Overview of Roosting Habitat and Home Range / Foraging Distance Documented for Montana Bats

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The table, figures, and images below summarize and provide examples of what is known about winter, maternity, and day/night roost habitat use for Montana bat species in the state and/or elsewhere across their ranges. Protection of these cave, mine, cliff, rock outcrop, ground crevice, large tree, bridge, and building habitats with cracks and crevices ranging from $\frac{1}{3}$ to 1 inch in width and associated temperature and humidity regimes, is essential for protection and conservation of Montana's bats. Artificial bat roosts that provide summer maternity, night, and day roosts, can be deployed to serve as a surrogate for large diameter tree and other roosts that have been lost and/or to encourage roosting away from buildings where bats would be in close proximity to sleeping humans. Artificial winter roost habitat is not a viable management option at the present time.

Species / Comments	Winter Roost	Summer Maternity Roost	Summer Day/Night Roost	Home Range/Foraging Distance
Pallid Bat (<i>Antrozous pallidus</i>) Low roost site fidelity with 90% of inter-night movements of 50-600 meters. ³ Highly social, often using day and night roosts in groups of 20 or more guided by social vocalizations and odors. ^{2, 4} Yearling females typically give birth to a single pup, but older females typically give birth to 2 pups. ^{4, 43}	Not documented in Montana, but likely occurs in deep rock crevices if the species is present. ^{1, 4}	Not documented in Montana. Elsewhere in vertical and horizontal rock crevices, under rock slabs, in buildings, and on taller and larger diameter live trees and tree snags with loose bark in mature stands with southerly aspects and lower percentages of overstory. ^{4, 37, 38, 41, 42, 44}	Under rock slabs, in horizontal and vertical rock crevices, and on farm equipment in Montana. ¹ Elsewhere occasionally on buildings, bridges, caves, mines, vertical and horizontal rock crevices that are typically on east or southeast aspects, and taller and larger diameter live trees and tree snags with loose bark in mature stands with southerly aspects and lower percentages of overstory. ^{2, 4, 21, 22, 23, 30, 37, 38, 39, 40, 41, 44}	Lactating females moved an average of 2,450 meters +/- 845 from roost to foraging areas and had an average foraging area size of 1.56 square km +/- 0.88 SE. Post-lactating females moved an average of 210 meters from roost to foraging areas and had an average foraging area size of 5.97 square km +/- 2.69 SE in northern California. ³⁷ Individuals commuted 1 to 4 km between day roosting and foraging areas, 0.5 to 1.5 km between day roosts and night roosts, and switched day roosts often, usually moving <200 meters between roosts (range 25 to 3,660 meters) in eastern Oregon. ^{38, 39} Individuals typically commuted 1-2 km from day roosts to foraging areas, but one male often used different day roosts separated by 10 km in California. ⁴²
Townsend's Big-eared Bat (<i>Corynorhinus townsendii</i>) High fidelity to maternity and hibernacula roosts, lower interseasonal roost site fidelity, and travel up to 24 km from hibernacula to summer foraging areas. ⁷³ Forage and commute adjacent to vegetation. ⁷²	Twilight areas of caves, mines, and unused tunnels in Montana. ^{1, 31, 32, 75, 84} Limestone or lava tube caves and mines are known to be used elsewhere with arousal and movement within or between sites, possibly responding to changing temperature. ^{5, 73, 74, 82}	Caves and mines, often in twilight areas in Montana. ^{1, 75} Reported in caves, mines, buildings, and basal tree hollows elsewhere. ^{2, 5, 72, 73, 81, 82, 83} Females prefer cooler maternity roosts than other vespertilionid bat species. ²	In Montana, usually in caves and mines, often in twilight areas, but more rarely building attics, root cellars, and pocket/daylight caves. ^{1, 21, 31, 32, 75} Reported in caves, mines, buildings and large diameter basal tree hollows elsewhere. ^{2, 5, 72, 81, 82, 83}	Average one-way travel distances between day roosts and foraging areas was 3.2 km +/- 0.5 SD for males and 1.3 km +/- 0.2 SD for females in coastal California; maximum distance traveled from the day roost was 10.5 km. ⁷²

Species / Comments	Winter Roost	Summer Maternity Roost	Summer Day/Night Roost	Home Range/Foraging Distance
Big Brown Bat (<i>Eptesicus fuscus</i>) Males often roost solitarily during summer. Rarely move more than 80 km between summer and winter roosts. ^{2, 6} Roost switching is common at natural roosts, but show high fidelity to man-made roosts. ^{64, 65, 71}	Caves, mines, and some evidence for rock crevices which are probably the most widespread winter roost in Montana. ^{1, 31, 84} Known to use narrow deep rock crevices or erosion holes in steep valley walls on the Canadian prairie and buildings in Ohio. ^{6, 62}	Buildings, bridges, large diameter trees snags with hollows or loose bark in Montana. ^{1, 75} Primarily large diameter tree snag hollows and crevices, but also live aspen hollows, in more sparsely spaced stands, deep rock crevices, and older human structures are known to be used elsewhere. ^{6, 29, 59, 64, 65, 66, 67, 68, 71}	Rock crevices, buildings, bridges, and caves in Montana. ^{1, 22, 31} Larger diameter tree snags with hollows and crevices and preferential selection for older more sparsely spaced stands, older buildings, and rock crevices with good solar exposure are known to be used elsewhere. ^{27, 29, 30, 64, 65, 66, 67, 68, 69, 71} Caves and mines known to be used as night roosts elsewhere. ^{70,}	Average of 1.5 km +/- 0.9 SD (range 0.4 to 1.8 km) from roosts to capture locations with average movement between successive roosts of 1.1 km +/- 0.7 SD (range 0.4 to 2.0 km) in the Black Hills of South Dakota. ²⁹ Average one-way travel distances between day roosts and foraging areas of 1.8 km +/- 0.1 SE) range (0.3 to 4.4 km) in southern British Columbia. ⁶⁴
Spotted Bat (<i>Euderma maculatum</i>) High roost site fidelity with multiple individuals following the same nightly commuting routes up side canyons to foraging areas at speeds of up to 53 km/hr. ^{8, 49} Forage over clearings and along cliff rims. ^{49, 50, 51}	Not documented in Montana. Deep rock cracks and crevices are commonly used elsewhere and caves and human structures are rarely used elsewhere. ^{1, 2, 7, 51}	Not documented in Montana. Rock cracks and crevices in upper portions of tall remote south facing cliffs near perennial waters are used elsewhere. ^{1, 2, 7, 8, 50}	Buildings and other human structures in Montana. ^{1, 47} Rock cracks and crevices in upper portions of tall remote cliffs near perennial waters, and, apparently more rarely, cave entrances and buildings elsewhere. ^{2, 7, 8, 45, 46, 47, 48, 49, 50, 51}	50-60 km round trip flight distances nightly with average home range size of 297 +/- 25 SE (range = 242.5 to 363.8) square km in northern Arizona. ⁸ Nightly round trip commutes of >77 km between day roosts, foraging areas, and night roosts that differed in elevation by ca. 2,000 meters in northern Arizona. ⁴⁹ Nightly round trip foraging flights of 12 to 20 km in British Columbia. ⁵⁰
Silver-haired Bat (<i>Lasionycteris noctivagans</i>)	Not documented in Montana. Known to use loose bark, basal tree cavities, cavities under tree roots, and rock crevices on more southerly aspects and in older stands of trees, elsewhere with retreat to more underground sites at lower temperatures. ⁹³ Use of mines is also known. ⁹⁴	Large diameter tree snags with loose bark or cavities in Montana. ^{1, 9, 26} Hollows and crevices in live aspen and large diameter and taller trees or tree snags in older lower canopy closure stands known to be used elsewhere. ^{9, 59, 86, 90, 91, 92, 95, 96}	Large diameter tree snags with loose bark or cavities and a building in Montana. ^{1, 26, 78} Large diameter trees or tree snags in older stands with hollows and crevices are predominant summer roost elsewhere, but rock crevices, buildings, bridges, and other human structures also used. ^{9, 22, 86, 90, 91, 96}	Distance between capture locations and roost snags ranged from 0.1 to 3.4 km (averages for juvenile males, juvenile females, adult males, and adult females were 1.3, 1.5, 1.8, and 0.5 km, respectively) in northeastern Washington. ⁹⁶

Species / Comments	Winter Roost	Summer Maternity Roost	Summer Day/Night Roost	Home Range/Foraging Distance
Eastern Red Bat (<i>Lasiurus borealis</i>) Species is a solitary rooster at heights of 1 to 6 meters from the ground, but forage and migrate in groups. ¹⁰	Not documented in Montana and thought to migrate far to the south where they use tree roosts on warmer days and nights and retreat below leaf litter when temperatures dip below freezing. ^{10, 54}	Maternity roosts or lactating individuals have not been detected in Montana. Elsewhere, known to roost mostly in dense foliage that provides shade and protection from the wind, but also on trunks, of larger diameter mature deciduous and conifer trees, often in riparian areas. ^{10, 52, 53, 55, 56, 57}	Not documented in Montana. Elsewhere, known to roost mostly in denser foliage, but also on trunks, of larger diameter mature deciduous and conifer trees, often in riparian areas. Also more rarely in shrubs, under leaf litter, and on human structures. ^{10, 52, 53, 55, 56, 57}	Maximum distances traveled to foraging areas averaged 1.24 km (range 0.19 to 3.28) and foraging areas averaged 94.4 Ha +/- 20.2 SE with no significant differences between sex and age classes in Mississippi. ⁵² Maximum distances traveled from diurnal roosts to foraging areas ranged from 1.2 to 5.5 km for females and 1.4 to 7.4 km for males with average foraging area size of 334 Ha in Kentucky. ⁵³
Hoary Bat (<i>Lasiurus cinereus</i>) Species is a solitary rooster at heights of 3 to 5 meters from the ground, but forage and migrate in groups. ¹¹	Not documented and thought to migrate far to the south of Montana in the winter. ¹¹	Only a bridge roost documented in Montana. ¹ Known to be a solitary rooster in deciduous and conifer tree foliage that offers shelter from the wind and more southern exposure to the sun elsewhere. ^{11, 85, 86, 87, 88, 89}	A bridge and cottonwood foliage in Montana. ¹ Known to roost in deciduous and conifer tree foliage elsewhere. ^{1, 11, 85, 86, 87}	Females traveled one-way distances up to 20 km from day roosts while on first of up to five nightly foraging bouts in Manitoba Canada. ⁸⁵
California Myotis (<i>Myotis californicus</i>) Roosts alone or in groups. ¹²	Recent acoustic and telemetry data indicates species likely overwinters in rock crevices in Montana. ^{1, Nate Schwab, personal communication} Rock crevices, caves, mines, tunnels, and buildings are used elsewhere. ^{2, 12, 25, 61}	Not documented in Montana. Elsewhere known to roost under loose bark or in holes or cracks in more isolated larger diameter tree snags in areas with lower canopy closure. ^{58, 59} More rarely, known to use buildings elsewhere. ⁶⁰	A house and a cellar in Montana. ³² Elsewhere known to roost under loose bark or in holes or cracks in more isolated larger diameter tree snags in areas with lower canopy closure. ^{58, 59} Also known to use rock crevices, bridges, buildings, and other human structures elsewhere. ^{12, 21, 22, 30, 60}	*No documentation found.
Western Small-footed Myotis (<i>Myotis ciliolabrum</i>) Mostly a solitary rooster, but sometimes aggregates in small groups. Fidelity to roost areas is shown, but roost switching within those areas is frequent ^{13,} ⁶³ Also show a high fidelity to commuting corridors. ⁶³	Caves and mines documented in Montana. ^{1, 76, 84} Known to use lava tube caves, deep cracks in ground, deep rock crevices, tunnels, and drill holes in rock elsewhere. ^{2, 13, 77}	Rock outcrop crevices with good solar exposure in Montana. ¹ Known to rely mostly on vertical and horizontal crevices in cliffs and rock outcrops, but also documented using buildings elsewhere. ^{13, 63}	Rock outcrop crevices, bridges, caves, mines, and buildings in Montana. ^{1, 31, 32} Known to use rock outcrops, cracks in ground, tree hollows, and trees with loose bark elsewhere. ^{13, 63} No bats were detected using night roosts in a north central Oregon study. ⁶³	6 to 24 km round trip travel distances from roosts to foraging areas in north central Oregon. ⁶³

Species / Comments	Winter Roost	Summer Maternity Roost	Summer Day/Night Roost	Home Range/Foraging Distance
Long-eared Myotis (<i>Myotis evotis</i>) Suspected of only traveling short distances between summer and winter roosts. ¹⁴ Have low fidelity to individual roosts, but high fidelity to roost areas. ^{97, 98, 99}	Caves and mines. ^{1, 75, 84} May also use deeper rock crevices. ¹⁴	Caves, cliff and rock outcrop crevices, and large diameter trees in Montana. ^{1, 26, 76} Known to use sheltered erosion cavities on stream banks, crevices in basalt, conifer stumps, conifer snags, buildings, and mine tunnels elsewhere. ^{14, 97, 98, 99}	Large diameter trees, rock outcrops, buildings, and caves in Montana. ^{1, 26, 31, 79} Known to use buildings, trees/snags with loose bark, trestle bridges, mines, rock crevices, stream bank cavities, and sink holes elsewhere. ^{14, 21, 27, 97, 98, 99}	Traveled an average of 970 meters (range 35-5,154 meters) between roosts in western Montana. ²⁶ Moved 1 to 812 meters between day roosts and had roosting home ranges that ranged from 0.08 to 1.93 ha in Alberta. ⁹⁷ Traveled 620 meters from capture sites to day roosts in western Oregon. ⁹⁸ Traveled an average distance between day roosts of 148.9 m in northeastern Washington. ⁹⁹
Little Brown Myotis (<i>Myotis lucifugus</i>) Show high fidelity to summer colonies and hibernacula across years, but some individuals relocated between years a median distance of 315 km between hibernacula (range 6 to 563 km) and 431 km between summer roosts (range 25 to 464 km). ¹⁰⁰ Males and nonreproductive females occupy cooler roosts than pregnant or lactating females. ¹⁵	Caves and mines with high humidities and temperatures above freezing in Montana and elsewhere. ^{1, 31, 36, 75, 84} May also use deeper rock crevices. ¹⁵ Predominantly documented using caves elsewhere. ¹⁰⁰	Attics and roofs of buildings, bridges, and bat houses in Montana. ¹ Known to use cracks or hollows in larger diameter tree snags in older stands, rock crevices, and buildings elsewhere. ^{2, 15, 35, 90, 101, 102, 103}	Large diameter tree, rock crevices, buildings, bridges, caves, and bat houses in Montana. ^{1, 26, 31, 80} Known to use cracks or hollows in larger diameter tree snags in older stands, wood piles, and rock crevices elsewhere. ^{15, 35, 90} Caves and mines known to be used as night roosts elsewhere. ⁷⁰	Average 970 meters (range 35-5,154 meters) between roosts in western Montana. ²⁶ Traveled 10 to 647 km from hibernacula to summer colonies in Manitoba and northwestern Ontario, Canada. ¹⁰⁰ Female home range averaged 30.1 ha +/- 15.0 SD during pregnancy and 17.6 ha +/- 9.1 SD during lactation in Quebec, Canada. ¹⁰¹ Males moved and average of 275 m +/- 406 SD between successive roosts, had mean minimum roosting areas of 3.9 ha +/- 7.9 SD, mean minimum foraging areas of 52.0 ha +/- 57.4 SD, mean distance between roosting and foraging areas of 254 m +/- 254.2 SD, and mean distances between capture sites and first roosts of 761 m +/- 623 SD in New Brunswick. ¹⁰² Mean home range area was 143 ha +/- 71.0 SE in New York. ¹⁰³

Species / Comments	Winter Roost	Summer Maternity Roost	Summer Day/Night Roost	Home Range/Foraging Distance
Northern Myotis (<i>Myotis septentrionalis</i>) Low roost site fidelity, but often stay in same general area within a season. May travel up to 56 km between summer and winter roosts. ¹⁶	Only known from a single abandoned coal mine in Montana. ^{1, 75} Known from caves, with a preference to cluster in deep crevices and possibly move between caves within a winter elsewhere. ¹⁶	Not documented in Montana. Known to use bark and hollows of larger diameter trees, usually in decay, and building crevices and bat houses elsewhere. ^{16, 29, 35, 69, 102}	Not documented in Montana. Known to use bark and hollows of larger diameter trees, usually in decay, and building crevices and bat houses elsewhere. ^{16, 29, 35, 69} Caves and mines known to be used as night roosts elsewhere. ^{70,}	Average of 2.2 km +/- 1.4 SD (range 0.1 to 5.9 km) from roosts to capture locations with average movement between successive roosts of 0.6 km +/- 0.5 SD (range 0.1 to 1.5 km) in the Black Hills of South Dakota. ²⁹ Females/males moved and average of 457/158 m +/- 329/127 SD between successive roosts, had mean minimum roosting areas of 8.6/1.4 ha +/- 9.2/1.4 SD, mean minimum foraging areas of 46.2/13.5 ha +/- 44.4/8.3 SD, mean distance between roosting and foraging areas of 584.6/293.0 m +/- 405.8/282.8 SD, and mean distances between capture sites and first roosts of 1001/402 m +/- 693/452 SD in New Brunswick. ¹⁰²
Fringed Myotis (<i>Myotis thysanodes</i>) Very sensitive to roost site disturbance. ¹⁷ Maintain at least some level of group integrity when switching roosts. ²⁹	Not documented in Montana and presumed to migrate south of Montana. ¹	Caves. ¹ Known to use cracks and hollows of larger diameter trees, usually in decay, rock crevices on south-facing slopes, and buildings elsewhere. ^{17, 29}	Caves in Montana. ^{1, 32} Known to use cracks and hollows of larger diameter trees, usually in decay, rock crevices on south-facing slopes, mines, buildings, and bridges elsewhere. ^{17, 21, 22, 29}	Average of 1.0 km +/- 0.6 SD (range 0.1 to 2.0 km) from roosts to capture locations with average movement between successive roosts of 0.5 km +/- 0.6 SD (range 0.1 to 2.0 km) in the Black Hills of South Dakota. ²⁹
Long-legged Myotis (<i>Myotis volans</i>)	Caves and mines in Montana and elsewhere. ^{1, 19, 31, 36, 75, 84}	Large diameter trees in Montana. ^{1, 26} Elsewhere in taller, but random to normal diameter tree snags with loose bark or cracks, especially in areas with less habitat fragmentation, greater snag density but with greater tree spacing. ^{28, 33, 34, 35} Also in rock crevices, cracks in the ground, and buildings are known to be used elsewhere with south-facing roosts preferred. ^{2, 29}	Buildings, mines, caves and large diameter trees in Montana. ^{1, 26, 31, 32, 78, 79} Elsewhere in taller but random to larger diameter tree snags with loose bark or cracks, especially in areas with less habitat fragmentation, greater snag density but with greater tree spacing, are known to be used elsewhere with south-facing roosts preferred. ^{27, 28, 29, 30, 33, 34, 35} Also in buildings, cracks in the ground, rock crevices, and caves. ^{19, 36}	Average of 2.0 km +/- 0.1 SE from roosts to capture locations with average movement between successive roosts of 1.4 km +/- 0.1 SE across four study areas in Washington and Oregon. ²⁸ Average of 1.9 km +/- 1.6 SD (range 0.4 to 3.7 km) from roosts to capture locations with average movement between successive roosts of 0.7 km +/- 0.5 SD (range 0.2 to 1.6 km) in the Black Hills of South Dakota. ²⁹ Average home range size of 647 ha +/- 354 SE (range 16.5 to 3,029 ha) for males, 448 ha +/- 78.7 SE for pregnant females, and 304 ha +/- 53.8 SE for lactating females in Idaho. ³³

Species / Comments	Winter Roost	Summer Maternity Roost	Summer Day/Night Roost	Home Range/Foraging Distance
Yuma Myotis (<i>Myotis yumanensis</i>) Sensitive to roost site disturbance. ²	Not documented in Montana, but acoustic evidence indicates overwintering in rock crevices in cliffs. ¹	Building, bridges, and bat houses in Montana. ¹ Buildings, bridges, caves, mines, and abandoned cliff swallow nests are known elsewhere. ^{2, 20, 21, 22, 25}	Buildings, bridges, and bat houses in Montana. ^{1, 79} Large diameter trees, buildings, rock/cliff crevices and abandoned cliff swallow nests elsewhere. ^{2, 21, 22, 23, 24, 25, 30}	Average of 2 km (range 0.59-3.5 km) from roosts to capture locations in California. ²⁴ 4 km from maternity roost to foraging areas in British Columbia. ²⁵

¹ supported by observations in Montana's statewide point observation database.

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Overview of Known Bat Roosts in Montana

Pallid Bat Roost Use Type Overview

Roost Type on Survey	No. + Surveys	No. Roost Structures
Bachelor Roost	0	
Maternity Roost	0	
Hibernacula	0	
Day and Night Roost	3	2 Rock Outcrops, 1 Tractor
Night Roost	0	

Spotted Bat Roost Use Type Overview

*Cliffs and rock crevices are primary roosts in other states

Roost Type on Survey	No. + Surveys	No. Roost Structures
Bachelor Roost	0	
Maternity Roost	0	
Hibernacula	0	
Day and Night Roost	3	1 House, 1 Parking Garage, 1 Electric Meter
Night Roost	0	

Big Brown Bat Roost Use Type Overview

Roost Type on Survey	No. + Surveys	No. Roost Structures
Bachelor Roost	0	
Maternity Roost	12	1 Bridge, 5 Buildings
Hibernacula	6	3 Caves, 2 Mines
Day and Night Roost	44	9 Bridges, 9 Buildings, 5 Rock Outcrops
Night Roost	0	

Townsend's Big-eared Bat Roost Use Type Overview

Roost Type on Survey	No. + Surveys	No. Roost Structures
Bachelor Roost	0	
Maternity Roost	13	2 Caves, 1 Mine
Hibernacula	69	18 Caves, 20 Mines, 1 Tunnel
Day and Night Roost	33	6 Buildings, 7 Caves, 7 Mines
Night Roost	0	

Silver-haired Bat Roost Use Type Overview

*Trees (cavities, bark crevices) are primary roosts in other areas

Roost Type on Survey	No. Records	Notes on Roost Structures
Bachelor Roost	0	
Maternity Roost	1	1 Ponderosa Pine snag
Hibernacula	0	
Day and Night Roost	1	Inside animal hide
Night Roost	0	

*No roost information is available for Eastern Red Bat in Montana, but the species is known to roost in deciduous tree foliage in other states and most acoustic or mist netting records in Montana are from areas adjacent to floodplains with cottonwood gallery forests.

Hoary Bat Roost Use Type Overview

*Deciduous tree foliage is primary roost habitat in other areas

Roost Type on Survey	No. + Surveys	No. Roost Structures
Bachelor Roost	0	
Maternity Roost	1	1 Bridge (Hendricks 2005)
Hibernacula	0	
Day and Night Roost	1	1 recent cottonwood tree roost
Night Roost	0	

*Recent radio telemetry data indicates California Myotis likely use tree and rock crevice roosts in the summer and rock crevice roosts in the winter in Montana (Nate Schwab, personal communication). The species is known to roost in rock crevices, trees, caves, and mines in other states.

Western Small-footed Myotis Roost Use Type Overview

- Bachelor Roost
- Maternity Roost
- Hibernacula
- Day and Night Roost
- Night Roost

Roost Type on Survey	No. + Surveys	No. Roost Structures
Bachelor Roost	0	
Maternity Roost	1	1 Rock Outcrops
Hibernacula	11	2 Caves, 6 Mines
Day and Night Roost	24	16 Rock Outcrops, 2 Bridges, 2 Buildings, 3 Mines
Night Roost	0	

Long-eared Myotis Roost Use Type Overview

- Bachelor Roost
- Maternity Roost
- Hibernacula
- Day and Night Roost
- Night Roost

Roost Type on Survey	No. + Surveys	No. Roost Structures
Bachelor Roost	0	
Maternity Roost	5	1 Cave, 1 Tree, 2 Rock Outcrops
Hibernacula	3	1 Cave, 2 Mines
Day and Night Roost	28	25 Rock Outcrops, 2 Buildings, 1 Cave
Night Roost	0	

Little Brown Bat Roost Use Type Overview

- Bachelor Roost
- Maternity Roost
- Hibernacula
- Day and Night Roost
- Night Roost

Roost Type on Survey	No. + Surveys	No. Roost Structures
Bachelor Roost	0	
Maternity Roost	16	1 Bridge, 7 Buildings
Hibernacula	12	6 Caves, 1 Mine
Day and Night Roost	36	1 Bat House, 5 Bridges, 10 Buildings, 1 Cave
Night Roost	1	1 Building

*Trees are also a likely primary roost, but are not well documented.

Northern Myotis Roost Use Type Overview

- Bachelor Roost
- Maternity Roost
- Hibernacula
- Day and Night Roost
- Night Roost

Roost Type on Survey	No. + Surveys	No. Roost Structures
Bachelor Roost	0	
Maternity Roost	0	
Hibernacula	1	1 Mine
Day and Night Roost	0	
Night Roost	0	

Fringed Myotis Roost Use Type Overview

*Known to roost in trees, rock crevices, and buildings in other areas

- Bachelor Roost
- Maternity Roost
- Hibernacula
- Day and Night Roost
- Night Roost

Roost Type on Survey	No. + Surveys	No. Roost Structures
Bachelor Roost	0	1 Cave
Maternity Roost	1	
Hibernacula	0	
Day and Night Roost	0	
Night Roost	0	

Long-legged Myotis Roost Use Type Overview

*Also known to use trees and rock crevices in other areas

- Bachelor Roost
- Maternity Roost
- Hibernacula
- Day and Night Roost
- Night Roost

Roost Type on Survey	No. + Surveys	No. Roost Structures
Bachelor Roost	0	2 Caves, 1 Mine 1 Building, 1 Mine
Maternity Roost	0	
Hibernacula	6	
Day and Night Roost	2	
Night Roost	0	

Yuma Myotis Roost Use Type Overview

*Call data strongly supports this, but genetic confirmation is needed.

- Bachelor Roost
- Maternity Roost
- Hibernacula
- Day and Night Roost
- Night Roost

Roost Type on Survey	No. + Surveys	No. Roost Structures
Bachelor Roost	0	1 Building
Maternity Roost	1*	
Hibernacula	0	
Day and Night Roost	0	
Night Roost	0	

Examples of Winter Roosts for Montana Bats

Townsend's Big-eared Bats in cave – James Cummins

Cluster of Little Brown Myotis in cave – Ronan Donovan

Little Brown Myotis among cave speleotherms – Ronan Donovan

Bats roosting on wall of large cave room – Ronan Donovan, James Cummins

Mine adit supporting Townsend's Big-eared Bat overwintering – Bryce Maxell

Big Brown Bat in dynamite drill hole – Bryce Maxell

Western Small-footed Myotis in cave – Bryce Maxell

Townsend's Big-eared Bat in cave – Ronan Donovan

Big Brown Bat in crevice in cave hibernaculum – Bryce Maxell

Western Small-footed Myotis in crevice in cave hibernaculum – Bryce Maxell

Western Small-footed Myotis in cave – Bryce Maxell

Long-eared Myotis in crevice in cave hibernaculum – Bryce Maxell

Unidentified *Myotis* (notice frost on fur) – Alex Jensen

Townsend's Big-eared Bat in cave – Bryce Maxell

Cluster of unidentified *Myotis* in cave hibernaculum – Bryce Maxell

Unidentified *Myotis* (notice damp fur) – Bryce Maxell

Examples of Summer Maternity Roosts for Montana Bats

Interior/exterior views of unidentified Myotis maternity colony (notice staining at wall/ceiling junction - Kristi DuBois

Unidentified Myotis maternity roost behind south facing sign on brick wall – Bryce Maxell

Townsend's Big-eared Bat maternity colony in twilight zone of cave - Kristi DuBois

KRISTI DUBOIS

Little Brown Myotis maternity colony in barn - Kristi DuBois

Stump and rounds of large diameter Ponderosa Pine that was a maternity roost for Big Brown Bat and Little Brown Myotis, and a day roost for Silver-haired Bat – Bryce Maxell

Long-eared Myotis
maternity roost
Nate Schwab

Silver-haired Bat
maternity roost
Nate Schwab

Long-legged Myotis
Maternity Roost

Kristi DuBois

Little Brown Myotis maternity colony in cook house attic. Bat house is not used. – Kristi DuBois

Yuma Myotis maternity colony - Kristi DuBois

Little Brown Myotis maternity colony - Kristi DuBois

Big Brown Bat maternity colony in house attic – Bryce Maxell

Unidentified Myotis maternity colony in interstate highway bridge expansion joint – Bryce Maxell

Entry point for unidentified Myotis maternity colony in garage eaves – Bryce Maxell

Droppings from Little Brown Myotis maternity colony – Kristi DuBois

Eave entry points for Little Brown Myotis maternity colony – Kristi DuBois

Big Brown Bat maternity colony on metal barn rafters – Adam Messer

Examples of Summer Night and Day Roosts for Montana Bats

Fringed Myotis in vertical rock crevice – Bryce Maxell

Pallid Bat under slab rock – Keaton Wilson

Pallid Bat in vertical rock crevice – Bryce Maxell

Townsend's Big-eared Bat in small cavern in sandstone – Alexis McEwan

Long-eared Myotis roost in horizontal crevice – Bryce Maxell

Long-eared Myotis in horizontal rock crevice – Ayla Doubleday

Western Small-footed Myotis under slab rock – Bryce Maxell

Big Brown Bat in horizontal rock crevice – Alexis McEwan

Hoary Bat on tree trunk – Kristi DuBois

Hoary Bat on tree trunk - Kristi DuBois

Big Brown Bat emerging from tree bark – Kristi DuBois

Little Brown Myotis on tree night roost
Bryce Maxell

Fringed Myotis on tree trunk
Kristi DuBois

Hoary Bat roosting in cottonwood foliage – Nathan Cooper

Spotted Bat on brick wall of Billings parking garage – Dick Dede

Townsend's Big-eared Bat on underside of cellar roof – Kristi DuBois

Hoary Bat at atypical (typically in tree foliage) concrete roost – Matt Bell

Bat droppings from night roost under highway bridge – Amie Shovlain

Western Small-footed Myotis on brick wall with good solar exposure – Bryce Maxell

Big Brown Bat in highway expansion joint crevice – Bryce Maxell

Little Brown Myotis pup in crack of log cabin – Kristi DuBois

Droppings under bridge. Sometimes large volumes of droppings result only from night roosting near foraging areas – Ellen Whittle

Examples of Artificial Summer Roosts (Bat Houses)

Bat houses on 4 x 4 inch posts with good solar exposure – Lewis Young

Bat houses mounted back to back – Lewis Young

Crevices in bat house that supports a Little Brown Myotis maternity colony – Lewis Young

Bat house on old power pole with good solar exposure – Bryce Maxell

Bat house on brick chimney with good solar exposure – Bryce Maxell

Rocket box bat house on eave with good solar exposure – Bryce Maxell

Bat houses on brick wall with good solar exposure – Bryce Maxell