

Hawaii Island Seabirds 2021

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Natural Area Reserve System, DOFAW



Listed Species of Concern

‘Ua‘u

Hawaiian Petrel

Pterodroma sandwichensis



Pop: 7,500-16,600

Endangered

Decreasing

‘A‘o

Newell’s Shearwater

Puffinus newelli



Pop: 10,000-20,000

Critically Endangered

Decreasing

‘Akē‘akē

Band-rumped Storm-Petrel

Oceanodroma castro



Pop: 500

Endangered

Decreasing

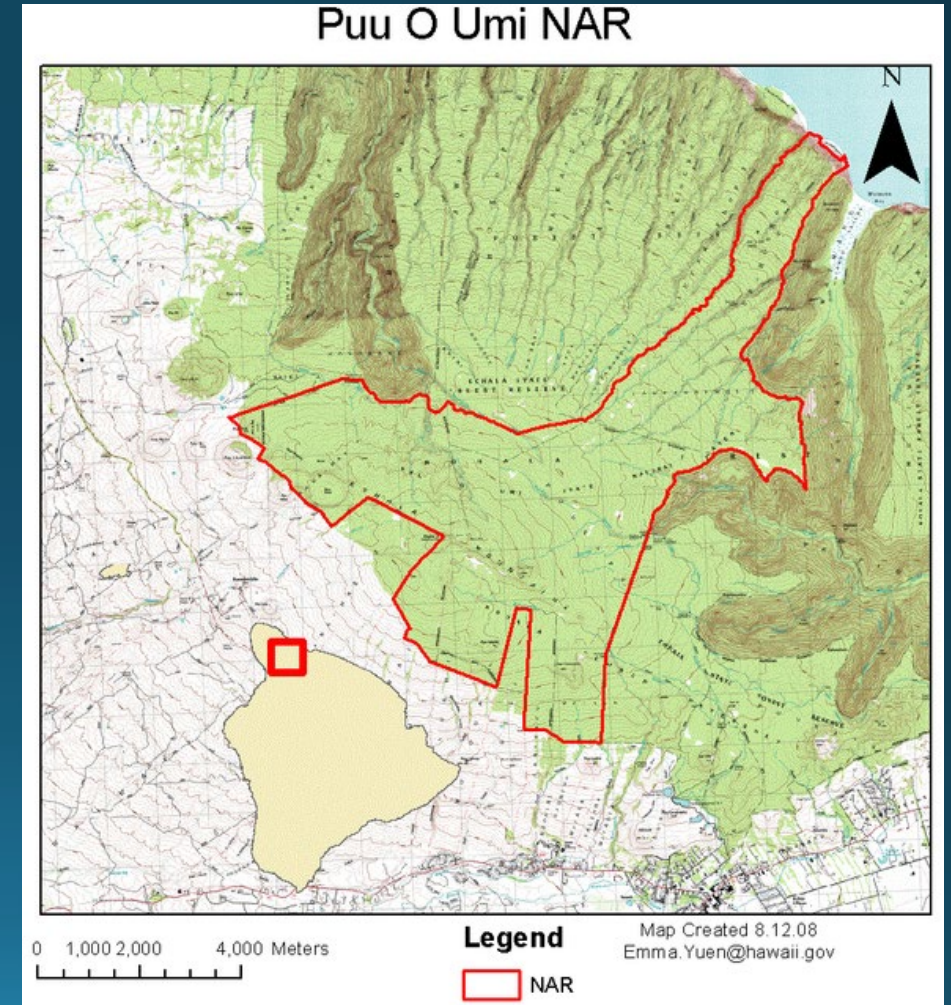
- Pu'u O 'Umi Natural Area Reserve

- Mauna Loa Forest Reserve



Pu'u O 'Umi Natural Area Reserve

- ❖ 10,142 acres
- ❖ Established 1987
- ❖ Lahomene Unit
- ❖ Fenced 2015
- ❖ Ungulate-free 2017



Background

- ❖ Birds first detected in Kohala by NARS crew while fencing Lahomene unit
- ❖ Determined presence of HAPE and NESH
- ❖ Ran reflective tape through top of fence



Goals

- ❖ Locating seabird colonies is critical to future management
 - ❖ Implement predator control
 - ❖ Assess feasibility of a predator proof fence



Modeling Shows

Without Predator Control

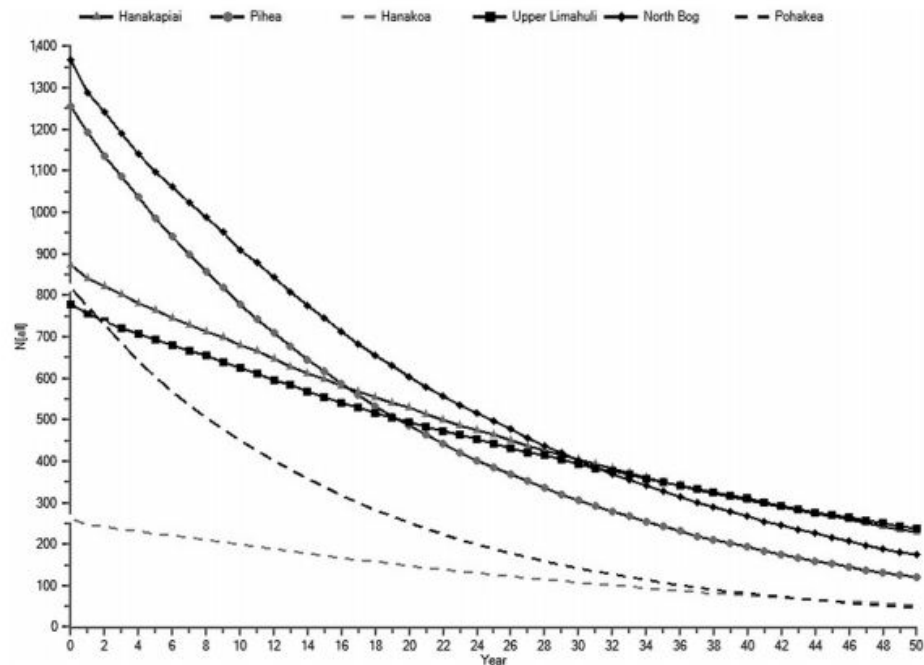
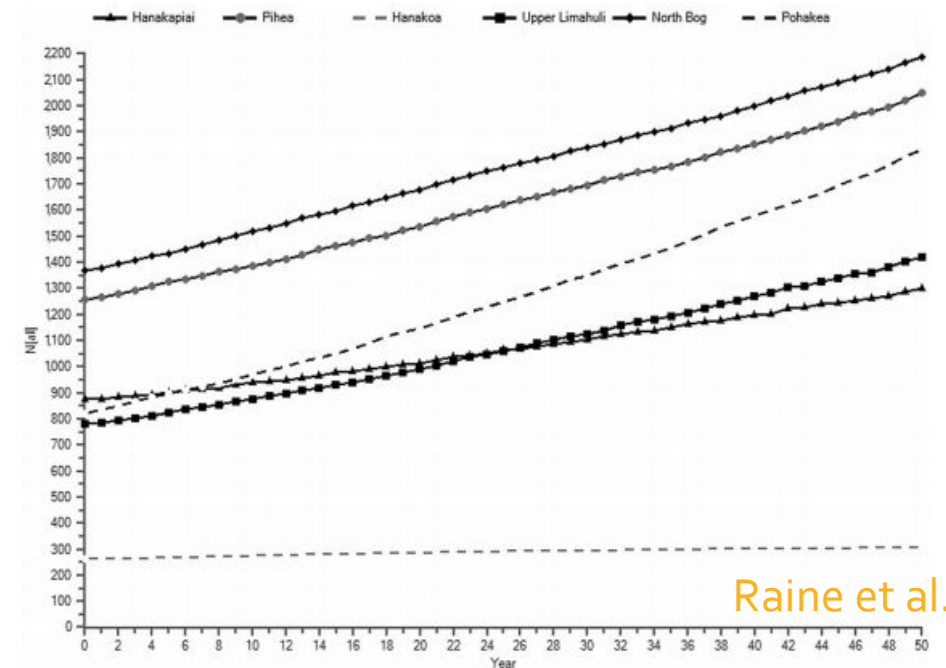


Figure 4. Population growth rates (N[all]; Newell's shearwater and Hawaiian petrel combined) as projected by the program Vortex at all colonies on Kaua'i, Hawaii, USA, if no predator control was undertaken (i.e., based on predation rates the first year predator control began). Models should be viewed as the response of the colonies to predators only.

With Predator Control



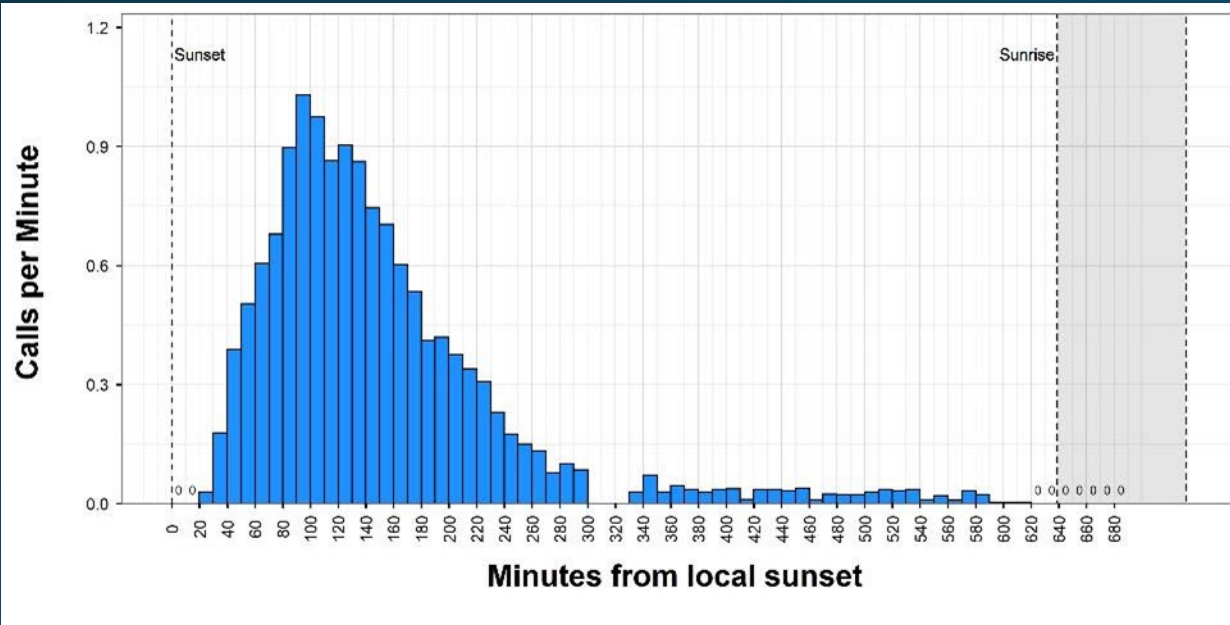
Raine et al. 2020

Figure 5. Population growth rates (N[all]; Newell's shearwater and Hawaiian petrel combined) as projected by the program Vortex at all colonies on Kaua'i, Hawaii, USA, if predator control continued at the existing 2017 level. Models should be viewed as the response of the colonies to predator control only.

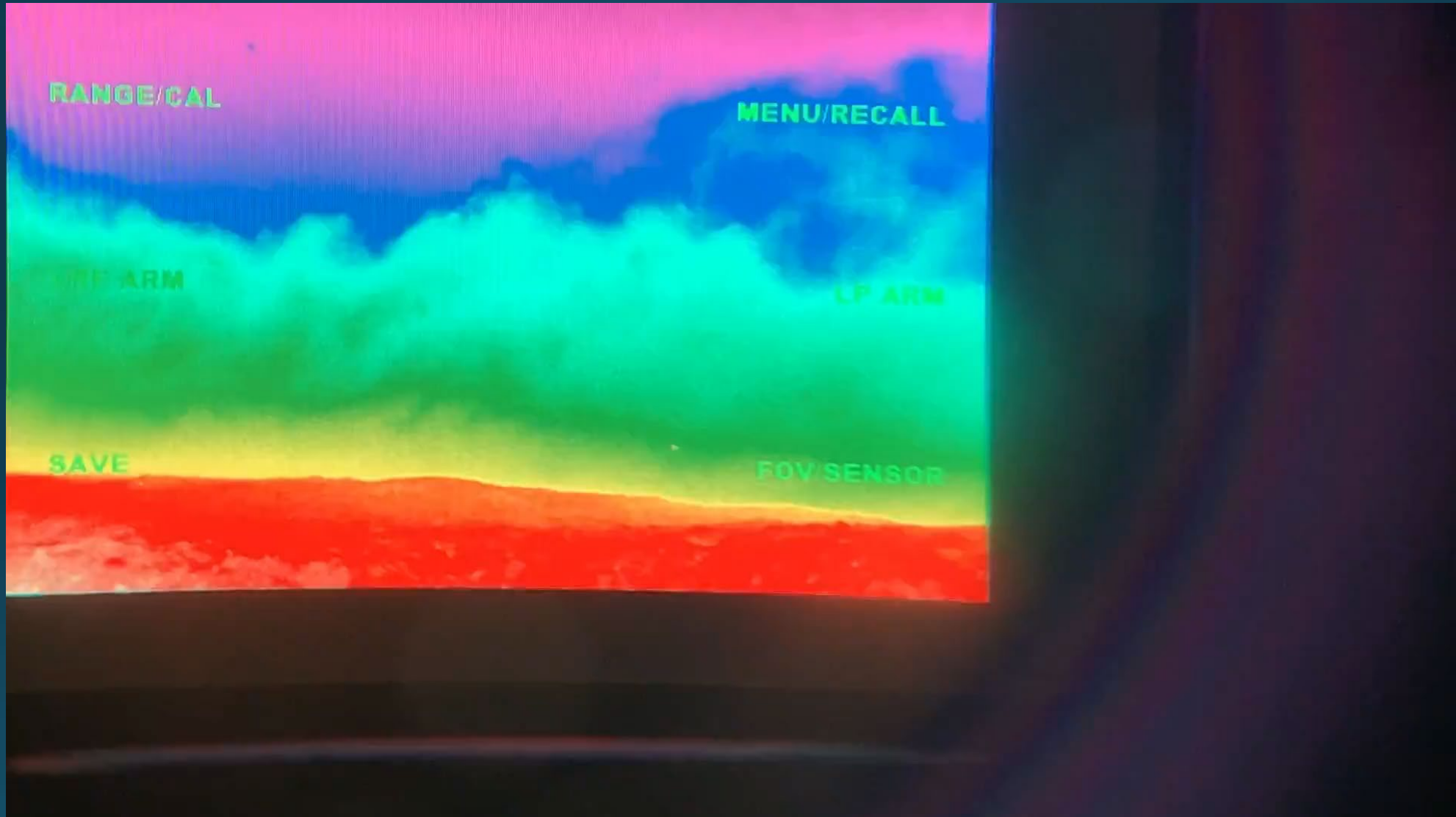


Song Meters

- ❖ Remote recording device
- ❖ Analyzed for species and call rate



Nocturnal Surveys: 'Ua'u at night



2018

- Search for the breeding grounds continues
- Satellite tagged First 'Ua'u (2)



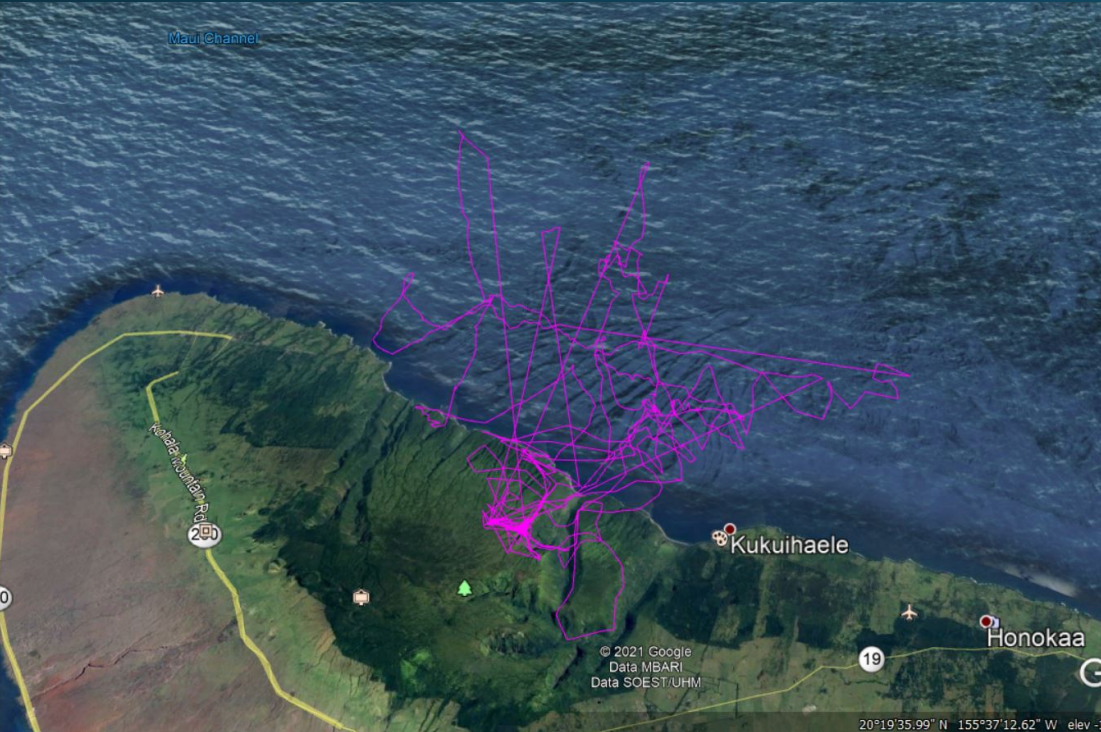


2018





'Ua'u Tracking Data



2019



Ground Searching still unsuccessful

- ❖ Tagged 4 birds this time
- ❖ Led to one burrow!



Success



2020

- ❖ Increased Predator Control
- ❖ Monitoring of 'Ua'u burrow
- ❖ Expanded Song Meter effort in Mauna Loa
 - ❖ Led to finding 2 burrows!



Mauna Loa Forest Reserve



- ❖ 54,820 acres
- ❖ Largely open lava fields



2021

Research

- ❖ Find BANP burrow next
- ❖ Use of dogs for finding by scent
- ❖ Use of song meters for monitoring interannual change



Management

- ❖ Predator Control
- ❖ Predator Proof Fencing?



Conclusion

- ❖ Found colonies of 'ua'u on Kohala and Mauna Loa
- ❖ Hope to find more and of other species
- ❖ Manage all to increase populations

Acknowledgments

