



Seattle-Tacoma  
International  
Airport

# Vashon Noise Monitoring

## Recap

Vashon Maury Island Community Council

January 19, 2023



# Noise Monitor Background Notes

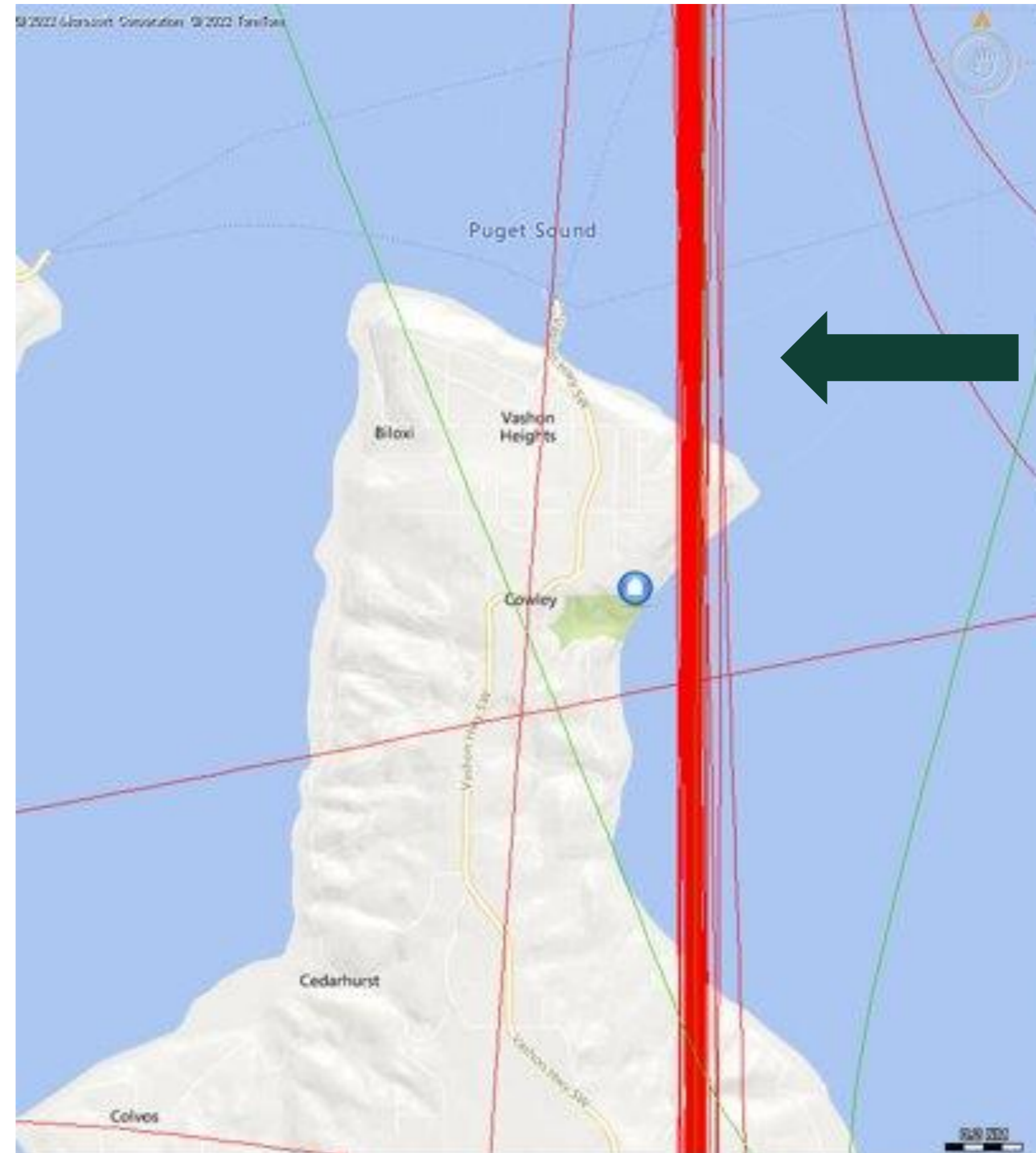
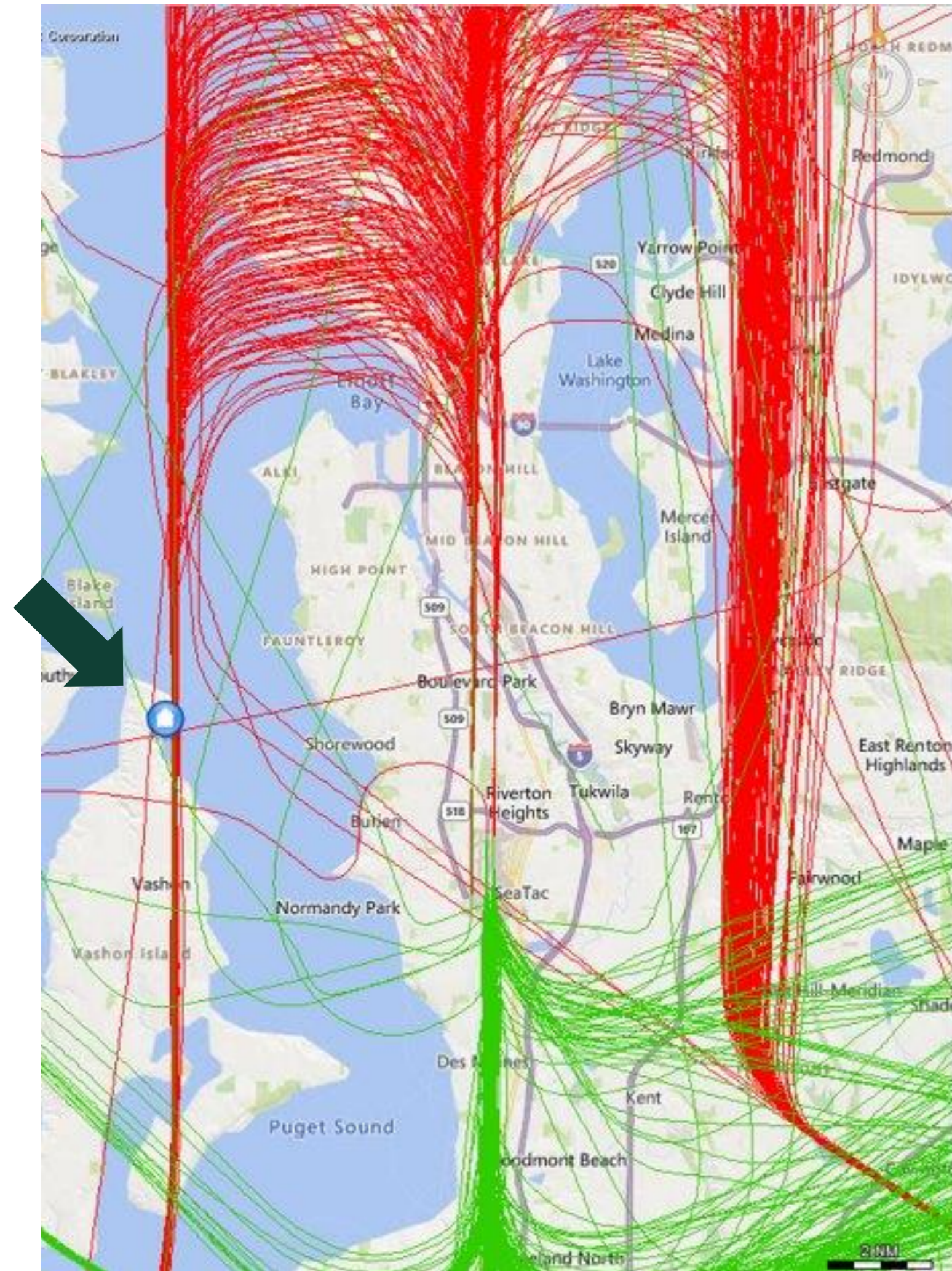
- Decision from Port Commission to place a monitor on Vashon for a 12-month duration
- VMICC consulted for possible locations
- North-end of island under south-flow arrivals path was desired location
- Monitor was placed on private property with the owner's agreement
- Location offered good access, electrical power and relative safety

*Noise monitor data is provided for community information purposes only*



# Monitor Placement

SEA operated in south-flow 72% during the monitoring period



South-flow downwind flight path

Approximately 200 arriving SEA aircraft per day in a south to north direction



# Monitor Placement

Cage provided by David Goebel



Monitor, modem & batteries in hard-shell case, cables, tripod with microphone on top





# Monitoring Period

- Monitor was installed at location February 10, 2021
- Period of testing and adjustment to improve number of aircraft-to-noise correlations
- Official monitoring period began March 4, 2021
- Monitor was removed from location on April 27, 2022
- Data for 13-month duration is available on the Port's website
- Monitoring Report covers the March 4, 2021 to March 4, 2022 period

# Vashon Noise Monitoring Data Overview

SEA noise monitoring provides two standard noise metrics: **SEL** and **LEQ**

- **SEL** – a single event metric that represents the duration and magnitude of a single aircraft overflight condensed to a one second value
- **LEQ** – a metric that determines the average sound over a specified period of time; most often conveyed in separate noise categories: community, aircraft, and total

*DNL is an annual average of aircraft noise with nighttime noise given a 10 dB penalty*

# Vashon Noise Monitoring Data Overview

## SEL Noise Metric

- Total SEL events at monitor ranged from 3,500 to 6,000 noise events per month
- All Vashon SEL data is available on the Port's Noise Programs webpage

*Sampling of total events & the arithmetic average of SEL noise events:*

April 2021 – 4766 events / 66 dB average SEL

July 2021 – 3898 events / 66 dB average SEL

October 2021 – 5741 events / 67 dB average SEL

January 2022 – 5580 events / 66 dB average SEL

*Single event noise levels are not equivalent to average aircraft noise metrics*

# Vashon Noise Monitoring Data Overview

## LEQ Noise Metric

- Daily LEQ is included in the final report and the Port's Noise Programs webpage
- Average daily LEQ levels for the entire duration of the monitoring:
  - Community – 46 dB
  - Aircraft – 41 dB
  - Total LEQ - 47 dB
- Additional analysis indicated a calculated DNL of 46 dB at the monitoring site



# Thank You!



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