Montana Natural Heritage Program Partner's Meeting
October 8, 2026

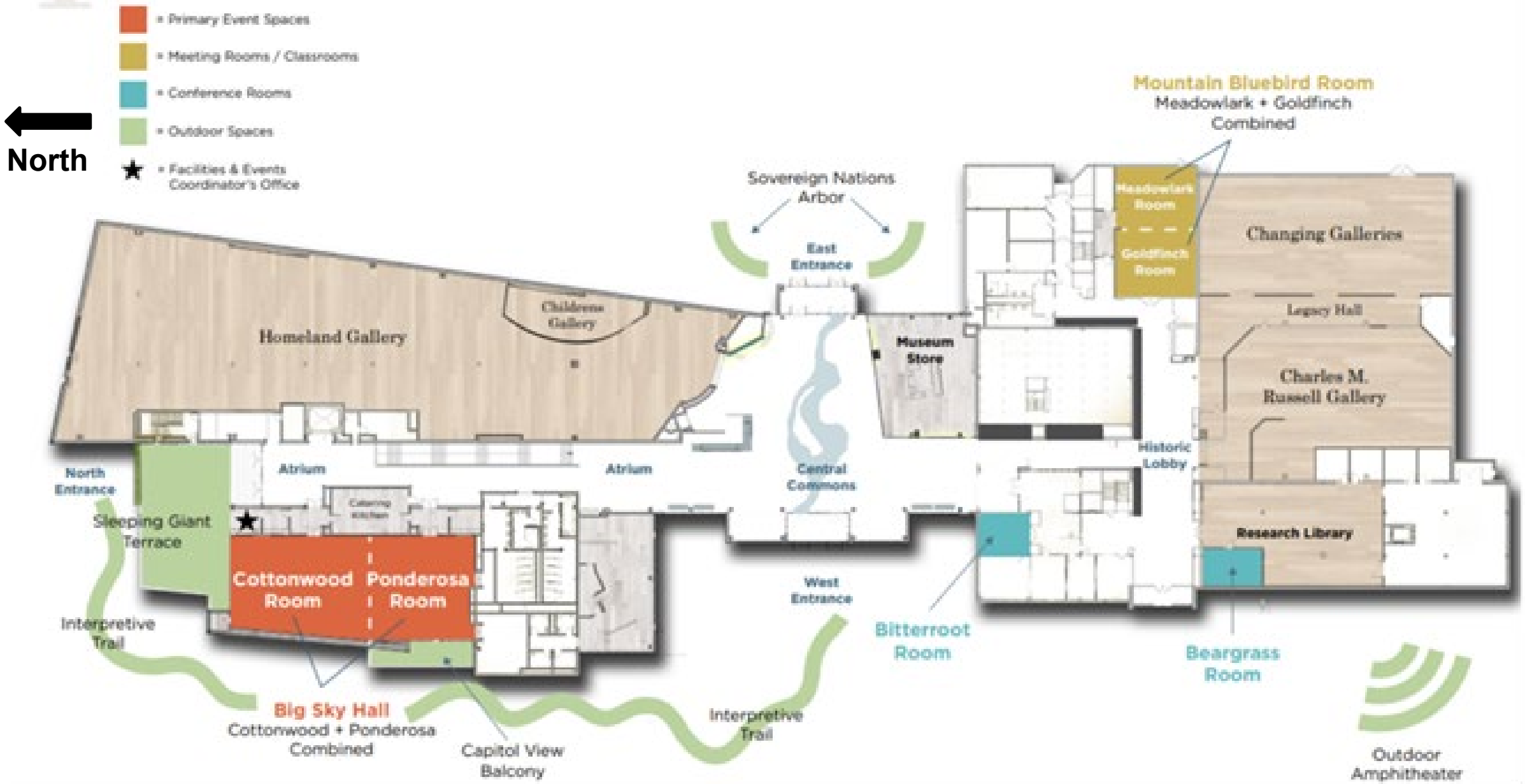
Wifi = MTHS Guest

https://mt-gov.zoom.us/j/82098202382?pwd=oUKHYUH16nVjHChZs2HpZW1rOka5Jt.1

Housekeeping Details

1. **Food, drink, large bags, purses, backpacks, and flash photography and tripods are prohibited in Heritage Center Galleries.**
2. **Please keep yourself muted and your video off when you are not talking**
3. **When speaking (e.g., questions, partner sharing) please stand or turn your video on**
4. **Partner updates – Please coordinate who is giving updates for your organization. Order will be approximately alphabetical with federal, state, local, then NGOs. Talk to or message Bryce if you need to go earlier, later, etc.**
5. **Partners are welcome to post links and documents for materials that might be of general interest to the group in the chat**
6. **Materials and presentations for individual speakers will be posted in the chat**
7. **For technical difficulties, please message or contact Braden Burkholder bburkholder@mt.gov**
8. **If you want to set up a focal training for staff in your organization or need information products specific to your organization to help with your workflows, send an email to bmaxell@mt.gov**
9. **We will send a recording of the main meeting as well as materials provided during the iNaturalist session to all invitees and attendees we have emails for (please provide your email in the chat if you received the meeting invite from someone else).**

FIRST FLOOR
EVENT SPACE GUIDE

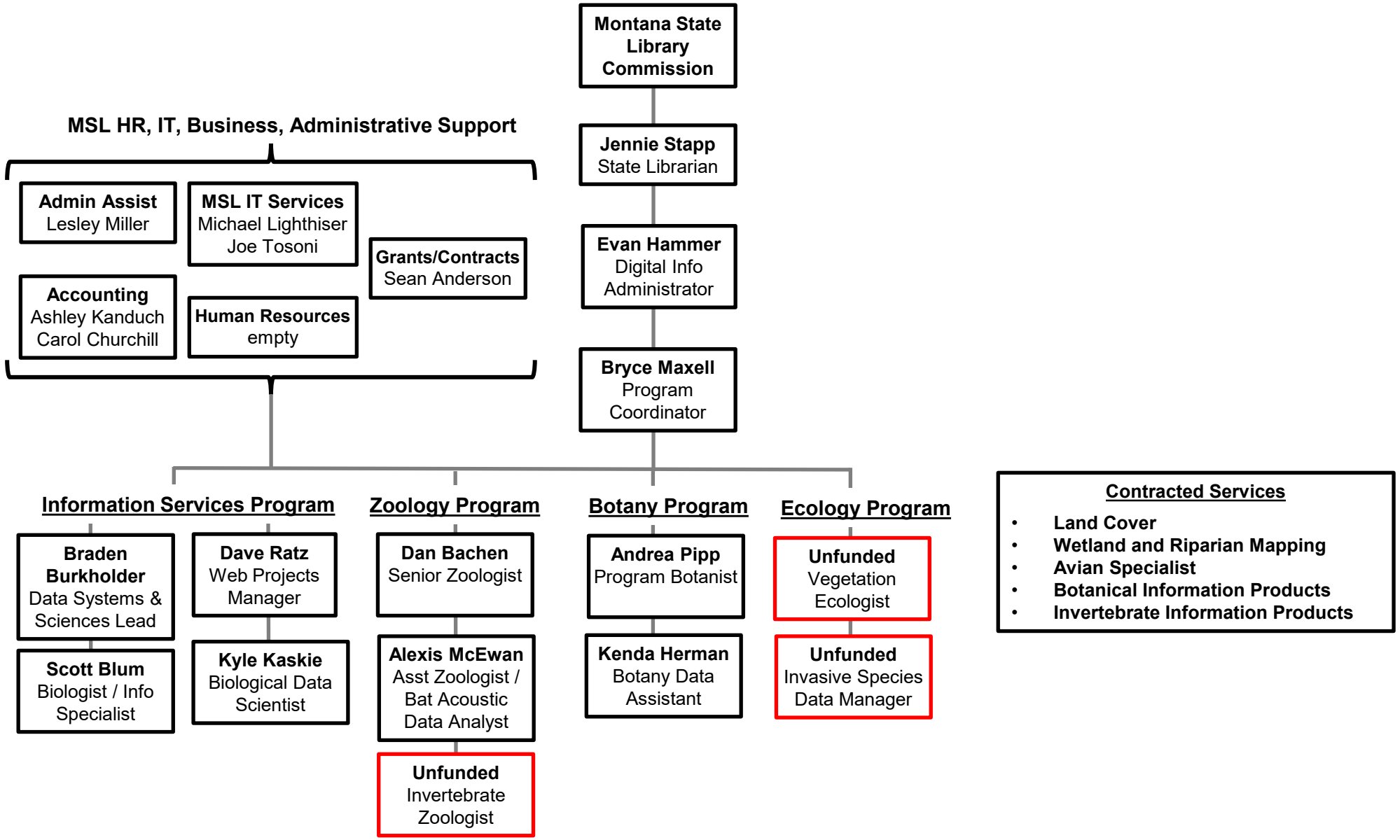


Agenda

10:00 – 10:35	Welcome, State Library, and MTNHP General Updates and Highlights (Bryce Maxell & Jennie Stapp)
10:35 – 10:45	Montana Spatial Data Infrastructure, Water Information, LiDAR, and other State GIS Updates – Evan Hammer
10:45 – 11:45	MTNHP Program Updates • Information Services –Braden Burkholder (20 minutes) • Botany Program – Andrea Pipp (20 minutes) • Zoology Program – Dan Bachen (20 minutes)
11:45 – 12:00	Land Cover and Spatial Analysis Lab updates – Bryce Maxell and Jessica Mitchell
12:00 – 12:15	Wetland/Riparian Mapping & Rangeland Monitoring– Kay Hajek, OCRMW
12:15 – 1:30	Lunch Break (catered) – individual discussions in Cottonwood Room or on Sleeping Giant Terrace and tour Homeland Gallery or Museum Store
1:30 – 2:00	Improving agency processes (Bryce Maxell)
2:00 – 4:00	Partner Sharing - Updates from Partner Representatives • Initiatives • Information Needs • Staffing, Funding, Structural Updates *Please let Bryce know if you want to share powerpoint slides.

MONTANA STATE LIBRARY
NATURAL HERITAGE PROGRAM

2026 Montana Natural Heritage Program Organization Chart



State FY27 Natural Heritage Program Funding Overview

MONTANA STATE LIBRARY
NATURAL HERITAGE PROGRAM

State Library Funding — **$611,000**

Partner Support for Core Info Management

Federal ($226,877)
Bureau of Land Management ($100,697)
US Forest Service ($75,000)
Natural Resource Conservation Service ($43,680)
Bonneville Power Administration ($7,500)

State Agencies ($66,138)
Dept. of Agriculture ($46,113)
Dept. of Natural Resources ($20,025)

Private/NGO ($29,707)
NatureServe ($19,707)
The Nature Conservancy ($10,000)

\+ **$322,722**

= **$933,722***

Thank you to our partners who helped us greatly reduce administrative costs by moving numerous agreements to multiple year agreements that span state fiscal years and meet new MSL guidelines for minimal amounts of $50,000 and $30,000 for Federal and State agreements, respectively!

*Additional funding from partners funds project work with specific deliverables.

Thank you Partners! https://mtnhp.mt.gov/about/partners/

NatureServe

Spatial Analysis Lab, University of Montana

O'Connor Center for the Rocky Mountain West

Fish, Wildlife & Parks

Agriculture

DEQ Montana – Environmental Quality

MDT – Transportation

DNRC – Natural Resources and Conservation

Military Affairs

University of Montana

Montana State University

Montana Wood Products Association

Montana Tree Farm System

Montana Logging Association

Weyerhaeuser

Bureau of Land Management

Forest Service

NRCS – Natural Resources Conservation Service

US Fish and Wildlife Service

National Park Service

USGS Nonindigenous Aquatic Species Database

USGS Siren National EDRR System

EPA – Environmental Protection Agency

Bureau of Indian Affairs

Army Corps of Engineers

Bonneville Power Administration

APHIS – Animal Plant Health Inspection Service

Blackfeet Nation

Chippewa Cree Tribe

Confederated Salish Kootenai Tribes

Crow Nation

Fort Belknap Indian Community

Fort Peck Assiniboine and Sioux Tribes

Northern Cheyenne Tribe

iNaturalist

Montana Audubon

Montana Native Plant Society

The Nature Conservancy

National Wild Turkey Federation

MISC – Montana Invasive Species Council

Montana Wetland Council

Montana Forest Council State SFI Implementation Committee

Montana Watershed Coordination Council

Montana Weed Control Association

Montana Association of Conservation Districts

Montana Grass Conservation Commission

Montana Association of Land Trusts

Pheasants Forever

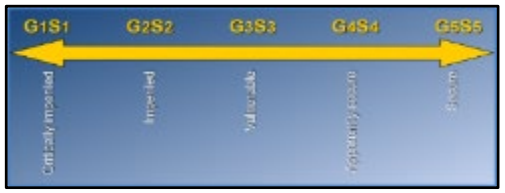
Montana Chapter of the Wildlife Society

Montana Chapter of the American

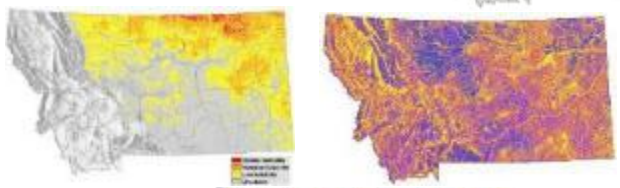
Rocky Mountain Elk Foundation

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Species Data Products



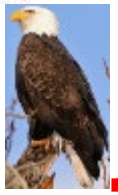












	2026 Counts (% Change)
G&S Ranks	5,109 (+1%)
Range	4,904 (+9%)
Models Species & Overall Diversity	2,894 (+25%)
Species Occurrences	113,040 (+12%)
Observations	6,503,765 (+6%)
Structured Surveys	539,574 (+5%)
Taxonomy & Element Information	18,460 (+2%)

Habitat Data Products

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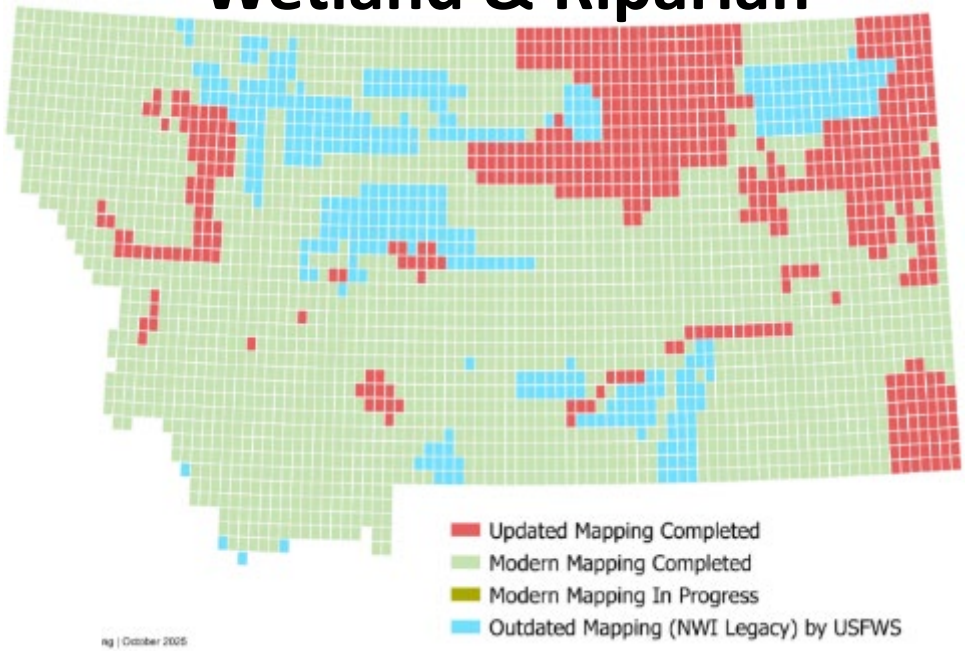
NVC-Based Land Cover



- National Vegetation Classification Groups
- Global and Subnational Status Ranks
- New Ecological Communities Field Guide
  https://fieldguide.mt.gov/
- Spatial Data Infrastructure Homepage
  https://msl.mt.gov/geoinfo/msdi/land_use_land_cover
- Habitat Status and Stewardship Dashboard
  https://tinyurl.com/yze8y72p

UNIVERSITY OF MONTANA
SPATIAL ANALYSIS LAB

Wetland & Riparian



- 3.4 million + acres mapped
- 87% of state is mapped
- 15 quads mapped in northeast Montana in 2025
- 370 quads still to be mapped at ~$3,000/quad

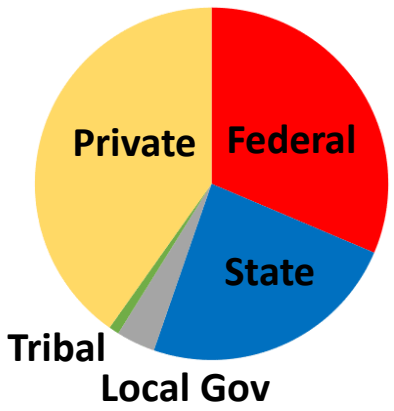
O'CONNOR CENTER FOR THE ROCKY MOUNTAIN WEST

https://storymaps.arcgis.com/stories/77e6bf223649419c95c596cbc2da9529

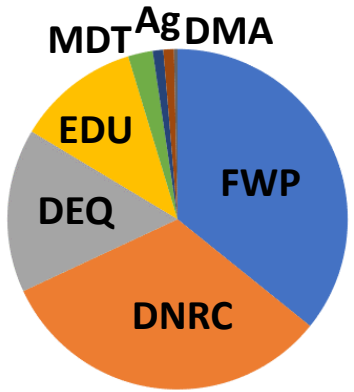
Map Viewer Use in FY26

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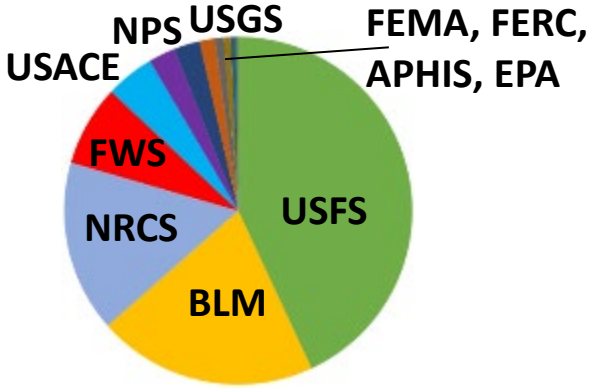
Overall Users



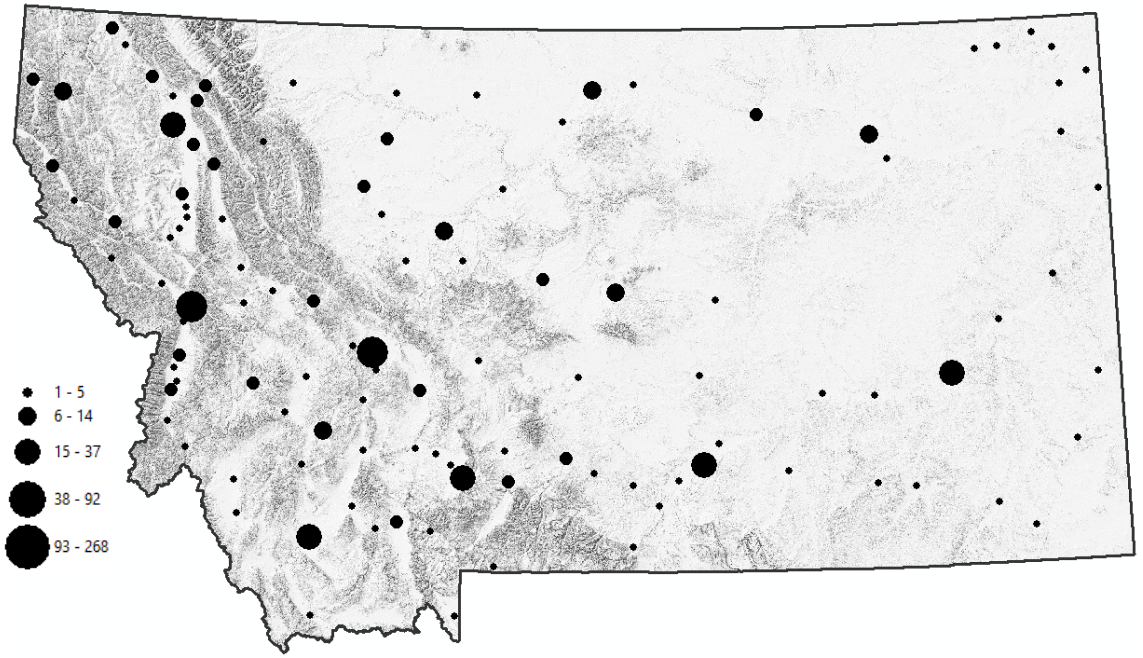
State Users



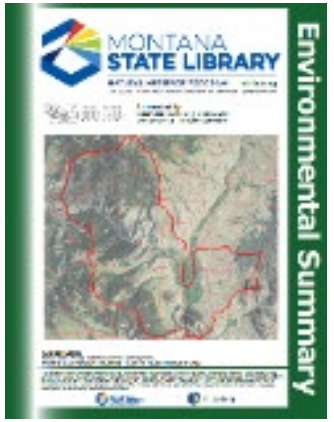
Federal Users



Spatial Distribution and Number of Agency Accounts



- 3,162 total accounts (+5%)
- 1,859 agency accounts (+5%)



Agency	No. of Accounts
USFS	378
FWP	225
DNRC	216
BLM	173
NRCS	147
DEQ	104
County	80
USFWS	63
University	60
USACE	43
MSL	39
Tribal	22
NPS	21
USGS	20
City	18
FEMA	16
MDT	16
Dept of Ag	9
FHA	8
FERC/WAPA/BPA	6
Military Affairs	6
APHIS	5
BIA	4
EPA	3
DOC	2

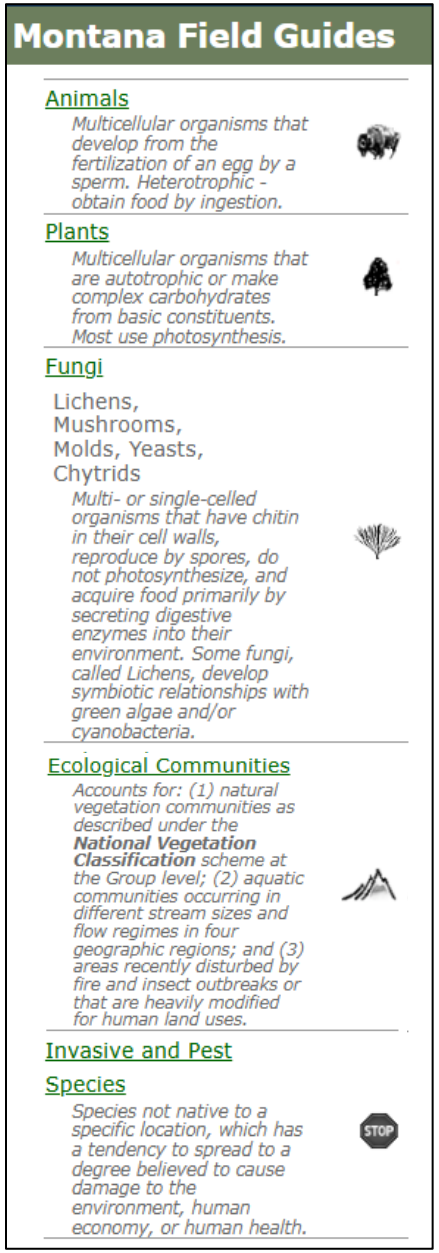
Montana Field Guide Use

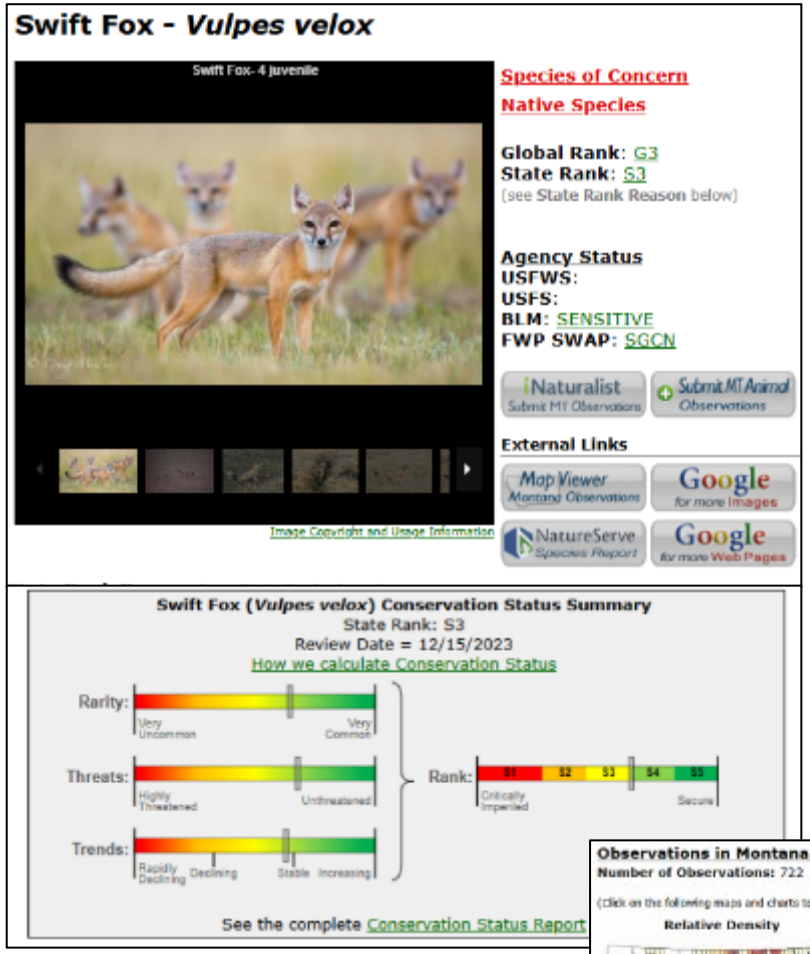
https://fieldguide.mt.gov

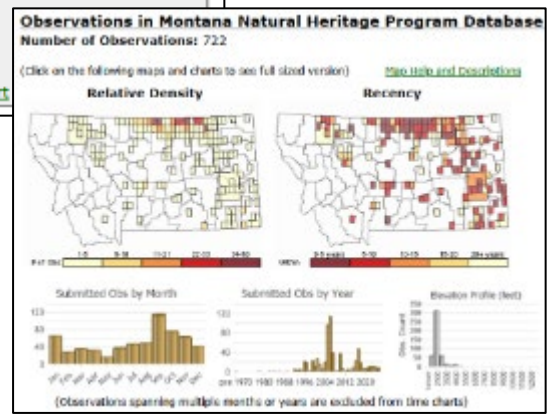
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FY26 Use Statistics

- 550,000 users
- 726,000 sessions
- 1.5 million page views
- 10,083 hours of use



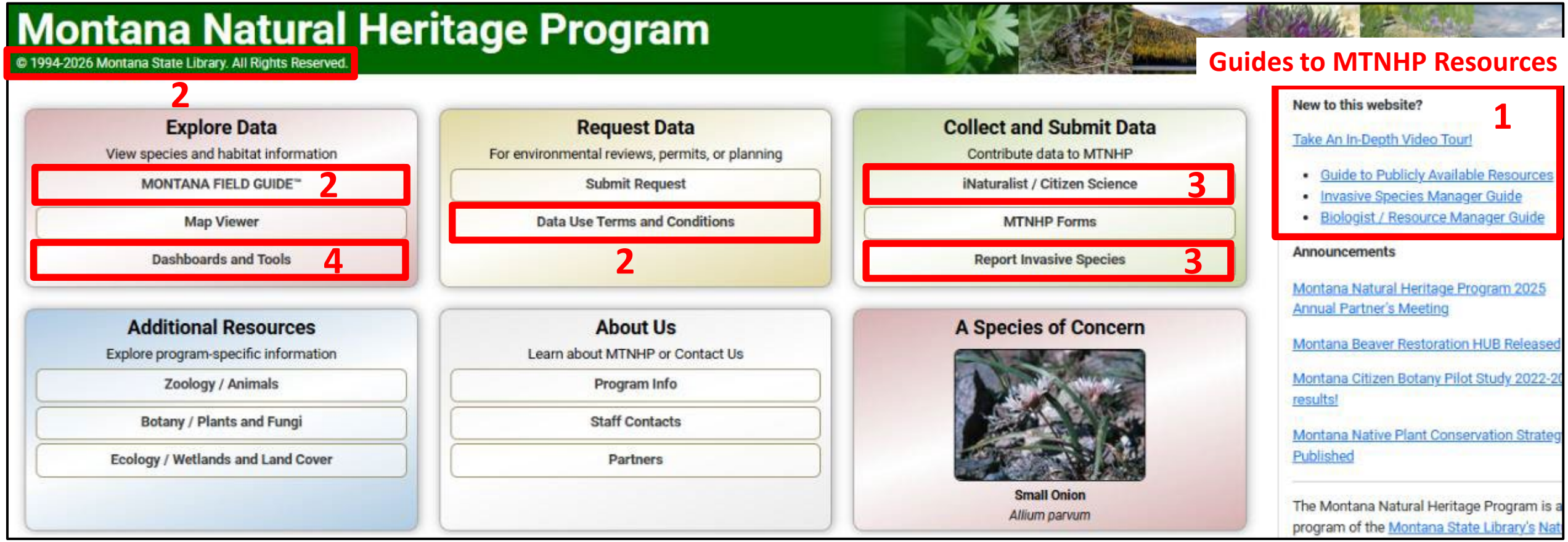




Website Updates of Interest

https://mtnhp.mt.gov

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1. Guides to MTNHP Resources
2. Intellectual Property
3. iNaturalist Reporting
4. Dashboards and Tools

Accessing Comprehensive, Up-to-Date, and Authoritative Information in the Era of AI

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MONTANA FIELD GUIDE™

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Updated Data Use Terms and Conditions

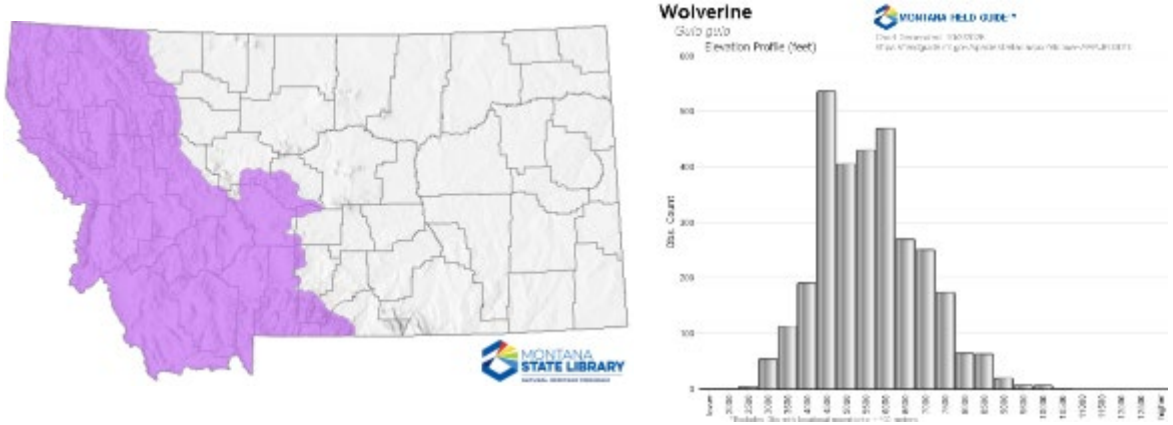
https://mtnhp.mt.gov/requests/data_use/

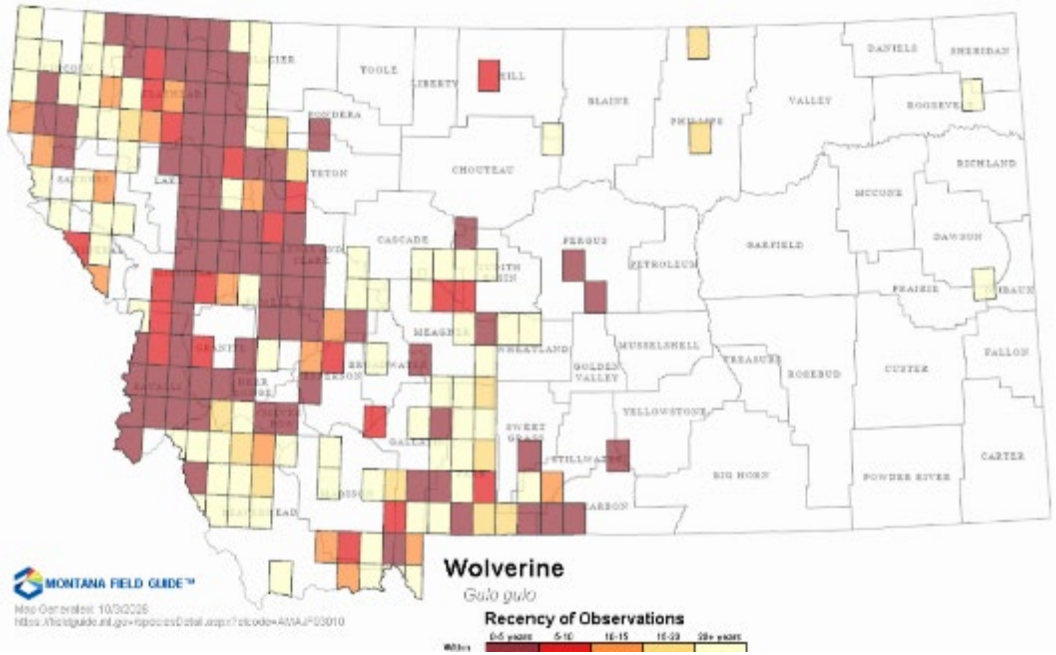
Click Through Acceptance of Data Use Terms and Conditions

By continuing to use this application, you are accepting our Data Use Terms and Conditions.

☐ I agree to the above terms and conditions (required) Agree

Embedded Logos, Trademarks, Dates, Citations





Accessing Comprehensive, Up-to-Date, and Authoritative Information in the Era of AI

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Data Use Terms and Conditions Embedded in Signal or Site Control Files

- robots.txt
- sitemap.xml
- rel="license" link
- ai.txt
- llms.txt
- Robots meta tag

Encourage Use of Information in Large Language Models with Attribution

As the authoritative source of information on species and habitats in Montana, the MTNHP encourages the incorporation of MTNHP Data into artificial intelligence systems and training datasets and the use of MTNHP Data to train, fine-tune, validate, or enrich AI or machine-learning models as long as our Data Use Terms and Conditions, including citation and attribution, is followed.

Data Use Terms and Conditions Embedded in Content and HTML

Data Use Terms and Conditions
Map Help and Descriptions

Certified Use – Incorporate Trusted MTNHP Information into Your Websites

https://mtnhp.mt.gov/requests/Certified_Use/

MONTANA STATE LIBRARY NATURAL HERITAGE PROGRAM MONTANA FIELD GUIDE™

Species Lists and Custom Reports For Areas of Interest

- Birds documented within a state park
- Mammals documented on tribal lands
- Species lists for cities and towns
- Non-native species reports for conservation districts

Maps, Charts, and Visualizations

- Species range maps
- Maps of relative density and recency of species observations
- Habitat density maps
- Conservation status dashboards
- Summaries of land stewardship
- Land Cover summaries

Use Google Analytics, Server Logs, and Potentially AI to Identify Misuse

Accessing Comprehensive, Up-to-Date, and Authoritative Information in the Era of AI

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AND

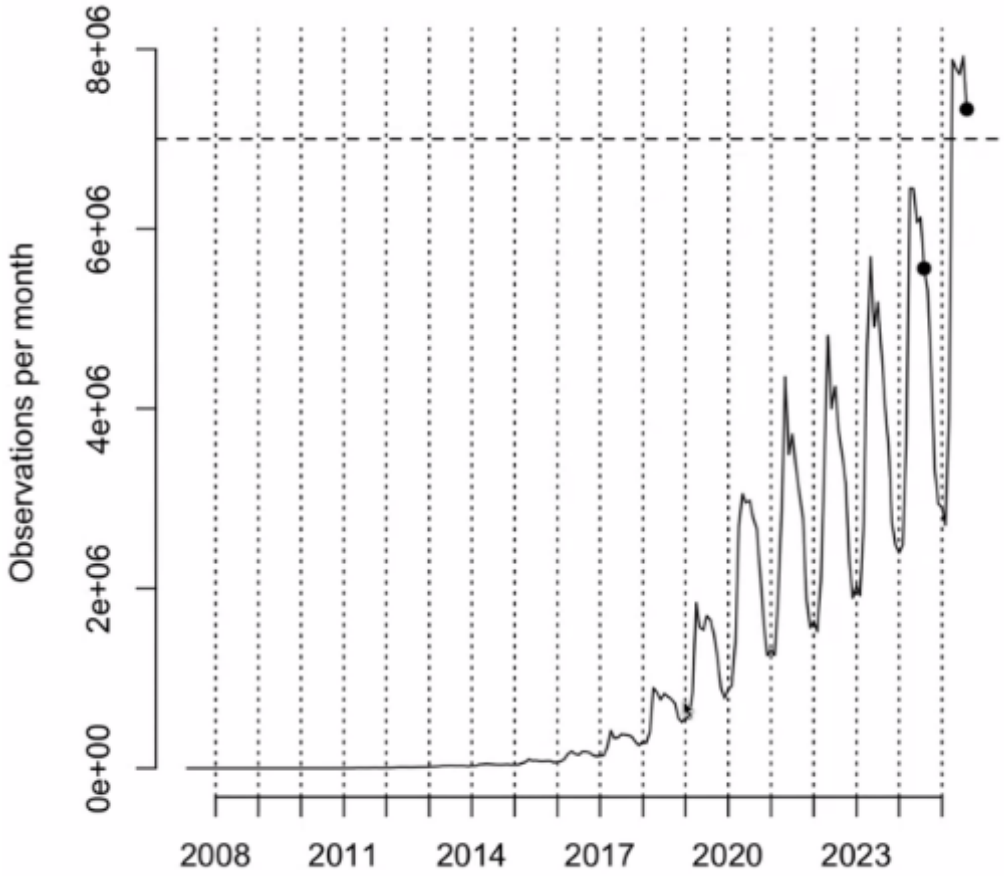
"Don't forget how to drive a stick shift!"

- Common Sense

Air-gapped backups of all information on optical discs!

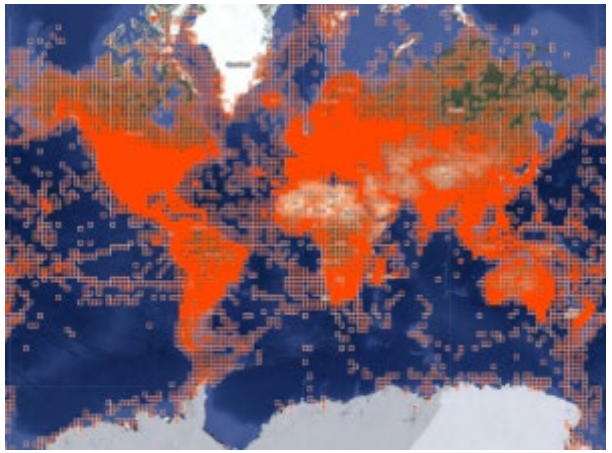
Tremendous Growth in Citizen Science Data That Can Inform Conservation Decisions

iNaturalist





	OBSERVATIONS	SPECIES	IDENTIFIERS	OBSERVERS
Worldwide	356,720,270	590,365	534,925	4,469,837
Montana	649,414	10,649	14,390	27,608



- **27% of all Data has Expert Identification**
- **Extended or filled in gaps in known range for hundreds of species**
- **iNaturalist are first records in data system for > 700 species**
- **Contributing to early detection & control for a number of non-native species**

Citizen Science and Report Invasive Species Web Pages

Collect and Submit Data

Contribute data to MTNHP

- iNaturalist / Citizen Science
- MTNHP Forms
- Report Invasive Species

iNaturalist

Download the iNaturalist app

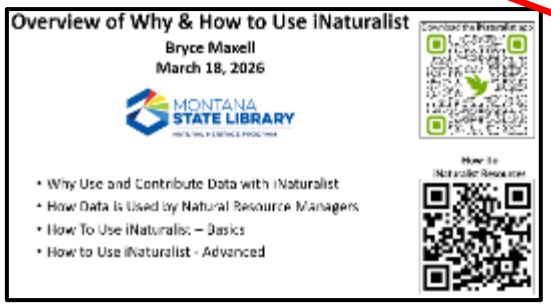
Take a Photo or Record a Sound

- App will suggest an identification
- Accept that or suggest your own identification
- iNaturalist users around the globe can confirm your identification or suggest another

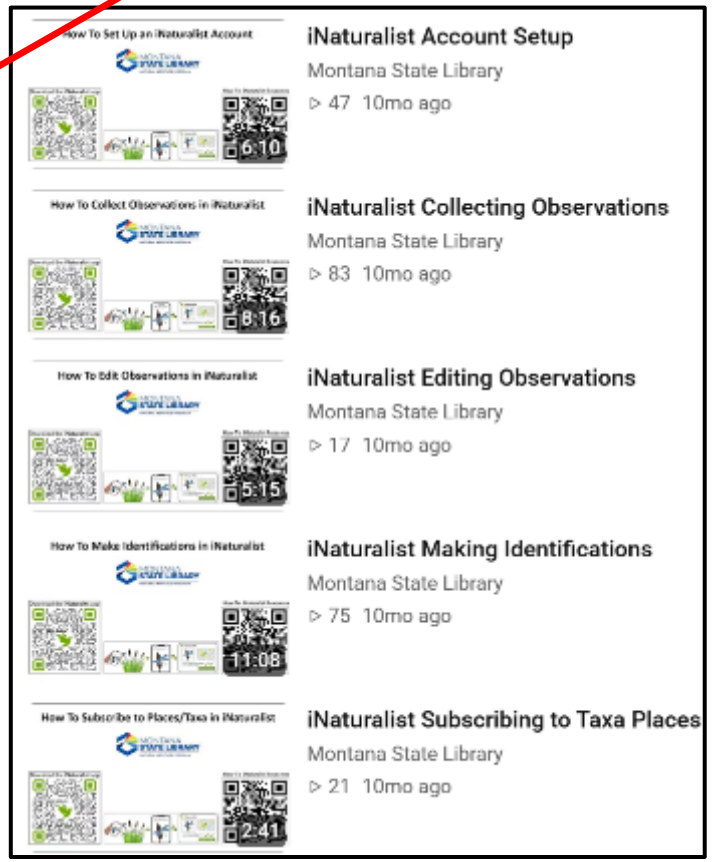
...idely used global platform that allows users to report observations of any species using photos or sound recordings. The application includes algorithms that suggest species identifications, which use ...n identification. Members of the iNaturalist community, including global experts for specific species groups, can then verify or refute these identifications. The following resources were created to help u...

- How to Use - Videos
- Why and How to Use - Presentation
- Business Cards - Print and Share
- Identification Resources for Montana Species

Why & How To Use



How to Use Videos



Identification Resources



Business Cards







Nature Discovery Virtual Trunk

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https://msl.mt.gov/libraries/lifelonglearning/Virtual-Trunks/Open_a_trunk



Plug and Play Programming

Special Thanks to Bobbi DeMontigny!

Bobbi.D@mt.gov



Passive Programs



Armchair Science

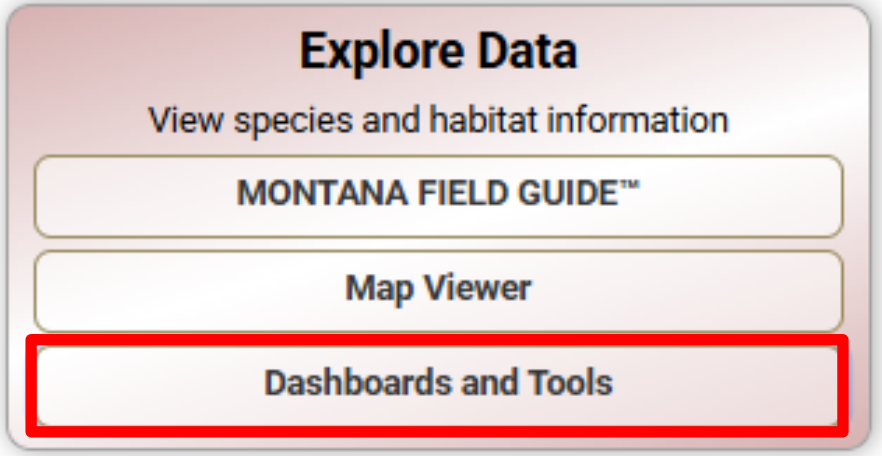


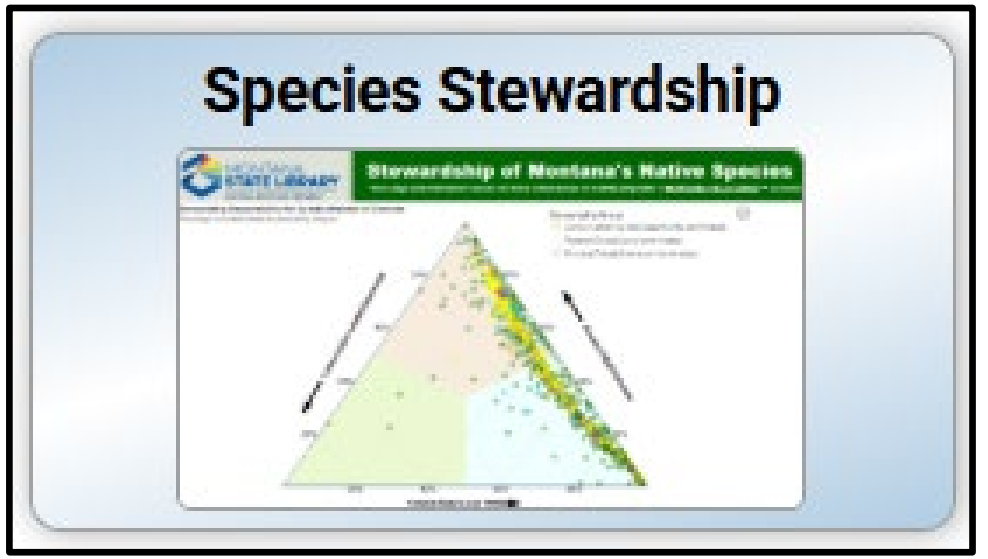
Adventures Outside

3 New Dashboard Tools

https://mtnhp.mt.gov/webapps/dashboards

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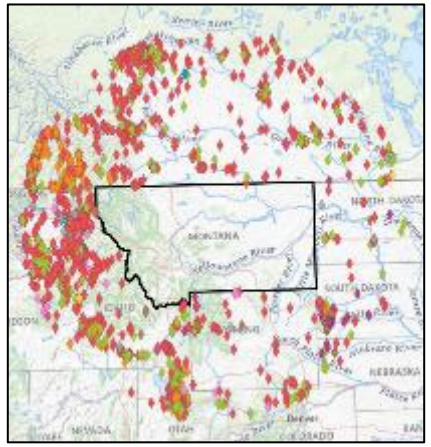


iNaturalist Non-native Species Watchlists

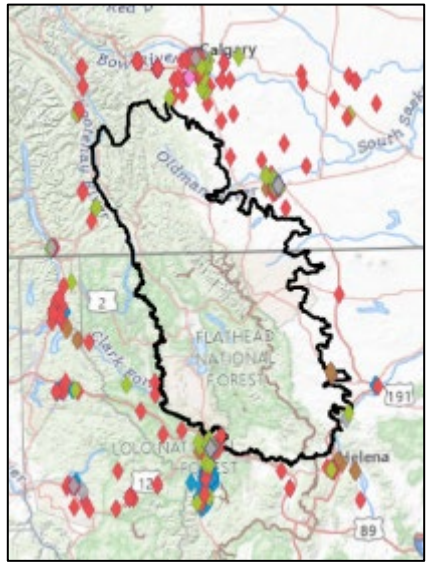
Under Dashboard & Tools at https://mtnhp.mt.gov/webapps/dashboards

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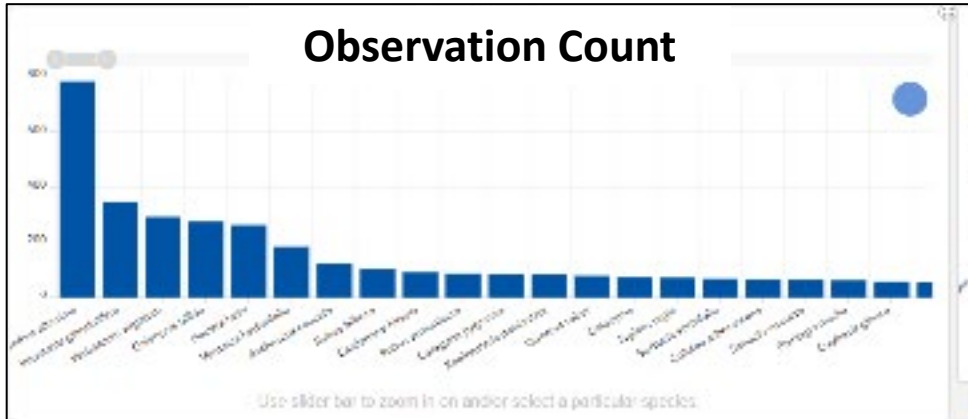
800-km radius of center of Montana



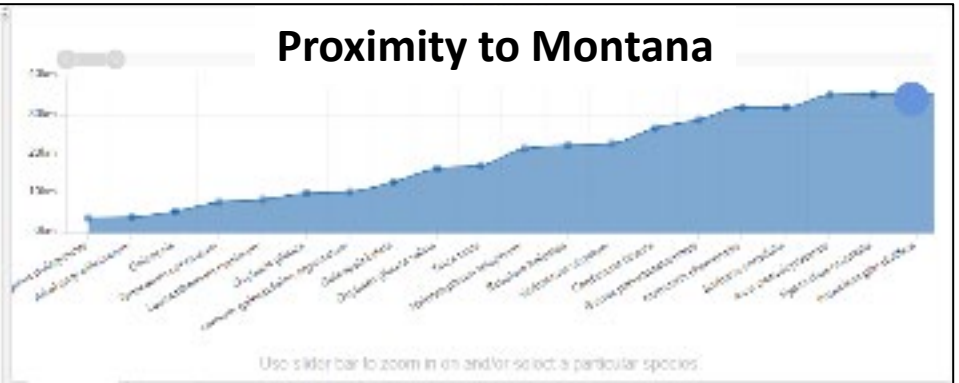
50 miles outside of Crown of Continent

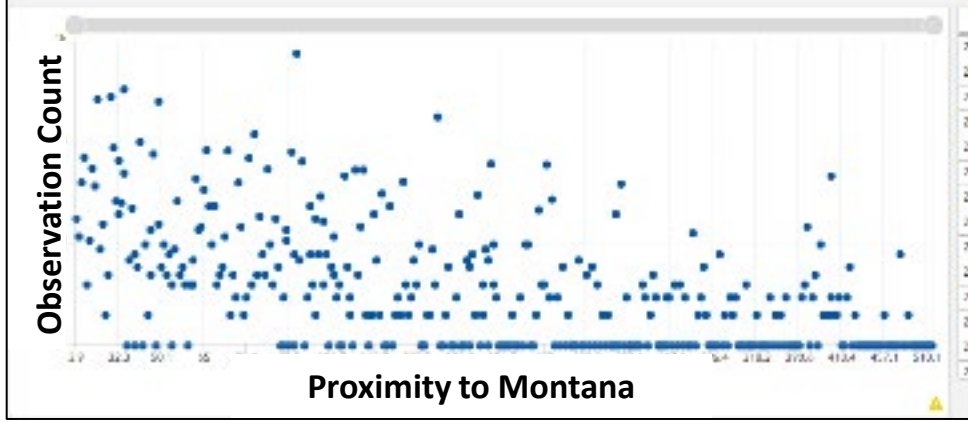


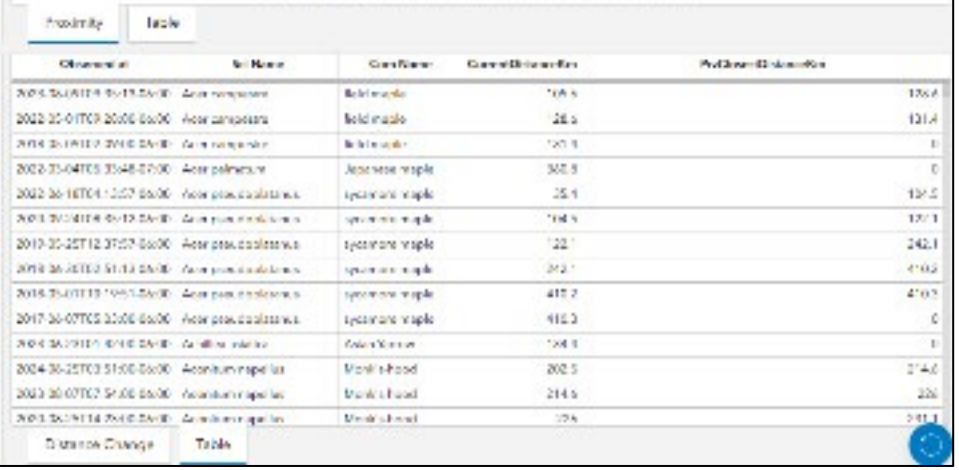
Observation Count



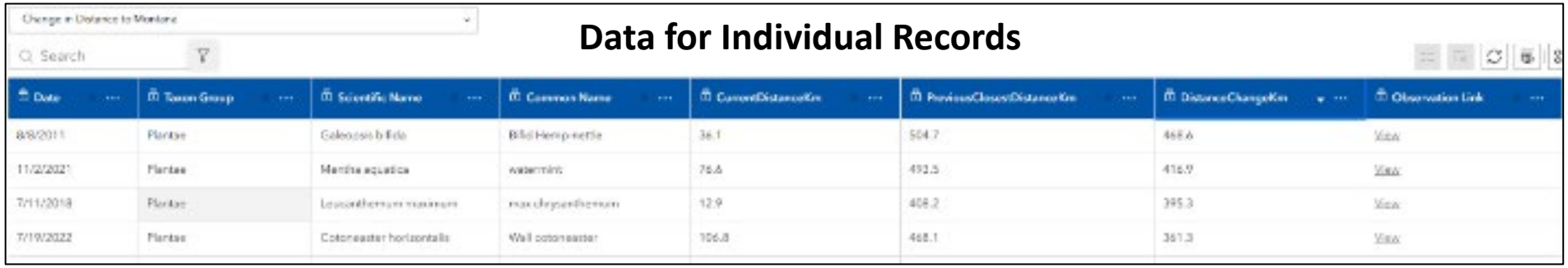
Proximity to Montana







Data for Individual Records



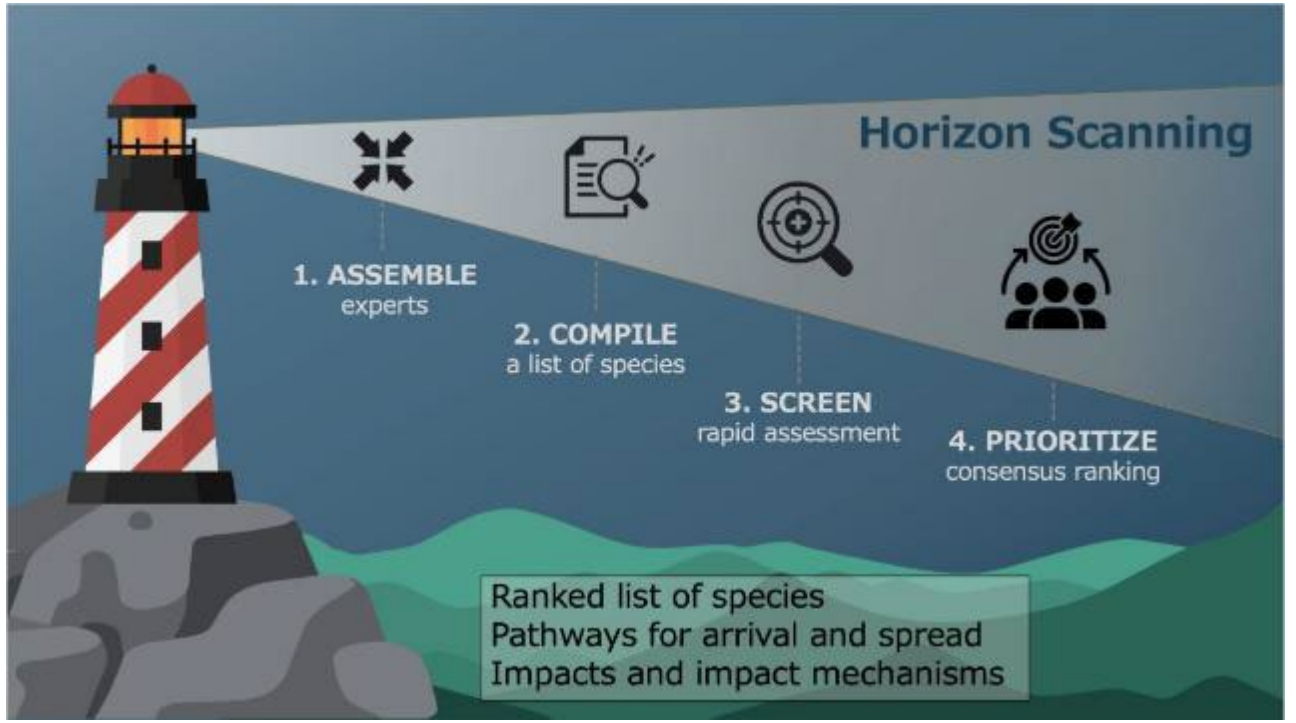
Assessing Invasion Risk To Highlight Species for Surveillance & EDRR

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Categories Scored

- **Likelihood of Establishment**
- **Likelihood of Spread**
- **Magnitude of Impacts**

1 = very low
2 = low
3 = moderate
4 = high
5 = very high
Confidence (high, medium, low, data deficient)
Justification/Documentation



Assessment is Rapid and Includes:

- **Basic internet searches**
- **USDA Plant Hardiness Zone limitations**
- **CABI Digital Library**
- **Fire Effects Information System**
- **USFWS Ecological Risk Screening Summaries**
- **Invasive Plant Atlas of the United States**
- **Missouri Botanical Garden Plant Finder**

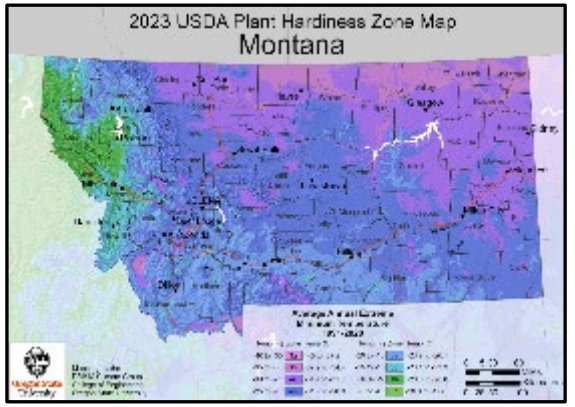
Final Scores Result in Three Action Tiers

- **High Invasion Risk**
- **Moderate Invasion Risk**
- **Low Invasion Risk**

Guided by:

- **Montana Invasive Species Council (MISC) Science Advisory Panel**
- **Deah Lieurance with Pennsylvania State University**

CABI Digital Library

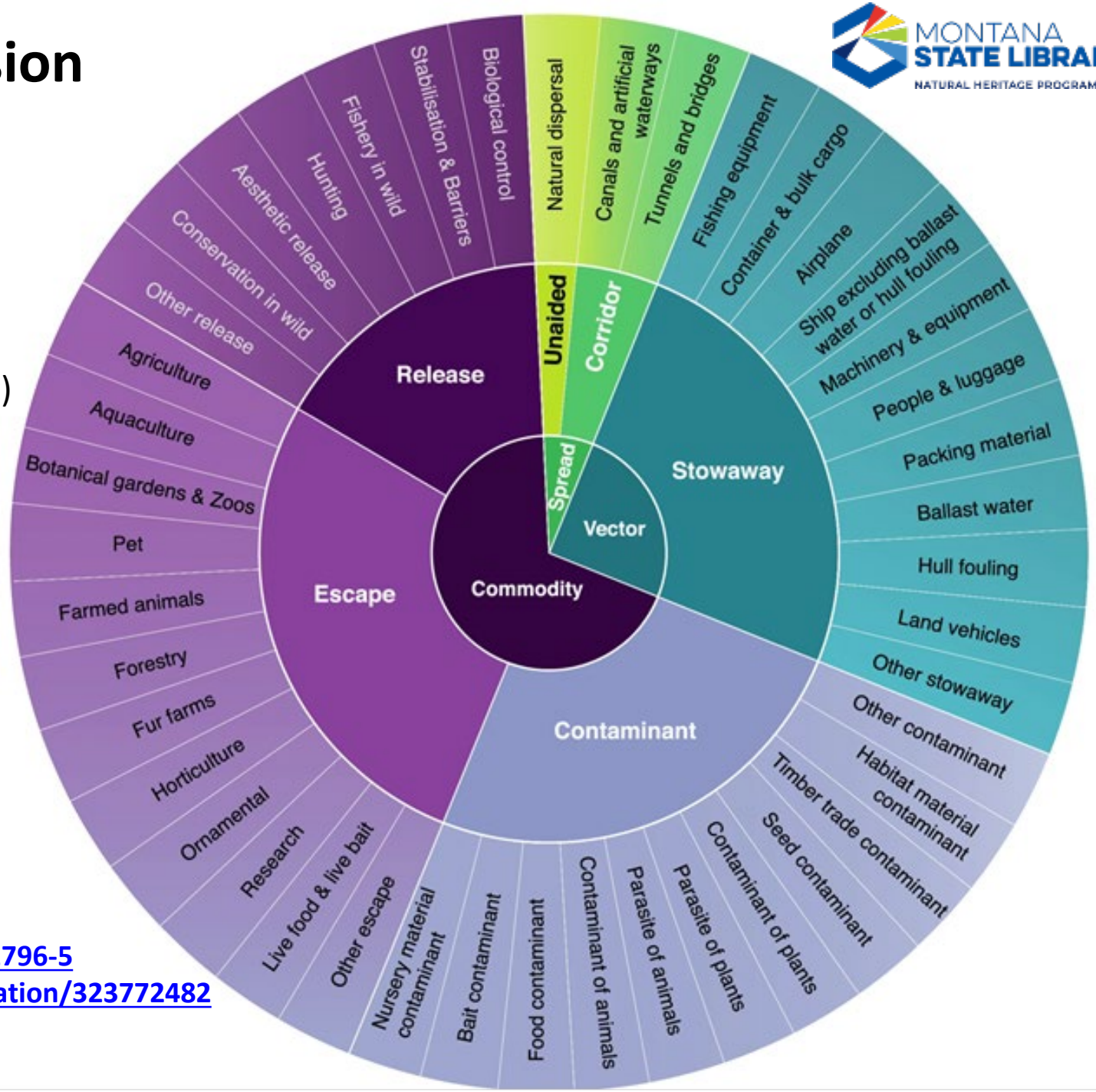


Assessing Pathways of Invasion

Information Recorded

- **Pathway** (outer ring of chart)
- **Pathway Category** (inner rings of chart)
- **Intentionality** (Intentional or Unintentional)
- **Confidence** (high, medium, low, data deficient)

Top three pathways of greatest concern are categorized for each species from these 44 potential pathways.



Guided by:

- **Montana Invasive Species Council**
- **Deah Lieurance with Pennsylvania State University**
- **Turbelin et al. 2022. https://doi.org/10.1007/s10530-022-02796-5**
- **Harrower et al. 2018. https://www.researchgate.net/publication/323772482**

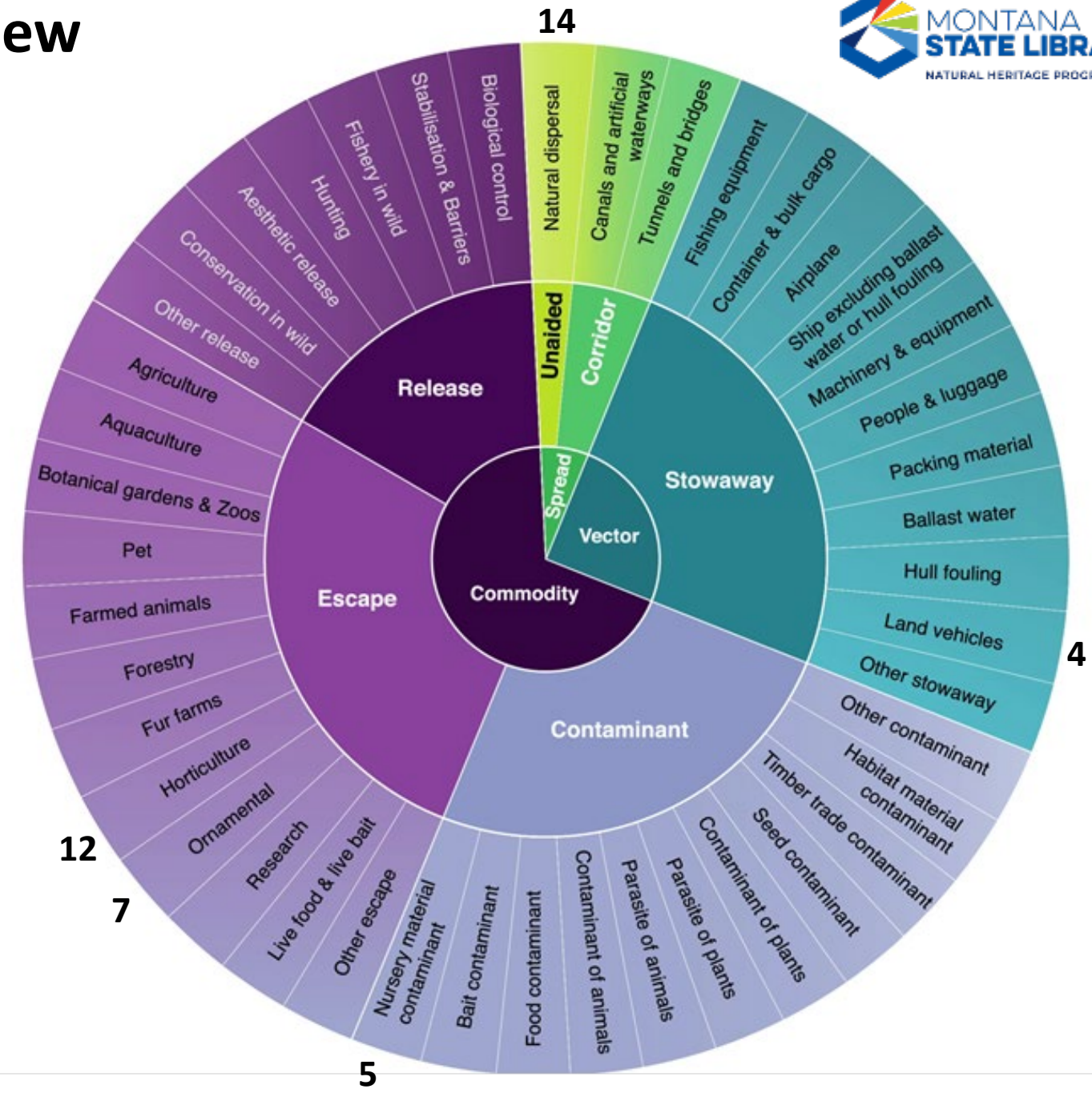
Over 1,000 Identified for Review
40 Species Scored so Far

High Invasion Risk Species…So Far

- Tree of Heaven (*Ailanthus altissima*)
- Red Swamp Crayfish (*Procambarus clarkia*)
- Amur Honeysuckle (*Lonicera maackii*)
- Japanese Honeysuckle (*Lonicera japonica*)
- Himalayan Balsam (*Impatiens glandulifera*)
- Emerald Ash Borer (*Agrilus planipennis*)
- Barren Brome (*Bromus sterilis*)

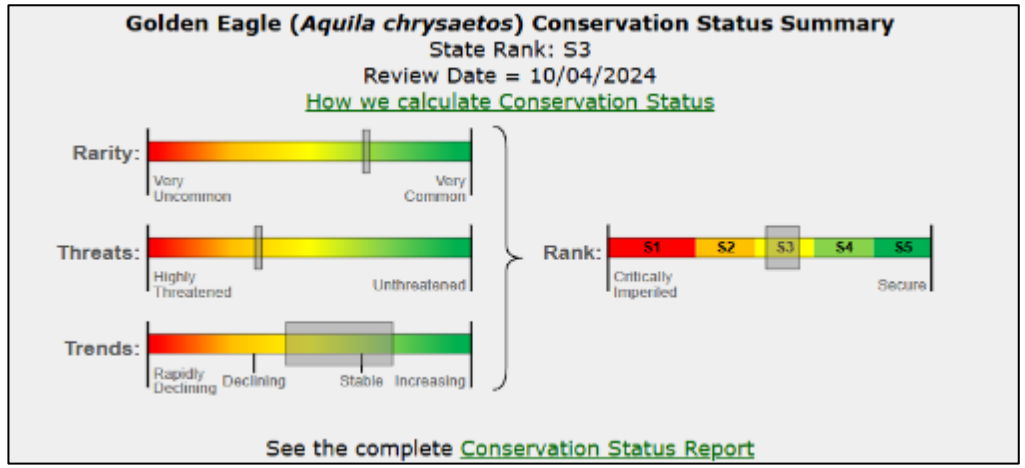
Pathway Counts (>2)…So Far

- Natural Dispersal = 14 (5 high risk)
- Horticulture = 12 (4 high risk)
- Ornamental = 7
- Nursery Material Contaminant = 5
- Land Vehicles = 4 (2 high risk)



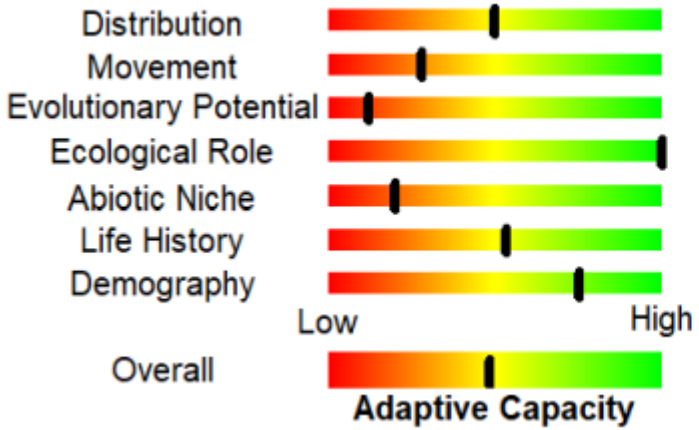
Implementing Conservation Status Rank, Adaptive Capacity, and Comprehensive Reports

Conservation Status Reports



In place for all vertebrates, all NVC Habitat Groups, 385 vascular plants, 41 invertebrates, 5 mosses, and 5 lichens

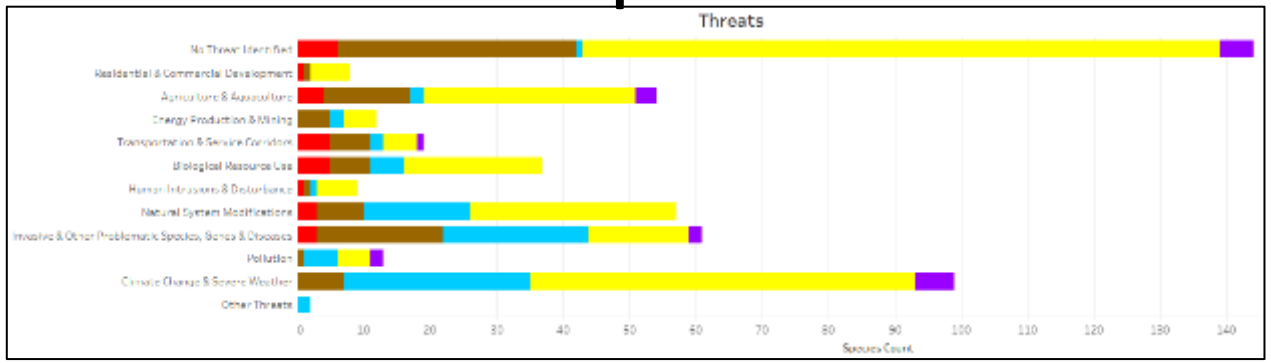
Adaptive Capacity Reports



Module	Score
Distribution	0.5
Movement	0.72
Evolutionary Potential	0.88
Ecological Role	0
Abiotic Niche	0.8
Life History	0.47
Demography	0.25
Sum = 3.61	

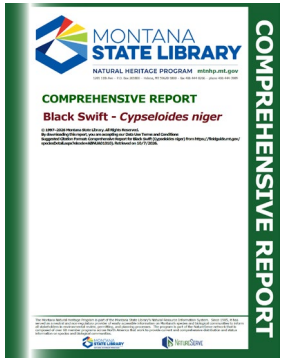
See Idaho Giant Salamander, Black Swift, and Northern Bog Lemming field guide accounts for examples of these new reports!

Dashboards of Rank Factor Patterns Across Vertebrate Species and Habitats



Comprehensive Species Reports

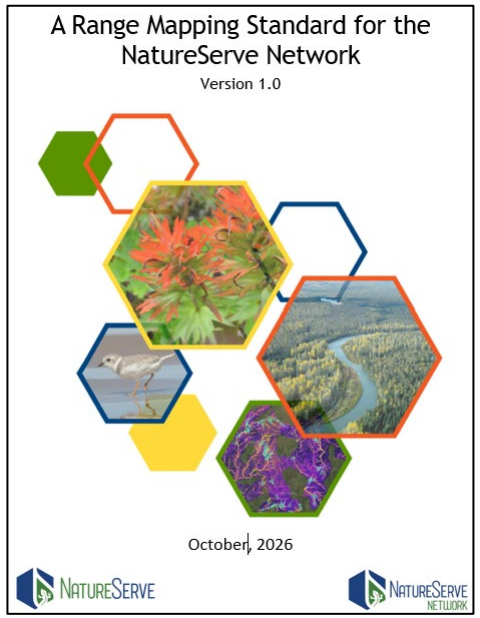
- **Abbreviated Field Guide Account**
- **Conservation Status Summary Report**
- **Adaptive Capacity Report**
- **Predicted Habitat Suitability Report**



Improving Information Holdings and Agency Processes

MONTANA STATE LIBRARY
NATURAL HERITAGE PROGRAM

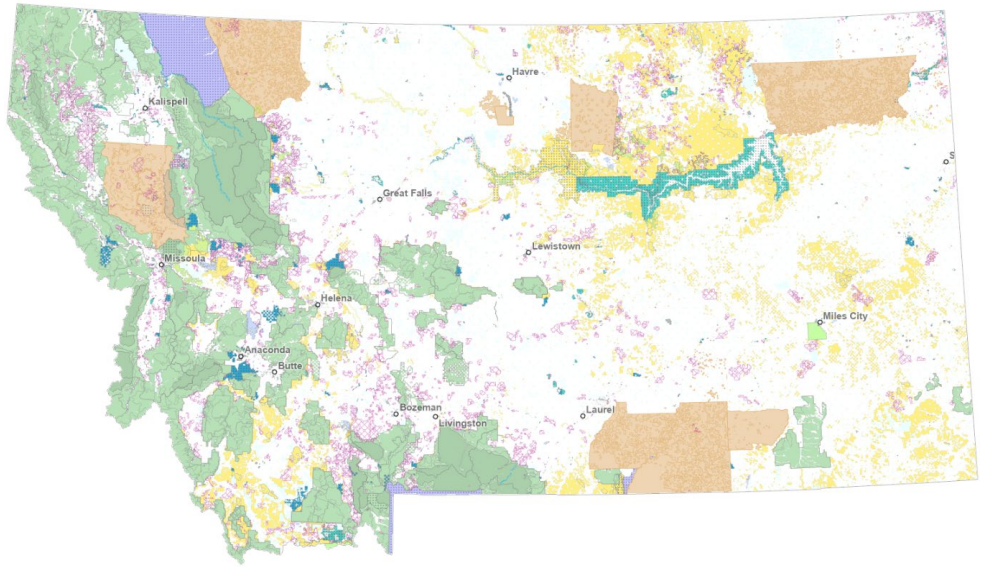
Range Map Standard

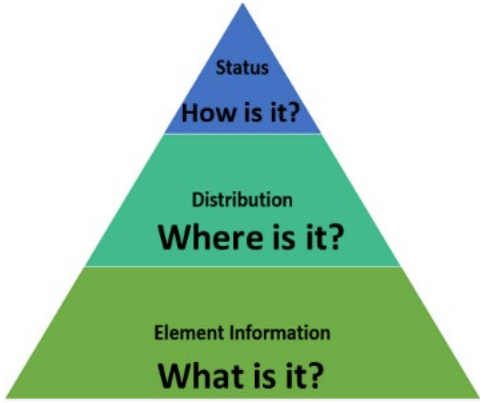


Rock Glaciers & Ecological Sites



Future of Land Ownership/Stewardship





How is our Information Being Used?

Improving User Workflows

Accessing and Using Information on Forest Species and Habitats

G1-G2 Species Location Tool
Supporting SFI Certified Timber Sourcing

https://arcg.is/0Wv1ui

The Montana Natural Heritage Program developed this tool to support timber sourcing which meets Sustainable Forestry Initiative (SFI) certification requirements in not impacting species with global conservation status ranks of G1 (critically imperiled) or G2 (imperiled) as assigned by NatureServe. This mapping application displays both the documented presence of G1-G2 species as well as areas they are possibly present. Species are split into one of four habitat association groups: (1) **FOREST** which occur in forest habitat; (2) **SMZ** which occur in aquatic or riparian habitat within forest habitat; (3) **ACCESS** which have the potential to be encountered while accessing forest habitats; (4) **UNLIKELY** which occur in non-forest habitat and are unlikely to be encountered even on the way to forest habitat. The application includes an introductory video on how to use it.

Suggested Information Workflow for G1-G2 Species

