



**NATIONAL
CONSERVATION
LANDS**

Upper Missouri River Breaks

National Monument

Montana/Dakotas

Annual Manager's Report – Fiscal Year 2019

U.S. Department of the Interior
Bureau of Land Management

Table of Contents

Upper Missouri River Breaks Fact Sheet	2
Unit Map	4
Upper Missouri River Breaks Overview	5
Programs and Accomplishments.....	11
Science	24
Resources, Objects, Values, and Stressors	27
Summary of Performance Measure	46
Manager's Letter	48



U.S. Department of the Interior
Bureau of Land Management

Upper Missouri River Breaks

National Monument

Designating Authority

Designating Authority: Presidential Proclamation #7398

Date of Designation: January 17, 2001

Additional Designations

Upper Missouri National Wild & Scenic River

Lewis & Clark National Historic Trail

Nez Perce (Nee-Me-Poo) National Historic Trail

Site Description

The Upper Missouri River Breaks National Monument (Monument/UMRBNM) contains a spectacular array of biological, geological, and historical objects of interest. Located in central Montana between Fort Benton, the nation's inmost port, east to the Charles M. Russell National Wildlife Refuge, the Monument spans 149 miles of the Upper Missouri River, over 377,000 acres of the adjacent Breaks country, and portions of Arrow Creek, Cow Creek, and the Judith River. The landscape has remained largely unchanged since Meriwether Lewis and William Clark traveled through it on their epic journey with the Corps of Discovery over 200 years ago.

Monument Offerings

Upper Missouri National Wild & Scenic River (149 river miles, 135,350 acres)

Lewis & Clark National Historic Trail (149 miles)

Nez Perce (Nee-Me-Poo) National Historic Trail (15 miles)

Cow Creek Wilderness Study Area (34,050 acres)

Antelope Creek Wilderness Study Area (12,350 acres)

Woodhawk Wilderness Study Area (8,100 acres)

Ervin Ridge Wilderness Study Area (10,200 acres)

Stafford Wilderness Study Area (4,800 acres)

Dog Creek South Wilderness Study Area (5,150 acres)

Missouri Breaks Back Country Byway (27 miles)

Judith Landing Historic District

Nelson Homestead Historic District

Francis Hagadone Homestead Historic District

Gist Bottom/Ervin Homestead Historic District

Richard E. Wood Watchable Wildlife Area
Wood River Ranch Sikes Act Management Area
James Kipp Campground and boat launch
Coal Banks Campground and boat launch
Judith Landing Campground and boat launch
Missouri Breaks Interpretive Center, Fort Benton

Year Accomplishments

We responded to the ice damage and flooding, restoring services at all of our campgrounds and recreation sites along the eighty miles of impacted wild and scenic river. We initiated planning for major engineering projects, including two primary stream crossings, along with new warehouse construction. We also signed the Bears Paw to Missouri Breaks Environmental Assessment, renewing ten-year permits on 103 grazing allotments for the north half of the Monument and the Havre Field Office. The Monument itself has 119 allotments and about 38,000 AUMs.

Future Priorities and Opportunities

By 2020 we intend to complete construction of a warehouse within the Fort Benton National Historic Landmark, replacing a house that previously had served as a contact station and storage building. Our contract to update the interpretive space within the Interpretive Center is slated for completion in 2020; this is our first major upgrade to our exhibit hall in over a decade. Filling our four vacant positions is also a priority in FY2020. Maintaining roads and improving access will be emphasized over the next three years. We also are working to complete large planning efforts geared at rangeland allotment management, and staff and potential partners will be developing protocols for more systematic wilderness study area monitoring. We look forward to completing a ten-year review of our resource management plan, examining what changes have occurred since we signed the record of decision, and holding ourselves accountable for how we said we would be managing this landscape.

Upper Missouri River Breaks

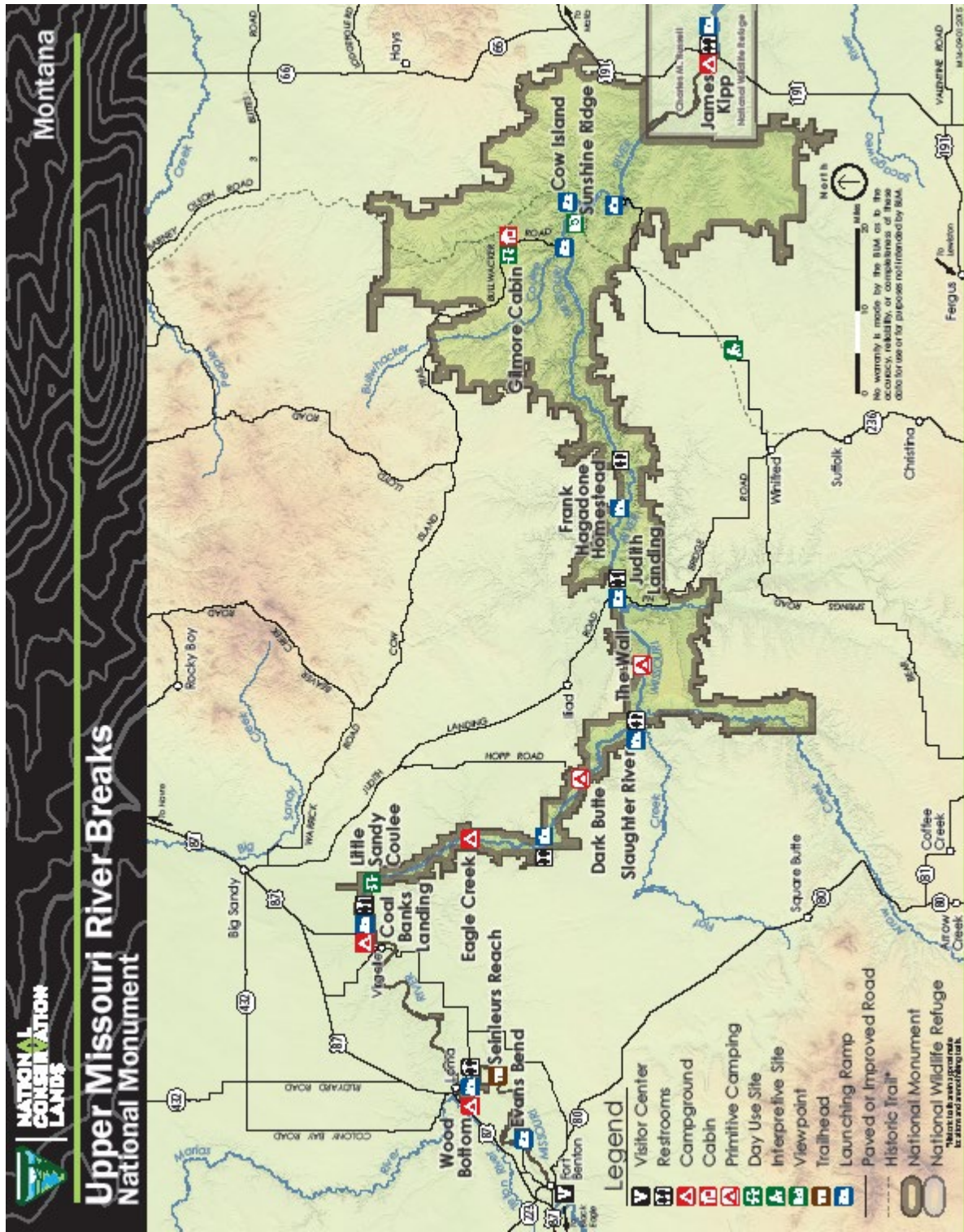
National Monument

920 NE Main Street
Lewistown, MT 59457
Phone: 406-538-1900

Unit Manager: Zane Fulbright

Site Web Address: <https://www.blm.gov/programs/national-conservation-lands/montana-dakotas/upper-missouri-river-breaks>

Map of Upper Missouri River Breaks National Monument



1 Upper Missouri River Breaks Overview

Acreage

Total Acres in Unit	377,346
BLM Acres	377,346
Other Federal Acres	0
State Acres*	39,000
Private Acres*	80,000

*State and Private Acres are not part of the total unit acres

Budget

Budget Title	Code	Funding
Rangeland Management	1020	207,500
Cultural Resources Management	1050	60,000
Aquatic Habitat Management	1160	38,000
Wildlife Habitat Management	1170	16,000
Wilderness Management	1210	17,000
Recreation & Visitor Services	1220	175,620
Abandoned Mine Lands & Hazardous Materials Management	1644	1,000
Deferred Maintenance & Capital Improvements	1653	485,000
Monuments & Conservation Areas	1711	229,000
Administrative Support	1820	1,590
Total Budget		\$1,230,710

The budget spreadsheet captures dollars allocated to complete projects, operate and maintain the Interpretive Center, fund seasonal staff, and award contracts. The allocation does reflect deferred maintenance projects, including two major transportation design projects as well as design and build funding for the Monument warehouse and Interpretive Center exhibit upgrades. The spreadsheet does not capture the work month spread for the Monument staff.

The following table displays the work months allocated to the Monument staff identified on the Table of Organization. There are several factors not addressed in the table including:

- Staff supporting Monument programs who work for a different field office
- Positions that remain vacant

- Seasonal labor providing support during staffing shortages

Budget Title	Code	Work Months
Rangeland Management	1020	1
Riparian Management	1040	4
Cultural Resources Management	1050	1
Soil, Water, Air Management	1160	8
Wildlife Management	1170	3
Wilderness Management	1210	1
Recreation & Visitor Services	1220	23
Recreation Enhancement Fee Program	1232	2
Oil & Gas Management	1310	1
Resource Management Planning	1610	2
MLR Annual & Operational Maintenance	1660	1
Monuments & Conservation Areas*	1711	43
Total Work Months		90

*Staff in the North Central Montana District, outside of the Monument, were funded with 39 1711 Work Months in FY19.

Current Areas of Focus

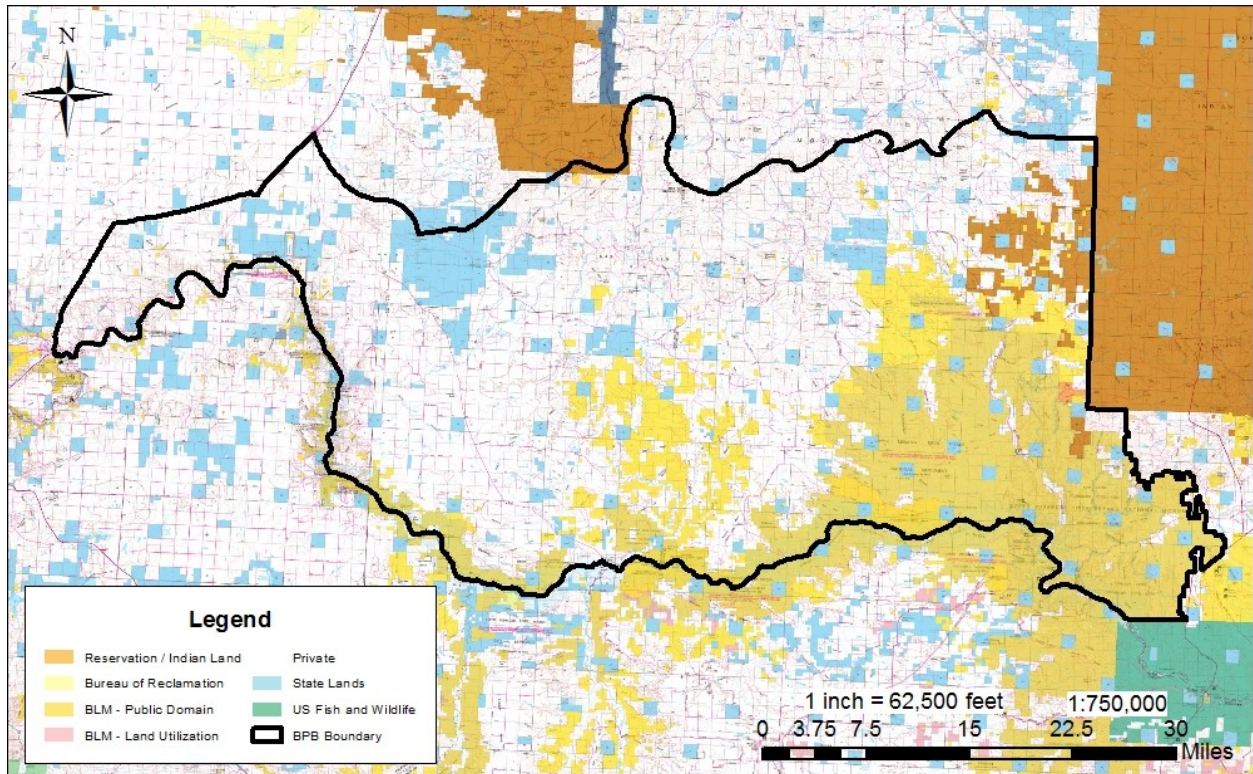
This past year the Monument's agreements with the River & Plains Society and the Friends of the Missouri Breaks Monument expired. While we still have existing MOU's with both non-government organizations (NGO's), the inability to partner with the organizations fiscally limited some of the work we have done in the past. We received funding in FY19 to fund new agreements and resume work on past year projects (riparian habitat restoration, visitor services at the Interpretive Center, recreation site maintenance). We did not draft new agreements; however, we did receive funding again in FY2020 to finalize those efforts.

Planning and NEPA

The Upper Missouri River Breaks National Monument Record of Decision and Approved Resource Management Plan (RMP) was signed in December 2008. In 2013, we completed an evaluation of the RMP. The ten-year evaluation of the plan is scheduled to be completed in FY2020.

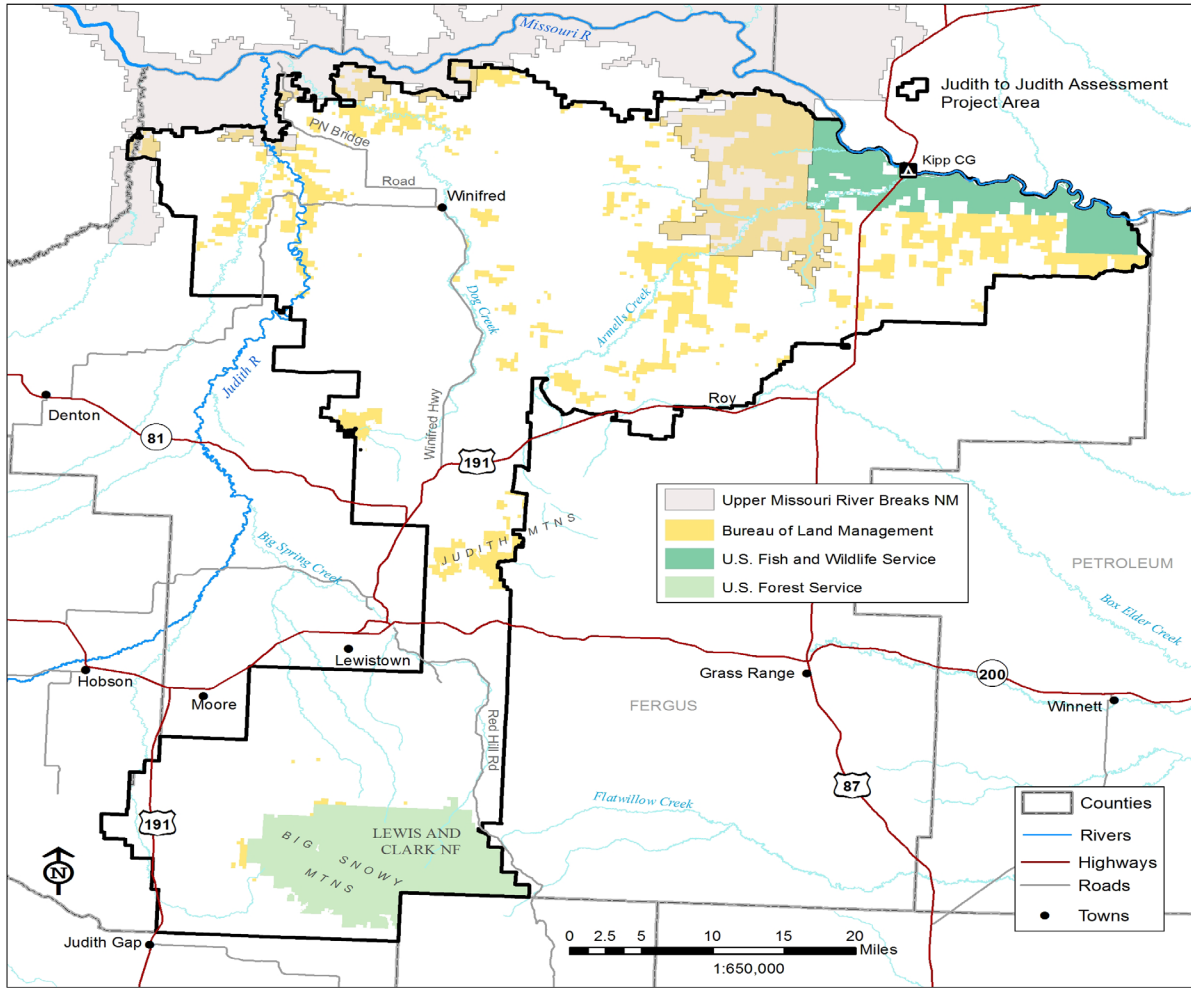
The BLM North Central Montana District is renewing grazing permits and leases for 103 grazing allotments in the Bears Paw to Missouri River Breaks planning area. This planning area contains 103,741 acres of public land mainly located in the southern portion of Phillips, Blaine and Chouteau counties and administered by the Upper Missouri River Breaks National Monument and Havre Field Office. The BLM completed an Environmental Assessment as part of the renewal which focused on ensuring

Standards of Rangeland Health are being met. The Environmental Assessment was based on a comprehensive summary of resource conditions on public land within the planning area that was finalized in the spring of 2017. We signed this decision in FY2019 and received no protests or appeals.



Bears Paw to Missouri Breaks Planning Area

The District has also been working on the Judith to Judith Planning Area (J2J) Evaluation Report that involves 117 grazing authorizations covering 111 grazing allotments. Eighty-five allotments are within the Lewistown Field Office (LFO) and 24 are within the Monument. The total planning area covers 1,252,251 acres; the BLM portion covers 167,381 acres, or 13.4% of the planning area. The J2J planning area is bordered by Arrow Creek on the west, the eastern Fergus county boundary on the east, the Big Snowy Mountains to the south, and the Missouri River to the north. The Judith to Judith Evaluation Report (ER) summarizing the results of the assessments is due January 2020. The ER document will report the land health of the public lands administered by the Bureau of Land Management in the Judith Mountains to Judith River Planning Area (J2J). This is the first in a series of documents: the Evaluation Report (ER), the Authorized Officer's Determination of Standards, and the appropriate National Environmental Policy Act (NEPA) document(s) and subsequent Decision(s).



Judith to Judith Planning Area

Staffing

The Upper Missouri River Breaks National Monument has a dedicated staff, as well as staff with shared responsibilities between the Monument and the Havre Field Office (HFO) and the Lewistown Field Office (LFO). Staff is based in Havre, Lewistown, and Fort Benton. The hydrologist is in Lewistown and as of October 1, 2019, is supervised by the Monument Manager. Engineering support comes from Engineers located in the HFO and LFO. The Archeologist located in the HFO and Realty Specialist in the LFO provide support to the Monument. North Central Montana District (NCMD) Support Services staff provide administrative support. NCMD Fire crews located in Zortman and Lewistown provide fire suppression and fuels support.

In addition to the permanent staff, the invasive species program generally hires three seasonal employees, the Recreation program generally hires six seasonal employees, and the range program hires two seasonals that are shared with HFO and LFO. Seasonal volunteer campground hosts staff Coal Banks, Judith Landing, and Kipp Recreation Area.

The following table shows the positions with responsibility in the Monument. Those highlighted in light orange are those positions currently vacant. The wildlife biologist retired at the end of 2018, the Park Ranger took a new position at the end of 2018, and the Rangeland Management Specialist has been in a long-term detail since 2017. The other four positions were vacant through FY2018. Those positions with shared responsibility in the Havre Field Office (HFO), the Lewistown Field Office (LFO), and the North Central Montana District (NCMD) are identified.

The Manager position, vacant in FY18, was filled effective March 17, 2019. The Wildlife Biologist position has been vacant all calendar year 2019. It will be filled in February 2020. The Outdoor Recreation Planner position was on staff through FY19, but the position became vacant in December 2019.

Position Title	Area of Responsibility	% working in the Monument	Table of Organization
Monument Manager GS-0340-12	UMRBNM	100	Monument
Law Enforcement Ranger GS-1801-11	UMRBNM	100	Monument
Hydrologist GS-1315-11	UMRBNM/LFO	50	Monument
Natural Resource Specialist (Weeds) GS-0401-11	UMRBNM/HFO	75	Monument
Wildlife Biologist GS-0486-11 (Vacant)*	UMRBNM	100	Monument
Rangeland Management Specialist GS-0454-11 (Vacant)	UMRBNM/HFO	75	Havre
Rangeland Management Specialist GS-0454-11	UMRBNM/LFO	75	Lewistown
Range Technician GS-0455-7 (CS) (Vacant)	UMRBNM	100	Monument
Outdoor Recreation Planner GS-0023-11 (Vacant as of 12/2019)	UMRBNM	100	Monument
Park Ranger GS-0025-9	UMRBNM	100	Monument
Park Ranger (Interpretation) GS-0025-9	UMRBNM	100	Monument
Information Receptionist GS-0304-4 (CS) (Vacant)	UMRBNM	100	Monument
Maintenance Worker WG-4749-8 (CS) (Vacant)	UMRBNM	100	Monument
Administrative Support Assistant	NCMD	10	District
Financial Technician	NCMD	20	District
Planning & Environmental Specialist	NCMD	10	Lewistown
Archeologist	NCMD	20	Havre
Realty Specialist	UMRBNM/LFO	50	Lewistown
Natural Resource Specialist (Oil/Gas Realty)	NCMD	20	Havre
Legal Instruments Examiner	UMRBNM/LFO	20	Lewistown
Safety & Occupational Specialist	NCMD	10	District
Civil Engineer	UMRBNM/HFO	50	Havre
Civil Engineer	UMRBNM/LFO	50	Lewistown

2 Programs and Accomplishments

General Accomplishments

The Monument experienced another year of transition in 2019. Staff turnover affected the overall productivity, and we continued to experience changing relationships with our partners. Acting managers maintained relationships with local governments, private landowners, and NGOs, and staff continued their inventory and monitoring work.

Visitation within the Monument remained consistent with past years, while educational programming with public schools declined with the lack of permanent staff. The Interpretive Center closed during the winter due to the loss of our Interpretive Center Director and administrative staff. While that was unfortunate, our season of operation did coincide with the other museums and points of interest in Fort Benton.

The recreation staff monitored Wilderness Study Areas, the Lewis and Clark National Historical Trail, the Nez Perce National Historical Trail, and the Missouri Breaks Back Country Byway. They also renewed and issued 26 Special Recreation Permits; those permits allowed outfitters to get approximately 700 visitors out on the Upper Missouri National Wild and Scenic River.

We completed proactive cultural resource inventories within the Upper Missouri National Wild and Scenic River, and Lewis & Clark National Historic Trail corridors, resulting in the documentation of previously unrecorded historic and prehistoric sites.

We continue to enhance wildlife habitat in partnership with Montana Fish, Wildlife, & Parks (MT FWP) at Wood Bottom using the Sikes Act authority. Bald eagle numbers and nesting sites in the Monument continue to rise.

Grazing management continues with the ongoing work on major planning efforts; Bears Paw to Breaks on the north side of the river and Judith to Judith on the south side. The environmental assessment was completed in 2019 for Bear Paw to Breaks. Decisions for the Judith to Judith Planning Area are expected to be completed in 2020.

North Central Montana District fire staff responded to wildfires in the Monument; most fires in the district occurred in the Monument in 2019.

Monument staff completed the year with no accidents or injuries.

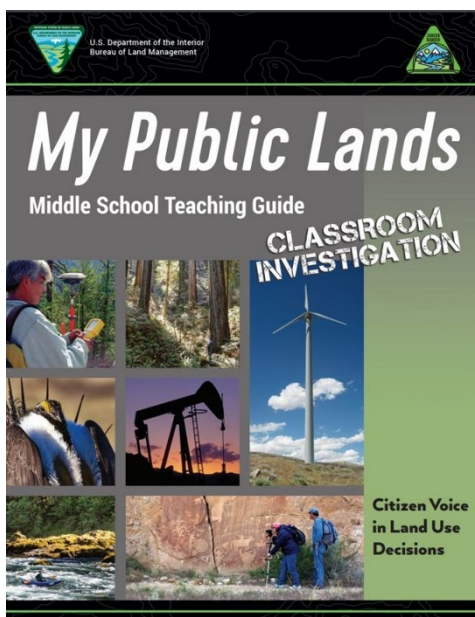
General Accomplishments Table

	Number of Visitors	Education Participants	Interpretive Center Visits	Interpretive Center Programs	Volunteers	Hours of Volunteers	Acres Inventoried for Cultural Resources	Oil & Gas Leases	Producing Gas Wells
TOTALS	5,000	1,500	3,222	800	50	1,800	10,794	43	2

Education, Outreach, and Interpretation

The Upper Missouri River Breaks Interpretive Center had approximately 3,222 visitors, offered over 800 education and interpretive programs throughout the 2019 season, with more than 1500 participants.

In April, Monument staff participated in the Lewistown Junior High School Vocation Day. Using the Classroom Investigation Middle School Teaching Guide, we introduced science students to the BLM's land use decision process. Watching students get passionate about resources, even in a fictional scenario, energized our staff.



Fish and Wildlife

Key upland habitats were inventoried for Standards of Rangeland Health, for riparian health, greater sage grouse habitat, BLM Designated Sensitive Species, and big game. Monitoring efforts continued for sage grouse habitat and big game winter range. Spring improvements and wildlife escape ramps for livestock watering tanks were maintained and improved where needed.

Most known wildlife populations continue to be stable or expanding, with a few exceptions noted below. Many less glamorous and lesser known species have not been inventoried, but presence continues to be based on regular or occasional observations, and presence of available habitat within established range of the species within the state.

Overall acreage of prairie dog towns has stabilized within the Monument due to above average precipitation years. Areas decimated by plague are re-establishing and new towns have been discovered.

Bald eagle populations nesting along the Upper Missouri River continue to increase annually. Only three nests were active in 2004, while 22 nests in 16 territories have now been documented, with most of those territories successfully fledging birds.

Inventories for unknown lek sites continue, with additional areas to be surveyed in spring 2020. Overall sage grouse trends have been down over the long term, but we have seen increases in the last 3 to 5 years in areas north of the Missouri River in the Monument and adjacent public lands. Monitoring of leks to establish annual population indices and inventories for unknown lek sites continue.

Wood River Ranch Sikes Act Management Area, a cooperative management agreement with MT FWP, continues with a new project action plan from Montana Fish, Wildlife & Parks. This will allow greater funding and renewed efforts toward returning farmed fields to native vegetation. This area is very popular with many public users, including hunters and fishermen.

Impacts to important wildlife habitat along the Upper Missouri River occur in areas with recreational development and use. Efforts continue to reduce these impacts through timing, design and/or relocation of recreational sites. Close coordination between Recreation, Wildlife and Range staff has allowed for a decrease in recreational conflicts with wildlife and livestock across the UMRBNM.

FWP elk surveys from the last three years show many units over objective, including Hunting Districts 417, 410, 426 680/690 and 621. FWP objectives reflect social tolerance to elk at the time the objectives were set in the Montana Statewide Elk Management Plan (2004) and is not indicative of whether BLM Land Health Objectives will be met during riparian or upland monitoring. Continued long-term vegetation monitoring will determine trends, whether land health objectives are not being achieved, and causal factors.

Grazing

The Rangeland Management Specialists on both the North and South side of the Missouri River continue to administer grazing permits while providing sound specialist review during discretionary and non-discretionary actions. The Lewistown Field Office is continuing to work on the Judith to Judith Planning Unit Evaluation Report and permit renewal process. Out of the 111 allotments that were evaluated between 2013 through 2019, 24 allotments fall within the Upper Missouri River Breaks National Monument.

Rangeland Management Specialists continue to coordinate with permittees that have agreed upon grazing systems or allotment management plans within the Monument to ensure resource conditions are meeting standards or making significant progress towards meeting standards. Rangeland Management Specialists and seasonal staff continue to reread and establish new upland trend monitoring. In 2019 upland trend monitoring was conducted on four allotments encompassing over 13,530 acres on the south side of the river.

In 2018 staff finalized the Bears Paw to Breaks (BPB) Environmental Assessment analyzing the renewal of 10-year term permits and leases on 103 grazing allotments within the Monument and Havre Field Office. Totaling 103,741 acres of public land and 29,507 animal unit months (AUMs) of public forage, the BPB planning area lies north of the Missouri River, encompassing large portions of the Monument in the Bullwhacker Creek, Cow Creek, and Antelope Creek drainages. Decisions tied to this analysis were signed this year; we received no protests or appeals.

A complete list of the grazing allotments within the Monument can be found in the UMRBNM Record of Decision and Approved Resource Management Plan, Appendix F (December 2008).

Oil and Gas

The 43 oil and gas leases on 42,805 acres in the Monument are considered to have valid existing rights based upon the Proclamation. The Proclamation, however, does not allow new oil and gas leases. The following table shows oil and gas production in the Monument since its creation.

Annual Production of Oil and Gas in the UMRBNM

Year	Oil	Gas (mcf)	Injection	Wells	Cumulative Gas
2001	0	82,743	0	4	82,743
2002	0	77,835	0	3	160,578
2003	0	94,917	0	4	255,495
2004	0	194,472	0	5	449,967
2005	0	134,344	0	4	584,311
2006	0	98,909	0	4	683,220
2007	0	97,941	0	4	781,161
2008	0	94,489	0	4	875,650
2009	0	81,465	0	5	957,115
2010	0	94,304	0	6	1,051,419
2011	0	90,702	0	6	1,142,121
2012	0	77,008	0	6	1,219,129
2013	0	64,380	0	6	1,283,509
2014	0	45,277	0	5	1,328,786
2015	0	21,873	0	5	1,350,659
2016	0	22,696	0	3	1,373,355
2017	0	19,131	0	3	1,392,486
2018	0	23,880	0	3	1,416,366
2019	0	13,646	0	2	1,430,012

Partnerships

In 2018 we had agreements expire with three partners: Montana Conservations Corps, the River & Plains Society, and the Friends of the Missouri Breaks Monument. A statewide effort to craft a new youth agreement resulted in a new 3-year agreement with the Montana Conservation Corps for the Monument.

Each year, Montana Conservation Corps (MCC) engages youth and veterans ages 16-30 from local communities across Montana and the Dakotas, and from across the

country to assist the BLM in completing projects that help protect and promote multiple-use conservation on public lands. In 2019, a MCC crew spent a week focused on assisting the Monument staff with several different fencing projects that included removing and improving fence as well as picking up trash and debris. The youth crew succeeded in improving around a mile of fence. One Big Sky intern arrived to assist in the Interpretive Center during the 2019 season. We will fill that position again in 2020.

The River & Plains Society has been associated with the BLM since the establishment of the Upper Missouri River Breaks National Wild & Scenic River and lobbied for the creation of the Upper Missouri River Breaks National Monument and associated interpretive center in Fort Benton. While our agreement with the River & Plains Society expired, we continue to maintain a Memorandum of Understanding (MOU) with them that allows us to display their artifacts in the Missouri Breaks Interpretive Center. The Chief Joseph Surrender Rifle is only one of the many artifacts that they graciously allow the BLM to showcase.

In 2005, the BLM, the City of Fort Benton, and the River & Plains Society established an MOU to highlight the partnership that existed in support of the new Monument. In 2019 we updated that MOU to reflect the changing needs of the partners, including maintenance, staffing, and interpretation at the Missouri Breaks Interpretive Center.



Montana Conservation Corps Work Crew

The Friends of the Missouri Breaks Monument increased their involvement with the Monument in 2018 and continued being active partners in 2019. Because of the lapse in the agreement, their planning efforts for 2019 languished. They are however able to continue their operations with us due to the existing MOU that was renewed January 2017. As a result, they led efforts to inventory cottonwood mortality and survival rates, conducted weekly river patrols to water recently planted cottonwoods, and also assisted the recreation staff by maintaining campgrounds on their river patrols.

In 2015 the BLM and FWP entered into a Sikes Act Habitat Management Agreement for the Wood River Ranch Sikes Act Management Area. This ten-year agreement continues the twenty-year partnership between the agencies that has allowed for limited cultivation within the Monument with the intent of restoring wildlife habitat. In 2019 the BLM and FWP drafted an updated Wood Bottom Habitat Enhancement Management Plan, with proposed cultivation areas, native vegetation restoration plots, areas proposed for seeding, and areas to be chemically treated. The project area contains approximately 1,667 acres; currently about 400 acres are in cultivation, with a goal of reducing that to 200 acres by 2025.

The BLM and Fergus County maintain an agreement on road maintenance, allowing the BLM to maintain some county roads within the Monument while county road crews maintain certain BLM roads. This agreement provides for efficiency, in that road maintenance crews can focus on roads clustered in geographic areas rather than needing to maintain roads scattered across the county.

Recreation and Visitor Services

Annual visitation to the Monument was recorded as approximately 5,000 visitors. Of this number, approximately 1/3 were Montana residents with the remainder being from out of the state or foreign countries. Outfitters and guides were found to facilitate approximately 15% of the Missouri River use. Many of the boaters this season were navigating canoes, kayaks, and other non-motorized vessels.

Upper Missouri River Breaks Interpretive Center had approximately 3,222 visitors, delivered over 800 education and interpretive programs throughout the 2019 season, with more than 1,500 participants. This year's reporting captures the number of parties that arrived and received more directed attention with video programming, as well as interpretation and talks directed specifically to their group.

Volunteers

The UMRBNM had over 50 volunteers this season, putting in approximately 1,800 hours of volunteer service. Included in those volunteer numbers was the work of our campground hosts, who assist in overseeing our two busiest campgrounds and boat launching recreation sites.

Volunteers associated with the Friends of the Missouri River Breaks also assisted in conducting educational programming at the Interpretive Center, as well as coordinating on cottonwood planting events, cleaning and maintaining river facilities, monitoring cottonwood planting sites, and mapping noxious weed infestations.

For twelve weeks, a team of two Friends group interns floated the river to Little Sandy Campground, Terry Ranch Undaunted Stewardship Site, and Bailey Hazelwood cottonwood planting sites. In total, 273 trees were watered. Additionally, the interns recorded the GPS units of each tree (alive and dead) to better track the survival rate of planting sites. The interns assisted in replacing two miles of fence at Little Sandy Campground and in the removal of 0.5 miles of fencing from Judith Landing Campground. A total of five signs were replaced: three signs on the highways to Wood Bottom and two at Wood Bottom Recreation Area.

One volunteer with the Montana Site Stewardship Program continues to monitor the National Register-Listed Gus Nelson Homestead Historic District.

Invasive Species

Seasonal crews provided the labor to accomplish herbicide treatments in and around 18 recreation sites and portions of the Woodhawk, Dog Creek and Stafford Wilderness Study Areas. In addition, approximately forty acres of Russian olive were treated with herbicide injection technology. Biological control agents were released for three species of invasive plants and previous releases were monitored for establishment and efficacy. Seasonal crews also conducted over two hundred acres of Early Detection and Rapid Response (EDRR) monitoring and removal for salt cedar, common tansy, and purple loosestrife. Most EDRR treatments were manual in nature.

Realty

The UMRBNM currently administers 155 active realty case files. This also includes 36 active/pending easements for conservation, recreation and/or access. Since all film permits are closed after completion, they are not reflected in the above totals. On average the UMRBNM processes 2-3 film permits on an annual basis.

Staff completed inventory and monitoring on four oil and gas pipeline right-of ways (over 23 miles), and three oil and gas road right-of ways (over six miles).

Riparian

Due to snow levels and high flows, the BLM and the Friends of the Missouri Breaks Monument (Friends) were unable to host their annual spring joint cottonwood planting event. Instead, the focus for the Friends and BLM partnership shifted towards data gathering and site maintenance. The future of the young cottonwood trees is determined by their ability to develop strong root systems that reach the permanent water table. The first two years of their lives are the critical time for this. To improve the odds, interns from the Friends of the Monument make weekly watering trips throughout the summer to the planting sites. Some mortality has occurred, and the Friends took time this summer to pull old protective fencing and posts from around the dead trees. They also collected survival, growth, and GPS data on each tree so that we can better understand and track success into the future.

In addition to the cottonwood restoration project, Monument staff continued to monitor riparian habitat along the Missouri River using long-term photo points and vegetation condition summarizations. Crews maintained the Woodhawk riparian exclosure and inventoried several other riparian exclosures following the spring ice jam damage.

Engineer/Facility Management

In 2019 we began design work for a new warehouse, replacing a 100-year old house that had been serving as a storage building for river gear as well as office and interpretive/exhibit supplies. Because this lot is situated in the heart of the Fort Benton National Historic Landmark, coordination efforts with the City of Fort Benton and the Montana SHPO have ensured that the new building will be a compatible design and will fit in with the 1880's architectural styles of the town. Construction is anticipated to begin in 2020.



Fort Benton Warehouse Rendering

To address maintenance and safety issues with the Kipp Campground water system, an upgrade was completed, replacing the water system infrastructure including all the waterlines, and updated the chlorination system. All of this was done without interrupting visitor access to the campground and boat launch facilities. The ice damage and flooding of the Missouri River inundated the Kipp Campground, along with other campsites along the river. As a result, engineering and force account crews spent the majority of 2019 repairing the new Kipp water system, the electrical system, and the roads and parking pads. They also removed collapsed concrete tables and fire rings crushed by the ice.



Concrete picnic table and fire ring, Lower Woodhawk Campground

Law Enforcement

The Monument law enforcement ranger was proactive in developing community relations. He met with local ranchers and discussed issues that they were having with trespass hunters and off-road use. He instructed at a local sheriff office reserve program and participated in the community hunter education class. He also assisted in patrols in the Butte and Lewistown field offices, as well as detailing to “Alienstock at Area 51 in Nevada.”

The Monument law enforcement ranger developed short- and long-term ranger plans and operational guidelines and established program priorities and standards for the program. Approximately 75% of the workload was done in the field, consisting of patrol and visitor use contacts, hunting and outfitter guide compliance, agency assists, wildland fire, EMS and search & rescue response. With two other rangers he also patrolled during the busy paddlefish season that opened May 1, that happened to be right in the middle of the cleanup from the flooding.

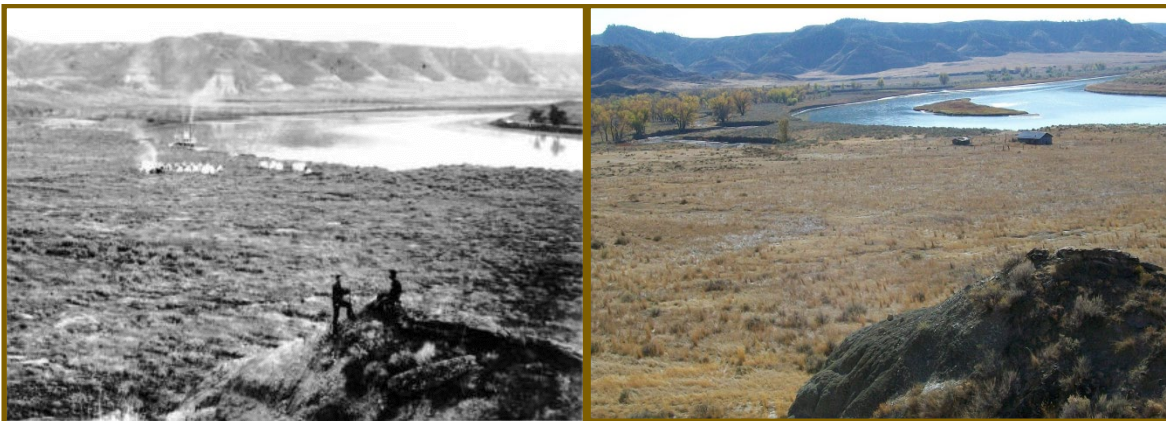
Cultural Resources

In 2019 we completed 10,794 acres of proactive Section 110 inventory. This proactive inventory includes 1,614 acres in the Stafford Ferry Area. This project, funded in FY18 but completed in FY19, focused on the Upper Missouri National Wild and Scenic River. We also completed 9,180 acres of inventory on the south side of the Missouri River, with an emphasis on the Lewis & Clark National Historic Trail corridor. The Army

Corps of Engineers assisted in funding this inventory. We anticipate receiving the final report from the contractor in 2020.

We undertook a comprehensive historic building assessment for the UMRBNM identifying needs for structures managed within the confines of the UMRBNM. All standing structures have been assessed and identified for stabilization efforts with multiple buildings receiving initial treatments in 2019. A five-year plan has been developed identifying buildings that will require extensive stabilization efforts as opposed to annual maintenance. Detailed 3D modeling and orthomosaic mapping have also been accomplished for three of these complex locations.

On September 21, 2018, as part of the Monument's effort to commemorate the 50th Anniversary of the National Trails System Act, we presented Montana's Historic Preservation Review Board the nomination of the Cow Island Landing Skirmish Site, one of the significant sites of the 1877 Nez Perce War included along the Nez Perce (Nee-Me-Poo) National Historic Trail. The nomination began as part of an American Battlefields grant awarded to an NGO in 2012; we resurrected the nomination with the assistance of the Montana SHPO. The Board unanimously supported the nomination, and in 2019 both sites (Cow Creek and Cow Island Skirmish Site) were listed in the National Register of Historic Places.



Cow Island Landing 1880. Photo by F.J. Haynes (from Montana Historical Society), and 2018 (BLM).

Fire and Fuels

Fire activity in the Monument was relatively light in 2019. Overall, there were 6 fires for a total of 19.4 acres on BLM-managed lands.

- **Big Horn Fire** – Lightning-caused on 5/31; 13.5 acres
- **Fargo Fire** – Lightning-caused on 6/27; 1.6 acres
- **59 Fire** – Lightning-caused on 7/13; 1.0 acres
- **Last Chance Fire** – Lightning-caused on 7/15; 280 total (2 acres BLM-managed lands, 278 acres private lands)
- **Two Calf Fire** – Lightning-caused on 8/2; 1.0 acre
- **Right Coulee Fire** – Lightning-caused on 7/7; 0.3 acre



Fuels Management: Antelope Creek Mechanical Project

- The purpose of the Antelope Creek Mechanical Project is to treat vegetation mechanically to protect Greater Sage-Grouse (GRSG) habitat and to reduce predation by raptor/corvid on GRSG.
- The Determination of NEPA Adequacy was approved on September 12, 2019.
- There are two signed cooperative agreements with bordering landowners. Actively working with DNRC to treat State of Montana lands within the project area.
- The east side of the unit (2,882 acres) will be accomplished using the fire crew. In 2019, approximately 900 acres were treated by the fire crew.
- Project layout for approximately 1,267 acres has been completed. These acres will be treated mechanically using a service contract, which will be completed in FY20.





3

Science

Science

As part of a statewide survey BLM is partnered with MT Natural Heritage Association, and Northwestern Energy in completing annual monitoring of woodland bird species along the Upper Missouri River, providing BLM with baseline data to manage this critical habitat type. The inventory will provide baseline information for future management decisions.

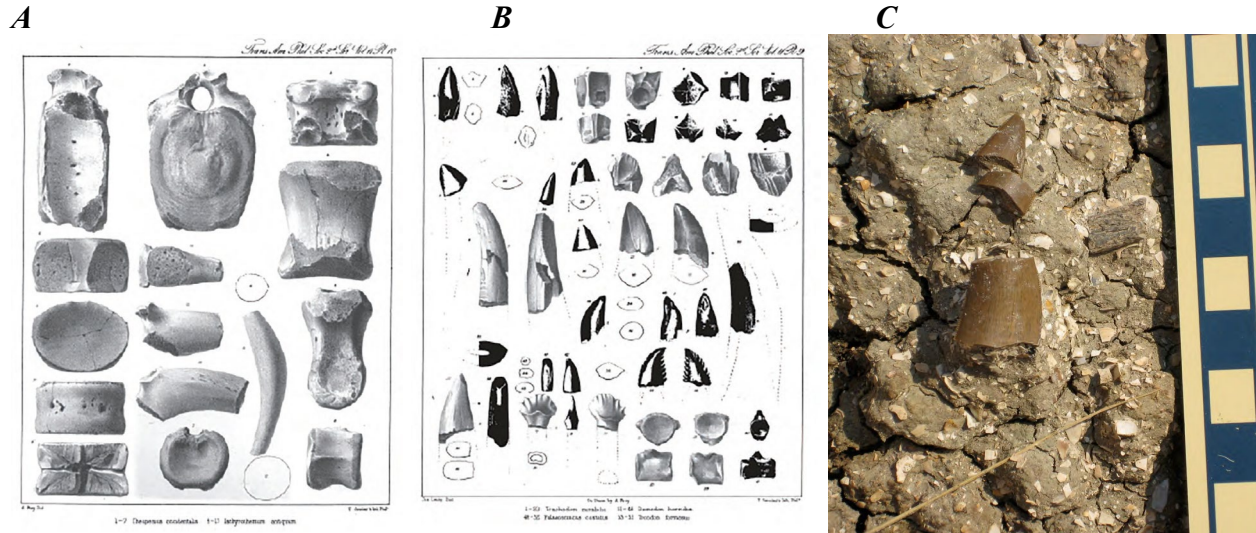
The MT FWP and U.S. Fish and Wildlife Service continue to survey endangered Pallid Sturgeon numbers, to document success of stocking efforts and recruitment of young fish into the population. There are 110 fish with radio telemetry tags and remote stations set up throughout the river at locations such as Fort Benton, Loma, and Judith Landing.

The MT FWP with funding by Northwestern Energy is expanding their study with radio telemetry, to determine importance of the Judith River to sauger and other designated sensitive species. There are remote stations set up throughout the upper Missouri River, and on the Teton and Marias Rivers.

Two monitoring sites were established for the U.S. Agriculture Research Service (ARS) to help evaluate long term establishment of biological control agents released to treat leafy spurge and to help determine environmental factors that may have affected population establishment and efficacy.

Montana State University collected samples from Russian olive plants along a portion of the river corridor to determine if populations of an advantageous mite species are present in Montana. This mite species is currently being evaluated as a biological control agent on Russian olive.

Macalester College (St. Paul, Minnesota) continues their 25 years of research studying paleontological localities. They continue to monitor invertebrate and microfossil sites along the lower stretch of the river near Woodhawk Bottom and serve as points of contact when Monument visitors report new discoveries. In 2019 primary researchers from Macalester, with their students from the Keck Geology Consortium Gateway Project, presented a poster titled "Taphonomic Comparison of Vertebrate Microfossil Bonebeds from the Judith River and Hell Creek Formations, Montana." Gateway Projects are geared toward exposing students from under-represented groups to the earth sciences. Most of the students had just completed their first year of college. Students learn how to collect geological and paleontological data, how to measure section and prospect in the UMRBNM badlands, and about potential careers in the earth sciences. With this goal in mind, they attended a brief workshop on public lands and the BLM with the Monument Manager. Eleven students participated in this project, with students coming from a variety of colleges, including Macalester College, Smith College, Amherst College, Union College, Pomona College, and Colorado College. Partial funding for this Gateway Project came from the National Science Foundation.



A, B) Plates from Leidy (1856) documenting the types of isolated elements and diversity typical of a vertebrate microfossil bonebed. Evidence suggests that the first dinosaur body fossils scientifically described from North America were sourced from a VMB in the Judith River Formation near the confluence of the Judith and Missouri Rivers. C) Shed tooth of a theropod dinosaur eroding from the shell-rich mudstone matrix of site UC-8303 (Judith River Formation).

Since 2004, the University of Montana with funding from the Bureau of Land Management (BLM) and Northwestern Energy, has conducted large-scale inventory and monitoring of migratory bird populations and riparian vegetation the 149 miles of the Missouri through the Upper Missouri River Breaks National Monument. Birds are an ideal tool for evaluating the outcomes of the land management actions, since their distribution and abundance are influenced by the quality, quantity, and condition of habitat; and riparian forests support higher bird diversity than any other habitat in the region. 2019 was the 6th year of data collection along this stretch of the river.

While the University of Montana crew was conducting avian surveys, they also completed assessments on naturally regenerating cottonwood groves. Building from work completed in 2015 and 2016 regarding the mapping and inventory of these cottonwood sites along the Missouri, the crew focused vegetation surveys on eleven key sites where they collected information on terrace elevations and specific density measurements.

University of Regina, Canada's Prairie Adaptation Research Collaborative, under the direction of Dr. David Sauchyn, has been coming down to eastern Montana for more than twenty years to collect increment cores from Douglas-fir and pine (Ponderosa, limber, lodgepole), and small samples from dead fallen trees. They use these samples of old wood for research on climate variability. In July 2019 they conducted field research in the Upper Missouri River Breaks and Bearspaw Mountains.

Research Scientist Dr. Frederic Beaulieu and Dr. Wayne Knee of the Mite Unit, Canadian National Collection of Insects, Arachnids and Nematodes, Agriculture and Agri-Food Canada, initiated research on the systematics and ecology of plant-associated mites, particularly spider mites (Tetranychidae), and soil predatory mites (Mesostigmata). Specifically, work in the Monument included collecting foliage samples from grasses, forbs, trees, and shrubs. These samples will then be used to generate baseline data on the biodiversity of plant-feeding mites, and to acquire mite specimens.

4

Resources, Objects, Values and Stressors

The Proclamation that established the Upper Missouri River Breaks National Monument did not explicitly define the objects of the Monument. The ROV's identified below were identified in the Resource Management Plan as "Natural Resources on BLM Land, Upper Missouri River Breaks National Monument."

Where possible acres have been identified; some of the resources, however, have not been mapped and therefore some tabular data is incomplete.

Wildlife

Prairie Dogs

Status of Prairie Dogs	Trend
Fair.	Stable, with periodic die-offs being offset by rapid recovery on good precipitation years.

Stressors Affecting Prairie Dogs

Status of prairie dog population within the monument fluctuate depending on precipitation/drought and exposure to Sylvatic plague.

Bald Eagles

Status of Bald Eagles	Trend
Good. New nests are found almost every year, with successful fledging of young.	Improving. Only three nests were active in 2004, while 22 nests in 16 territories have now been documented.

Stressors Affecting Bald Eagles

Most of the river recreation sites were established in stands of cottonwood. Cottonwoods are the only trees suitable for eagle nests on the Upper Missouri River.

Greater Sage-Grouse

Status of Greater Sage Grouse	Trend
Fair. Populations in the monument are below long-term average estimates of the population.	Declining. Inventories for unknown lek sites continue, with additional areas to be surveyed in spring 2020. Overall sage grouse trends have been down over the long term, but we have seen increases in the last 3 – 5 years in areas north of the Missouri River in the Monument and adjacent public lands.

Stressors Affecting Greater Sage Grouse

Factors unrelated to land management decisions in the monument including West Nile Virus, drought, extreme spring rain/snow, hail, and land use changes outside the Monument have affected breeding success, survival, and recruitment of sage grouse.

Migratory Birds

Impacts to migratory bird habitat along the Upper Missouri River are still occurring and increasing with recreational projects being planned for river-associated woodland habitat.

Migratory Birds Status and Trend Table

Status of Migratory Birds	Trend
Fair. Many migratory birds present and breeding before floating season, depart areas after sites are occupied by recreational floaters.	Unknown, as baseline data is not available, nor are resources available to establish currently.

Stressors Affecting Migratory Birds

Disturbance by recreationist to breeding and nesting birds within these woodland communities.

James Kipp Recreation Area

The James Kipp Recreation Area is a campground at the terminus of the 149-mile UMNWSR. The 210-acre site is surrounded by lands managed by the U.S. Fish and Wildlife Service, Charles M. Russell National Wildlife Refuge. Although the existing recreation area is located on Corps of Engineers land, the BLM has a long-term lease to manage the recreation area which includes a boat ramp and fish cleaning station, campsites, potable water, sewage dump station and vault toilets.

In March 2019, Kipp experienced extensive damage from an ice jam on the Missouri River. As a result we conducted extensive maintenance and repairs to the water and electrical systems, re-graveled the roads, pumped all eight of the vault toilets, bladed silt and mud from the roads, boat ramp, camping spurs, reset picnic tables and fire rings, and removed damaged trees.

James Kipp Recreation Area Status and Trend Table

Status of Resource, Object, or Value	Trend
Good. Maintenance of the campground has improved the visitor experience and safety.	Improving.

James Kipp Recreation Area Inventory, Assessment, Monitoring Table

Acres in Unit	Acres Inventoried	Acres Possessing Object	Acres Monitored in FY
210	210	210	210

Stressors Affecting James Kipp Recreation Area

Visitor use can stress the infrastructure. Spring flooding and ice jams did affect access, as well as infrastructure. Invasive plants are persisting due to disturbance from flooding and recreational use.



Floodwaters deposited a cottonwood tree the access road into the James Kipp Recreation Area.

Upper Missouri National Wild and Scenic River (UMNWSR)

Congress designated 149 miles of the Upper Missouri River as a component of the National Wild and Scenic River System in 1976 calling it an irreplaceable legacy of the historic American West. Congress further stated that the river, with its immediate environments, possesses outstanding scenic, recreational, geological, fish and wildlife, historic, cultural, and other similar values. BLM was directed to preserve the Upper Missouri River in a free-flowing condition and protect it for the benefit of present and future generations. Many of the items listed in this document are the same objects that were used to determine the significance and need for the Wild and Scenic designation.

UMNWSR Status and Trend Table

Status of Resource, Object, or Value	Trend
Good.	Stable.

UMNWSR Inventory, Assessment, Monitoring Table

Acres in Unit	Acres Inventoried	Acres Possessing Object	Acres Monitored in FY
135,350	135,350	135,350	149 miles; 100,000 (est'd)

Monitoring tends to focus on the river corridor, rather than those areas where the wild and scenic river boundary extends miles away from the river itself.

Stressors Affecting UMNWSR

The spread of invasive plants and the removal of native vegetation continues to stress the vegetative setting of the wild and scenic river. Mapping and monitoring, spraying, pulling, applying biological agents all serve to control this stressor. Ice damage from flooding affects manmade structures more than natural features, but still can damage vegetation along the river.

Cow Creek Area of Critical Environmental Concern

This area contains a High Potential Route Segment of the Nez Perce National Historic Trail, high scenic quality (VRM Class I and II), and important paleontological resources.

Cow Creek Area of Critical Environmental Concern Status and Trend Table

Status of Resource, Object, or Value	Trend
Good. Six miles of road have been closed since 2009. This area is a ROW avoidance area. One oil and gas lease (183 acres) is in the area.	Improving.

Cow Creek Area of Critical Environmental Concern Inventory, Assessment, Monitoring Table

Acres in Unit	Acres Inventoried	Acres Possessing Object	Acres Monitored in FY
14,270	14,270	14,270	14,270

Stressors Affecting Cow Creek Area of Critical Environmental Concern

Off road travel, particularly during hunting season, could create unauthorized routes, which in turn increases the potential for the spread of invasive plants.

Cow Creek Wilderness Study Area

This WSA covers 34,050 acres on the north side of the Missouri River and 21,590 acres have been recommended as suitable for wilderness designation. The size of the area, opportunities for solitude and primitive recreation, and the attractiveness of the setting combine to provide excellent wilderness quality. A diversity of recreational opportunities makes this area excellent for primitive recreational use, and a four-mile-long sheer wall of sandstone is an outstanding scenic feature.

Cow Creek Wilderness Study Area Status and Trend Table

Status of Resource, Object, or Value	Trend
Good.	Improving. Road density is decreasing throughout the WSA.

Cow Creek Wilderness Study Area Inventory, Assessment, Monitoring Table

Acres in Unit	Acres Inventoried	Acres Possessing Object	Acres Monitored in FY
34,050	34,050	34,050	34,050

Stressors Affecting Cow Creek Wilderness Study Area

Off road travel, particularly during hunting season, could create unauthorized routes, which in turn increases the potential for the spread of invasive plants.

Stafford Wilderness Study Area

This WSA covers 4,800 acres on the north side of the Missouri River. More than 90 percent of the WSA is within a rugged portion the UMNWSR corridor. This WSA contains isolated areas that offer outstanding opportunities for solitude but does not contain outstanding primitive recreation opportunities.

Stafford Wilderness Study Area Status and Trend Table

Status of Resource, Object, or Value	Trend
Good.	Improving. All previously existing road segments in the WSA have been identified as closed.

Stafford Wilderness Study Area Inventory, Assessment, Monitoring Table

Acres in Unit	Acres Inventoried	Acres Possessing Object	Acres Monitored in FY
4,800	4,800	4,800	4,800

Stressors Affecting Stafford Wilderness Study Area

Off road travel, particularly during hunting season, could create unauthorized routes, which in turn increases the potential for the spread of invasive plants.

Ervin Ridge Wilderness Study Area

The WSA covers 10,200 acres on the north side of the Missouri River, and 5,061 acres along the southern boundary of the WSA are within a wild segment of the UMNWSR corridor. The area is very scenic and rugged, combining steep slopes with narrow ridges.

Ervin Ridge Wilderness Study Area Status and Trend Table

Status of Resource, Object, or Value	Trend
Good. All identified roads that existed within the WSA at the time of designation have been closed.	Improving.

Ervin Ridge Wilderness Study Area Inventory, Assessment, Monitoring Table

Acres in Unit	Acres Inventoried	Acres Possessing Object	Acres Monitored in FY
10,200	10,200	10,200	10,200

Stressors Affecting Ervin Ridge Wilderness Study Area

Off road travel, particularly during hunting season, could create unauthorized routes, which in turn increases the potential for the spread of invasive plants. With the limited public access in this area, these stressors are having minimal impact.

Dog Creek South Wilderness Study Area

The WSA is on the south side of the Missouri River and contains 5,150 acres; 3,902 acres are within the UMNWSR corridor. The small size of this area, along with terrain that opens to major off-site influences just beyond its boundaries, limit the opportunities for outstanding solitude to isolated areas in the deeper drainages.

Dog Creek South Wilderness Study Area Status and Trend Table

Status of Resource, Object, or Value	Trend
Good. All of the roads within the wild and scenic river corridor have been closed.	Improving.

Dog Creek South Wilderness Study Area Inventory, Assessment, Monitoring Table

Acres in Unit	Acres Inventoried	Acres Possessing Object	Acres Monitored in FY
5,150	5,150	5,150	5,150

Stressors Affecting Dog Creek South Wilderness Study Area

Off road travel, particularly during hunting season (this area is known to be home to trophy bighorn sheep), could create unauthorized routes, which in turn increases the potential for the spread of invasive plants. The actual potential for unauthorized off-road travel is low given landownership patterns and adjacent private lands with restricted access.

Woodhawk Wilderness Study Area

This 8,100-acre WSA is on the south side of the Missouri River. About 3,500 acres of the WSA are within the UMNWSR corridor. None of the WSA was recommended as suitable for wilderness designation due to a combination of the unit's small size, a cherry-stemmed road running through the WSA, and several resource conflicts. It has a high potential for natural gas reserves. The WSA has colorful broken topography, and several prehistoric occupation sites are in the area. During the steamboat era,

woodhawkers (wood cutters) cut timber to fuel steamboats plying the Missouri River. The Nez Perce Indians traversed the area in their attempt to escape to Canada in 1877.

Woodhawk Wilderness Study Area Status and Trend Table

Status of Resource, Object, or Value	Trend
Good.	Stable.

Woodhawk Wilderness Study Area Inventory, Assessment, Monitoring Table

Acres in Unit	Acres Inventoried	Acres Possessing Object	Acres Monitored in FY
8,100	8,100	8,100	8,100

Stressors Affecting Woodhawk Wilderness Study Area

Off road travel, particularly during hunting season, could create unauthorized routes, which in turn increases the potential for the spread of invasive plants. Grazing trespass could impact the WSA; active existing and new permittees in the area can address this.

Antelope Creek Wilderness Study Area

The WSA covers about 12,350 acres on the north side of the Missouri River and 9,600 acres have been recommended for wilderness. This WSA offers outstanding opportunities for solitude and provides a diversity of primitive recreational opportunities such as hiking, photography, hunting, and rock climbing. The area is rich in historical significance, including Kid Curry's Outlaw Hideaway.

Antelope Creek Wilderness Study Area Status and Trend Table

Status of Resource, Object, or Value	Trend
Good. Road density has been reduced in the WSA, including one road identified in the RMP as open is now inaccessible. Landowner permission has been required to access the open road; the adjacent landowner fenced the property boundary.	Improving.

Antelope Creek Wilderness Study Area Inventory, Assessment, Monitoring Table

Acres in Unit	Acres Inventoried	Acres Possessing Object	Acres Monitored in FY
12,350	12,350	12,350	12,350

Stressors Affecting Antelope Creek Wilderness Study Area

Off road travel, particularly during hunting season, could create unauthorized routes, which in turn increases the potential for the spread of invasive plants.

Lewis and Clark National Historic Trail

The Lewis and Clark Trail was designated a segment of the National Historic Trail System in 1978. The expedition passed through the Missouri Breaks area in May 1805 and on the return trip in July 1806. Lewis writes about the “white cliffs” and the “breaks” in his journals as the expedition traveled and camped along the Missouri. It is one of the few landscapes along the entire Lewis and Clark National Historic Trail that has remained relatively unchanged since the Lewis and Clark Expedition passed through this area.

Lewis and Clark National Historic Trail Status and Trend Table

Status of Resource, Object, or Value	Trend
Good.	Stable.

Lewis and Clark National Historic Trail Inventory, Assessment, Monitoring Table

Miles in Unit	Miles Inventoried	Miles Possessing Object	Miles Monitored in FY
149	149	149	149

Stressors Affecting Lewis and Clark National Historic Trail

Visitor use, from camping to souvenir collecting, can impact the trail. Livestock grazing can affect visitor experience along the trail. Invasive plants replace native vegetation that occurs along the trail and can impact visitor experience.

Nez Perce (Nee-Me-Poo) National Historic Trail

The Nez Perce National Historic Trail, which crosses the Missouri River Breaks, was designated a component of the National Historic Trail System in 1986. The 1,170-mile route was used by the Nez Perce Indians in an attempt to escape to Canada in 1877. Their escape was marked by more than 20 battles and skirmishes. The Cow Island skirmish, which occurred in the Missouri River Breaks on September 23, 1877, was the last encounter prior to the Nez Perce surrender at the Battle of the Bear Paw just north of the Breaks.

Nez Perce (Nee-Me-Poo) National Historic Trail Status and Trend Table

Status of Resource, Object, or Value	Trend
Good.	Stable.

Nez Perce (Nee-Me-Poo) National Historic Trail Inventory, Assessment, Monitoring Table

Miles in Unit	Miles Inventoried	Miles Possessing Object	Miles Monitored in FY
18.5	18.5	18.5	10

Stressors Affecting Nez Perce (Nee-Me-Poo) National Historic Trail

Off road travel, particularly during hunting season, could create unauthorized routes, which in turn increases the potential for the spread of invasive plants.

Cow Creek and Cow Island Skirmish sites were listed in the National Register of Historic Places. Both sites are highly significant to National and Tribal (Nez Perce) histories and are key points along the congressionally designated Nez Perce National Historic Trail.

Upper Missouri National Wild and Scenic River Watchable Wildlife Area

The entire UMNWSR was designated a Watchable Wildlife Area in 1990 because of the unique and diverse wildlife populations that abound along the river. Visitors come from around the world to view the wildlife.

UMNWSR Watchable Wildlife Area Status and Trend Table

Status of Resource, Object, or Value	Trend
Good.	Stable.

UMNWSR Watchable Wildlife Area Inventory, Assessment, Monitoring Table

Acres in Unit	Acres Inventoried	Acres Possessing Object	Acres Monitored in FY
135,350	135,350	135,350	100,00

Stressors Affecting Upper Missouri National Wild and Scenic River Watchable Wildlife Area

Off road travel, particularly during hunting season, could create unauthorized routes, which in turn increases the potential for the spread of invasive plants and the potential degradation of wildlife habitat.

Missouri Breaks Back Country Byway

The Missouri Breaks Back Country Byway was designated in 1993. The Byway has more than 75 miles, (38 miles on BLM), of gravel and unimproved roads that traverse portions of the Missouri River Breaks and lead to scenic overlooks of the UMNSWR. The Byway passes in and out of the Monument.

Missouri Breaks Back Country Byway Status and Trend Table

Status of Resource, Object, or Value	Trend
Fair.	Declining.

Missouri Breaks Back Country Byway Inventory, Assessment, Monitoring Table

Miles in Unit	Miles Inventoried	Miles Possessing Object	Miles Monitored in FY
27	27	27	15

Stressors Affecting Missouri Breaks Back Country Byway

The Monument's landscape continues to be shaped by erosive forces, which in turn affects the stability of the transportation system. Stream crossings and ridge roads need constant maintenance. Slumps and flood events continue to impact the byway and have limited or blocked access in some areas. Middle Two Calf Creek crossing has been closed for two seasons due to erosion and slope failure. We currently are drafting an engineering design to restore access; construction is slated for 2021.

Reestablishing the Middle Two Calf Creek crossing should result in a positive change in trend status. Seed from invasive plants being introduced via contaminated equipment and vehicles is a threat that we continue to address.

Homesteading

Most of the Missouri River bottom was homesteaded during the early part of the 20th century or left federal ownership through the Stockraising or Desert Land Acts. The Breaks contains the remains of several early agricultural developments on BLM land. The Ervin, Gist, Hagadone, and Nelson homesteads have standing structures that are listed in the National Register of Historic Places and are within the UMNWSR. The Gilmore and Cable homesteads are within the Missouri Breaks, but outside the UMNWSR boundary.

Homesteading Status and Trend Table

Status of Resource, Object, or Value	Trend
Good.	Stable.

Homesteading Inventory, Assessment, Monitoring Table

Acres in Unit	Acres Inventoried	Acres Possessing Object	Acres Monitored in FY
Unknown	70,000	2,000	1,000

Stressors Affecting Homesteading

Historic buildings need regular maintenance. Visitor use and the elements gradually wear down the resources. While most of the homesteads have been identified in the Monument, additional inventory may yield previously undocumented historic properties.

A comprehensive historic building assessment was undertaken for the UMRBNM identifying needs for structures managed within the confines of the UMRBNM. All standing structures have been assessed and identified for stabilization efforts with multiple buildings receiving initial treatments in 2019. A five-year plan has been developed identifying buildings that will require extensive stabilization efforts as opposed to annual maintenance. Detailed 3D modeling and orthomosaic mapping have also been accomplished for three of these complex locations.

Fur Trade and Forts

Immediately following the Lewis and Clark Expedition, fur traders, primarily based out of St. Louis, began working their way up the Missouri to secure furs, either through trapping or through trade with the Indians. In addition, two Canadian-based British companies had established fur trade in the northern Great Plains and northern Rocky Mountains. With the influx of settlers and fur trappers to the area, Indian tribes, primarily the Blackfeet, kept the area in peril thus delaying the establishment of trading posts. In 1831, Fort Piegan was established at the mouth of the Marias. Many of the forts were short-lived, fluctuating with the trade relationship with the Blackfeet. In 1847, Fort Clay was established and was soon renamed Fort Benton. This fort became the most important trading center in what was to become Montana and was the head of the navigation on the Missouri River.

Fur Trade and Forts Status and Trend Table

Status of Resource, Object, or Value	Trend
Fair.	Stable.

Fur Trade and Forts Inventory, Assessment, Monitoring Table

Acres in Unit	Acres Inventoried	Acres Possessing Object	Acres Monitored in FY
Unknown	Unknown	Unknown	0

Stressors Affecting Fur Trade and Forts

No fur trade era standing structures exist; archaeological ruins may remain, but they are susceptible to bank erosion.

White Rocks Historic District

This is a collection of natural features and cultural sites encompassing the White Rocks region of the Missouri River. A special feature included within the White Rocks Historic District is some historical graffiti. The U.S.S. Mandan was a government snag boat which worked on the Missouri from the 1880s to 1910. One of the crewmen aboard this ship painted "USS Mandan" in a grotto near Eagle Creek. The historic period graffiti is still visible.

White Rocks Historic District Status and Trend Table

Status of Resource, Object, or Value	Trend
Good.	Stable.

White Rocks Historic District Inventory, Assessment, Monitoring Table

Acres in Unit	Acres Inventoried	Acres Possessing Object	Acres Monitored in FY
1,000	100	1,000	100

Stressors Affecting White Rocks Historic District

Much of the historic district is on private land, and its condition is unknown. Because the area is so remote there are few stressors other than the forces of nature and visitor use, which is dispersed and light.

Dauphin Rapids Historic District

This area was known as a dangerous stretch of river for steamboats and was often referred to in their historic accounts. Located at river miles 100 – 104, Stafford Ferry is situated just upriver from this feature.

Dauphin Rapids Historic District Status and Trend Table

Status of Resource, Object, or Value	Trend
Good.	Stable.

Dauphin Rapids Historic District Inventory, Assessment, Monitoring Table

Acres in Unit	Acres Inventoried	Acres Possessing Object	Acres Monitored in FY
40	0	40	0

Stressors Affecting Dauphin Rapids Historic District

The National Register eligibility of this historic district has yet to be determined. A county road passes just north of the district; impacts from visitors and road maintenance have the potential to impact the site. Riverbank erosion has the potential to impact the edge of the district.

Cow Island Trail

This early trail was part of the transportation network which supplied the Montana gold fields in the 1860s and 1870s. Steamboats moved freight up the Missouri River to Fort Benton and bull trains distributed the goods. The Cow Island Trail was used to freight supplies from Cow Island to Fort Benton when the river was too low for boats to reach Fort Benton.

Cow Island Trail Status and Trend Table

Status of Resource, Object, or Value	Trend
Good.	Stable.

Cow Island Trail Inventory, Assessment, Monitoring Table

Miles in Unit	Miles Inventoried	Miles Possessing Object	Miles Monitored in FY
12	12	12	8

Stressors Affecting Cow Island Trail

Portions of the trail along Cow Creek form the route of the Nez Perce National Historic Trail and are no longer open to motorized use. Those areas can be difficult to identify due to lack of use and periodic flood events. The trail leaves the creek bottom and traverses above the breaks to the west and becomes a maintained, and eventually county road. Erosion and general use can impact this segment of the route.

Areas of Geologic Interest

Eagle Sandstone Formation

A light gray to buff colored coarse grained sandstone with ferruginous concretions. It was deposited as beach and barrier facies during regression of an inland sea that covered the central area of the North American Continent during the Cretaceous Period. The formation derives its name from, and is located on, Eagle Creek at its confluence with the Missouri River. It weathers to form statuesque features, arches and hoodoos. Some of the natural features carved from this formation are Eye of the Needle (collapsed, 1997), Hole in the Wall, Steamboat Rock and Seven Sisters.

Location: White Rocks portion of the UMNWSR, from Virgelle to the mouth of Arrow Creek.

Judith River Formation

Gray to Yellowish, massive sandstone interbedded with silty mudstones and lignites containing a wide variety of fossil flora and fauna. It formed as a lagoonal deposit when there were many river deltas and tidal flats on the edge of the transgressing Bearpaw sea during late Cretaceous time. It is an abundant source of petrified wood and invertebrate fossils, and extensive vertebrate bone beds also exist. Some duck bill dinosaur finds from this formation are on display at the Museum of the Rockies in Bozeman, Montana.

Location: The formation is named for, and is located at, the mouth of the Judith River near PN Bridge.

Bearpaw Formation

Dark gray to black thinly bedded shale with calcareous concretions. It was deposited in the deepwater environment of the Cretaceous sea. It is a source of marine shellfish fossils known as ammonites and baculites. Marine reptiles called plesiosaurs and mosasaurs have also been found.

Location: The exposed formation starts in the Cow Creek area and extends downstream to Fort Peck Dam.

Hell Creek/Lance Formation

Dark gray to red and green sandstones, siltstones, carbonaceous shales and lignites are present. They were deposited in a lowland area after the last regression of the Cretaceous-age Bearpaw sea. These are the latest Cretaceous-aged rocks exposed in the sequence of fossilized beds and are the source of the T-Rex specimens (not from the Monument) on display at the Museum of the Rockies.

Location: Lower Missouri River Area including the adjacent Charles M. Russell Wildlife Refuge.

Alkalic Intrusions

These fine-grained igneous rocks, dominated by dark-colored minerals occur as dikes, sills and stocks injected into fractures in the Cretaceous Age sandstones and shales. They range in age from Tertiary to late Cretaceous. They are more resistant to weathering than the enclosing sedimentary rocks causing them to form promontory features in the surrounding terrain. Some of these that have been named along the river are Dark Butte, LaBarge Rock, Citadel Rock and Pilot Rock. Some of the natural features north of the river are Eagle Buttes, Birdtail Butte and Chimney Rock.

Location: From the Bears Paw Mountains on the north to the Highwood Mountains on the south. They occur throughout the Missouri Breaks but are more visible in the White Cliffs area due to the color contrast.

Saskatchewan Butte

An erosional remnant of a volcanic vent rising about 200 feet above the surrounding terrain located on federal land. The Butte is about 10 acres in size and has potential for gemstone occurrence. It is typical of other features described as the Missouri Breaks Diatremes in numerous professional papers and mineral reports prepared by the U.S. Geological Survey and Bureau of Mines.

Location: North side of the Missouri River near Bull Creek.

Areas of Geologic Interest Status and Trend Table

Status of Resource, Object, or Value	Trend
Good.	Stable

Areas of Geologic Interest Inventory, Assessment, Monitoring Table

Acres in Unit	Acres Inventoried	Acres Possessing Object	Acres Monitored in FY
377,346	10,000 (est'd)	377,346	180

Stressors Affecting Areas of Geologic Interest

The Monument's landscape continues to be shaped by erosive forces, as evidenced by the collapse in 1997 of the Eye of the Needle. Permitted paleontological research continues in the Monument; little illegal excavation is anticipated, and none has been encountered.

Areas of Biological Interest

Diversity of Vegetative Communities

The combination of Missouri Breaks and Missouri River vegetation communities results in an impressive variety. The Missouri Breaks is a unique landscape composed of mostly timbered coulees and drainages leading from the higher plains down to the Missouri or its tributaries. These timbered draws are composed of ponderosa pine and/or Douglas fir with a smaller component of Rocky Mountain juniper. An

understory of various native grasses and forbs exists. Ridge tops and benches in the area support the sagebrush/prairie grassland communities typical of the Northern Great Plains/Northern Rockies.

River communities show a wide variety of vegetative types with some examples being cottonwood gallery forest types, green ash climax type, silver sagebrush and black greasewood types and many others. Unlike the more extensive bottomland forests of the middle and lower Missouri River, cottonwood forests in the Upper Missouri River Breaks National Monument are relatively small, often discontinuous stands of predominantly older trees. Though the riparian areas within the Monument are in proper functioning condition, they are being compromised by flow regulation and natural disturbances such as ice scouring. Flow regulation effect is particularly evident in the reach of the Upper Missouri from Fort Benton to Judith Landing where very limited recruitment of new forest has occurred in recent years. Ice scouring in March 2019 eliminated stands of young (less than ten-year-old) cottonwoods on the lower stretch of the river. If current trends continue, the amount of cottonwood forest on the Upper Missouri will decrease in the future. To restore pockets of native vegetation, restoration and planting efforts have occurred in many of the campgrounds along the river corridor.

Areas of Biological Interest Status and Trend Table

Status of Resource, Object, or Value	Trend
Fair.	Declining.

Areas of Biological Interest Inventory, Assessment, Monitoring Table

Acres in Unit	Acres Inventoried	Acres Possessing Object	Acres Monitored in FY
377,346	377,346	377,346	2,470

Stressors Affecting Areas of Biological Interest

The Monument’s landscape continues to be shaped by erosive forces, which in turn affects riparian habitat. Drought, recreation, invasive plant encroachment, wildlife, and livestock pressure can create widespread and/or localized stress. Cottonwood galleries continue to be affected by regulated stream flows caused by river management associated with hydroelectric generation, irrigation management, downstream river navigation, and flood control.

5 Summary of Performance Measure

Resources, Objects, and Values Status Summary Table		
Resource, Object, or Value	Status	Trend
Upper Missouri National Wild & Scenic River	Good	Stable
Cow Creek Area of Critical Environmental Concern	Good	Improving
James Kipp Recreation Area	Good	Improving
Cow Creek Wilderness Study Area	Good	Improving
Stafford Wilderness Study Area	Good	Improving
Ervin Ridge Wilderness Study Area	Good	Improving
Dog Creek South Wilderness Study Area	Good	Improving
Woodhawk Wilderness Study Area	Good	Stable
Antelope Creek Wilderness Study Area	Good	Improving
Lewis & Clark National Historic Trail	Good	Stable
Nez Perce (Nee-Me-Poo) National Historic Trail	Good	Stable
Upper Missouri National Wild & Scenic Watchable Wildlife Area	Good	Improving
Missouri Breaks Back Country Byway	Fair	Declining

Resources, Objects, and Values Status Summary Table		
Resource, Object, or Value	Status	Trend
Homesteading	Fair	Stable
Fur Trade and Forts	Fair	Stable
White Rocks Historic District	Good	Stable
Dauphin Rapids Historic District	Good	Stable
Cow Island Trail	Good	Stable
Areas of Geologic Interest	Good	Stable
Areas of Biologic Interest	Fair	Declining
Wildlife (Mammals/Birds/Fish)	Varies	Varies

6 Manager's Letter

I began serving as the Monument Manager at the beginning of FY2019 in an acting capacity and transitioned to the permanent manager in March 2019. Soon after that transition, the Missouri River experienced frigid temperatures followed by ice jams that flooded river bottoms and campsites along eighty miles of the wild and scenic river within the Monument. Hopefully this is not a sign of things to come!

The Upper Missouri River Breaks National Monument, a landscape marked by change agents like this flooding, continues to experience change and transition in its management as well. In 2019, we said goodbye to our Wildlife Biologist, Park Ranger, and Outdoor Recreation Planner, and we hired a Monument Manager, a Park Ranger, and a Park Ranger (Interpretation). We anticipate the arrival of our new Wildlife Biologist early in 2020. We look forward to hiring more quality staff to fill the four vacant positions.

We were successful in restoring an agreement with the Montana Conservations Corps, revitalizing an agreement with Montana Fish, Wildlife, and Parks, and updating a Memorandum of Understanding with the City of Fort Benton and the River & Plains Society. With the help of our partners and volunteers we were able to continue managing the land and provide quality experiences for Monument visitors.

With the turnover in staff we have an opportunity to see the Monument through “new eyes” and develop new relationships with our neighbors and partners. We already are seeing transitions in wilderness study area monitoring, and new uses of technology, in wildlife, fuels, and cultural resource monitoring and project development.

In 2020 we anticipate completing exhibit upgrades at the Interpretive Center, constructing a warehouse that complements Fort Benton’s history, breaking in our new boat allowing us to access our resources on the river more efficiently, and mentoring new permanent and seasonal employees. The American public will continue to benefit from their investment in the Upper Missouri River Breaks National Monument.

In one year, we also look forward to the 20th Anniversary of the creation of the Upper Missouri River Breaks National Monument. With our partners and visitors we look forward to kicking off commemorative events highlighting the resources that make this landscape spectacular, and celebrating where we hope to be in another twenty years.



**NATIONAL
CONSERVATION
LANDS**

Upper Missouri River Breaks

National Monument

North Central Montana District Office
Bureau of Land Management
920 NE Main Street
Lewistown, MT 59457
Phone: 406-538-1900

January 6, 2020

The mention of company names, trade names, or commercial products does not constitute endorsement or recommendation for use by the federal government.

