

IDENTIFICATION OF ALTERNATE BAT HIBERNACULA OUTSIDE OF CAVES AND MINES IN EASTERN MONTANA

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Pseudogymnoascus destructans, the fungus responsible for White-nose Syndrome (WNS) and millions of bat deaths in North America, was recently detected in Wyoming and South Dakota near the eastern Montana border. Given the nature of the fungus to thrive in cold and humid environments, bats are most vulnerable to infection in their winter hibernacula. Outside of caves and mines, we have limited knowledge of bat hibernacula in Montana. However, from long-term statewide acoustic monitoring stations we know that some bats are wintering in locations where cave and mine features are limited. In anticipation of WNS and its potential impacts, we were interested in identifying hibernacula and associated characteristics. In October 2018, we attempted to capture and transmitter bats to identify alternate roosts in eastern Montana. We targeted 4 sites, captured 12 bats, placed transmitters on 10, and successfully identified 9 different roost sites. We will characterize microsite (i.e. temperature, humidity, etc.) and macrosite (i.e. roost structure, nearby water, etc.) features of each roost and assess bat use through winter by placing acoustic detectors near roost sites. Although our results are limited, this is the first documentation of alternate winter hibernacula in eastern Montana. Information on specific hibernacula and associated habitats will help inform bat conservation activities. Additionally, findings will assist in site selection for future WNS surveillance efforts and continued efforts will facilitate future exploration of how hibernacula type influences WNS spread and impacts.