

Talus Surveys 2017



Alexis McEwan, Montana Natural Heritage Program, Helena

Presentation for the Western Chapter of the Bat Working Group

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Butte Montana

Bats of Montana



Pallid Bat
(*Antrozous pallidus*)



Townsend's Big-eared Bat
(*Corynorhinus townsendii*)



Big Brown Bat
(*Eptesicus fuscus*)



Spotted Bat
(*Euderma maculatum*)



Silver-haired Bat
(*Lasionycteris noctivagans*)



Eastern Red Bat
(*Lasiurus borealis*)



Hoary Bat
(*Lasiurus cinereus*)



California Myotis
(*Myotis californicus*)



Western Small-footed Myotis
(*Myotis ciliolabrum*)



Long-eared Myotis
(*Myotis evotis*)



Little Brown Myotis
(*Myotis lucifugus*)



Northern Myotis
(*Myotis septentrionalis*)



Fringed Myotis
(*Myotis thysanodes*)



Long-legged Myotis
(*Myotis volans*)



Yuma Myotis
(*Myotis yumanensis*)

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discover, preserve, protect



MONTANA
Natural Heritage
Program

For more information on all of Montana's native species visit the Montana Field Guide
<http://fieldguide.mt.gov>



Michael Durham/Hidden Pictures/Bat Conservation International



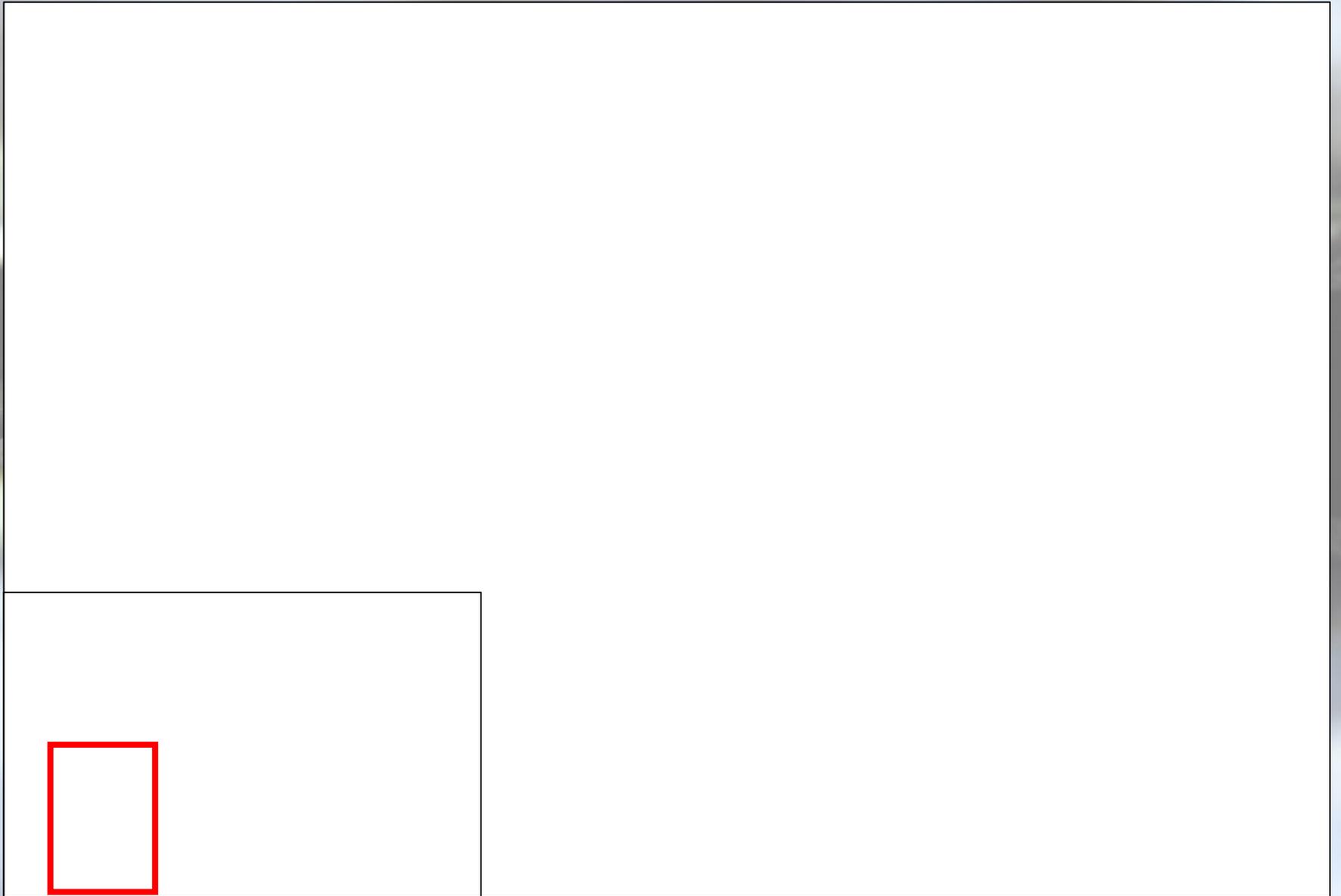
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STUDY AREA



Methods of Detections



Acoustic detector

14 slopes with detectors
Averaging 4 nights and
36hrs of recordings



Visual Encounter Surveys

23 talus slopes surveyed
South/West facing slopes
dominant substrate
boulders (>30cm diameter)



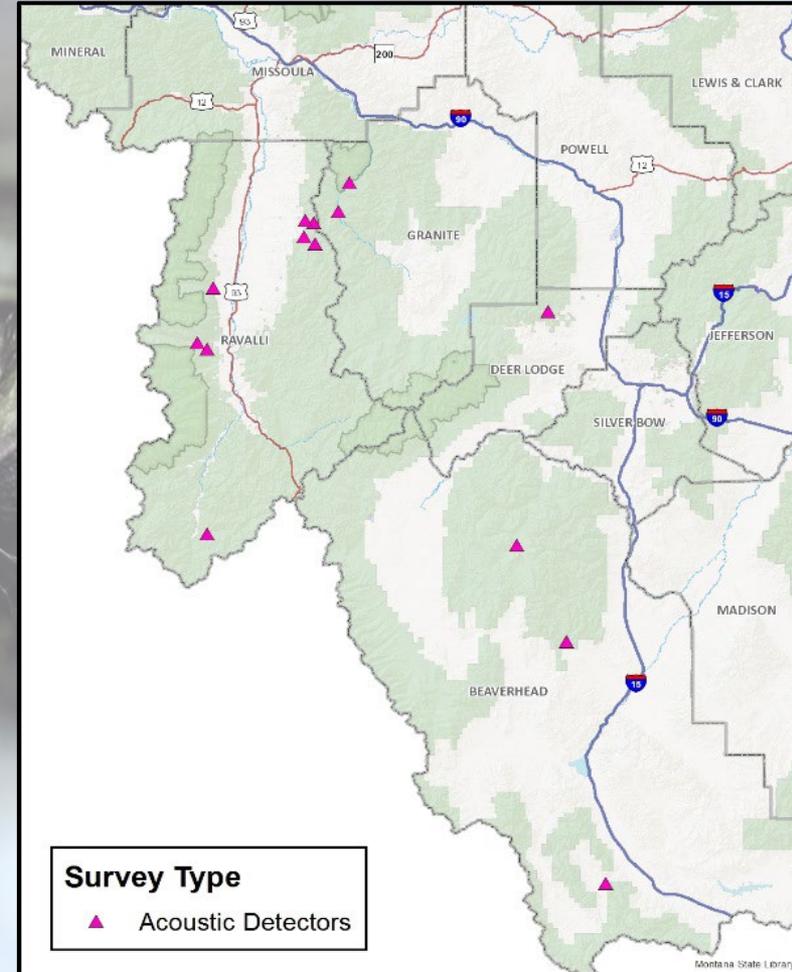
Mist Net Surveys

22 nights of surveys
Potential flyways from talus
½ hour prior to sunset to
midnight

RESULTS

ACOUSTIC DETECTORS

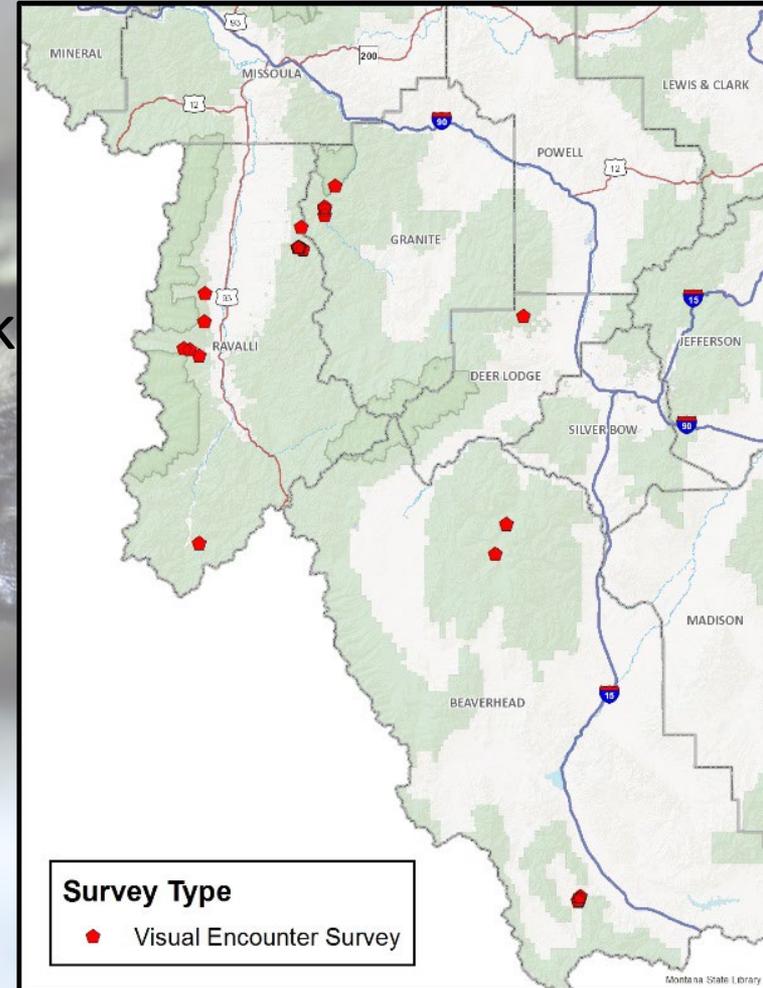
- Total call volume 5,011
- Top 3 sites for call volume
 - Lost Horse Creek #2 29%
 - Blodgett Creek CG 24.6%
 - Bitterroot Flats CG 9.8%
- Common species auto-identified
 - Silver-haired Bat
 - Long-eared Myotis
 - Hoary Bat
- Top sites with species diversity:
 1. Lost Horse Creek 2 (9)
 2. Blodgett Creek CG (8)
 3. Lost Horse Creek 1, Big Sheep Creek & Bitterroot Flats CG (5)



RESULTS

VISUAL ENCOUNTER SURVEYS

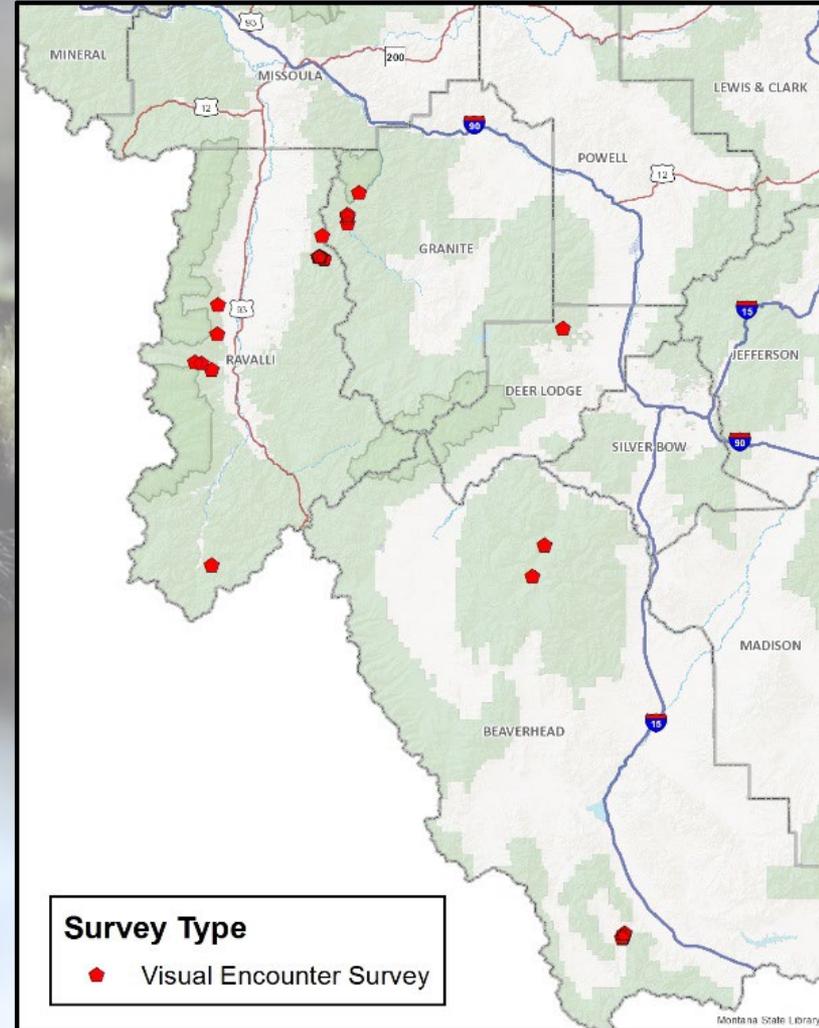
- 10 bats discovered
 - Long-eared/Fringed Myotis (7)
 - Western Small-footed/California Myotis (3)
 - cracks 1-3cm under rock <20cm thick
- Guano at 35 locations
 - Myotis spp.
 - 40% in fractures (0.5-5cm)
 - 54% fragments/rocks (1-8cm)
 - 1 sample under large overhang
- Top Sites
 - Lost Horse Creek 2 (8 guano/4 bats)
 - Big Point (6 guano/2 bats)
 - Lost Horse Creek 1 (5 guano)



RESULTS

MIST NET

- 36 individuals
 - Yuma/Little Brown Myotis (13)
 - Silver-haired Bat (6)
 - Long-eared Myotis (5)
- All adults
 - 75% male
 - 11% female
 - 14% unknown
- Top Sites
 - Lost Horse Creek 2 (13)
 - Lost Horse Creek 4 (8)
 - Hughes Creek (4)
 - Burnt Fork Bitterroot River CG (3)



OVER WINTER TEMPERATURE LOGGERS

- We deployed 6 stations
 - Rock Creek
 - Burnt Fork of Bitterroot River
 - Lost Horse Creek
- Collect temperature and relative humidity every 30 minutes
- HOBOs were placed ~1 m into talus



CONCLUSION

- Bats are using talus slopes in western Montana
- Demonstrates that baseline indices in areas without caves requires variety of methods
- Quantifying effects of WNS will require surveys not only for cave and mine settings
- Determine if these features are used for hibernation and if possible colonial or solitary
- Elevation or proximity to the Valleys a preference by bats?



Long-eared/Fringed Myotis found during Rock Creek talus survey