QUIET SKIES

Over San Juan County



**>>>>> The following is text that was used as background when responding to the Scoping period for the Environmental Impact Study in 2014. This text is still helpful in providing background, as well as sample text for letters you may wish to send to representatives. Your ability to recount your personal experience is very helpful.**

1. **Analysis**

Analysis in the 2005 and 2012 Growler Environmental Assessments (EAs) was inadequate to support the findings. The Navy must enhance the analysis in order to support proposed actions in the Environmental Impact Statement (EIS).

1. In the 2012 Environmental Analysis (EA) , Figure 3-4, Projected 2013 DNL Noise Contours for Ault Field and OLF Coupeville indicates that San Juan County (SJC) is outside the affected area. This does not reflect citizen experience. We experience Growler activity that is loud and disruptive. Possible factors may include flights at lower elevation than assumed and ducting of jet noise between water and clouds. It is good engineering practice to verify computer simulations with actual measurements.
2. Sound measurements and analysis in the 2012 Environmental Analysis (EA)used the A Weighting. This approximates the response of the human ear and according to the cited studies in the EAs is linked to hearing loss and annoyance. Growler engine noise has a signature low frequency component that is ignored by A Weighting. There is substantial evidence that low frequency sounds have deleterious health impacts beyond annoyance as addressed in other comments. Growler sound measurement with C Weighting, which includes most of the low frequency spectrum, is expected to be 10 to 20 dB higher than A Weighting. We believe that C Weighting would also indicate that the Growler events are louder than the Prowler. A fundamental assumption in the EAs, that the Growler is quieter, is incorrect. Reference:

Low Frequency Noise Study; Hodgdon, Atchley, Bernhard; April 2007 http://web.mit.edu/aeroastro/partner/reports/proj1/lfnreport-2007-001.pdf

1. For decades studies of airport noise have used the Day-Night Average (Ldn) metric for assessing impacts. This may be appropriate for airports with typical operations 16 hours a day, 7 days a week. The noise experienced during Growler training flights is intermittent. We have days without activity. It occurs in a region with very low background noise of 35 – 45 dBA (outside measurement). This is lower than the “quiet suburban neighborhood” background noise level cited in the Wyle report for the 2012 EA. The “startle factor” is a component of the adverse health impacts that would be better represented by a short duration noise measurement. Reference:

Mestre, V., et. al,: Technical Support For Day/Night Average Sound Level (Dnl) Replacement Metric Research, Final Report, 14 June 2011, Section 6.1, last paragraph.

1. We understand that noise measurements and projections in the EAs assume that afterburners are not in use. We understand that afterburners are used at times including takeoffs and FCLPs.
2. **Health Effects Related to Startle Reaction from Growler Training**

San Juan County has a low background noise of 35 – 45 dBA (outside). County residents are routinely exposed 90 – 114 dBA (outside) blasts of noise from Growler over flights and operations at Ault Field resulting in startle reactions. This noise is perceived subconsciously by the human body as a danger signal. The body reacts with fight or flight response with resultant nervous, hormonal and vascular changes. The jet noise experienced is not unlike the noise of an earthquake, a strong wind or a chimney fire. Research shows that humans do not become accustomed to repeated noise at this level.

References:

Kryter K: Physiological, Psychological, and Social Effects of Noise (pub 1115), National Aeronautics and Space Administration, Washington, pp. 535- 545, 1984.

Hall, FL., Birnie, SE, Taylor, SM, Palmer, JE: Direct Comparison of Community Response to Road Traffic Noise and To Aircraft Noise, J. Acoust. Soc. Am. 70:1690-1698, 1981.

1. **Health Effects Related to Loss of Control**

Residents of San Juan County experience Growler jet noise at all times of the day and night. The noise ranges from 65 – 110 dBA and 75 – 124 dBC (inside) and is the result of over flights, engine testing and training operations.

Naval Air Station Whidbey Island does not publish a schedule of training operations for Ault Field. As a consequence, residents never know if a blast of noise is going to be a single 30 second event or the beginning of 3 hours of noise from training. This severely impacts quality of life, use of property and has health consequences. Surveys show that loss of control over one’s life is one of the most disturbing effects of low level military over flights and/or sonic booms on rural Americans.

Reference:

Lundberg U, Frankenhaeuser M: Psychophysiological Reaction to Noise as Modified by Personal Control over Noise Intensity. Biol Psychol, 6:51-59, 1978.

Singer JE, Acri JB, Schaeffer MH: Cognitive Changes from Noise Exposure. In Bergland B, Lindvall T (eds): Noise as a Public Health Problem. New Advances in Noise Research (volume I of proceedings of the 5th international congress on noise as a public health problem, held in Stockholm, Aug. 21-25, 1988), Swedish Council for Building Research, Stockholm, pp 401-410, 1990.

Bargen R: Airspace Blues, Airspace, Gabbs, Nev, p 424, 1989.

1. **Health Effects of Jet Noise on Children**

On Lopez Island the Growlers routinely fly over our school in the middle of the island and over Lopez Village where our Preschool and Children’s Center is located. Research shows that children can be very distressed over military jet over flights. Behaviors in children may include: terror, panic, screaming, freezing in place, palpitations, shaking, dizziness, bed wetting, sleep disturbances, nail biting, anxiety, and elevation of blood pressure.

References:

Goldman B: Sheshatshit, Labrador A Town without Hope. Can Med Assoc J, 141:602-605,1989.1162 (b)(6) Page 13 of 23.

Bartels K: Medizinische/psychosomatische Auswirkung von lieffluglarm. In Kinder und Tiefflug. Dokumentation des Expertenforums zu den Auswirkungen des Tieffluglarms auf Kinder, Bonn, June 12, pp 18-22, 1989.

Preuss S: Militarischer Jiefflug Und Seine Psychischen Auswirkun gen Auf Kinder. In Kinder und Tiefflug. Dokumentation des Expertenfonims zu den Auswirkungen des Tieffluglarms auf Kinder, Bonn, June 12, pp 3-8, 1989.

1. **Health Effects Due to Sleep Disturbance**

San Juan County residents regularly experience Growler jet noise between the hours of 8 pm and 12 midnight. During the summer the noise often continues to 1 am. The indoor threshold for falling asleep is 35-40 dBA. San Juan County resident’s noise journals show that indoor sound levels from FCLP’s at Ault field range from 57 – 80 dBA. If the low frequency noise is measured the sound levels range from 77 – 100 dBC. Windows rattle, bodies vibrate and ear protection does not help. Using the Day-Night Average (Ldn) noise measure does not take into account that our bodies **do not** **average** sleep loss.Noise annoyance during the night increases noise annoyance for the following 24 hours.

Noise disruptions and sleep disturbance can lead to health disorders and interfere with convalescence from illness. Low frequency sound, such as the Growler emits, is significantly disturbing even at low sound pressure levels.

References:

LeVere T, Morlock G, Hart, F: Waking Performance Decrements Following Minimal Sleep Description: The Effects of Habituation during Sleep, Physiological Psychology, 3:147-174, 1975.

Kryter, Ran D., Analysis of Laboratory and Field Data on Awakening from Noise, 1988.

Lukas, J., Measures of Noise Level: Their Relative Accuracy In Predicting Objective and Subjective Responses to Noise During Sleep. EPA-600/1-77-0 10, U.S. Environ. Prot. Agency, Feb. 1977.

Griefahn, Barbara. Research on Nose-Disturbed Sleep since 1973. In Proceedings of the Third International Congress on Noise as a Public Health Problem. ASHA Report No. 10, April 1980.

Gniefahn, B Muzet, A: Noise Induced Sleep Disturbances and Their Effects on Health. Institut Feur Arbeits und Sozialmedizin, Universitaet Mainz, West Germany and Centre d’Etudes Bioclimatiques due CNRS, France.

1. **Alternatives**

The Proposed Action Statement in the EIS States:

*“The alternatives include variations of the following factors:*

1. *Total number of aircraft to be purchased*
2. *Number of aircraft assigned per squadron*
3. *Number of land-based squadrons.*
4. *The distribution of aircraft operations at NAS Whidbey Island between Ault Field and OLF Coupeville”*
* There are no alternatives that base the Growlers at a location other than NAS Whidbey Island. Section 1500.14 of the Council on Environmental Quality regulations requires that Agencies shall
	1. *“(a) Rigorously explore and objectively evaluate all* ***reasonable*** *alternatives … .”*
* We believe that alternatives should not be dismissed just because they are higher in cost or not as efficient.
1. **Mitigation**

We want the Navy to implement all feasible measures to reduce the noise impacts of Growler training flights on citizens including San Juan County. In preparing an Environmental Impact Statement (EIS) the Council on Environmental Quality regulation 1502, section 14 on Proposed Alternatives states,

“In this section agencies shall: … (f) Include appropriate mitigation measures not already included in the proposed action or alternatives.”

We believe that the 2005 and 2012 Environmental Assessments incorrectly determined that there was no adverse noise impact. Therefore it was inappropriate not to evaluate noise mitigation.

1. **Growler training flight paths from NAS Whibey Island (map on page 11 of the scoping booklet) should be modified to minimize routes over populated areas including the south end of Lopez Island to the greatest extent possible.**
2. **Growler training flights over populated areas including San Juan County should be above 3,000 feet elevation.**
3. **Afterburners should not be used on Growler training flights over North Puget Sound.**
4. **A Ground Run-up Enclosure or Hush House should be used for noise suppression during all Growler training engine run-ups and testing.**
5. **Test, acquire and deploy noise reduction measures for the General Electric F414 engines used on the Growlers.**
6. **Notify citizens in advance of all Growler training operations at either airfield including Field Carrier Landing Practice (FCLP), Controlled Carrier Approaches (CCA’s).**
7. **Economic Impacts**

The San Juan County Comprehensive Plan states, "...the islands are places of peace.... We support a pattern of economic growth … which recognizes the rural, residential, quiet, agricultural, marine and isolated nature of the islands." The quiet and pristine nature of the islands with its marine protected areas, National Monuments and National Historical Parks attracts organic agriculture, lovers of nature, cyclists, hikers, kayakers, sailors, summer residents and retirees. Some visitors who have experienced the jet noise have stated that they will never return. Continuation of the current level of jet noise, let alone increasing the number of jets, will discourage visitors and reduce property values. Not including Alternatives that base additional jets at other locations due to higher costs to the Navy does not consider the broader economic consequences for the region.

**Sample Scoping letters**

I have lived on the south end of Lopez Island since 1979. In the last year noise and over-flights from the Growlers at Ault field has exceeded anything we have experienced in the last 35 years. All the reasons we have chosen to live here are being degraded by the constant noise, vibration and intrusive over-flights of Growlers. The Navy considers San Juan County (SJC) a “no significant impact area”. This is clearly false.

I live in the Islandale area of South Lopez and work from home. We experience Growler noise usually 5 days a week often starting at 8am and continuing until 9 -10 pm in the winter and 12 pm – 1 am in the summer. One of the most difficult aspects for me is the Startle effect. We get sporadic blasts of noise throughout the day ranging from 75 – 113 decibels. I can feel my adrenalin kick in and my blood pressure rises. This constant noise is definitely affecting my health.

References:

Kryter K: Physiological, Psychological, and Social Effects of Noise (pub 1115), National Aeronautics and Space Administration, Washington, pp. 535- 545, 1984.

Hall, FL., Birnie, SE, Taylor, SM, Palmer, JE: Direct Comparison of Community Response to Road Traffic Noise and To Aircraft Noise, J. Acoust. Soc. Am. 70:1690-1698, 1981.

I live on the east side of Lopez Island. Over-flights and blasts of noise and vibrations from Growlers and operation at Ault Field are degrading many of the reasons we chose to live on the island.

When the jets are flying the noise is often so intense that conversation stops. Naval Air Station Whidbey Island does not publish a schedule of training operations for Ault Field. As a consequence, residents never know if a blast of noise is going to be a single 30 second event or the beginning of 3 hours of noise from training. This severely impacts quality of life, use of property and has health consequences. Surveys show that loss of control over one’s life is one of the most disturbing effects of low level military over flights and/or sonic booms on rural Americans.

Reference:

Lundberg U, Frankenhaeuser M: Psychophysiological Reaction to Noise as Modified by Personal Control over Noise Intensity. Biol Psychol, 6:51-59, 1978.

Singer JE, Acri JB, Schaeffer MH: Cognitive Changes from Noise Exposure. In Bergland B, Lindvall T (eds): Noise as a Public Health Problem. New Advances in Noise Research (volume I of proceedings of the 5th international congress on noise as a public health problem, held in Stockholm, Aug. 21-25, 1988), Swedish Council for Building Research, Stockholm, pp 401-410, 1990.

Bargen R: Airspace Blues, Airspace, Gabbs, Nev, p 424, 1989.

I live near the school on Lopez Island. The jets didn’t used to fly over the school and now they do. They also routinely fly over the preschool in Lopez Village. Growler traffic over my home is definitely affecting my life. What used to be a quiet peaceful place to live now regularly is filled with the sounds of a war zone. Ear protection does nothing. My windows vibrate. My body vibrates. I am concerned about the effects on the children at our school and our preschool.

Research shows that children can be very distressed over military jet over flights. Behaviors in children may include: terror, panic, screaming, freezing in place, palpitations, shaking, dizziness, bed wetting, sleep disturbances, nail biting, anxiety, and elevation of blood pressure.

References:

Goldman B: Sheshatshit, Labrador A Town without Hope. Can Med Assoc J, 141:602-605,1989.1162 (b)(6) Page 13 of 23.

Bartels K: Medizinische/psychosomatische Auswirkung von lieffluglarm. In Kinder und Tiefflug. Dokumentation des Expertenforums zu den Auswirkungen des Tieffluglarms auf Kinder, Bonn, June 12, pp 18-22, 1989.

Preuss S: Militarischer Jiefflug Und Seine Psychischen Auswirkun gen Auf Kinder. In Kinder und Tiefflug. Dokumentation des Expertenfonims zu den Auswirkungen des Tieffluglarms auf Kinder, Bonn, June 12, pp 3-8, 1989.

I have enjoyed living on Lopez Island for over 20 years. One of the wonders of living here has been the quiet nights and being able to hear the waves, the sea lions, the wind and all the night sounds. The Growlers have destroyed this. We regularly experience jet noise between 8pm and 12 midnight. In the summer the noise can continue until 1am.

Research shows that the indoor threshold for falling asleep is 35-40 dBA. Our noise journals show that indoor sound levels from FCLP’s at Ault field range from 57 – 80 dBA. If the low frequency noise is measured the sound levels range from 77 – 100 dBC. Windows rattle, bodies vibrate and ear protection does not help. It’s unthinkable that the Navy considers San Juan County and Lopez Island a “no significant impact noise area”! Averaging noise over a year is useless when you’re trying to sleep. Our bodies do not average sound. I feel that living with the sleep disruptions from the Growlers is affecting my health.

References:

LeVere T, Morlock G, Hart, F: Waking Performance Decrements Following Minimal Sleep Description: The Effects of Habituation during Sleep, Physiological Psychology, 3:147-174, 1975.

Kryter, Ran D., Analysis of Laboratory and Field Data on Awakening from Noise, 1988.

Lukas, J., Measures of Noise Level: Their Relative Accuracy In Predicting Objective and Subjective Responses to Noise During Sleep. EPA-600/1-77-0 10, U.S. Environ. Prot. Agency, Feb. 1977.

Griefahn, Barbara. Research on Nose-Disturbed Sleep since 1973. In Proceedings of the Third International Congress on Noise as a Public Health Problem. ASHA Report No. 10, April 1980.

Gniefahn, B Muzet, A: Noise Induced Sleep Disturbances and Their Effects on Health. Institut Feur Arbeits und Sozialmedizin, Universitaet Mainz, West Germany and Centre d’Etudes Bioclimatiques due CNRS, France.

I have lived on Lopez Island for many years. The jets from NASWI have not bothered me much until this last year. Now I experience them all over the Island. If I want to walk on our new National Monument lands at Iceberg Point they are the predominant sound - not birds or waves or sea lions. If I’m in the Village I experience them often with their deafening vibrations. Even at our ferry landing at the north end their noise is not uncommon. I recently visited a friend on Shaw Island. The noise was intrusive there. At night when the island used to be quiet the hours of blasting and roaring can be heard until late at night.

* The introduction of the Growler is negatively impacting San Juan County and the whole region. Alternatives should not be dismissed just because they are higher in cost or not as efficient. Adding any Growlers to an already significantly affected area is unjustified. I know that there are other possibilities where Growler training and basing can happen.

As a long time San Juan County resident I am now planning trips to Seattle to experience quiet. This is ridiculous. The Navy should be implementing immediate noise mitigations to reduce the noise impacts of Growler training flights on citizens throughout the region including San Juan County. In preparing an Environmental Impact Statement (EIS) the Council on Environmental Quality regulation 1502, section 14 on Proposed Alternatives states,

“In this section agencies shall: … (f) Include appropriate mitigation measures not already included in the proposed action or alternatives.”

I believe that the 2005 and 2012 Environmental Assessments **incorrectly determined** that there was no adverse noise impact from the introduction of the Growlers. Therefore it was inappropriate not to evaluate noise mitigation. At a minimum the following mitigation measures must be fully considered.

1. Growler training flight paths from NAS Whibey Island (map on page 11 of the scoping booklet) should be modified to minimize routes over populated areas, including the south end of Lopez Island, to the greatest extent possible.
2. Growler training flights over populated areas including San Juan County should be above 3,000 feet elevation.
3. Afterburners should not be used on Growler training flights over North Puget Sound.
4. A Ground Run-up Enclosure or Hush House should be used for noise suppression during all Growler training engine **run-ups and testing.**
5. Test, acquire and deploy noise reduction measures for the General Electric F414 engines used on the Growlers.
6. Notify citizens in advance of all Growler training operations at either airfield including Field Carrier Landing Practice (FCLP) and Controlled Carrier Approaches (CCA).

We moved here because of the beauty and the quiet. The Growlers are changing the quality of life in San Juan County. We would never have bought property here if we had experienced the intrusive noise from NASWI.

The San Juan County Comprehensive Plan states, "...the islands are places of peace.... We support a pattern of economic growth … which recognizes the rural, residential, quiet, agricultural, marine and isolated nature of the islands." The quiet and pristine nature of the islands with its marine protected areas, National Monuments and National Historical Parks attracts organic agriculture, lovers of nature, cyclists, hikers, kayakers, sailors, summer residents and retirees.

We have talked to visitors who have experienced the jet noise and have stated that they will never return. Continuation of the current level of jet noise, let alone increasing the number of jets, will discourage visitors and reduce property values.