



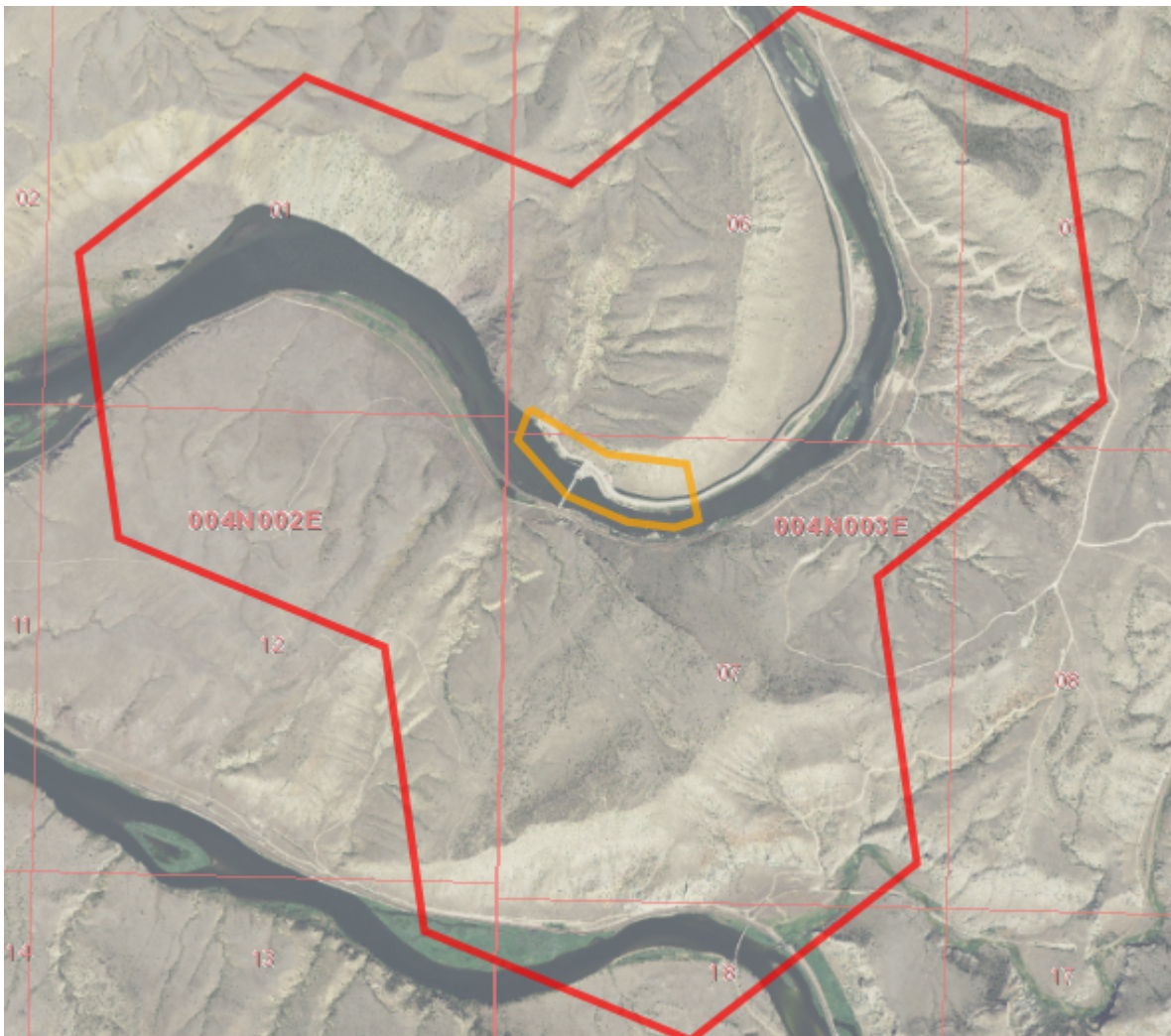
MONTANA Natural Heritage Program

1515 East 6th Avenue
Helena, MT 59620
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mtnhp.org



Latitude	Longitude
46.10249	-111.38482
46.13553	-111.42969

Summarized by:
22mt0027
(Custom Area of Interest)



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The Montana Natural Heritage Program is part of the Montana State Library's Natural Resource Information System. Since 1985, it has served as a neutral and non-regulatory provider of easily accessible information on Montana's species and biological communities to inform all stakeholders in environmental review, permitting, and planning processes. The program is part of NatureServe, a network of over 80 similar programs in states, provinces, and nations throughout the Western Hemisphere, working to provide current and comprehensive distribution and status information on species and biological communities.



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Introduction to Environmental Summary Report

Environmental Summary Reports from the Montana Natural Heritage Program (MTNHP) provide information on species and biological communities to inform all stakeholders in environmental review, permitting, and planning processes. For information on environmental permits in Montana, please see permitting overviews by the [Montana Department of Environmental Quality](#), the [Montana Department of Natural Resources and Conservation](#), the [Index of Environmental Permits for Montana](#) and our [Suggested Contacts for Natural Resource Management Agencies](#). The report for your area of interest consists of introductory and related materials in this PDF and an Excel workbook with worksheets summarizing information managed in the MTNHP databases for: (1) species occurrences; (2) other observed species without species occurrences; (3) other species potentially present based on their range, presence of associated habitats, or predictive distribution model output if available; (4) structured surveys that follow a protocol capable of detecting one or more species; (5) land cover mapped as ecological systems; (6) wetland and riparian mapping; (7) land management categories; and (8) biological reports associated with plant and animal observations. If your area of interest corresponds to a statewide polygon layer (e.g., watersheds, counties, or public land survey sections) information summaries in your report will exactly match those boundaries. However, if your report is for a custom area, users should be aware that summaries do not correspond to the exact boundaries of the polygon they have specified, but instead are a summary across a layer of hexagons intersected by the polygon they specified as shown on the report cover. Summarizing by these hexagons which are one square mile in area and approximately one kilometer in length on each side allows for consistent and rapid delivery of summaries based on a uniform grid that has been used for planning efforts across the western United States (e.g., Western Association of Fish and Wildlife Agencies - [Crucial Habitat Assessment Tool](#)).

In presenting this information, MTNHP is working towards assisting the user with rapidly assessing the known or potential species and biological communities, land management categories, and biological reports associated with the report area. Users are reminded that this information is likely incomplete and may be inaccurate as surveys to document species are lacking in many areas of the state, species' range polygons often include regions of unsuitable habitat, methods of predicting the presence of species or communities are constantly improving, and information is constantly being added and updated in our databases. **Field verification by professional biologists of the absence or presence of species and biological communities in a report area will always be an important obligation of users of our data. Users are encouraged to only use this environmental summary report as a starting point for more in depth analyses and are encouraged to contact state, federal, and tribal resource management agencies for additional data or management guidelines relevant to your efforts. Please see the Appendix for introductory materials to each section of the report, additional information resources, and a list of relevant agency contacts.**

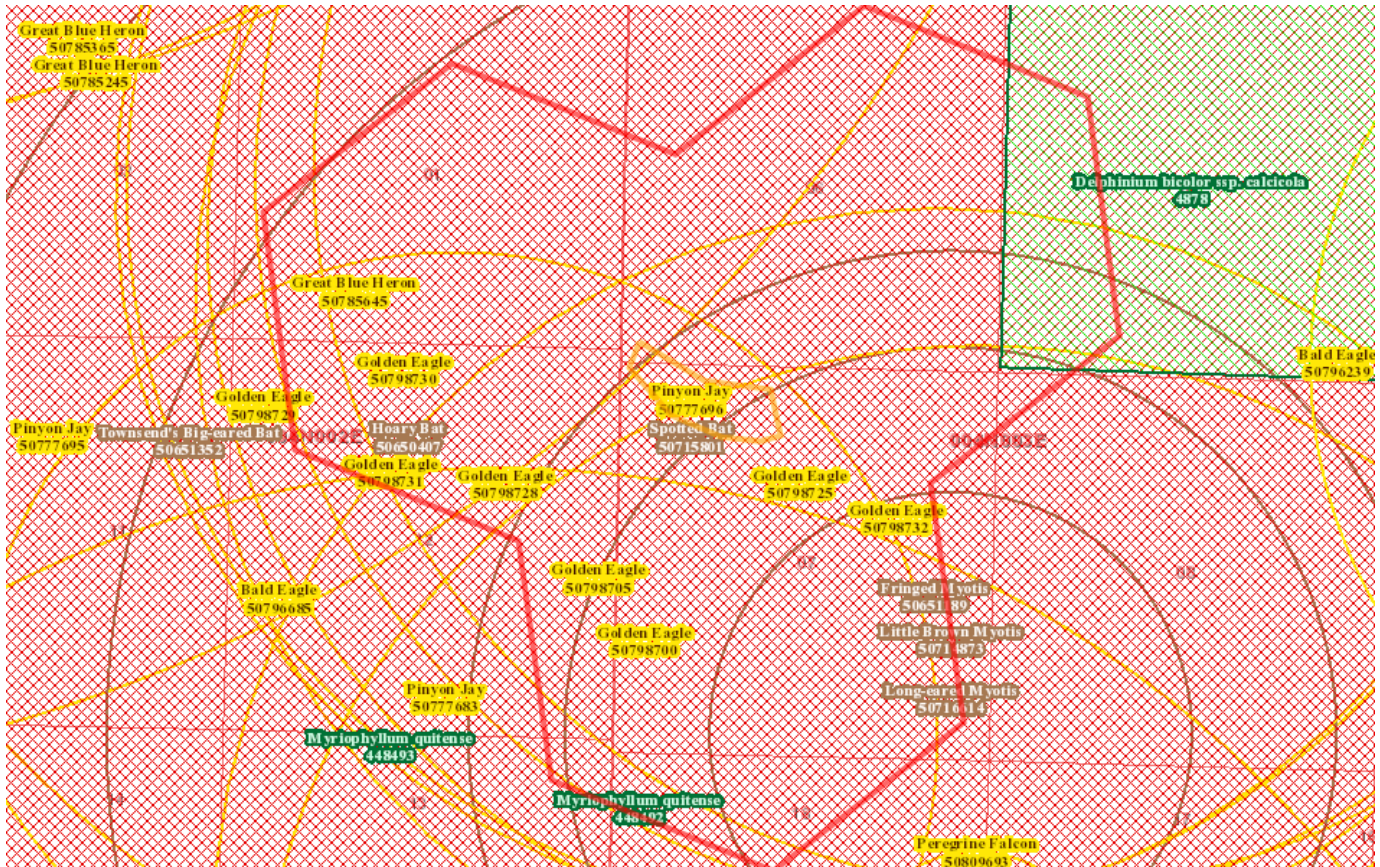
Legend			
Model Icons	Habitat Icons	Range Icons	Num Obs
N Suitable (native range)	Common	Introduced	Count of obs with 'good precision' (<=1000m)
Optimal Suitability	Occasional	Year-round	+ indicates additional 'poor precision' obs (1001m-10,000m)
Moderate Suitability		Summer	
Low Suitability		Winter	
Suitable (introduced range)		Migratory	
		Historic	

Native Species

Summarized by: **22mt0027** (*Custom Area of Interest*)

Filtered by:

MT_Status='Species of Concern', 'Special Status', 'Important Animal Habitat', 'Potential SOC'



Species Occurrences

	USFWS	# SO	# Obs	Predictive Model	Associated Habitat	Range
V - Delphinium bicolor ssp. calcicola (<i>Limestone Larkspur</i>) PSOC	Sec7	1	1		Not Assigned	Y
View in Field Guide View Predicted Models View Range Maps Potential Species of Concern - Native Species Global: G4G5T3T4 State: S3S4 USFS: Species of Conservation Concern on Forests (HLC) MNPS: 3 Delineation Criteria Individual occurrences are generally based upon a discretely mapped area provided by an observer and are not separated by any pre-defined distance. Individual clusters of plants mapped at fine spatial scales (separated by less than approximately 25-50 meters) may be grouped together into one occurrence if they are not separated by distinct areas of habitat or terrain features. Point observations are buffered to encompass any locational uncertainty associated with the observation. (Last Updated: Jan 29, 2021) Predictive Models: N 33% Suitable (native range) (deductive)						
V - Myriophyllum quitense (<i>Andean Water-milfoil</i>) SOC		2	2		Not Assigned	Y
View in Field Guide View Predicted Models View Range Maps Species of Concern - Native Species Global: G4? State: S3 MNPS: 3 Predictive Models: N 33% Suitable (native range) (deductive)						
B - Golden Eagle (<i>Aquila chrysaetos</i>) SOC		8	12			Y
View in Field Guide View Predicted Models View Associated Habitat View Range Maps Species of Concern - Native Species Global: G5 State: S3 USFWS: BGEPA; MBTA BLM: SENSITIVE FWP SWAP: SGCN3 Delineation Criteria Confirmed nesting area buffered by a minimum distance of 3,000 meters in order to be conservative about encompassing the entire breeding territory and area commonly used for re-nesting and otherwise buffered by the locational uncertainty associated with the observation up to a maximum distance of 10,000 meters. (Last Updated: Jan 27, 2022) Predictive Models: R 67% Optimal (inductive), M 33% Moderate (inductive) Associated Habitats: R 82% Common						
M - Little Brown Myotis (<i>Myotis lucifugus</i>) SOC		1	1			Y
View in Field Guide View Predicted Models View Associated Habitat View Range Maps Species of Concern - Native Species Global: G3G4 State: S3 FWP SWAP: SGCN3 Delineation Criteria Confirmed area of occupancy based on the documented presence (mistnet captures, definitively identified acoustic recordings, or definitively identified roosting individuals) of adults or juveniles. Point observation location is buffered by a distance of 1,600 meters in order to encompass the greater than 1,500 meters foraging distance reported for the species in New Brunswick, Canada and otherwise buffered by the locational uncertainty associated with the observation up to a maximum distance of 10,000 meters. When cave locations are involved, point observations are mapped in the center of a one-square mile hexagon to protect the exact location of the cave entrance as per the Federal Cave Resource Protection Act and associated regulations (U.S. Code Title 16 Chapter 63, Code of Federal Regulations Title 43 Subtitle A Part 37). The outer edges of the hexagon are then buffered by a distance of 1,600 meters and otherwise by the locational uncertainty associated with the observation up to a maximum distance of 10,000 meters. All of the one-square mile hexagons intersecting this buffered area are presented as the Species Occurrence record. (Last Updated: Oct 06, 2021) Predictive Models: M 100% Moderate (inductive) Associated Habitats: R 95% Common, O 5% Occasional						
M - Long-eared Myotis (<i>Myotis evotis</i>) SOC		1	5			Y

Legend			
Model Icons	Habitat Icons	Range Icons	Num Obs
Suitable (native range)	Common	Introduced	Count of obs with 'good precision' (<=1000m)
Optimal Suitability	Occasional	Year-round	+ indicates additional 'poor precision' obs (1001m-10,000m)
Moderate Suitability		Summer	
Low Suitability		Winter	
Suitable (introduced range)		Migratory	
		Historic	



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Native Species

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Other Observed Species

	USFWS Sec7	# Obs	Predictive Model	Associated Habitat	Range
M - Silver-haired Bat (<i>Lasionycteris noctivagans</i>) PSOC		5			
View in Field Guide View Predicted Models View Associated Habitat View Range Maps Potential Species of Concern - Native Species Global: G3G4 State: S4 Predictive Models: 33% Moderate (inductive), 67% Low (inductive) Associated Habitats: 95% Common, 1% Occasional					
B - Clark's Nutcracker (<i>Nucifraga columbiana</i>) SOC		2			
View in Field Guide View Predicted Models View Associated Habitat View Range Maps Species of Concern - Native Species Global: G5 State: S3 USFWS: MBTA USFS: Species of Conservation Concern on Forests (FLAT) FWP SWAP: SGCN3 PIF: 3 Predictive Models: 100% Low (inductive) Associated Habitats: 6% Common					
M - Black-tailed Prairie Dog (<i>Cynomys ludovicianus</i>) SOC		+	Not Available		
View in Field Guide View Associated Habitat View Range Maps Species of Concern - Native Species Global: G4 State: S3 BLM: SENSITIVE FWP SWAP: SGCN3 Associated Habitats: 19% Common, 57% Occasional					
B - Hooded Merganser (<i>Lophodytes cucullatus</i>) PSOC		1	Not Available		
View in Field Guide View Associated Habitat View Range Maps Potential Species of Concern - Native Species Global: G5 State: S4 USFWS: MBTA FWP SWAP: SGIN PIF: 2 Associated Habitats: 13% Common					
B - American White Pelican (<i>Pelecanus erythrorhynchos</i>) SOC		10	Not Available		
View in Field Guide View Associated Habitat View Range Maps Species of Concern - Native Species Global: G4 State: S3B USFWS: MBTA FWP SWAP: SGCN3 PIF: 3 Associated Habitats: 10% Common					

Legend			
Model Icons	Habitat Icons	Range Icons	Num Obs
Suitable (native range)	Common	Introduced	Count of obs with 'good precision' (<=1000m)
Optimal Suitability	Occasional	Year-round	+ indicates additional 'poor precision' obs (1001m-10,000m)
Moderate Suitability		Summer	
Low Suitability		Winter	
Suitable (introduced range)		Migratory	
		Historic	



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Native Species
















































































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Other Potential Species

	USFWS Sec7	Predictive Model	Associated Habitat	Range
F - Burbot (<i>Lota lota</i>) PSOC			Not Assigned	Y
View in Field Guide View Predicted Models View Range Maps Potential Species of Concern - Native Species Global: G5 State: S4 Predictive Models: 100% Suitable (native range) (deductive)				
M - Western Spotted Skunk (<i>Spilogale gracilis</i>) PSOC				Y
View in Field Guide View Predicted Models View Associated Habitat View Range Maps Potential Species of Concern - Native Species Global: G5 State: SNR FWP SWAP: SGIN Predictive Models: 33% Optimal (inductive), 67% Moderate (inductive) Associated Habitats: 80% Common				
V - Erigeron parryi (<i>Parry's Fleabane</i>) SOC				Y
View in Field Guide View Predicted Models View Associated Habitat View Range Maps Species of Concern - Native Species Global: G2G3 State: S2S3 MNPS: 3 Predictive Models: 100% Moderate (inductive) Associated Habitats: 58% Common				
M - Dwarf Shrew (<i>Sorex nanus</i>) SOC				Y
View in Field Guide View Predicted Models View Associated Habitat View Range Maps Species of Concern - Native Species Global: G4 State: S2S3 FWP SWAP: SGCN2-3 Predictive Models: 100% Moderate (inductive) Associated Habitats: 35% Common, 43% Occasional				
B - Blue-gray Gnatcatcher (<i>Poliophtila caerulea</i>) SOC				S M
View in Field Guide View Predicted Models View Associated Habitat View Range Maps Species of Concern - Native Species Global: G5 State: S3B USFWS: MBTA BLM: SENSITIVE FWP SWAP: SGCN2 Predictive Models: 100% Moderate (inductive) Associated Habitats: 1% Common				
V - Dichanthelium acuminatum (<i>Panic Grass</i>) SOC			Not Assigned	Y
View in Field Guide View Predicted Models View Range Maps Species of Concern - Native Species Global: G5 State: S2S3 MNPS: 2 Predictive Models: 100% Moderate (inductive)				
V - Eleocharis rostellata (<i>Beaked Spikerush</i>) SOC			Not Assigned	Y
View in Field Guide View Predicted Models View Range Maps Species of Concern - Native Species Global: G5 State: S3 USFS: Sensitive - Known on Forests (BD) Species of Conservation Concern on Forests (CG, FLAT, HLC) MNPS: 2 Predictive Models: 100% Moderate (inductive)				
V - Impatiens aurella (<i>Pale-yellow Jewel-weed</i>) SOC			Not Assigned	Y
View in Field Guide View Predicted Models View Range Maps Species of Concern - Native Species Global: G4 State: S3 MNPS: 3 Predictive Models: 100% Moderate (inductive)				
V - Townsendia spatulata (<i>Sword Townsend-daisy</i>) PSOC			Not Assigned	Y
View in Field Guide View Predicted Models View Range Maps Potential Species of Concern - Native Species Global: G3 State: S3S4 MNPS: 3 Predictive Models: 100% Moderate (inductive)				
B - Green-tailed Towhee (<i>Pipilo chlorurus</i>) SOC				S M
View in Field Guide View Predicted Models View Associated Habitat View Range Maps Species of Concern - Native Species Global: G5 State: S3B USFWS: MBTA FWP SWAP: SGCN3 PIF: 3 Predictive Models: 67% Moderate (inductive), 33% Low (inductive) Associated Habitats: 81% Common, 1% Occasional				
R - Western Milksnake (<i>Lampropeltis gentilis</i>) SOC				Y
View in Field Guide View Predicted Models View Associated Habitat View Range Maps Species of Concern - Native Species Global: G5 State: S2 BLM: SENSITIVE FWP SWAP: SGCN2 Predictive Models: 67% Moderate (inductive), 33% Low (inductive) Associated Habitats: 60% Common, 19% Occasional				
B - Western Screech-Owl (<i>Megascops kennicottii</i>) PSOC				Y
View in Field Guide View Predicted Models View Associated Habitat View Range Maps Potential Species of Concern - Native Species Global: G4G5 State: S3S4 USFWS: MBTA FWP SWAP: SGIN PIF: 3 Predictive Models: 67% Moderate (inductive), 33% Low (inductive) Associated Habitats: 44% Common				
M - Long-legged Myotis (<i>Myotis volans</i>) SOC				Y
View in Field Guide View Predicted Models View Associated Habitat View Range Maps Species of Concern - Native Species Global: G4G5 State: S3 Predictive Models: 33% Moderate (inductive), 67% Low (inductive) Associated Habitats: 94% Common, 5% Occasional				
M - North American Porcupine (<i>Erethizon dorsatum</i>) PSOC				Y

V - Castilleja gracillima (<i>Slender Indian Paintbrush</i>) SOC	  
View in Field Guide View Predicted Models View Associated Habitat View Range Maps Species of Concern - Native Species Global: G3G4 State: S2 MNPS: 3 Predictive Models:  100% Low (inductive) Associated Habitats:  1% Occasional	
V - Potentilla plattensis (<i>Platte Cinquefoil</i>) SOC	  
View in Field Guide View Predicted Models View Associated Habitat View Range Maps Species of Concern - Native Species Global: G4 State: S3 MNPS: 4 Predictive Models:  100% Low (inductive) Associated Habitats:  1% Common	
B - Common Poorwill (<i>Phalaenoptilus nuttallii</i>) PSOC	   
View in Field Guide View Predicted Models View Associated Habitat View Range Maps Potential Species of Concern - Native Species Global: G5 State: S4B USFWS: MBTA FWP SWAP: SGIN PIF: 3 Predictive Models:  67% Low (inductive) Associated Habitats:  80% Common,  1% Occasional	
B - Bobolink (<i>Dolichonyx oryzivorus</i>) SOC	   
View in Field Guide View Predicted Models View Associated Habitat View Range Maps Species of Concern - Native Species Global: G5 State: S3B USFWS: MBTA; BCC10; BCC11; BCC17 FWP SWAP: SGCN3 PIF: 3 Predictive Models:  67% Low (inductive) Associated Habitats:  40% Common	
B - Barrow's Goldeneye (<i>Bucephala islandica</i>) PSOC	    
View in Field Guide View Predicted Models View Associated Habitat View Range Maps Potential Species of Concern - Native Species Global: G5 State: S4 USFWS: MBTA FWP SWAP: SGIN PIF: 2 Predictive Models:  67% Low (inductive) Associated Habitats:  13% Common	
B - Cassin's Finch (<i>Haemorhous cassinii</i>) SOC	  
View in Field Guide View Predicted Models View Associated Habitat View Range Maps Species of Concern - Native Species Global: G5 State: S3 USFWS: MBTA; BCC10 FWP SWAP: SGCN3 PIF: 3 Predictive Models:  67% Low (inductive) Associated Habitats:  2% Common	
V - Adoxa moschatellina (<i>Musk-root</i>) SOC	 Not Assigned 
View in Field Guide View Predicted Models View Range Maps Species of Concern - Native Species Global: G5 State: S3 USFS: Sensitive - Known on Forests (BD, LOLO) Species of Conservation Concern on Forests (CG, HLC) MNPS: 3 Predictive Models:  67% Low (inductive)	
V - Epipactis gigantea (<i>Giant Helleborine</i>) SOC	 Not Assigned 
View in Field Guide View Predicted Models View Range Maps Species of Concern - Native Species Global: G4 State: S2S3 USFS: Sensitive - Known on Forests (BD, LOLO) Sensitive - Suspected on Forests (BRT, KOOT) Species of Conservation Concern on Forests (FLAT, HLC) MNPS: 2 Predictive Models:  67% Low (inductive)	
V - Musineon vaginatum (<i>Rydberg's Parsley</i>) PSOC	 Not Assigned 
View in Field Guide View Predicted Models View Range Maps Potential Species of Concern - Native Species Global: G3G4 State: S3S4 Predictive Models:  67% Low (inductive)	
B - Loggerhead Shrike (<i>Lanius ludovicianus</i>) SOC	   
View in Field Guide View Predicted Models View Associated Habitat View Range Maps Species of Concern - Native Species Global: G4 State: S3B USFWS: MBTA BLM: SENSITIVE FWP SWAP: SGCN3 PIF: 2 Predictive Models:  33% Low (inductive) Associated Habitats:  76% Common	
B - Greater Sage-Grouse (<i>Centrocercus urophasianus</i>) SOC	  
View in Field Guide View Predicted Models View Associated Habitat View Range Maps Species of Concern - Native Species Global: G3G4 State: S2 USFS: Sensitive - Known on Forests (BD) Species of Conservation Concern on Forests (CG) BLM: SENSITIVE FWP SWAP: SGCN2 PIF: 1 Predictive Models:  33% Low (inductive) Associated Habitats:  36% Common	
A - Western Toad (<i>Anaxyrus boreas</i>) SOC	  
View in Field Guide View Predicted Models View Associated Habitat View Range Maps Species of Concern - Native Species Global: G4 State: S2 USFS: Sensitive - Known on Forests (BD, BRT, KOOT, LOLO) BLM: SENSITIVE FWP SWAP: SGCN2 Predictive Models:  33% Low (inductive) Associated Habitats:  31% Common,  41% Occasional	
B - Black Tern (<i>Chlidonias niger</i>) SOC	   
View in Field Guide View Predicted Models View Associated Habitat View Range Maps Species of Concern - Native Species Global: G4G5 State: S3B USFWS: MBTA; BCC10; BCC11; BCC17 BLM: SENSITIVE FWP SWAP: SGCN3 PIF: 2 Predictive Models:  33% Low (inductive) Associated Habitats:  10% Common	
V - Carex crawei (<i>Crawe's Sedge</i>) SOC	 Not Assigned 
View in Field Guide View Predicted Models View Range Maps Species of Concern - Native Species Global: G5 State: S2S3 MNPS: 3 Predictive Models:  33% Low (inductive)	
F - Arctic Grayling (<i>Thymallus arcticus</i>) SOC	 Not Assigned 
View in Field Guide View Predicted Models View Range Maps Species of Concern - Native/Non-native Species - (depends on location or taxa) Global: G5 State: S1 USFS: Sensitive - Known on Forests (BD) BLM: SENSITIVE FWP SWAP: SGCN1 Predictive Models:  67% Suitable (introduced range) (deductive)	
B - Sharp-tailed Grouse (<i>Tympanuchus phasianellus</i>) SOC	Not Available  
View in Field Guide View Associated Habitat View Range Maps Species of Concern - Native Species Global: G5 State: SX,S4 FWP SWAP: SGCN1 PIF: 2 Associated Habitats:  80% Common,  1% Occasional	
B - Short-eared Owl (<i>Asio flammeus</i>) PSOC	Not Available  

View in Field Guide View Associated Habitat View Range Maps Potential Species of Concern - Native Species Global: G5 State: S4 USFWS: MBTA; BCC11; BCC17 PIF: 3 Associated Habitats: 80% Common, 1% Occasional		Not Available	
M - Bison (<i>Bos bison</i>) SOC		Not Available	
View in Field Guide View Associated Habitat View Range Maps Species of Concern - Native Species Global: G4 State: S2 FWP SWAP: SGCN2 Associated Habitats: 79% Common		Not Available	
M - Preble's Shrew (<i>Sorex preblei</i>) SOC		Not Available	
View in Field Guide View Associated Habitat View Range Maps Species of Concern - Native Species Global: G4 State: S3 FWP SWAP: SGCN3 Associated Habitats: 77% Common, 1% Occasional		Not Available	
V - Eriogonum caespitosum (<i>Mat Buckwheat</i>) SOC		Not Available	
View in Field Guide View Associated Habitat View Range Maps Species of Concern - Native Species Global: G5 State: S2S3 MNPS: 3 Associated Habitats: 57% Common		Not Available	
B - Rufous Hummingbird (<i>Selasphorus rufus</i>) PSOC		Not Available	
View in Field Guide View Associated Habitat View Range Maps Potential Species of Concern - Native Species Global: G4 State: S4B USFWS: MBTA; BCC10 PIF: 3 Associated Habitats: 46% Common, 16% Occasional		Not Available	
V - Polygonum austiniiae (<i>Austin's Knotweed</i>) PSOC		Not Available	
View in Field Guide View Associated Habitat View Range Maps Potential Species of Concern - Native Species Global: G5T4 State: S3S4 USFS: Sensitive - Known on Forests (BD) Species of Conservation Concern on Forests (HLC) MNPS: 2 Associated Habitats: 43% Common		Not Available	
B - Sprague's Pipit (<i>Anthus spragueii</i>) SOC		Not Available	
View in Field Guide View Associated Habitat View Range Maps Species of Concern - Native Species Global: G3G4 State: S3B USFWS: MBTA; BCC11; BCC17 BLM: SENSITIVE FWP SWAP: SGCN3 PIF: 1 Associated Habitats: 40% Occasional		Not Available	
B - Thick-billed Longspur (<i>Rhynchophanes mccownii</i>) SOC		Not Available	
View in Field Guide View Associated Habitat View Range Maps Species of Concern - Native Species Global: G4 State: S3B USFWS: MBTA; BCC10; BCC11; BCC17 BLM: SENSITIVE FWP SWAP: SGCN3 PIF: 2 Associated Habitats: 40% Occasional		Not Available	
B - Burrowing Owl (<i>Athene cunicularia</i>) SOC		Not Available	
View in Field Guide View Associated Habitat View Range Maps Species of Concern - Native Species Global: G4 State: S3B USFWS: MBTA; BCC17 BLM: SENSITIVE FWP SWAP: SGCN3 PIF: 1 Associated Habitats: 35% Common, 40% Occasional		Not Available	
B - Sagebrush Sparrow (<i>Artemisiospiza nevadensis</i>) SOC		Not Available	
View in Field Guide View Associated Habitat View Range Maps Species of Concern - Native Species Global: G5 State: S3B USFWS: MBTA BLM: SENSITIVE FWP SWAP: SGCN3 Associated Habitats: 35% Common		Not Available	
B - Mountain Plover (<i>Charadrius montanus</i>) SOC		Not Available	
View in Field Guide View Associated Habitat View Range Maps Species of Concern - Native Species Global: G3 State: S2B USFWS: MBTA; BCC10; BCC11; BCC17 BLM: SENSITIVE FWP SWAP: SGCN2 PIF: 1 Associated Habitats: 19% Common, 40% Occasional		Not Available	
M - Black-footed Ferret (<i>Mustela nigripes</i>) SOC		Not Available	
View in Field Guide View Associated Habitat View Range Maps Species of Concern - Native Species Global: G1 State: S1 USFWS: LE; XN BLM: ENDANGERED FWP SWAP: SGCN1 Associated Habitats: 19% Common		Not Available	
V - Brickellia oblongifolia (<i>Mojave Brickellbush</i>) SOC		Not Available	
View in Field Guide View Associated Habitat View Range Maps Species of Concern - Native Species Global: G5 State: S1S2 MNPS: 3 Associated Habitats: 16% Common, 19% Occasional		Not Available	
V - Hornungia procumbens (<i>Hutchinsia</i>) SOC		Not Available	
View in Field Guide View Associated Habitat View Range Maps Species of Concern - Native Species Global: G5 State: S2 MNPS: 3 Associated Habitats: 16% Common		Not Available	
B - Trumpeter Swan (<i>Cygnus buccinator</i>) SOC		Not Available	
View in Field Guide View Associated Habitat View Range Maps Species of Concern - Native Species Global: G4 State: S3 USFWS: MBTA USFS: Sensitive - Known on Forests (BD) BLM: SENSITIVE FWP SWAP: SGCN3 PIF: 1 Associated Habitats: 13% Common		Not Available	
I - Argia vivida (<i>Vivid Dancer</i>) PSOC		Not Available	
View in Field Guide View Associated Habitat View Range Maps Potential Species of Concern - Native Species Global: G5 State: S3S5 Associated Habitats: 13% Occasional		Not Available	
I - Argia emma (<i>Emma's Dancer</i>) PSOC		Not Available	
View in Field Guide View Associated Habitat View Range Maps Potential Species of Concern - Native Species Global: G5 State: S3S5 Associated Habitats: 10% Common, 3% Occasional		Not Available	
I - Libellula saturata (<i>Flame Skimmer</i>) PSOC		Not Available	

View in Field Guide View Associated Habitat View Range Maps Potential Species of Concern - Native Species Global: G5 State: S2S4 Associated Habitats: <input checked="" type="checkbox"/> 10% Common, <input type="checkbox"/> 3% Occasional		Not Available : <input type="text"/> <input type="button" value="Y"/>
I - Somatochlora minor (<i>Ocellated Emerald</i>) PSOC		
View in Field Guide View Associated Habitat View Range Maps Potential Species of Concern - Native Species Global: G5 State: S2S4 Associated Habitats: <input checked="" type="checkbox"/> 10% Common, <input type="checkbox"/> 3% Occasional		
M - North American Water Vole (<i>Microtus richardsoni</i>) PSOC		
View in Field Guide View Associated Habitat View Range Maps Potential Species of Concern - Native Species Global: G5 State: S4 Associated Habitats: <input checked="" type="checkbox"/> 10% Common, <input type="checkbox"/> 1% Occasional		
I - Aeshna constricta (<i>Lance-tipped Darner</i>) PSOC		
View in Field Guide View Associated Habitat View Range Maps Potential Species of Concern - Native Species Global: G5 State: S1S3 Associated Habitats: <input checked="" type="checkbox"/> 10% Common		
I - Aeshna eremita (<i>Lake Darner</i>) PSOC		
View in Field Guide View Associated Habitat View Range Maps Potential Species of Concern - Native Species Global: G5 State: S3S4 Associated Habitats: <input checked="" type="checkbox"/> 10% Common		Not Available : <input type="text"/> <input type="button" value="Y S W"/>
I - Aeshna juncea (<i>Sedge Darner</i>) PSOC		
View in Field Guide View Associated Habitat View Range Maps Potential Species of Concern - Native Species Global: G5 State: S3S5 Associated Habitats: <input type="checkbox"/> 10% Occasional		Not Available : <input type="text"/> <input type="button" value="Y"/>
I - Enallagma civile (<i>Familiar Bluet</i>) PSOC		
View in Field Guide View Associated Habitat View Range Maps Potential Species of Concern - Native Species Global: G5 State: S2S4 Associated Habitats: <input checked="" type="checkbox"/> 10% Common		
I - Enallagma clausum (<i>Alkali Bluet</i>) PSOC		
View in Field Guide View Associated Habitat View Range Maps Potential Species of Concern - Native Species Global: G5 State: S2S4 Associated Habitats: <input type="checkbox"/> 10% Occasional		Not Available : <input type="text"/> <input type="button" value="Y"/>
I - Leucorrhinia borealis (<i>Boreal Whiteface</i>) SOC		
View in Field Guide View Associated Habitat View Range Maps Species of Concern - Native Species Global: G5 State: S1 Associated Habitats: <input type="checkbox"/> 10% Occasional		Not Available : <input type="text"/> <input type="button" value="Y"/>
I - Rhionaeschna californica (<i>California Darner</i>) PSOC		
View in Field Guide View Associated Habitat View Range Maps Potential Species of Concern - Native Species Global: G5 State: S3S5 Associated Habitats: <input type="checkbox"/> 10% Occasional		Not Available : <input type="text"/> <input type="button" value="Y"/>
I - Rhionaeschna multicolor (<i>Blue-eyed Darner</i>) PSOC		
View in Field Guide View Associated Habitat View Range Maps Potential Species of Concern - Native Species Global: G5 State: S2S4 Associated Habitats: <input checked="" type="checkbox"/> 10% Common		
I - Somatochlora hudsonica (<i>Hudsonian Emerald</i>) PSOC		
View in Field Guide View Associated Habitat View Range Maps Potential Species of Concern - Native Species Global: G5 State: S2S4 Associated Habitats: <input type="checkbox"/> 10% Occasional		Not Available : <input type="text"/> <input type="button" value="Y"/>
I - Sympetrum madidum (<i>Red-veined Meadowhawk</i>) PSOC		
View in Field Guide View Associated Habitat View Range Maps Potential Species of Concern - Native Species Global: G5 State: S2S3 Associated Habitats: <input type="checkbox"/> 10% Occasional		
B - Black-crowned Night-Heron (<i>Nycticorax nycticorax</i>) SOC		
View in Field Guide View Associated Habitat View Range Maps Species of Concern - Native Species Global: G5 State: S3B USFWS: MBTA FWP SWAP: SGCN3 PIF: 3 Associated Habitats: <input checked="" type="checkbox"/> 10% Common		Not Available : <input type="text"/> <input type="button" value="S M"/>
B - Forster's Tern (<i>Sterna forsteri</i>) SOC		
View in Field Guide View Associated Habitat View Range Maps Species of Concern - Native Species Global: G5 State: S3B USFWS: MBTA BLM: SENSITIVE FWP SWAP: SGCN3 PIF: 2 Associated Habitats: <input checked="" type="checkbox"/> 10% Common		Not Available : <input type="text"/> <input type="button" value="S M"/>
B - Franklin's Gull (<i>Leucophaeus pipixcan</i>) SOC		
View in Field Guide View Associated Habitat View Range Maps Species of Concern - Native Species Global: G5 State: S3B USFWS: MBTA; BCC10; BCC11; BCC17 BLM: SENSITIVE FWP SWAP: SGCN3 PIF: 2 Associated Habitats: <input checked="" type="checkbox"/> 10% Common		Not Available : <input type="text"/> <input type="button" value="S M"/>
B - White-faced Ibis (<i>Plegadis chihi</i>) SOC		
View in Field Guide View Associated Habitat View Range Maps Species of Concern - Native Species Global: G5 State: S3B USFWS: MBTA BLM: SENSITIVE FWP SWAP: SGCN3 PIF: 2 Associated Habitats: <input checked="" type="checkbox"/> 10% Common		Not Available : <input type="text"/> <input type="button" value="S M"/>
B - Black-necked Stilt (<i>Himantopus mexicanus</i>) SOC		

View in Field Guide	View Associated Habitat	View Range Maps							
Species of Concern - Native Species			Global: G5	State: S3B	USFWS: MBTA	FWP SWAP: SGCN3	PIF: 3		
Associated Habitats: 10% Common									
B - Caspian Tern (<i>Hydroprogne caspia</i>) SOC Not Available: <input type="text"/> 									
View in Field Guide	View Associated Habitat	View Range Maps							
Species of Concern - Native Species			Global: G5	State: S2B	USFWS: MBTA	BLM: SENSITIVE	FWP SWAP: SGCN2	PIF: 2	
Associated Habitats: 10% Common									
B - Clark's Grebe (<i>Aechmophorus clarkii</i>) SOC Not Available: <input type="text"/> 									
View in Field Guide	View Associated Habitat	View Range Maps							
Species of Concern - Native Species			Global: G5	State: S3B	USFWS: MBTA; BCC10; BCC11	FWP SWAP: SGCN3	PIF: 3		
Associated Habitats: 10% Common									
B - Common Loon (<i>Gavia immer</i>) SOC Not Available: <input type="text"/> 									
View in Field Guide	View Associated Habitat	View Range Maps							
Species of Concern - Native Species			Global: G5	State: S3B	USFWS: MBTA	USFS: Sensitive - Known on Forests (KOOT, LOLO)	FWP SWAP: SGCN3	PIF: 1	
Associated Habitats: 10% Common									
B - Horned Grebe (<i>Podiceps auritus</i>) SOC Not Available: <input type="text"/> 									
View in Field Guide	View Associated Habitat	View Range Maps							
Species of Concern - Native Species			Global: G5	State: S3B	USFWS: MBTA	BLM: SENSITIVE	FWP SWAP: SGCN3	PIF: 2	
Associated Habitats: 10% Common									
I - Polygonia progne (<i>Gray Comma</i>) SOC Not Available: <input type="text"/> 									
View in Field Guide	View Associated Habitat	View Range Maps							
Species of Concern - Native Species			Global: G5	State: S2					
Associated Habitats: 5% Common, 3% Occasional									
B - Evening Grosbeak (<i>Coccothraustes vespertinus</i>) SOC Not Available: <input type="text"/> 									
View in Field Guide	View Associated Habitat	View Range Maps							
Species of Concern - Native Species			Global: G5	State: S3	USFWS: MBTA; BCC10	FWP SWAP: SGCN3			
Associated Habitats: 5% Common, 1% Occasional									
B - Broad-tailed Hummingbird (<i>Selasphorus platycercus</i>) PSOC Not Available: <input type="text"/> 									
View in Field Guide	View Associated Habitat	View Range Maps							
Potential Species of Concern - Native Species			Global: G5	State: S4B	USFWS: MBTA; BCC10	FWP SWAP: SGIN			
Associated Habitats: 4% Common, 59% Occasional									
I - Euphydryas gillettii (<i>Gillette's Checkerspot</i>) SOC Not Available: <input type="text"/> 									
View in Field Guide	View Associated Habitat	View Range Maps							
Species of Concern - Native Species			Global: G3	State: S2					
Associated Habitats: 3% Common, 42% Occasional									
I - Argia alberta (<i>Paiute Dancer</i>) PSOC Not Available: <input type="text"/> 									
View in Field Guide	View Associated Habitat	View Range Maps							
Potential Species of Concern - Native Species			Global: G4	State: S2S3					
Associated Habitats: 3% Common, 10% Occasional									
B - Harlequin Duck (<i>Histrionicus histrionicus</i>) SOC Not Available: <input type="text"/> 									
View in Field Guide	View Associated Habitat	View Range Maps							
Species of Concern - Native Species			Global: G4	State: S2B	USFWS: MBTA	USFS: Sensitive - Known on Forests (BD, KOOT, LOLO)	FWP SWAP: SGCN2	PIF: 1	
Associated Habitats: 3% Common, 10% Occasional									
B - Great Gray Owl (<i>Strix nebulosa</i>) SOC Not Available: <input type="text"/> 									
View in Field Guide	View Associated Habitat	View Range Maps							
Species of Concern - Native Species			Global: G5	State: S3	USFWS: MBTA	BLM: SENSITIVE	FWP SWAP: SGCN3, SGIN	PIF: 3	
Associated Habitats: 3% Common, 2% Occasional									
B - Gray-crowned Rosy-Finch (<i>Leucosticte tephrocotis</i>) SOC Not Available: <input type="text"/> 									
View in Field Guide	View Associated Habitat	View Range Maps							
Species of Concern - Native Species			Global: G5	State: S2	USFWS: MBTA	FWP SWAP: SGCN2, SGIN			
Associated Habitats: 3% Common									
V - Castilleja exilis (<i>Annual Indian Paintbrush</i>) SOC Not Available: <input type="text"/> 									
View in Field Guide	View Associated Habitat	View Range Maps							
Species of Concern - Native Species			Global: G5T5	State: S2	USFS: Species of Conservation Concern on Forests (CG)	MNPS: 3			
Associated Habitats: 3% Common									
V - Draba densifolia (<i>Dense-leaf Draba</i>) SOC Not Available: <input type="text"/> 									
View in Field Guide	View Associated Habitat	View Range Maps							
Species of Concern - Native Species			Global: G5	State: S2	USFS: Species of Conservation Concern on Forests (CG, HLC)	MNPS: 2			
Associated Habitats: 3% Common									
V - Physaria saximontana var. dentata (<i>Rocky Mountain Twinpod</i>) SOC Not Available: <input type="text"/> 									
View in Field Guide	View Associated Habitat	View Range Maps							
Species of Concern - Native Species			Global: G3T3	State: S3	MNPS: 3				
Associated Habitats: 3% Occasional									
V - Senecio eremophilus (<i>Desert Groundsel</i>) SOC Not Available: <input type="text"/> 									
View in Field Guide	View Associated Habitat	View Range Maps							
Species of Concern - Native Species			Global: G5	State: S1S2	MNPS: 3				
Associated Habitats: 3% Common									
B - American Bittern (<i>Botaurus lentiginosus</i>) SOC Not Available: <input type="text"/> 									

View in Field Guide	View Associated Habitat	View Range Maps							
Species of Concern - Native Species			Global: G5	State: S3B	USFWS: MBTA	BLM: SENSITIVE	FWP SWAP: SGCN3	PIF: 3	
Associated Habitats: 3% Common									
B - Black Rosy-Finch (<i>Leucosticte atrata</i>) SOC Not Available: <input type="text"/> 									
View in Field Guide	View Associated Habitat	View Range Maps							
Species of Concern - Native Species			Global: G4	State: S2	USFWS: MBTA; BCC10	FWP SWAP: SGCN2, SGIN	PIF: 2		
Associated Habitats: 3% Common									
B - Black-billed Cuckoo (<i>Coccyzus erythrophthalmus</i>) SOC Not Available: <input type="text"/> 									
View in Field Guide	View Associated Habitat	View Range Maps							
Species of Concern - Native Species			Global: G5	State: S3B	USFWS: MBTA; BCC11; BCC17	BLM: SENSITIVE	FWP SWAP: SGCN3, SGIN	PIF: 2	
Associated Habitats: 3% Common									
B - Yellow-billed Cuckoo (<i>Coccyzus americanus</i>) SOC Not Available: <input type="text"/> 									
View in Field Guide	View Associated Habitat	View Range Maps							
Species of Concern - Native Species			Global: G5	State: S3B	USFWS: PS: LT; MBTA	BLM: THREATENED	FWP SWAP: SGCN3, SGIN	PIF: 2	
Associated Habitats: 3% Common									
B - Tennessee Warbler (<i>Leiothlypis peregrina</i>) PSOC Not Available: <input type="text"/> 									
View in Field Guide	View Associated Habitat	View Range Maps							
Potential Species of Concern - Native Species			Global: G5	State: S3S4B	USFWS: MBTA				
Associated Habitats: 3% Common									
B - Varied Thrush (<i>Ixoreus naevius</i>) SOC Not Available: <input type="text"/> 									
View in Field Guide	View Associated Habitat	View Range Maps							
Species of Concern - Native Species			Global: G5	State: S3B	USFWS: MBTA	FWP SWAP: SGCN3	PIF: 3		
Associated Habitats: 2% Common, 1% Occasional									
M - Wolverine (<i>Gulo gulo</i>) SOC 7 Not Available: <input type="text"/> 									
View in Field Guide	View Associated Habitat	View Range Maps							
Species of Concern - Native Species			Global: G4	State: S3	USFS: Sensitive - Known on Forests (BD, BRT, KOOT, LOLO)	BLM: SENSITIVE	FWP SWAP: SGCN3		
Associated Habitats: 1% Common, 3% Occasional									
I - Colias gigantea (<i>Giant Sulphur</i>) PSOC Not Available: <input type="text"/> 									
View in Field Guide	View Associated Habitat	View Range Maps							
Potential Species of Concern - Native Species			Global: G5	State: S3					
Associated Habitats: 1% Common, 3% Occasional									
M - Canada Lynx (<i>Lynx canadensis</i>) SOC 7 Not Available: <input type="text"/> 									
View in Field Guide	View Associated Habitat	View Range Maps							
Species of Concern - Native Species			Global: G5	State: S3	USFWS: LT; CH	BLM: THREATENED	FWP SWAP: SGCN3		
Associated Habitats: 1% Common, 2% Occasional									
B - Northern Goshawk (<i>Accipiter gentilis</i>) SOC Not Available: <input type="text"/> 									
View in Field Guide	View Associated Habitat	View Range Maps							
Species of Concern - Native Species			Global: G5	State: S3	USFWS: MBTA	FWP SWAP: SGCN3	PIF: 2		
Associated Habitats: 1% Common, 1% Occasional									
B - Pacific Wren (<i>Troglodytes pacificus</i>) SOC Not Available: <input type="text"/> 									
View in Field Guide	View Associated Habitat	View Range Maps							
Species of Concern - Native Species			Global: G5	State: S3	USFWS: MBTA	FWP SWAP: SGCN3	PIF: 2		
Associated Habitats: 1% Common, 1% Occasional									
B - Pileated Woodpecker (<i>Dryocopus pileatus</i>) SOC Not Available: <input type="text"/> 									
View in Field Guide	View Associated Habitat	View Range Maps							
Species of Concern - Native Species			Global: G5	State: S3	USFWS: MBTA	FWP SWAP: SGCN3	PIF: 2		
Associated Habitats: 1% Common, 1% Occasional									
B - Northern Hawk Owl (<i>Surnia ulula</i>) SOC Not Available: <input type="text"/> 									
View in Field Guide	View Associated Habitat	View Range Maps							
Species of Concern - Native Species			Global: G5	State: S3	USFWS: MBTA	FWP SWAP: SGCN3, SGIN			
Associated Habitats: 1% Common, 1% Occasional									
B - Black-backed Woodpecker (<i>Picoides arcticus</i>) SOC Not Available: <input type="text"/> 									
View in Field Guide	View Associated Habitat	View Range Maps							
Species of Concern - Native Species			Global: G5	State: S3	USFWS: MBTA	USFS: Sensitive - Known on Forests (BD, BRT, KOOT, LOLO)	BLM: SENSITIVE		
FWP SWAP: SGCN3 PIF: 1									
Associated Habitats: 1% Common									
B - Boreal Owl (<i>Aegolius funereus</i>) PSOC Not Available: <input type="text"/> 									
View in Field Guide	View Associated Habitat	View Range Maps							
Potential Species of Concern - Native Species			Global: G5	State: S3S4	USFWS: MBTA	FWP SWAP: SGIN	PIF: 3		
Associated Habitats: 1% Common									
B - Brown Creeper (<i>Certhia americana</i>) SOC Not Available: <input type="text"/> 									
View in Field Guide	View Associated Habitat	View Range Maps							
Species of Concern - Native Species			Global: G5	State: S3	USFWS: MBTA	FWP SWAP: SGCN3	PIF: 1		
Associated Habitats: 1% Common									
I - Aeshna sitchensis (<i>Zigzag Darner</i>) PSOC Not Available: <input type="text"/> 									
View in Field Guide	View Associated Habitat	View Range Maps							
Potential Species of Concern - Native Species			Global: G5	State: S2S3					
Associated Habitats: 1% Occasional									
V - Botrychium ascendens (<i>Upward-lobed Moonwort</i>) SOC Not Available: <input type="text"/> 									

View in Field Guide	View Associated Habitat	View Range Maps							
Species of Concern - Native Species Global: G3 State: S3 USFS: Sensitive - Known on Forests (KOOT) MNPS: 4									
Associated Habitats: 1% Common									
V - <i>Botrychium crenulatum</i> (<i>Wavy Moonwort</i>) SOC Not Available: <input type="text"/> Y									
View in Field Guide	View Associated Habitat	View Range Maps							
USFS: Sensitive - Known on Forests (BD, KOOT, LOLO)									
Species of Concern - Native Species Global: G4 State: S3 Species of Conservation Concern on Forests (HLC) MNPS: 4									
Associated Habitats: 1% Common									
V - <i>Botrychium paradoxum</i> (<i>Peculiar Moonwort</i>) SOC Not Available: <input type="text"/> Y									
View in Field Guide	View Associated Habitat	View Range Maps							
USFS: Sensitive - Known on Forests (BD, KOOT)									
Sensitive - Suspected on Forests (LOLO)									
Species of Concern - Native Species Global: G3G4 State: S3 Species of Conservation Concern on Forests (CG, FLAT, HLC) BLM: SENSITIVE MNPS: 4									
Associated Habitats: 1% Common									
V - <i>Botrychium simplex</i> (<i>Least Moonwort</i>) SOC Not Available: <input type="text"/> Y									
View in Field Guide	View Associated Habitat	View Range Maps							
Species of Concern - Native Species Global: G5 State: S2 MNPS: 4									
Associated Habitats: 1% Common									
V - <i>Ranunculus pedatifidus</i> (<i>Northern Buttercup</i>) SOC Not Available: <input type="text"/> Y									
View in Field Guide	View Associated Habitat	View Range Maps							
Species of Concern - Native Species Global: G5 State: S3 USFS: Species of Conservation Concern on Forests (HLC) MNPS: 3									
Associated Habitats: 1% Common									
B - <i>Flammulated Owl</i> (<i>Psiloscops flammeolus</i>) SOC Not Available: <input type="text"/> S M									
View in Field Guide	View Associated Habitat	View Range Maps							
USFS: Sensitive - Known on Forests (BD, BRT, KOOT, LOLO)									
Species of Concern - Native Species Global: G4 State: S3B USFWS: MBTA; BCC10 Species of Conservation Concern on Forests (FLAT, HLC) BLM: SENSITIVE									
FWP SWAP: SGCN3 PIF: 1									
Associated Habitats: 1% Common									
B - <i>Ovenbird</i> (<i>Seiurus aurocapilla</i>) PSOC Not Available: <input type="text"/> S M									
View in Field Guide	View Associated Habitat	View Range Maps							
Potential Species of Concern - Native Species Global: G5 State: S4B USFWS: MBTA PIF: 3									
Associated Habitats: 1% Common									
B - <i>Black-and-white Warbler</i> (<i>Mniotilta varia</i>) PSOC Not Available: <input type="text"/> M									
View in Field Guide	View Associated Habitat	View Range Maps							
Potential Species of Concern - Native Species Global: G5 State: S4B USFWS: MBTA									
Associated Habitats: 1% Common									

Structured Surveys

Summarized by: **22mt0027** (*Custom Area of Interest*)

The Montana Natural Heritage Program (MTNHP) records information on the locations where more than 80 different types of well-defined repeatable survey protocols capable of detecting an animal species or suite of animal species have been conducted by state, federal, tribal, university, or private consulting biologists. Examples of structured survey protocols tracked by MTNHP include: visual encounter and dip net surveys for pond breeding amphibians, point counts for birds, call playback surveys for selected bird species, visual surveys of migrating raptors, kick net stream reach surveys for macroinvertebrates, visual encounter cover object surveys for terrestrial mollusks, bat acoustic or mist net surveys, pitfall and/or snap trap surveys for small terrestrial mammals, track or camera trap surveys for large mammals, and trap surveys for turtles. Whenever possible, photographs of survey locations are stored in MTNHP databases.

MTNHP does not typically manage information on structured surveys for plants; surveys for invasive species may be a future exception.

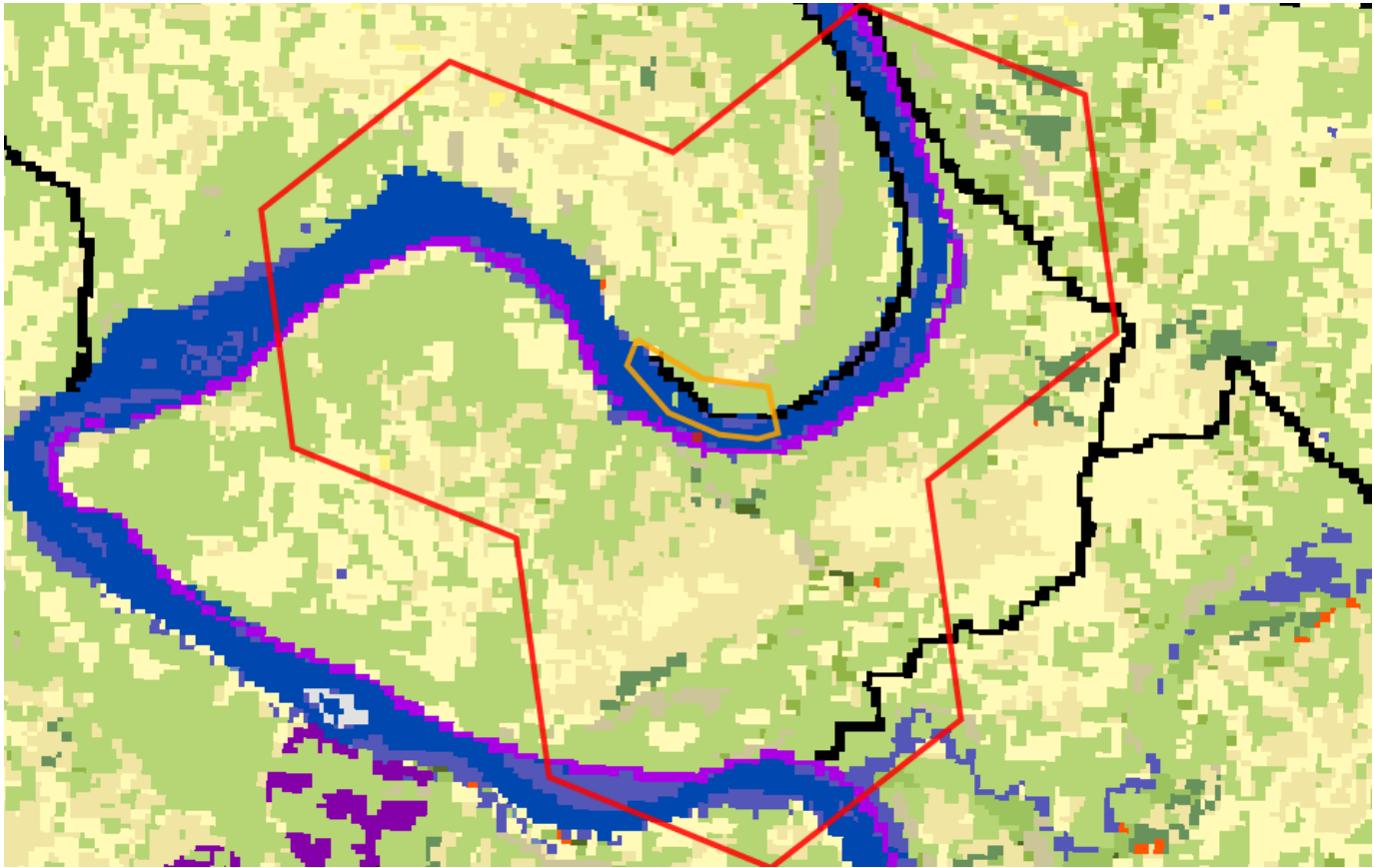
Within the report area you have requested, structured surveys are summarized by the number of each type of structured survey protocol that has been conducted, the number of species detections/observations resulting from these surveys, and the most recent year a survey has been conducted.

B-Point Count (<i>Bird Point Count</i>)	Survey Count: 6	Obs Count: 61	Recent Survey: 2003
B-Raptor nest (<i>Raptor Nest Survey</i>)	Survey Count: 8	Obs Count: 7	Recent Survey: 2013
E-Eurasian Water-milfoil Rake (<i>Rake tows/pulls for Eurasian Water-milfoil</i>)	Survey Count: 89	Obs Count: 53	Recent Survey: 2021
E-Invasive Mussel Plankton Tow (<i>Plankton tows for veligers of Invasive Mussels</i>)	Survey Count: 7	Obs Count:	Recent Survey: 2021
E-Kicknet (<i>Kicknet Collection Survey for Invasive Mussels and Snails</i>)	Survey Count: 10	Obs Count: 4	Recent Survey: 2021
E-Visual Aquatic Invasives (<i>Visual Encounter Surveys for Aquatic Invasives on Shorelines or Underwater</i>)	Survey Count: 42	Obs Count: 30	Recent Survey: 2020
F-Fish Electrofishing (<i>Fish Electrofishing Surveys</i>)	Survey Count: 5	Obs Count: 10	Recent Survey: 2011
I-Bumble Bee (<i>Bumble Bee Collection Surveys</i>)	Survey Count: 1	Obs Count: 1	Recent Survey: 1990
M-Bat Acoustic (<i>Bat Acoustic Survey</i>)	Survey Count: 20	Obs Count: 36	Recent Survey: 2016
P-Algal scraping (<i>Algal Scraping</i>)	Survey Count: 3	Obs Count: 136	Recent Survey: 2011



Land Cover

Summarized by: **22mt0027** (*Custom Area of Interest*)



Grassland Systems Montane Grassland

40% (774
Acres)

Rocky Mountain Lower Montane, Foothill, and Valley Grassland

This grassland system of the northern Rocky Mountains is found at lower montane to foothill elevations in mountains and valleys throughout Montana. These grasslands are floristically similar to Big Sagebrush Steppe but are defined by shorter summers, colder winters, and young soils derived from recent glacial and alluvial material. They are found at elevations from 548 - 1,650 meters (1,800-5,413 feet). In the lower montane zone, they range from small meadows to large open parks surrounded by conifers; below the lower treeline, they occur as extensive foothill and valley grasslands. Soils are relatively deep, fine-textured, often with coarse fragments, and non-saline. Microphytic crust may be present in high-quality occurrences. This system is typified by cool-season perennial bunch grasses and forbs (>25%) cover, with a sparse shrub cover (<10%). Rough fescue (*Festuca campestris*) is dominant in the northwestern portion of the state and Idaho fescue (*Festuca idahoensis*) is dominant or co-dominant throughout the range of the system. Bluebunch wheatgrass (*Pseudoroegneria spicata*) occurs as a co-dominant throughout the range as well, especially on xeric sites. Western wheatgrass (*Pascopyrum smithii*) is consistently present, often with appreciable coverage (>10%) in lower elevation occurrences in western Montana and virtually always present, with relatively high coverages (>25%), on the edge of the Northwestern Great Plains region. Species diversity ranges from a high of more than 50 per 400 square meter plot on mesic sites to 15 (or fewer) on xeric and disturbed sites. Most occurrences have at least 25 vascular species present. Farmland conversion, noxious species invasion, fire suppression, heavy grazing and oil and gas development are major threats to this system.



Shrubland, Steppe and Savanna Systems Sagebrush Steppe

19% (364
Acres)

Big Sagebrush Steppe

This widespread ecological system occurs throughout much of central Montana, and north and east onto the western fringe of the Great Plains. In central Montana, where this system occurs on both glaciated and non-glaciated landscapes, it differs slightly, with more summer rain than winter precipitation and more precipitation annually. Throughout its distribution, soils are typically deep and non-saline, often with a microphytic crust. This shrub-steppe is dominated by perennial grasses and forbs with greater than 25% cover. Overall shrub cover is less than 10 percent. In Montana and Wyoming, stands are more mesic, with more biomass of grass, and have less shrub diversity than stands farther to the west, and 50 to 90% of the occurrences are dominated by Wyoming big sagebrush with western wheatgrass (*Pascopyrum smithii*). Japanese brome (*Bromus japonicus*) and cheatgrass (*Bromus tectorum*) are indicators of disturbance, but cheatgrass is typically not as abundant as in the Intermountain West, possibly due to a colder climate. The natural fire regime of this ecological system maintains a patchy distribution of shrubs, preserving the steppe character. Shrubs may increase following heavy grazing and/or with fire suppression. In central and eastern Montana, complexes of prairie dog towns are common in this ecological system.



Shrubland, Steppe and Savanna Systems Sagebrush Steppe

Montane Sagebrush Steppe

17% (317 Acres)

This system dominates the montane and subalpine landscape of southwestern Montana from valley bottoms to subalpine ridges and is found as far north as Glacier National Park. It can also be seen in the island mountain ranges of the north-central and south-central portions of the state. It primarily occurs on deep-soiled to stony flats, ridges, nearly flat ridgetops, and mountain slopes. In general, this system occurs in areas of gentle topography, fine soils, subsurface moisture or mesic conditions, within zones of higher precipitation and areas of snow accumulation. It occurs on all slopes and aspects, variable substrates and all soil types. The shrub component of this system is generally dominated by mountain big sagebrush (*Artemisia tridentata* ssp. *vaseyana*). Other co-dominant shrubs include silver sagebrush (*Artemisia cana* ssp. *viscidula*), subalpine big sagebrush (*Artemisia tridentata* ssp. *spiciformis*), three tip sagebrush (*Artemisia tripartita* ssp. *tripartita*) and antelope bitterbrush (*Purshia tridentata*). Little sagebrush (*Artemisia arbuscula* ssp. *arbuscula*) shrublands are only found in southwestern Montana on sites with a perched water table. Wyoming big sagebrush (*Artemisia tridentata* ssp. *wyomingensis*) sites may be included within this system if occurrences are at montane elevations, and are associated with montane graminoids such as Idaho fescue (*Festuca idahoensis*), spike fescue (*Leucopoa kingii*), or poverty oatgrass (*Danthonia intermedia*). In areas where sage has been eliminated by human activities like burning, disking or poisoning, other shrubs may be dominant, especially rubber rabbitbrush (*Ericameria nauseosa*), and green rabbitbrush (*Chrysothamnus viscidiflorus*). Because of the mesic site conditions, most occurrences support a diverse herbaceous undergrowth of grasses and forbs. Shrub canopy cover is extremely variable, ranging from 10 percent to as high as 40 or 50 percent.



Wetland and Riparian Systems Open Water

Open Water

10% (190 Acres)

All areas of open water, generally with less than 25% cover of vegetation or soil



Sparse and Barren Systems Cliff, Canyon and Talus

Rocky Mountain Cliff, Canyon and Massive Bedrock

3% (57 Acres)

This ecological system of barren and sparsely vegetated landscapes is found from foothill to subalpine elevations throughout the Rocky Mountains and island mountain ranges of Montana. Its range overlaps with the Western Great Plains Cliff and Outcrop, which differs in having more developed soils and more vegetated cover. It occurs on steep cliff faces, in narrow canyons, and on smaller rock outcrops of various igneous, sedimentary, and metamorphic bedrock types, and includes the unstable scree and talus slopes that typically occur below cliff faces. It is characteristically dry and sparsely vegetated, typically having less than 10% plant cover. Species composition includes individuals present in adjacent systems (unless exposed parent material is radically different) and herbaceous species specifically adapted to cliff faces and unstable talus slides. Although there may be small patches of dense vegetation, the system usually consists of scattered trees and/or shrubs such as Douglas-fir (*Pseudotsuga menziesii*), Ponderosa pine (*Pinus ponderosa*), limber pine (*Pinus flexilis*), aspen (*Populus tremuloides*), or subalpine fir (*Abies lasiocarpa*). Juniper (*Juniperus* spp.) is common at lower elevations. Shrubs adapted to xeric growing conditions and rocky soils are typically present, e.g. oceanspray (*Holodiscus discolor*), currant (*Ribes species*), common ninebark (*Physocarpus malvaceus*), wild rose (*Rosa species*), common juniper (*Juniperus communis*), Lewis mock orange (*Philadelphus lewisii*), creeping Oregon grape (*Mahonia repens*), three leaf sumac (*Rhus trilobata*), American wild raspberry (*Rubus idaeus*) or serviceberry (*Amelanchier alnifolia*). Soil development is limited, as is herbaceous cover. Forbs may include penstemon (*Penstemon* species), buckwheat (*Eriogonum* species), western sagewort (*Artemisia ludovicana*), Michaux's sagewort (*Artemisia michauxiana*), and spotted saxifrage (*Saxifraga bronchialis*). Because the elevation range is so broad, species composition may vary widely from occurrence to occurrence.

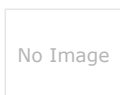


Wetland and Riparian Systems Floodplain and Riparian

Rocky Mountain Lower Montane-Foothill Riparian Woodland and Shrubland

3% (56 Acres)

This ecological system is found throughout the Rocky Mountain and Colorado Plateau regions. In Montana, it ranges from approximately 945 to 2,042 meters (3,100 to 6,700 feet), characteristically occurring as a mosaic of multiple communities that are tree-dominated with a diverse shrub component. It is dependent on a natural hydrologic regime, especially annual to episodic flooding. Occurrences are found within the flood zone of rivers, on islands, sand or cobble bars, and on immediate streambanks. It can form large, wide occurrences on mid-channel islands in larger rivers or narrow bands on small, rocky canyon tributaries and well-drained benches. It is also typically found in backwater channels and other perennially wet but less scoured sites, such as floodplains swales and irrigation ditches. In some locations, occurrences extend into moderately high intermountain basins where the adjacent vegetation is sage steppe. Dominant trees may include boxelder maple (*Acer negundo*), narrowleaf cottonwood (*Populus angustifolia*), Plains cottonwood (*Populus deltoides*), Douglas-fir (*Pseudotsuga menziesii*), peachleaf willow (*Salix amygdaloides*), or Rocky Mountain juniper (*Juniperus scopulorum*). Dominant shrubs include Rocky Mountain maple (*Acer glabrum*), thinlinealder (*Alnus incana*), river birch (*Betula occidentalis*), redberry dogwood (*Cornus sericea*), hawthorne (*Crataegus* spp.), chokecherry (*Prunus virginiana*), skunkbush sumac (*Rhus trilobata*), Drummond's willow (*Salix drummondiana*), sandbar willow (*Salix exigua*), Pacific willow (*Salix lucida*), rose (*Rosa* species), silver buffaloberry (*Shepherdia argentea*), or snowberry (*Symphoricarpos* species). Exotic trees of Russian olive (*Elaeagnus angustifolia*) and saltcedar (*Tamarix* species) may invade some stands in southeastern and south-central Montana.

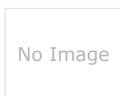


Human Land Use Developed

Railroad

3% (55 Acres)

Railroad tracks and railroad berms/rights of way, currently in use or capable of use



Human Land Use Developed

Other Roads

2% (47 Acres)

County, city and or rural roads generally open to motor vehicles.

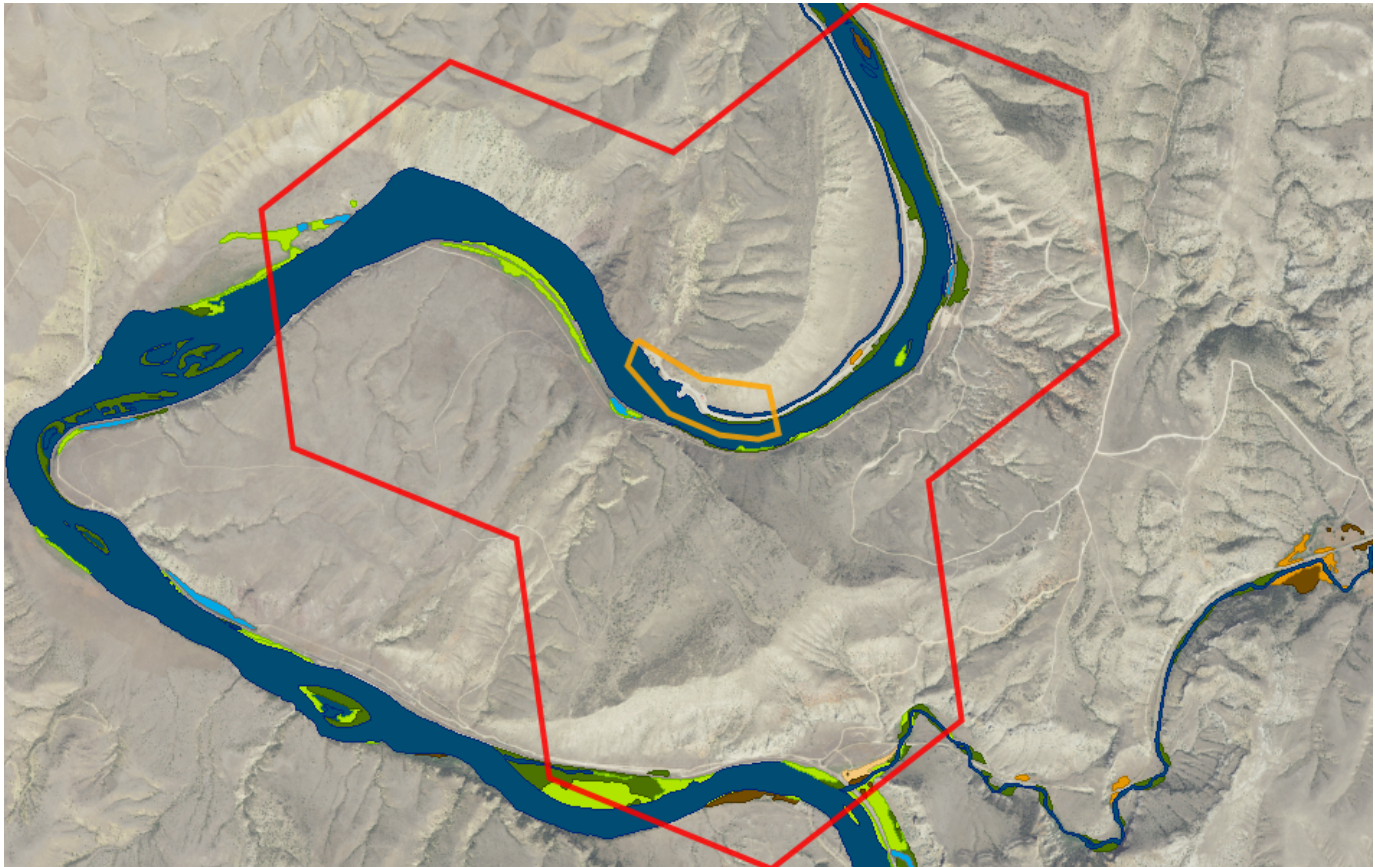
Additional Limited Land Cover

- 1% (23 Acres) [Rocky Mountain Montane-Foothill Deciduous Shrubland](#)
- 1% (21 Acres) [Rocky Mountain Foothill Limber Pine - Juniper Woodland](#)
- <1% (8 Acres) [Rocky Mountain Ponderosa Pine Woodland and Savanna](#)
- <1% (2 Acres) [Low Sagebrush Shrubland](#)
- <1% (2 Acres) [Rocky Mountain Montane Douglas-fir Forest and Woodland](#)
- <1% (1 Acres) [Rocky Mountain Subalpine-Montane Mesic Meadow](#)
- <1% (0 Acres) [Insect-Killed Forest](#)
- <1% (0 Acres) [Introduced Riparian and Wetland Vegetation](#)



Wetland and Riparian

Summarized by: **22mt0027** (Custom Area of Interest)



Wetland and Riparian Mapping

[Explain](#)

P - Palustrine

AB - Aquatic Bed

F - Semipermanently Flooded	2 Acres
(no modifier)	1 Acres PABF
h - Diked/Impounded	1 Acres PABFh
x - Excavated	<1 Acres PABFx

P - Palustrine, AB - Aquatic Bed

Wetlands with vegetation growing on or below the water surface for most of the growing season.

EM - Emergent

A - Temporarily Flooded	7 Acres
(no modifier)	7 Acres PEMA
C - Seasonally Flooded	15 Acres
(no modifier)	15 Acres PEMC
F - Semipermanently Flooded	1 Acres
(no modifier)	1 Acres PEMF

P - Palustrine, EM - Emergent

Wetlands with erect, rooted herbaceous vegetation present during most of the growing season.

SS - Scrub-Shrub

A - Temporarily Flooded	23 Acres
(no modifier)	23 Acres PSSA

P - Palustrine, SS - Scrub-Shrub

Wetlands dominated by woody vegetation less than 6 meters (20 feet) tall. Woody vegetation includes tree saplings and trees that are stunted due to environmental conditions.

R - Riverine (Rivers)

2 - Lower Perennial

UB - Unconsolidated Bottom

F - Semipermanently Flooded	6 Acres
x - Excavated	6 Acres R2UBFx
H - Permanently Flooded	190 Acres
(no modifier)	190 Acres R2UBH

R - Riverine (Rivers), 2 - Lower Perennial, UB - Unconsolidated Bottom

Stream channels where the substrate is at least 25% mud, silt or other fine particles.

US - Unconsolidated Shore

A - Temporarily Flooded	1 Acres
(no modifier)	1 Acres R2USA
C - Seasonally Flooded	<1 Acres

R - Riverine (Rivers), 2 - Lower Perennial, US - Unconsolidated Shore

Shorelines with less than 75% areal cover of stones, boulders, or bedrock and less than 30% vegetation cover. The area is also irregularly exposed due to seasonal or irregular flooding and subsequent drying.

(no modifier)

<1 Acres R2USC

3 - Upper Perennial

UB - Unconsolidated Bottom

R - Riverine (Rivers), 3 - Upper Perennial, UB - Unconsolidated Bottom

G - Intermittently Exposed 2 Acres
(no modifier) 2 Acres R3UBG

Stream channels where the substrate is at least 25% mud, silt or other fine particles.

4 - Intermittent

SB - Stream Bed

R - Riverine (Rivers), 4 - Intermittent, SB - Stream Bed
Active channel that contains periodic water flow.

C - Seasonally Flooded 1 Acres
x - Excavated 1 Acres R4SBCx

Rp - Riparian

1 - Lotic

SS - Scrub-Shrub
(no modifier)

<1 Acres Rp1SS

Rp - Riparian, 1 - Lotic, SS - Scrub-Shrub
This type of riparian area is dominated by woody vegetation that is less than 6 meters (20 feet) tall. Woody vegetation includes tree saplings and trees that are stunted due to environmental conditions.

FO - Forested
(no modifier)

4 Acres Rp1FO

Rp - Riparian, 1 - Lotic, FO - Forested
This riparian class has woody vegetation that is greater than 6 meters (20 feet) tall.

EM - Emergent
(no modifier)

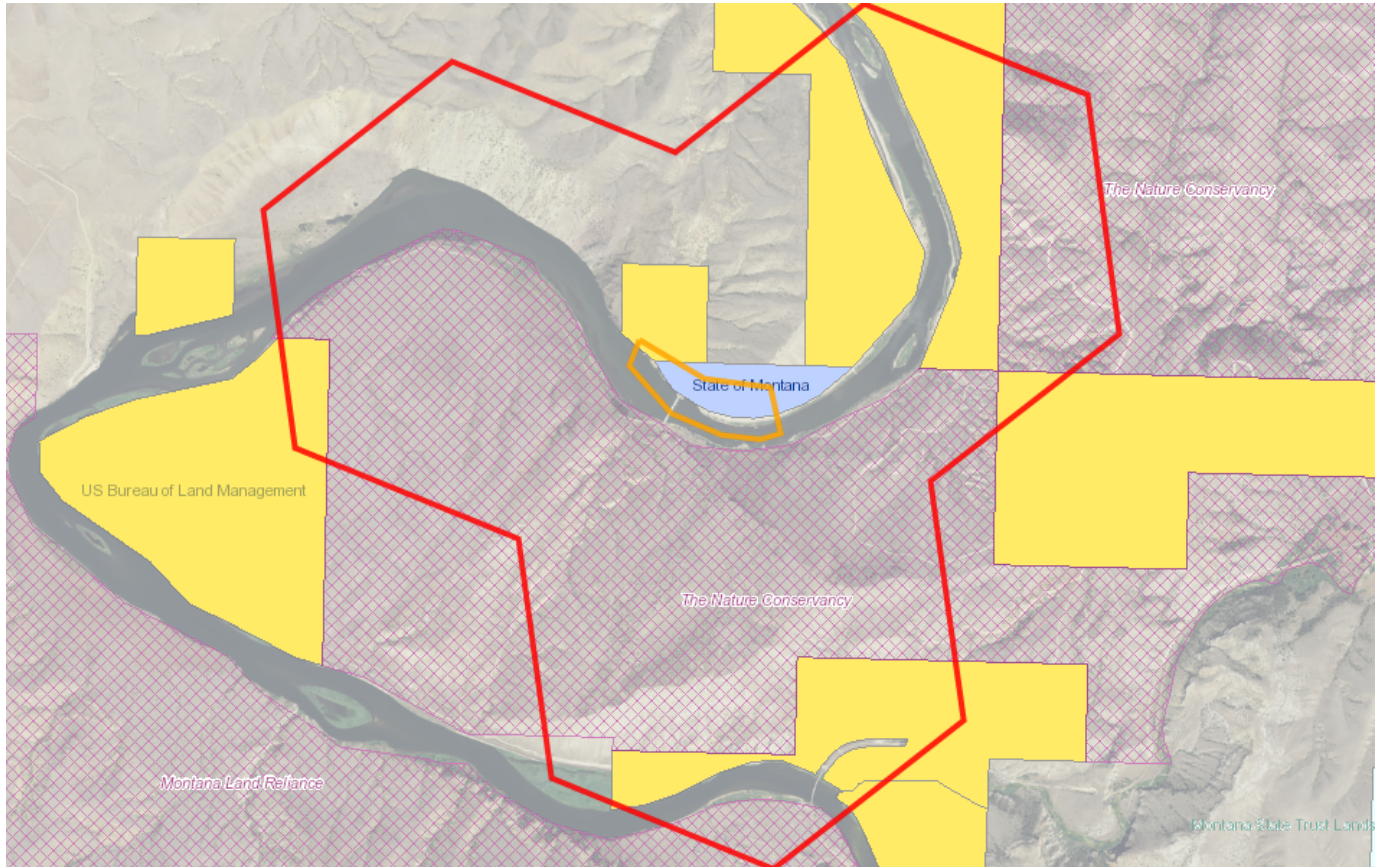
2 Acres Rp1EM

Rp - Riparian, 1 - Lotic, EM - Emergent
Riparian areas that have erect, rooted herbaceous vegetation during most of the growing season.



Land Management

Summarized by: **22mt0027** (Custom Area of Interest)



Land Management Summary

[Explain](#)


	Ownership	Tribal	Easements	Other Boundaries (possible overlap)
Public Lands	405 Acres (21%)			
Federal	374 Acres (19%)			
US Bureau of Land Management	374 Acres (19%)			
BLM Owned	374 Acres (19%)			
State	31 Acres (2%)			
State of Montana	31 Acres (2%)			
State of Montana Owned	31 Acres (2%)			
Conservation Easements			943 Acres (49%)	
Private			943 Acres (49%)	
Montana Land Reliance			27 Acres (1%)	
The Nature Conservancy			916 Acres (48%)	
Private Lands or Unknown Ownership	570 Acres (30%)			

Biological Reports

Summarized by: **22mt0027** (*Custom Area of Interest*)

Within the report area you have requested, citations for all reports and publications associated with plant or animal observations in Montana Natural Heritage Program (MTNHP) databases are listed and, where possible, links to the documents are included.

The MTNHP plans to include reports associated with terrestrial and aquatic communities in the future as allowed for by staff resources. If you know of reports or publications associated with species or biological communities within the report area that are not shown in this report, please let us know: mtnhp@mt.gov

-  Fuller, Pam and A. Benson. U.S. Department of the Interior. USGS NAS: **Nonindigenous Aquatic Species Database**. 2017. Accessed 10 October 2017.
<https://nas.er.usgs.gov/>
- Restani, M. and A.R. Harmata. 1992. Survey of raptors along the upper Missouri River, Montana. Montana State University. Bozeman, MT. 53 pp plus appendix.

Legend			
Model Icons	Habitat Icons	Range Icons	Num Obs
Suitable (native range)	Common	Suspect (invasive / pest)	Count of obs with 'good precision' (<=1000m)
Optimal Suitability	Occasional	Documented (invasive / pest)	+ indicates additional 'poor precision' obs (100m-10,000m)
Moderate Suitability		Released (biocontrol)	
Low Suitability		Established (biocontrol)	
Suitable (introduced range)			



Latitude 46.10249
Longitude -111.38482
Latitude 46.13553
Longitude -111.42962

Invasive and Pest Species

Summarized by: **22mt0027** (*Custom Area of Interest*)

	# Obs	Predictive Model	Associated Habitat	Range
Aquatic Invasive Species				
V - Potamogeton crispus (<i>Curly-leaf Pondweed</i>) N2B/AIS	40		Not Assigned	
View in Field Guide View Predicted Models View Range Maps Noxious Weed: Priority 2B - Aquatic Invasive Species - Non-native Species Global: G5 State: SNA Predictive Models: 33% Optimal (inductive), 67% Moderate (inductive)				
V - Myriophyllum spicatum (<i>Eurasian Water-milfoil</i>) N2A/AIS	13		Not Assigned	
View in Field Guide View Predicted Models View Range Maps Noxious Weed: Priority 2A - Aquatic Invasive Species - Non-native Species Global: GNR State: SNA Predictive Models: 100% Moderate (inductive)				
V - Iris pseudacorus (<i>Yellowflag Iris</i>) N2A/AIS			Not Assigned	
View in Field Guide View Predicted Models View Range Maps Noxious Weed: Priority 2A - Aquatic Invasive Species - Non-native Species Global: GNR State: SNA Predictive Models: 67% Moderate (inductive), 33% Low (inductive)				
V - Butomus umbellatus (<i>Flowering-rush</i>) N2A/AIS			Not Assigned	
View in Field Guide View Predicted Models View Range Maps Noxious Weed: Priority 2A - Aquatic Invasive Species - Non-native Species Global: G5 State: SNA Predictive Models: 33% Low (inductive)				
V - Nymphaea odorata (<i>American Water-lily</i>) AIS			Not Assigned	
View in Field Guide View Predicted Models View Associated Habitat View Range Maps Aquatic Invasive Species - Non-native Species Global: G5 State: SNA Predictive Models: 100% Suitable (introduced range) (deductive) Associated Habitats: 10% Common				
F - Common Carp (<i>Cyprinus carpio</i>) AIS	+		Not Assigned	
View in Field Guide View Predicted Models View Range Maps Aquatic Invasive Species - Non-native Species Global: G5 State: SNA Predictive Models: 100% Suitable (introduced range) (deductive)				
I - Faxonius virilis (<i>Virile Crayfish</i>) AIS	4		Not Assigned	
View in Field Guide Aquatic Invasive Species - Native/Non-native Species - (depends on location or taxa) Global: G5 State: S5				
I - Potamopyrgus antipodarum (<i>New Zealand Mudsnail</i>) AIS	1		Not Assigned	
View in Field Guide Aquatic Invasive Species - Non-native Species Global: G5 State: SNA				
Noxious Weeds: Priority 1A				
V - Centaurea solstitialis (<i>Yellow Starthistle</i>) N1A			Not Assigned	
View in Field Guide View Predicted Models View Range Maps Noxious Weed: Priority 1A - Non-native Species Global: GNR State: SNA Predictive Models: 100% Moderate (inductive)				
V - Isatis tinctoria (<i>Dyer's Woad</i>) N1A			Not Assigned	
View in Field Guide View Predicted Models View Range Maps Noxious Weed: Priority 1A - Non-native Species Global: GNR State: SNA Predictive Models: 67% Moderate (inductive), 33% Low (inductive)				
Noxious Weeds: Priority 1B				
V - Lythrum salicaria (<i>Purple Loosestrife</i>) N1B			Not Assigned	
View in Field Guide View Predicted Models View Range Maps Noxious Weed: Priority 1B - Non-native Species Global: G5 State: SNA Predictive Models: 100% Moderate (inductive)				
V - Echium vulgare (<i>Blueweed</i>) N1B			Not Assigned	
View in Field Guide View Predicted Models View Range Maps Noxious Weed: Priority 1B - Non-native Species Global: GNR State: SNA Predictive Models: 67% Low (inductive)				
V - Polygonum cuspidatum (<i>Japanese Knotweed</i>) N1B			Not Assigned	
View in Field Guide View Predicted Models View Range Maps Noxious Weed: Priority 1B - Non-native Species Global: GNR State: SNA Predictive Models: 33% Low (inductive)				
Noxious Weeds: Priority 2A				
V - Myriophyllum spicatum (<i>Eurasian Water-milfoil</i>) N2A/AIS	13		Not Assigned	
View in Field Guide View Predicted Models View Range Maps Noxious Weed: Priority 2A - Aquatic Invasive Species - Non-native Species Global: GNR State: SNA Predictive Models: 100% Moderate (inductive)				
V - Iris pseudacorus (<i>Yellowflag Iris</i>) N2A/AIS			Not Assigned	

[View in Field Guide](#) [View Predicted Models](#) [View Range Maps](#)
Noxious Weed: Priority 2B - Non-native Species Global: **GNR** State: **SNA**
Predictive Models: 100% Low (inductive)

V - Tanacetum vulgare (*Common Tansy*) **N2B** Not Assigned **D**

[View in Field Guide](#) [View Predicted Models](#) [View Range Maps](#)
Noxious Weed: Priority 2B - Non-native Species Global: **GNR** State: **SNA**
Predictive Models: 100% Low (inductive)

Regulated Weeds: Priority 3

V - Bromus tectorum (*Cheatgrass*) **R3** Not Assigned **D**

[View in Field Guide](#) [View Predicted Models](#) [View Range Maps](#)
Regulated Weed: Priority 3 - Non-native Species Global: **GNR** State: **SNA**
Predictive Models: 100% Low (inductive)

V - Elaeagnus angustifolia (*Russian Olive*) **R3** Not Assigned **D**

[View in Field Guide](#) [View Predicted Models](#) [View Range Maps](#)
Regulated Weed: Priority 3 - Non-native Species Global: **GNR** State: **SNA**
Predictive Models: 100% Low (inductive)

Biocontrol Species

I - Mecinus janthiniformis (*Dalmatian Toadflax Stem-boring Weevil*) **BIOCNTL** Not Assigned **R**

[View in Field Guide](#) [View Predicted Models](#) [View Range Maps](#)
Biocontrol Species - Non-native Species Global: **GNR** State: **SNA**
Predictive Models: 100% Moderate (inductive)

I - Oberea erythrocephala (*Red-headed Leafy Spurge Stem Borer*) **BIOCNTL** Not Assigned **R**

[View in Field Guide](#) [View Predicted Models](#) [View Range Maps](#)
Biocontrol Species - Non-native Species Global: **GNR** State: **SNA**
Predictive Models: 100% Moderate (inductive)

I - Aphthona nigricutis (*Black Dot Leafy Spurge Flea Beetle*) **BIOCNTL** Not Assigned **R**

[View in Field Guide](#) [View Predicted Models](#) [View Range Maps](#)
Biocontrol Species - Non-native Species Global: **GNR** State: **SNA**
Predictive Models: 67% Moderate (inductive), 33% Low (inductive)

I - Aphthona lacertosa (*Brown-legged Leafy Spurge Flea Beetle*) **BIOCNTL** Not Assigned **R**

[View in Field Guide](#) [View Predicted Models](#) [View Range Maps](#)
Biocontrol Species - Non-native Species Global: **GNR** State: **SNA**
Predictive Models: 100% Low (inductive)

I - Cyphocleonus achates (*Knapweed Root Weevil*) **BIOCNTL** Not Assigned **R**

[View in Field Guide](#) [View Predicted Models](#) [View Range Maps](#)
Biocontrol Species - Non-native Species Global: **GNR** State: **SNA**
Predictive Models: 100% Low (inductive)

Introduction to Montana Natural Heritage Program



P.O. Box 201800 • 1515 East Sixth Avenue • Helena, MT 59620-1800 • fax 406.444.0266 • phone 406.444.5363 • mtnhp.org

INTRODUCTION

The Montana Natural Heritage Program (MTNHP) is Montana's source for reliable and objective information on Montana's native species and habitats, emphasizing those of conservation concern. MTNHP was created by the Montana legislature in 1983 as part of the Natural Resource Information System (NRIS) at the Montana State Library (MSL). MTNHP is "a program of information acquisition, storage, and retrieval for data relating to the flora, fauna, and biological community types of Montana" (MCA 90-15-102). MTNHP's activities are guided by statute as well as through ongoing interaction with, and feedback from, principal data source agencies such as Montana Fish, Wildlife, and Parks, the Montana Department of Environmental Quality, the Montana Department of Natural Resources and Conservation, the Montana University System, the US Forest Service, and the US Bureau of Land Management. Since the first staff was hired in 1985, the Program has logged a long record of success, and developed into a highly respected, service-oriented program. MTNHP is widely recognized as one of the most advanced and effective of over 80 natural heritage programs throughout the Western Hemisphere.

VISION

Our vision is that public agencies, the private sector, the education sector, and the general public will trust and rely upon MTNHP as the source for information and expertise on Montana's species and habitats, especially those of conservation concern. We strive to provide easy access to our information in order for users to save time and money, speed environmental reviews, and inform decision making.

CORE VALUES

- We endeavor to be a single statewide source of accurate and up-to-date information on Montana's plants, animals, and aquatic and terrestrial biological communities.
- We actively listen to our data users and work responsively to meet their information and training needs.
- We strive to provide neutral, trusted, timely, and equitable service to all of our information users.
- We make every effort to be transparent to our data users in setting work priorities and providing data products.

CONFIDENTIALITY

All information requests made to the Montana Natural Heritage Program are considered library records and are protected from disclosure by the Montana Library Records Confidentiality Act (MCA 22-1-11).

INFORMATION MANAGED

Information managed at the Montana Natural Heritage Program is botanical, zoological, and ecological information that describes the distribution (e.g., observations, structured surveys, range polygons, predicted habitat suitability models), conservation status (e.g., global and state conservation status ranks, including threats), and other supporting information (e.g., accounts and references) on the biology and ecology of species and biological communities.

Data Use Terms and Conditions


- Montana Natural Heritage Program (MTNHP) products and services are based on biological data and the objective interpretation of those data by professional scientists. MTNHP does not advocate any particular philosophy of natural resource protection, management, development, or public policy.
- MTNHP has no natural resource management or regulatory authority. Products, statements, and services from MTNHP are intended to inform parties as to the state of scientific knowledge about certain natural resources, and to further develop that knowledge. The information is not intended as natural resource management guidelines or prescriptions or a determination of environmental impacts. MTNHP recommends consultation with appropriate state, federal, and tribal resource management agencies and authorities in the area where your project is located.
- Information on the status and spatial distribution of biological resources produced by MTNHP are intended to inform parties of the state-wide status, known occurrence, or the likelihood of the presence of those resources. **These products are not intended to substitute for field-collected data, nor are they intended to be the sole basis for natural resource management decisions.**
- MTNHP does not portray its data as exhaustive or comprehensive inventories of rare species or biological communities. **Field verification of the absence or presence of sensitive species and biological communities will always be an important obligation of users of our data.**
- MTNHP responds equally to all requests for products and services, regardless of the purpose or identity of the requester.
- Because MTNHP constantly updates and revises its databases with new data and information, products will become outdated over time. Interested parties are encouraged to obtain the most current information possible from MTNHP, rather than using older products. We add, review, update, and delete records on a daily basis. Consequently, we strongly advise that you update your MTNHP data sets at a minimum of every four months for most applications of our information.
- MTNHP data require a certain degree of biological expertise for proper analysis, interpretation, and application. Our staff is available to advise you on questions regarding the interpretation or appropriate use of the data that we provide. See [Contact Information for MTNHP Staff](#)
- The information provided to you by MTNHP may include sensitive data that if publicly released might jeopardize the welfare of threatened, endangered, or sensitive species or biological communities. This information is intended for distribution or use only within your department, agency, or business. Subcontractors may have access to the data during the course of any given project, but should not be given a copy for their use on subsequent, unrelated work.
- MTNHP data are made freely available. Duplication of hard-copy or digital MTNHP products with the intent to sell is prohibited without written consent by MTNHP. Should you be asked by individuals outside your organization for the type of data that we provide, please refer them to MTNHP.
- MTNHP and appropriate staff members should be appropriately acknowledged as an information source in any third-party product involving MTNHP data, reports, papers, publications, or in maps that incorporate MTNHP graphic elements.
- Sources of our data include museum specimens, published and unpublished scientific literature, field surveys by state and federal agencies and private contractors, and reports from knowledgeable individuals. MTNHP actively solicits and encourages additions, corrections and updates, new observations or collections, and comments on any of the data we provide.
- MTNHP staff and contractors do not enter or cross privately-owned lands without express permission from the landowner. However, the program cannot guarantee that information provided to us by others was obtained under adherence to this policy.

Suggested Contacts for Natural Resource Management Agencies

As required by Montana statute (MCA 90-15), the Montana Natural Heritage Program works with state, federal, tribal, nongovernmental organizations, and private partners to ensure that the latest animal and plant distribution and status information is incorporated into our databases so that it can be used to inform a variety of permitting and planning processes and management decisions. We encourage you to contact state, federal, and tribal resource management agencies in the area where your project is located and review the permitting overviews by the [Montana Department of Environmental Quality](#), the [Montana Department of Natural Resources and Conservation](#) and the [Index of Environmental Permits for Montana](#) for guidelines relevant to your efforts. In particular, we encourage you to contact the Montana Department of Fish, Wildlife, and Parks for the latest data and management information regarding hunted and high-profile management species and to use the U.S. Fish and Wildlife Service’s [Information Planning and Consultation \(IPAC\) website](#) regarding U.S. Endangered Species Act listed Threatened, Endangered, or Candidate species.

For your convenience, we have compiled a list of relevant agency contacts and links below:

Montana Fish, Wildlife, and Parks

Fish Species	Zachary Shattuck zshattuck@mt.gov (406) 444-1231 or Eric Roberts eroberts@mt.gov (406) 444-5334
American Bison Black-footed Ferret Black-tailed Prairie Dog Bald Eagle Golden Eagle Common Loon Least Tern Piping Plover Whooping Crane	Kristian Smucker KSmucker@mt.gov (406) 444-5209
Grizzly Bear Greater Sage Grouse Trumpeter Swan Big Game Upland Game Birds Furbearers	Brian Wakeling Brian.Wakeling@mt.gov (406) 444-3940
Managed Terrestrial Game and Nongame Animal Data	Smith Wells – MFWP Data Analyst smith.wells@mt.gov (406) 444-3759
Fisheries Data	Ryan Alger – MFWP Data Analyst ryan.alger@mt.gov (406) 444-5365
Wildlife and Fisheries Scientific Collector’s Permits	https://fwp.mt.gov/buyandapply/commercialwildlifeandscientificpermits/scientific Kammi McClain for Wildlife Kammi.McClain@mt.gov (406) 444-2612 Kim Wedde for Fisheries kim.wedde@mt.gov (406) 444-5594
Fish and Wildlife Recommendations for Subdivision Development	Charlie Sperry CSperry@mt.gov (406) 444-3888 See https://fwp.mt.gov/conservation/living-with-wildlife/subdivision-recommendations
Regional Contacts 	Region 1 (Kalispell) (406) 752-5501 fwprg12@mt.gov Region 2 (Missoula) (406) 542-5500 fwprg22@mt.gov Region 3 (Bozeman) (406) 577-7900 fwprg3@mt.gov Region 4 (Great Falls) (406) 454-5840 fwprg42@mt.gov Region 5 (Billings) (406) 247-2940 fwprg52@mt.gov Region 6 (Glasgow) (406) 228-3700 fwprg62@mt.gov Region 7 (Miles City) (406) 234-0900 fwprg72@mt.gov

Montana Department of Agriculture

General Contact Information: <https://agr.mt.gov/About/Office-Locations/Office-Locations-and-Field-Offices>

Noxious Weeds: <https://agr.mt.gov/Noxious-Weeds>

Montana Department of Environmental Quality

Permitting and Operator Assistance for all Environmental Permits: <https://deq.mt.gov/Permitting>

Montana Department of Natural Resources and Conservation

Overview of, and contacts for, licenses and permits for state lands, water, and forested lands:

<http://dnrc.mt.gov/licenses-and-permits>

Stream Permitting (310 permits) and an overview of various water and stream related permits (e.g., Stream Protection Act 124, Federal Clean Water Act 404, Federal Rivers and Harbors Act Section 10, Short-term Water Quality Standard for Turbidity 318 Authorization, etc.).

<http://dnrc.mt.gov/divisions/cadd/conservation-districts/the-310-law>

Flood and Fire Resources: <http://dnrc.mt.gov/flood-and-fire>

Bureau of Land Management

Montana Field Office Contacts:	
	
Billings	(406) 896-5013
Butte	(406) 533-7600
Dillon	(406) 683-8000
Glasgow	(406) 228-3750
Havre	(406) 262-2820
Lewistown	(406) 538-1900
Malta	(406) 654-5100
Miles City	(406) 233-2800
Missoula	(406) 329-3914

United States Army Corps of Engineers

Montana Regulatory Office for federal permits related to construction in water and wetlands

<https://www.nwo.usace.army.mil/Missions/Regulatory-Program/Montana/> (406) 441-1375

United States Environmental Protection Agency

Environmental information, notices, permitting, and contacts <https://www.epa.gov/mt>

Gateway to state resource locators <https://www.envcap.org/srl/index.php>

United States Fish and Wildlife Service

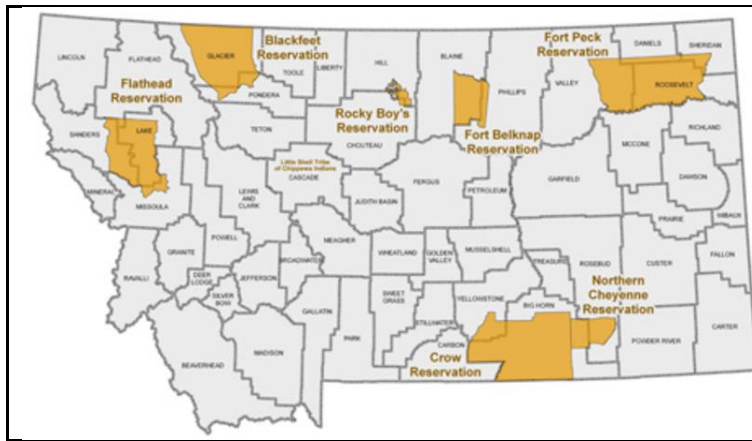
Information Planning and Conservation (IPAC) website: <https://ecos.fws.gov/ipac/>

Montana Ecological Services Field Office: <https://www.fws.gov/montanafieldoffice/> (406) 449-5225

United States Forest Service

Regional Office – Missoula, Montana Contacts			
Wildlife Program Leader	Tammy Fletcher	tammy.fletcher2@usda.gov	(406) 329-3086
Wildlife Ecologist	Cara Staab	cara.staab@usda.gov	(406) 329-3677
Fish Program Leader	Scott Spaulding	scott.spaulding@usda.gov	(406) 329-3287
Fish Ecologist	Cameron Thomas	cameron.thomas@usda.gov	(406) 329-3087
TES Program	Lydia Allen	lydia.allen@usda.gov	(406) 329-3558
Interagency Grizzly Bear Coordinator	Scott Jackson	scott.jackson@usda.gov	(406) 329-3664
Acting Regional Botanist	Amanda Hendrix	amanda.hendrix@usda.gov	(651) 447-3016
Regional Vegetation Ecologist	Mary Manning	marry.manning@usda.gov	(406) 329-3304
Invasive Species Program Manager	Michelle Cox	michelle.cox2@usda.gov	(406) 329-3669

Tribal Nations



[Assiniboine & Gros Ventre Tribes – Fort Belknap Reservation](#)

[Assiniboine & Sioux Tribes – Fort Peck Reservation](#)

[Blackfeet Tribe - Blackfeet Reservation](#)

[Chippewa Creek Tribe - Rocky Boy's Reservation](#)

[Crow Tribe – Crow Reservation](#)

[Little Shell Chippewa Tribe](#)

[Northern Cheyenne Tribe – Northern Cheyenne Reservation](#)

[Salish & Kootenai Tribes - Flathead Reservation](#)

Natural Heritage Programs and Conservation Data Centers in Surrounding States and Provinces

[Alberta Conservation Information Management System](#)

[British Columbia Conservation Data Centre](#)

[Idaho Natural Heritage Program](#)

[North Dakota Natural Heritage Program](#)

[Saskatchewan Conservation Data Centre](#)

[South Dakota Natural Heritage Program](#)

[Wyoming Natural Diversity Database](#)

Invasive Species Management Contacts and Information

Aquatic Invasive Species

[Montana Fish, Wildlife, and Parks Aquatic Invasive Species staff](#)

[Montana Department of Natural Resources and Conservation's Aquatic Invasive Species Grant Program](#)

[Montana Invasive Species Council \(MISC\)](#)

[Upper Columbia Conservation Commission \(UC3\)](#)

Noxious Weeds

[Montana Weed Control Association Contacts Webpage](#)

[Montana Biological Weed Control Coordination Project](#)

[Montana Department of Agriculture - Noxious Weeds](#)

[Montana Weed Control Association](#)

[Montana Fish, Wildlife, and Parks - Noxious Weeds](#)

[Montana State University Integrated Pest Management Extension](#)

[Integrated Noxious Weed Management after Wildfires](#)

[Fire Management and Invasive Plants](#)

Introduction to Native Species

Within the report area you have requested, separate summaries are provided for: (1) Species Occurrences (SO) for plant and animal Species of Concern, Special Status Species (SSS), Important Animal Habitat (IAH) and some Potential Plant Species of Concern; (2) other observed non Species of Concern or Species of Concern without suitable documentation to create Species Occurrence polygons; and (3) other non-documented species that are potentially present based on their range, predicted suitable habitat model output, or presence of associated habitats. Each of these summaries provides the following information when present for a species: (1) the number of [Species Occurrences](#) and associated delineation criteria for construction of these polygons that have long been used for considerations of documented Species of Concern in environmental reviews; (2) the number of observations of each species; (3) the geographic range polygons for each species that the report area overlaps; (4) predicted relative habitat suitability classes that are present if a predicted suitable habitat model has been created; (5) the percent of the report area that is mapped as commonly associated or occasionally associated habitat as listed for each species in the [Montana Field Guide](#); and (6) a variety of conservation status ranks and links to species accounts in the [Montana Field Guide](#). Details on each of these information categories are included under relevant section headers below or are defined on our [Species Status Codes](#) page. In presenting this information, the Montana Natural Heritage Program (MTNHP) is working towards assisting the user with rapidly determining what species have been documented and what species are potentially present in the report area. We remind users that this information is likely incomplete as surveys to document native and introduced species are lacking in many areas of the state, information on introduced species has only been tracked relatively recently, the MTNHP's staff and resources are restricted by budgets, and information is constantly being added and updated in our databases. **Thus, field verification by professional biologists of the absence or presence of species and biological communities will always be an important obligation of users of our data.**

If you are aware of observation datasets that the MTNHP is missing, please report them to the Program Botanist apipp@mt.gov or Senior Zoologist dbachen@mt.gov. If you have animal observations that you would like to contribute, you can submit them to our [Animal Observation Entry Tool](#). You can also submit plant and animal observations via Excel spreadsheets posted at <https://mtnhp.org/observations.asp> or via the [Montana Natural Heritage Observations project in iNaturalist](#)

Observations

The MTNHP manages information on several million animal and plant observations that have been reported by professional biologists and private citizens from across Montana. The majority of these observations are submitted in digital format from standardized databases associated with research or monitoring efforts and spreadsheets of incidental observations submitted by professional biologists and amateur naturalists. At a minimum, accepted observation records must contain a credible species identification (i.e. appropriate geographic range, date, and habitat and, if species are difficult to identify, a photograph and/or notes on key identifying features), a date or date range, observer name, locational information (ideally with latitude and longitude in decimal degrees), notes on numbers observed, and species behavior or habitat use (e.g., is the observation likely associated with reproduction). Bird records are also required to have information associated with date-appropriate breeding or overwintering status of the species observed. MTNHP reviews observation records to ensure that they are mapped correctly, occur within date ranges when the species is known to be present or detectable, occur within the known seasonal geographic range of the species, and occur in appropriate habitats. MTNHP also assigns each record a locational uncertainty value in meters to indicate the spatial precision associated with the record's mapped coordinates. Only records with locational uncertainty values of 10,000 meters or less are included in environmental summary reports and number summaries are only provided for records with locational uncertainty values of 1,000 meters or less.

Species Occurrences

The MTNHP evaluates plant and animal observation records for species of higher conservation concern to determine whether they are worthy of inclusion in the [Species Occurrence](#) (SO) layer for use in environmental reviews; observations not worthy of inclusion in this layer include long distance dispersal events, migrants observed away from key migratory stopover habitats, and winter observations. An SO is a polygon depicting what is known about a species occupancy from direct observation with a defined level of locational uncertainty and any inference that can be made about adjacent habitat use from the latest peer-reviewed science. If an observation can be associated with a map feature that can be tracked (e.g., a wetland boundary for a wetland associated plant) then this polygon feature is used to represent the SO. Areas that can be inferred as probable occupied habitat based on direct observation of a species location and what is known about the foraging area or home range size of the species may be incorporated into the SO. Species Occurrences generally belong to one of the following categories:

Plant Species Occurrences

A documented location of a specimen collection or observed plant population. In some instances, adjacent, spatially separated clusters are considered subpopulations and are grouped as one occurrence (e.g., the subpopulations occur in ecologically similar habitats, and their spatial proximity likely allows them to interbreed). Tabular information for multiple observations at the same SO location is generally linked to a single polygon. Plant SO's are only created for Species of Concern and Potential Species of Concern.

Animal Species Occurrences

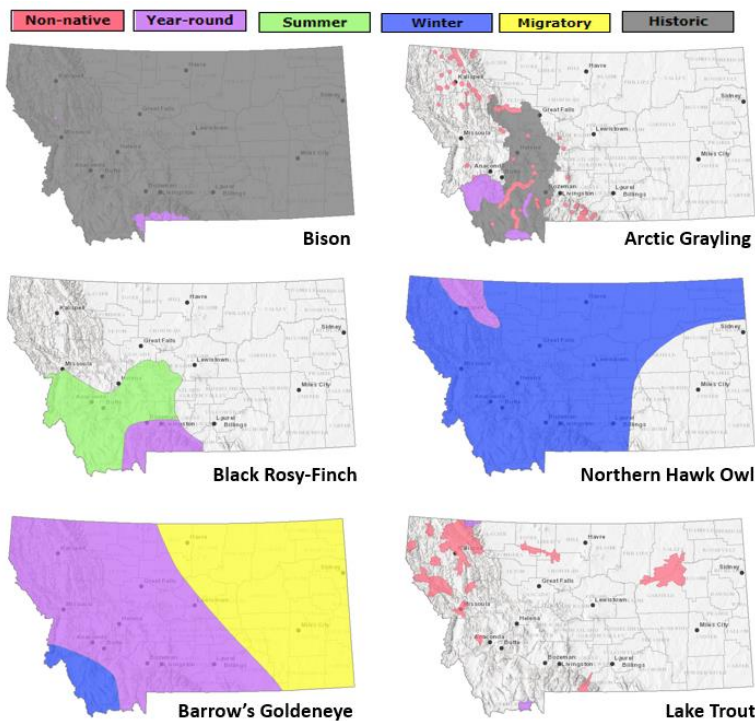
The location of a verified observation or specimen record typically known or assumed to represent a breeding population or a portion of a breeding population. Animal SO's are generally: (1) buffers of terrestrial point observations based on documented species' home range sizes; (2) buffers of stream segments to encompass occupied streams and immediate adjacent riparian habitats; (3) polygonal features encompassing known or likely breeding populations (e.g., a wetland for some amphibians or a forested portion of a mountain range for some wide ranging carnivores); or (4) combinations of the above. Tabular information for multiple observations at the same SO location is generally linked to a single polygon. Species Occurrence polygons may encompass some unsuitable habitat in some instances in order to avoid heavy data processing associated with clipping out habitats that are readily assessed as unsuitable by the data user (e.g., a point buffer of a terrestrial species may overlap into a portion of a lake that is obviously inappropriate habitat for the species). Animal SO's are only created for Species of Concern and Special Status Species (e.g., Bald Eagle).

Other Occurrence Polygons

These include significant biological features not included in the above categories, such as Important Animal Habitats like bird rookeries and bat roosts, and peatlands or other wetland and riparian communities that support diverse plant and animal communities.

Geographic Range Polygons

Geographic range polygons are still under development for most plant and invertebrate species. Native year-round, summer, winter, migratory and historic geographic range polygons as well as polygons for introduced



populations have been defined for most vertebrate animal species for which there are enough observations, surveys, and knowledge of appropriate seasonal habitat use to define them (see examples to left). These native or introduced range polygons bound the extent of known or likely occupied habitats for non-migratory and relative sedentary species and the regular extent of known or likely occupied habitats for migratory and long-distance dispersing species; polygons may include unsuitable intervening habitats. For most species, a single polygon can represent the year-round or seasonal range, but breeding ranges of some colonial nesting water birds and some introduced species are represented more patchily when supported by data. Some ranges are mapped more broadly than actual distributions in order to be visible on statewide maps (e.g., fish).

Predicted Suitable Habitat Models

Predicted habitat suitability models have been created for plant and animal Species of Concern and are undergoing development for non-Species of Concern. For species for which models have been completed, the environmental summary report includes simple rule-based associations with streams for aquatic species and seasonal habitats for game species as well as mathematically complex Maximum Entropy models (Phillips et al. 2006, *Ecological Modeling* 190:231-259) constructed from a variety of statewide biotic and abiotic layers and presence only data for individual species for most terrestrial species. For the Maximum Entropy models, we reclassified 90 x 90-meter continuous model output into suitability classes (unsuitable, low, moderate, and optimal) then aggregated that into the one square mile hexagons used in the environmental summary report; this is the finest spatial scale we suggest using this information in management decisions and survey planning. Full model write ups for individual species that discuss model goals, inputs, outputs, and evaluation in much greater detail are posted on the MTNHP's [Predicted Suitable Habitat Models](#) webpage. Evaluations of predictive accuracy and specific limitations are included with the metadata for models of individual species.

Model outputs should not be used in place of on-the-ground surveys for species. Instead model outputs should be used in conjunction with habitat evaluations to determine the need for on-the-ground surveys for species. We suggest that the percentage of predicted optimal and moderate suitable habitat within the report area be used in conjunction with geographic range polygons and the percentage of commonly associated habitats to generate lists of potential species that may occupy broader landscapes for the purposes of landscape-level planning.

Associated Habitats

Within the boundary of the intersected hexagons, we provide the approximate percentage of commonly or occasionally associated habitat for vertebrate animal species that regularly breed, overwinter, or migrate through the state; a detailed list of commonly and occasionally associated habitats is provided in individual species accounts in the [Montana Field Guide](#). We assigned common or occasional use of each of the ecological

systems mapped in Montana by: (1) using personal knowledge and reviewing literature that summarizes the breeding, overwintering, or migratory habitat requirements of each species; (2) evaluating structural characteristics and distribution of each ecological system relative to the species' range and habitat requirements; (3) examining the observation records for each species in the state-wide point observation database associated with each ecological system; and (4) calculating the percentage of observations associated with each ecological system relative to the percent of Montana covered by each ecological system to get a measure of numbers of observations versus availability of habitat. Species that breed in Montana were only evaluated for breeding habitat use, species that only overwinter in Montana were only evaluated for overwintering habitat use, and species that only migrate through Montana were only evaluated for migratory habitat use. In general, species were listed as associated with an ecological system if structural characteristics of used habitat documented in the literature were present in the ecological system or large numbers of point observations were associated with the ecological system. However, species were not listed as associated with an ecological system if there was no support in the literature for use of structural characteristics in an ecological system, even if point observations were associated with that system. Common versus occasional association with an ecological system was assigned based on the degree to which the structural characteristics of an ecological system matched the preferred structural habitat characteristics for each species as represented in the scientific literature. The percentage of observations associated with each ecological system relative to the percent of Montana covered by each ecological system was also used to guide assignment of common versus occasional association.

We suggest that the percentage of commonly associated habitat within the report area be used in conjunction with geographic range polygons and the percentage of predicted optimal and moderate suitable habitat from predictive models to generate lists of potential species that may occupy broader landscapes for the purposes of landscape-level planning. Users of this information should be aware that land cover mapping accuracy is particularly problematic when the systems occur as small patches or where the land cover types have been altered over the past decade. Thus, particular caution should be used when using the associations in assessments of smaller areas (e.g., evaluations of public land survey sections).

Introduction to Land Cover

Land Use/Land Cover is one of 15 [Montana Spatial Data Infrastructure](#) framework layers considered vital for making statewide maps of Montana and understanding its geography. The layer records all Montana natural vegetation, land cover and land use, classified from satellite and aerial imagery, mapped at a scale of 1:100,000, and interpreted with supporting ground-level data. The baseline map is adapted from the Northwest ReGAP (NWGAP) project land cover classification, which used 30m resolution multi-spectral Landsat imagery acquired between 1999 and 2001. Vegetation classes were drawn from the Ecological System Classification developed by NatureServe (Comer et al. 2003). The land cover classes were developed by Anderson et al. (1976). The NWGAP effort encompasses 12 map zones. Montana overlaps seven of these zones. The two NWGAP teams responsible for the initial land cover mapping effort in Montana were Sanborn and NWGAP at the University of Idaho. Both Sanborn and NWGAP employed a similar modeling approach in which Classification and Regression Tree (CART) models were applied to Landsat ETM+ scenes. The Spatial Analysis Lab within the Montana Natural Heritage Program was responsible for developing a seamless Montana land cover map with a consistent statewide legend from these two separate products. Additionally, the Montana land cover layer incorporates several other land cover and land use products (e.g., MSDI Structures and Transportation themes and the Montana Department of Revenue Final Land Unit classification) and reclassifications based on plot-level data and the latest NAIP imagery to improve accuracy and enhance the usability of the theme. Updates are done as partner support and funding allow, or when other MSDI datasets can be incorporated. Recent updates include fire perimeters and agricultural land use (annually), energy developments such as wind, oil and gas installations (2014), roads, structures and other impervious surfaces (various years): and local updates/improvements to specific ecological systems (e.g., central Montana grassland and sagebrush ecosystems). Current and previous versions of the Land Use/Land Cover layer with full metadata are available for download at the Montana State Library's [Geographic Information Clearinghouse](#)

Within the report area you have requested, land cover is summarized by acres of Level 1, Level 2, and Level 3 Ecological Systems.

Literature Cited

- Anderson, J.R. E.E. Hardy, J.T. Roach, and R.E. Witmer. 1976. A land use and land cover classification system for use with remote sensor data. U.S. Geological Survey Professional Paper 964.
- Comer, P., D. Faber-Langendoen, R. Evans, S. Gawler, C. Josse, G. Kittel, S. Menard, M. Pyne, M. Reid, K. Schulz, K. Snow, and J. Teague. 2003. Ecological systems of the United States: A working classification of U.S. terrestrial systems. NatureServe, Arlington, VA.

Introduction to Wetland and Riparian

Within the report area you have requested, wetland and riparian mapping is summarized by acres of each classification present. Summaries are only provided for modern MTNHP wetland and riparian mapping and not for outdated (NWI Legacy) or incomplete (NWI Scalable) mapping efforts; [described here](#). MTNHP has made all three of these datasets and associated metadata available for separate download on the [Montana Wetland and Riparian Framework](#) web page.

Wetland and Riparian mapping is one of 15 [Montana Spatial Data Infrastructure](#) framework layers considered vital for making statewide maps of Montana and understanding its geography. The wetland and riparian framework layer consists of spatial data representing the extent, type, and approximate location of wetlands, riparian areas, and deep water habitats in Montana.

Wetland and riparian mapping is completed through photointerpretation of 1-m resolution color infrared aerial imagery acquired from 2005 or later. A coding convention using letters and numbers is assigned to each mapped wetland. These letters and numbers describe the broad landscape context of the wetland, its vegetation type, its water regime, and the kind of alterations that may have occurred. Ancillary data layers such as topographic maps, digital elevation models, soils data, and other aerial imagery sources are also used to improve mapping accuracy. Wetland mapping follows the federal Wetland Mapping Standard and classifies wetlands according to the Cowardin classification system of the National Wetlands Inventory (NWI) (Cowardin et al. 1979, FGDC Wetlands Subcommittee 2013). Federal, State, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands differently than the NWI. Similar coding, based on U.S. Fish and Wildlife Service conventions, is applied to riparian areas (U.S. Fish and Wildlife Service 2009). These are mapped areas where vegetation composition and growth is influenced by nearby water bodies, but where soils, plant communities, and hydrology do not display true wetland characteristics. **These data are intended for use at a scale of 1:12,000 or smaller. Mapped wetland and riparian areas do not represent precise boundaries and digital wetland data cannot substitute for an on-site determination of jurisdictional wetlands.**

See a detailed overview, with examples, of both [wetland and riparian classification systems and associated codes](#)

Literature Cited

- Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of wetlands and deepwater habitats of the United States. U.S. Fish and Wildlife Service, FWS/OBS-79/31. Washington, D.C. 103pp.
- Federal Geographic Data Committee. 2013. Classification of wetlands and deepwater habitats of the United States. FGDC-STD-004-2013. Second Edition. Wetlands Subcommittee, Federal Geographic Data Committee and U.S. Fish and Wildlife Service, Washington, D.C.
- U.S. Fish and Wildlife Services. 2009. A system for mapping riparian areas in the western United States. Division of Habitat and Resource Conservation, Branch of Resource and Mapping Support, Arlington, Virginia.

Introduction to Land Management

Within the report area you have requested, land management information is summarized by acres of federal, state, and local government lands, tribal reservation boundaries, private conservation lands, and federal, state, local, and private conservation easements. Acreage for “Owned”, “Tribal”, or “Easement” categories represents non-overlapping areas that may be totaled. However, “Other Boundaries” represents managed areas such as National Forest boundaries containing private inholdings and other mixed ownership which may cause boundaries to overlap (e.g. a wilderness area within a forest). Therefore, acreages may not total in a straight-forward manner.

Because information on land stewardship is critical to effective land management, the Montana Natural Heritage Program (MTNHP) began compiling ownership and management data in 1997. The goal of the Montana Land Management Database is to manage a single, statewide digital data set that incorporates information from both public and private entities. The database assembles information on public lands, private conservation lands, and conservation easements held by state and federal agencies and land trusts and is updated on a regular basis. Since 2011, the Information Management group in the Montana State Library’s Digital Library Division has led the Montana Land Management Database in partnership with the MTNHP.

Public and private conservation land polygons are attributed with the name of the entity that owns it. The data are derived from the statewide [Montana Cadastral Parcel layer](#). Conservation easement data shows land parcels on which a public agency or qualified land trust has placed a conservation easement in cooperation with the land owner. The dataset contains no information about ownership or status of the mineral estate. For questions about the dataset or to report errors, please contact the Montana Natural Heritage Program at (406) 444-5363 or mtnhp@mt.gov. You can download various components of the Land Management Database and view associated metadata at the Montana State Library’s [GIS Data List](#) at the following links:

[Public Lands](#)

[Conservation Easements](#)

[Private Conservation Lands](#)

[Managed Areas](#)

Map features in the Montana Land Management Database or summaries provided in this report are not intended as a legal depiction of public or private surface land ownership boundaries and should not be used in place of a survey conducted by a licensed land surveyor. Similarly, map features do not imply public access to any lands. The Montana Natural Heritage Program makes no representations or warranties whatsoever with respect to the accuracy or completeness of this data and assumes no responsibility for the suitability of the data for a particular purpose. The Montana Natural Heritage Program will not be liable for any damages incurred as a result of errors displayed here. Consumers of this information should review or consult the primary data and information sources to ascertain the viability of the information for their purposes.

Introduction to Invasive and Pest Species

Within the report area you have requested, separate summaries are provided for: Aquatic Invasive Species, Noxious Weeds, Agricultural Pests, Forest Pests, and Biocontrol species that have been documented or potentially occur there based on the predicted suitability of habitat. Definitions for each of these invasive and pest species categories can be found on our [Species Status Codes](#) page.

Each of these summaries provides the following information when present for a species: (1) the number of observations of each species; (2) the geographic range polygons for each species, if developed, that the report area overlaps; (3) predicted relative habitat suitability classes that are present if a predicted suitable habitat model has been created; (4) the percent of the report area that is mapped as commonly associated or occasionally associated habitat as listed for each species in the [Montana Field Guide](#); and (5) links to species accounts in the [Montana Field Guide](#). Details on each of these information categories are included under relevant section headers under the Introduction to Native Species above or are defined on our [Species Status Codes](#) page. In presenting this information, the Montana Natural Heritage Program (MTNHP) is working towards assisting the user with rapidly determining what invasive and pest species have been documented and what species are potentially present in the report area. We remind users that this information is likely incomplete as surveys to document introduced species are lacking in many areas of the state, information on introduced species has only been tracked relatively recently, the MTNHP's staff and resources are limited, and information is constantly being added and updated in our databases. **Thus, field verification by professional biologists of the absence or presence of species will always be an important obligation of users of our data.**

If you are aware of observation or survey datasets for invasive or pest species that the MTNHP is missing, please report them to the Program Coordinator bmaxell@mt.gov Program Botanist apipp@mt.gov or Senior Zoologist dbachen@mt.gov. If you have observations that you would like to contribute, you can submit animal observations using our online data entry system at mtnhp.org/AddObs or via Excel spreadsheets posted at mtnhp.org/observations.asp

Additional Information Resources

[MTNHP Staff Contact Information](#)

[Montana Field Guide](#)

[MTNHP Species of Concern Report - Animals and Plants](#)

[MTNHP Species Status Codes - Explanation](#)

[MTNHP Predicted Suitable Habitat Models](#) (for select Animals and Plants)

[MTNHP Request Information page](#)

[Montana Cadastral](#)

[Montana Code Annotated](#)

[Montana Fisheries Information System](#)

[Montana Fish, Wildlife, and Parks Subdivision Recommendations](#)

[Montana GIS Data Layers](#)

[Montana GIS Data Bundler](#)

[Montana Greater Sage-Grouse Project Submittal Site](#)

[Montana Ground Water Information Center](#)

[Montana Index of Environmental Permits, 21st Edition \(2018\)](#)

[Montana Environmental Policy Act \(MEPA\)](#)

[Montana Environmental Policy Act Analysis Resource List](#)

[Laws, Treaties, Regulations, and Agreements on Animals and Plants](#)

[Montana Spatial Data Infrastructure Layers](#)

[Montana State Historic Preservation Office Review and Compliance](#)

[Montana Stream Permitting: a guide for conservation district supervisors and others](#)

[Montana Water Information System](#)

[Montana Web Map Services](#)

[National Environmental Policy Act](#)

[Penalties for Misuse of Fish and Wildlife Location Data](#) (MCA 87-6-222)

[U.S. Fish and Wildlife Service Information for Planning and Consultation](#) (Section 7 Consultation)

[Web Soil Survey Tool](#)