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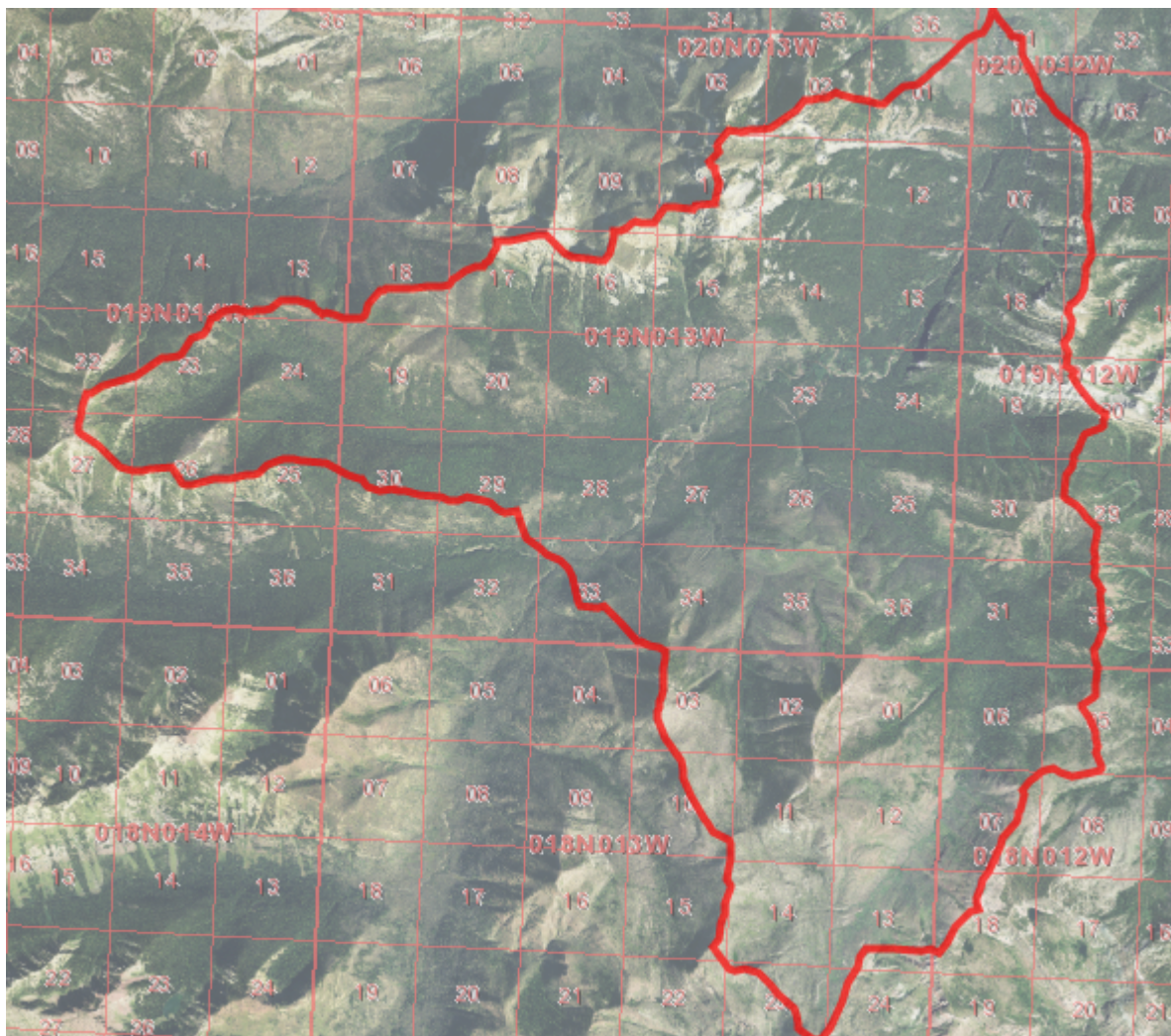
NATURAL HERITAGE PROGRAM mtnhp.org

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Latitude	Longitude
47.29469	-113.16006
47.44624	-113.36202

Summarized by:
Lower Youngs Creek
(170102090106 - 6th Code Watershed)



Suggested Citation

Montana Natural Heritage Program. Environmental Summary Report.
for Latitude 47.29469 to 47.44624 and Longitude -113.16006 to -113.36202. Retrieved on 10/9/2024.

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 the NatureServe network that is composed of over 60 member programs across North America that work 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 North America.

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
Suitable (native range)	Common	Native / Year-round	Count of obs with 'good precision' (<=1000m)
Optimal Suitability	Occasional	Summer	+ indicates additional 'poor precision' obs (1001m-10,000m)
Moderate Suitability		Winter	
Low Suitability		Migratory	
Suitable (introduced range)		Non-native	
		Historical	



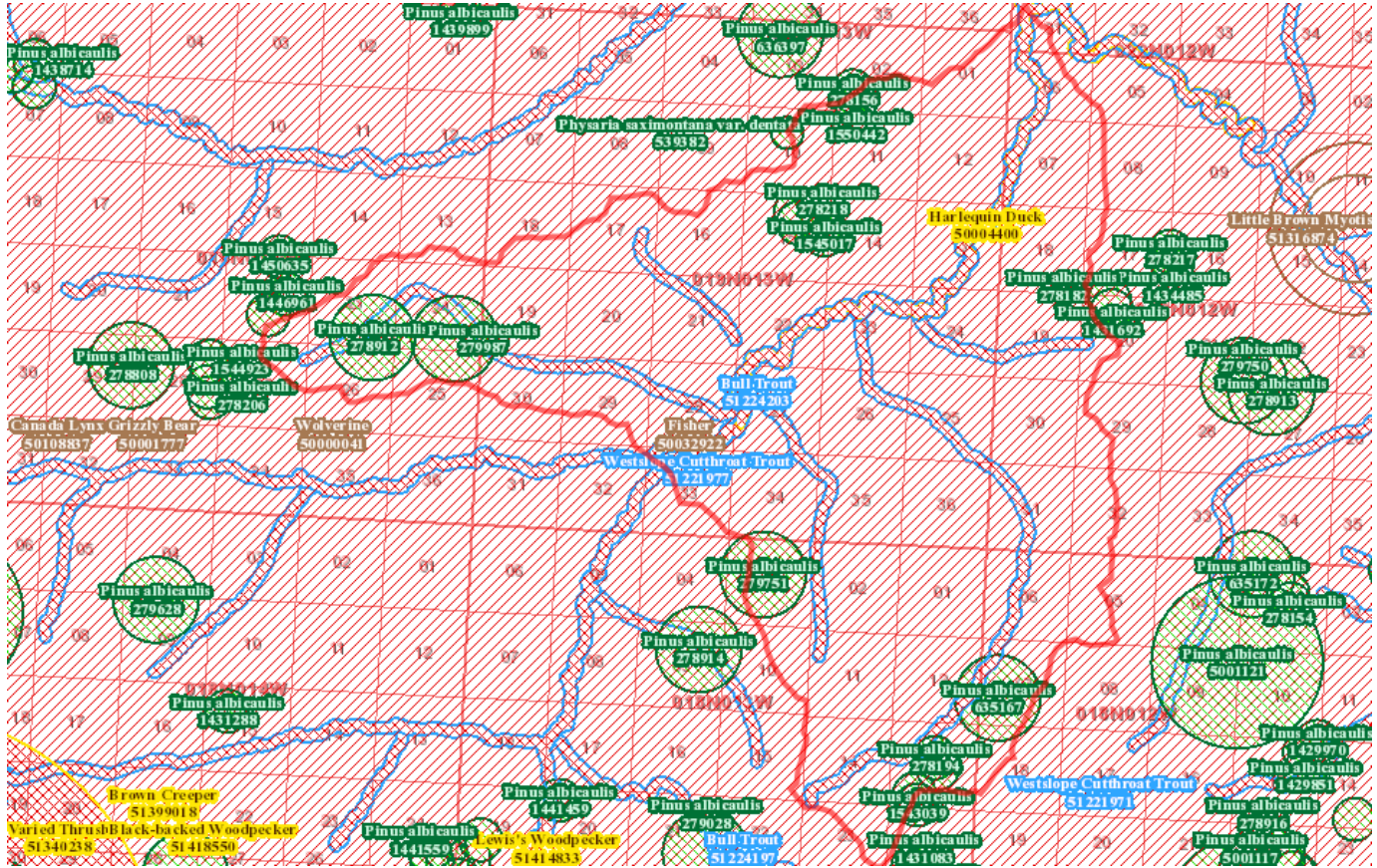
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Native Species

Summarized by: Lower Youngs Creek (170102090106 - 6th Code Watershed)

Filtered by:

Native Species reports are filtered for Species with MT Status = Species of Concern, Special Status, Important Animal Habitat, Potential SOC



Species Occurrences

Species Name	USFWS	Sec7	# SO	# Obs	Predicted Model	Range
F - Westslope Cutthroat Trout (<i>Oncorhynchus clarkii lewisi</i>) SOC			1	1		
View in Field Guide View Predicted Models View Range Maps Species of Concern - Native/Non-native Species - (depends on location or taxa) Global: G5T4 State: S2 USFS: Sensitive - Known in Forests (BD, BRT, KOOT, LOLO) Species of Conservation Concern in Forests (CG, HLC) BLM: SENSITIVE FWP SWAP: SGCN2 Delineation Criteria Stream reaches and standing water bodies where the species presence has been confirmed through direct capture or where they are believed to be present based on the professional judgement of a fisheries biologist due to confirmed presence in adjacent areas. In order to reflect the importance of adjacent terrestrial habitats to survival, stream reaches are buffered 100 meters, standing water bodies greater than 1 acre are buffered 50 meters, and standing water bodies less than 1 acre are buffered 30 meters into the terrestrial habitat based on PACFISH/INFISH Riparian Conservation Area standards. (Last Updated: Mar 08, 2024) Predicted Models: 72% Suitable (native range) (deductive)						
F - Bull Trout (<i>Salvelinus confluentus</i>) SOC		7	1			
View in Field Guide View Predicted Models View Range Maps Species of Concern - Native Species Global: G5 State: S2 USFWS: LT; CH BLM: THREATENED FWP SWAP: SGCN2 Delineation Criteria Stream reaches and standing water bodies where the species is believed to be present based on the professional judgement of a fisheries biologist, potentially supported by habitat assessment, direct capture, or confirmed presence in adjacent areas. In order to reflect the importance of adjacent terrestrial habitats to survival, stream reaches are buffered 100 meters, standing water bodies greater than 1 acre are buffered 50 meters, and standing water bodies less than 1 acre are buffered 30 meters into the terrestrial habitat based on PACFISH/INFISH Riparian Conservation Area standards. (Last Updated: Mar 19, 2024) Predicted Models: 20% Suitable (native range) (deductive)						
B - Harlequin Duck (<i>Histrionicus histrionicus</i>) SOC			1	1		
View in Field Guide View Predicted Models View Range Maps USFS: Sensitive - Known in Forests (BD, KOOT, LOLO) Species of Concern - Native Species Global: G4 State: S2B USFWS: MBTA Sensitive - Migratory in Forests (BRT) FWP SWAP: SGCN2 PIF: 1 Delineation Criteria Stream reaches with confirmed presence of downy young, juveniles, or where breeding effort is believed to occur due to confirmed effort in adjacent areas or consistent observations of pairs over several breeding seasons. Minimum stream reach length is 1,000 meters (500 meters below and above a point observation). Occurrences on smaller order streams include the area 500 meters above an observation down to the mouth of that stream. In order to reflect the importance of adjacent terrestrial habitats to survival, stream reaches, and, where appropriate, standing water bodies are buffered 100 meters into the terrestrial habitat based on PACFISH/INFISH Riparian Conservation Area standards. (Last Updated: Jul 15, 2024) Predicted Models: 5% Optimal (inductive), 18% Moderate (inductive), 60% Low (inductive)						

M - Wolverine (*Gulo gulo*) SOC 7 1

[View in Field Guide](#) [View Predicted Models](#) [View Range Maps](#)

Species of Concern - Native Species Global: **G4** State: **S3** USFWS: **LT** USFS: **Sensitive - Known in Forests (LOLO)** BLM: **THREATENED** FWP SWAP: **SGCN3**

Delineation Criteria Confirmed area of occupancy supported by recent (post-1980), nearby (within 10 kilometers) observations of adults or juveniles. Tracking regions were defined by areas of primary habitat and adjacent female dispersal habitat as modeled by Inman et al. (2013). These regions were buffered by 1 kilometer in order to link smaller areas and account for potential inaccuracies in independent variables used in the model. (Last Updated: Jul 12, 2024)

Predicted Models: 80% Moderate (inductive), 20% Low (inductive)

V - Pinus albicaulis (*Whitebark Pine*) SOC 7 17 16

[View in Field Guide](#) [View Predicted Models](#) [View Range Maps](#)

Species of Concern - Native Species Global: **G3G4** State: **S3** USFWS: **LT** USFS: **Sensitive - Known in Forests (LOLO)** BLM: **THREATENED** Plant Threat Score: **Unknown** CCVI: **Highly Vulnerable**

Delineation Criteria Point and/or polygonal observations are buffered by a minimum distance of 400 meters in order to account for stands instead of individual trees and to a maximum distance of 2,000 meters in order to encompass locational uncertainty associated with some common data sources for this species. (Last Updated: Apr 18, 2024)

Predicted Models: 80% Moderate (inductive), 20% Low (inductive)

M - Grizzly Bear (*Ursus arctos*) SOC 7 1 5

[View in Field Guide](#) [View Predicted Models](#) [View Range Maps](#)

Species of Concern - Native Species Global: **G4** State: **S2S3** USFWS: **LT** BLM: **THREATENED** FWP SWAP: **SGCN2-3**

Delineation Criteria Species Occurrence polygons represent areas delineated by the U.S. Fish and Wildlife Service (USFWS) that encompass both home ranges and potential transitory movements based on verified sightings. Within these areas, the USFWS wants project proponents to consider whether the species may be present when evaluating the potential impacts of a project and to work with the USFWS to develop and implement best management practices to minimize or eliminate project effects on the species. (Last Updated: Jul 08, 2024)

Predicted Models: 57% Moderate (inductive), 43% Low (inductive)

M - Canada Lynx (*Lynx canadensis*) SOC 7 1

[View in Field Guide](#) [View Predicted Models](#) [View Range Maps](#)

Species of Concern - Native Species Global: **G5** State: **S3** USFWS: **LT; CH** BLM: **THREATENED** FWP SWAP: **SGCN3**

Delineation Criteria Areas designated as Critical Habitat for the species by the U.S. Fish and Wildlife Service on September 12, 2014 because they currently contain physical and biological features (e.g. boreal forests with snowshoe hare) essential to the conservation of the species and state and other lands within the outer boundaries of USFWS Critical Habitat polygons. (Last Updated: Jul 08, 2024)

Predicted Models: 50% Moderate (inductive), 50% Low (inductive)

M - Fisher (*Pekania pennanti*) SOC 1

[View in Field Guide](#) [View Predicted Models](#) [View Range Maps](#)

Species of Concern - Native Species Global: **G5** State: **S3** USFS: **Sensitive - Known in Forests (LOLO)** BLM: **SENSITIVE** FWP SWAP: **SGCN3**

Delineation Criteria Confirmed area of occupancy based on the documented presence of adults or juveniles within tracking regions containing core habitat for the species. Outer boundaries of tracking regions are defined by areas of forest cover on individual mountain ranges or clusters of adjacent mountain ranges with continuous forest cover. (Last Updated: Jul 08, 2024)

Predicted Models: 13% Moderate (inductive), 87% Low (inductive)

V - Physaria saximontana var. dentata (*Rocky Mountain Twinpod*) SOC 1 1

[View in Field Guide](#) [View Predicted Models](#) [View Range Maps](#)

Species of Concern - Native Species Global: **G3T3** State: **S3** Plant Threat Score: **No Known Threats** CCVI: **Moderately Vulnerable**

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: Aug 09, 2023)

Predicted Models: 4% Moderate (inductive), 24% Low (inductive)

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



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Other Observed Species

	USFWS Sec7	# Obs	Predicted Model	Range
M - Hoary Marmot (<i>Marmota caligata</i>) PSOC		1		
View in Field Guide View Predicted Models View Range Maps Potential Species of Concern - Native Species Global: G5 State: S3S4 FWP SWAP: SGIN Predicted Models: 1% Optimal (inductive), 42% Moderate (inductive), 27% Low (inductive)				
B - White-tailed Ptarmigan (<i>Lagopus leucura</i>) SOC		1		
View in Field Guide View Predicted Models View Range Maps Species of Concern - Native Species Global: G5 State: S3 FWP SWAP: SGCN3, SGIN PIF: 3 Predicted Models: 2% Moderate (inductive), 8% Low (inductive)				

Legend

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



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









Other Potential Species

Species	USFWS Sec7	Predicted Model	Range
B - Black-backed Woodpecker (<i>Picoides arcticus</i>) SOC			
View in Field Guide View Predicted Models View Range Maps Species of Concern - Native Species Global: G5 State: S3 USFWS: MBTA USFS: Sensitive - Known in Forests (LOLO) BLM: SENSITIVE FWP SWAP: SGCN3 PIF: 1 Predicted Models: 8% Optimal (inductive), 78% Moderate (inductive), 11% Low (inductive)			
V - Botrychium hesperium (<i>Western Moonwort</i>) SOC			
View in Field Guide View Predicted Models View Range Maps Species of Concern - Native Species Global: G4 State: S3 CCVI: Less Vulnerable Predicted Models: 5% Optimal (inductive), 12% Moderate (inductive), 62% Low (inductive)			
V - Carex stenoptila (<i>Small-winged Sedge</i>) SOC			
View in Field Guide View Predicted Models View Range Maps Species of Concern - Native Species Global: G3 State: S2S3 Plant Threat Score: No Known Threats CCVI: Less Vulnerable Predicted Models: 61% Moderate (inductive), 37% Low (inductive)			
V - Mimulus floribundus (<i>Floriferous Monkeyflower</i>) SOC			
View in Field Guide View Predicted Models View Range Maps Species of Concern - Native Species Global: G5 State: SH Plant Threat Score: No Known Threats CCVI: Highly Vulnerable Predicted Models: 56% Moderate (inductive), 41% Low (inductive)			
V - Polygonum austiniiae (<i>Austin's Knotweed</i>) PSOC			
View in Field Guide View Predicted Models View Range Maps Potential Species of Concern - Native Species Global: G5T4 State: S3S4 USFS: Species of Conservation Concern in Forests (HLC) Predicted Models: 53% Moderate (inductive), 46% Low (inductive)			
I - Oreohelix elrodi (<i>Carinate Mountainsnail</i>) SOC			
View in Field Guide View Predicted Models View Range Maps Species of Concern - Native Species Global: G2 State: S1 Predicted Models: 47% Moderate (inductive), 7% Low (inductive)			
B - Evening Grosbeak (<i>Coccothraustes vespertinus</i>) SOC			
View in Field Guide View Predicted Models View Range Maps Species of Concern - Native Species Global: G5 State: S3 USFWS: MBTA; BCC10 FWP SWAP: SGCN3 Predicted Models: 42% Moderate (inductive), 28% Low (inductive)			
V - Asplenium trichomanes-ramosum (<i>Limestone Maidenhair Spleenwort</i>) SOC			
View in Field Guide View Predicted Models View Range Maps Species of Concern - Native Species Global: G5 State: S3 Plant Threat Score: No Known Threats CCVI: Moderately Vulnerable Predicted Models: 40% Moderate (inductive), 45% Low (inductive)			
B - Pacific Wren (<i>Troglodytes pacificus</i>) SOC			
View in Field Guide View Predicted Models View Range Maps Species of Concern - Native Species Global: G5 State: S3 USFWS: MBTA FWP SWAP: SGCN3 PIF: 2 Predicted Models: 38% Moderate (inductive), 46% Low (inductive)			
B - Pileated Woodpecker (<i>Dryocopus pileatus</i>) SOC			
View in Field Guide View Predicted Models View Range Maps Species of Concern - Native Species Global: G5 State: S3 USFWS: MBTA FWP SWAP: SGCN3 PIF: 2 Predicted Models: 37% Moderate (inductive), 45% Low (inductive)			
B - Brown Creeper (<i>Certhia americana</i>) SOC			
View in Field Guide View Predicted Models View Range Maps Species of Concern - Native Species Global: G5 State: S3 USFWS: MBTA FWP SWAP: SGCN3 PIF: 1 Predicted Models: 36% Moderate (inductive), 39% Low (inductive)			
B - Cassin's Finch (<i>Haemorhous cassinii</i>) SOC			
View in Field Guide View Predicted Models View Range Maps Species of Concern - Native Species Global: G5 State: S3 USFWS: MBTA; BCC10 FWP SWAP: SGCN3 PIF: 3 Predicted Models: 35% Moderate (inductive), 65% Low (inductive)			

B - Varied Thrush (<i>Ixoreus naevius</i>) SOC		
View in Field Guide View Predicted Models View Range Maps Species of Concern - Native Species Global: G5 State: S3B USFWS: MBTA FWP SWAP: SGCN3 PIF: 3 Predicted Models: 35% Moderate (inductive), 42% Low (inductive)		
I - Bombus suckleyi (<i>Suckley Cuckoo Bumble Bee</i>) SOC		
View in Field Guide View Predicted Models View Range Maps Species of Concern - Native Species Global: G2G3 State: S1 Predicted Models: 32% Moderate (inductive), 22% Low (inductive)		
V - Petasites frigidus var. frigidus (<i>Arctic Sweet Coltsfoot</i>) SOC		
View in Field Guide View Predicted Models View Range Maps Species of Concern - Native Species Global: G5T5 State: S2 USFS: Species of Conservation Concern in Forests (FLAT) Plant Threat Score: Medium CCVI: Moderately Vulnerable Predicted Models: 31% Moderate (inductive), 14% Low (inductive)		
I - Oreohelix alpina (<i>Alpine Mountainsnail</i>) SOC		
View in Field Guide View Predicted Models View Range Maps Species of Concern - Native Species Global: G2 State: S1 Predicted Models: 27% Moderate (inductive), 23% Low (inductive)		
B - Clark's Nutcracker (<i>Nucifraga columbiana</i>) SOC		
View in Field Guide View Predicted Models View Range Maps Species of Concern - Native Species Global: G5 State: S3 USFWS: MBTA USFS: Species of Conservation Concern in Forests (FLAT) FWP SWAP: SGCN3 PIF: 3 Predicted Models: 21% Moderate (inductive), 67% Low (inductive)		
V - Cypripedium passerinum (<i>Sparrow's-egg Lady's-slipper</i>) SOC		
View in Field Guide View Predicted Models View Range Maps USFS: Sensitive - Known in Forests (KOOT) Species of Concern - Native Species Global: G5 State: S2S3 USFS: Sensitive - Suspected in Forests (LOLO) Species of Conservation Concern in Forests (FLAT, HLC) Plant Threat Score: Low CCVI: Moderately Vulnerable Predicted Models: 18% Moderate (inductive), 21% Low (inductive)		
V - Stipa lettermanii (<i>Letterman's Needlegrass</i>) SOC		
View in Field Guide View Predicted Models View Range Maps Species of Concern - Native Species Global: G5 State: S1S3 USFS: Species of Conservation Concern in Forests (HLC) Plant Threat Score: No Known Threats Predicted Models: 17% Moderate (inductive), 83% Low (inductive)		
M - North American Water Vole (<i>Microtus richardsoni</i>) PSOC		
View in Field Guide View Predicted Models View Range Maps Potential Species of Concern - Native Species Global: G5 State: S4 Predicted Models: 17% Moderate (inductive), 61% Low (inductive)		
V - Potamogeton obtusifolius (<i>Blunt-leaved Pondweed</i>) SOC		
View in Field Guide View Predicted Models View Range Maps USFS: Sensitive - Suspected in Forests (LOLO) Species of Concern - Native Species Global: G5 State: S3 USFS: Species of Conservation Concern in Forests (HLC) Plant Threat Score: Low Predicted Models: 15% Moderate (inductive), 20% Low (inductive)		
I - Rhyacophila betteni (<i>A Caddisfly</i>) SSS		
View in Field Guide View Predicted Models View Range Maps Special Status Species - Native Species Global: G2G4 State: S3S4 Predicted Models: 14% Moderate (inductive), 37% Low (inductive)		
V - Utricularia intermedia (<i>Flatleaf Bladderwort</i>) SOC		
View in Field Guide View Predicted Models View Range Maps Species of Concern - Native Species Global: G5 State: S2 USFS: Sensitive - Known in Forests (KOOT) Plant Threat Score: No Known Threats Predicted Models: 13% Moderate (inductive), 12% Low (inductive)		
B - American Goshawk (<i>Accipiter atricapillus</i>) SOC		
View in Field Guide View Predicted Models View Range Maps Species of Concern - Native Species Global: G5 State: S3 USFWS: MBTA FWP SWAP: SGCN3 PIF: 2 Predicted Models: 12% Moderate (inductive), 32% Low (inductive)		
V - Botrychium paradoxum (<i>Peculiar Moonwort</i>) SOC		
View in Field Guide View Predicted Models View Range Maps USFS: Sensitive - Known in Forests (BD, KOOT) Species of Concern - Native Species Global: G3G4 State: S3 USFS: Sensitive - Suspected in Forests (LOLO) Species of Conservation Concern in Forests (CG, FLAT, HLC) BLM: SENSITIVE CCVI: Moderately Vulnerable Predicted Models: 11% Moderate (inductive), 40% Low (inductive)		
V - Draba densifolia (<i>Dense-leaf Draba</i>) SOC		
View in Field Guide View Predicted Models View Range Maps USFS: Sensitive - Known in Forests (BD, BRT) Species of Concern - Native Species Global: G5 State: S2 USFS: Species of Conservation Concern in Forests (CG, HLC) Plant Threat Score: Low CCVI: Moderately Vulnerable Predicted Models: 11% Moderate (inductive), 28% Low (inductive)		

B - Meesia triquetra (<i>Meesia Moss</i>) SOC		
View in Field Guide View Predicted Models View Range Maps	USFS: Sensitive - Known in Forests (BD, BRT, KOOT) Sensitive - Suspected in Forests (LOLO) Species of Concern - Native Species Global: G5 State: S2 Species of Conservation Concern in Forests (CG, FLAT) Predicted Models: 10% Moderate (inductive), 38% Low (inductive)	
V - Trichophorum cespitosum (<i>Tufted Club-rush</i>) SOC		
View in Field Guide View Predicted Models View Range Maps	Species of Concern - Native Species Global: G5 State: S2 USFS: Species of Conservation Concern in Forests (FLAT) Plant Threat Score: No Known Threats CCVI: Moderately Vulnerable Predicted Models: 10% Moderate (inductive), 22% Low (inductive)	
B - Barrow's Goldeneye (<i>Bucephala islandica</i>) PSOC		
View in Field Guide View Predicted Models View Range Maps	Potential Species of Concern - Native Species Global: G5 State: S4 USFWS: MBTA FWP SWAP: SGIN PIF: 2 Predicted Models: 10% Moderate (inductive), 18% Low (inductive)	
V - Eleocharis rostellata (<i>Beaked Spikerush</i>) SOC		
View in Field Guide View Predicted Models View Range Maps	Species of Concern - Native Species Global: G5 State: S3 USFS: Species of Conservation Concern in Forests (CG, FLAT, HLC) Plant Threat Score: Unknown CCVI: Less Vulnerable Predicted Models: 10% Moderate (inductive), 4% Low (inductive)	
A - Western Toad (<i>Anaxyrus boreas</i>) SOC		
View in Field Guide View Predicted Models View Range Maps	Species of Concern - Native Species Global: G4 State: S2 USFS: Sensitive - Known in Forests (BD, BRT, KOOT, LOLO) BLM: SENSITIVE FWP SWAP: SGCN2 Predicted Models: 9% Moderate (inductive), 31% Low (inductive)	
V - Ranunculus pedatifidus (<i>Northern Buttercup</i>) SOC		
View in Field Guide View Predicted Models View Range Maps	Species of Concern - Native Species Global: G5 State: S3 USFS: Species of Conservation Concern in Forests (HLC) Plant Threat Score: Unknown Predicted Models: 9% Moderate (inductive), 18% Low (inductive)	
V - Botrychium pinnatum (<i>Northern Moonwort</i>) SOC		
View in Field Guide View Predicted Models View Range Maps	Species of Concern - Native Species Global: G5 State: S3 USFS: Sensitive - Known in Forests (BD) CCVI: Less Vulnerable Predicted Models: 9% Moderate (inductive), 12% Low (inductive)	
V - Drosera rotundifolia (<i>Roundleaf Sundew</i>) PSOC		
View in Field Guide View Predicted Models View Range Maps	Potential Species of Concern - Native Species Global: G5 State: S3S4 Plant Threat Score: Unknown Predicted Models: 9% Moderate (inductive), 12% Low (inductive)	
M - Townsend's Big-eared Bat (<i>Corynorhinus townsendii</i>) SOC		
View in Field Guide View Predicted Models View Range Maps	Species of Concern - Native Species Global: G4 State: S3 USFS: Sensitive - Known in Forests (LOLO) BLM: SENSITIVE FWP SWAP: SGCN3 Predicted Models: 9% Moderate (inductive), 10% Low (inductive)	
B - Gray-crowned Rosy-Finch (<i>Leucosticte tephrocotis</i>) SOC		
View in Field Guide View Predicted Models View Range Maps	Species of Concern - Native Species Global: G5 State: S2 USFWS: MBTA FWP SWAP: SGCN2, SGIN Predicted Models: 7% Moderate (inductive), 37% Low (inductive)	
V - Lycopodium inundatum (<i>Northern Bog Clubmoss</i>) SOC		
View in Field Guide View Predicted Models View Range Maps	USFS: Sensitive - Suspected in Forests (KOOT) Species of Concern - Native Species Global: G5 State: S2 Species of Conservation Concern in Forests (FLAT) Plant Threat Score: Unknown CCVI: Highly Vulnerable Predicted Models: 7% Moderate (inductive), 10% Low (inductive)	
V - Carex chorrhiza (<i>Creeping Sedge</i>) SOC		
View in Field Guide View Predicted Models View Range Maps	USFS: Sensitive - Known in Forests (KOOT) Sensitive - Suspected in Forests (LOLO) Species of Concern - Native Species Global: G5 State: S3 Species of Conservation Concern in Forests (FLAT) Plant Threat Score: No Known Threats CCVI: Moderately Vulnerable Predicted Models: 7% Moderate (inductive), 6% Low (inductive)	
B - Scorpidium scorpioides (<i>A Scorpidium Moss</i>) SOC		
View in Field Guide View Predicted Models View Range Maps	USFS: Sensitive - Known in Forests (KOOT, LOLO) Species of Concern - Native Species Global: G5 State: S2 Species of Conservation Concern in Forests (FLAT, HLC) Predicted Models: 7% Moderate (inductive), 3% Low (inductive)	
V - Botrychium lanceolatum (<i>Lanceleaf Moonwort</i>) SOC		
View in Field Guide View Predicted Models View Range Maps	Species of Concern - Native Species Global: G5 State: S3 USFS: Sensitive - Known in Forests (BRT, KOOT) CCVI: Less Vulnerable Predicted Models: 5% Moderate (inductive), 38% Low (inductive)	

B - Western Screech-Owl (<i>Megascops kennicottii</i>) PSOC		
View in Field Guide View Predicted Models View Range Maps Potential Species of Concern - Native Species Global: G4G5 State: S3S4 USFWS: MBTA FWP SWAP: SGIN PIF: 3 Predicted Models: 5% Moderate (inductive), 14% Low (inductive)		
V - Erigeron lackschewitzii (<i>Lackschewitz' Fleabane</i>) SOC		
View in Field Guide View Predicted Models View Range Maps Species of Concern - Native Species Global: G3 State: S3 USFS: Sensitive - Known in Forests (BRT) Plant Threat Score: Unknown CCVI: Highly Vulnerable Predicted Models: 5% Moderate (inductive), 14% Low (inductive)		
I - Soyedina potteri (<i>Northern Rocky Mountains Refugium Stonefly</i>) SOC		
View in Field Guide View Predicted Models View Range Maps Species of Concern - Native Species Global: G2 State: S2 Predicted Models: 5% Moderate (inductive), 10% Low (inductive)		
M - Northern Bog Lemming (<i>Synaptomys borealis</i>) SOC		
View in Field Guide View Predicted Models View Range Maps Species of Concern - Native Species Global: G5 State: S2 USFS: Sensitive - Known in Forests (BD, BRT, KOOT, LOLO) FWP SWAP: SGCN2, SGIN Predicted Models: 5% Moderate (inductive), 8% Low (inductive)		
V - Schoenoplectus subterminalis (<i>Water Bulrush</i>) SOC		
View in Field Guide View Predicted Models View Range Maps USFS: Sensitive - Known in Forests (LOLO) Species of Concern - Native Species Global: G5 State: S3 Species of Conservation Concern in Forests (HLC) Plant Threat Score: Unknown Predicted Models: 5% Moderate (inductive), 7% Low (inductive)		
V - Ageratina occidentalis (<i>Western Joepy-weed</i>) SOC		
View in Field Guide View Predicted Models View Range Maps USFS: Sensitive - Known in Forests (BRT) Species of Concern - Native Species Global: G4 State: S2 Sensitive - Suspected in Forests (BD, LOLO) Plant Threat Score: Unknown CCVI: Less Vulnerable Predicted Models: 4% Moderate (inductive), 89% Low (inductive)		
B - Boreal Chickadee (<i>Poecile hudsonicus</i>) SOC		
View in Field Guide View Predicted Models View Range Maps Species of Concern - Native Species Global: G5 State: S3 USFWS: MBTA FWP SWAP: SGCN3 Predicted Models: 4% Moderate (inductive), 12% Low (inductive)		
V - Synthyris canbyi (<i>Mission Mountain kittentails</i>) SOC		
View in Field Guide View Predicted Models View Range Maps Species of Concern - Native Species Global: G2G3 State: S2S3 USFS: Sensitive - Known in Forests (BD, BRT) Plant Threat Score: No Known Threats CCVI: Highly Vulnerable Predicted Models: 3% Moderate (inductive), 8% Low (inductive)		
B - Boreal Owl (<i>Aegolius funereus</i>) PSOC		
View in Field Guide View Predicted Models View Range Maps Potential Species of Concern - Native Species Global: G5 State: S3S4 USFWS: MBTA FWP SWAP: SGIN PIF: 3 Predicted Models: 2% Moderate (inductive), 64% Low (inductive)		
V - Scheuchzeria palustris (<i>Pod Grass</i>) SOC		
View in Field Guide View Predicted Models View Range Maps Species of Concern - Native Species Global: G5 State: S3 USFS: Sensitive - Known in Forests (LOLO) Plant Threat Score: Medium - Low CCVI: Moderately Vulnerable Predicted Models: 2% Moderate (inductive), 30% Low (inductive)		
V - Botrychium simplex (<i>Least Moonwort</i>) SOC		
View in Field Guide View Predicted Models View Range Maps Species of Concern - Native Species Global: G5 State: S2 USFS: Sensitive - Known in Forests (BD, BRT, KOOT) CCVI: Less Vulnerable Predicted Models: 2% Moderate (inductive), 19% Low (inductive)		
V - Kobresia simpliciuscula (<i>Simple Kobresia</i>) SOC		
View in Field Guide View Predicted Models View Range Maps Species of Concern - Native Species Global: G5 State: S3 Plant Threat Score: Unknown Predicted Models: 2% Moderate (inductive), 11% Low (inductive)		
M - Long-legged Myotis (<i>Myotis volans</i>) SOC		
View in Field Guide View Predicted Models View Range Maps Species of Concern - Native Species Global: G4G5 State: S3 Predicted Models: 2% Moderate (inductive), 8% Low (inductive)		
V - Stellaria crassifolia (<i>Fleshy Stitchwort</i>) SOC		
View in Field Guide View Predicted Models View Range Maps Species of Concern - Native Species Global: G5 State: S2 Plant Threat Score: No Known Threats Predicted Models: 2% Moderate (inductive), 7% Low (inductive)		
V - Botrychium pedunculosum (<i>Stalked Moonwort</i>) SOC		
View in Field Guide View Predicted Models View Range Maps USFS: Sensitive - Known in Forests (BD, KOOT) Species of Concern - Native Species Global: G3G4 State: S2 Species of Conservation Concern in Forests (FLAT) CCVI: Less Vulnerable Predicted Models: 2% Moderate (inductive), 5% Low (inductive)		

<input type="checkbox"/> B - Lewis's Woodpecker (<i>Melanerpes lewis</i>) SOC	 
View in Field Guide View Predicted Models View Range Maps Species of Concern - Native Species Global: G4 State: S2B USFWS: MBTA; BCC10; BCC17 USFS: Species of Conservation Concern in Forests (HLC) BLM: SENSITIVE FWP SWAP: SGCN2 PIF: 2 Predicted Models:  1% Moderate (inductive),  14% Low (inductive)	
<input type="checkbox"/> V - Isoetes echinospora (<i>Spiny-spore Quillwort</i>) SOC	 
View in Field Guide View Predicted Models View Range Maps Species of Concern - Native Species Global: G5 State: S3 Plant Threat Score: No Known Threats CCVI: Less Vulnerable Predicted Models:  1% Moderate (inductive),  12% Low (inductive)	
<input type="checkbox"/> M - North American Porcupine (<i>Erethizon dorsatum</i>) PSOC	 
View in Field Guide View Predicted Models View Range Maps Potential Species of Concern - Native Species Global: G5 State: S3S4 FWP SWAP: SGIN Predicted Models:  64% Low (inductive)	
<input type="checkbox"/> M - Hoary Bat (<i>Lasiurus cinereus</i>) SOC	 
View in Field Guide View Predicted Models View Range Maps Species of Concern - Native Species Global: G3G4 State: S3B BLM: SENSITIVE FWP SWAP: SGCN3 Predicted Models:  61% Low (inductive)	
<input type="checkbox"/> B - Rufous Hummingbird (<i>Selasphorus rufus</i>) PSOC	 
View in Field Guide View Predicted Models View Range Maps Potential Species of Concern - Native Species Global: G4 State: S4B USFWS: MBTA; BCC10 PIF: 3 Predicted Models:  61% Low (inductive)	
<input type="checkbox"/> M - Silver-haired Bat (<i>Lasionycteris noctivagans</i>) PSOC	 
View in Field Guide View Predicted Models View Range Maps Potential Species of Concern - Native Species Global: G3G4 State: S4 Predicted Models:  57% Low (inductive)	
<input type="checkbox"/> B - Common Loon (<i>Gavia immer</i>) SOC	 
View in Field Guide View Predicted Models View Range Maps Species of Concern - Native Species Global: G5 State: S3B USFWS: MBTA USFS: Sensitive - Known in Forests (LOLO) FWP SWAP: SGCN3 PIF: 1 Predicted Models:  52% Low (inductive)	
<input type="checkbox"/> V - Corydalis sempervirens (<i>Pale Corydalis</i>) SOC	 
View in Field Guide View Predicted Models View Range Maps USFS: Sensitive - Known in Forests (KOOT) Species of Concern - Native Species Global: G5 State: S2 Species of Conservation Concern in Forests (FLAT) Plant Threat Score: Medium CCVI: Less Vulnerable Predicted Models:  41% Low (inductive)	
<input type="checkbox"/> M - Little Brown Myotis (<i>Myotis lucifugus</i>) SOC	 
View in Field Guide View Predicted Models View Range Maps Species of Concern - Native Species Global: G3G4 State: S3 USFS: Sensitive - Known in Forests (BD, BRT, KOOT) FWP SWAP: SGCN3 Predicted Models:  25% Low (inductive)	
<input type="checkbox"/> V - Amerorchis rotundifolia (<i>Round-leaved Orchis</i>) SOC	 
View in Field Guide View Predicted Models View Range Maps USFS: Sensitive - Known in Forests (KOOT) Sensitive - Suspected in Forests (LOLO) Species of Concern - Native Species Global: G5 State: S3 Species of Conservation Concern in Forests (FLAT, HLC) Plant Threat Score: Low CCVI: Moderately Vulnerable Predicted Models:  25% Low (inductive)	
<input type="checkbox"/> M - Long-eared Myotis (<i>Myotis evotis</i>) SOC	 
View in Field Guide View Predicted Models View Range Maps Species of Concern - Native Species Global: G5 State: S3 Predicted Models:  23% Low (inductive)	
<input type="checkbox"/> V - Cypripedium parviflorum (<i>Small Yellow Lady's-slipper</i>) PSOC	 
View in Field Guide View Predicted Models View Range Maps USFS: Sensitive - Known in Forests (LOLO) Potential Species of Concern - Native Species Global: G5 State: S3S4 Species of Conservation Concern in Forests (CG, HLC) Predicted Models:  21% Low (inductive)	

Structured Surveys

Summarized by: **Lower Youngs Creek (170102090106 - 6th Code Watershed)**

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.

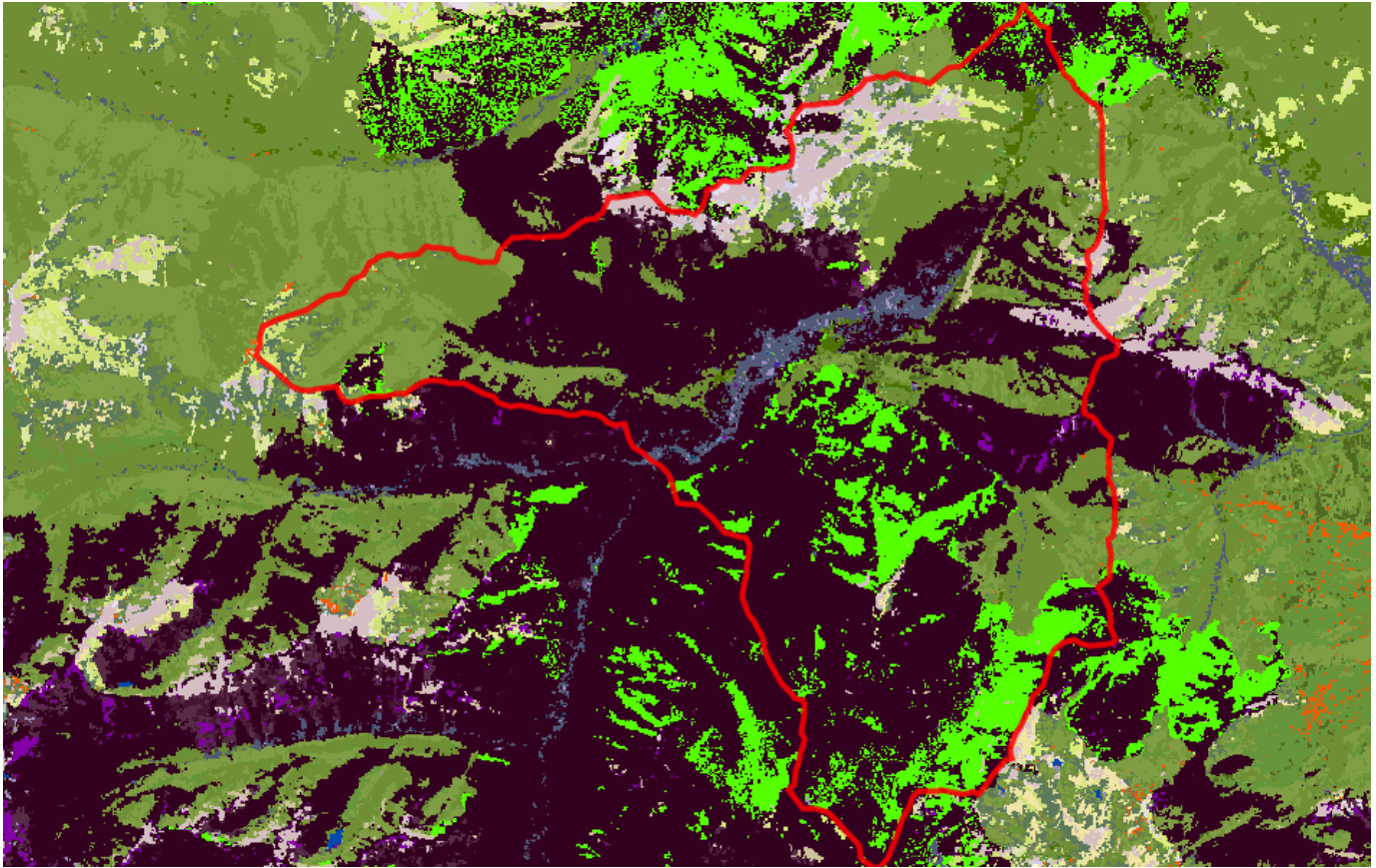
MTNHP does not typically manage information on structured surveys for plants; surveys for invasive species may be a future exception.

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.

AR-Amphibian/Reptile Lentic (<i>Lentic Amphibian/Reptile Surveys</i>)	Survey Count: 2	Obs Count: 2	Recent Survey: 2008
P-PIBO Cross Section (<i>PIBO Riparian Vegetation Cross Section</i>)	Survey Count: 4	Obs Count: 110	Recent Survey: 2022
P-USFS ECODATA Plot (<i>USFS ECODATA Ecological Inventory Survey Plot</i>)	Survey Count: 14	Obs Count: 292	Recent Survey: 1991

Land Cover

Summarized by: **Lower Youngs Creek (170102090106 - 6th Code Watershed)**



Recently Disturbed or Modified Recently burned

 **Recently burned forest**

53%
(14,600 Acres)

Land cover is apparently modified by recent fires which have burned forest and woodland vegetation. Vegetation is a mixture of herbaceous, shrub, and tree species.

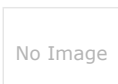


Forest and Woodland Systems Conifer-dominated forest and woodland (xeric-mesic)

 **Rocky Mountain Subalpine Dry-Mesic Spruce-Fir Forest and Woodland**

16% (4,459 Acres)

Engelmann spruce (*Picea engelmannii*) and subalpine fir (*Abies lasiocarpa*) make up a substantial part of the montane and lower subalpine forests of the Montana Rocky Mountains and mountain island ranges of north-central and west-central Montana. Spruce is usually associated with fir and occurs as either a climax co-dominant or as a persistent, long-lived seral species in most upper elevation fir habitat types. Dry to mesic spruce-dominated forests range from 884-1,585 meters (2,900-5,200 feet) west of the Continental Divide, and 1585-2,073 meters (5,200-6,800 feet) east of the Continental Divide in the northern and central portions of the state. This system can be found at elevations up to 2,896 meters (9,500 feet) in southwestern Montana. Forests are found on gentle to very steep mountain slopes, high-elevation ridge tops and upper slopes, plateau-like surfaces, basins, alluvial terraces, well-drained benches, and inactive stream terraces. Tree canopy characteristics are relatively uniform. In northern Montana, Engelmann spruce hybridizes with its boreal counterpart, white spruce (*Picea glauca*). Douglas-fir (*Pseudotsuga menziesii*), lodgepole pine (*Pinus contorta*), and western larch (*Larix occidentalis*) (west of the Continental Divide) are seral but often present in these forests. The understory is comprised of a mixture of shrubs, forbs and graminoids tolerant of warmer and drier soil conditions than those found on the more mesic to wet spruce-fir system. The drier occurrences of this system are especially common on steep slopes at upper elevations throughout the eastern Rocky Mountains, whereas the more mesic occurrences form substantial cover west of the Continental Divide in the Flathead, Lolo, Bitterroot and Kootenai river drainages.



Recently Disturbed or Modified Recently burned

 **Post-Fire Recovery**

9% (2,567 Acres)



8% (2,198 Acres)

Forest and Woodland Systems

Conifer-dominated forest and woodland (mesic-wet)

Rocky Mountain Subalpine Mesic Spruce-Fir Forest and Woodland

These forests are similar to Rocky Mountain Subalpine Dry-Mesic Spruce-Fir Forest and Woodland (4242), but occur in locations with cold-air drainage or ponding, or where snowpacks linger late into the summer, such as north-facing slopes and high-elevation ravines. They are distinguished by their occurrence on mesic to wet microsites within the matrix of the drier (and warmer) subalpine spruce-fir or lodgepole pine forests. The microsites include north-facing slopes, swales or ravines, toeslopes, cold pockets, and other locations where available soil moisture is higher or lasts longer into the growing season. This system can extend down in elevation below the subalpine zone in places where cold-air ponding occurs, especially on north and east aspects. Elevations range from 884 to 1,981 meters (2,900-6,500 feet) west of the Continental Divide, and 1,585 to 2,682 meters (5,200-8,800 feet) east of the Continental Divide. Spruce is usually associated with subalpine fir and occurs either as a climax co-dominant or as a persistent, long-lived seral species in most upper elevation subalpine fir stands. Mountain hemlock (*Tsuga mertensiana*) occurs as small patches within the matrix of this mesic spruce-fir system, but only in the most maritime of environments of northwestern Montana, in the coldest and wettest sites. The shrub understory contains many ericaceous species such as rusty leaf menziesia (*Menziesia ferruginea*), dwarf huckleberry (*Vaccinium caespitosum*), mountain huckleberry (*Vaccinium membranaceum*), bilberry (*Vaccinium myrtillus*), grouse whortleberry (*Vaccinium scoparium*), pink mountain heath (*Phyllodoce empetriformis*), black twinberry honeysuckle (*Lonicera involucrata*), gooseberry (*Ribes* species) and thimbleberry (*Rubus parviflorus*). The herbaceous understory contains mesic forbs, graminoids, and ferns and fern allies on the wettest sites. Moss cover is often high. Stand-replacing fires are less common in mesic spruce-fir forests than in dry-mesic forests.



3% (852 Acres)

Alpine Systems

Alpine Sparse and Barren

Alpine Bedrock and Scree

This ecological system is restricted to the highest elevations of the Rocky Mountains, from Alberta and British Columbia south into New Mexico, and west into the highest mountain ranges of the Great Basin. It is composed of barren and sparsely vegetated alpine substrates, typically including both bedrock outcrop and scree slopes, with lichen-dominated communities. In Montana, alpine bedrock and scree are well represented throughout the northern Rocky Mountains and island mountain ranges. Elevations range from as low as 2,285 meters (7,500 feet) in northwestern Montana to 3,500 meters (11,500 feet) in southern Montana. Exposure to desiccating winds, rocky and sometimes unstable substrates, and a short growing season limit plant growth. Typically, there is sparse (less than 10%) cover of forbs, grasses, and low shrubs, with exposed, unstable scree, talus and bedrock constituting the remainder of cover. Diverse crustose and foliose lichen cover is high (often greater than 50%) on exposed talus and bedrock. Soils on these windy, unproductive sites are very poorly developed, often only occurring in fractures of bedrock. This system is characterized by a very cold climate during winter, high winds, high UV radiation and high surface daytime temperatures during summer months on south and west facing aspects, and a very short growing season. Most scree- and bedrock-inhabiting plants are highly adapted to this xeric environment and occur as singular plants among the exposed rocks or in bedrock fractures. These species are typically cushioned, matted or succulent, or grow as flat rosettes, often with thick leaf cuticles or a dense cover of hairs. This system often occurs adjacent to or immediately below North American Alpine Ice Fields and intermingles with Rocky Mountain Alpine Fell Fields.



2% (625 Acres)

Wetland and Riparian Systems

Floodplain and Riparian

Northern Rocky Mountain Lower Montane Riparian Woodland and Shrubland

This ecological system is found throughout the Rocky Mountain and Colorado Plateau regions. In Montana, sites occur at elevations of 609-1,219 meters (2,000-4,000 feet) west of the Continental Divide. East of the Continental Divide, this system ranges up to 1,676 meters (5,500 feet). It generally comprises a mosaic of multiple communities that are tree-dominated with a diverse shrub component. It is dependent on a natural hydrologic regime with annual to episodic flooding, so it is usually found within the flood zone of rivers, on islands, sand or cobble bars, and along 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. Black cottonwood (*Populus balsamifera* ssp. *trichocarpa*) is the key indicator species. Other dominant trees may include boxelder maple (*Acer negundo*), narrowleaf cottonwood (*Populus angustifolia*), eastern 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*), thinleaf alder (*Alnus incana*), river birch (*Betula occidentalis*), redberry dogwood (*Cornus sericea*), hawthorne (*Crataegus* species), chokecherry (*Prunus virginiana*), skunkbush sumac (*Rhus trilobata*), willows (*Salix* species), rose (*Rosa* species), silver buffaloberry (*Shepherdia argentea*), or snowberry (*Symphoricarpos* species).



2% (431 Acres)

Forest and Woodland Systems


















Conifer-dominated forest and woodland (xeric-mesic)

Rocky Mountain Subalpine Woodland and Parkland

This system includes all subalpine and treeline forest associations of the Montana Rocky Mountains and island ranges. It is characteristically a high-elevation mosaic of stunted tree clumps, open woodlands, and herb- or dwarf-shrub-dominated openings, occurring above closed forest ecosystems and below alpine communities. It includes open areas with stands of whitebark pine (*Pinus albicaulis*) occurring most commonly on south-, east-, and west-facing aspects, or less commonly, alpine larch (*Larix lyallii*) on north-facing aspects and in basins. Subalpine fir (*Abies lasiocarpa*) is the co-dominant in these systems and is often the most prevalent tree species. Engelmann spruce (*Picea engelmannii*) is usually associated with subalpine fir and occurs as either a climax co-dominant or as a persistent, long-lived seral species in most upper elevation subalpine fir habitat types. Elevation range from as low as 1,981 meters (6,500 feet) in northwestern Montana to 2,682 meters (8,800 feet) in southwestern Montana. The climate is typically very cold in winter and dry in summer. Landforms include ridgetops, mountain slopes, glacial trough walls and moraines, talus slopes, landslides and rockslides, and cirque headwalls and basins. Snow accumulation is high in basins, but ridgetops have little snow accumulation because of high winds and sublimation. In this harsh, often wind-swept environment, trees are usually stunted and flagged from damage associated with wind, blowing snow and ice crystals, especially at the upper elevations. Fire suppression, disease, insects and climate change are changing the structure, distribution and composition of these systems.

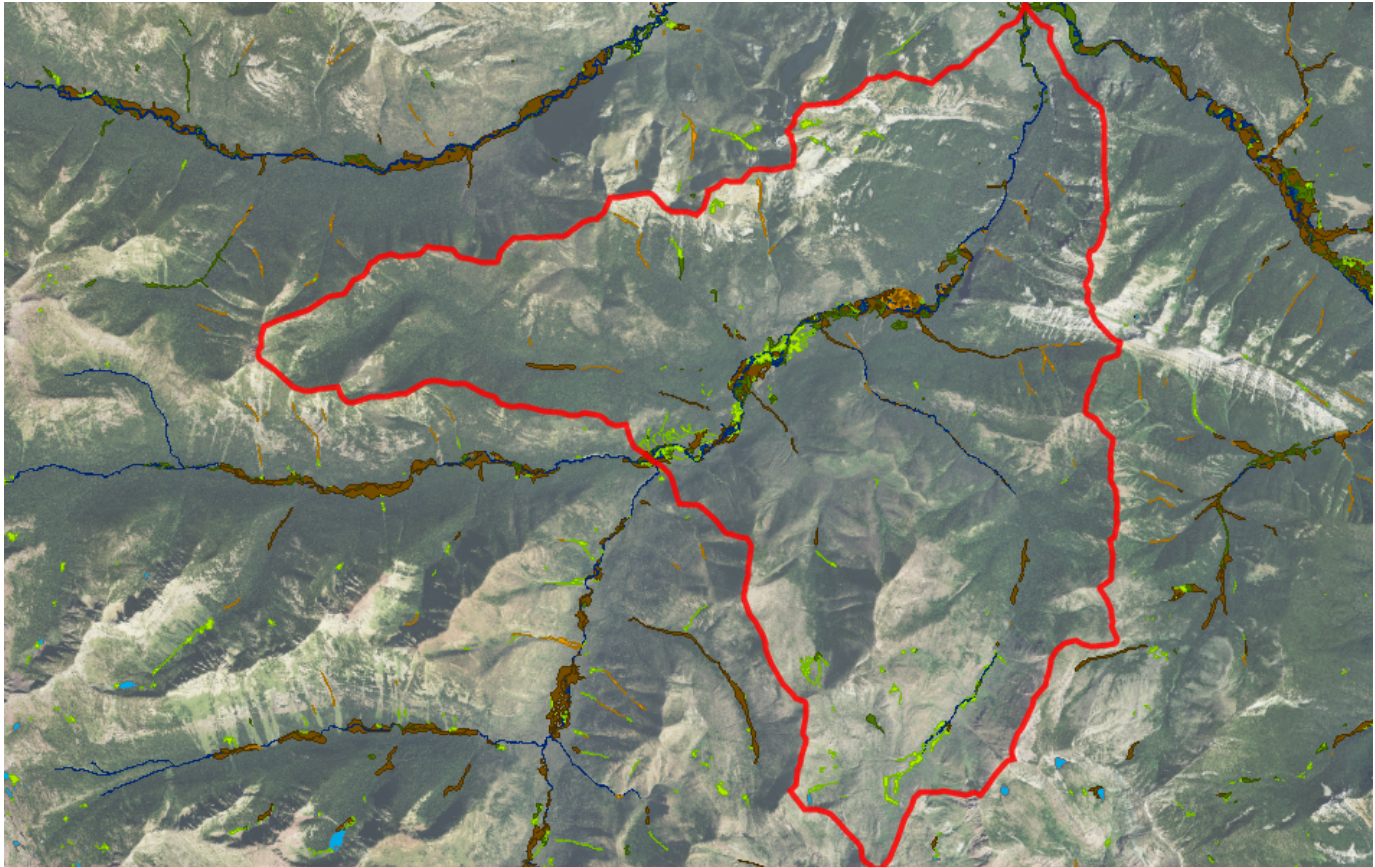
Additional Limited Land Cover

- 1% (237 Acres) [Rocky Mountain Subalpine-Upper Montane Grassland](#)
- 1% (222 Acres) [Rocky Mountain Dry-Mesic Montane Mixed Conifer Forest](#)
- 1% (210 Acres) [Rocky Mountain Lodgepole Pine Forest](#)
- 1% (190 Acres) [Rocky Mountain Subalpine Deciduous Shrubland](#)
- 1% (182 Acres) [Recently burned grassland](#)
- <1% (135 Acres) [Rocky Mountain Cliff, Canyon and Massive Bedrock](#)
- <1% (135 Acres) [Rocky Mountain Montane Douglas-fir Forest and Woodland](#)
- <1% (132 Acres) [Rocky Mountain Subalpine-Montane Mesic Meadow](#)
- <1% (131 Acres) [Alpine Fell-Field](#)
- <1% (105 Acres) [Alpine Turf](#)

- <1% (100 Acres)  [Burned Sagebrush](#)
- <1% (91 Acres)  [Recently burned shrubland](#)
- <1% (42 Acres)  [Alpine-Montane Wet Meadow](#)
- <1% (31 Acres)  [Alpine Dwarf-Shrubland](#)
- <1% (20 Acres)  [Montane Sagebrush Steppe](#)
- <1% (11 Acres)  [Aspen Forest and Woodland](#)
- <1% (8 Acres)  [Rocky Mountain Ponderosa Pine Woodland and Savanna](#)
- <1% (8 Acres)  [Insect-Killed Forest](#)
- <1% (7 Acres)  [Emergent Marsh](#)
- <1% (7 Acres)  [Rocky Mountain Montane-Foothill Deciduous Shrubland](#)
- <1% (6 Acres)  [Rocky Mountain Conifer Swamp](#)
- <1% (3 Acres)  [Rocky Mountain Lower Montane, Foothill, and Valley Grassland](#)
- <1% (1 Acres)  [Aspen and Mixed Conifer Forest](#)
- <1% (1 Acres)  [Open Water](#)
- <1% (1 Acres)  [Rocky Mountain Mesic Montane Mixed Conifer Forest](#)
- <1% (0 Acres)  [Rocky Mountain Subalpine-Montane Fen](#)
- <1% (0 Acres)  [Rocky Mountain Subalpine-Montane Riparian Woodland](#)

Wetland and Riparian

Summarized by: Lower Youngs Creek (170102090106 - 6th Code Watershed)



Wetland and Riparian Mapping

P - Palustrine

AB - Aquatic Bed

F - Semipermanently Flooded	4 Acres
(no modifier)	2 Acres PABF
b - Beaver	2 Acres PABFb

G - Intermittently Exposed	3 Acres
(no modifier)	3 Acres PABG

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	212 Acres
(no modifier)	212 Acres PEMA

B - Saturated	1 Acres
(no modifier)	1 Acres PEMB

C - Seasonally Flooded	7 Acres
(no modifier)	7 Acres PEMC

P - Palustrine, EM - Emergent

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

SS - Scrub-Shrub

A - Temporarily Flooded	108 Acres
(no modifier)	108 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.

FO - Forested

A - Temporarily Flooded	29 Acres
(no modifier)	29 Acres PFOA

P - Palustrine, FO - Forested

Wetlands dominated by woody vegetation greater than 6 meters (20 feet) tall.

R - Riverine (Rivers)

3 - Upper Perennial

UB - Unconsolidated Bottom

G - Intermittently Exposed	97 Acres
(no modifier)	97 Acres R3UBG

H - Permanently Flooded	1 Acres
-------------------------	---------

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

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

(no modifier)

1 Acres R3UBH

US - Unconsolidated Shore

A - Temporarily Flooded 37 Acres
(no modifier) **37 Acres R3USA**

C - Seasonally Flooded 24 Acres
(no modifier) **24 Acres R3USC**

R - Riverine (Rivers), 3 - Upper 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.

Rp - Riparian

1 - Lotic

SS - Scrub-Shrub
(no modifier)

75 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)

266 Acres Rp1FO

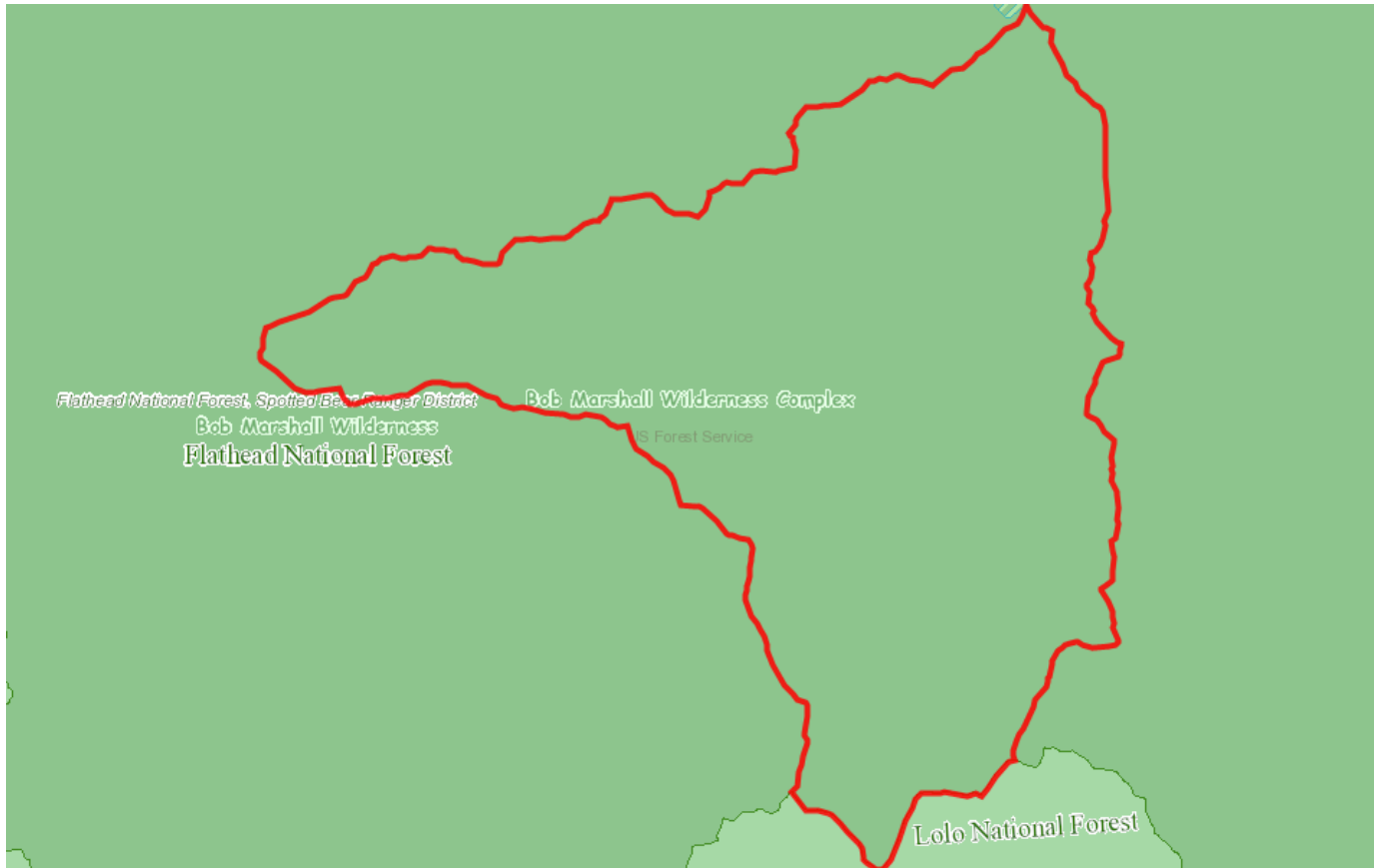
Rp - Riparian, 1 - Lotic, FO - Forested

This riparian class has woody vegetation that is greater than 6 meters (20 feet) tall.



Land Management

Summarized by: Lower Youngs Creek (170102090106 - 6th Code Watershed)



Land Management Summary

	Ownership	Tribal	Easements	Other Boundaries (possible overlap)
Public Lands	27,754 Acres (100%)			
Federal	27,754 Acres (100%)			
US Forest Service	27,754 Acres (100%)			
USFS Owned	27,754 Acres (100%)			
USFS Ranger Districts				27,753 Acres
Flathead National Forest, Spotted Bear Ranger District				27,750 Acres
Lolo National Forest, Seeley Lake Ranger District				3 Acres
USFS National Forest Boundaries				27,753 Acres
Flathead National Forest				27,750 Acres
Lolo National Forest				3 Acres
USFS Wilderness Areas				55,500 Acres
Bob Marshall Wilderness				27,750 Acres
Bob Marshall Wilderness Complex				27,750 Acres
USFS Wild and Scenic Rivers				
Flathead Wild & Scenic River				
Private Lands or Unknown Ownership	Acres (0%)			



Biological Reports

Summarized by: **Lower Youngs Creek** (170102090106 - 6th Code Watershed)

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

No Biological Reports were found in the selected area

Legend

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



Latitude 47.29469 Longitude -113.16006
47.44624 -113.36202

Invasive and Pest Species

Summarized by: Lower Youngs Creek (170102090106 - 6th Code Watershed)

Obs Predicted Model Range

Aquatic Invasive Species

V - *Nymphaea odorata* (American Water-lily) AIS # Obs: [] Predicted Model: [] Range: [N]

[View in Field Guide](#) [View Predicted Models](#) [View Range Maps](#)
Aquatic Invasive Species - Non-native Species Global: **G5** State: **SNA**
 Predicted Models: 2% Suitable (introduced range) (deductive)

Noxious Weeds: Priority 1A

V - *Centaurea solstitialis* (Yellow Starthistle) N1A # Obs: [] Predicted Model: [] Range: [N]

[View in Field Guide](#) [View Predicted Models](#) [View Range Maps](#)
Noxious Weed: Priority 1A - Non-native Species Global: **GNR** State: **SNA**
 Predicted Models: 5% Moderate (inductive), 7% Low (inductive)

Noxious Weeds: Priority 1B

V - *Cytisus scoparius* (Scotch Broom) N1B # Obs: [] Predicted Model: [] Range: [N]

[View in Field Guide](#) [View Predicted Models](#) [View Range Maps](#)
Noxious Weed: Priority 1B - Non-native Species Global: **GNR** State: **SNA**
 Predicted Models: 5% Moderate (inductive), 53% Low (inductive)

Noxious Weeds: Priority 2A

V - *Hieracium caespitosum* (Meadow Hawkweed) N2A # Obs: [] Predicted Model: [] Range: [N]

[View in Field Guide](#) [View Predicted Models](#) [View Range Maps](#)
Noxious Weed: Priority 2A - Non-native Species Global: **GNR** State: **SNA**
 Predicted Models: 4% Optimal (inductive), 74% Moderate (inductive), 20% Low (inductive)

V - *Ranunculus acris* (Tall Buttercup) N2A # Obs: [] Predicted Model: [] Range: [N]

[View in Field Guide](#) [View Predicted Models](#) [View Range Maps](#)
Noxious Weed: Priority 2A - Non-native Species Global: **G5** State: **SNA**
 Predicted Models: 2% Optimal (inductive), 29% Moderate (inductive), 54% Low (inductive)

V - *Hieracium aurantiacum* (Orange Hawkweed) N2A # Obs: [] Predicted Model: [] Range: [N]

[View in Field Guide](#) [View Predicted Models](#) [View Range Maps](#)
Noxious Weed: Priority 2A - Non-native Species Global: **GNR** State: **SNA**
 Predicted Models: 21% Moderate (inductive), 72% Low (inductive)

V - *Hieracium piloselloides* (Tall Hawkweed) N2A # Obs: [] Predicted Model: [] Range: [N]

[View in Field Guide](#) [View Predicted Models](#) [View Range Maps](#)
Noxious Weed: Priority 2A - Non-native Species Global: **GNR** State: **SNA**
 Predicted Models: 17% Moderate (inductive), 5% Low (inductive)

V - *Rhamnus cathartica* (Common Buckthorn) N2A # Obs: [] Predicted Model: [] Range: [N]

[View in Field Guide](#) [View Predicted Models](#) [View Range Maps](#)
Noxious Weed: Priority 2A - Non-native Species Global: **GNR** State: **SNA**
 Predicted Models: 10% Moderate (inductive), 49% Low (inductive)

V - *Hieracium praealtum* (Kingdevil Hawkweed) N2A # Obs: [] Predicted Model: [] Range: [N]

[View in Field Guide](#) [View Predicted Models](#) [View Range Maps](#)
Noxious Weed: Priority 2A - Non-native Species Global: **GNR** State: **SNA**
 Predicted Models: 9% Moderate (inductive), 20% Low (inductive)

V - *Ventenata dubia* (Ventenata) N2A # Obs: [] Predicted Model: [] Range: [N]

[View in Field Guide](#) [View Predicted Models](#) [View Range Maps](#)
Noxious Weed: Priority 2A - Non-native Species Global: **GNR** State: **SNA**
 Predicted Models: 33% Low (inductive)

Noxious Weeds: Priority 2B

V - *Linaria vulgaris* (Yellow Toadflax) N2B # Obs: 4 Predicted Model: [] Range: [N]

[View in Field Guide](#) [View Predicted Models](#) [View Range Maps](#)
Noxious Weed: Priority 2B - Non-native Species Global: **GNR** State: **SNA**
 Predicted Models: 16% Optimal (inductive), 41% Moderate (inductive), 41% Low (inductive)



V - *Leucanthemum vulgare* (Oxeye Daisy) N2B # Obs: 6 Predicted Model: [] Range: [N]

[View in Field Guide](#) [View Predicted Models](#) [View Range Maps](#)
Noxious Weed: Priority 2B - Non-native Species Global: **GNR** State: **SNA**
 Predicted Models: 10% Optimal (inductive), 23% Moderate (inductive), 55% Low (inductive)



V - *Potentilla recta* (Sulphur Cinquefoil) N2B # Obs: 1 Predicted Model: [] Range: [N]

[View in Field Guide](#) [View Predicted Models](#) [View Range Maps](#)
Noxious Weed: Priority 2B - Non-native Species Global: **GNR** State: **SNA**
 Predicted Models: 5% Optimal (inductive), 17% Moderate (inductive), 53% Low (inductive)



V - Cynoglossum officinale (*Common Hound's-tongue*) **N2B** 4  

[View in Field Guide](#) [View Predicted Models](#) [View Range Maps](#)
Noxious Weed: Priority 2B - Non-native Species Global: **GNR** State: **SNA**
Predicted Models:  21% Moderate (inductive),  65% Low (inductive)



V - Hypericum perforatum (*Common St. John's-wort*) **N2B**  

[View in Field Guide](#) [View Predicted Models](#) [View Range Maps](#)
Noxious Weed: Priority 2B - Non-native Species Global: **GNR** State: **SNA**
Predicted Models:  17% Moderate (inductive),  58% Low (inductive)



V - Tanacetum vulgare (*Common Tansy*) **N2B**  

[View in Field Guide](#) [View Predicted Models](#) [View Range Maps](#)
Noxious Weed: Priority 2B - Non-native Species Global: **GNR** State: **SNA**
Predicted Models:  13% Moderate (inductive),  71% Low (inductive)



V - Berteroa incana (*Hoary False-alyssum*) **N2B**  

[View in Field Guide](#) [View Predicted Models](#) [View Range Maps](#)
Noxious Weed: Priority 2B - Non-native Species Global: **GNR** State: **SNA**
Predicted Models:  13% Moderate (inductive),  46% Low (inductive)



V - Centaurea stoebe (*Spotted Knapweed*) **N2B** 5  

[View in Field Guide](#) [View Predicted Models](#) [View Range Maps](#)
Noxious Weed: Priority 2B - Non-native Species Global: **GNR** State: **SNA**
Predicted Models:  13% Moderate (inductive),  42% Low (inductive)


V - Cirsium arvense (*Canada Thistle*) **N2B** 9  

[View in Field Guide](#) [View Predicted Models](#) [View Range Maps](#)
Noxious Weed: Priority 2B - Non-native Species Global: **G5** State: **SNA**
Predicted Models:  10% Moderate (inductive),  81% Low (inductive)



V - Linaria dalmatica (*Dalmatian Toadflax*) **N2B**  



[View in Field Guide](#) [View Predicted Models](#) [View Range Maps](#)
Noxious Weed: Priority 2B - Non-native Species Global: **G5** State: **SNA**
Predicted Models:  2% Moderate (inductive),  22% Low (inductive)

V - Centaurea diffusa (*Diffuse Knapweed*) **N2B**  



[View in Field Guide](#) [View Predicted Models](#) [View Range Maps](#)
Noxious Weed: Priority 2B - Non-native Species Global: **GNR** State: **SNA**
Predicted Models:  42% Low (inductive)


Regulated Weeds: Priority 3

V - Bromus tectorum (*Cheatgrass*) **R3**  

[View in Field Guide](#) [View Predicted Models](#) [View Range Maps](#)
Regulated Weed: Priority 3 - Non-native Species Global: **GNR** State: **SNA**
Predicted Models:  16% Moderate (inductive),  33% Low (inductive)

Biocontrol Species

I - Mecinus janthinus (*Yellow Toadflax Stem-boring Weevil*) **BIOCNTL**  

[View in Field Guide](#) [View Predicted Models](#) [View Range Maps](#)
Biocontrol Species - Non-native Species Global: **GNR** State: **SNA**
Predicted Models:  41% Low (inductive)

Introduction to Montana Natural Heritage Program



PO Box 201800 • 1201 11th Avenue • Helena, MT 59620-1800 • fax 406.444.0266 • phone 406.444.3989 • 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 60 natural heritage programs that are distributed across North America.

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 to allow users to save time and money, speed environmental reviews, and make informed decisions.

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	Kristina 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 Data	Adam Messer – MFWP GIS Coordinator amesser@mt.gov (406) 444-0095
Fisheries Data and Nongame Animal Data	Adam Messer – MFWP GIS Coordinator amesser@mt.gov (406) 444-0095
Wildlife and Fisheries Scientific Collector’s Permits	https://fwp.mt.gov/buyandapply/commercialwildlifeandscientificpermits/scientific Kristina Smucker for Wildlife ksmucker@mt.gov (406) 444-5209 Dave Schmetterling for Fisheries dschmetterling@mt.gov (406) 542-5514
Fish and Wildlife Recommendations for Subdivision Development	Stevie Burton stevie.burton@mt.gov (406) 594-7354 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>

Opencut Mining Web Mapping Application for review of opencut mining applications

<https://gis.mtdeq.us/portal/apps/webappviewer/index.html?id=7b60084bc4c444a19c9a7a0867e7635a>

Montana Department of Natural Resources and Conservation

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

<https://dnrc.mt.gov/Permits-Services>

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.).

<https://dnrc.mt.gov/Licenses-and-Permits/Stream-Permitting>

Wildfire Resources: <https://dnrc.mt.gov/Forestry/Wildfire>

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

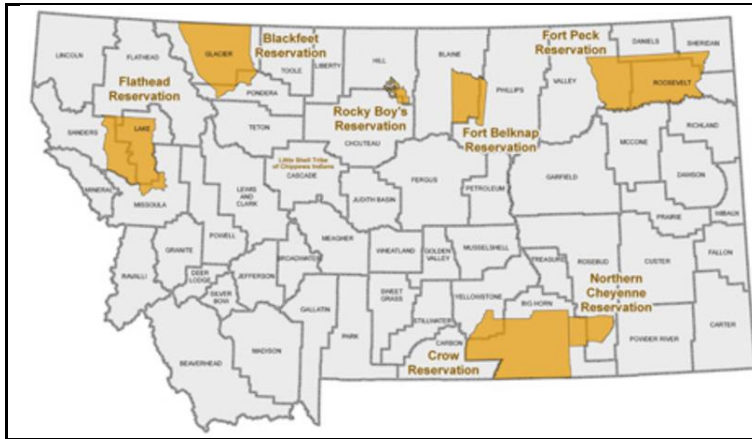
Information Planning and Conservation (IPAC) website: <https://ipac.ecosphere.fws.gov>

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

United States Forest Service

Regional Office – Missoula, Montana Contacts			
Wildlife Program Leader	Tammy Fletcher	tammy.fletcher2@usda.gov	(406) 329-3086
Aquatic Ecologist	Justin Jimenez	justin.jimenez@usda.gov	(435) 370-6830
TES Program	Lydia Allen	lydia.allen@usda.gov	(406) 329-3558
Interagency Grizzly Bear Coordinator	Scott Jackson	scott.jackson@usda.gov	(406) 329-3664
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](#)

[Blackfoot Tribe - Blackfoot 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 \(MISC\)](#)

[Western Montana Conservation Commission](#)

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 or plant observations that you would like to contribute, you can also submit them via Excel spreadsheets, geodatabases, iNaturalist, or a Survey123 form. Various methods of data submission are reviewed in this playlist of videos:

<https://www.youtube.com/playlist?list=PLRaydtZpHu2qOHPoSPq9cnM9uXGmEXACx>

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

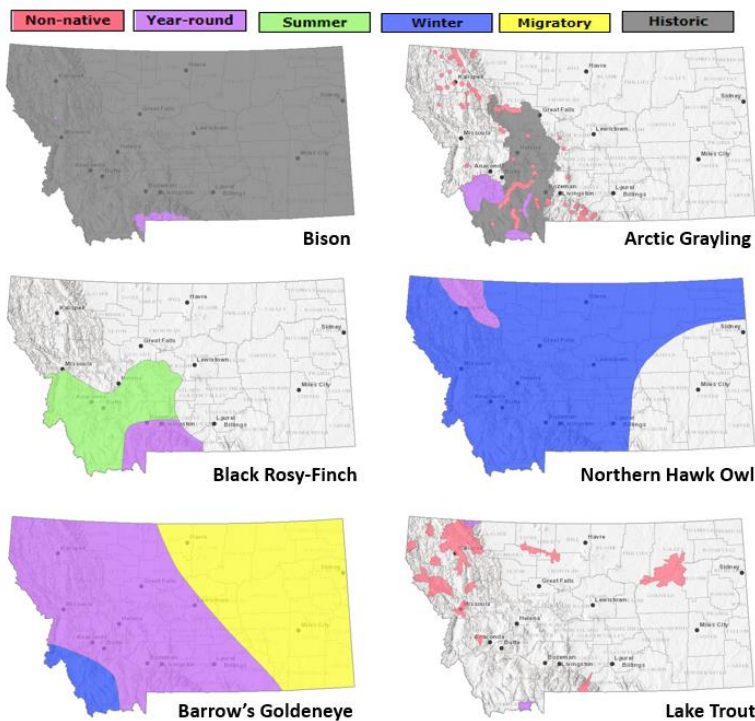
The location of a verified observation or specimen record typically known or assumed to represent a breeding population or a portion of a breeding population. Animal SO's are generally: (1) buffers of terrestrial point observations based on documented species' home range sizes; (2) buffers of stream 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 from the Montana State Library's [GIS Data List](#). More information on the land cover layer is available at: https://msl.mt.gov/geoinfo/msdi/land_use_land_cover/

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 detailed overviews, with examples, of both wetland and riparian classification systems and associated codes as a [storymap](#) and companion [guide](#)

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 landowner. 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 animal or plant observations that you would like to contribute, you can also submit them via Excel spreadsheets, geodatabases, iNaturalist, or a Survey123 form. Various methods of data submission are reviewed in this playlist of videos:

<https://www.youtube.com/playlist?list=PLRaydtZpHu2qOHPoSPq9cnM9uXGmEXACx>

Additional Information Resources

[Effects of Recreation on Rocky Mountain Wildlife](#)

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

[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 Forestry Best Management Practices](#)

[Montana GIS Data Layers](#)

[Montana GIS Data Bundler](#)

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

[Montana Guide to Streamside Management Zone Law and Rules](#)

[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](#)

[Montana Native Plant Conservation Strategy](#)

[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)

[Uses of Information from the Montana Natural Heritage Program](#)

[Web Soil Survey Tool](#)

[Xerces Society for Invertebrate Conservation Resources](#)