



**Montana Fish,  
Wildlife & Parks**

# FALL ELK DISTRIBUTION IN THE MISSOURI RIVER BREAKS

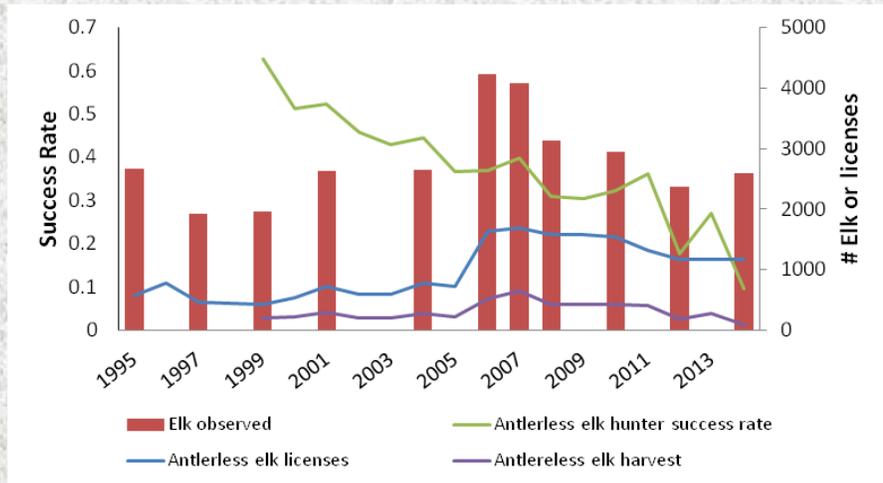


March 2016

Montana Fish, Wildlife and Parks  
1420 East 6th Avenue  
PO Box 200701  
Helena, MT 59620

For additional information, please  
contact:  
Scott Thompson  
406-228-3710

Montana Fish, Wildlife and Parks and the U.S. Fish and Wildlife Service, Charles M. Russell National Wildlife Refuge recently partnered on a study that focused on elk distribution in the Missouri River Breaks area north of the Missouri River in hunting districts 621, 622 and 631. Elk numbers in this area have been above the established elk population objective of 1,700-2,000 animals since 2001 (Figure 1). Wildlife management generally relies on increasing harvest of adult female elk as the primary management tool for curtailing elk population growth and reducing elk populations. However, increased hunting license quotas in this area have not resulted in sufficient harvest to reduce elk population numbers. Since the number of elk hunting licenses issued was increased in 2007, harvest success rates have declined (Figure 1). Hunter access restrictions on and through private land is thought to be a limiting factor in elk management in this area. The purpose of this project was to evaluate the effects of public hunting access and other landscape factors on elk distributions during the fall archery and rifle hunting seasons.



**Figure 1. The number of elk observed during aerial surveys, antlerless elk hunting licenses, antlerless elk harvest, and hunter success in HDs 621, 622, 631, and 632 during 1995–2014.**

We captured 25 cow elk in the Missouri River Breaks (MRB) population in hunting district (HD) 621 and 25 cow elk in the Larb Hills population in HD 622/631 by helicopter netgunning in February 2013 (Figure 2). We collected a blood sample to determine pregnancy status and screened blood serum to detect antibodies indicating exposure to diseases. None of the sampled elk were positive for exposure to brucellosis. We found some elk were exposed to *Leptospira*, para-influenza 3, and infectious bovine rhinotracheitis, and levels of exposure were within the range commonly observed in other wild elk populations. The average pregnancy rate was 77%, which is lower than pregnancy rates from typically observed in other Montana elk populations.

We outfitted elk with global positioning system (GPS) radiocollars that were built with a release mechanism timed to release the collar after 2-years. We programmed collars to record hourly locations 24 hours a day and to emit a distinct mortality signal if the collar was stationary for more than 6 hours. We

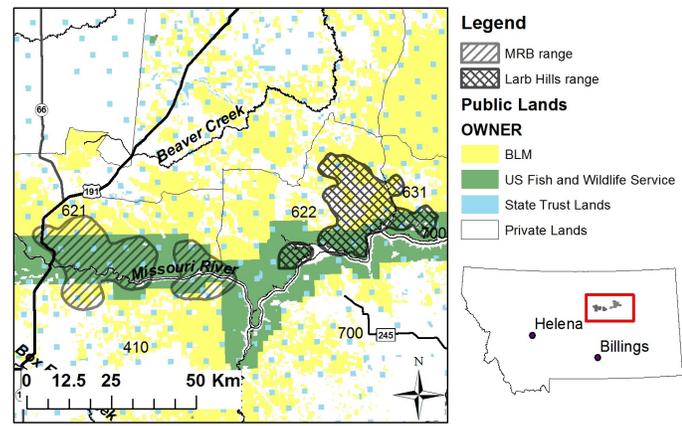


monitored elk survival and locations monthly for two-years using aerial and ground telemetry. Hunters were also asked to return collars from harvested elk. We used these locations to estimate elk survival rates, determine causes of mortality, and to define elk seasonal distribution and public and private land use patterns.

Of the 50 collars deployed, 1 collar released early and 2 collars malfunctioned. Of the remaining 47 collared elk, 40 survived the first year of monitoring and 32 survived the full two-year monitoring period. The annual survival rate for MRB elk was 0.84 (95% CI = 0.69 – 0.92) and for Larb Hills was 0.83 (95% CI = 0.68 – 0.91). Hunter harvest was the primary cause of mortality. Of the 15 documented mortalities, causes included 1 archery harvest, 8 rifle harvest, 1 illegal harvest, 2 wounding loss, 1 lion predation, and 2 unknown causes. Of the 9 elk legally harvested, 8 were harvested in areas accessible to public hunters and 1 was harvested on private land that did not allow public hunter access. Hunters were known to avoid harvesting collared elk, so mortality caused by hunting may be slightly higher for the two herd units.

We categorized hunter access across the study area into 3 categories: freely accessible to hunters, restricted hunter access, and no public hunter access. The elk population range in the MRB during archery and rifle seasons was 97% accessible to hunters. A total of 2% of the elk range allowed no public hunter access and 1% restricted hunter access. Sixty-eight percent of all archery season elk locations occurred in areas accessible to hunters, 30% occurred in areas with no hunter access, and 2% occurred in areas with restricted hunter access. During rifle season, 91% of all elk locations occurred in areas accessible to hunters, 9% occurred in areas with no hunter access, and <1% occurred in areas with restricted hunter access.

In the Larb Hills, the elk range during archery season was 79% accessible to hunters, 11% allowed no hunter access, and 10% restricted hunter access. Fifty percent of all archery season elk locations occurred in areas accessible to hunters, 40% occurred in areas with no hunter access, and 10% occurred in areas with restricted hunter access. The rifle season elk population range was 79% accessible to hunters, 10% allowed no hunter access, and 11% restricted hunter access. Sixty-six percent of all rifle season elk locations occurred in areas accessible to hunters, 29% occurred in areas with no hunter access, and 5% occurred in areas with restricted hunter access.

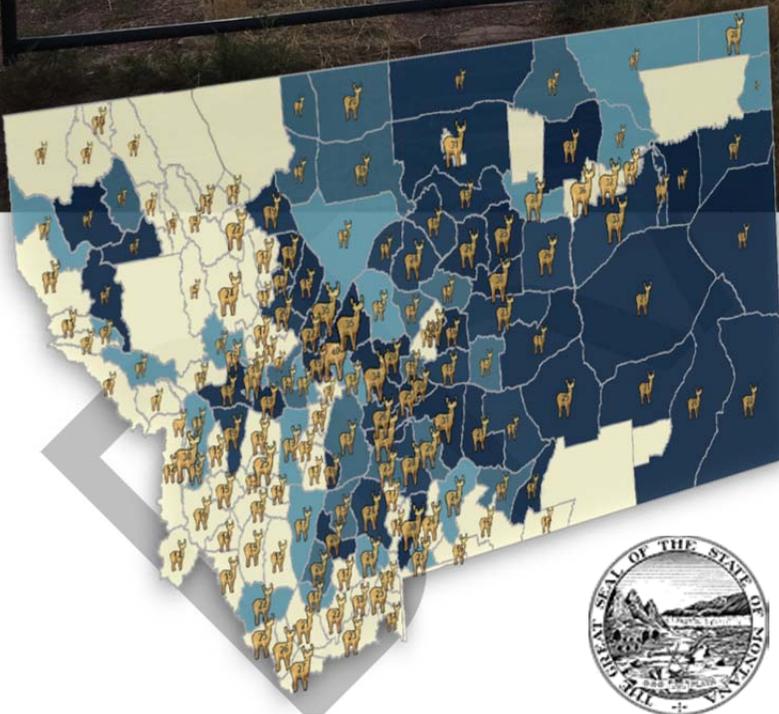


**Figure 2. The study area included the Missouri River Breaks in hunting district (HD) 621 and Larb Hills-Iron Stake Ridge areas in HD 622/631 in south Philips County. Landownership included a mixture of privately owned lands (white), and public lands owned by the Bureau of Land Management (BLM, yellow), U. S. Fish and Wildlife Service (green), and State of Montana (blue).**

Understanding the availability of elk, primarily antlerless elk, to hunters is vital to managing elk to population objectives while still providing hunting opportunity for elk on publicly accessible lands. We found that even relatively small geographic areas within an elk population range being managed for restricted hunter access or no hunter access may have a disproportionate affect on elk distribution and prevent effective harvest of female elk to maintain elk populations at objective levels. Our results showed that the majority of the female elk harvest occurred during the rifle season, and the majority of MRB elk spend the rifle hunting season in areas that are accessible to hunters. With a limited amount of areas with no hunter access or restricted hunter access within the hunting season ranges, MRB elk used dense cover, riparian areas and areas away from roads for security. In the Larb Hills, elk are less accessible to hunters during the rifle hunting season, with elk more commonly using no access areas rather than habitat features for security. This situation will limit the effectiveness of antlerless harvest as a tool for reducing population size towards objective levels. In this area, stakeholders may need to determine if they are willing to tolerate a larger elk population, more liberal hunting seasons resulting in higher hunter numbers or longer season length, or provide some level of hunter access to harvest cow elk so the population can be reduced to objective levels. Working cooperatively with stakeholders to provide adequate hunter access and implementing harvest strategies to achieve elk population objectives is needed for effective elk management in this area and other areas of the state. One step in that direction is the recently adopted “shoulder seasons” for many hunting districts in an effort to reduce elk populations. The ultimate goal is to maintain distribution of elk across public and private land, respect land-owner concerns, and provide equitable availability of wildlife resources for all Montanan’s.



# ROADS, LAND, & BIG GAME HARVEST



THE ENVIRONMENTAL QUALITY COUNCIL  
HOUSE JOINT RESOLUTION NO. 13

2015-2016

**This is a draft report for EQC discussion, May 4-5, 2016**

Substantive changes by staff are in gray.

Changes suggested by Rep. White are in yellow.

Changes suggested by Mr. Lindler are in green.

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# Executive Summary

The Environmental Quality Council assembled an immense amount of information previously unavailable in one place as a result of the HJ13 study. The Council examined information on federal roads, parcels of public land with no public access, and harvest rates for elk and deer. The EQC heard from a variety of experts as well as numerous members of the public. The council also toured Forest Service and Bureau of Land Management (BLM) roads and lands around Helena to see road and access issues first hand.

## Roads

There are approximately 32,000 miles of Forest Service system roads in Montana. Of those, 9,784 miles are only available for administrative use, meaning they are effectively closed to motorized use.

Other roads may be closed and returned to a natural state. There are 5,976 miles of decommissioned roads no longer in the system. Unauthorized roads, mostly created by users, are not within the Forest Service system and are closed to motorized use. The Forest Service estimates there are 6,191 miles of unauthorized roads in Montana.

In total over the years about 21,951 miles of Forest Service road on land managed by the Forest Service have been closed to motorized use.

There are almost 1,800 miles of documented roads under the jurisdiction of the Bureau of Land Management that are open year round for motorized use. Another 886 miles are open at least part of the year. About 1,700 miles of BLM roads are closed to motorized use. More than 1,500 miles of road are considered open until a travel planning decision is made.

## Inaccessible Public Parcels

About 10% of public lands in Montana are probably inaccessible by a public road or waterway. In many cases, the parcel may be surrounded by private land. While the private landowner may grant permission to cross, access to the public land for the general public is not guaranteed.

Nearly all of the inaccessible land is owned by either the state of Montana or the BLM. State trust lands account for 2,429 square miles of inaccessible parcels. The BLM owns 2,179 square miles of inaccessible land.

## HJR 13

Kerry White

**Rep. White, who is also a member of the EQC, sponsored the study resolution in 2015. It passed the House 69-37 and the Senate 32-18. The study focused on road management on federal lands, parcels of inaccessible public land, and the effect of diminished access on recreational opportunities, specifically hunting.**

The EQC built an [online map](#) showing roads, inaccessible parcels, land ownership, and big game harvest rates for any area in the state.

## Big Game Harvest

While the number of elk in Montana rose over the last few years, the highest elk harvest over the last 16 years was 2003. Hunters killed more than 25,000 elk in 2014, the highest number since 2008. However, many areas in the state remain over the population goals set by the Department of Fish, Wildlife, and Parks (DFWP).

Mule deer and whitetailed deer populations are rebounding after recent rough winters and disease outbreaks, but harvest numbers over the last decade were highest in 2006 when almost 134,000 deer were harvested. Hunters bagged just under 76,000 deer in 2014.

## Key Findings and Recommendations

To be Determined by the EQC



ENVIRONMENTAL QUALITY COUNCIL MEMBERS\*

<p><b>Sen. Gene Vuckovich, Presiding Officer Third term</b> 1205 West 3rd St. Anaconda, MT 59711-1801 Ph: 563-2313 E-mail:mt.sd43@gmail.com</p>	<p><b>Rep. Jerry Bennett, Vice Presiding Officer Third term</b> 784 Taylor Rd. Libby, MT 59923-8458 Ph: 293-7012 E-mail:jbenhd1@hotmail.com</p>
<p><b>Sen. John Brenden, Third Term</b> P.O. Box 970 Scobey, MT 59263-0970 Ph: 783-8394 senatorbrenden@gmail.com</p>	<p><b>Rep. Willis Curdy, First Term</b> 11280 Kona Ranch Rd Missoula, Mt 59804-9790 Primary ph: (406) 317-1183 Secondary ph: (406) 396-0567 Rep.Willis.Curdy@mt.gov</p>
<p><b>Sen. Cary Smith, Second Term</b> 5522 Billy Casper Dr. Billings, MT 59106-1029 Ph: (406) 698-9307 Sen.Cary.Smith@mt.gov</p>	<p><b>Rep. Ed Lieser, Second Term</b> 1355 Lion Mountain Dr. Whitefish, MT 59937-8072 Ph: 471-2082 rep.elieser@legmt.gov</p>
<p><b>Sen. Mike Phillips, First Term</b> 9 W Arnold St. Bozeman, MT 59715-6127 Ph. (406) 599-5857 mikephillips@montana.net</p>	<p><b>Rep. Theresa Manzella, First Term</b> 640 Gold Creek Loop Hamilton, Mt 59840-9742 Primary ph: (406) 546-9462 Secondary ph: (406) 363-2898 Rep.Theresa.Manzella@mt.gov</p>
<p><b>Sen. Jim Keane, Fourth Term</b> 2131 Wall St. Butte, MT 59701-5527 Ph: 723-8378</p>	<p><b>Rep. Rep. Janet Ellis, First Term</b> 703 Breckenridge St. Helena, MT 59601 Primary ph: (406) 431-9157 Rep.Janet.Ellis@mt.gov</p>
<p><b>Sen. Rick Ripley, Fourth Term</b> 8920 MT Highway 200 Wolf Creek, MT 59648-8639 Ph: 562-3502 ripley@3rivers.net</p>	<p><b>Rep. Kerry White, Second Term</b> 4000 Blackwood Rd Bozeman, MT 59718-7621 Ph: 587-3653 winwithwhite@gmail.com</p>
<p><b>Ms. Brooke Erb, Public Member, First Term</b> 2960 Anderson Ln. Dillon, MT 59725-8384 Ph: 406.925.9991 erbbrooke@gmail.com</p>	<p><b>Mr. Scott Aspenlieder, Public Member, Second Term</b> 2101 Overland Ave. Billings, MT 59102 Ph: 461-8392 scott@performance-ec.com</p>
<p><b>Mr. Roy Morris, Public Member, Second Term</b> P.O. Box 3839 Butte, MT 59702 Ph. 406-491-4255 roy@montana.com</p>	<p><b>Bert Lindler, Public Member, First Term</b> 2523 Klondike Court Missoula, MT 59808 Ph: 406-542-7645 blindler@montana.com</p>
<p><b>Mr. Tim Baker, Governor's Representative, Second Term</b> P.O. Box 200801 Helena, MT 59620-0801 (406) 444-3111 <a href="mailto:tbaker@mt.gov">tbaker@mt.gov</a></p>	<p>* This information is in compliance with 2-15-155, MCA.</p>

## LEGISLATIVE ENVIRONMENTAL POLICY OFFICE STAFF

**Joe Kolman**, Legislative Environmental Policy Analyst

**Dawn Field**, Research and Publications

**Jason Mohr**, Resource Policy Analyst

**Sonja Nowakowski**, Resource Policy Analyst

**Hope Stockwell**, Resource Policy Analyst

**Helen Thigpen**, Attorney

**Nadine Spencer**, Legislative Secretary

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## POLICY OVERVIEWS

### Roads

The EQC examined more than a century of road policy on lands managed by the BLM and the Forest Service. The Forest Service Organic Administration Act of 1897 stated that the purpose of forests was to improve and protect the forest, secure favorable water flows, and furnish a continuous supply of timber. A settler residing in a forest could construct wagon roads or other improvements to access a home and to utilize the settler's property. Anyone could enter the national forests for lawful purposes, including mineral exploration or development, provided that rules and regulations covering the forest were followed.

In the mid 1970s, the federal government took several actions that attempted to limit certain motorized travel on federal lands. President Nixon ordered off-highway use be relegated to designated areas and trails. President Carter expanded that order to require that agencies immediately close areas or trails if off-highway vehicle use could cause considerable adverse effects on soil, vegetation, wildlife, wildlife habitat, and cultural or historic resources.

The Forest Service also started to inventory all wheel tracks regardless of how developed.

Significant road policy decisions were made in the early 2000s.

New Forest Service rules:

- sought to balance safe and efficient access for all users and to maintain healthy ecosystems;
- prohibited road construction, reconstruction, and timber harvesting on inventoried roadless areas;
- found that the existing road system in national forests is mostly complete and shifts focus from new road development to managing access according to the capability of the land and decommissioning unneeded roads; and
- pledged to keep decisions on road management at the local level.

The BLM and the Forest Service issued a record of decision for off-highway vehicle travel on federal lands in Montana and the Dakotas. The decision sought to minimize further resource damage, user conflicts, and related problems, including new user-created roads. Cross country travel was prohibited.

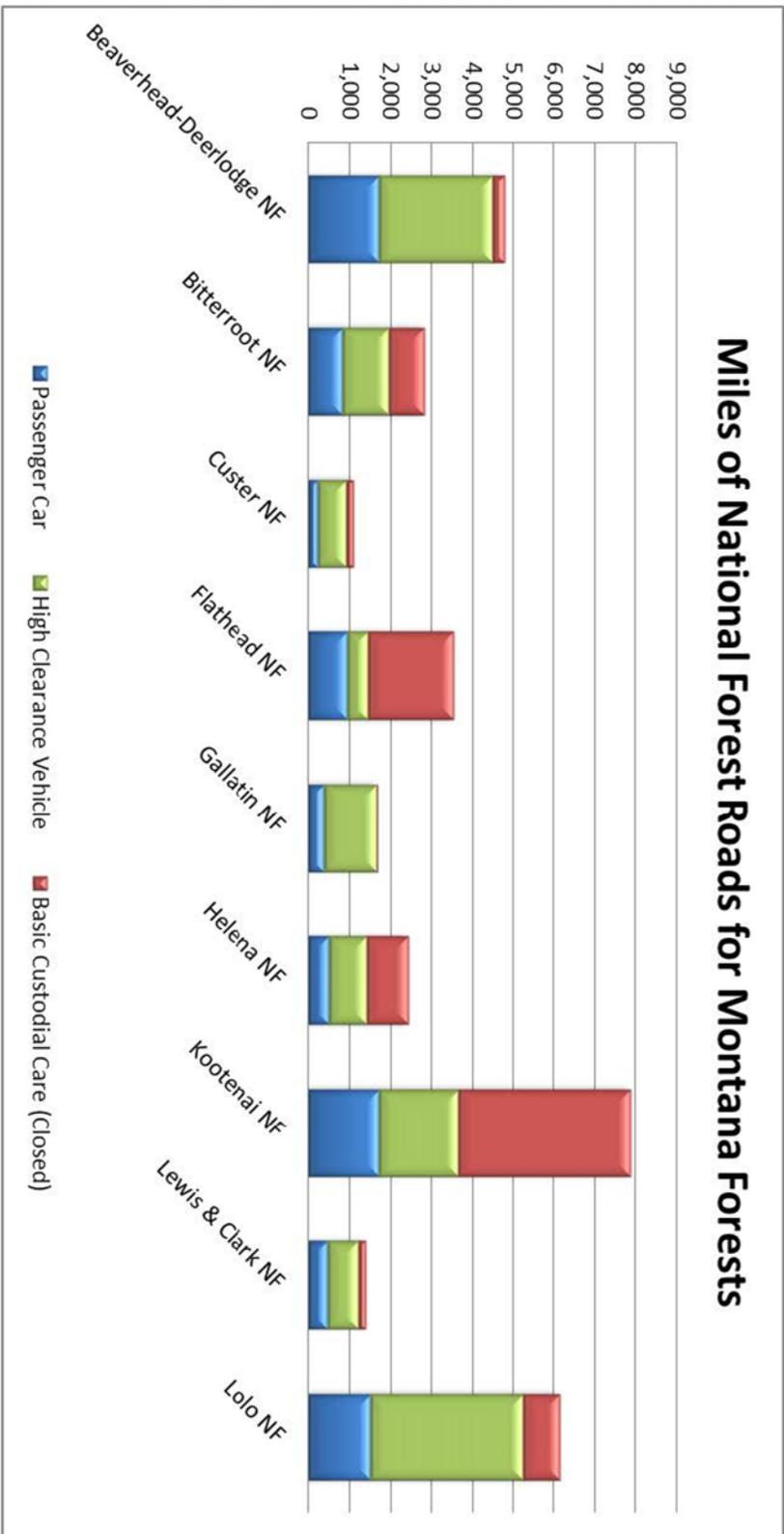
The BLM started designating specific roads and trails for motorized use on a site-specific basis. Montana field offices started work on travel management plans. Additional Forest Service rules required the agency to designate trails and roads open to motorized use. Though a road or trail may exist on the ground, if it is not designated on the map, it is closed to motorized travel.

A longer history of federal road policy can be found [here](#).

### **FOREST SERVICE ROADS IN MONTANA**

There are several types of roads in the Forest Service vernacular. System roads are those managed by the Forest Service and categorized by use, vehicle clearance, and road quality. One category of system road is closed to motorized travel for at least a year between intermittent uses. Basic maintenance is performed to prevent damage to adjacent resources and to allow the road to be used in the future for

### Miles of National Forest Roads for Montana Forests

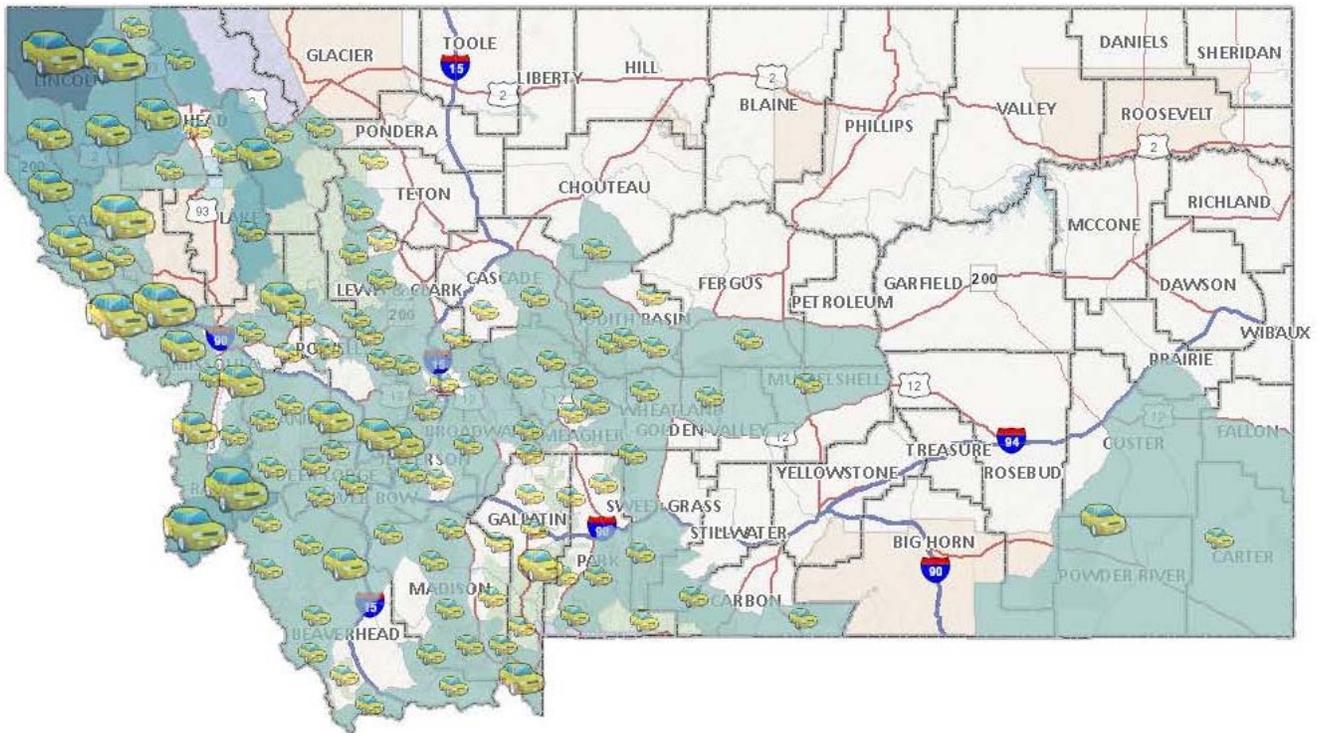


Miles of National Forest Roads in Region 1 by Forest	Beaverhead-Deerlodge NF	Bitterroot NF	Custer NF	Flathead NF	Gallatin NF	Helena NF	Kootenai NF	Lewis & Clark NF	Lolo NF	Total Miles
Basic Custodial Care (Closed)	295	863	178	2,089	6	1,018	4,225	178	931	9,784
High Clearance Vehicle	2,758	1,121	709	506	1,289	906	1,944	746	3,709	13,688
Passenger Car	1,728	849	226	962	376	511	1,714	468	1,526	8,360
<b>Total Miles</b>	<b>4,782</b>	<b>2,833</b>	<b>1,113</b>	<b>3,557</b>	<b>1,671</b>	<b>2,435</b>	<b>7,883</b>	<b>1,391</b>	<b>6,167</b>	<b>31,831</b>

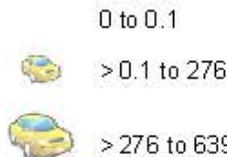
Data was downloaded from Infra user view II ROAD\_CORE October 3, 2014 by bchristensen  
 Query: Route Status = Existing, Jurisdiction = FS, System = NFSR, OpenML=1,2,3,4,or 5

land management needs. Emphasis is normally given to maintaining drainage facilities and runoff patterns. Planned road deterioration may occur at this level.

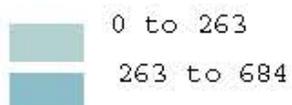
The EQC analyzed Forest Service Roads by hunting district and identified roads closed except for maintenance and those open to general motorized traffic.



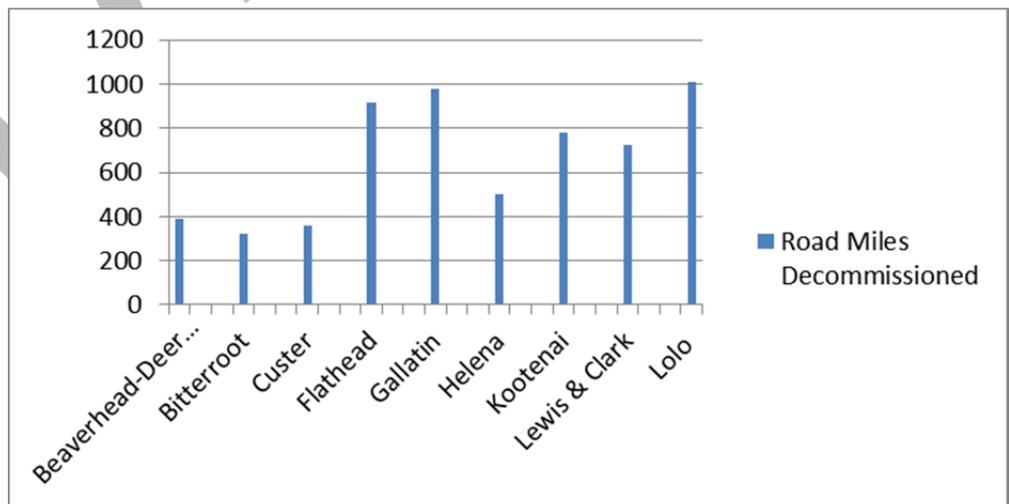
**Miles of Open FS Roads by HD**



**Miles of closed FS Roads by HD**



The Forest Service also closes roads by a process called decommissioning. In general, roads are decommissioned because they are no longer of use or pose an environmental threat. Roads were being decommissioned in the early 1990s and before, but the Forest Service does not have adequate



records to document the activity. Decommissioning a road may include blocking the entrance to, revegetating, or fully obliterating the road and recontouring the slopes.

Some roads were created over the years by repeated use but were never built or maintained to an agency standard. In 2005, the Forest Service examined all roads and designated some as part of the transportation system for each forest. While some of these user-created roads were made part of the system, those that were not are closed to further motorized use. Some forests have a partial inventory of unauthorized roads, but the actual number is not known.

Forest	Documented Unauthorized Miles
Beaverhead-Deerlodge	2,168
Bitterroot	327
Custer	9
Flathead	12
Gallatin	1
Helena	166
Kootenai	548
Lewis & Clark	36
Lolo	2,924
<b>Total Documented Unauthorized Miles</b>	<b>6,191</b>

*More Montana Forest System Road information Online*

- Forest specific [information](#) including maintenance and funding.
- A [list](#) of every forest system road closed to motorized use except for administrative uses.
- Historic Forest Service travel [maps](#) dating back to the late 1970s.

### **MONTANA BUREAU OF LAND MANAGEMENT ROADS**

Each field office of the BLM adopts travel plans.

The [Butte travel plan](#), which covers much of the area between Butte and Helena as well as the BLM lands surrounding Helena, had about 417 miles of road open to public use as of the 2005 planning analysis.

In response to the EQC, the BLM provided [a list of roads](#) closed in the management area in 2014. That total was 390 miles of closed roads.

In Missoula, the [list](#) provided to the EQC included almost 112 miles of closed roads.

The [Dillon travel plan](#) has no areas open to cross country travel. More than 800,000 acres are managed as limited travel on designated routes, including 1,342 miles of road open to public travel, of which 159 miles are open seasonally. Roads on the ground closed permanently are not delineated on travel maps.

In the Upper Missouri River Basin plan, there are about 207 miles of [closed roads](#).

### Public Access & Public Lands

A 2013 analysis by the Department of Fish, Wildlife, and Parks found that about 10% of land owned by local, state, and federal entities is probably inaccessible by a public road or waterway. State trust lands

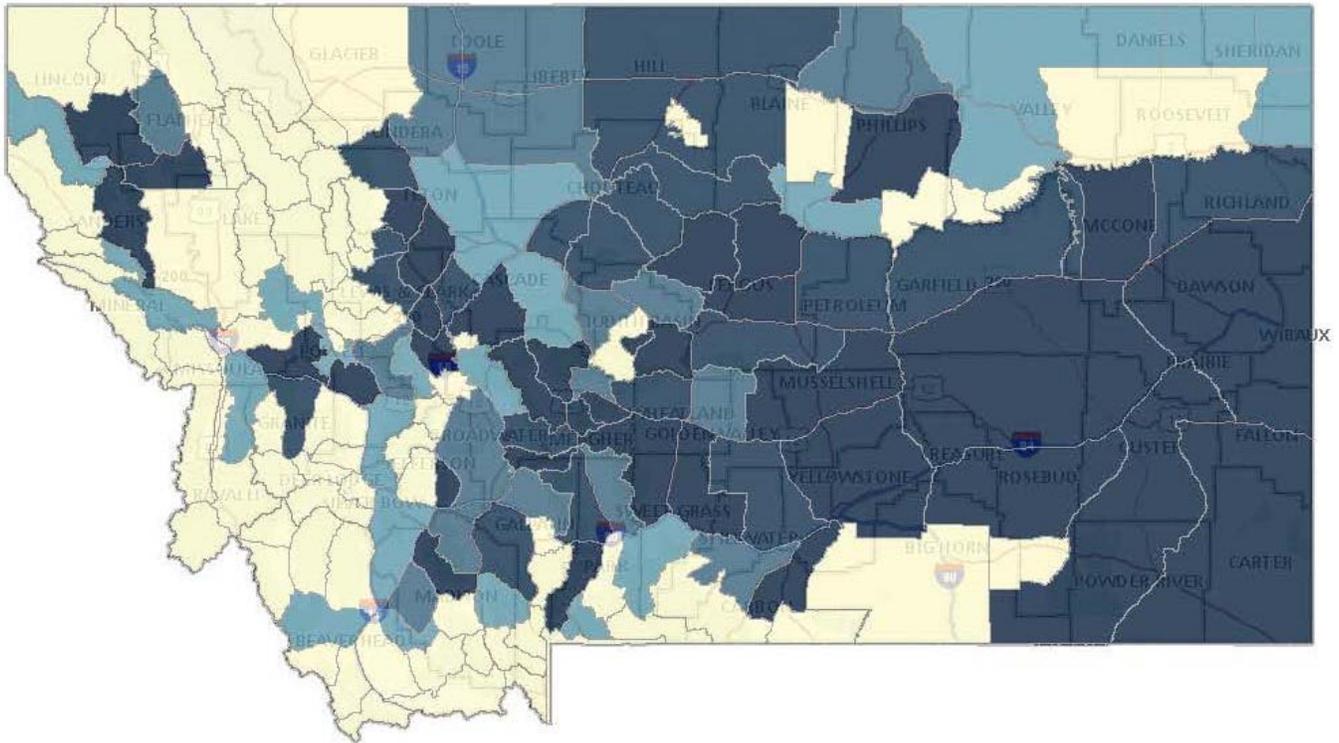
and property managed by the Bureau of Land Management account for almost all of the inaccessible lands.<sup>1</sup>

Owner	No Access in Square Miles	Access in Square Miles	Total Square Miles	Percent No Access
Montana State Trust Lands	2,429	5,553	7,982	30%
US Bureau of Land Management	2,179	10,287	12,466	17%
US Forest Service	232	26,050	26,282	1%
US Fish and Wildlife Service	10	1,358	1,368	1%
Unknown - Conflicting Data Sources	8	47	55	15%
US Bureau of Reclamation	4	182	186	2%
Montana Fish, Wildlife, and Parks	3	626	629	1%
State of Montana	1	34	35	4%
US Department of Defense	1	13	14	8%
Local Government	1	9	10	7%
City Government	0	2	3	11%
Montana University System	0	55	55	0%
US Government	0	1	1	14%
Montana Department of Transportation	0	2	2	2%
Montana Department of Natural Resources Water Projects	0	2	2	2%
County Government	0	19	19	0%
Montana Department of Corrections		55	55	0%
National Park Service		69	69	0%
US Army Corps of Engineers		2	2	0%
US Department of Agriculture		111	111	0%
<b>Totals</b>	<b>4,870</b>	<b>4,4476</b>	<b>4,9346</b>	<b>10%</b>

Analysis performed by FWP, 2013

<sup>1</sup> In this analysis “inaccessible lands” are characterized as unknown access. Distance from an access point is not considered a limitation to access. Corner crossings are not considered valid access. Public roads are those identified using data provided by the Montana Department of Transportation. Waterways are assumed to be navigable streams, lakes over 1,000 acres, or any lake containing a MT FWP fishing access site. Areas not considered are “non-hunting” areas such as parks, preserves, and land within city limits. Land ownership and access within Indian reservations were not evaluated.

The EQC further analyzed the data to identify what percentage of public land in each hunting district was inaccessible.



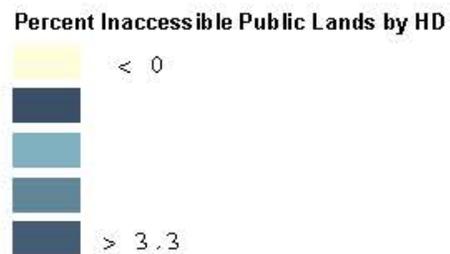
Of the 3.1 million acres of inaccessible public land, the EQC found that about one third lies within elk distribution areas.

Access to public land is not an emerging issue. In 1986, a flock of public officials, landowners, recreationists and others descended on Helena for a conference titled, “Access in Montana: A Historical Issue!”

“Clearly, access is a complicated problem,” said Gov. Ted Schwinden, “one that bears out the philosophy that ‘For every problem, there is one solution which is simple, neat, and wrong.’”<sup>2</sup>

The Legislature in 1993 passed House Joint Resolution 24 that acknowledged the “increasingly strained” relations between landowners and recreationists and urged parties to, among other things, achieve optimum hunter access, minimize impacts to landowners, and provide tangible benefits to landowners who allow hunter access.

The next session, the Legislature expanded the block management program and required the governor to create a committee of people interested in private land and public wildlife issues. The Private Land/Public Wildlife (PL/PW) Council has met fairly regularly over the last two decades.



<sup>2</sup> “Access?” A summary of the Access in Montana conference, November 1986, in Helena.

The 1999 Legislature passed a bill that included a provision barring a county commission from abandoning a highway, road, or right-of-way used to access public land unless another road, highway, or right-of-way provides substantially the same access.<sup>3</sup>

In its [January 2015 report](#), the PL/PW Council recommended increasing access to public lands by creating an Interagency Access Committee that would oversee an inventory of public roads and public lands where access is restricted or not available and offering voluntary corner crossing agreements to private landowners next to public land.

The 2015 Legislature expanded a program that provided tax credits to landowners who granted access across private land to state land. [Senate Bill No. 309](#) increased the credit from \$500 to \$750, allowed the credit for access to federal land, and clarified that providing a corridor at a corner crossing also qualified for the credit.

## Wildlife Management

The Department of Fish, Wildlife, and Parks manages wildlife in the state. Since most elk and deer habitat is owned by federal and private entities, this means the agency works with federal **and private** land managers to implement statutory requirements and management recommendations.

State management plans for elk and deer as well as management plans for national forests and lands managed by the BLM rely on studies that generally conclude elk and deer mortality increases in connection with higher road densities and less hiding cover. A team of elk researchers in Oregon summarized knowledge learned over a half century of studies on the direct impacts of roads and traffic on elk:<sup>4</sup>

- Elk die in collisions with vehicles;
- Elk avoid areas near open roads, resulting in temporary or permanent reduction in effective habitat;
- As open road density increases, elk are more vulnerable to legal and illegal harvest. Closing roads may reduce hunter density because some legal hunters are unwilling to hunt without vehicles. And poachers may be less reluctant to commit crimes without getaway access; and
- Elk exhibit higher stress levels and increased movement in response to road density and traffic, although elk may conserve energy by traveling on closed roads.

In more recent discussions, state and federal officials acknowledge that other factors influence elk distribution and mortality, including forage, distance from roads, and migration between public and private lands, some of which may not be accessible to the general hunting public.

## ELK POPULATION AND DISTRIBUTION

In 1978 an estimated 55,000 elk called Montana home.<sup>5</sup> Today, FWP estimates the state has more than 167,000 elk.

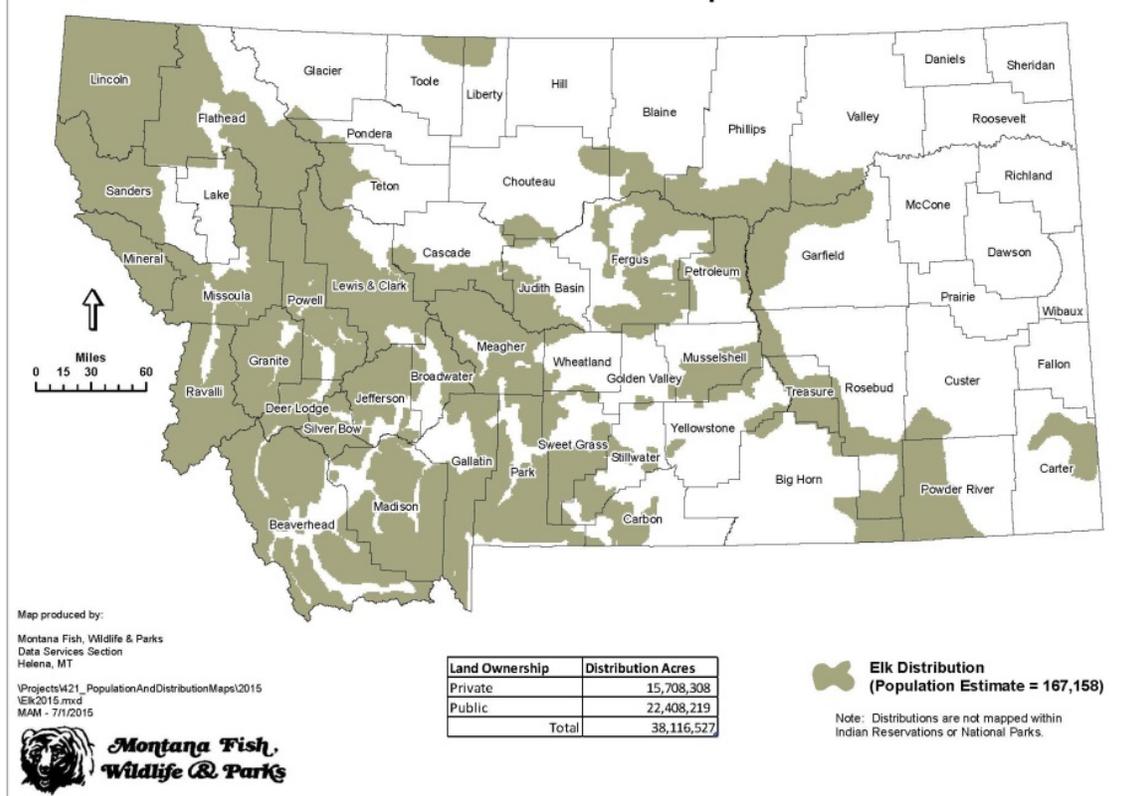
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<sup>3</sup> [House Bill No. 352](#), 1999

<sup>4</sup> M. M. Rowland, M. J. Wisdom, B. K. Johnson, and M. A. Penning. 2005. [Effects of Roads on Elk: Implications for Management in Forested Ecosystems](#)

<sup>5</sup> [Statewide Elk Management Plan](#)

## 2015 Montana Elk Distribution and Population Estimate



With that higher population has come a wider distribution, but also an increased movement onto private land. Elk distribution in this context means the overall range of elk. Elk may move seasonally or even more frequently within a distribution area. Elk distribution on private land increased 17%, or more than 2 million acres, between 2004 and 2015.<sup>6</sup>

State law directs the Fish and Game Commission to determine the number of elk that can be viably sustained based on habitat acreage.<sup>7</sup> The statewide Elk Management Plan directs the DFWP to “maintain elk population numbers at levels producing a healthy and productive condition of elk, vegetation, soil, and water and that also reduces elk conflicts on private and public lands.”<sup>8</sup> The objective of the law and the plan is to keep populations at or below the sustainable population. In 2015, 80 hunting districts, more than half, were over objective. Another 29% were at objective, and 17% were below objective.<sup>9</sup> The area containing Districts 411E and 530 in the Big Snowy and Bull Mountains is

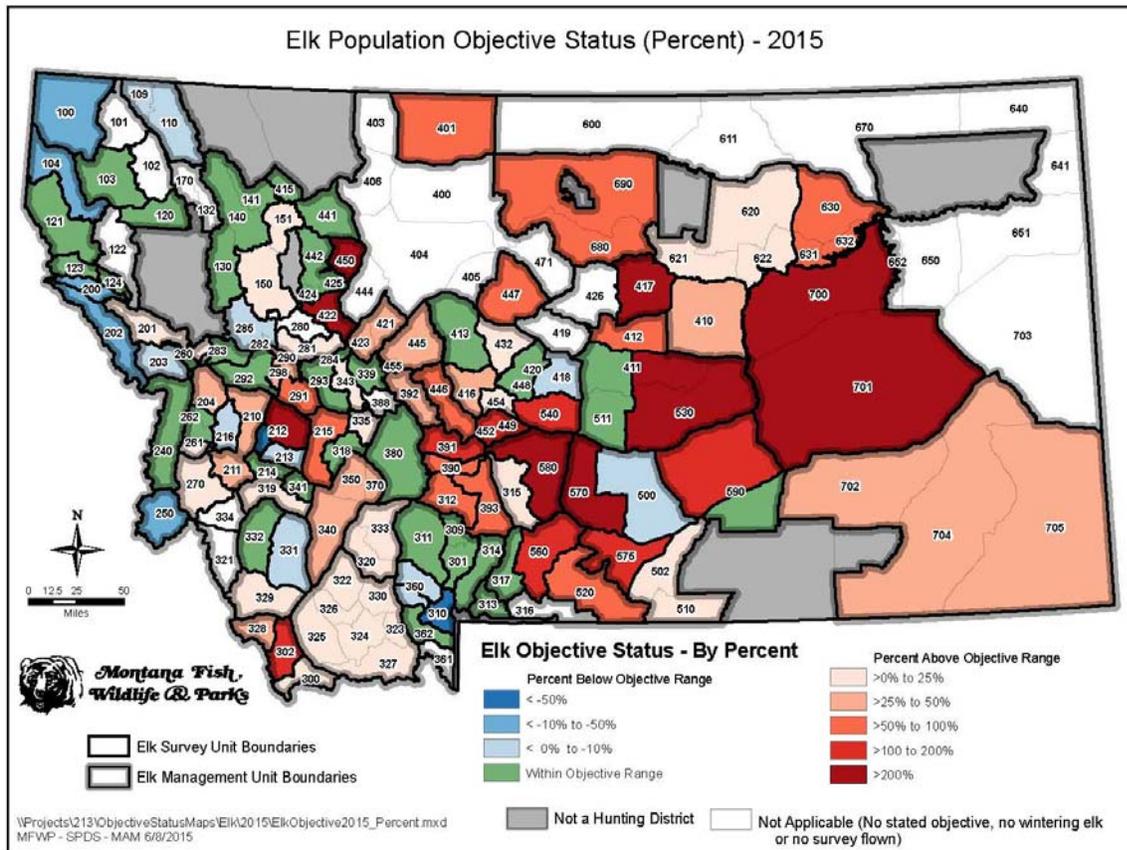
<sup>6</sup> FWP [Distribution Maps and Population Charts](#). Distribution areas represent land that elk may inhabit. Given that elk may roam in response to a variety of factors, it cannot be inferred that elk inhabit all lands in the distribution map equally or at all times.

<sup>7</sup> 87-1-323, MCA.

<sup>8</sup> [Statewide Elk Management Plan](#)

<sup>9</sup> [2015 Population Status Chart](#)

nearly 10 times over objective with an estimated 5,082 elk in the area.

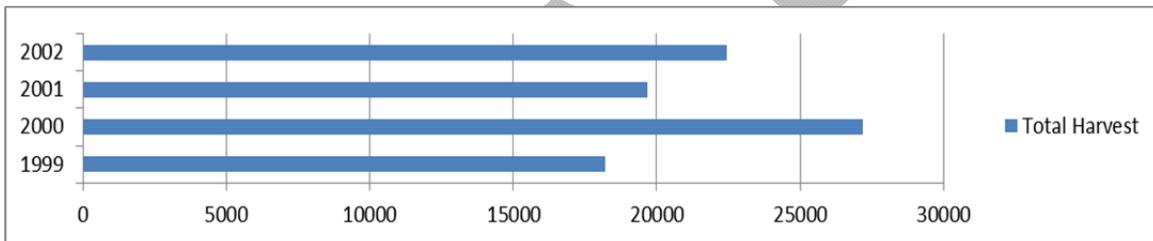
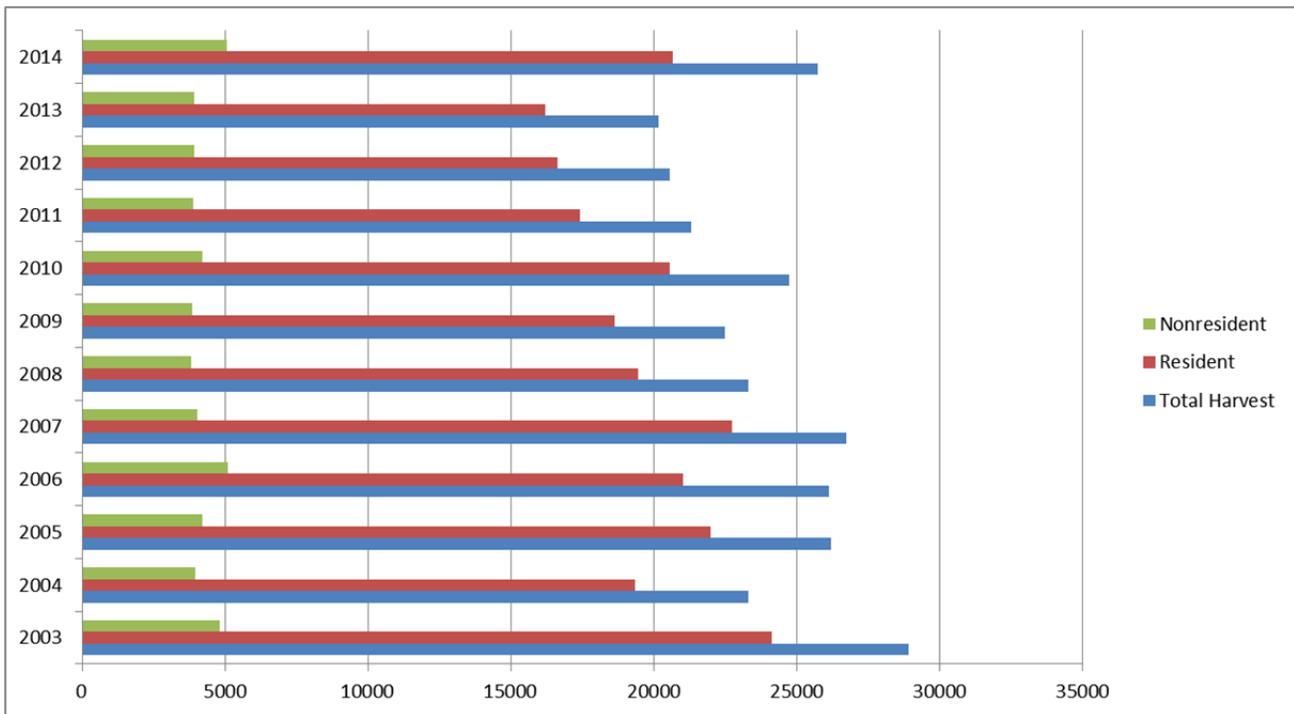


The next highest, at about five times over objective with 547 elk, is District 450 which lies between the Teton and Sun Rivers.

**HARVEST<sup>10</sup>**

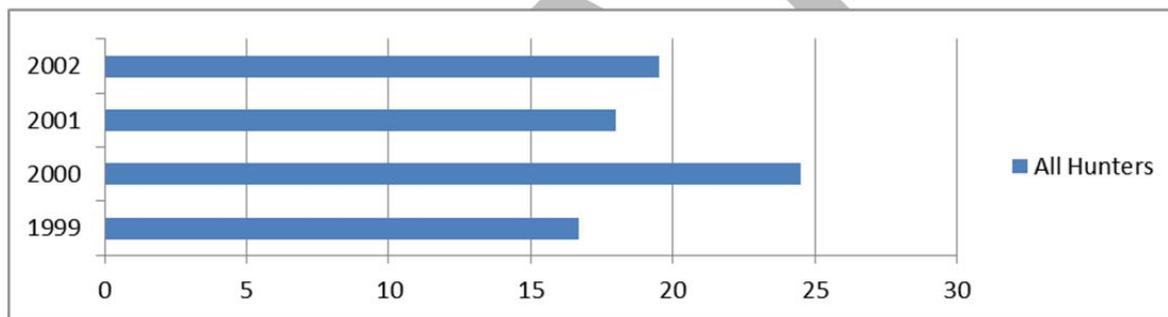
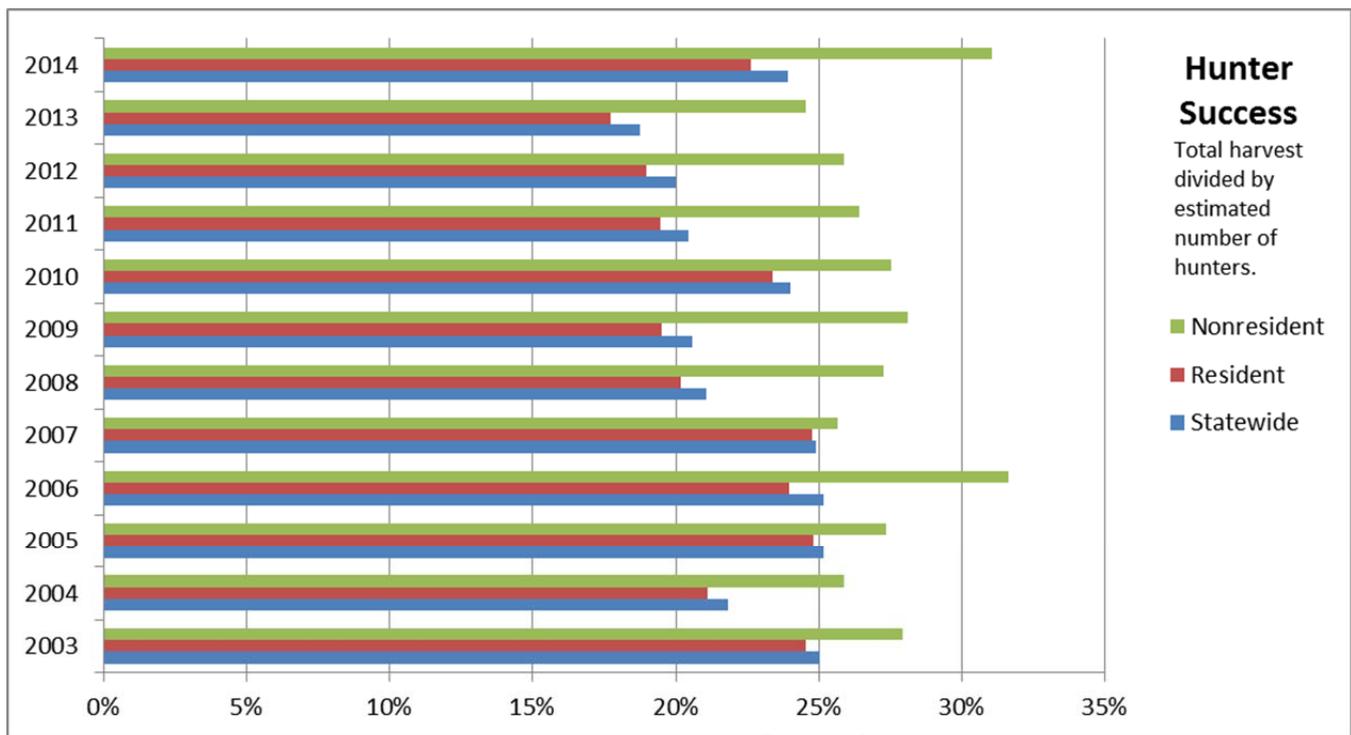
Over the last 16 years, the number of elk killed in Montana ranged from a low of 18,209 in 1999 to a high of almost 29,000 in 2003.

<sup>10</sup> These statistics are derived from Fish, Wildlife, and Parks [harvest reports](#). For the years 1999-2002, numbers were not broken out between residents and nonresidents.



In terms of success rates, the low was again in 1999, when 16% of hunters filled a tag.<sup>11</sup> For the rest of the period examined, in most years at least one out of every five hunters shot an elk. Nonresident hunters, at least some of whom likely hired guides and hunted on private land, fared better than residents.

<sup>11</sup> For this analysis, the success percentage is the number of elk divided by the number of hunters.

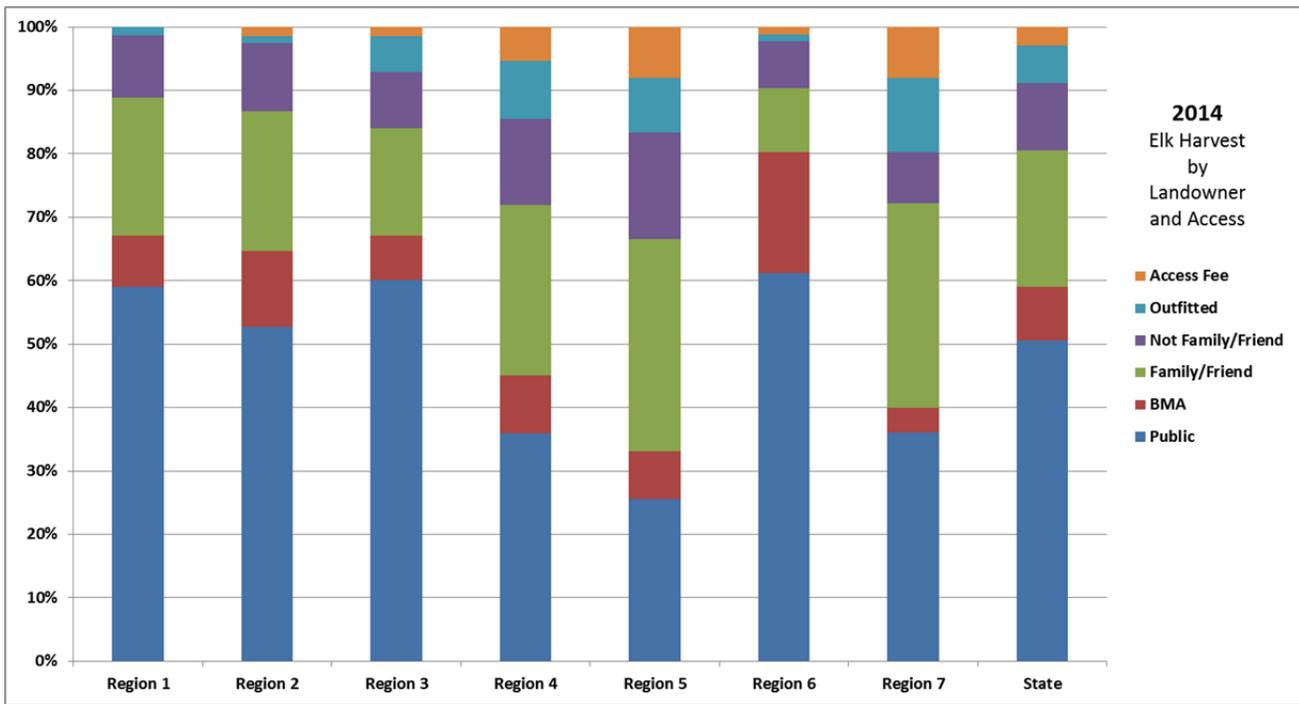


Of the more than 25,000 elk killed by hunters in 2014, about half died on public land. Another 19% were either killed on private land in the block management program or by hunters who did not have a relationship with the landowner. The remaining 31% were harvested on private land by outfitted hunters, family and friends of the landowner, or those who paid an access fee.

Regions 4, 5, and 7, which have less land in elk habitat than the three westernmost regions, had the lowest percentages of harvest on public land.

While most elk were killed on public or block management lands, hunters on those lands in 2014 had much lower success rates than those on private land. Fourteen percent of elk hunters on public land were successful. Of those who hunted on private block management land, 8% got their elk. The success rates rose on private land and were highest on private land that was either outfitted or subject to access fees.<sup>12</sup>

<sup>12</sup> FWP, [HD Unit Research Summary No. 38](#), September 2014



### DEER POPULATION & HARVEST

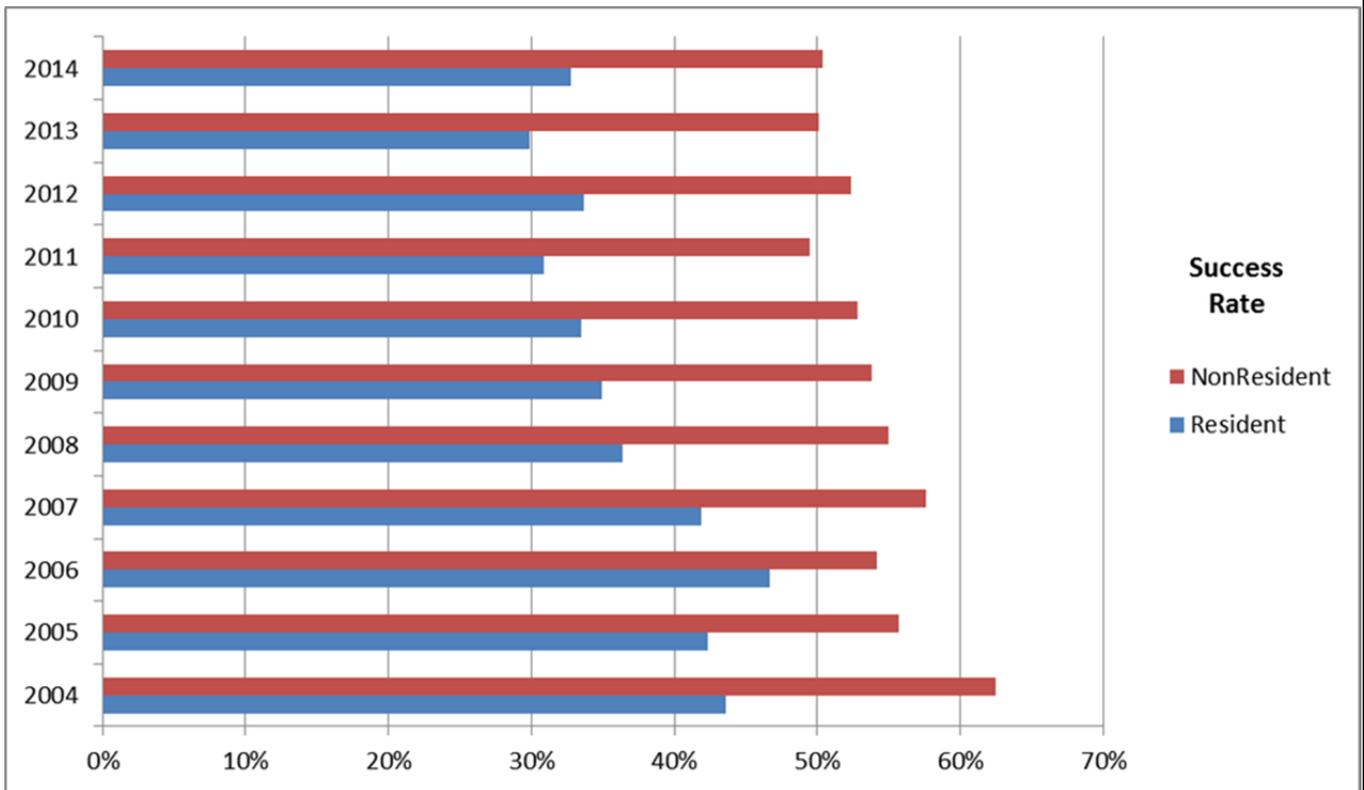
Almost 300,000 mule deer and about 200,000 white tailed deer are estimated to live in Montana. After recent rough winters and disease outbreaks, the populations are starting to rebound. The total deer harvest and success rates also declined from a high in 2006.<sup>13</sup>

### 2015 WHITE TAILED DEER STATUS

	WHITE TAILED DEER POPULATION ESTIMATES	YEARS USED FOR 10-YEAR AVERAGE	2015 TOTAL
REGION 1	75,920	2005-2014	84,655
REGION 2	33,791	2005-2014	35,872
REGION 3	23,974	2003-2008 & 2011-2013	23,451
REGION 4	30,225	2003-2008 & 2011-2013	26,193
REGION 5	18,297	2005-2014	12,520
REGION 6	13,216	2005-2014	11,110
REGION 7	12,154	2005-2014	14,350
<b>STATEWIDE TOTAL</b>	<b>207,577</b>		<b>208,151</b>

The estimates for white tailed deer populations are based upon population modeling with survey and harvest  
 White tailed deer estimates are not comprehensively validated with site-specific research or enhanced monitoring  
 White tailed deer estimates are not framed with confidence intervals and are subject to adjustment.

<sup>13</sup> Statewide success for deer harvest is the total harvest estimate divided by the number of licenses and permits issued.



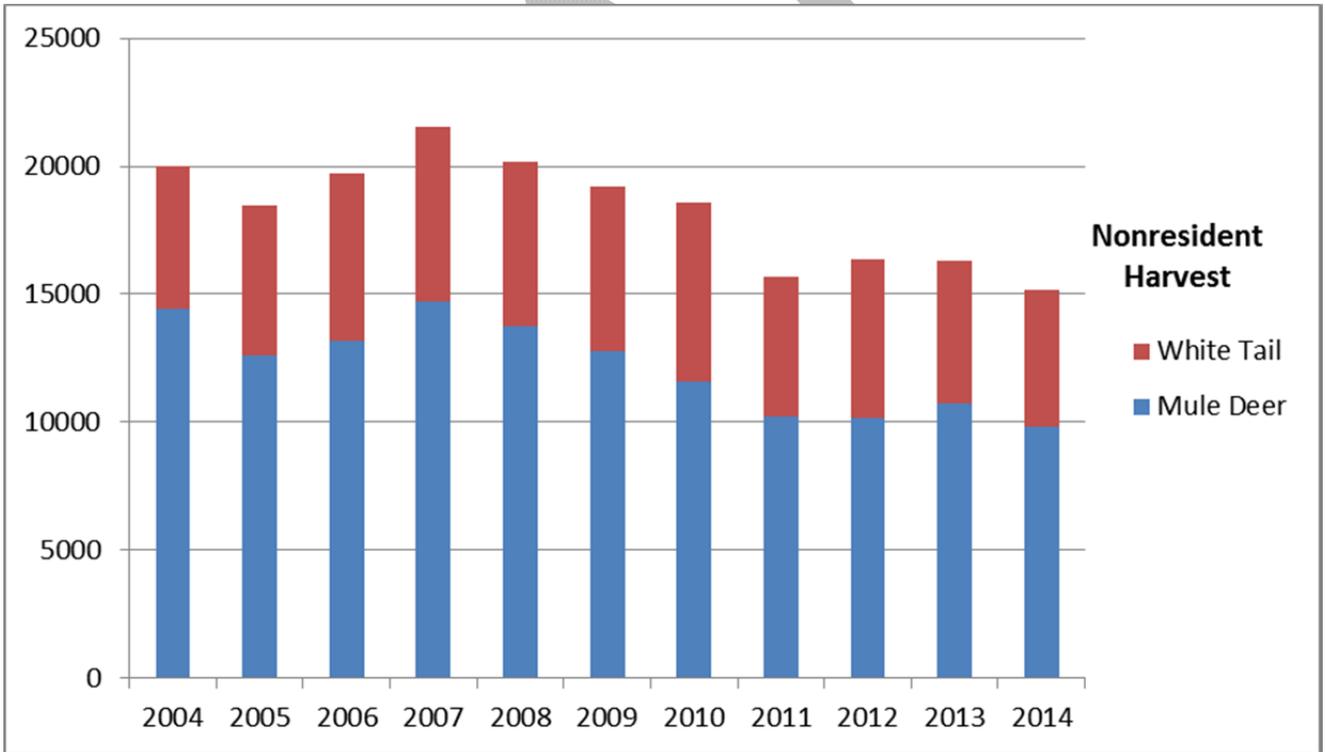
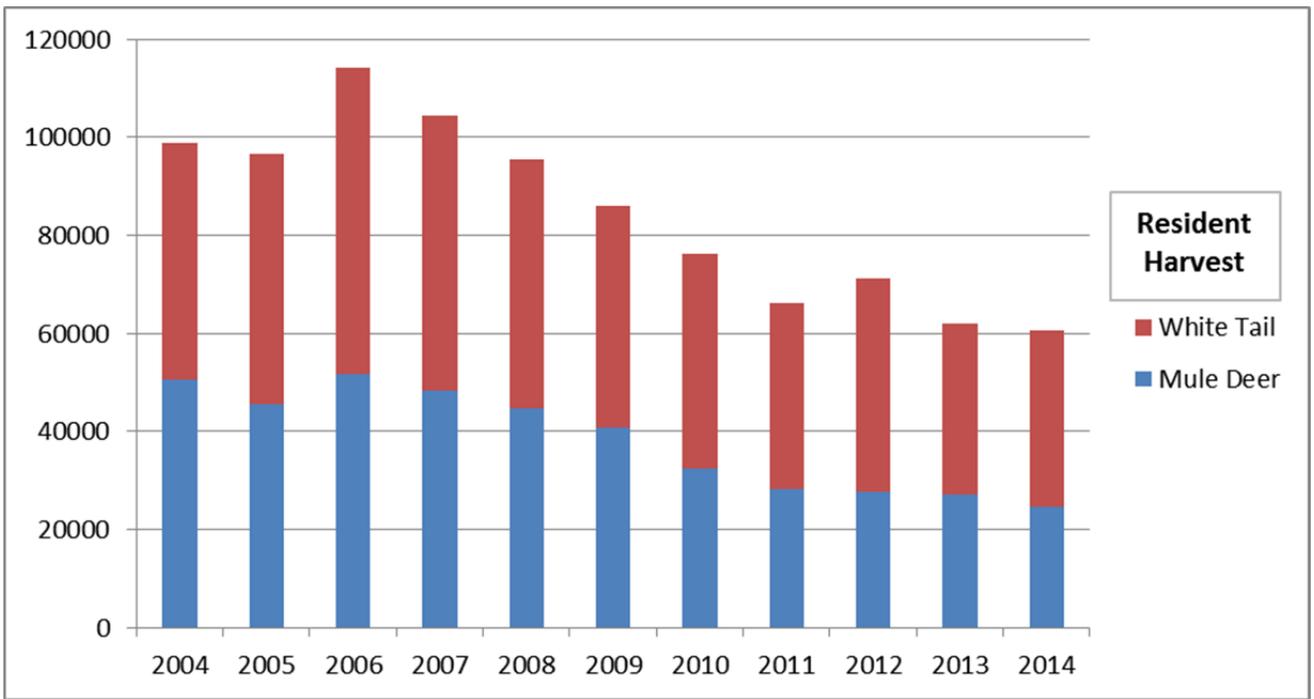
**2015 MULE DEER STATUS**

Region	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	AVERAGE
1	15,260	16,722	13,915	11,722	9,296	8,983	13,095	6,226	7,590	10,782	8,008	11,359
2	18,599	21,209	24,837	16,188	13,229	11,486	14,226	11,472	12,754	12,267	14,26	15,627
3	51,116	52,477	62,759	46,594	40,747	33,624	33,293	33,204	34,172	35,482	38,91	42,347
4	76,408	68,337	70,262	65,826	59,589	50,096	46,384	46,216	49,210	56,133	56,62	58,846
5	43,139	38,434	41,765	41,791	39,813	38,334	34,720	33,836	37,977	32,185	32,04	38,199
6	35,305	48,902	39,683	51,428	45,056	35,488	42,053	32,983	36,674	37,487	43,56	40,506
7	74,714	98,061	93,650	101,16	93,167	69,213	65,549	47,424	53,934	79,287	103,8	77,617
<b>TOTAL</b>	<b>314,541</b>	<b>344,142</b>	<b>346,870</b>	<b>334,71</b>	<b>300,895</b>	<b>247,224</b>	<b>249,320</b>	<b>211,361</b>	<b>232,312</b>	<b>263,62</b>	<b>297,2</b>	<b>284,501</b>
				7						3	31	

Mule deer estimates are not comprehensively validated with site-specific research or enhanced monitoring efforts.

Mule deer estimates are not framed with confidence intervals and are subject to adjustment.

The method used to make mule deer population estimates was changed in 2015. The estimates above are based on the new methodology.



### Additional information

- Background on state elk management;
- Summaries of big game management in plans for each National Forest in Montana and each BLM Field Office;
- Summaries of ongoing FWP elk research;

## EXPERT TESTIMONY, PUBLIC COMMENT, & EQC DISCUSSION

### September 9, 2015 EQC Meeting

#### FEDERAL ROAD MANAGEMENT

- George Bain, the Region 1 Director of Recreation, Lands, Minerals, Heritage and Wilderness for the U.S. Forest Service explained the evolution of road policy in the agency.
- Jamie Connell, the State Director for the Bureau of Land Management explained how the agency does travel planning
- Russ Ehnes, the Executive Director of the National Off-Highway Vehicle Conservation Council discussed the priorities of off-highway vehicle recreationists.
- Clayton Elliott, Policy Director for the Montana Wilderness Association discussed how the group participates in travel planning.

#### PUBLIC ACCESS TO FEDERAL LAND

- Alan Charles, the Sportsmen Landowner Relations Bureau Chief for DFWP explained Block Management, Unlocking Public Lands, and Access Public Land programs. Charles referenced "[The Montana Access Guide to Federal and State Lands](#)."
- Chuck Denowh of the United Property Owners of Montana discussed the role of private property owners and suggested ideas to encourage landowners to allow access to private land.
- Ray Marxer, a former board member of the Montana Stockgrowers Association, discussed public access, private land, and road management.
- Nick Gevock, the conservation director for the Montana Wildlife Federation, said the organization supports the acquisition of land that provides public access.
- George Bain, the Region 1 Director of Recreation, Lands, Minerals, Heritage and Wilderness for the U.S. Forest Service said the agency considers access as part of any land acquisition.
- Jamie Connell, State Director for the BLM, said access is a major issue for BLM lands.

### January 13, 2016 EQC Meeting

- Quentin Kujala, FWP Wildlife Bureau Coordinator said the agency aims to evaluate the amount of road access consistent with management prescriptions so that elk displacement does not reduce harvest.
- Eric Johnston, Region 1 USFS Deputy Director for Renewable Resources, discussed the distinction between access to National Forest System lands and open roads that provide opportunities for motorized travel. He explained the coordination between the Forest Service and the state regarding elk management.
- Rick Hotaling, BLM Western District Manager, explained BLM policy on access and roads.
- Mark Lambrecht, Director of Government Affairs for the Rocky Mountain Elk Foundation discussed issues affecting hunting opportunities in Montana.

- Marshall Johnson, Eastern Montana Regional Director for the Mule Deer Foundation explained the organization's views on public and private land and block management.

DRAFT

## TOUR

The EQC toured BLM and Forest Service lands near Helena with federal officials.

At the BLM Ward Ranch trailhead, officials discussed travel planning that closed the area between the trailhead and Canyon Ferry Reservoir to motorized use.

### Ward Ranch



**Pictured above from left to right:** Rep. Jerry Bennett, Rep. Willis Curdy, Mr. Bert Lindler, Rep. Janet Ellis, Sen. Mike Phillips, Mr. Roy Morris, Sen. John Brenden, Sen. Rick Ripley, Sen. Jim Keane, Sen. Gene Vuckovich, Montana BLM Director Jamie Connell, Rep. Ed Lieser, Jeanne Holmgren, Forest Service realty specialist.



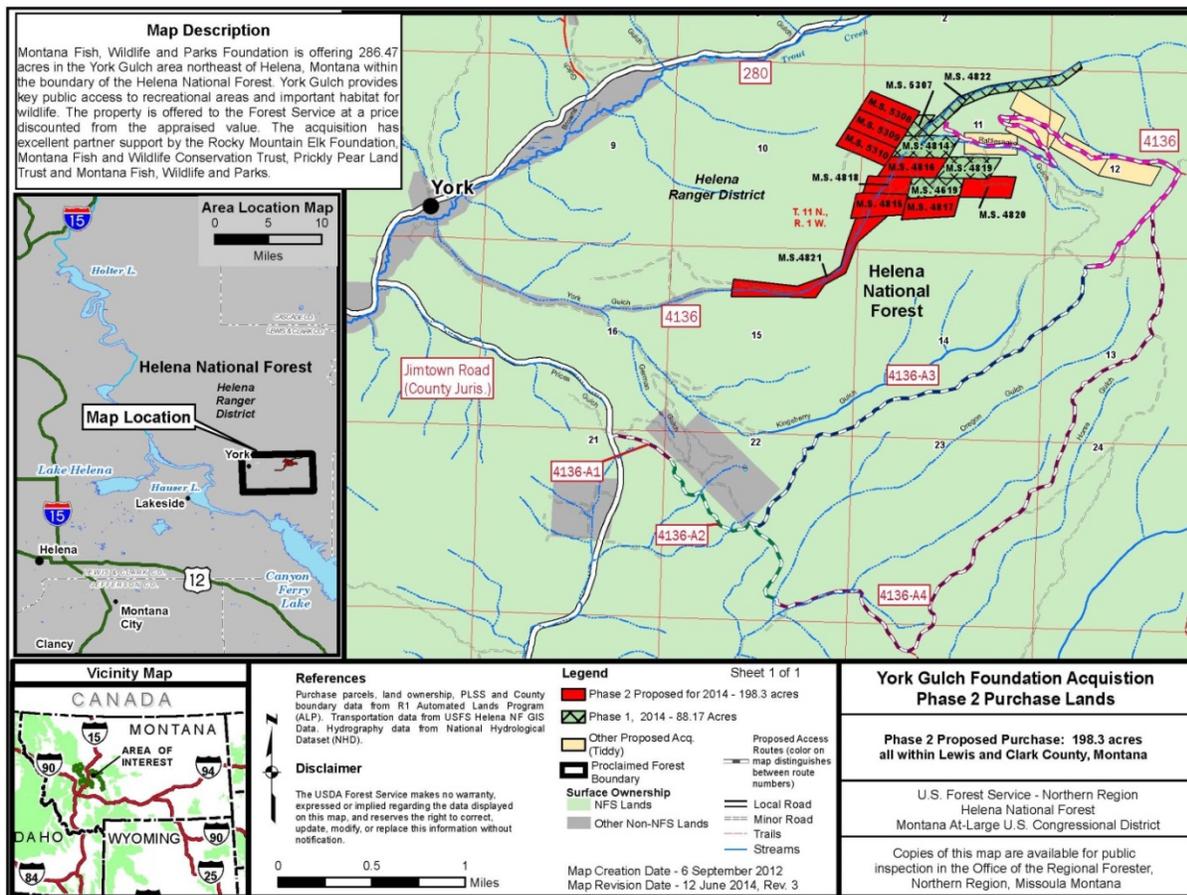
**At far left:** Scott Haight, a BLM field manager from Butte, explains the BLM acquisition of the Ward Ranch property and the travel planning process the agency uses to determine the closure of certain roads. To his right are USFS state liaison John Hagengruber, Rep. Ed Lieser, and Mr. Bert Lindler.

# York Gulch

The EQC also toured a 200 acre Forest Service land acquisition in the York Gulch that provided permanent

**At right:** Jeanne Holmgren, Forest Service realty specialist, explains the York Gulch land acquisition .

**Below:** The map shows the parcels acquired and the public access secured.



## MAP OVERVIEW

The EQC gathered a large amount of data during the HJ13 study that is best displayed with an online map.

### Getting Started

Click on the [link: http://arcg.is/1OiyF1G](http://arcg.is/1OiyF1G)

The map comes up showing Elk Hunter Success by hunting district (the antlered icon) and the percentage of inaccessible public land by hunting district (the darker the color the higher the percentage).

### Explore

Click on the Content tab.

The Content tab shows all the layers available for viewing. By checking and unchecking the boxes in Content, layers turn on and off in the map. (If you have too many turned on at once, it will be hard to read the map.

- Elk Success is the number of elk harvested by district from 2004-2012, and 2014 divided by the number of hunters. (An estimate for the number of hunters by district is not available for 2013).
- Elk Distribution shows the general area elk inhabit in Montana. Keep in mind that elk may move in response to seasons or for other reasons, so elk are not distributed evenly across the distribution area at any one time.
- Elk Objective shows the population of each district in relation to the desired objective population.
- Elk Harvest per HD square mile is the density of the historic elk harvest in relation to the area of the district.
- White Tail Success 2013 is the number of deer harvested in 2013 divided by the estimated hunters in each district. (District estimates are not done annually).
- Mule Deer Success 2013 is the number of deer harvested in 2013 divided by the estimated hunters in each district. (District estimates are not done annually).
- Percent Inaccessible Public Lands by HD is the percent of public lands in the district that do not have legal access by road or water. (The lands may be accessed by permission of an adjoining landowner, but that information is not available).
- Percent Public Land Ownership by Hunting District shows how much of the district is publically owned.
- No Access Public Lands. These parcels with no legal road or water access show up as the map is zoomed into a specific area.
- Miles of open FS Roads by HD shows the total mileage in each district of roads open to motorized travel in the national forests.
- Miles of closed FS roads by HD shows the total mileage in each district of roads closed except for administrative use (Level 1).
- National Forest System Roads closed to motorized uses will appear as the map is zoomed into a specific area. Roads will appear in red.
- BLM Roads shows roads that are open, closed, temporarily closed, and without designation.

- FWP administrative regions shows the districts contained in each region.
- National Forest System Roads will appear as the map is zoomed in.
- Montana Cadastral Parcels will appear as the map is zoomed in. Clicking on the parcel will show the ownership.
- Vegetation Analysis shows how vegetation changed between 1990-2010.

## Tips

- The map can be zoomed in and out with the cursor.
- Clicking on the words in a layer (not the box) will bring up the legend for that layer.
- Only turn on one of the Success layers at a time and view it in conjunction with the information sought. For example, Elk Success and Objective. Or turn off Objective and turn on Percent Inaccessible Lands to see how those relate.
- Clicking anywhere on the map will open a pop up box that shows information about the layers that are checked. In the upper left, it will show how many layers are open click the right arrow to move through the boxes.

## RESULTS OF FWP SURVEY

Forthcoming

## PUBLIC COMMENT

To Be Solicited

## FINDINGS AND RECOMMENDATIONS

To Be Determined by the EQC

## A short history of road policy on federal land

Environmental Quality Council - Joe Kolman, Environmental Analyst (Rep. White additions 3/16)

1897

- The Organic Act states the purpose of forests is to improve and protect the forest, secure favorable water flows, and furnish a continuous supply of timber. A settler residing in a forest could construct wagon roads or other improvements to access a home and to utilize the settler's property. Anyone could enter the national forests for lawful purposes, including mineral exploration or development, provided that rules and regulations covering the forest were followed.

1946

- Bureau of Land Management created. Applicable laws include Taylor Grazing Act.
- The BLM had no unified legislative mandate until Congress enacted the Federal Land Policy and Management Act of 1976 that repealed Taylor Grazing Act and 1866 Mining Act, including Revised Statute 2477, which said "The right-of-way for the construction of highways across public lands not reserved for public purposes is hereby granted." Existing rights were grandfathered.

1950

- The road system in national forests is largely built to harvest timber and develop other resources. In 1950, loggers harvest 3.5 million boardfeet from national forests. It is estimated that 14,000 vehicles per day access forests for timber purposes compared to 137,000 per day for recreational use.

1960

- Congress passes Multiple Use Sustained Yield Act for forests. In addition to original uses of waterflow and timber supply, the act deems outdoor recreation, livestock grazing, wildlife and fish habitat, and wilderness as uses of the national forest.

1964

- Congress finds that an adequate system of roads and trails in national forests is essential to meet increasing demands for timber, recreation and other uses. Forest Service authorized to acquire, construct, and maintain roads to permit maximum economy in harvesting timber while meeting requirements for protection, development, and management of forests.

1970

- Timber production rose steadily from 1950 to 1970. In this year, 12 million board feet was harvested, with about 47,000 timber vehicles driving through forests each day. Recreational use rose more dramatically, increasing six times the number of vehicles in 1950 to about 900,000 vehicles a day in 1970.

1972

- President Nixon issues executive order ordering that off highway vehicle use on lands managed by the Forest Service or the BLM be relegated to areas and trails designated by the agency. The purpose is to control OHV use to protect land resources, promote safety of all users, and minimize conflicts.

1974

- Congress passes Forest and Rangeland Renewable Resources Planning Act requiring national forests to develop, maintain, and revise as appropriate, land and resource management plans.
- Forests directed to inventory all wheel tracks, regardless of how developed. Many forests added those wheel tracks to the Forest Development Road System.

## A short history of road policy on federal land

1976

- Congress passes Federal Land Policy and Management Act for BLM lands with a broad definition of multiple use of resources including recreation, range, timber, minerals, watersheds, wildlife and fish, as well as natural scenic, scientific, and historical values.
- National Forest Management Act revises 1964 law to require that temporary roads for timber harvesting or other uses be revegetated within 10 years after the use unless the road is needed as permanent.

1977

- President Carter amends Nixon's executive order requiring agencies to close areas or trails immediately if off-road vehicle use is causing or will cause considerable adverse effects on soil, vegetation, wildlife, wildlife habitat, cultural, or historical resources.
- Areas are designated as open to cross-country OHV use, limited to a specific route, or closed.

1980s

- The value of timber fluctuates. Annual timber harvest hits low of 8 billion board feet in 1981 and high of 12.7 in 1987. Use of the forest by timber-related vehicles fluctuates too. Recreational use continues to rise to almost 1.2 million per day.
- Road miles increased dramatically as forests complied with directives to inventory all wheel tracks and temporary roads were built instead of permanent roads in an effort to reduce road costs for timber harvests.

1985

- There are 628 miles of roads maintained at some level on BLM land in Montana. Total road mileage is not known. The maintenance budget, which includes roads among other facilities, is \$642,000.

1990

- A federal audit finds the BLM completed fewer than half of the required resource management plans, which includes travel planning, as required by law in 1976.
- In response to budget cuts in the 1980s, the BLM reduced its planning staff nationwide by 50%.
- In Montana, the maintenance budget doubled from 1985 to \$1.6 million, but the miles of road maintained declined for the same period from 628 to 489. The amount of funds dedicated solely to road maintenance is not available.
- The Government Accounting Office also cited an institutional unwillingness to balance competing uses, including grazing and OHV recreation, with wildlife.

1991

- Region 1 Forest records 46,800 system miles of roads of which 10,700 are closed to motorized use.

1995

- A government report finds the BLM and the Forest Service struggle to implement provisions of executive orders issued two decades earlier on OHV use.
- The report cites failure to address resource damages, incomplete inventories of routes, inadequate mapping and posting of routes, untimely resolution of user conflicts, and limited monitoring.
- Limited funding and staffing are cited as reasons for mixed compliance with executive orders.

1997

- Region 1 reports 49,400 system miles of roads an increase from 1991. Roads open to some motorized use decreases by about 2,000 miles. Roads closed to motorized use increases by 4,400 miles.
- A government audit reports that forest management plans, which includes road planning, may be out of date and fail to take into account current timber conditions; meaning some roads in the plans may not be needed.
- The total board feet of timber harvested on national forests is about one third of what it was a decade ago and timber vehicles using roads dropped accordingly. Recreational usage increases 44 percent in the same time period.

## A short history of road policy on federal land

1998

- In response to increased recreational use, public debate about appropriate uses of the forests, and costs associated with resource development, including road building, the Forest Service suspends road building in roadless areas for 18 months and announces it will begin revising road policies.
- The Forest Service says 373,000 miles of inventoried system roads exist nationwide. But estimate that at least another 60,000 miles of roads created by repeated public use are not managed or maintained as part of the forest system.
- Many forest roads are more than 50 years old and have not been maintained regularly.

2000

- The Montana BLM maintains 633 miles of roads with a maintenance budget of \$2 million. The amount of funds dedicated solely to road maintenance is not available. Both are increases over 1990.

2001

- New Forest Service rules:
  - seek to balance safe and efficient access for all users and maintain healthy ecosystems;
  - prohibit road construction, reconstruction, and timber harvesting on inventoried roadless areas;
  - find that the existing road system in national forests is mostly complete and shifts focus from new road development to managing access according to the capability of the land and decommissioning unneeded roads; and
  - pledge to keep decisions on road management at the local level.

2003

- The Forest Service and the BLM issue a record of decision for off highway vehicle travel on federal lands in Montana and the Dakotas. The agencies say the decision minimizes further resource damage, user conflicts, and related problems, including new user-created roads.
- Cross country travel is prohibited.
- The BLM is charged with designating specific roads and trails for motorized use on a site specific basis. Montana field offices start work on travel management plans.

2005

- Forest Service rule requires designation of roads and trails open to motorized use. If a road or trail is not designated on a map, it is not open.
- Some user-created roads may be designated as part of the system, but those not inventoried are closed.
- The agency says closure signs are difficult to maintain and subject to vandalism.
- BLM Montana maintains 897 miles of road. About \$679,000, or 30% of the maintenance budget is dedicated to roads.

2006

- Dillon Field Office adopts first BLM travel plan in state.
- No areas are open to cross country travel. More than 800,000 acres managed as limited travel on designated routes, including 1,342 miles of road open to public travel, of which 159 miles is open seasonally.

## A short history of road policy on federal land

2009

- More than 30 years after the executive orders issued governing OHV use on federal lands, a federal audit finds travel planning is complete for about 28% of Forest Service lands. Given that the agency says unmanaged motorized travel is one of the top threats to forests, the audit finds the agency lacks direction to implement its plans.
- Roads and trails on BLM lands associated with recreational use were originally developed for trade, mineral exploration, ranching, forestry and other purposes, some dating back 200 years. The audit finds the BLM does not yet have deadlines for implementing travel plans in field offices.
- Butte Field Office of BLM adopts second BLM travel plan in state.
  - Plan designed to provide public and administrative access, minimize user conflicts and natural resource impacts, and be financially affordable.
- More than 400 miles of road are open to the public of which 263 miles are open year round.
- 317 miles of road are closed year round and another 53 miles will be decommissioned.

2010

- BLM Montana maintains 1,167 miles of roads with \$663,000, about one quarter of the maintenance budget.

2014

- BLM Montana maintains 657 miles of road with \$818,000, about one-third of maintenance budget.

# HJ13 Member-Suggested Findings & Recommendations – May 2016

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## ***Rep. White***

## ***Rep. Lieser***

- 1) The EQC examined roads currently managed by the Forest Service and compiled available information on Forest Service roads decommissioned and unauthorized roads created on Forest Service lands. Not all unauthorized roads were documented prior to closure and the agency has inadequate records to document roads decommissioned prior to 1990.
  - a) The EQC found that since 1995, almost 22,000 miles of roads on Forest Service lands were closed.
  - b) The EQC examined roads on land owned by the Bureau of Land Management. About 1,700 miles of roads are closed to motorized use. In addition, almost 900 miles of road are closed to motorized use at least part of the year.
- 2) While the EQC did not study rights-of-way across unreserved public lands granted by a provision in the 1866 Mining Act, some of these roads may exist in Montana and may provide public access to public lands. The 1866 law, Revised Statute 2744, was repealed in 1976. However RS2477 roads in existence at the time were grandfathered.
  - a) The EQC recommends the Legislature provides an appropriation and designate an agency to identify grandfathered RS2477 roads in Montana.
- 3) The EQC recommends the Legislature adopt a resolution urging federal land management agencies to consider local management or maintenance agreements for federal roads that otherwise may be subject to permanent or temporary closure.
- 4) The EQC recommends that the DFWP and the State Parks and Recreation Board identify off-highway vehicle roads and trails that connect to state parks and other lands managed by the DFWP.
- 5) The EQC examined data in various formats for Forest Service roads dating back in some cases to the 1970s as well as the laws and policies that affected road policy. The Council also analyzed elk and deer harvest data and academic studies that address the relationship between roads and wildlife.
  - a) The EQC finds that the complexity and quantity of data results in a relationship between roads and wildlife that is best examined by controlled scientific studies that are able to track the movements of wildlife in relation to roads and other factors that may influence wildlife movement.
  - b) The EQC finds that research conducted by wildlife professionals indicates that high road densities have a negative impact on elk populations, as does the loss of habitat (cover and forage) and hunting pressure.
- 6) Over a period of more than a century, road management on federal land has evolved from a laissez-faire approach, allowing landowners to build roads as needed, to active management of a complicated road system serving with a wide array of objectives.

- 7) Contemporary management of state and federal roads incorporates intensive public involvement. Environmental analysis on federal travel management plans that comply with the National Environmental Policy Act require meaningful engagement with individuals and agencies that have a site-specific and/or a general interest. Because of the diversity of public opinion, decisions on road management regimes are controversial and met with both support and rejection.
- 8) National Forests in Montana currently have a very large backlog of deferred maintenance requiring millions of dollars (\$2.9 billion nationally) before the road system can be brought to a standard that is safe for public traffic and protects the environment from detrimental effects.
- 9) At various times in the history of the state of Montana and recently there have been efforts to transfer federal lands to the states. In fact, some Montana legislators are now promoting the concept.
  - a) The EQC finds that if Forest Service or Bureau of Land Management lands were transferred to state of Montana the cost of managing that system of roads would be a financial burden the state could ill afford.
- 10) A 2013 analysis by the Department of Fish, Wildlife, and Parks found 3,116,800 acres (4870 square miles) of public land cannot be accessed by a legal road or water access. Of those parcels, 978,647.6 acres (1,529.13 square miles) lies in areas elk may inhabit. Without more information and analysis, the EQC is unable to determine if road closures across private lands created isolated public parcels.
- 11) Elk distribution on private land increased by 17% between 2004 and 2015.
- 12) As of 2015, 80 hunting districts had elk populations that exceeded target populations determined to be sustainable based on habitat. Two of those districts had elk populations more than ten times the objective population.
- 13) The EQC compiled information on roads, public land, inaccessible public land, and hunter success rates for every hunting district in the state. Given the scope of the HJ13 study and the knowledge that a variety of factors may influence hunter success, the EQC is unable to determine if hunter success in a specific district was influenced by road closures or inaccessible public land.
- 14) Although all but 232 square miles of national forest lands has public access, about 4,500 square miles of lands managed by the Bureau of Land Management and the State of Montana lack legal public access, with the inaccessible lands evenly divided between the two ownerships.
  - a) The EQC finds that providing hunting opportunities on public land requires careful and thoughtful management.
  - b) The EQC recommends the creation of an interagency access committee to be led by the Montana Association of Counties. Representation should include the BLM, USFS, USFWS, DNRC and the DFWP. Committee duties would include:
    - i. Develop an inventory of public land where public access is restricted or not available;
    - ii. Develop an inventory of public roads;
    - iii. Report to the EQC, state agencies, and the public recommendations to increase public access to public lands.
  - c) The EQC recommends that the Legislature and participating agencies provide adequate funding and personnel to the interagency committee.