

# Montana Species of Concern and Accessing Information on Montana Fish and Wildlife Species

*Presented by*

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**Montana Fish,  
Wildlife & Parks**



MONTANA  
**Natural Heritage  
Program**

# The Montana Natural Heritage Program

Providing Access to Montana's Native  
Animal and Plant Information





MONTANA  
**Natural Heritage  
Program**

**Montana's source for information on native species and habitats, emphasizing those of conservation concern.**



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NRIS was created by the legislature in 1983 to be Montana's clearinghouse for natural resource data. Legislators then understood that the inability to locate and use existing data often lead to duplicate data collection and poor decision making. Legislators 19 years ago could not have foreseen the increasingly important role of geospatial data, nor



MONTANA  
**Natural Heritage  
Program**

- Established by Legislature in 1983
- Part of the Montana State Library's Natural Resource Information System

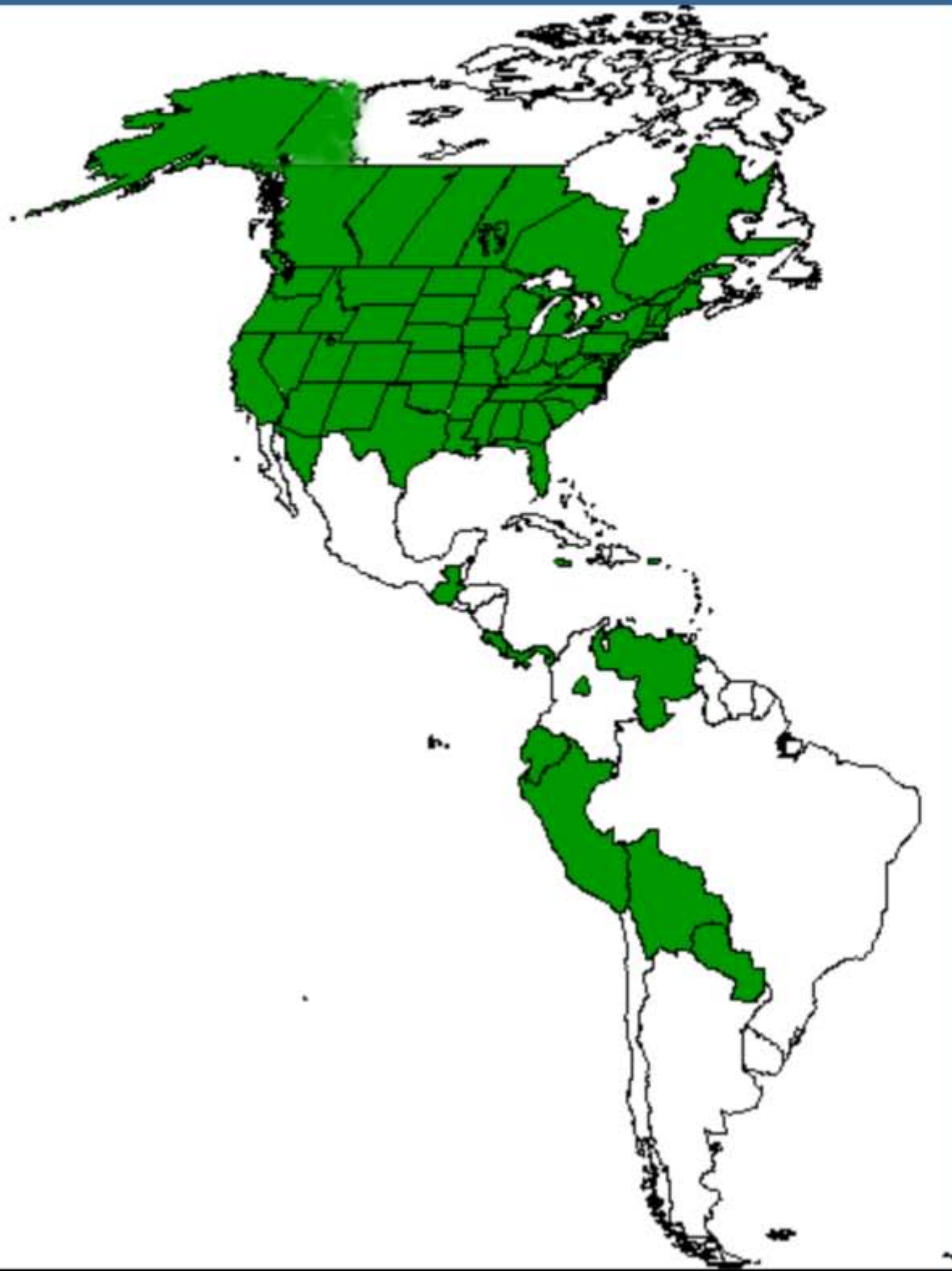


- Operated a partnership with the University of Montana



- Part of the Nature Heritage Network

# The Natural Heritage Network



- 50 U.S. states & Puerto Rico
- 10 Canadian provinces & Yukon territory
- 2 Mexican states
- 11 Caribbean & Latin American countries



# What information do we manage?

- **Species** *species information*
- **Species Ranks** *global and state-level concern*
- **Species Occurrences** *locations of species*
- **Sites** *biologically significant areas*
- **Managed Areas** *public and conservation lands*
- **Information Sources** *references, vouchers, experts*



# Answers Key Questions about Montana's Natural Heritage

- What species and ecosystems exist in Montana?
- Which are rare, declining or otherwise significant?
- Where precisely are those found?
- What is their condition?
- What do they need to survive and thrive?
- Who manages those places?



# What are “Species of Concern”

The term "species of concern" includes taxa that are at-risk or potentially at-risk due to rarity, restricted distribution, habitat loss, and/or other factors. The term also encompasses species that have a special designation by organizations or land management agencies in Montana, including:

- US Bureau of Land Management Sensitive and Special Status species
- US Forest Service Endangered, Sensitive and Threatened species
- US Fish and Wildlife Service Listed Threatened, Listed Endangered and Candidate species.



# Heritage Program Ranks (Global and State)

Standardized ranking system for

- global (range-wide) status, and
- state (Montana) status

Species are assigned numeric ranks from 1 – 5 reflecting their relative vulnerability

# Heritage Program Ranks

## Global and State

G1 S1

G2 S2

G3 S3

G4 S4

G5 S5



At High Risk

At Risk

Potentially at Risk

Uncommon

Common & Widespread

# State Species of Concern Lists

## Background

- Pre-2000 – MT Heritage and FWP maintained separate SoC lists
- 2000 – MOU between Heritage and FWP for single SoC list using NatureServe ranking & representatives from Heritage, FWP, AFS, & TWS
- 2003 – Heritage/FWP agree to pilot NatureServe scoring methods
- 2004 – NatureServe scoring used by numerous species experts for amphibians, reptiles, mammals, some birds, and tested on some fish
- 2005-2008 – Regular use of NatureServe Criteria on all species

## Goals

- Reduce confusion resulting from multiple lists
- Avoid decisions being made by individual people
- Make status ranking as objective as possible
- Involve taxonomic experts (e.g., AFS, TWS, and private experts)
- Consistent approach across all taxonomic groups
- Create dynamic status reviews that document listing decision

# SOC Review Process

1. NatureServe scoring process, species status review, and recommendations from AFS SSCC, TWS working groups, or individual species experts
2. State SoC Committee Chair develops final recommendations to state SoC committee based on information and recommendations provided by AFS, TWS, and individual species experts
3. Final State SoC Committee review of recommendations with Heritage, FWP, AFS, and TWS representation on committee

## Timeline for Reviews

- Annually or as needed – Review of nominated species
- Every 3-5 years – Systematic review of all SOC, PSOC, and any nonSOC that are nominated as being of potential concern

# NatureServe Ranking Criteria

(based in large part on IUCN Ranking Criteria)

Detailed description of ranking criteria available at

<http://mtnhp.org/animal/index.html>

- Population Size
- Range Extent/Area of Occupancy
- Long and Short Term Trends in Population Size
- Threats (severity, scope, immediacy)
- Intrinsic Vulnerability
- Environmental Specificity
- Other Considerations (e.g., PVA or availability of information)

**\* Ideally Status Papers Would be Formatted to Fully Document Each Scoring Criteria**





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# What information do we have?

©Jim Steinberg



Montana  
Natural Resource  
Information System

# Geographic Information System

The screenshot shows the Montana Geographic Information Clearinghouse website. The header includes the mt.gov logo and navigation links for Geographic Information, Natural Heritage Program, Water Information, Request Tracker, Library Home, and NRIS Home. The main content area is titled "Montana Geographic Information Clearinghouse" and is divided into several sections:

- Welcome to the most comprehensive collection of geospatial data for Montana.** NRIS contributes data to national efforts such as GeoSpatial One Stop and the National Map. We actively support GIS coordination in our state and work hard to provide value-added products and services to a diverse community of users.
- Resource List**
  - [Montana Land Information Advisory Council \(MLIAC\)](#)
  - [Montana Association of Geographic Information Professionals \(MAGIP\)](#)
  - [GIS for Schools and Libraries \(GeoData.gov\)](#)
  - [GeoSpatial One Stop \(GeoData.gov\)](#)
  - [GIS Data Hotlist](#)
- Downloadable GIS Data**
  - [Montana Framework \(NSDI\) Layers](#)
  - [Aerial Photographs](#)
  - [Topographic Maps](#)
  - [NRCS Soils Data](#)
  - [Digital Elevation Models](#)
  - [Cadastral data](#)
  - [Land Ownership Maps](#)
  - [Satellite Imagery](#)
- GIS Data List**
  - Download statewide and regional layers and/or browse their metadata.
- GIS Data Bundler**
  - Choose multiple layers and have them clipped to a geographic area or buffer.
- Web Services for GIS Applications**
- Request information or data from NRIS**
- Montana Maps**
  - Downloadable statewide, county, watershed, or regional map images in GIF or PDF format.
- Applications**
  - Montana Digital Atlas**
    - Make maps and reports about individual data sets for areas you specify.
  - Topofinder II**
    - Browse USGS topographic maps and aerial photos or zoom to any named place, coordinate, or USGS map.
  - Topofinder I**
    - Browse USGS topographic maps and aerial photos or zoom to any named place, coordinate, or USGS map.
  - [More interactive applications...](#)

Maps

GIS Data

Web Applications

Aerial photographs























MSDI Stewardship

Staff-assisted research

Partnerships



# Services for GIS Users

category	description	source	type	metadata	data
	Admin and Political Boundary <b>American Indian reservations</b>	USGS			
	Admin and Political Boundary <b>Antelope Hunting Districts - 2004/2005</b>	FWP			
	Admin and Political Boundary <b>Bighorn Sheep Hunting Districts - 2004/2005</b>	FWP			
	Admin and Political Boundary <b>Black Bear Hunting Districts - 2004/2005</b>	FWP			
	Admin and Political Boundary <b>BLM Administrative Districts</b>	BLM			
	Admin and Political Boundary <b>BLM Special Management Areas</b>	BLM			
	Admin and Political Boundary <b>Conservation Districts</b>	DNRC			



## GIS Data List

Choose from an extensive collection of statewide or regional datasets. Download in shapefile format to use with GIS software.



## GIS Data Bundler

Pick and Choose from an extensive collection of GIS datasets to prepare a zip file of data clipped to your chosen area of interest.

Business and Economic	Cadastral and Land Descs	Cultural and Demographic	Elevation and Derived Prods	Imagery and Base Maps	Inland Water Resources	Locations and Geodetic Nets	Transportation Networks
Administration and Political Boundaries	Agriculture and Farming	Atmospheric and Climatic	Biologic and Ecologic	Environmental	Facilities and Structures	Geologic and Geophysical	Human Health and Disease
<input type="checkbox"/> American Indian reservations (polygons)				<input type="checkbox"/> DEQ - Septic Land Application Sites (points)			
<input type="checkbox"/> BLM Administrative Districts (polygons)				<input type="checkbox"/> DEQ Abandoned Mines Inventory (points)			
<input type="checkbox"/> Counties, U.S. Census Bureau (polygons)				<input type="checkbox"/> DEQ Non-Facility Petroleum Leak Sites (points)			
<input type="checkbox"/> Land Ownership / Stewardship (Ownership, Easements, and Leases) (polygons)				<input type="checkbox"/> DEQ Remediation Response Sites (points)			
<input type="checkbox"/> Legislative Districts 1994-2004 (polygons)				<input type="checkbox"/> DEQ Underground Storage Tank Facilities (points)			
<input type="checkbox"/> Legislative Districts 2004-2014 (polygons)				<input type="checkbox"/> DEQ Underground Storage Tank Facility Leak Sites (points)			
<input type="checkbox"/> Mining Districts (polygons)				<input type="checkbox"/> EPA Superfund National Priority Sites (CERLIS 99) (polygons)			
<input type="checkbox"/> National Forests (polygons)				<input type="checkbox"/> EPA Toxic Release Inventory (TRI) sites (points)			
<input type="checkbox"/> Public Land Survey Section Lines - 1:100,000 scale (polygons)				<input type="checkbox"/> Landfills (1996) (points)			
<input type="checkbox"/> Township boundaries -1:100,000 scale (polygons)				<input type="checkbox"/> Mines - Priority Abandoned Hardrock Mine Sediment Sample Sites (points)			



## Web Services

Connect directly to the data using desktop GIS application software. No downloading massive images!

# More Interactive Web Maps


## Topofinder I

## Topofinder II

### Montana Topographic Map Finder

The map is 674.8 miles wide.

If you make a map less than three miles wide, you may choose to view aerial photographs instead of topographic maps.



**Map Controls**

Select a Map Control, then click on the map

Zoom In    Zoom Factor:

Zoom Out

New Center    **State View**

**Map Center Coordinates at Red +**

Datum: **NAD83** **NAD27**

**Decimal Degrees**  
Lat: 46.64    Long: -112.83

**State Plane**  
E: 498000    N: 287000

**UTM Zone 12**  
E: 519000    N: 5186000

**US National Grid**  
12T WS 13 88


**TRS**    T10N    R7E    S10

**Hydrologic Unit**    10030103  
Smith River

Download 24K quadrangle: [CHERRAL](#)

Download 100K quadrangle:

Click the small map to main map center



Green squares show a 2004 hi-resolution color available

**Legend | Help**

Map Size:  Extra Large     Large     Medium     Small     Refresh

[Click Here](#) to view other map data for this area.

Search Text:

### MONTANA Natural Resource Information System Topofinder II

getting started  
help  
feedback

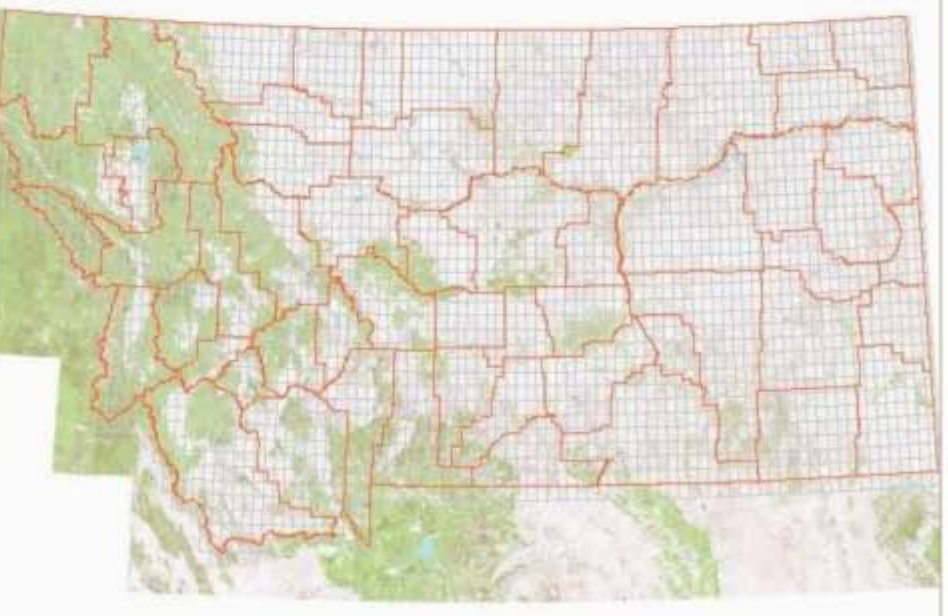
Show raster

- Topos (DRGs)
- Photos (DOQs)
- Show PLSS

Show highways

**image quality - What's this?**

- maximum (95%)
- high (65%)
- medium (45%)
- low (25%)



# Contact NRIS



## Request Tracker

[Main menu](#) [Login](#) [Requests](#) [New Request](#) [User profile](#) [User guide](#)

Use this application to make requests for maps, data, and other information from the Montana Natural Resources Information System and the Montana Natural Heritage Program.

You can keep track of all your requests here and at any time can view the status of requests and staff notes to you regarding a request. You can also reply to the staffer handling the request.

If you haven't used this application before, please [create a new user profile](#).

We have also created a [guide for using the application](#).

[Note about browser compatibility](#)

[Problems logging in or creating a user profile?](#)

Call us at 444-5354

Visit us on the web at

<http://nris.mt.gov>

Use the NRIS

Request Tracker

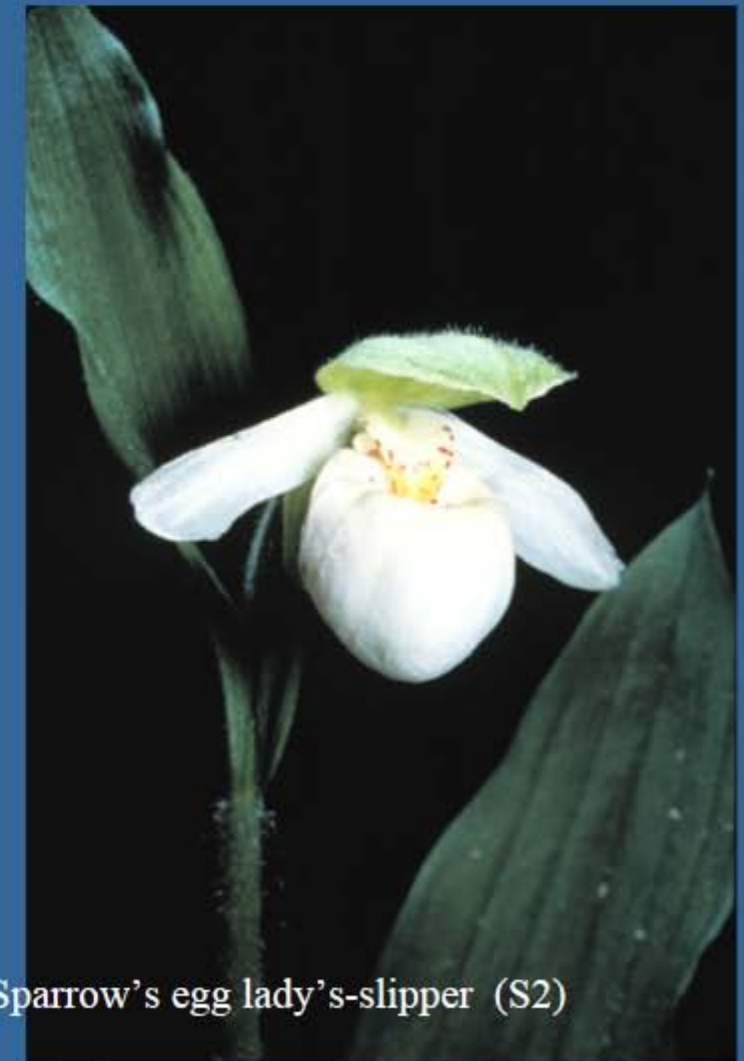
on our website

# Botany Data – Scott Mincemoyer

smincemoyer@mt.gov

## Montana Plant Diversity

- Vascular Plant Species: ~2,400 (360 SOC)
- Mosses: >400 (~12 SOC)
- Liverworts/Hornworts: ~140
- Lichens: ? (>400 in Glacier NP) (~12 SOC)
- Algae, Diatoms: ?



Sparrow's egg lady's-slipper (S2)



MONTANA  
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A program of the Natural  
Resource Information System,  
Montana State Library

# Plant Species of Concern

June 2006

## Introduction

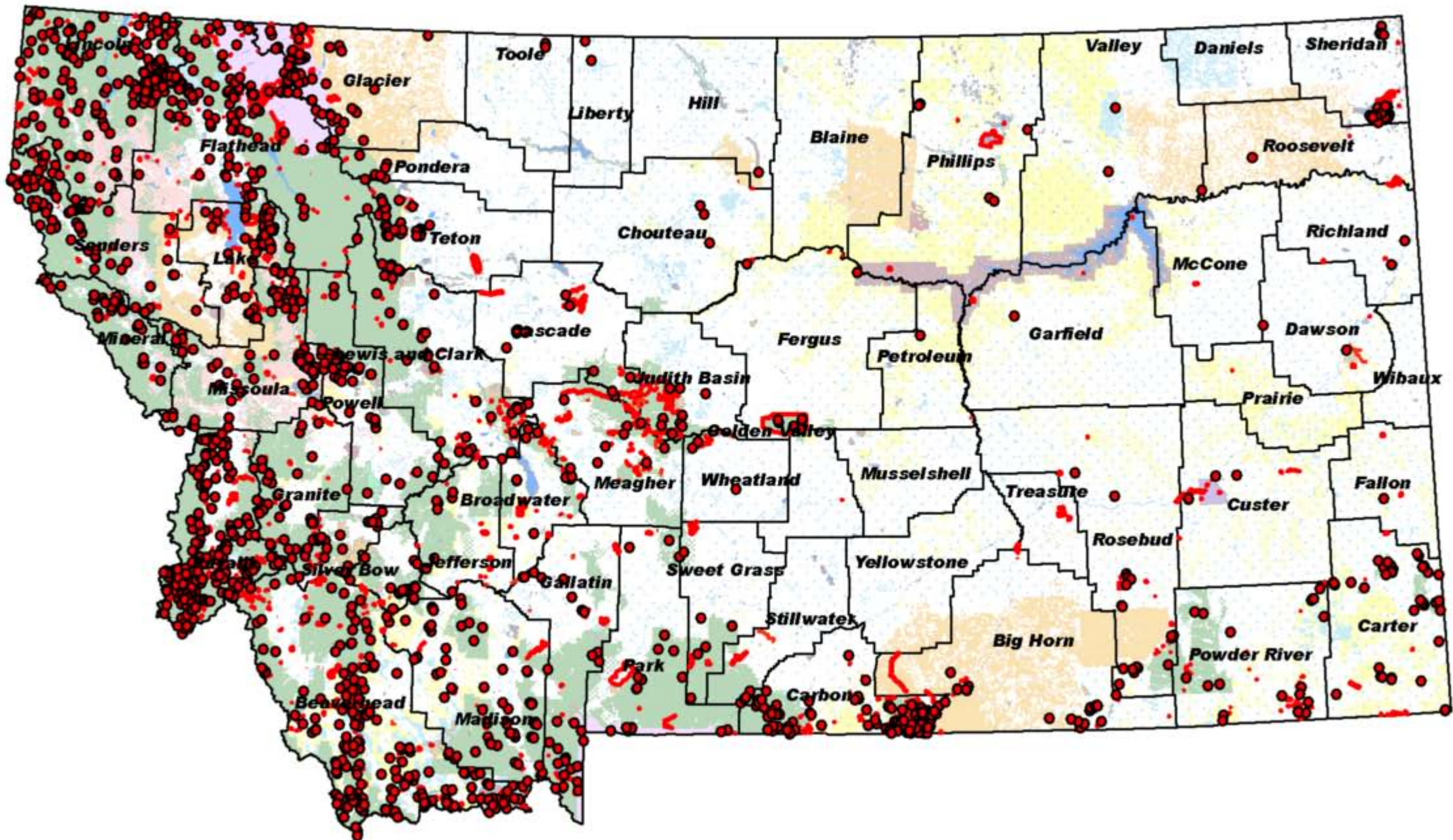
The Montana Natural Heritage Program (MTNHP) serves as the state's clearinghouse and principle information source for Species of Concern — plants and animals that are at risk or potentially at risk in Montana. This report, which updates and replaces the 2003 publication, identifies 358 vascular plant Species of Concern (SOC) and another 133 Potential Species of Concern (PSOC), based on information gathered from field inventories, publications, reports, herbarium specimens, and the knowledge of Montana botanists. This report includes 35 additions to the SOC list compared with the 2003 publication; many of these are globally rare species with a rank of G3/S3 showing that Montana contains all or a large part of their entire distribution. Seven species have been removed from the SOC list for various reasons which are noted below. Taxa in the SOC category include all species, subspecies or varieties that are currently ranked S1, S1S2, S2, S2S3, SH or G3.

Potential Species of Concern include taxa currently ranked as S3 in the state, except for G3 taxa which are included as Species of Concern



# Rare Plant Data

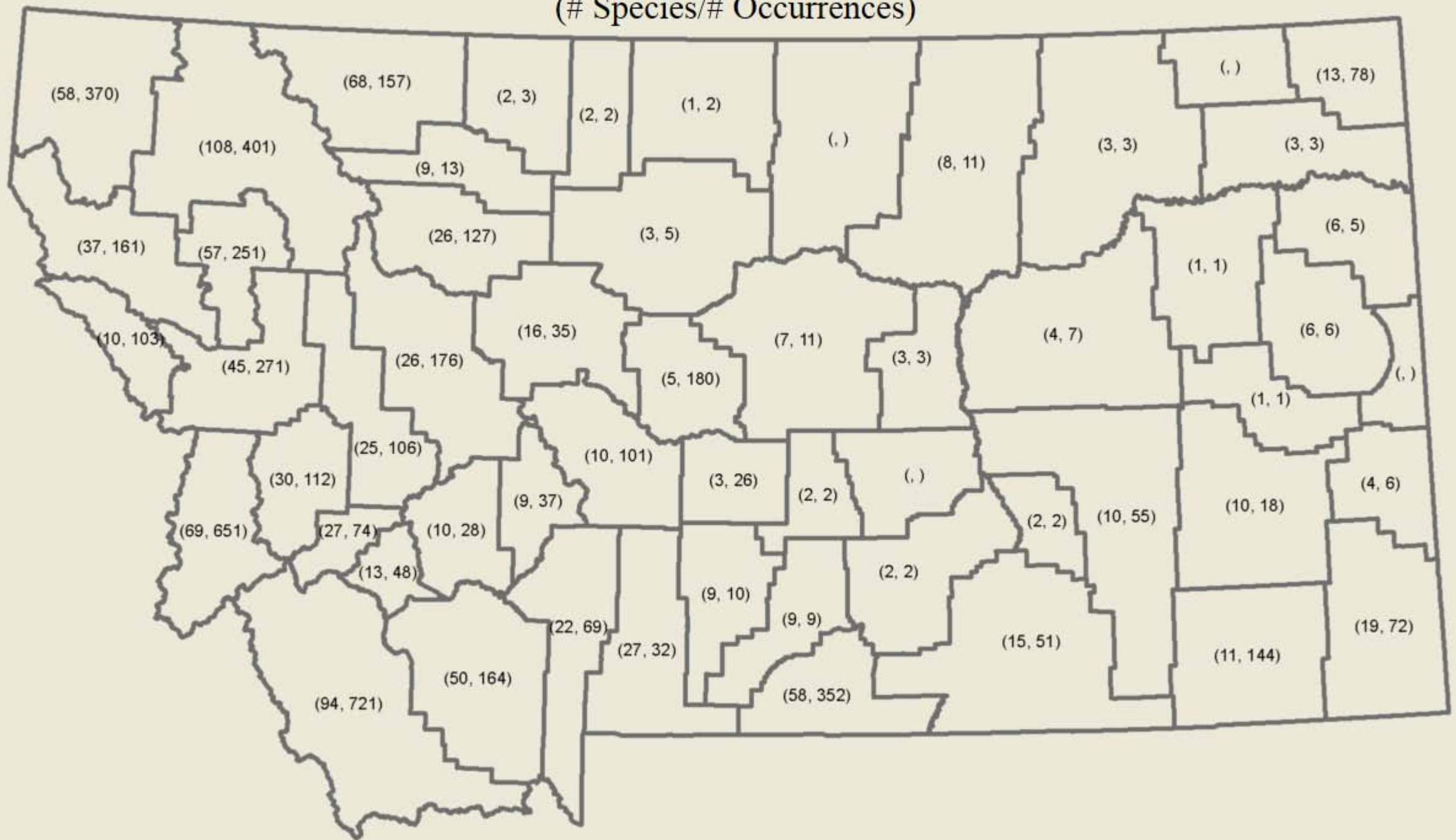
February 2008



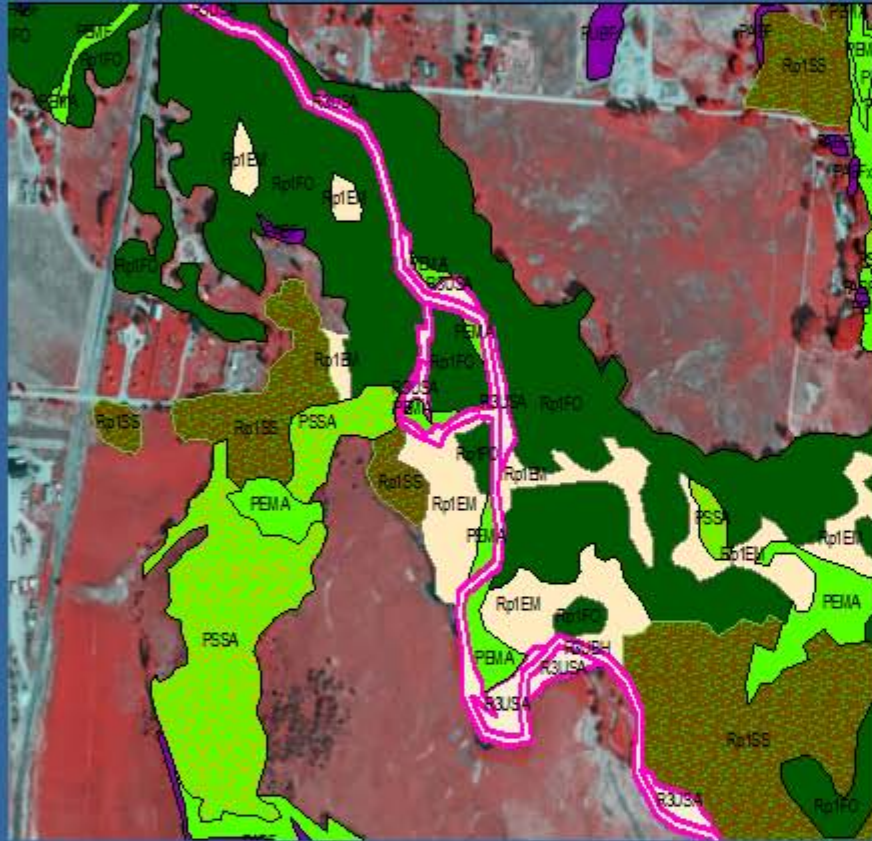
• ~5,500 mapped occurrences

# SOC Plants by County

(# Species/# Occurrences)



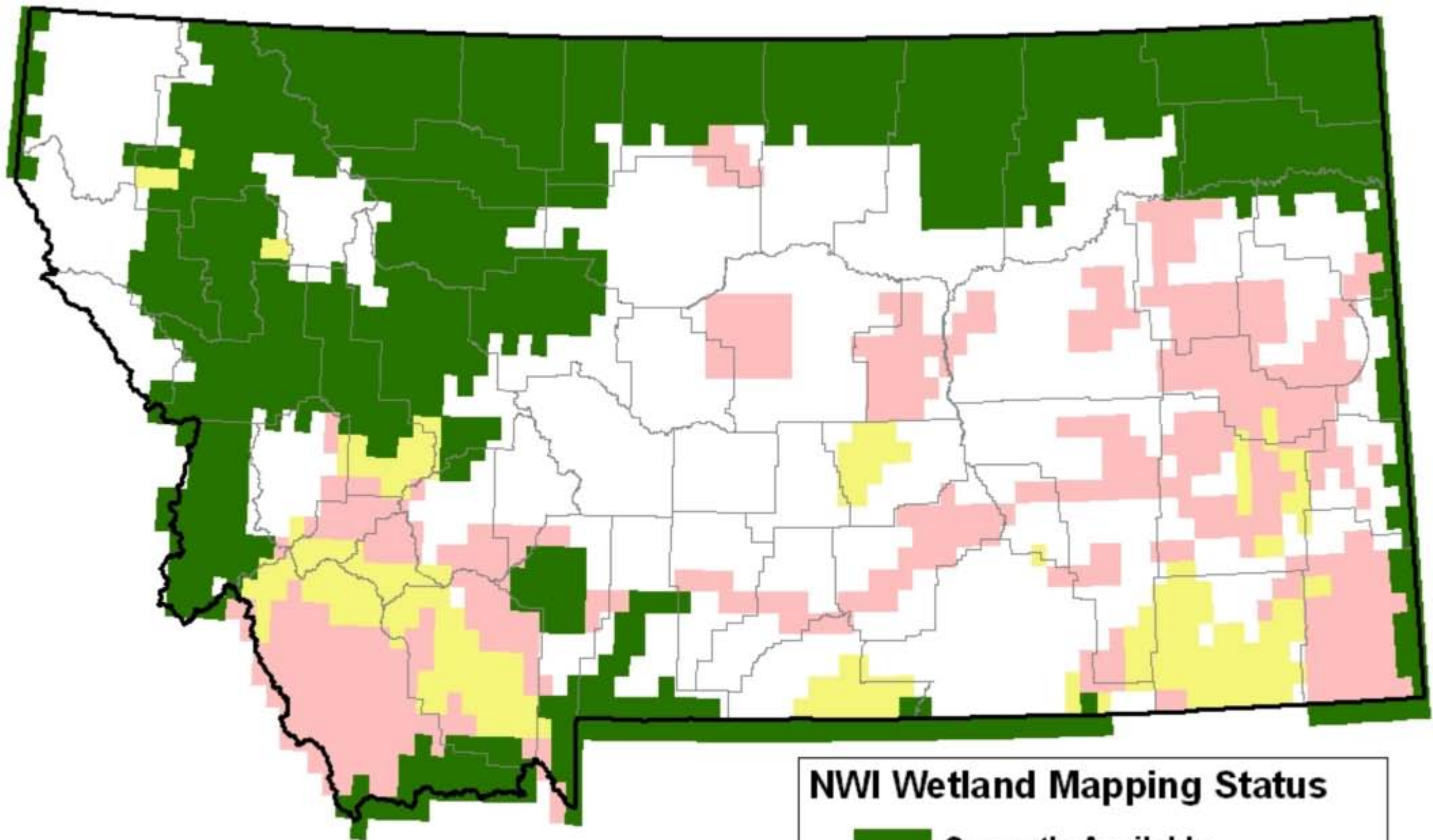
# Ecology program: what's new



- Mapping wetland and riparian areas across Montana from 2005 CIR 1-meter imagery.
- Attributes include both Cowardin classes and an HGM-type functional coding



# National wetlands Inventory (NWI) Availability - September 2008



**NWI Wetland Mapping Status**

- Currently Available
- Completed from 2005 imagery
- Scheduled to Map

# Provisional maps available on request !

- Contact:

Linda Vance, Senior Ecologist

[livance@mt.gov](mailto:livance@mt.gov)

406-444-3380

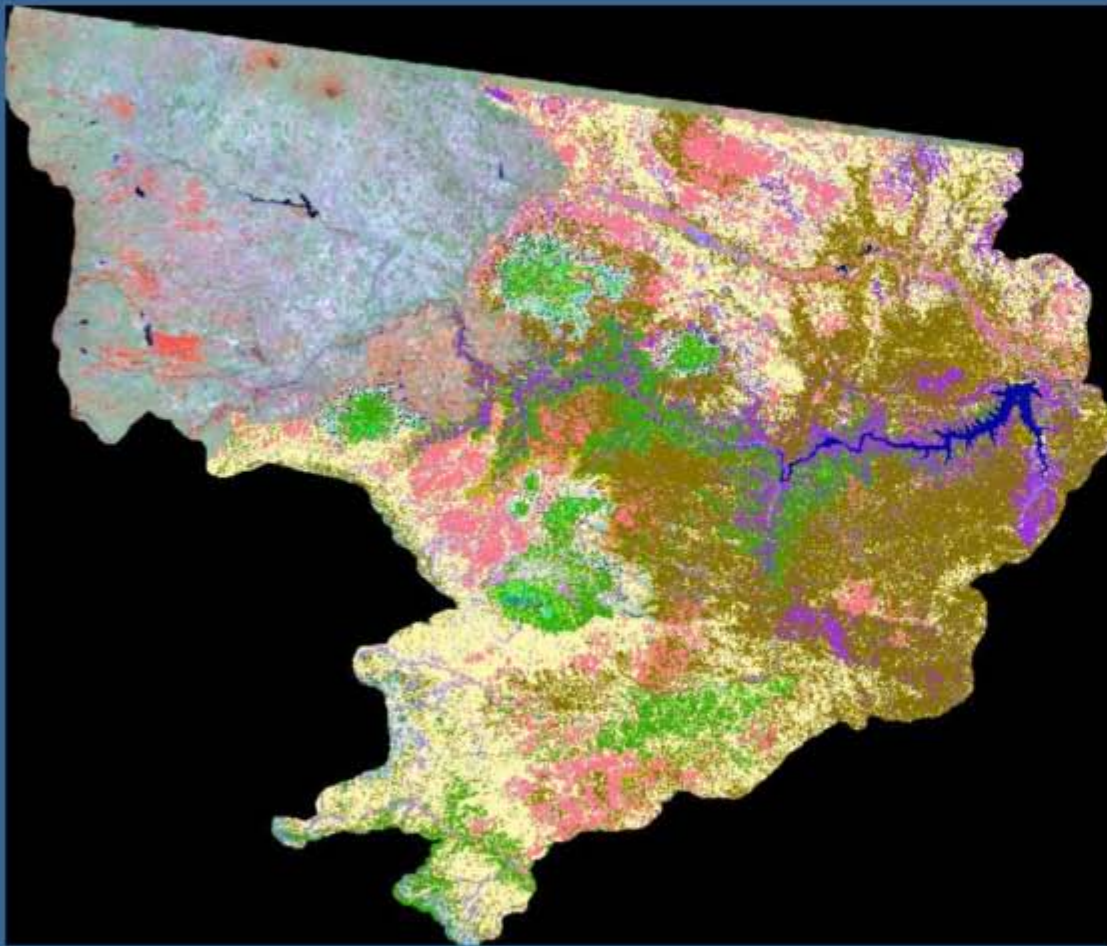
OR

Meghan Burns, GIS Specialist

[mburns2@mt.gov](mailto:mburns2@mt.gov)

406-444-3132

# Land cover mapping



- Working with University of Idaho to complete ReGAP mapping for Montana;
- Completed ReGAP maps are further analyzed and post-processed for Montana to improve accuracy
- Descriptions of each map unit (a.k.a. ecological systems) have been rewritten specifically for Montana

# WETLAND ASSESSMENTS

Developing 3-level protocols (GIS-based, Rapid, and Intensive) for several Rocky Mountain ecosystems (fens, marshes, wet meadows, riparian woodlands & shrublands)

Beginning 5-year rotating basin assessment project, starting with Milk and Marias basins in 2009 and SW Montana in 2010



# WILDLIFE INFORMATION IN MONTANA:

ACQUISITION, MANAGEMENT, AND DISSEMINATION BY THE  
MONTANA NATURAL HERITAGE PROGRAM AND MONTANA  
DEPARTMENT OF FISH, WILDLIFE, AND PARKS

**Bryce A. Maxell**

**Zoologist**

**Montana Natural Heritage Program**

**(406) 444-3655**

**bmaxell@mt.gov**

**Scott J. Story**

**Wildlife Information Specialist**

**Information Management Bureau**

**Montana Fish, Wildlife, and Parks**

**(406) 444-3759**

**sstory@mt.gov**



# Memorandum of Understanding

- Signed in January 2008 after 1 ½ years discussion
- Outlines respective roles:
  - Data Acquisition
  - Database Administration/Management
  - Data Dissemination
- Coordination through daily interaction and quarterly meetings of data management staff and supervisors
- 40 pages of supporting documents to mutually inform and guide staff from both agencies on roles, responsibilities, and accepted procedures

# Data Acquisition Overview

<b>Data Category</b>	<b>Data Subcategory</b>	<b>MFWP Role</b>	<b>MNHP Role</b>
<b>Scientific Collectors Permit Data</b>	<b>All data associated with permits issued by MFWP</b>	<b>Primary</b>	<b>-</b>
<b>Fisheries Monitoring Data</b>	<b>Managed Game Species</b>	<b>Primary</b>	<b>-</b>
	<b>Unmanaged Nongame Species</b>	<b>Primary</b>	<b>Partner</b>
<b>Terrestrial Species Monitoring Data</b>	<b>Managed Game Species</b>	<b>Primary</b>	<b>-</b>
	<b>Managed Nongame Species</b>	<b>Primary</b>	<b>Partner</b>
	<b>Unmanaged Nongame Species</b>	<b>Partner</b>	<b>Primary</b>
<b>Miscellaneous Observations</b>	<b>MFWP Agency Data</b>	<b>Primary</b>	<b>-</b>
	<b>Other State Agencies</b>	<b>Partner</b>	<b>Partner</b>
	<b>Federal Agency Data</b>	<b>Partner</b>	<b>Primary</b>
	<b>Public Data</b>	<b>Partner</b>	<b>Primary</b>

# Key Products & Central Points of Contact

Species of Concern Report - [http://mtnhp.org/Reports/2006\\_MASOC.pdf](http://mtnhp.org/Reports/2006_MASOC.pdf)

Montana Online Field Guide - <http://fieldguide.mt.gov/>

Online Maps and Tabular Reports - <http://mtnhp.org/tracker/>

## DATA & SCIENTIFIC COLLECTORS PERMITS CONTACTS

### Data Requests For:

**Unmanaged Nongame Animals**

**Bryce Maxell - MNHP Zoologist**

(406) 444-3655, [bmaxell@mt.gov](mailto:bmaxell@mt.gov)

**Managed Terrestrial Game**

**Adam Messer – MFWP Data Analyst**

(406) 444-0095, [amesser@mt.gov](mailto:amesser@mt.gov)

**Managed Terrestrial Nongame Animals**

**Scott Story – MFWP Data Analyst**

(406) 444-3759, [sstory@mt.gov](mailto:sstory@mt.gov)

**Fisheries**

**Bill Daigle – MFWP Fish Data Manager**

(406) 444-3737, [bdaigle@mt.gov](mailto:bdaigle@mt.gov)

### Scientific Collector's Permits & Reports:

**Wildlife Scientific Collector's Permits**

**Laura Juvan-George, MFWP Wildlife**

(406) 444-7321, [ljuvan-george@mt.gov](mailto:ljuvan-george@mt.gov)

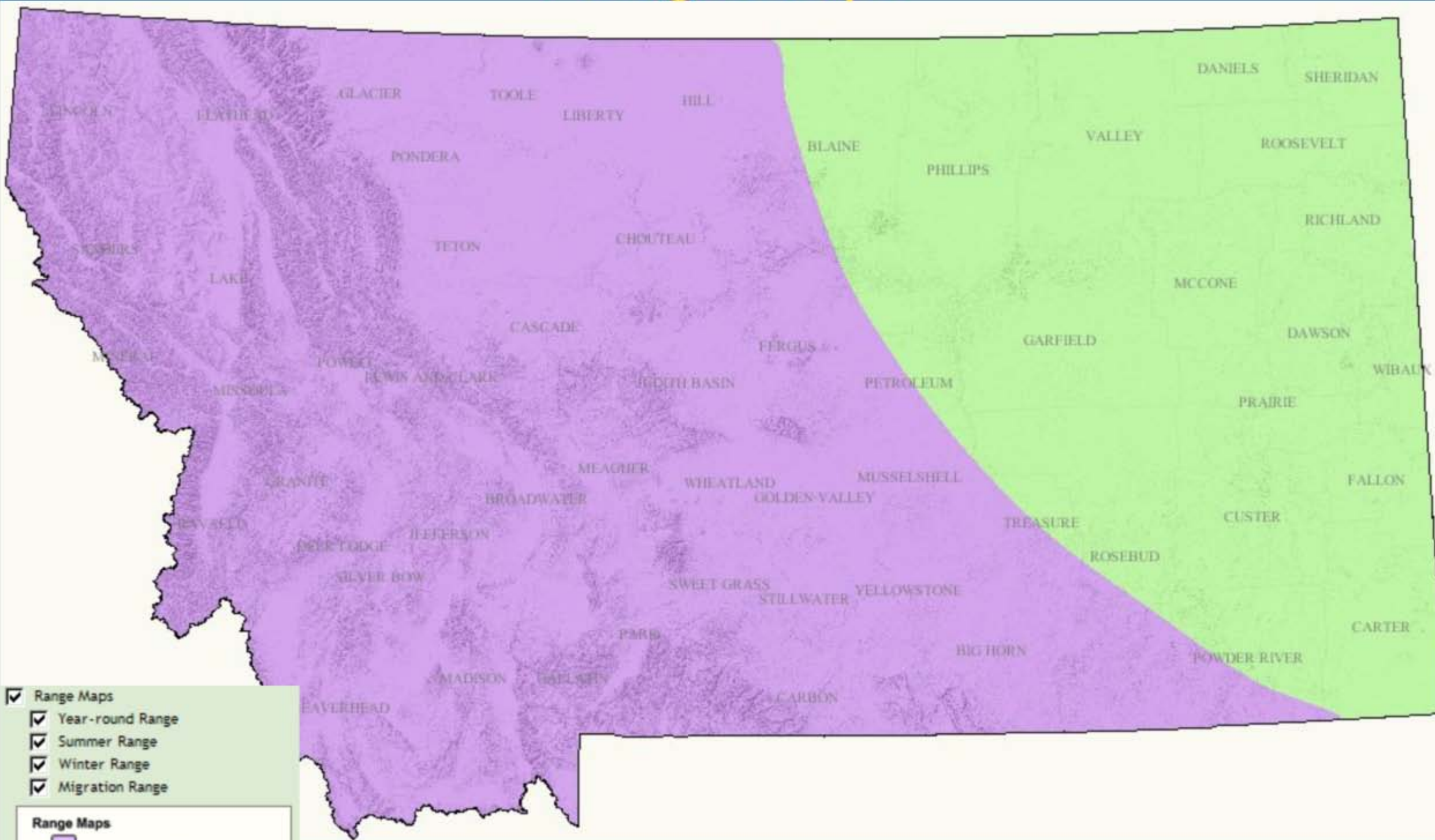
**Fisheries Scientific Collector's Permits**

**Nancy Podolinsky, MFWP Fisheries**

(406) 444-7319, [npodolinsky@mt.gov](mailto:npodolinsky@mt.gov)



# Range Maps

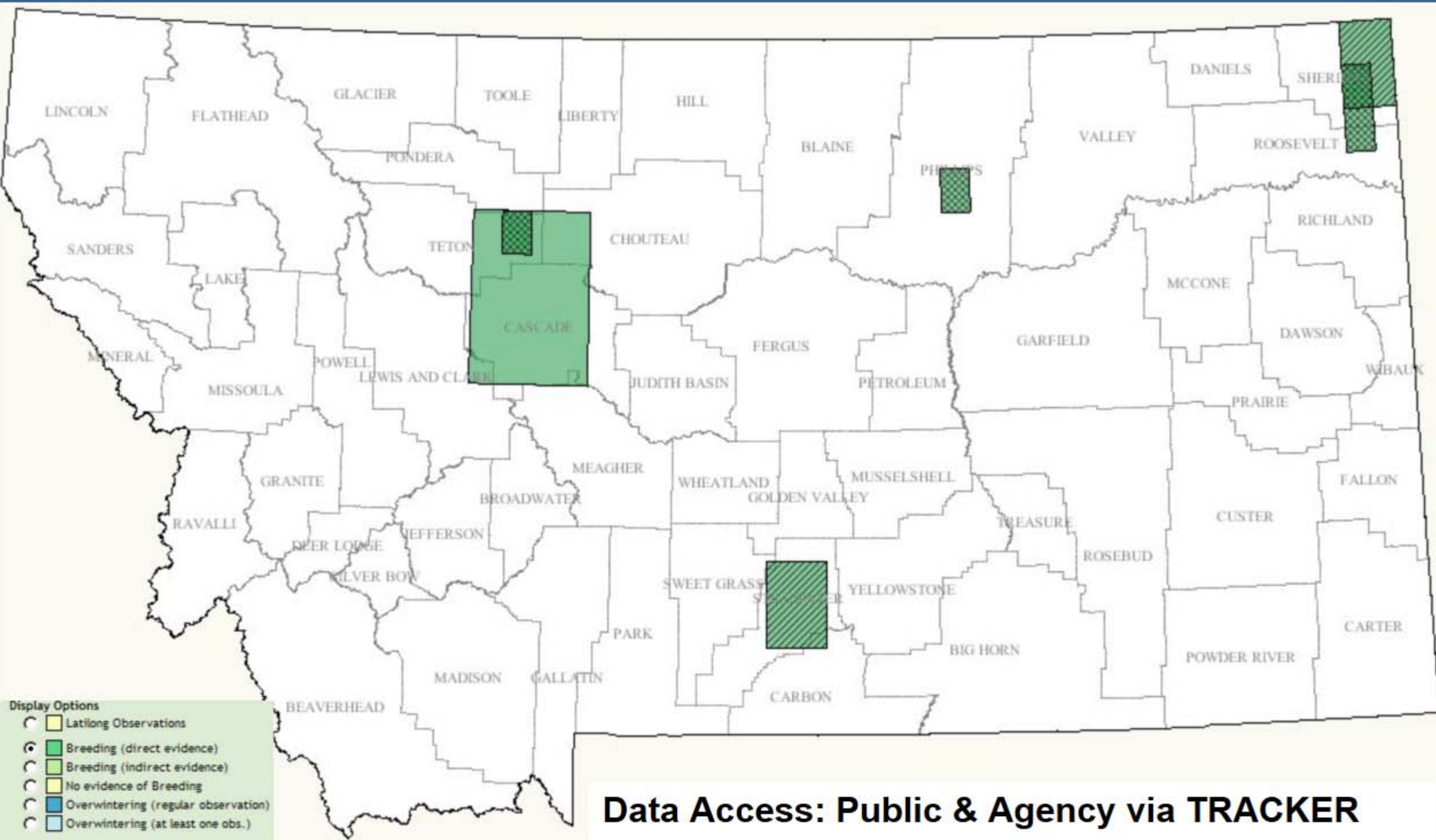


- Range Maps
  - Year-round Range
  - Summer Range
  - Winter Range
  - Migration Range
- Range Maps
- Year-round Range
  - Summer Range
  - Winter Range
  - Migration Range

**Data Access: Public & Agency via TRACKER**

**Tabular Data: Area of Seasonal Range**

# Observation Data Generalized to Latilong Block



- Display Options
- Latilong Observations
  - Breeding (direct evidence)
  - Breeding (indirect evidence)
  - No evidence of Breeding
  - Overwintering (regular observation)
  - Overwintering (at least one obs.)

**Breeding (direct evidence)**  
Data comes from many sources and depending on the locational uncertainty, the observations are displayed at the most accurate grid level.

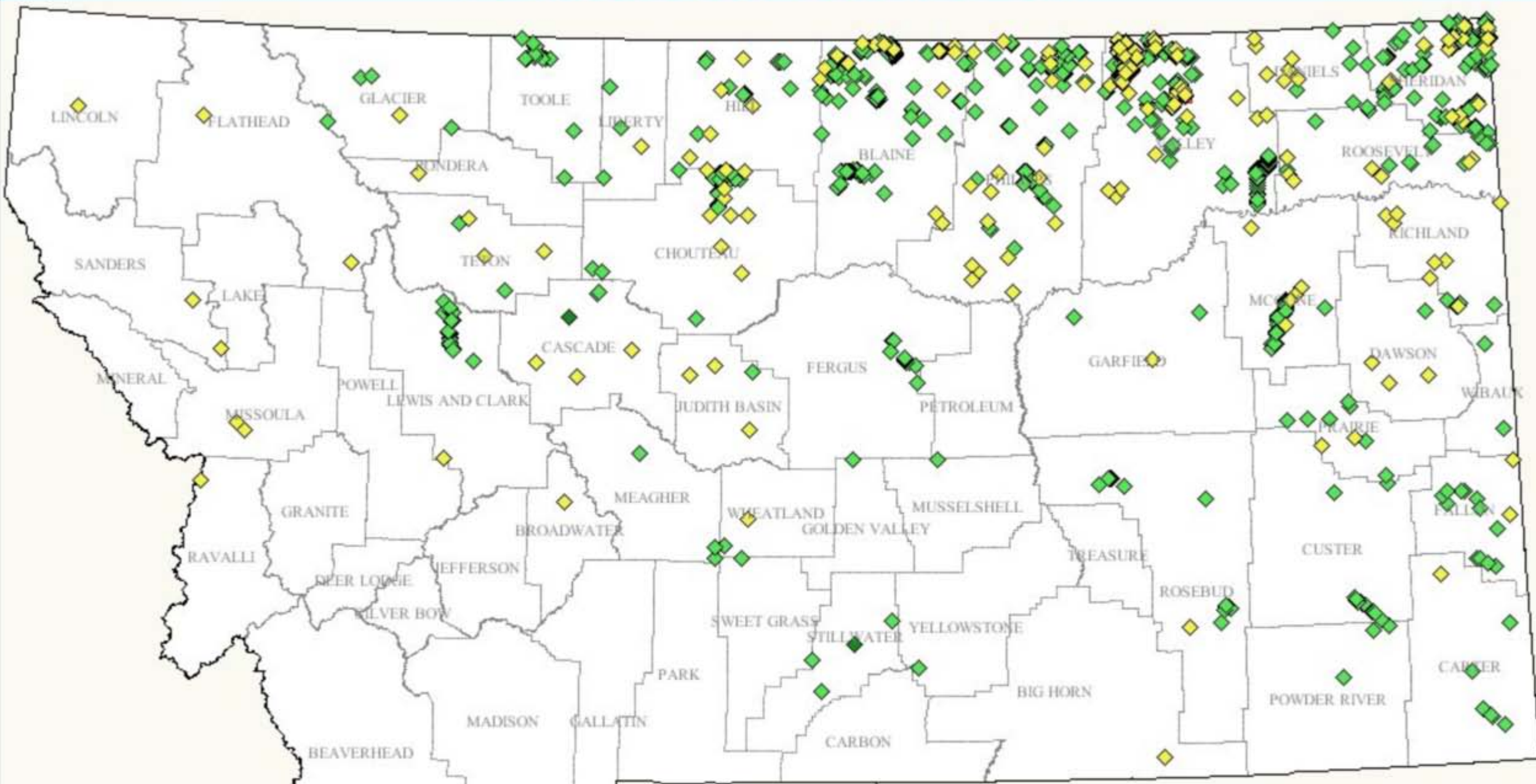
- Latitude / Longitude (large uncertainty / historic)
- Quarter Lat/Long (moderate precision)
- Quarter of a Quarter Lat/Long (most precise)

**Data Access: Public & Agency via TRACKER**

**Charts: Summaries of observation dates**

**Tabular Data: Varies depending on access level**

# Point Observation Data



**Display Options**

- Point Observations
- Structured Surveys
- Species Occurrences
- GAP Models
- Range Maps

**Point Observations - Bird**

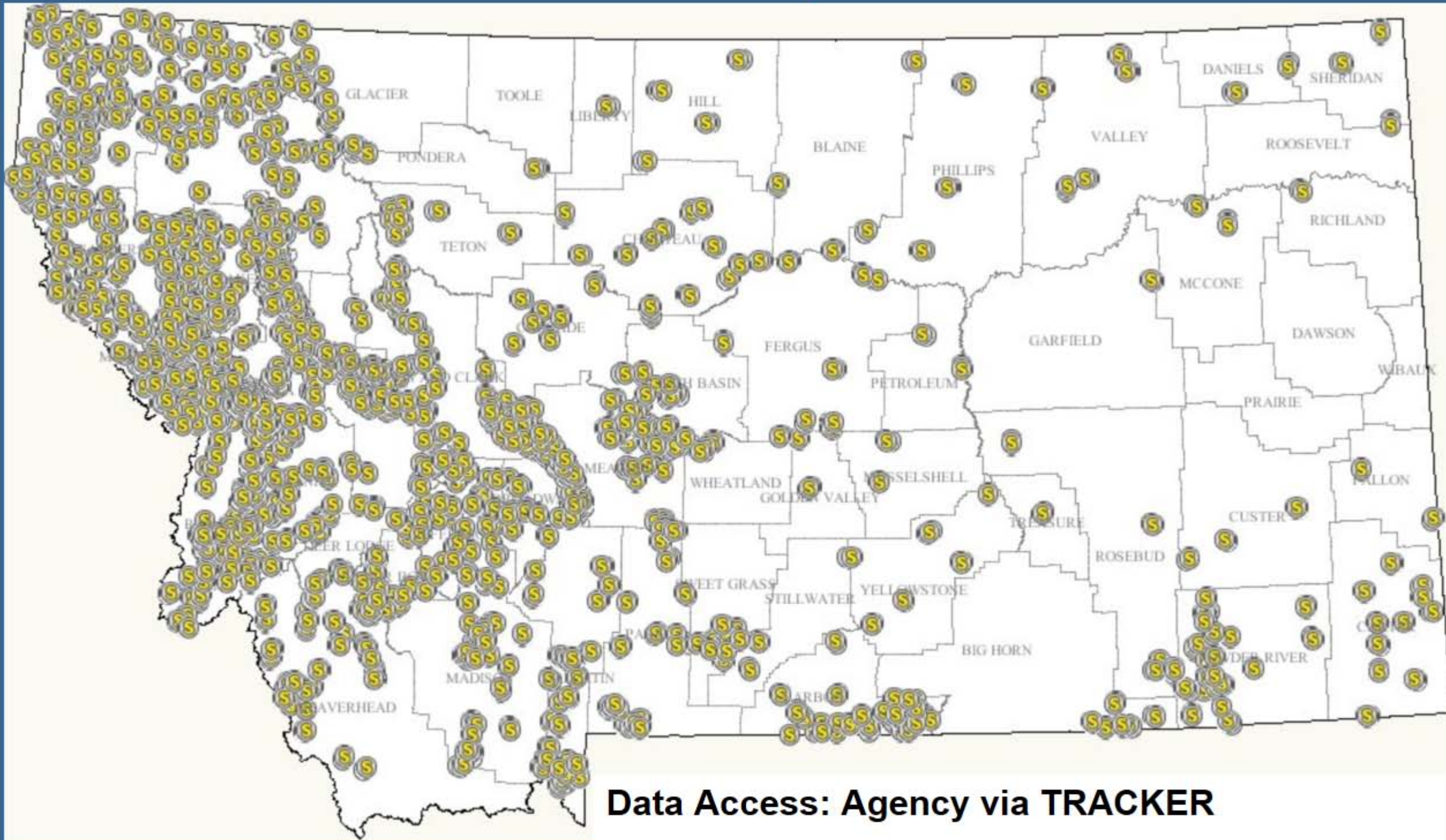
- Breeding (direct evidence)
- Breeding (indirect evidence)
- No evidence of breeding
- Overwintering (regular obs)
- Overwintering (at least one obs)

**Data Access: Agency via TRACKER**

**Charts: Summaries of observation dates**

**Tabular Data: Observer, Date, Location, Species Info**

# Structured Survey Locations




**Data Access: Agency via TRACKER**

**Charts: Summaries of observation dates**

**Tabular Data: Program, Observer, Date, Location**

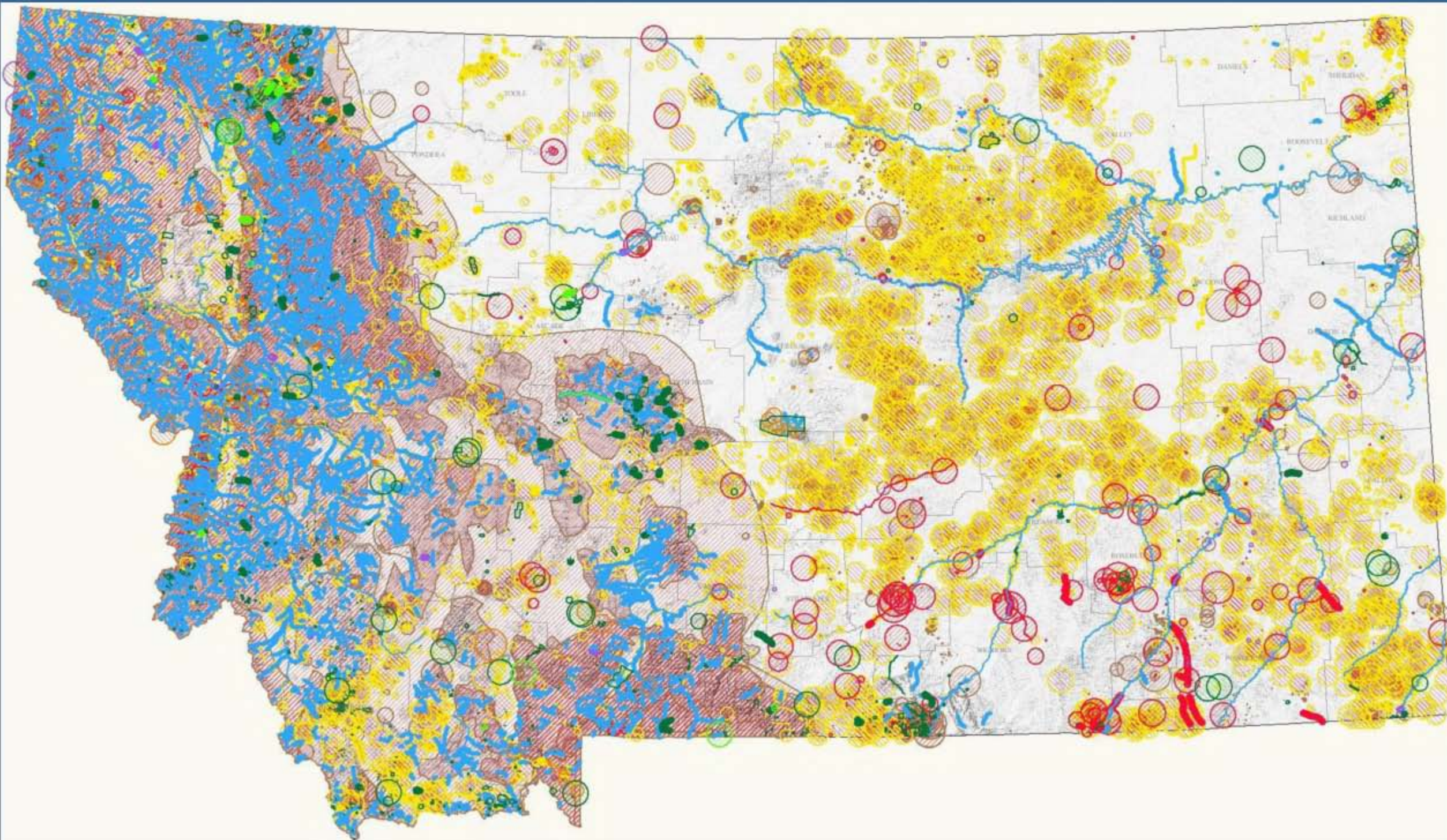
## Display Options

**Structured Surveys**

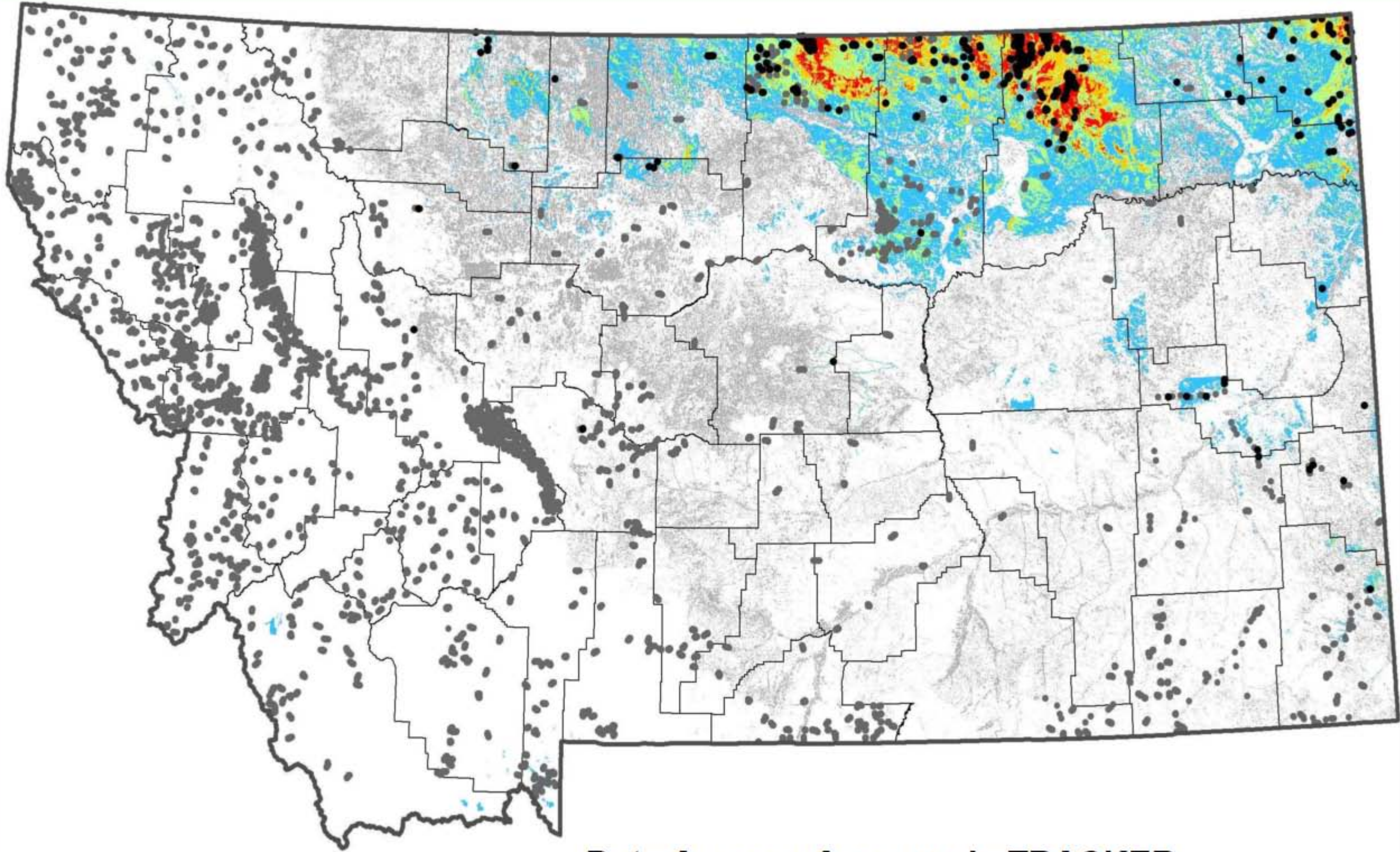
 Survey Location

# Species Occurrence Areas

June 2008



# Predicted Distribution Models – Deductive & Inductive



**Data Access: Agency via TRACKER**

**Tabular Data: TBD, Omission/Commission, fit**

# Species Occurrences Built from Observations

## Species Occurrence Mapping Rule for Sage Grouse

Confirmed breeding area based on the presence of a nest, chicks, juveniles, or adults on a lek. Point observation location is buffered by a minimum distance of 6,400 meters in order to encompass the latest research on the area used for breeding, nesting, and brood rearing and otherwise is buffered by the locational uncertainty associated with the observation up to a maximum distance of 10,000 meters.

# Additional Resources





# Species of Concern Search

Provides the most current listing of species status for Montana.

## Species of Concern

The Montana Natural Heritage Program serves as Montana's source of information for **Species of Concern** — plants and animals that are at risk or potentially at risk. Use the search options on this page to generate current lists of species of concern for the state, counties, watersheds or townships. You can also filter your request by plant or animal groups as well as by Natural Heritage Program global and state ranks, and federal agency status.

**Search Options** | Quick Search | All SOC | SOC Animals | SOC Plants | Help

Expand All | Collapse All

- Geographic Locations
- Animals / Plants
- Species Rank / Status

Show Report | Clear Search | Download Data

## Species of Concern Report

**3 Species found with the following criteria:**  
Plants = Vascular Plants  
USFWS = Listed endangered, Listed threatened

Report Date: 6/17/2008 12:29:51 PM

### ▼ Vascular Plants

SCIENTIFIC NAME ▼	COMMON NAME	NATURE SERVE	GLOBAL RANK	STATE RANK	USFWS	USFS	BLM
<i>Howellia aquatilis</i>	Water Howellia		G3	S2	LT	THREATENED	
<i>Silene spaldingii</i>	Spalding's Champion		G2	S1	LT		
<i>Spiranthes diluvialis</i>	Ute Ladies' Tresses		G2	S1	LT		

Show Report

Clear Search

Download Data

## Species of Concern

The Montana Natural Heritage Program serves as Montana's source of information for **Species of Concern** — plants and animals that are at risk or potentially at risk. Use the search options on this page to generate current lists of species of concern for the state, counties, watersheds or townships. You can also filter your request by plant or animal groups as well as by Natural Heritage Program global and state ranks, and federal agency status.

**Search Options** | SOC Plants | Help

Expand All | Collapse All

Location type on which you wish to filter.

▼ N ▼ ---ALL--- ▼ E ▼

Select or unselect.

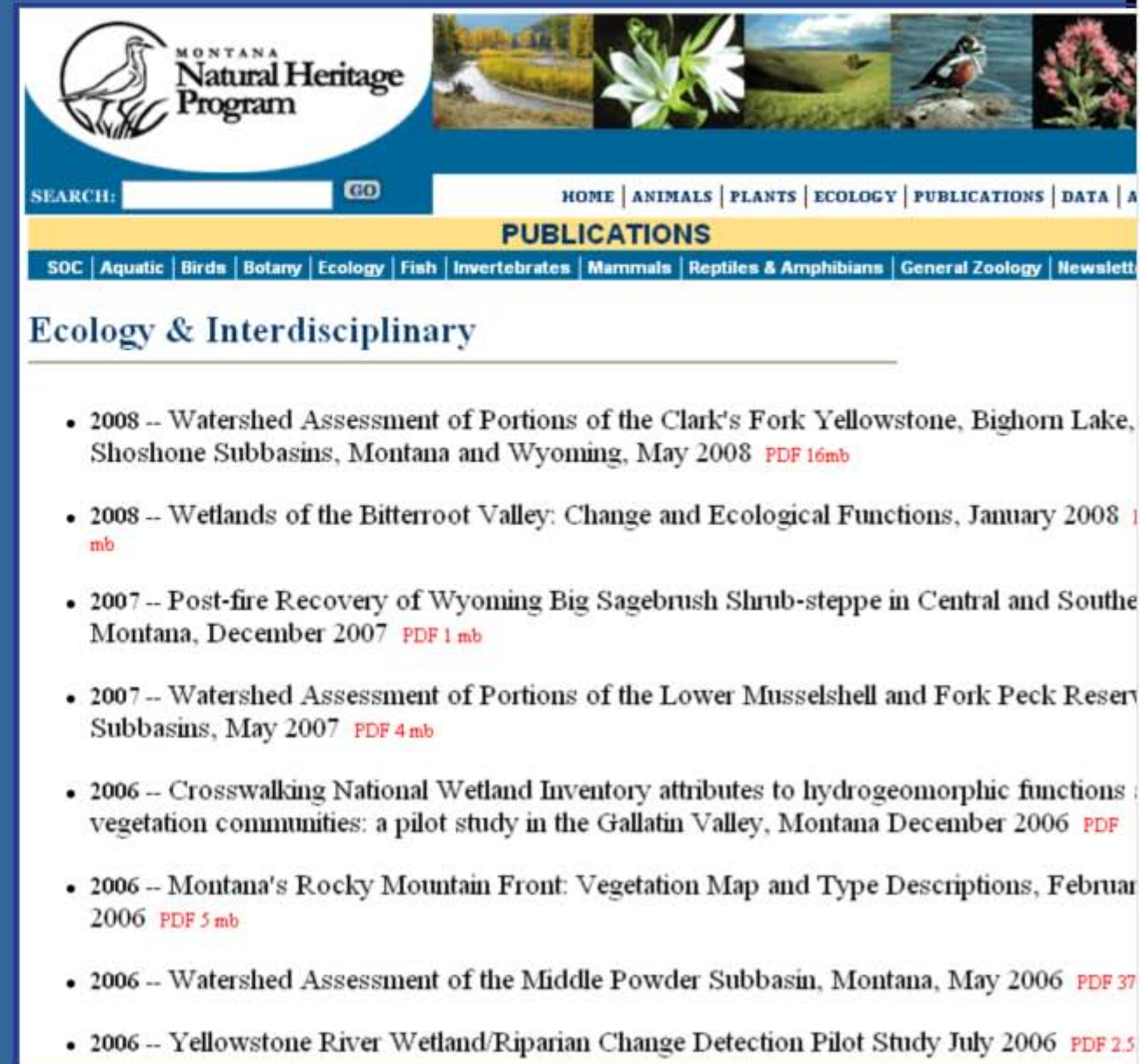
Single picklist. Use <CTRL><Click> to select or unselect.

USFS: ENDANGERED  
SENSITIVE  
THREATENED

# Publications About Montana

Visit [mtnhp.org](http://mtnhp.org) to view and download nearly 200 reports on Montana's biological resources.

- Species of Concern reports
- Biological surveys
- Ecological mapping and assessments
- Aquatic ecosystem studies



The screenshot shows the Montana Natural Heritage Program website. The header includes the logo and navigation links: HOME | ANIMALS | PLANTS | ECOLOGY | PUBLICATIONS | DATA | A. Below the header is a search bar and a navigation menu with categories: SOC | Aquatic | Birds | Botany | Ecology | Fish | Invertebrates | Mammals | Reptiles & Amphibians | General Zoology | Newsletter. The main content area is titled "Ecology & Interdisciplinary" and lists several publications with their dates and PDF file sizes.

**Publications:**

- 2008 -- Watershed Assessment of Portions of the Clark's Fork Yellowstone, Bighorn Lake, Shoshone Subbasins, Montana and Wyoming, May 2008 PDF 16mb
- 2008 -- Wetlands of the Bitterroot Valley: Change and Ecological Functions, January 2008 PDF 1 mb
- 2007 -- Post-fire Recovery of Wyoming Big Sagebrush Shrub-steppe in Central and Southern Montana, December 2007 PDF 1 mb
- 2007 -- Watershed Assessment of Portions of the Lower Musselshell and Fork Peck Reservoir Subbasins, May 2007 PDF 4 mb
- 2006 -- Crosswalking National Wetland Inventory attributes to hydrogeomorphic functions: vegetation communities: a pilot study in the Gallatin Valley, Montana December 2006 PDF 1 mb
- 2006 -- Montana's Rocky Mountain Front: Vegetation Map and Type Descriptions, February 2006 PDF 5 mb
- 2006 -- Watershed Assessment of the Middle Powder Subbasin, Montana, May 2006 PDF 37 mb
- 2006 -- Yellowstone River Wetland/Riparian Change Detection Pilot Study July 2006 PDF 2.5 mb

# Montana Field Guide

## Common Loon - *Gavia immer*

Common Loon, Closeup of Head - *Gavia immer*



### Species of Concern

Global Rank: G5

State Rank: S2B

### Agency Status

USFWS: none

USFS: SENSITIVE

BLM: SENSITIVE

CFWCS Tier: 1

PIF: 1

TRACKER   
Montana Observations

 NatureServe  
Species Report

### General Description

The Common Loon is a large and mainly aquatic bird. Males are generally larger than females. Adult body length ranges from 71 to 92 cm (28 to 36 inches) with wingspans to 147 cm (58 inches). Weight varies ranging from 1.6 to 8 kg (3.5 to 17.6 lb.) with an average of about 3 to 4 kg (6.6 to 8.8 lb.) (McIntyre 1988, McIntyre and Barr 1997). The feet are located far back on the body and are large, webbed, and sweep to the side rather than forward under the belly. This trait makes it difficult for loons to walk on land but allows more efficient swimming underwater.

# NatureServe Explorer

Information on species and habitats for all of North America.

- Linked directly from Montana Field Guide
- Linked directly from the on-line Species of Concern Search

The screenshot shows the NatureServe Explorer website interface. At the top, the logo for NatureServe Explorer is displayed, along with the tagline "An Online Encyclopedia of Life". Navigation links for Search, About the Data, About Us, Contact Us, and Help are visible. Below the navigation, there are buttons for "Return To Search Results", "Change Criteria", and "New Search". A "View Glossary" link is also present. The main content area displays the entry for *Howellia aquatilis* - Gray, also known as Water Howellia. It lists other common names, a unique identifier (ELEMENT\_GLOBAL.2.136199), an element code (PDCAM0A010), and informal taxonomy (Plants, Vascular - Flowering Plants - Other flowering plants). A taxonomic table is provided, showing the classification from Kingdom to Genus. Below the table is a checkbox to expand all report sections. A list of report sections is shown, including Concept Reference, Conservation Status, Distribution, Ecology & Life History, Economic Attributes, Management Summary, Population/Occurrence Delineation, and Population/Occurrence Viability. The Economic Attributes and Management Summary sections are marked as "Not yet assessed".

**Howellia aquatilis** - Gray  
Water Howellia  
**Other Common Names:** water howellia  
**Unique Identifier:** ELEMENT\_GLOBAL.2.136199  
**Element Code:** PDCAM0A010  
**Informal Taxonomy:** Plants, Vascular - Flowering Plants - Other flowering plants

Kingdom	Phylum	Class	Order	Family	Genus
Plantae	Anthophyta	Dicotyledoneae	Campanulales	Campanulaceae	Howellia

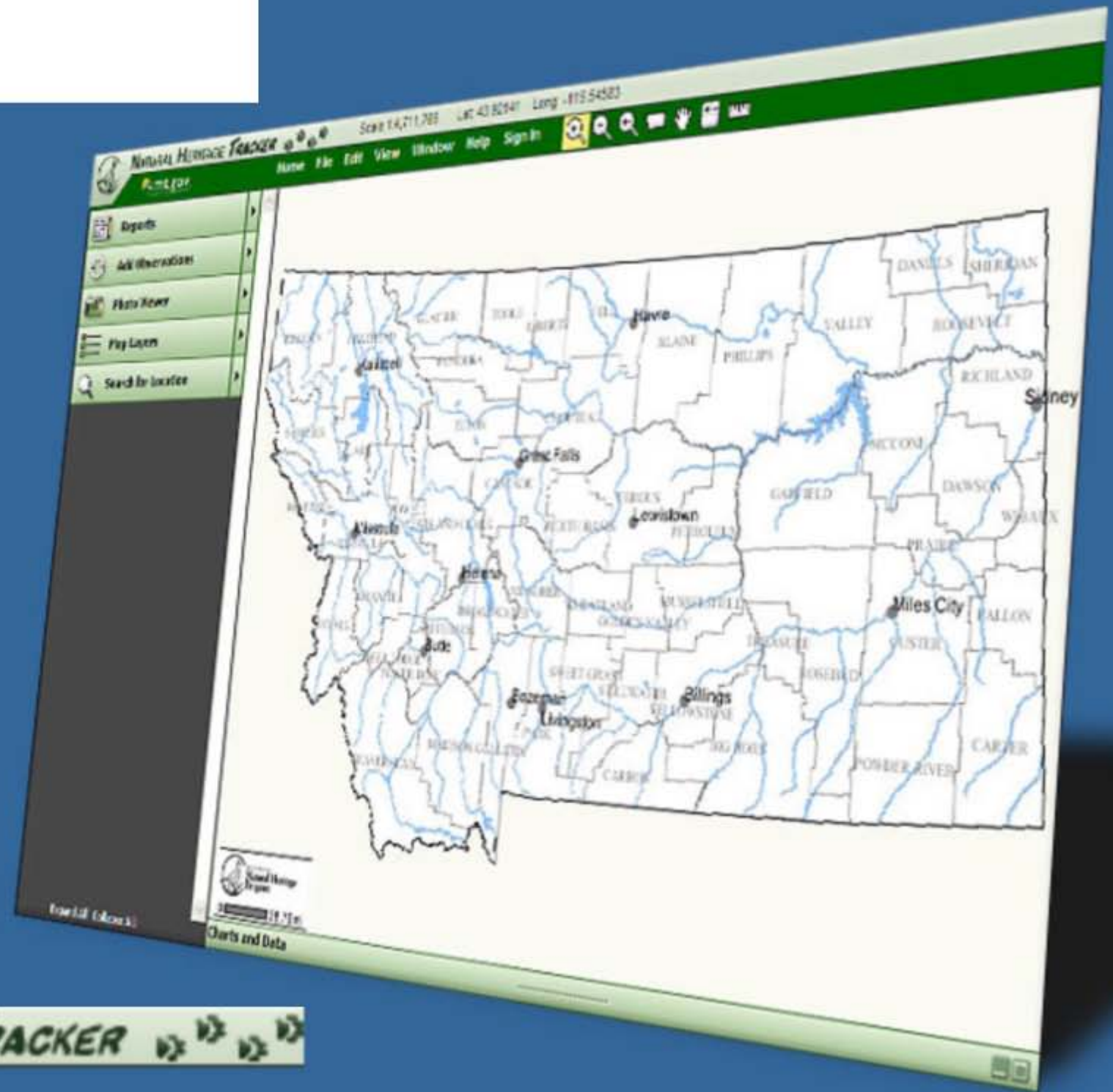
Check this box to expand all report sections:

- Concept Reference
- Conservation Status
- Distribution
- Ecology & Life History
- Economic Attributes Not yet assessed
- Management Summary Not yet assessed
- Population/Occurrence Delineation
- Population/Occurrence Viability

Google  
[Search for Images on Google](#)



# MONTANA Natural Heritage Program



NATURAL HERITAGE TRACKER

# Natural Heritage TRACKER

The Natural Heritage Tracker offers powerful access to statewide distribution maps for animals and rare plants, directly from the NHP databases.

With Tracker you can:

- Report and keep track of your animal observations
- View plant and animal observations across the state including range maps for animals
- View photos of over 1,000 habitats across Montana
- View a variety of base maps, including topographic maps, recent air photos (including color infrared), public land ownership, special designation lands, and conservation easements.



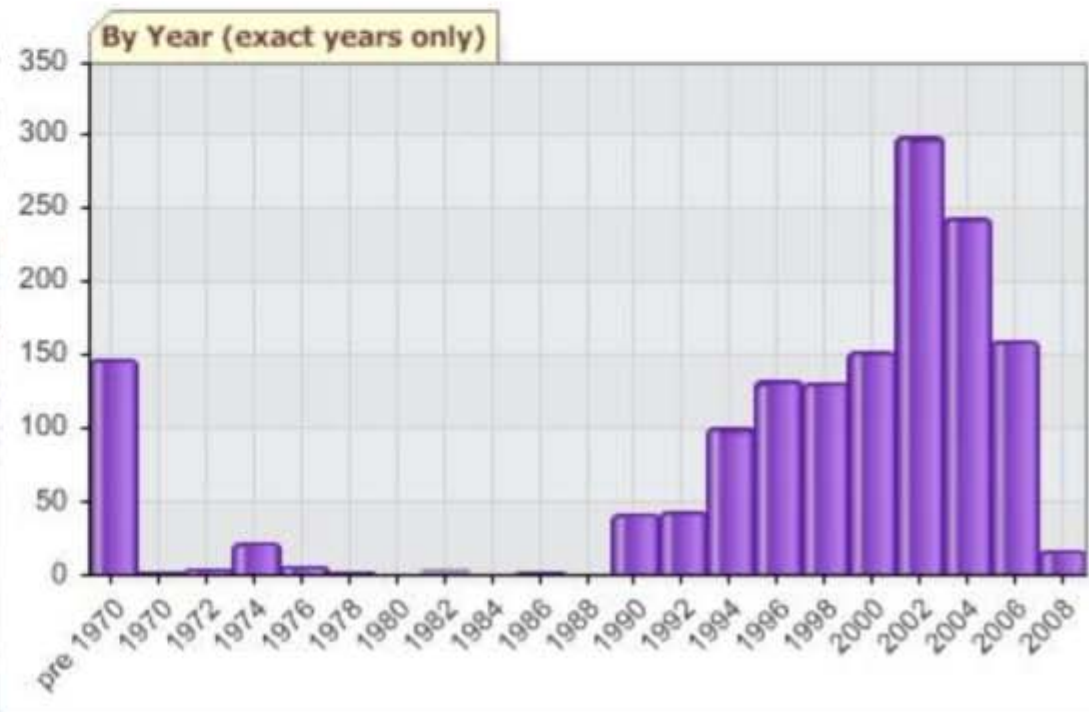
# Lentic Site Surveys and Observations of Western Toads



MONTANA  
Natural Heritage  
Program



TAXA	ID (click to EDIT)	Common Name (Scientific Name)	OBSERVERS	OBSERVATION DATE		COUNTY	LOCATION	Spatial Precision (Meters)	TYPE	PENDING	Additional Info		
				MONTH	DAY						Notes	Comments	Unknown Sex
Amphibians	<a href="#">10588219</a>	Western Toad ( <i>Bufo boreas</i> ) <u>Species of Concern</u>	Bell, Matthew	Jul	13	28A3	Lewis and Clark 7.5 Miles WSW of Hedges Mountain	0		Pending	Males	Immature	
											Females	1	
											Pairs	1	
												Eggs	
												Nest	
				<p><b>Species Observation Notes:</b> 65mm SVL, female seen on trail between parking area and rope swing.</p> <p><b>Habitat Observation Notes:</b> Tall grasses/vegetation downslope toward lake. Dry, rocky, mostly open ponderosa pine forest upslope.</p>									



Availability of information 2

# View Photos of Sites Surveyed



MONTANA  
Natural Heritage  
Program

NATURAL HERITAGE TRACKER Scale 1:78,393 Lat: 45.32159 Long: -109.91541  
mt.gov Home File Edit View Window Help Sign Out

Reports  
Add Animal Observations  
Photo Viewer  
Photosets  
Amphibian Inventory Photos  
Map Layers

Map Layers  
Towns  
County  
LL / QLL / QQLL  
Highways  
24K Quads  
Township and Range  
Lakes/Streams  
Conservation Easements  
Special Designation Lands  
Public Lands

Base Map  
Air Photos (color 2005)  
Air Photos (color infrared)  
Air Photos (color 2005 w/ 2004 hi res cities)  
Air Photos (b/w)  
Topographic (hillshade)  
Topographic  
Highway map  
Hillshade  
[No Base Map]

Search for Location

Identify  
Lat: 45.2731 Long: -110.11073  
SPX: 552083 SPY: 113900  
Elevation: 2962 meters 9718 feet

Photos  
  
Site = 7038008 - Pond, 1.3 miles S of Lake Mountain  
Date = Aug 13, 2005  
Name = 7\_038\_008.jpg

Site = 7043036 - Pond, 5.4 miles SW of Tumble Mountain  
Date = Aug 13, 2005  
Name = 7\_043\_036a.jpg

Click to view larger image  
Site = 7043036 - Pond, 5.4 miles SW of Tumble Mountain  
Date = Aug 13, 2005  
Name = 7\_043\_036b.jpg

The screenshot displays the 'Natural Heritage Tracker' web application. The main map shows a topographic view of a mountainous region with numerous yellow camera icons representing survey sites. A yellow arrow points from one of these icons to a detailed 'Identify' window. This window lists site information including coordinates, elevation, and a list of photos. Two photos are shown, each with a 'Click to view larger image' button. A second yellow arrow points from one of these buttons to a larger, full-screen photo viewer that displays a landscape with a pond and rocky terrain. The interface includes a sidebar with various map layers and a search bar at the bottom left.

Availability of information 3



**Questions????**

**Feedback????**