

The feasibility of using scent detection dogs to locate bat hibernacula



Tory Rhoads^{1*}, Karen Blejwas¹, Collette Yee², Heath Smith²

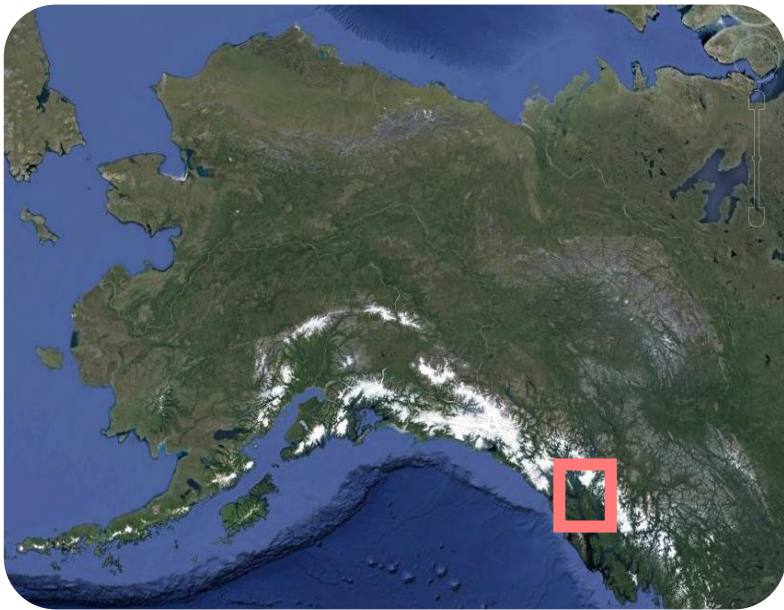
¹ Alaska Department of Fish & Game, Juneau, AK, USA;

² Rogue Detection Teams, Rice, WA, USA



Radio telemetry is often costly, inconclusive, labor intensive, and is challenging in rugged landscapes

Western bat researchers need a reliable, non-invasive alternative to radio telemetry to locate hibernacula



Temperate coastal
rainforest

2 ridges with 10
known
hibernacula sites



Approach

Contracted with Rogue Detection Teams for a dog-handler team

Conducted local dog training using guano, fur, dead bats, live bats, “bat rocks”, and a “hot-spot”

Surveyed from 22 July - 21 August 2019



Surveyed outcrops on both hibernacula ridges

Deployed detectors and game cameras to verify subsequent bat activity

Re-deployed equipment in late summer to confirm hibernation

**Documented 5 new
hibernacula**



MOULTRIE

17°C

MOULTRIE19

05 AUG 2019 02:22 pm







10 August 2019



MOULTRIE 24

11 AUG 2019 03:12 am



Hibernation

17 Sep 2020, 03:07

Future Directions

Replicate method with new dog; test whether it is possible to train a dog without a “hot spot”

Future Directions

Replicate method with new dog; test whether it is possible to train a dog without a “hot spot”

Apply method in locations where bats are not already known to hibernate, where previous data indicate bats may be overwintering

Early April Little Brown Myotis Calls (all years)

- ▲ Late April
- October
- ▲ Early April
- psg3
- psg5



Sources: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Echo Mobile Acoustic Survey Route Juneau, Alaska

- Species ● Spring ● Autumn
- ▲ Myotis californicus
- ✚ Myotis lucifugus



Sources: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Thank You

Jack

Jes Reimer

Alex Hughes

Shelby Surdyk

Bonnie Bennetsen

Jeff Jemison

Stephanie Sell

Annika Ord



Funding for this project was provided by the US Fish and Wildlife Service State Wildlife Grant (SWG-T-33-2020/2021/2022), as well as two White-Nose Syndrome Grants to States and Tribes (2019/2020).

