### **Information Systems & Services Update**

**Karen Coleman** 



**Scott Blum** 



Natural Heritage Program

**December 7, 2015** 

**Braden Burkholder** 



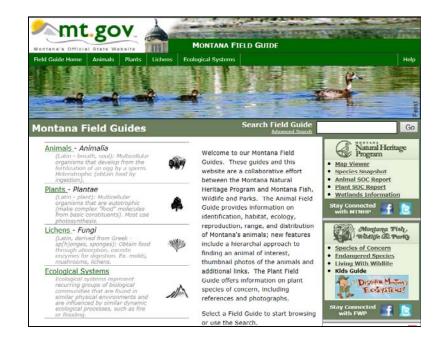
**Dave Ratz** 

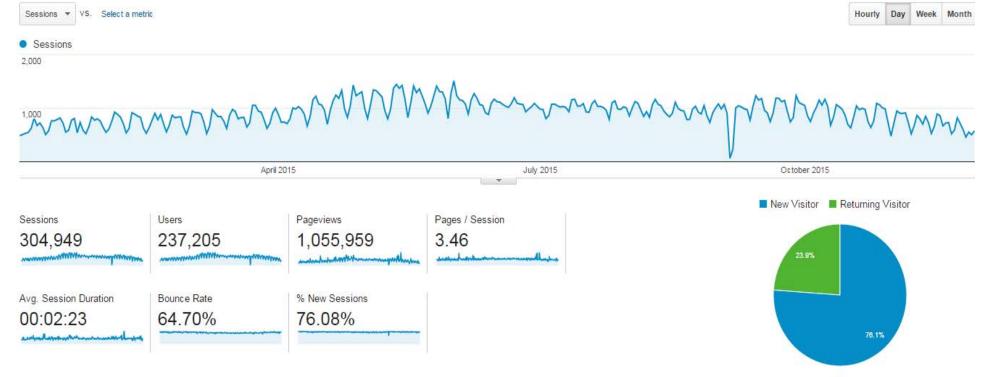


**Martin Miller** 



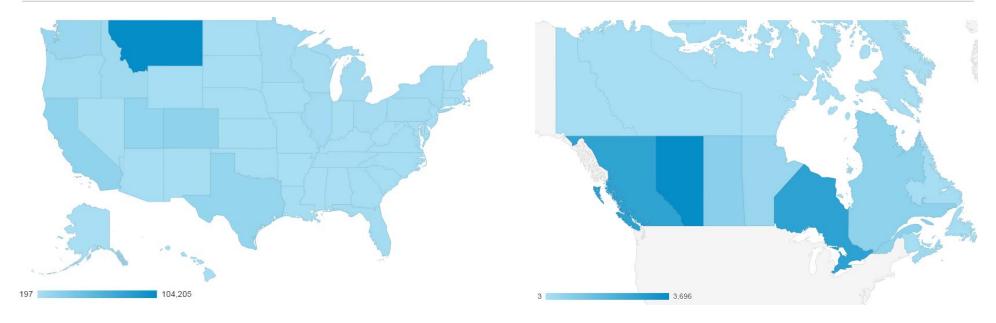
# Montana Field Guide Use Patterns





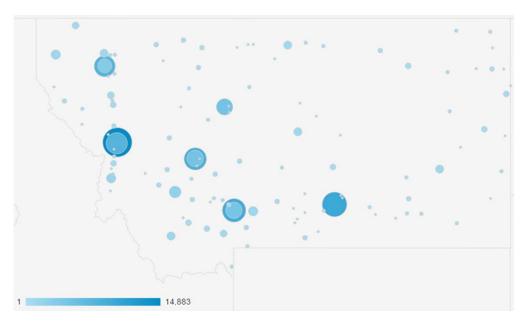
# Country

Country	Sessions % Sessions
1. United States	275,079 90.20%
2. Canada	11,438 3.75%
3. Sa United Kingdom	2,582   0.85%
4. India	2,144   0.70%
5. Philippines	1,180   0.39%
6. Australia	1,019   0.33%
7. Germany	881   0.29%
8. France	716   0.23%
9. Establishment   Section 2015   Se	632   0.21%
10. Indonesia	514   0.17%



# **City**

	City	Sessions	% Sessions
1.	. Missoula	22,634	7.42%
2.	. Bozeman	13,695	4.49%
3.	. Helena	13,209	4.33%
4.	. Salt Lake City	11,219	3.68%
5.	. Kalispell	10,893	3.57%
6.	. Billings	10,048	3.29%
7.	. Denver	7,997	2.62%
8.	. (not set)	6,160	2.02%
9.	. Great Falls	4,892	1.60%
10	0. Dallas	4,467	1.46%



### **Browser**

	Browser	Sessions	% Sessions
1.	Chrome	116,342	38.15%
2.	Safari	86,388	28.33%
3.	Internet Explorer	55,240	18.11%
4.	Firefox	31,972	10.48%
5.	Android Browser	6,841	2.24%
6.	Amazon Silk	2,440	0.80%
7.	Opera Mini	1,789	0.59%
8.	Edge	1,124	0.37%
9.	Safari (in-app)	966	0.32%
10	. Opera	553	0.18%
	•		'

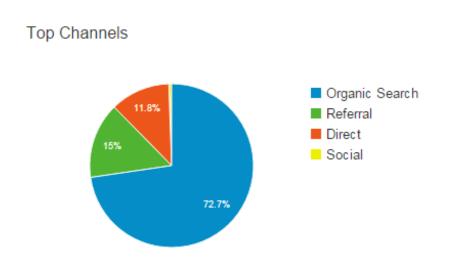
## **Operating Systems Overall**

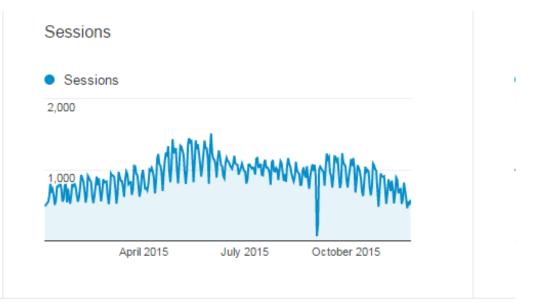
Operating System	Sessions	% Sessions
1. Windows	140,623	46.11%
2. iOS	70,756	23.20%
3. Android	47,665	15.63%
4. Macintosh	33,989	11.15%
5. Chrome OS	7,258	2.38%
6. Linux	1,622	0.53%
7. Windows Phone	1,253	0.41%
8. (not set)	1,097	0.36%
9. BlackBerry	412	0.14%
10. Series40	84	0.03%

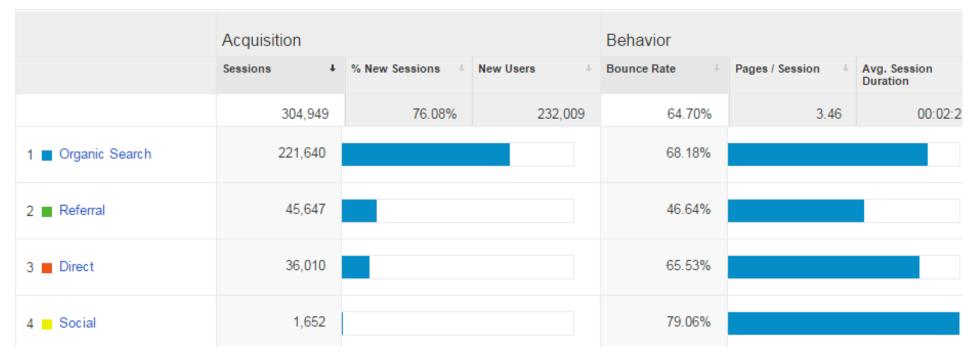
# **Mobile Operating Systems**

Operating System	Sessions	% Sessions
1. iOS	70,793	56.42%
2. Android	47,707	38.02%
3. Windows	4,218	3.36%
4. Windows Phone	1,259	1.00%
5. (not set)	880	0.70%
6. BlackBerry	408	0.33%
7. Series40	85	0.07%
8. Nokia	59	0.05%
9. Samsung	23	0.02%
10. Nintendo 3DS	17	0.01%

### Acquisition







# **Search Engine**

	Acquisition			Behavior		
Source ?	Sessions ② ↓	% New Sessions	New Users ?	Bounce Rate ?	Pages / Session	Avg. Session Duration
	221,640 % of Total: 72.68% (304,949)	77.60% Avg for View: 76.08% (2.00%)	172,001 % of Total: 74.14% (232,009)	68.18% Avg for \(iew: 64.70\(\text{6.38\(\text{8.38\(\text{9.38\(\text{9.38\(\text{9.98\(\text{9	2.96 Avg for \ivex: 3.46 (-14.42%)	00:01:58 Avg for View: 00:02:23 (-17.58%)
1. google	186,811 (84.29%)	77.95%	145,619 (84.66%)	68.34%	2.93	00:01:57
2. bing	18,645 (8.41%)	72.62%	13,540 (7.87%)	67.36%	3.30	00:02:08
3. yahoo	14,798 (6.68%)	78.86%	11,670 (6.78%)	67.17%	2.99	00:02:02
4. aol	547 (0.25%)	87.93%	481 (0.28%)	64.17%	2.35	00:01:16
5. ask	537 (0.24%)	78. <mark>77</mark> %	423 (0.25%)	67.04%	2.70	00:01:17
6. comcast	95 (0.04%)	93.68%	89 (0.05%)	83.16%	1.57	00:01:03
7. avg	65 (0.03%)	81.54%	53 (0.03%)	58.46%	2.80	00:02:11
8. yandex	25 (0.01%)	100.00%	25 (0.01%)	84.00%	1.60	00:01:18
9. msn	20 (0.01%)	65.00%	13 (0.01%)	65.00%	3.75	00:01:16
10. images.google	19 (0.01%)	94.74%	18 (0.01%)	84.21%	1.16	00:00:18
11. baidu	18 (0.01%)	88.89%	16 (0.01%)	88.89%	1.11	00:00:30

# **Top Landings**

	Page Title	Pageviews	% Pageviews
1.	Montana Field Guide	124,854	11.82%
2.	(Class) Birds - Montana Field Guide	28,096	2.66%
3.	(Kingdom) Animals - Montana Field Guide	27,513	2.61%
4.	(Class) Mammals - Montana Field Guide	23,034	2.18%
5.	(Class) Fish - Montana Field Guide	18,456	1.75%
6.	(Kingdom) Plants - Montana Field Guide	13,044	1.24%
7.	(Class) Spiders - Montana Field Guide	9,996	0.95%
8.	Kokanee Salmon - Montana Field Guide	8,882	0.84%
9.	(Family) Upland Game Birds - Montana Field Guide	8,790	0.83%
10	D. (Family) Trout - Montana Field Guide	8,370	0.79%

- 1. Kokanee Salmon
- 2. Spiders
- 3. Birds
- 4. Grizzly Bear
- 5. Prairie Rattlesnake
- 6. Gray Wolf

### **Top Species Landings**

# Species Snapshot

₽	Species Snapshot
€	Montana Field Guide
<b>3</b>	Natural Heritage MapViewer
<b>3</b>	<b>Animal Species of Concern Report</b>
<b>3</b>	Plant Species of Concern Report
2	Animal Information
<b>3</b>	Plant Information
<b>3</b>	Ecology Information
<b>3</b>	Wetlands Information
<b>3</b>	Land Management Mapping
<b>3</b>	Submit Observations
₽	Request Information

#### **All Montana Species**

MT Status	Species of Concern	Potential SOC	MT Special Status	Other	Total
Mammals	24	16	1	72	113
Birds	66	17	2	361	446
Reptiles	8	1		11	20
Amphibians	6			9	15
Fish	23	5		63	91
Invertebrates	84	54		1187	1325
ALL ANIMALS	211	93	3	1703	2010
Vascular Plants	327	65		2489	2881
Bryophytes	51	20		488	559
Lichens	32	9		573	614
ALL PLANTS	410	94		3550	4054

Download PDF FieldGuide | Print Species List

#### Collapse All | Expand All Species Groups | Expand All Species Groups and Species Info

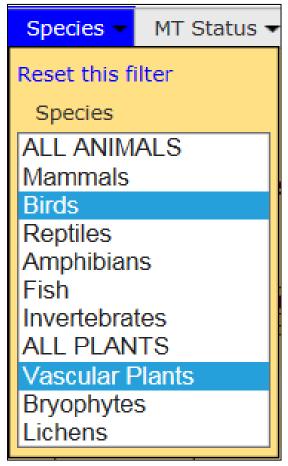
Mammals	113 Species
<b>⊞</b> Birds	446 Species
<b>■</b> Reptiles	20 Species
<b>⊕</b> Amphibians	15 Species
<b>⊞</b> Fish	91 Species
<b>■</b> Invertebrates	1325 Species
Vascular Plants	2881 Species
<b>⊕</b> Bryophytes	559 Species
<b>⊕</b> Lichens	614 Species

### **Species Snapshot Filters**

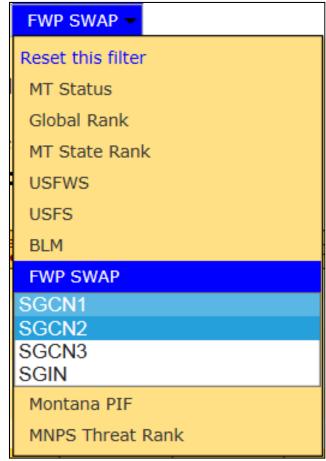
Geography

BLM Field Office Species ▼ MT Status Reset this filter County House District Senate District BLM Field Office Billings Field Office **Butte Field Office** Dillon Field Office Glasgow Field Office Havre Field Office Lewistown Field Office Malta Field Office Miles City Field Office Missoula Field Office Forest Boundary FWP Region Township LL, QLL, QQLL

**Taxonomy** 



**Status** 



#### Montana Natural Heritage - Species Snapshot

County ▼ Species ▼ MT Status ▼

#### All Montana

**Birds and Vascular Plants** 

#### found in

**Carter County** 

#### that are MT Status

**Species of Concern** 

MT Status	Species of Concern	Potential SOC	MT Special Status	Other	Total
Mammals					
Birds	33				33
Reptiles					
Amphibians					
Fish					
Invertebrates					
ALL ANIMALS	33				33
Vascular Plants	18				18
Bryophytes					
Lichens					
ALL PLANTS	18				18

When you select a specific geographic area, the Species of Concern Report links are only valid if there are Species with Species Occurrences (SO's) in that area.

Hover over the values in the table to see the number of species with SO's (as opposed to the number displayed which is the count of Species with at least some kind of record in the selected area).

Species

Predicted Suitable

Number of

Download PDF FieldGuide | Print Species List

Collapse All | Expand All Species Groups | Expand All Species Groups and Species Info

**Birds** 33 Species **■ Vascular Plants** 18 Species

Expand All   Collapse All	Observations	Occurrences	Habitat Model	Links
Vascular Plants - Amorpha canescens (Lead Plant) SOC	1	1		1
□ Vascular Plants - Asclepias ovalifolia (Ovalleaf Milkweed) SOC	2	2		1
Species of Concern Global Rank: G5? State Rank: S1S2 SO 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				



All Montana **Birds and Vascular Plants** 

found in **Butte or Dillon BLM Field Offices** 

that are MT Status **Special Status Species** 

This PDF was generated: 12/7/2015

#### Offline Field Guide

Note: This PDF version of the Montana Field Guide is intended to assist in offline identification and field work. It is not intended to replace the online Field Guide, as that version contains more information and is updated daily. For the most up-to-date information on Montana species, please visit FieldGuide.mt.gov

The Montana Field Guide is a collaborative effort between the Montana Natural Heritage Program and Montana Fish. Wildlife and Pai The Montana Natural Heritage Program is a program of the Montana State Library's Natural Resource Information System. It is ope as a special program under the Office of the Vice President for Research and Creative Scholarship at the University of Montana, Miss Habitat The Montana Natural Heritage Program is part of NatureServe - a network of over 80 similar programs in states, provinces and national nations of the Nature Server - a network of over 80 similar programs in states, provinces and national throughout the Western Hemisphere, bringing to Montana the "big picture" information on the true status of species and habitats.













### **Custom PDF Field Guide**

Bald Eagle Haliaeetus leucocephalus

Global Rank: G5 State Rank: S4

**Agency Status** USFWS: DM; BGEPA; MBTA: BCC USES: SENSITIVE **BLM:** SENSITIVE PIF: 2

Submitted Obs by Month

# Observations: 15894

Special Status Species

View in Field Guide

#### **General Description**

With a white head and tail contrasting with a dark brown body and wings, the adult plumage of the Bald Eagle, attained at approximately 5 years of age, is unmistakable. In addition to the obvious white head and tail, other distinguishing features include the yellow bill, cere, iris, legs and feet. Second in size of North American birds of prey only to the California Condor (Gymnogyps californianus), the Bald Eagle ranges in total length from 71 to 96 cm, with an average wingspan of 168 to 244 cm and a body mass ranging from 3.0 to 6.3 kg (Buehler 2000). In general appearance the sexes are similar with females approximately 25 percent larger than males. The plumage of the

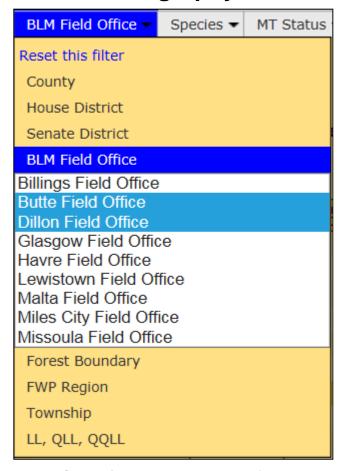
juvenile birds is much less distinct, being dark brown overall. The head, body, wings, and tail are dark brown with limited mottling on the underside of the wings and on the belly. While the legs and feet of the young bird are yellow like those of adults, the bill and cere are dark gray and the iris is dark brown.

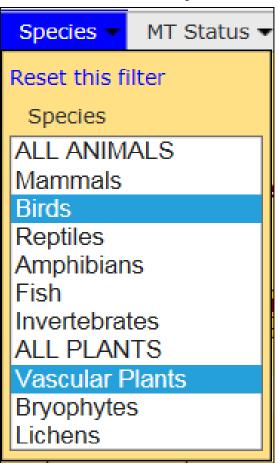
The voice of the Bald Eagle is a weak series of chirps. The vocalization is described as flat chirping, stuttering whistles, given in a halting fashion, with the immature calls generally harsher and more shrill than those of the adults (Buehler 2000, Sibley 2000).

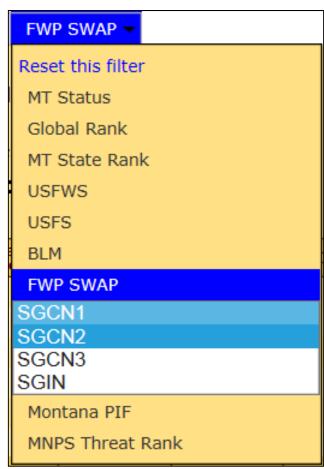
In Montana, as elsewhere, the Bald Eagle is primarily a species of riparian and lacustrine habitats (forested areas along rivers and lakes), especially during the breeding season. Important year-round habitat includes wetlands, major water bodies, spring spawning streams, ungulate winter ranges and open water areas (Bureau of Land Management 1986). Wintering habitat may include upland sites. Nesting sites are generally located within larger forested areas near large lakes and rivers where nests are usually built in the tallest, oldest, large diameter trees. Nesting site selection is dependent upon maximum local food availability and minimum disturbance from human activity (Montana Bald Eagle Working Group 1994). See the Montana Bald Eagle Management Plan (1994) for further details including home range sizes and habitat requirements of fledgling

### **Species Snapshot Filters**

Geography Taxonomy Status





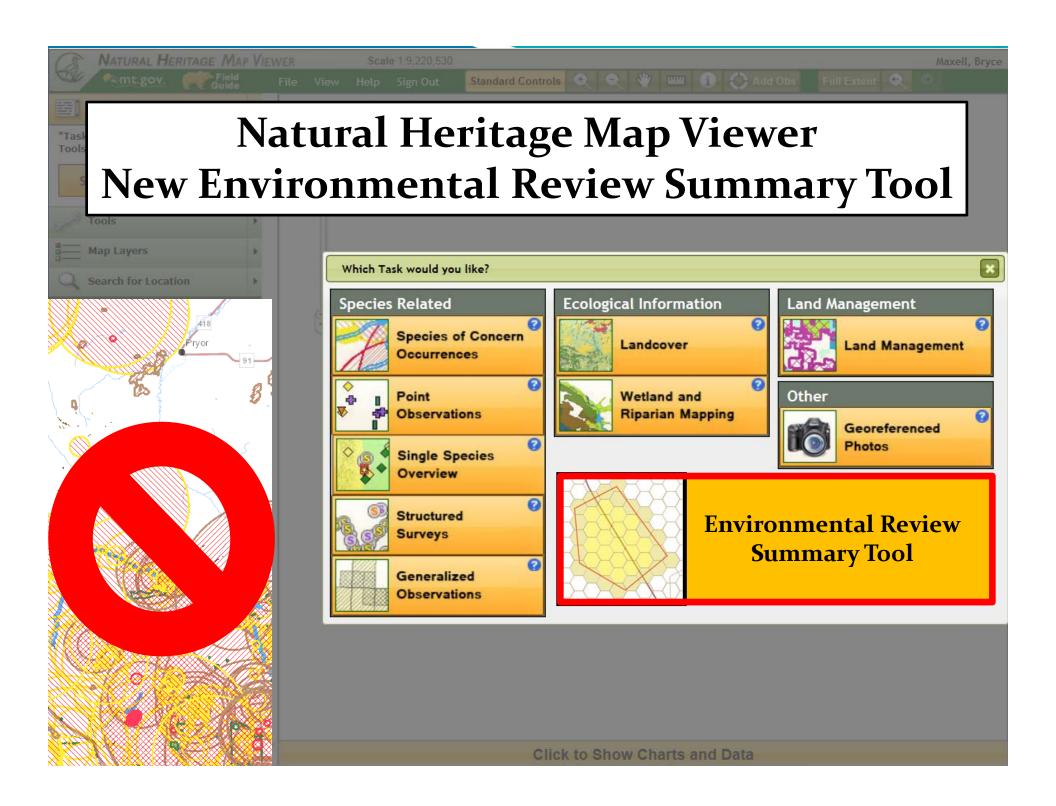


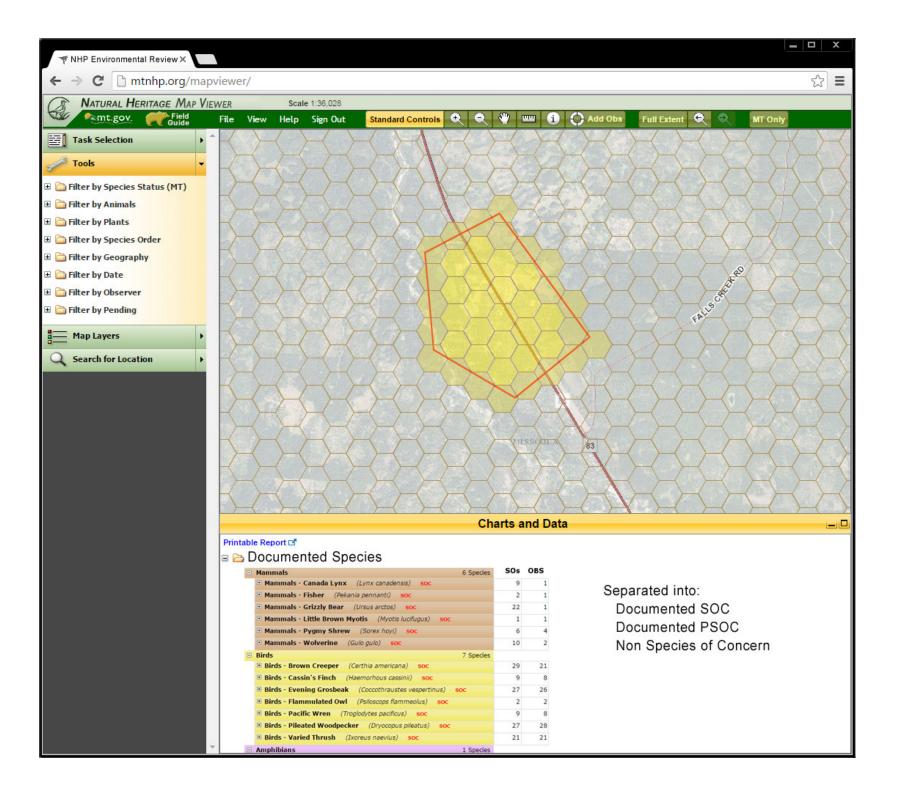
- City (25 mile buffer)
- Important Bird Area
- Major Land Resource Area
- East/West Continental Divide
- Joint Venture or LLC Boundary

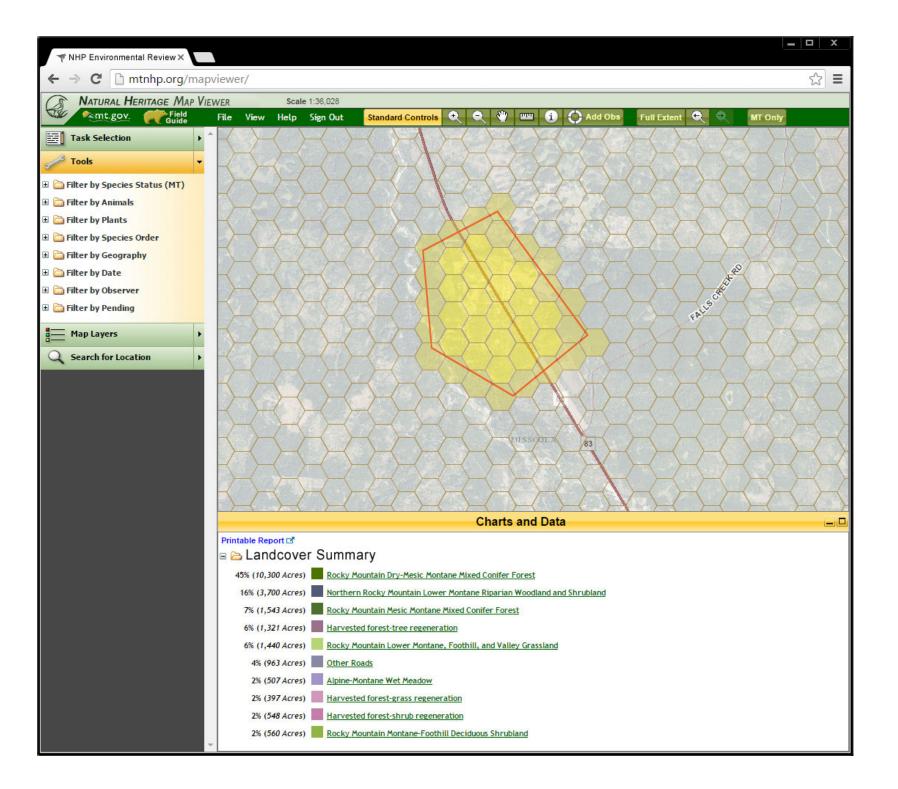
- National Wildlife Refuge
- Wildlife Management Area (10 mile buff)
- Fishing Access Site (10 mile buffer)

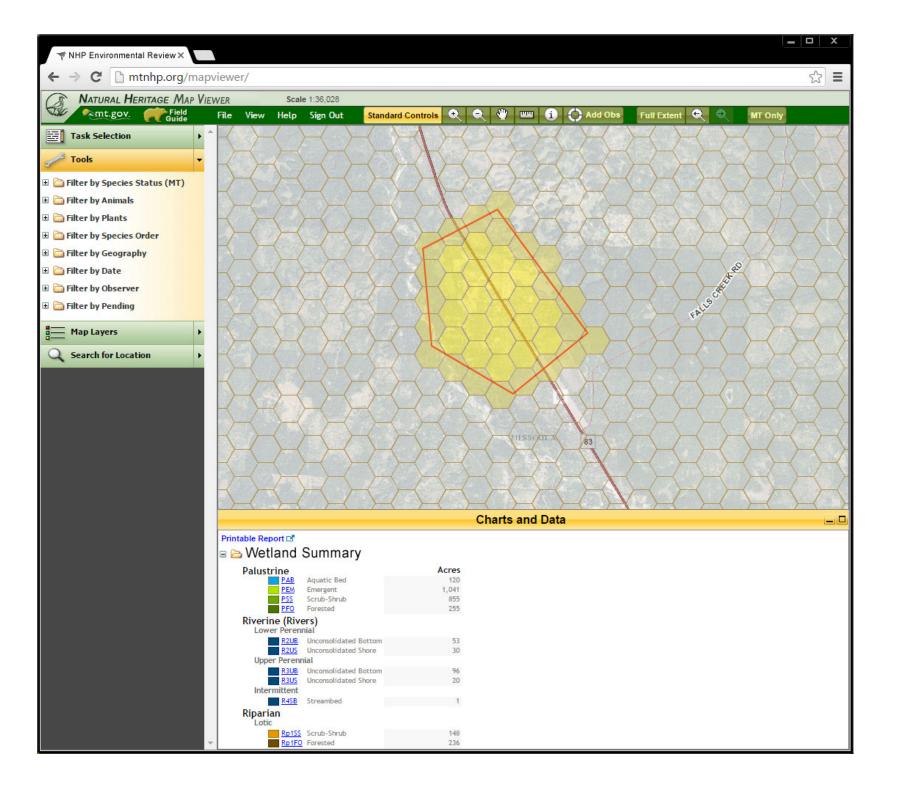
### **Future Field Guide Development**

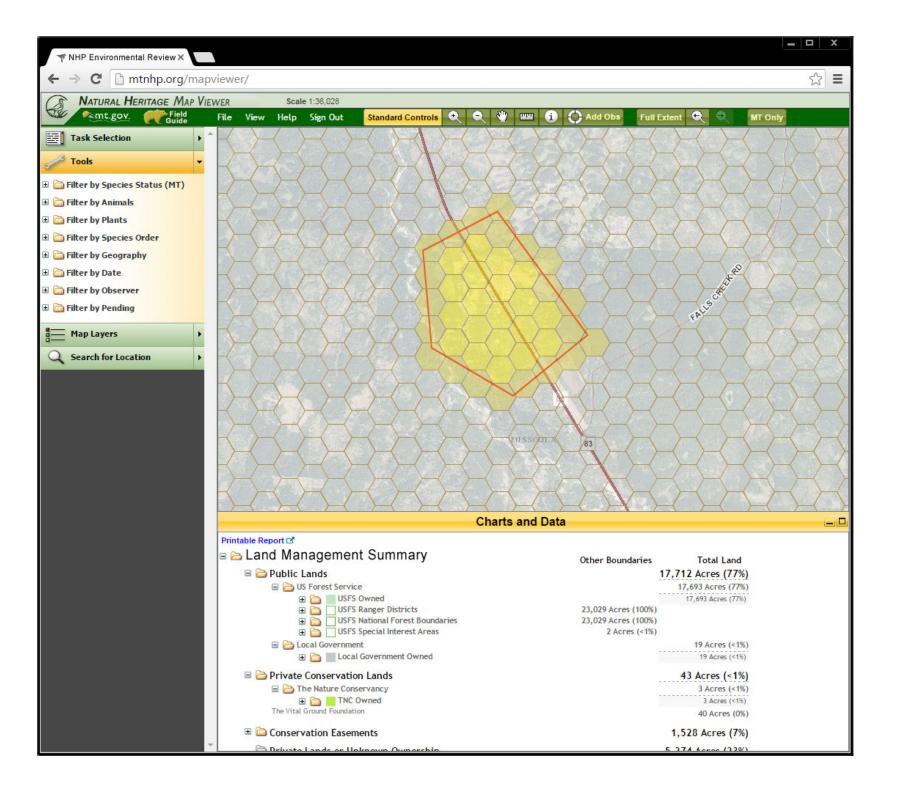
- Incorporate custom Field Guide generation
- Support species additions for unrepresented species and habitats
- Support further development of species accounts
- Support photo additions
- Further develop search options
  - Color
  - Body size
  - Basic morphology
  - Habitat
  - Photos

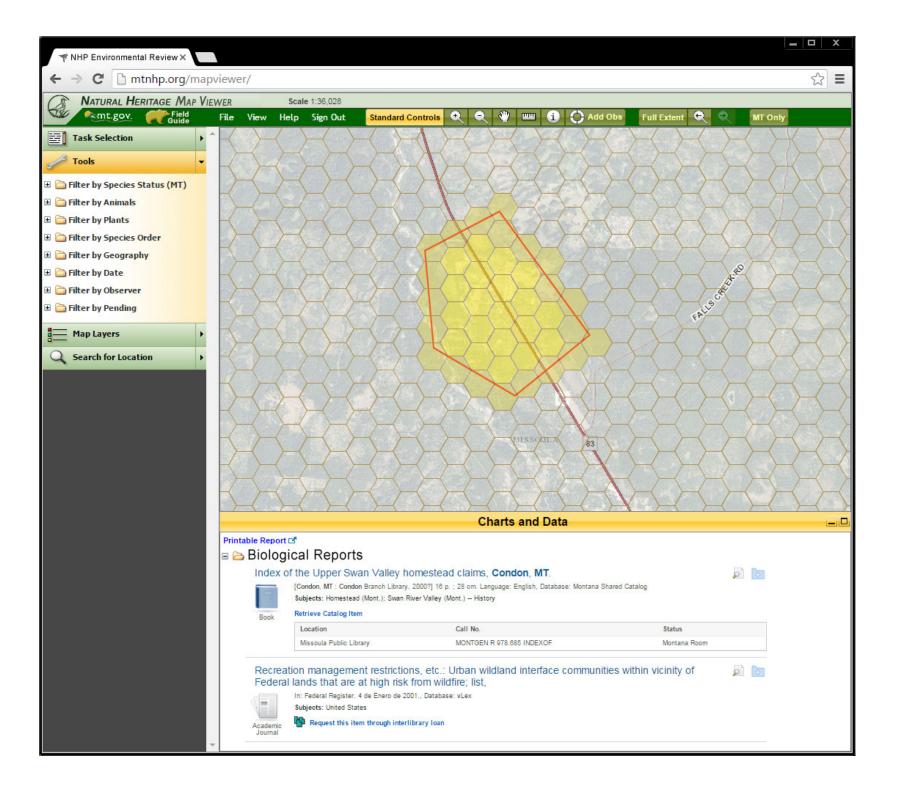


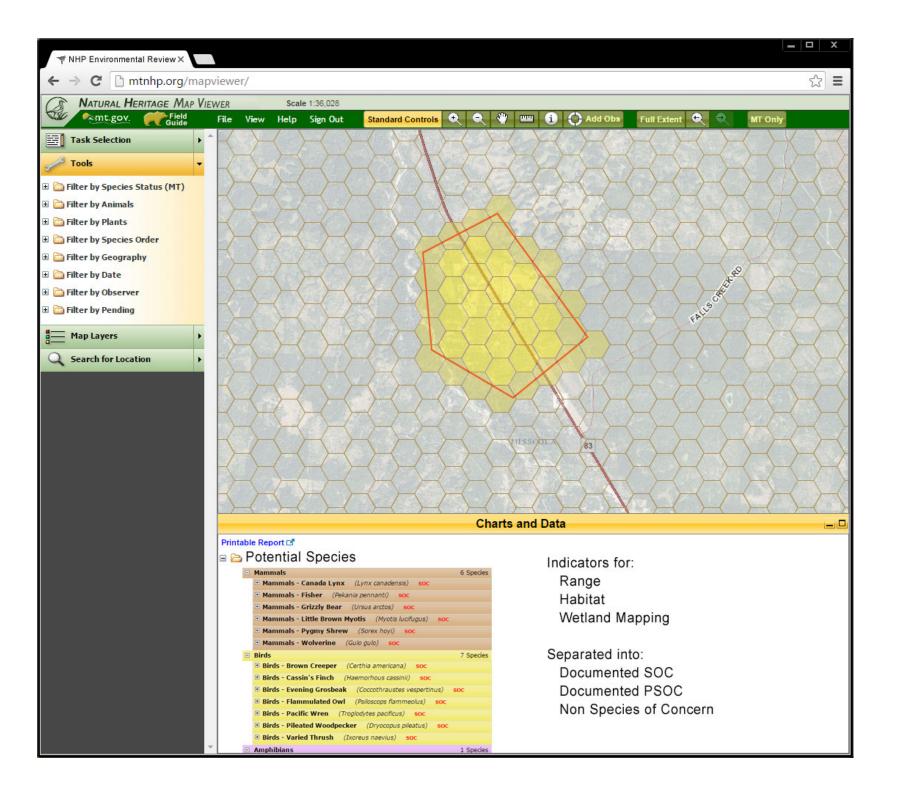


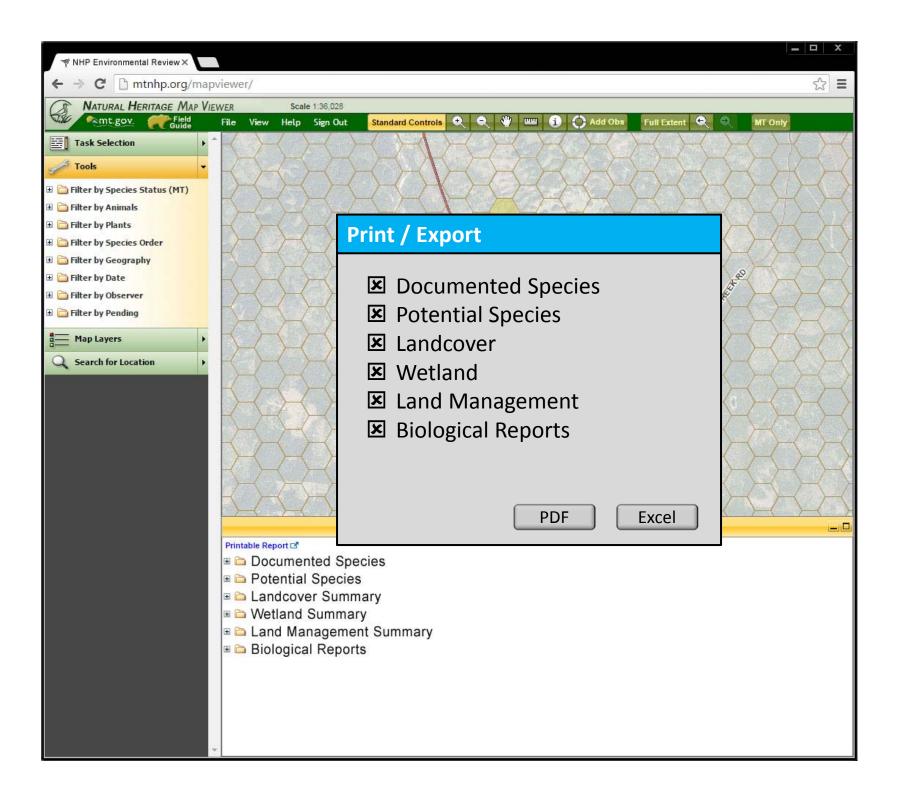












### **Other Focal Efforts**

- Complete migration to new server
- Format all MTNHP web pages for mobile access
- Automate filtering of observations to assist review (appropriate range, date, & habitat, not a duplicate record, and not a first record in a QLL)...focus manual review effort
- Additional data use tracking tools
- Tools for tracking requests of staff
- Increase outreach (webinars, trainings)
- Redesign Botany Database
  - Redesign Observations table
  - SO's built from 1 or more SOC/PSOC observations
  - Observations tracked for all species, not just SOC/PSOC
  - New Survey Locations table