Citizens of Ebey's Reserve (COER) Comments:

Draft Environmental Impact Statement

for Naval Air Station Whidbey Island

Addendum 1:

Risks of Single-Siting EA18G Growlers at NASWI

Prepared for COER by
Maryon Atwood

On a visit to Washington D.C. and to the Pentagon by COER Board members in March 2014, Deputy Assistant Secretary Schregardus was asked about the Navy's one-site Growler policy. He was totally silent on the issue and did not answer our question. So, it is unclear 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 (page 5)."

The Navy currently is in the position of holding the entire US military electronic warfare jet aviation asset of 82 Growlers in one vulnerable location. 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.

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. (pages 2-13)" 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 (pages 1-5). 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 changing or mitigating the siting of Growlers 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. Less the 7 aircraft forward deployed to Japan, leaves 153 aircraft to be stationed at NAS Whidbey Island. This total number is not apparent in the DEIS and source documents had to be found outside of the DEIS.

This means that 96% of the entire US fleet of electronic warfare aircraft is based on a coastal island served by a bridge and two ferries, in a post-9/11 world where terrorist threats exist…and in one of the most seismic-prone areas in the continental United States.

Whidbey Island – Idyllic and Extremely Vulnerable

Whidbey Island, located at the northern part of Puget Sound is accessible from the North by the Deception Pass Bridge. The bridge, over 180 feet from the water, was built in 1935 by the Civilian Conservation Corps, and is on the National Register of Historic Places. The two-lane bridge encompasses two spans and is a total of 1,487 feet long, with an average daily traffic of between 17,000-20,000 vehicles. 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. 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. It is the only land-based access to Whidbey Island.

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. 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". This make Whidbey Island vulnerable to potential terrorist attacks.

A US Naval Institute (USNI) article 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, in this article, recommends the Pentagon take a look at regional benefits and site new Growlers at Marine Corps Air Station Cherry Point,

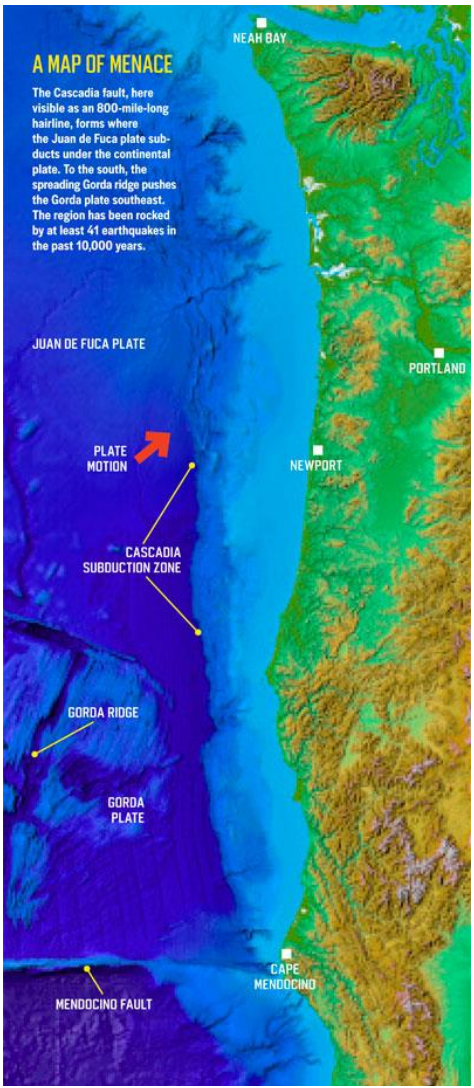
and not NAS Whidbey Island.

> "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."

New Growlers Need a Second Site – East Coast Options

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 an major operational security risk. This geographic location reduces operational readiness in a warfare strategy that right now has only one active aircraft with all services dependent upon it.

The delivery of 36 new Growler aircraft (plus 42 more on order) provides the Navy with a prime opportunity to site its 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.



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 their fleet and entire infrastructure to a terrorist attack.

Earthquake & Tsunami Risk

Many articles have been written in the past few years, including one that generated a lot of comments in the *New Yorker* magazine about the 'big one' coming that would destroy whatever is west of I-5 in Washington State. Experts agree that it's not a matter of if, but when the Pacific Northwest is rocked by an enormous earthquake <

http://www.crew.org/sites/default/files/cascadia_subduction_scenario_2013.pdf > and < http://cascadiageo.org/documentation/literature/cascadia_papers/johnson_etal_204_utsalady_puget_lowland.pdf >.

The "Cascadia Subduction Zone" is about the size of Maine. It's a geological copycat of the zone that ruptured in Japan. Experts believe 90 percent of the damage and 99 percent of the deaths in Japan were caused by the Tsunami.

"The consequences of Cascadia will be more than a city, they will be across a region that could potentially affect 10 million people," said DNR geologist Tim Walsh in a 2012 article by Michelle Esteban. Walsh says….

> "a big quake will trigger landslides across the region, sheering homes right off their hillside perches.
>
> Even the initial quake itself will feel like an eternity, nothing like the 2001 Nisqually quake that rocked Seattle. And that's most dangerous for tall buildings, long bridges and the above-ground pipelines that won't be able to survive the prolonged tremors."

Now imagine Deception Pass Bridge, which also carries the water pipeline from the Skagit River to Oak Harbor. The bridge and water pipeline will likely fall or be unsafe after an earthquake and it will likely be months before assistance can be provided.

Ault Field at NASWI in Oak Harbor is at Elevation AMSL – 47 ft/14m, and vulnerable to both earthquake and tsunami destruction. A tsunami could carve thru the Strait of Juan De Fuca, flooding everything from the Pacific to Bellingham, including rivers that connect to the ocean.

Isn't the risk potential of an earthquake that scientists agree is coming – worth considering when siting all of the Navy's EA18G Growler jets in harms way?

The loss could be devastating and extremely costly. If each jet costs about $84M and only 2 can be made in a month in Missouri – this would seem to qualify as a major security risk, and speaks to the gravity of placing the entire fleet of EA18G Growlers in the path of a predicted major earthquake and tsunami event. In modeling of this event, Ault field will be inundated by water. When minutes and seconds count, will there be time to save these jets from destruction?

From an article by Chris Goldfinger, Oregon State University, that speaks to the Cascadian subduction zone and its capacity for generating giant earthquakes:

> "The Cascadia subduction zone is a crack in the Earth's crust, roughly 60 miles offshore and running 800 miles from northern Vancouver Island to Northern California. This fault is part of the infamous Pacific Ring of Fire, the impact zone where several massive tectonic plates collide. Here, a slab of the Pacific Ocean floor called the Juan de Fuca plate slides eastward and downward, "subducting" underneath the continental plate of North America.

When any two plates grind against each and get stuck, enormous stress builds up until the rocks fracture and the fault rips apart in a giant earthquake. Two other segments of the Ring of Fire ruptured this way—Chile in 1960 at magnitude 9.5, the largest quake ever recorded on Earth, and Alaska's horrible Good Friday earthquake of 1964, at 9.2 the strongest jolt ever to hit the continent of North America.

Cascadia, however, is classified as the quietest subduction zone in the world. Along the Cascadia segment, geologists could find no evidence of major quakes in "all of recorded history"—the 140 years since white settlers arrived in the Pacific Northwest and began keeping records. For reasons unknown, it appeared to be a special case. The system was thought to be aseismic—essentially quake free and harmless.

By the 1970s several competing theories emerged to explain Cascadia's silence. One possibility was that the Juan de Fuca plate had shifted direction, spun slightly by movement of the two larger plates on either side of it. This would reduce the rate of eastward motion underneath North America and thus reduce the buildup of earthquake stress. Another possibility was that the angle of the down-going eastbound plate was too shallow to build up the kind of friction needed to cause major quakes.

But the third possibility was downright scary. In this interpretation, the silence along the fault was merely an ominous pause. It could be that these two great slabs of the Earth's crust were jammed against each other and had been for a very long time—locked together by friction for hundreds of years, far longer than "all of recorded history." If that were true, they would be building up the kind of stress and strain that only a monster earthquake could relieve."

Evidence amassed suggests that in fact, "Cascadia has generated powerful earthquakes not just once or twice, but over and over again throughout geologic time. A research team led by Chris Goldfinger at Oregon State University (OSU) used core samples from the ocean floor along the fault to establish that there have been at least 41 Cascadia events in the last ten thousand years. Nineteen of those events ripped the fault from end to end, a "full margin rupture."

Goldfinger continues,

"It turns out that Cascadia is virtually identical to the offshore faults that devastated Sumatra in 2004 and Japan in 2011—almost the same length, the same width, and with the same tectonic forces at work. Cascadia's fault can and will generate the same kind of earthquake we saw in Japan: magnitude 9 or higher. It will send a train of deadly tsunami waves across the Pacific and crippling shock waves across a far wider geographic area than all the California quakes you've ever heard about.

> Based on historical averages, the southern end of the fault—from Cape Mendocino, California, to Newport, Oregon—has a large earthquake every 240 years. For the northern end—from mid-Oregon to mid-Vancouver Island—the average "recurrence interval" is 480 years, according to a recent Canadian study. And while the north may have only half as many jolts, they tend to be full-size disasters in which the entire fault breaks from end to end.
>
> With a time line of 41 events the science team at OSU has now calculated that the California–Oregon end of Cascadia's fault has a 37 percent chance of producing a major earthquake in the next 50 years. The odds are 10 percent that an even larger quake will strike the upper end, in a full-margin rupture, within 50 years. Given that the last big quake was 312 years ago, one might argue that a very bad day on the Cascadia Subduction Zone is ominously overdue. It appears that three centuries of silence along the fault has been entirely misleading. The monster is only sleeping."

Another article, "A Fault Runs Through It" by Bill Cannon reminds us that the Northwest is big-time earthquake country.

Brian Atwater, a U.S. Geological Survey (USGS) scientist and a UW affiliate professor of geological sciences, and USGS scientist Bob Bucknam explain a new fault line. They and colleagues provide a picture of a land-heaving earthquake along the newly discovered fault that may have occurred a thousand years ago.

> "A strip of land about 10 miles long and four miles wide -- parts of West Seattle and Bainbridge Island -- rose from the Sound higher than 20 feet in some places, sending a giant wave rolling northward. In the same instant, old-growth forest around Lake Washington slid to a watery resting place.
>
> They estimate the fault is within a few miles of the surface and was active as recently as 1,000 to 1,100 years ago. It follows the Bainbridge Island ferry route east under Puget Sound and the route of Interstate 90 toward, and possibly beyond, the Cascade Mountains.
>
> The discovery was an alarm bell for engineers and emergency planners. This was a threat they had no idea existed: shallow earthquakes under a densely populated region. At magnitude 7 or greater, the tremors could shake the ground more than twice as fiercely as two mid-20th century earthquakes that rocked Washington.
>
> "The big problem with this new hazard is that it occurs at ground zero, where 2.5 million people live," says Craig Weaver, who coordinates the USGS earthquake hazards program in the Northwest. "This reminds us that the Northwest is big-time earthquake country."

If, in fact, the Navy maintains this single siting decision is reviewed annually under the Chief of Naval Operations' Strategic Laydown and Dispersal plan, this would be an ideal time to make

that review --- before the final EIS is written. As citizens, we see many reasons for review of the one-site DoD policy for stationing Growlers on Whidbey Island and enough risks associated with that placement to warrant serious investigation by military administrators.

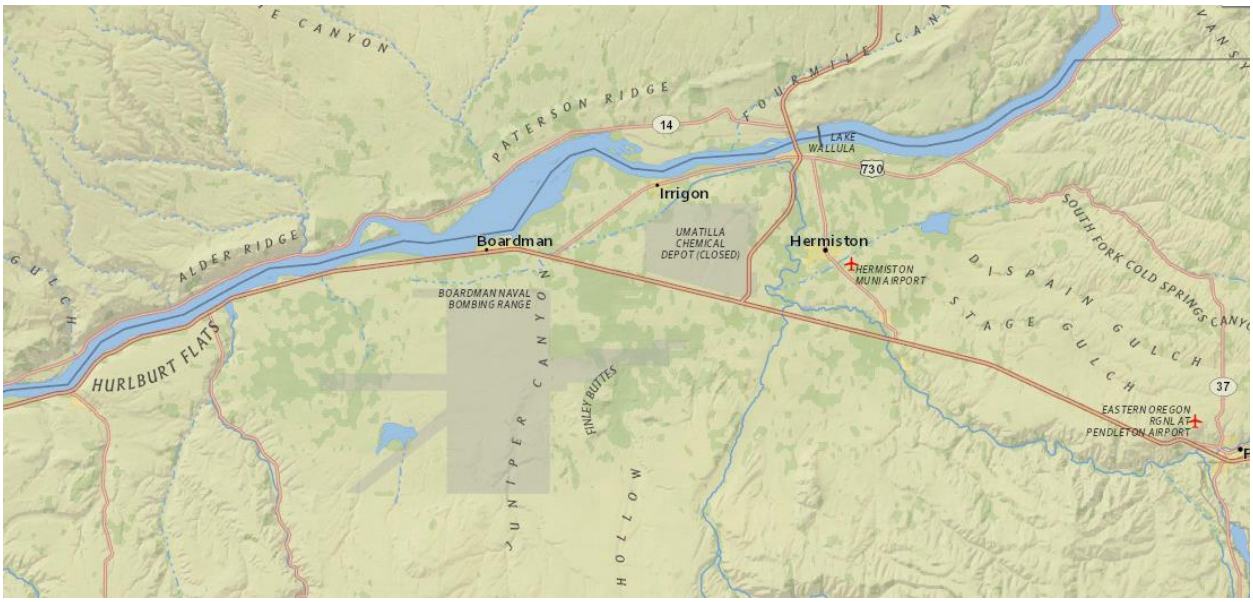
U.S. Geological Survey Maps
The map above shows NWSTF Boardman and the area surrounding it. There are no faults nearby. The map to the left shows several faults that run through north Whidbey Island near NAS Whidbey as well as faults near OLF Coupeville.

The map below shows a gold line that traces the Utsalady Point fault. Geologists believe that this fault was active twice within the last 2,200 years, that the earthquakes were magnitude 6.7 or greater, and may have produced tsunamis. Four tsunami deposits have been found in the Swantown Marsh on Whidbey Island, all of which occurred between 2200 and 1100 years ago, coinciding with the earlier of the two earthquakes on the Utsalady Point fault. Geologists consider the Puget Lowland to be a complex, tectonically active region.

From:
http://earthquake.usgs.gov/earthquakes/eventpage/uw61251016#map

http://cascadiageo.org/documentation/literature/cascadia_papers/johnson_etal_204_utsalady_puget_lowland.pdf

Maps Showing North Whidbey Island Earthquake Faults and No Faults in the Boardman Oregon Area



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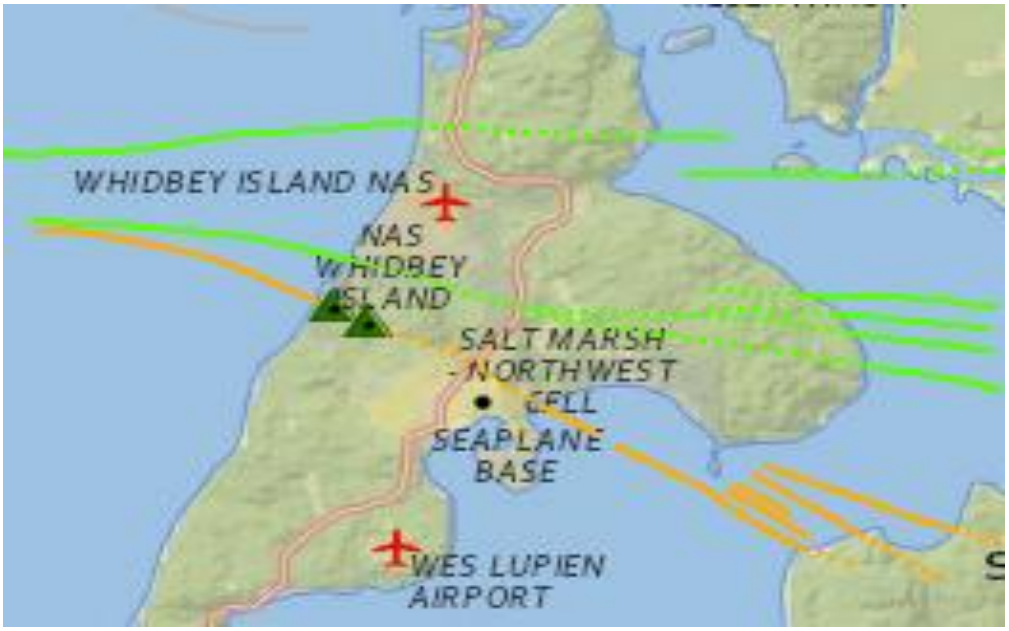
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