would establish a geographic balance that is *“consistent with long-term Navy policy.”*

Col. Whitten recommends the Pentagon take a look at regional benefits and site new Growlers at Marine Corps Air Station Cherry Point, and not NAS Whidbey Island. *“Ironically, the increase in aircraft loading at NAS Whidbey Island has created an environmental impact even as the draw down in EA-6Bs at Marine Corps Air Station Cherry Point, NC, and delays in the F-35B deliveries are causing serious economic concerns. One would think North Carolina officials would see now is the time to put aside fears that questioning the EA-6B drawdown would somehow be viewed as threatening the F-35B. In fact, they should be making the case to homeport the Navy expeditionary EA-18Gs at MCAS Cherry Point.”*

In 2015, the US Air Force stated that it also planned to use the F-35 for its electronic warfare, rather than new Growlers.³⁵ It appears that not only the Marines will have to depend on the Navy until the F-35 is fleet-ready.

New Growlers Need a Second Site

Single siting the entire electronic warfare jet arsenal on the West Coast, with one service, on an island served by a vulnerable bridge and ferries is a major operational security risk. This geographic location also reduces operational readiness in a warfare strategy that right now has only one active aircraft that all services depend upon.

The delivery of 36 new Growler aircraft (plus 42 more on order) provides the Navy with a prime opportunity to site its new EW assets at a more operationally beneficial location. This would not only reduce the environmental impact at NAS Whidbey (whose outlying field does not meet current

standards for the aircraft), but would enhance operational security and readiness, and provide another community the economic benefit of a modest group of vital aircraft. MCAS Cherry Point, North Carolina is a viable option as it has EW infrastructure from its time hosting the E/A-6B Prowler. There are also other options like Naval Air Station Kingsville, Texas, which has a low population density, updated outlying field, proximity to the East Coast and ready access to the Gulf Coast. Given that the FBI considers Gulf Coast oil tankers to also be a prime maritime security risk, having EW aircraft close to the Gulf Coast would make an immense difference in response time to a terrorist attack.

Creative solutions can and must be found to safeguard the Growler, which is a vital asset to US military defense. Loss of jet electronic warfare capability would paralyze all US (and Coalition) airborne missions. Redundancy is key in protecting this vital resource and is practiced with every other jet aircraft the Navy owns. Finding another base for new Growlers will be costly, but not nearly as costly as losing the entire fleet and infrastructure to a terrorist attack or natural disaster.

¹ <http://whidbeyeis.com/Documents/Whidbey%20Island%20for%20posting/Whidbey%20Island%20EIS%20volume%20I%20Chapter%201.pdf>, page 1-6.

² <http://www.vaq136.com/ea18gbases/index.html>

³ https://en.wikipedia.org/wiki/List_of_United_States_Navy_aircraft_squadrons

⁴ <https://fas.org/sgp/othergov/dod/brac/tjcs-g-complete.pdf>, page 5.

⁵ <http://congressionalresearch.com/RL30639/document.php?study=Electronic+Warfare+EA-6B+Aircraft+Modernization+and+Related+Issues+for+Congress>

⁶ <http://www.janes.com/article/58595/usmc-prepares-magtf-ew-to-replace-prowler>

⁷ <http://www.marines.mil/News/News-Display/Article/613385/us-marine-corps-moves-forward-with-f-35-transition/>

⁸ <http://www.cnn.com/2016/09/16/politics/us-air-force-grounds-f-35/>

⁹ <http://breakingdefense.com/2014/10/navy-forges-new-ew-strategy-electromagnetic-maneuver-warfare/>

¹⁰ <http://whidbeyeis.com/Documents/Whidbey%20Island%20for%20posting/Whidbey%20Island%20EIS%20volume%20I%20Chapter%202.pdf>, page 2-13.

¹¹ <https://www.cnicy.navy.mil/content/dam/cnic/cnrnw/pdfs/NASWIfactsheets/EA-18G%202012%20EA.pdf>, Page 1-5.

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- ¹² http://www.dod.mil/pubs/foi/Reading_Room/Selected_Acquisition_Reports/16-F-0402_DOC_51_EA-18G_DEC_2015_SAR.pdf
- ¹³ <http://www.wsdot.wa.gov/Environment/CulRes/bridges.htm#CanoePass>
- ¹⁴ https://www.wsdot.wa.gov/mapsdata/travel/pdf/Annual_Traffic_Report_2015.pdf
- ¹⁵ https://en.wikipedia.org/wiki/Deception_Pass_Bridge
- ¹⁶ http://www.cityofanacortes.org/docs/Engineering/WaterSystemPlan/Chapter_2.pdf
- ¹⁷ <https://www.wsdot.wa.gov/ferries/pdf/wsfroutemap.pdf>
- ¹⁸ http://www.wsdot.wa.gov/ferries/traffic_stats/annualpdf/2016.pdf
- ¹⁹ <https://www.islandcountywa.gov/DEM/Documents/IslandCountyHIVA2007-Aug16.pdf>
- ²⁰ <https://blackboard.angelo.edu/bbcswebdav/institution/LFA/CSS/Course%20Material/BOR6311/Readings/NatINeedsAssess.pdf>
- ²¹ <https://www.sddc.army.mil/sites/TEA/Functions/SpecialAssistant/STRAHNET/Washington.pdf>
- ²² <http://www.whidbeyeis.com/Documents/Whidbey%20Island%20for%20posting/Whidbey%20Island%20OEIS%20volume%20I%20Chapter%203.pdf>, p 3-187.
- ²³ <http://www.seattletimes.com/seattle-news/northwest/washington-30-year-earthquake-drill-for-big-one-order-studies-ignore-them-repeat/>
- ²⁴ <https://www.njhomelandsecurity.gov/analysis/transportation-maritime-ferries-a-vulnerable-target>
- ²⁵ <https://www.gpo.gov/fdsys/pkg/PLAW-107publ295/pdf/PLAW-107publ295.pdf>
- ²⁶ <http://www.spokesman.com/stories/2004/oct/11/ferries-possible-terrorist-target/>
- ²⁷ <http://www.au.af.mil/au/awc/awcgate/nps/culpepper.pdf>
- ²⁸ <http://www.spokesman.com/stories/2004/oct/11/ferries-possible-terrorist-target/>
- ²⁹ <https://oig.justice.gov/reports/FBI/a0626/final.pdf> , p. 68.
- ³⁰ <http://www.gao.gov/new.items/d11207.pdf>

³¹ http://www.oregonlive.com/pacific-northwest-news/index.ssf/2012/10/police_hold_terrorist-attack_t.html

³² <http://www.wsdot.wa.gov/Ferries/security/>

³³ <http://www.seattletimes.com/seattle-news/transportation/watch-boat-called-nap-tyme-collides-with-washington-state-ferry-near-vashon-island/>

³⁴ <https://news.usni.org/2017/01/03/opinion-improve-land-based-electronic-warfare-aircraft-readiness>

³⁵ <http://www.reuters.com/article/usa-airforce-growlers-idUSL1N0YN1CC20150601>