



# **AVIAN KNOWLEDGE NETWORK Observations Reported to eBird.com at Naval Base Kitsap Bangor**

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*29 August 2023*

*Any views expressed are Dr. Senner's personal views and not necessarily those of the Department of Defense, Navy, or Federal Government.*

# How it began....



- **Principal Investigators (*aka lunch break office escapees*)**
  - *Douglas P. Lister (best birder)*
  - *Jason D. McKinney (friendliest birder)*
  - *Robert G. G. Senner (most insecure birder)*
- **First lunchtime foray and first eBird checklist: 17 Oct 2016**
- **Hotspots established:**
  - *NBK Bangor Upper: Forested upland*
  - *NBK Bangor Lower: Hood Canal shoreline and Cattail Creek/Estuary*
  - *Trident Lakes: Family recreation area with two ponds and diverse successional stages*

# Observations at Hotspots



- ***NBK Bangor Upper Hotspot: 17 Oct 2016 – 18 May 2023***
    - **123 species**
    - **391 checklists**
  - ***NBK Bangor Lower Hotspot: 28 Oct 2016 – 22 Sep 2022***
    - **92 species**
    - **36 checklists**
  - ***Trident Lakes Hotspot: 27 Jun 2010\* – 3 Oct 2016 – 19 Aug 2023***
    - **83 species**
    - **43 checklists**
- \* Single checklist, hotspot established

# Species Examples from Hotspots



- **NBK Bangor Upper Hotspot**

- Frequent Examples**

- *Dark-eyed Junco*
    - *American Robin*
    - *Black-capped Chickadee*
    - *American Crow*
    - *White-crowned Sparrow*

- Uncommon Examples**

- *Cassin's Vireo*
    - *Northern Pygmy-Owl*
    - *Vaux's Swift*
    - *Western Wood-Pewee*
    - *Hammond's Flycatcher*

- **NBK Bangor Lower Hotspot**

- Frequent Examples**

- *Canada Goose*
    - *Bufflehead*
    - *Common Merganser*
    - *Surf Scoter*
    - *Glaucous-winged Gull*

- Uncommon Examples**

- *Warbling Vireo*
    - *Willow Flycatcher*
    - *Western Tanager*
    - *Cliff Swallow*
    - *Black Scoter*

- **Trident Lakes Hotspot**

- Frequent Examples**

- *Pied-billed Grebe (nesting)*
    - *Ring-necked Duck*
    - *Belted Kingfisher*
    - *Bushtit*
    - *Barn Swallow*

- Uncommon Examples**

- *Red Crossbill*
    - *Sharp-shinned Hawk*
    - *Townsend's Warbler*
    - *MacGillivray's Warbler*
    - *Evening Grosbeak*

# Avian Data in INRMPs



- **Integrated Natural Resources Management Plans INRMPs)**
  - **Required by the Sikes Act Improvement Act of 1997 (“Sikes Act,” 16 U.S.C. 670 et seq.)**
  - **Prepared and implemented by the installation Natural Resources Managers**
  - **Collaborative effort with the statutory partner agencies (USFWS, state fish & wildlife agency, NMFS if marine species/habitats involved)**
  - **Metrics prepared and submitted to Sikes Act partner agencies and Navy chain of command annually**
  - **Reviewed for operation and effect at least every 5 years**
  - **Installations with INRMPs periodically conduct avian surveys**
  - **INRMP contents include marine and upland avian survey results and data from the peer-reviewed literature, including ESA-listed species**

# Northwest Natural Resources Program

4 Major Installations

16 Reporting Units

12 INRMPs

6 Natural Resources Managers

Missions Supported

MILCON, NAVAIR, NAVSEA,  
NAVSUP, NUWC, Range  
Operations, SIOP, SWFPAC, and  
Pacific Fleet

66,325 Total Ecosystem Acres\*

Terrestrial: 64,912 acres\*

Nearshore: 1,413 acres\*

22 Federally Listed Species

\*Estimated acreage obtained from Navy Conservation website



# Navy Region Northwest Installations with INRMPs



- **NAS Whidbey Island**
  - NAS Whidbey Island \*
  - NWSTF Boardman
- **NAVMAG Indian Island**
  - NAVMAG Indian Island \*
- **NAVSTA Everett**
  - NAVSTA Everett \*
  - NAVRADSTA Jim Creek
  - Pacific Beach \*
  - ARD Bayview, ID
  - NRTF LaMoure, ND
- **NAVBASE Kitsap**
  - NAVBASE Kitsap Bangor \*
  - NAVBASE Kitsap Bremerton \*
  - NUWC Keyport \*
  - Jackson Park & Naval Hospital
  - Bremerton RR
  - Manchester Fuel Department \*
  - Southeast Alaska Acoustic Measurement Facility \*
- **NAVFAC Northwest**
  - Northern Alaska Sites \*\*

\* **Marbled Murrelet**

\*\* **Spectacled Eider, Steller's Eider**

# ***AKN as Data Aggregator and Organizer***



**NAVFAC Northwest's next step is to collate and analyze avian survey data that has been collected using different media at its installations**

- **Update older data sets**
- **Detect trends in species diversity and geographic distribution**
- **Anticipate and plan for climate-related changes in ESA listings and critical habitat**
- **Coordinate with agency and Tribal data management**
- **Look for potential avian correlations with climate change**
  - **Changes in prevailing and recurring weather patterns**
  - **Changes in vegetation covertypes and habitat characteristics**
  - **Changes in watershed features correlated with precipitation effects**
- **Develop predictive models to inform species and habitat management**
- **Integrate wildland fire management goals and habitat management goals**
- **Inform outreach to stakeholders and educational forums**



*Questions?*



*Thank you!*