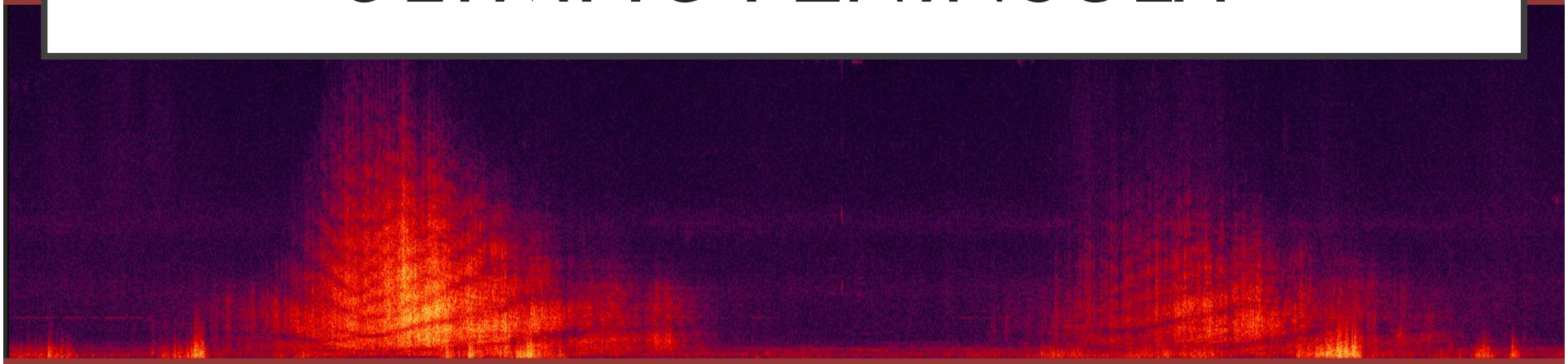
IMPACT OF MILITARY AIRCRAFT ON THE SOUNDSCAPE OF THE OLYMPIC PENINSULA



LAUREN KUEHNE

UNIVERSITY OF WASHINGTON

SALLY KAMAE

UNIVERSITY OF WASHINGTON

LAURA GIANNONE

THE EVERGREEN STATE COLLEGE

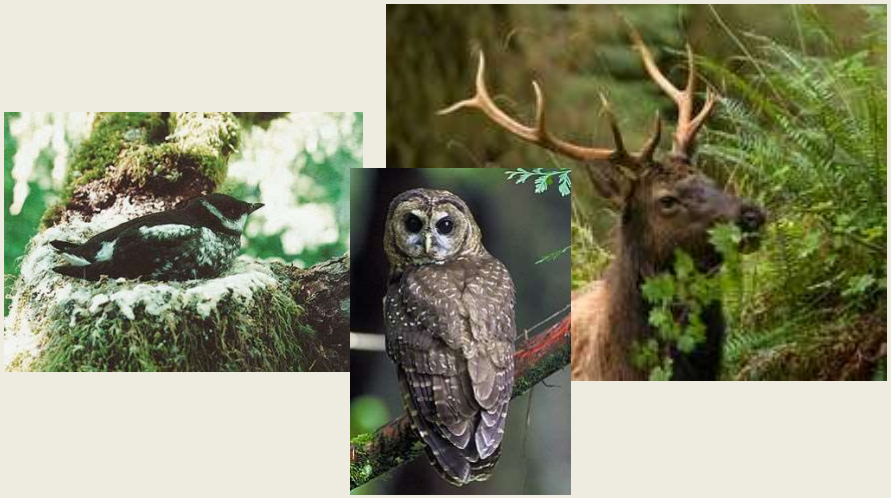
Olympic Natural Resources Center
Friday, May 31 2019 @ 7:00 PM

PRESENTATION OUTLINE

- Introduction & Background
- 2017-2018 Study methods & results
- Implications for policy
- Citizen Science and Future Monitoring

BACKGROUND: THE SHORT VERSION

- In 2016 US Navy completed switch from Prowler to Growler
- Current EIS increases fleet at WINAS by 44% (36 jets)
- Little to no baseline data on current noise levels to evaluate impacts of potential increase



BACKGROUND: A MEDIA PERSPECTIVE

Opinion

Olympic National Park is no place for Growler jets

Originally published Febr

NEWS

There's a Growing Movement to Quiet the Noise in Olympic National Park

A new documentary short shows the growing opposition to Naval aircrafts practicing over the Olympic Peninsula

BY: KNUTE BERGER | Posted April 3, 2018

Navy declines to include Growler monitoring as mitigation for effect on historic

By Jeanni

LETTER TO THE

Letter

Navy

April 19, 2019

88,000 Gr

Coupevill

Training On Olympic Peninsula

by **Ashley Ahearn** KUOW/EarthFix Nov. 30, 2016 2:45 p.m.

EARTHER

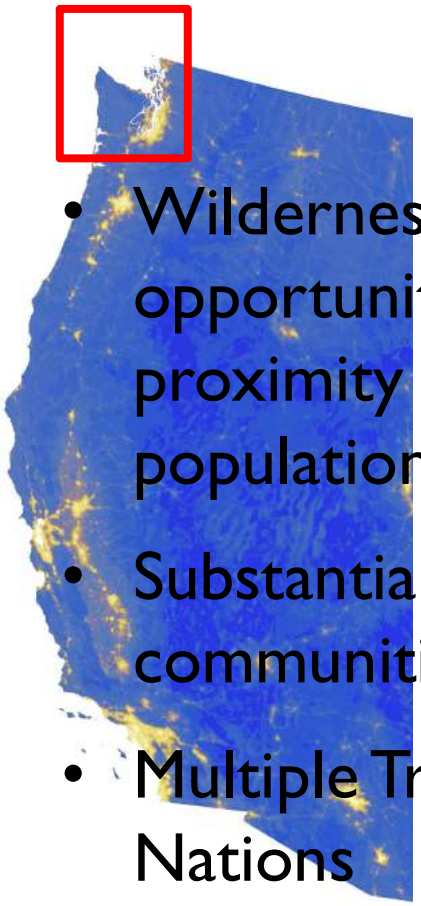
CONSERVATION

The Quietest Place in America Is Becoming a Warzone

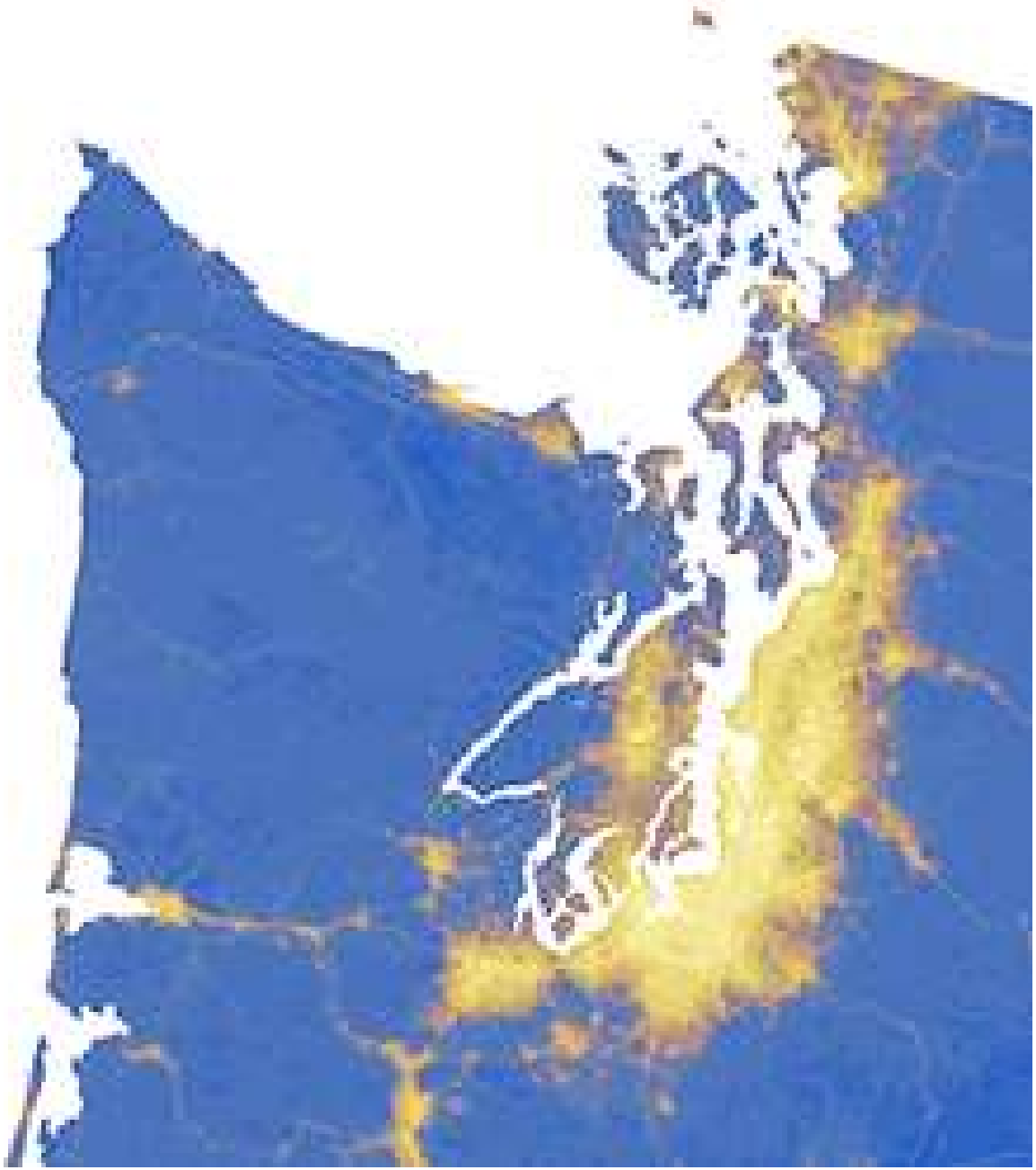
of the Hoh Tribe, ashington's Olympic avy has not al concerns about npacts of its

The Navy has just been granted permits by the U.S. Forest Service to expand electromagnetic warfare training over Washington's Olympic Peninsula.

Now the Navy is cleared to drive trucks out into the Olympic National Forest, armed with electromagnetic signaling technology. Then growler jets will take off from Naval Air



- Wilderness opportunity in close proximity to large population
- Substantial residential communities
- Multiple Tribal Nations
- Olympic National Park – a World Heritage Site - attracts 3 M+ visitors each year



STUDY OBJECTIVES

- What are the current noise levels from different aircraft on the Olympic Peninsula soundscape?
- How might these levels change in the future with proposed increases in aircraft?

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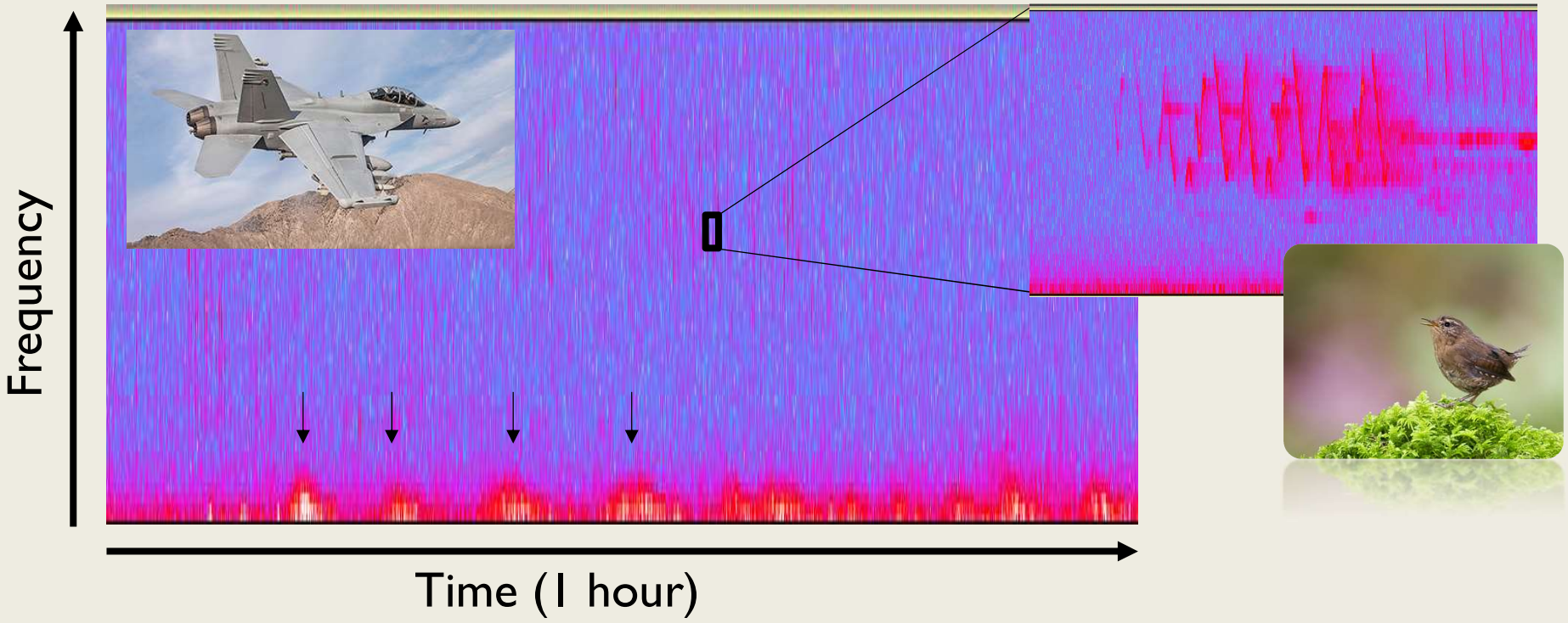
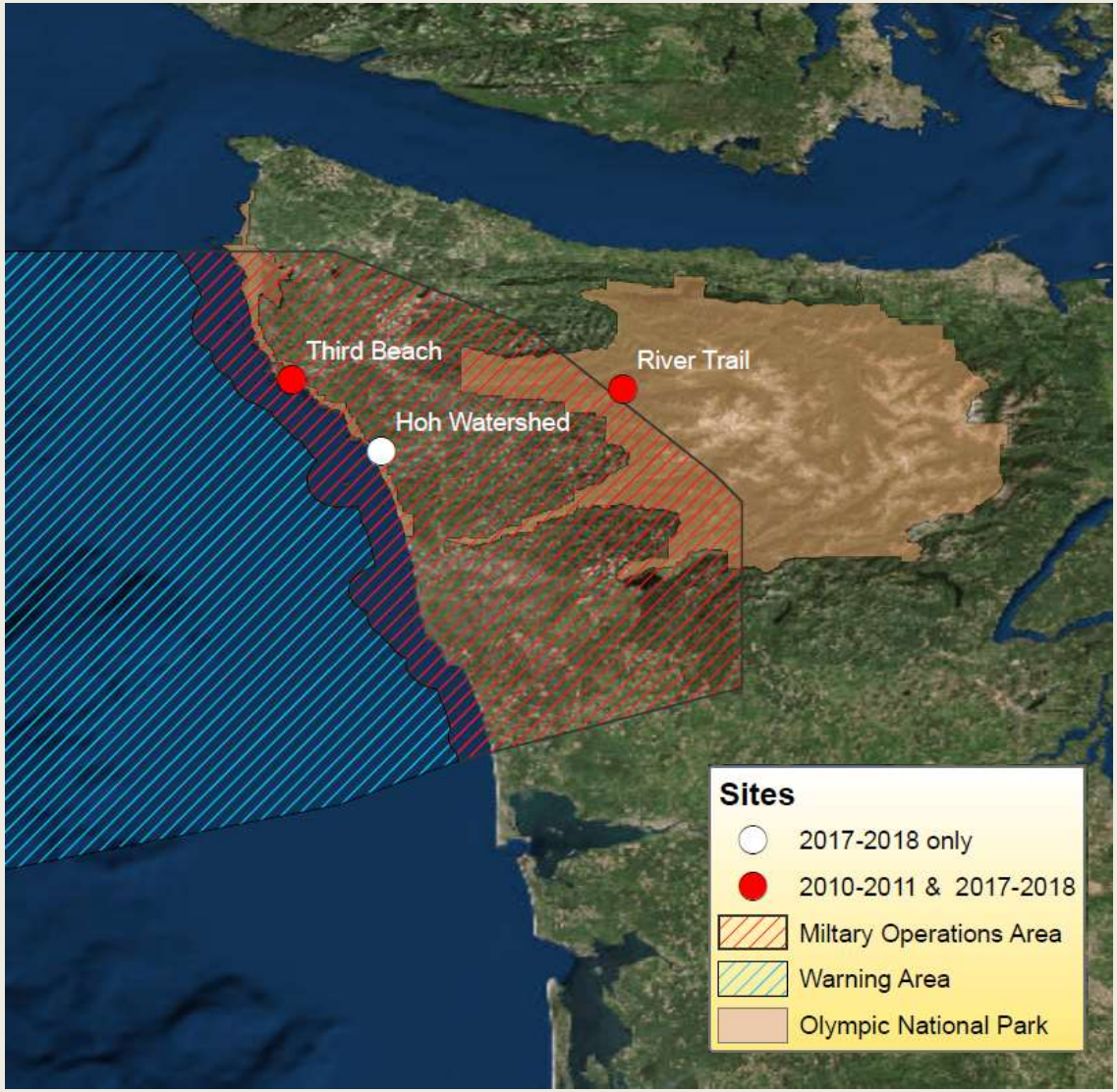
PASSIVE ACOUSTIC MONITORING



- High resolution
- Useful for large (landscape) or small (species) scales
- Relatively inexpensive

STUDY DESIGN



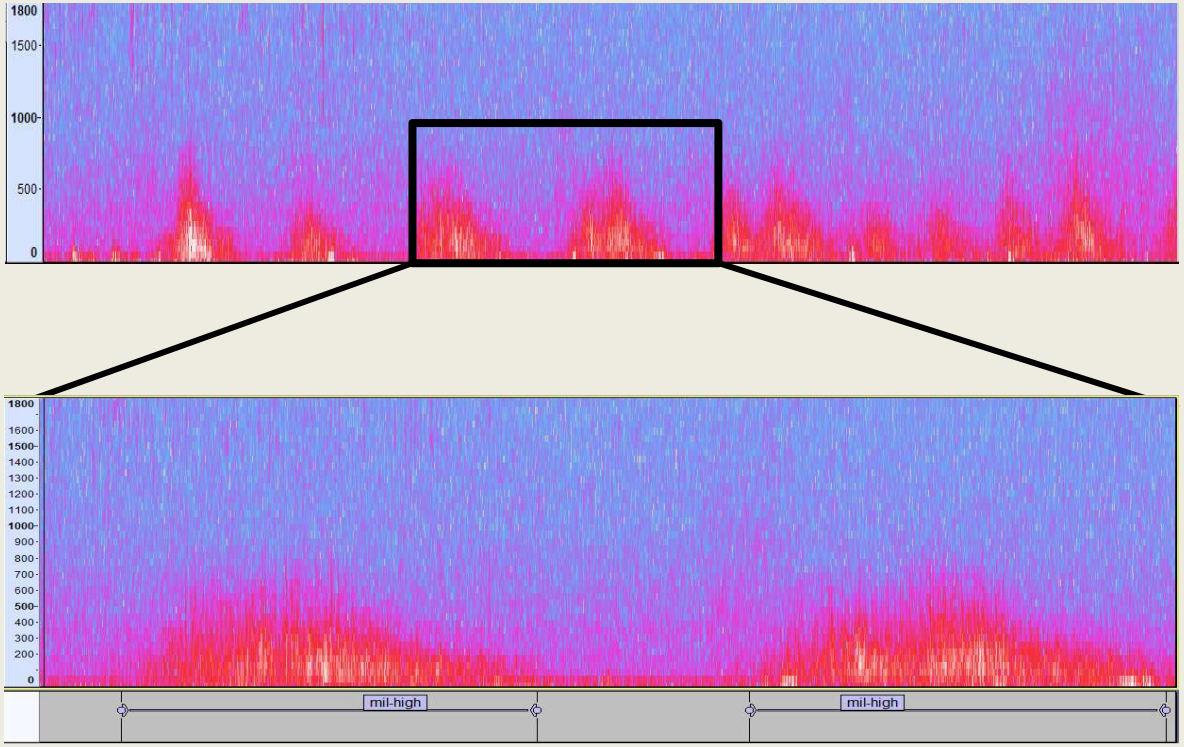
- In 2017-2018, recorded 10 days x 4 seasons x 3 sites
- Two monitored by the National Park Service in 2010-2011*

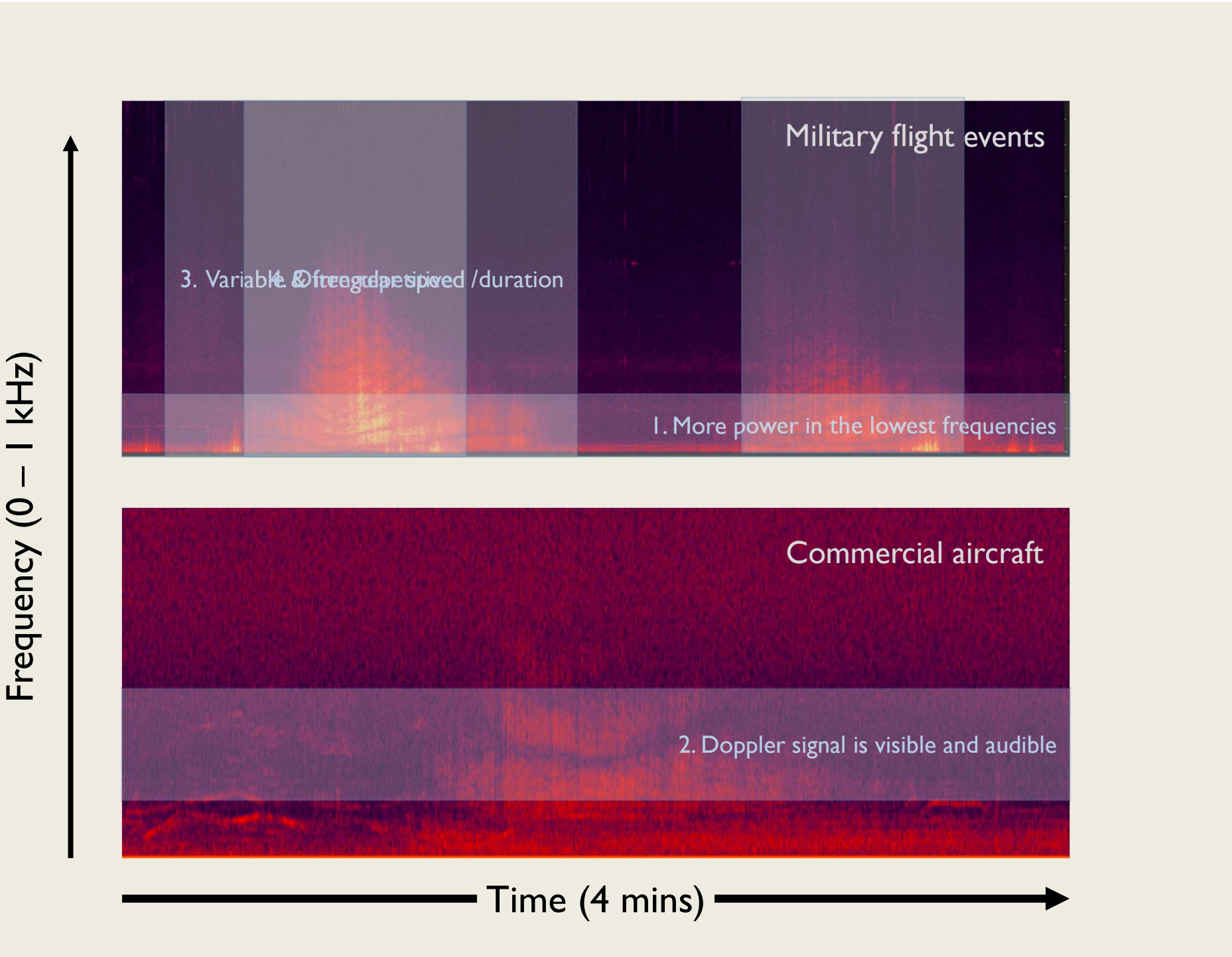
* Different purpose and processing methods

SITES

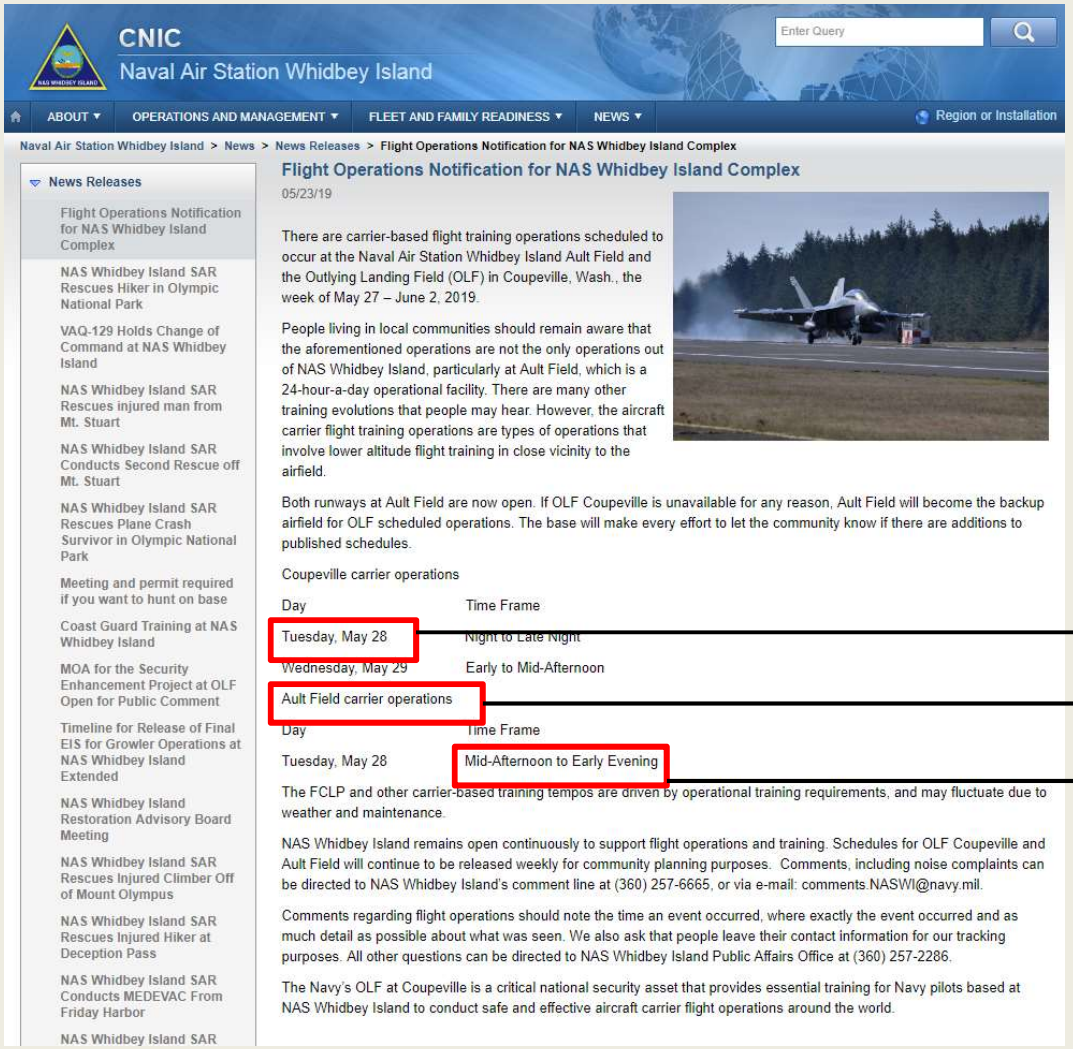
DATA PROCESSING

- Identify flight events by visual inspection and listening
- Classify by type
- Create database of events and properties (e.g., duration, time of day)




Military flight events
3. Variable & irregular speed /duration
1. More power in the lowest frequencies
Commercial aircraft
2. Doppler signal is visible and audible
Frequency (0 – 1 kHz)
Time (4 mins)

PUBLISHED SCHEDULE FROM WINAS



CNIC
Naval Air Station Whidbey Island

Enter Query

ABOUT ▾ | OPERATIONS AND MANAGEMENT ▾ | FLEET AND FAMILY READINESS ▾ | NEWS ▾ | Region or Installation

Naval Air Station Whidbey Island > News > News Releases > Flight Operations Notification for NAS Whidbey Island Complex

News Releases

- Flight Operations Notification for NAS Whidbey Island Complex
- NAS Whidbey Island SAR Rescues Hiker in Olympic National Park
- VAQ-129 Holds Change of Command at NAS Whidbey Island
- NAS Whidbey Island SAR Rescues injured man from Mt. Stuart
- NAS Whidbey Island SAR Conducts Second Rescue off Mt. Stuart
- NAS Whidbey Island SAR Rescues Plane Crash Survivor in Olympic National Park
- Meeting and permit required if you want to hunt on base
- Coast Guard Training at NAS Whidbey Island
- MOA for the Security Enhancement Project at OLF Open for Public Comment
- Timeline for Release of Final EIS for Growler Operations at NAS Whidbey Island Extended
- NAS Whidbey Island Restoration Advisory Board Meeting
- NAS Whidbey Island SAR Rescues Injured Climber Off of Mount Olympus
- NAS Whidbey Island SAR Rescues Injured Hiker at Deception Pass
- NAS Whidbey Island SAR Conducts MEDEVAC From Friday Harbor
- NAS Whidbey Island SAR

Flight Operations Notification for NAS Whidbey Island Complex

05/23/19

There are carrier-based flight training operations scheduled to occur at the Naval Air Station Whidbey Island Ault Field and the Outlying Landing Field (OLF) in Coupeville, Wash., the week of May 27 – June 2, 2019.

People living in local communities should remain aware that the aforementioned operations are not the only operations out of NAS Whidbey Island, particularly at Ault Field, which is a 24-hour-a-day operational facility. There are many other training evolutions that people may hear. However, the aircraft carrier flight training operations are types of operations that involve lower altitude flight training in close vicinity to the airfield.

Both runways at Ault Field are now open. If OLF Coupeville is unavailable for any reason, Ault Field will become the backup airfield for OLF scheduled operations. The base will make every effort to let the community know if there are additions to published schedules.

Coupeville carrier operations

Day	Time Frame
Tuesday, May 28	Night to Late Night
Wednesday, May 29	Early to Mid-Afternoon

Ault Field carrier operations

Day	Time Frame
Tuesday, May 28	Mid-Afternoon to Early Evening

The FCLP and other carrier-based training tempos are driven by operational training requirements, and may fluctuate due to weather and maintenance.

NAS Whidbey Island remains open continuously to support flight operations and training. Schedules for OLF Coupeville and Ault Field will continue to be released weekly for community planning purposes. Comments, including noise complaints can be directed to NAS Whidbey Island's comment line at (360) 257-6665, or via e-mail: comments.NASWI@navy.mil.

Comments regarding flight operations should note the time an event occurred, where exactly the event occurred and as much detail as possible about what was seen. We also ask that people leave their contact information for our tracking purposes. All other questions can be directed to NAS Whidbey Island Public Affairs Office at (360) 257-2286.

The Navy's OLF at Coupeville is a critical national security asset that provides essential training for Navy pilots based at NAS Whidbey Island to conduct safe and effective aircraft carrier flight operations around the world.

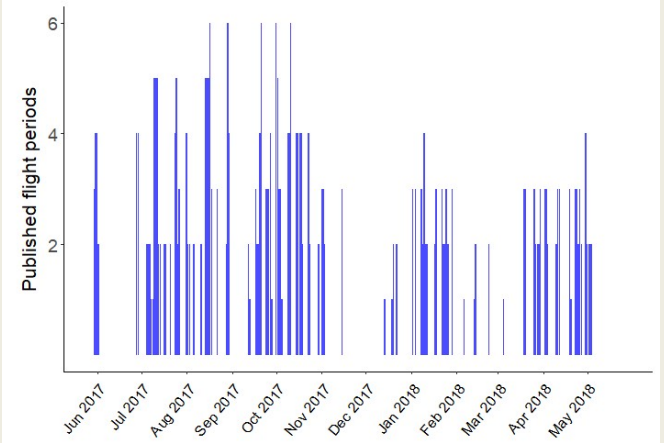
→ Date

→ Field location (Ault Field)

→ Periods of activity (~ # of hours)

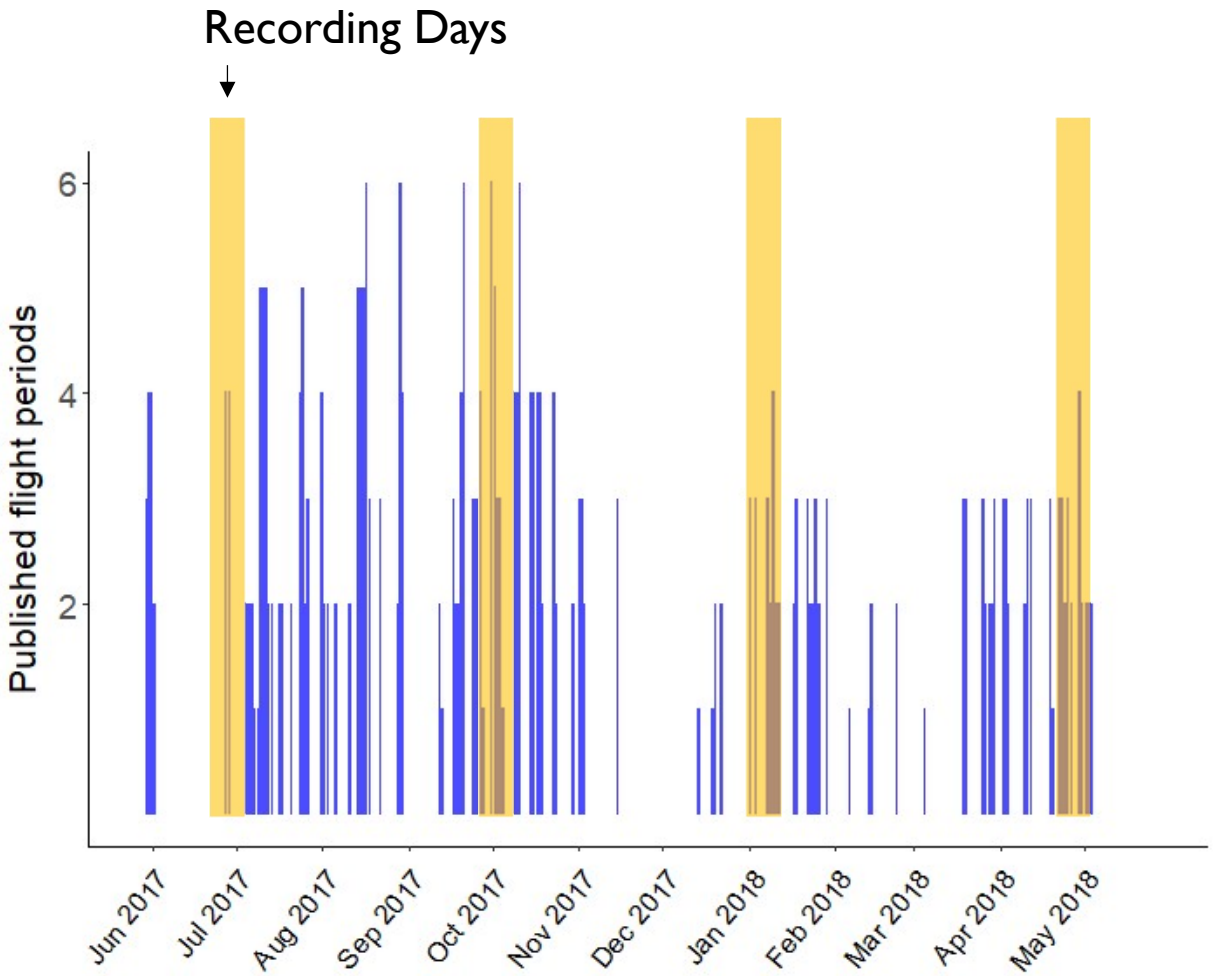
RESULTS: "THE BASICS"

- Processed 2,880 hours of data across the 3 sites and 4 periods (June, Sept, Jan & Apr 2018)
- Identified 4,619 flight events, calculated duration and event time
- Summarized one year of the published flight schedule for the corresponding time period (June 2017 – May 2018)

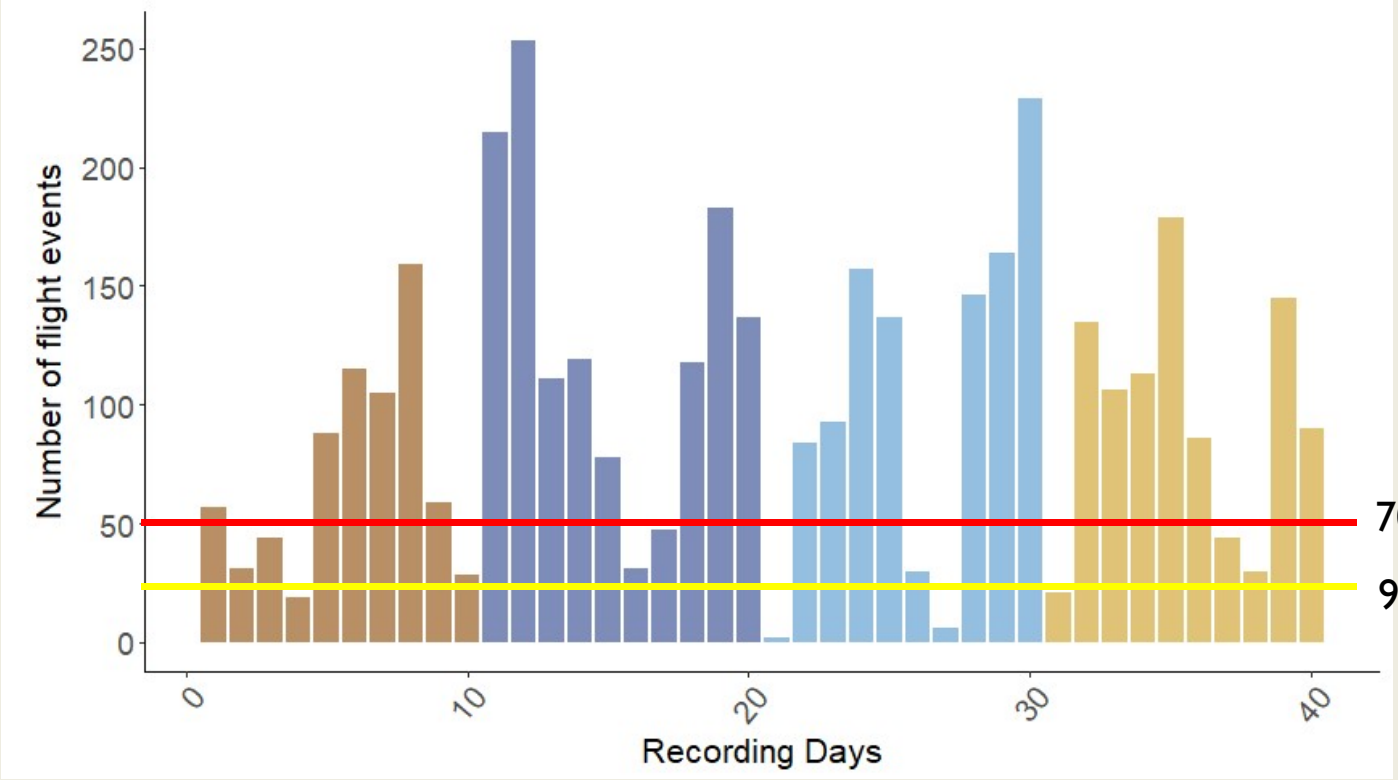


COMPARISON WITH FLIGHT NOTIFICATIONS

- 22 of 40 recording days overlap with published schedule, so expectation is to hear elevated military activity ≤55% of the recording days



RECORDED FLIGHT ACTIVITY



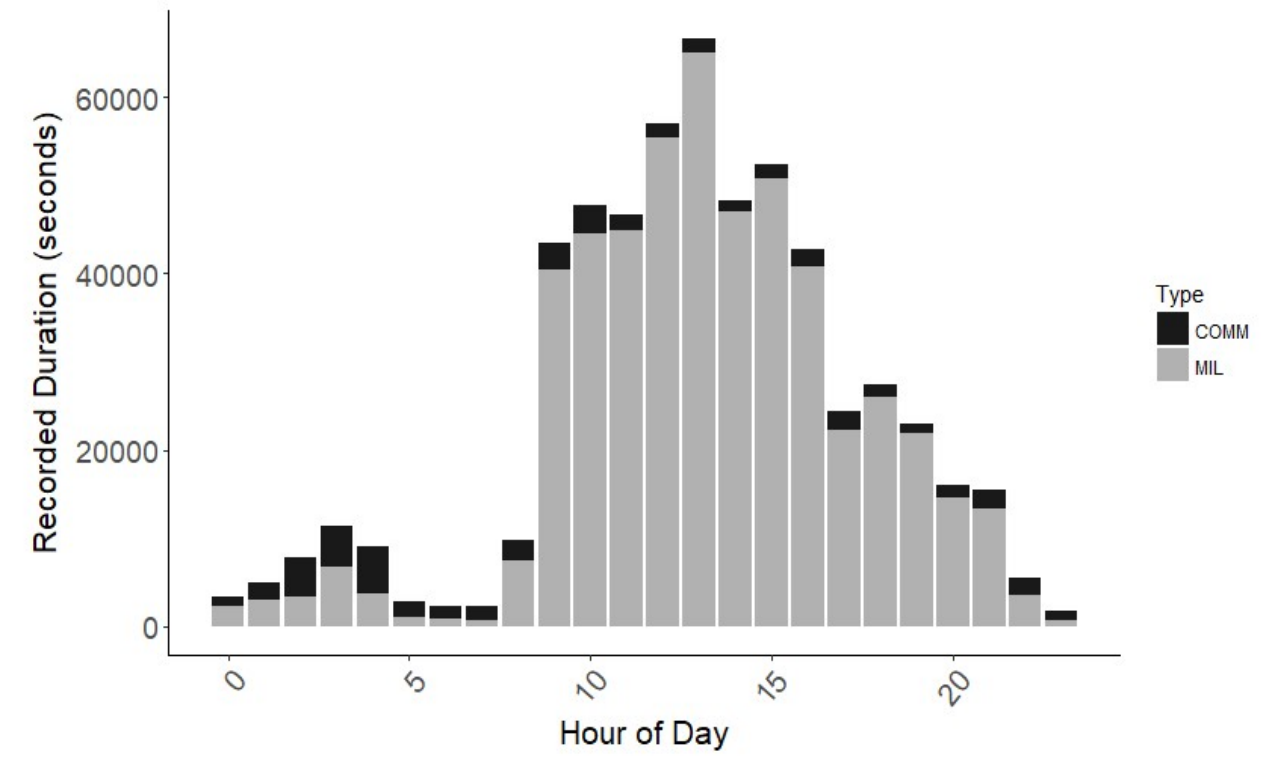
70% of days > 50 events

90% of days > 25 events

AIRCRAFT CONTRIBUTIONS/PATTERNS

Relative contributions:

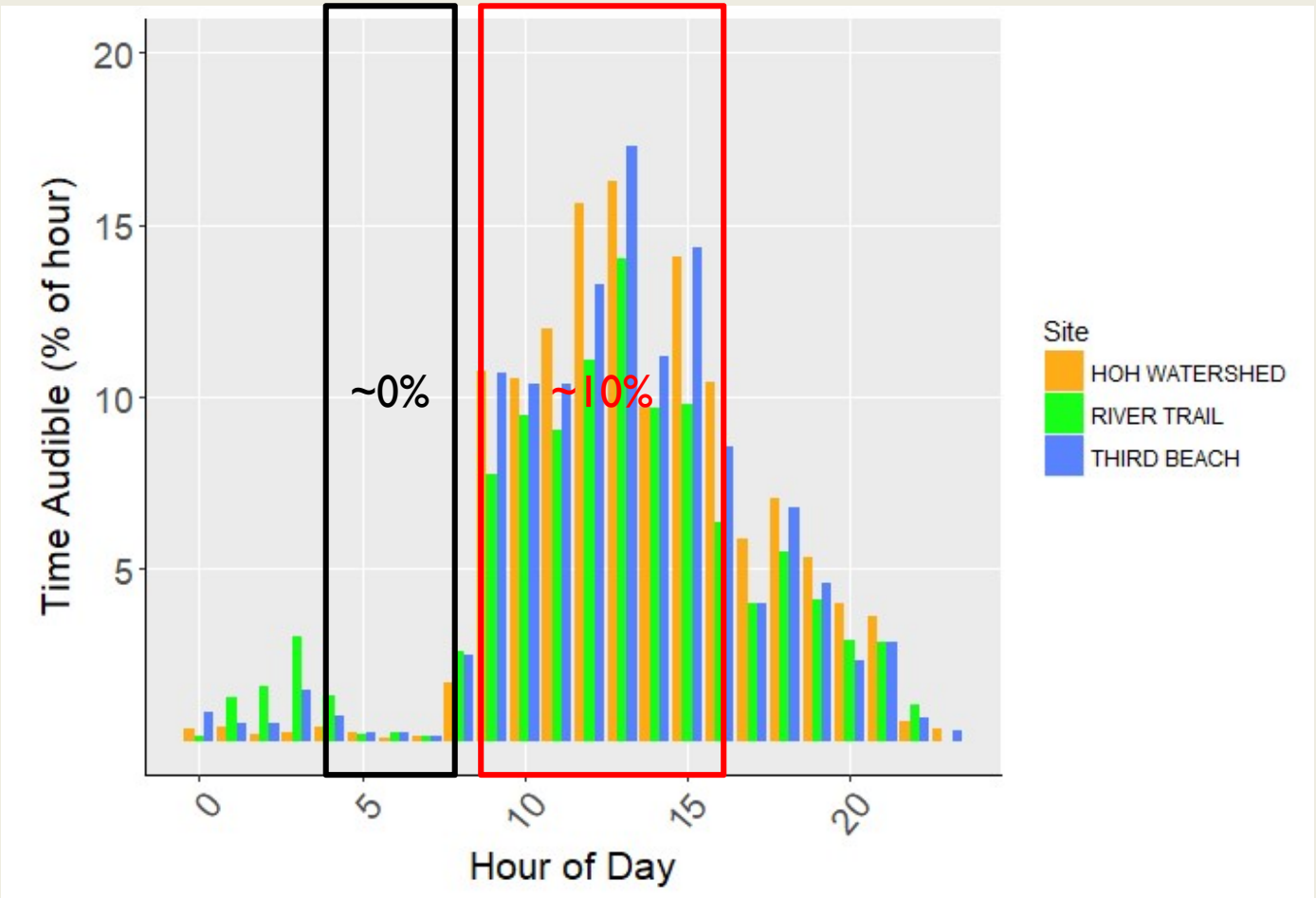
- Military 85%
- Commercial (8%)
- Prop (7%)



Daily and weekly patterns:

- 93% of military flights were recorded on weekdays
- 75% occurred between 9 am and 5 pm
- 5% were between 10 pm and 7 am

PERCENT TIME AUDIBLE



IMPLICATIONS

- We can distinguish source of flights from audio recordings, which makes monitoring changes over time feasible
- If it seems like there are a lot of flights, there really can be! (up to 85-90 "events" per location on the busiest days)
- Military aircraft are the large majority of audible aircraft, so a primary driver of the overall soundscape
- So, a 44% increase in fleet size at WINAS means…
  - More days/hours, different days/hours?
  - Longer periods of time?
  - Louder when it's present?

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- Introduction & Background
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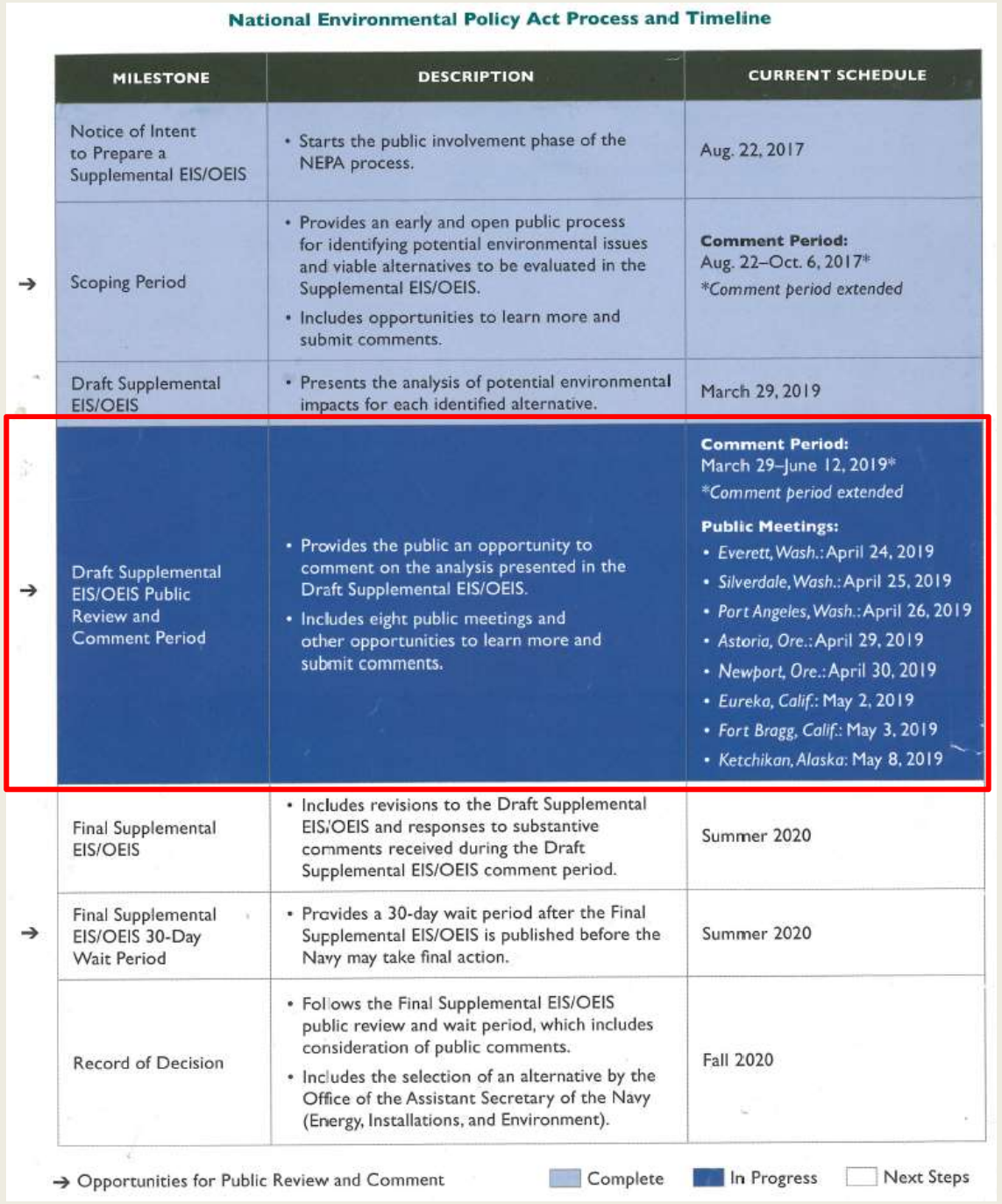
Policy or Regulating Agency	Jurisdiction	Limitations	Noise Criteria or Thresholds
Federal Aviation Administration (FAA)	National authority with powers to regulate all aspects of civil aviation	• Effects of noise on human health and species not well considered	55-65dBA DNL depending on flight path and if aircraft is operating at full power or partial power
National Park Service (NPS)	Preserve historical authenticity, habitat for wildlife, and tourist experience	• Do not control military or commercial traffic flying over Parks	55-65dBA DNL depending on flight path and if aircraft is operating at full power or partial power
Noise Control Act of 1972	Promote an environment for all Americans free from noise that jeopardizes health and welfare	• Only on human welfare • Noise Control merely on transportation vehicles and equipment	Highly variable based on time of day, type of noise, etc.
Endangered Species Act (ESA)	Conservation of threatened and endangered plants and animals and the habitats in which they are found	• Effects of aircraft noise on species usually not well studied or understood	Highly variable based on species of interest, time of day, type of noise, etc.

EIS/OEIS

https://www.nwtteis.com/



National Environmental Policy Act Process and Timeline

	MILESTONE	DESCRIPTION	CURRENT SCHEDULE
	Notice of Intent to Prepare a Supplemental EIS/OEIS	• Starts the public involvement phase of the NEPA process.	Aug. 22, 2017
→	Scoping Period	• Provides an early and open public process for identifying potential environmental issues and viable alternatives to be evaluated in the Supplemental EIS/OEIS. • Includes opportunities to learn more and submit comments.	**Comment Period:** Aug. 22–Oct. 6, 2017* **Comment period extended*
	Draft Supplemental EIS/OEIS	• Presents the analysis of potential environmental impacts for each identified alternative.	March 29, 2019
→	Draft Supplemental EIS/OEIS Public Review and Comment Period	• Provides the public an opportunity to comment on the analysis presented in the Draft Supplemental EIS/OEIS. • Includes eight public meetings and other opportunities to learn more and submit comments.	**Comment Period:** March 29–June 12, 2019* **Comment period extended* **Public Meetings:** • *Everett, Wash.*: April 24, 2019 • *Silverdale, Wash.*: April 25, 2019 • *Port Angeles, Wash.*: April 26, 2019 • *Astoria, Ore.*: April 29, 2019 • *Newport, Ore.*: April 30, 2019 • *Eureka, Calif.*: May 2, 2019 • *Fort Bragg, Calif.*: May 3, 2019 • *Ketchikan, Alaska*: May 8, 2019
	Final Supplemental EIS/OEIS	• Includes revisions to the Draft Supplemental EIS/OEIS and responses to substantive comments received during the Draft Supplemental EIS/OEIS comment period.	Summer 2020
→	Final Supplemental EIS/OEIS 30-Day Wait Period	• Provides a 30-day wait period after the Final Supplemental EIS/OEIS is published before the Navy may take final action.	Summer 2020
	Record of Decision	• Follows the Final Supplemental EIS/OEIS public review and wait period, which includes consideration of public comments. • Includes the selection of an alternative by the Office of the Assistant Secretary of the Navy (Energy, Installations, and Environment).	Fall 2020

→ Opportunities for Public Review and Comment Complete In Progress Next Steps

EIS/OEIS

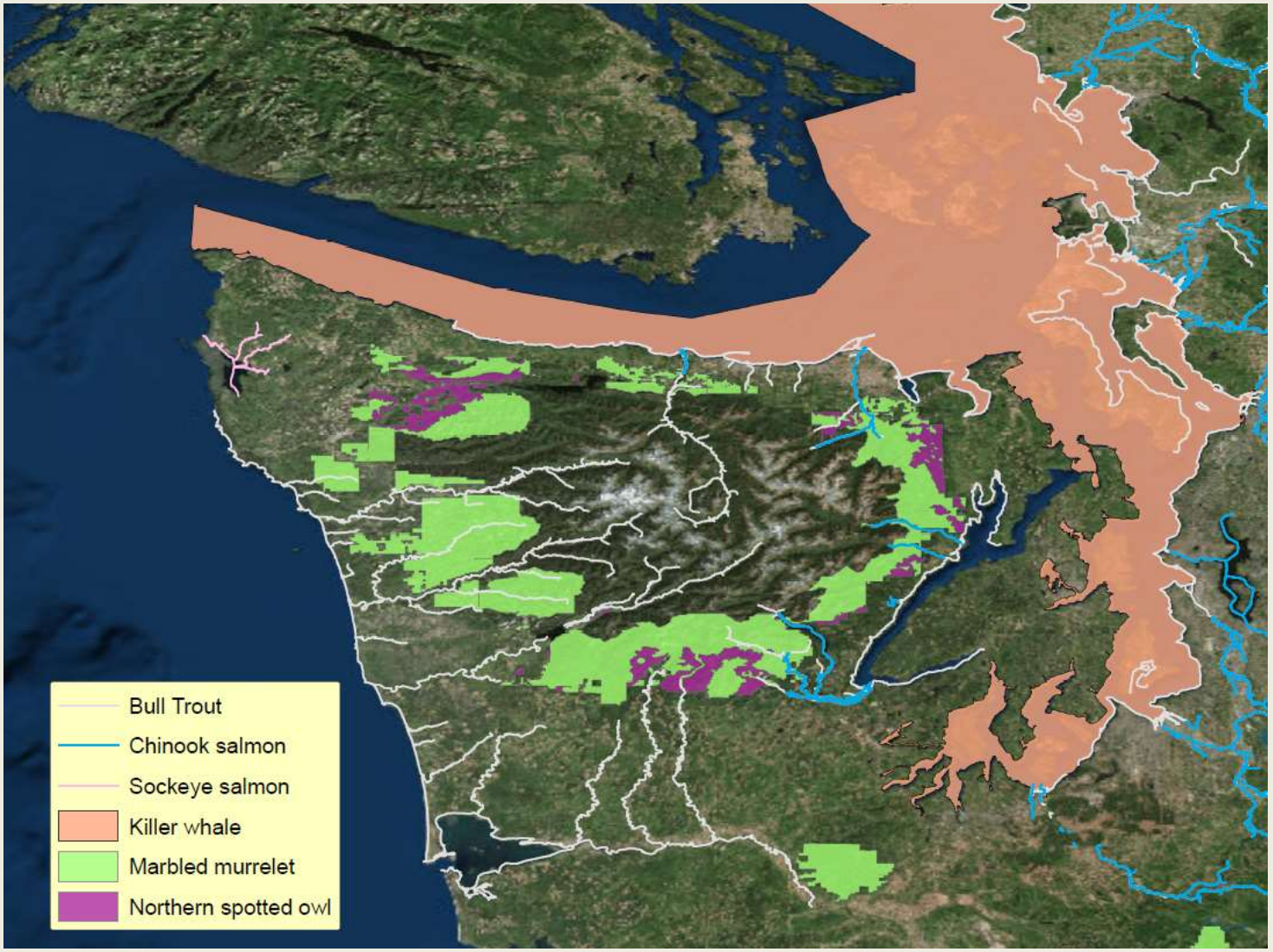
Appendix J: Airspace Noise Analysis for the Olympic Military Operations Areas

Table J-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:Ingress & Egress Routes[3]		Suppress Enemy Air Defenses[1]		Electronic Warfare Close Air Support[1]		Air to Air Counter Tactics[2]	
# Aircraft/Year	5048	0	1201	319	515	137	808	214
% Day (0700L-2159L)	94%	0%	99%	98%	99%	99%	96%	100%
% Night (2200L-0659L)	6%	0%	1%	2%	1%	1%	4%	0%
Avg Minutes in Airspace/Aircraft	NA	NA	90	90	90	90	60	60
Avg Power Setting in % NC	75	NA	80	80	82	82	89	89
Avg Speed (Knots indicated)	250	NA	265	265	298	298	342	342

Terrain Elevation (MSL)	Probability Distribution within the Combined MOA	Lmax (dBA)	Time at this Lmax (min) per EA-18G SEAD and EWCAS Mission Sortie (1)	Time at this Lmax (min) per EA-18G AACT Mission Sortie (2)	Time at this Lmax (min) per Year for all Combined Missions	
					Baseline	Proposed Action
0 –5	13.67%	81.5	0.246	0.262	558	634
5–500	45.15%	82.9	0.813	0.867	1847	2096
500–1,000	18.77%	84.4	0.338	0.360	767	871

ESA LISTED SPECIES



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ACKNOWLEDGMENTS

ONE SQUARE INCH

The Nature Conservancy

NATIONAL PARKS CONSERVATION ASSOCIATION

WASHINGTON STATE DEPARTMENT OF NATURAL RESOURCES

SAFS SCHOOL OF AQUATIC and FISHERY SCIENCES

INDIAN TRIBE

THE SUQUAMISH TRIBE

NATIONAL PARK SERVICE