

# YELLOWSTONE BISON POPULATION MANAGEMENT ACTIVITIES

This report summarizes management activities associated with implementation of the Record of Decision for the Final Environmental Impact Statement and Bison Management Plan for the State of Montana and Yellowstone National Park for the time period 1 September 2007 through 31 August 2008. The reporting period for this summary is **16 April through 30 April 2008**.

## **PARKWIDE DISTRIBUTION:**

\*The information in the following paragraph is **not** intended as a population estimate. This information provides an *approximate* number of bison in certain geographic areas that have been surveyed in the past month. In no way is this information complete and accurate enough for a population estimate.

In the interior some mixed groups, totaling ~200, moving around Hayden Valley, the Lakeshore and in Pelican Valley. There are approximately 400 bison in the Geyser Basins with some movement toward the park's western boundary. There are approximately 165 bison out of the park, west of Hwy 191 and on Hwy 191 itself. There are approximately 100 bison between 191 and Cougar Meadows inside the park. On the Northern Range bison are primarily utilizing Blacktail, Hellroaring Slope and Little America. There are now roughly 140 bison on Blacktail Deer Plateau. There are approximately 300 bison in the Gardiner basin, including ~215 in the Eagle Creek area.

## **Population Estimate/Park-wide Flight**

We completed an additional late winter count of the Yellowstone bison population on April 11, 2008 to (1) document distribution in the Interagency Bison Management Plan zones near the park boundary and adjacent areas in Montana, (2) monitor abundance on wintering ranges from which bison often migrate toward the boundaries during calving, and (3) estimate population size.

We observed 1,970 bison during the survey, including 239 held for release within the Stephen's Creek Capture Facility, 615 on the Northern Range, and 1,116 in the Central Interior (Figures 1 and 2: attachments). Our corrected population estimate based on established sightability indices was 2,145 bison, with a 95% confidence interval of 2,048 – 2,528 (Table 1). Almost all (88%) bison on the Northern Range were observed near or adjacent to the boundary, including 239 (28%) within the Stephen's Creek Capture Facility, 343 (40%) in the Gardiner basin, and 168 (20%) on the Blacktail Deer Plateau (Tables 1 and 2). Relatively few (231, 21%) of the 1,116 bison counted in the Central Interior were observed within the Western Management Zone and central herd animals were observed in all of the interior valleys, including 539 (49%) in the Firehole, 114 (10%) in the Gibbon, 83 (7%) in the Hayden, and 147 (13%) in the Pelican Valleys (Tables 1 and 2).

There may be fewer than 50% of the 4,694 individuals counted in the population during this previous summer remaining in the population. The total number of animals removed through April 15<sup>th</sup> was 1,710 bison including 166 hunting kills, 4 management facility mortalities, 6 management shootings, and 1,534 consigned to slaughter or quarantine. Annual natural mortality estimated for adult animals ranges from 4-15% and >20% for juveniles and is affected by winter severity (Fuller et al. 2007). Therefore, at least 400 to 700 additional animals may die due to predation, malnutrition, other natural causes (e.g. drowning), or motor vehicle accidents during winter. Our population estimate (2,048-2,528) is corroborated by the pre-winter estimate

reduced by known numbers of management removals and estimated natural mortality. Thus, we believe the Yellowstone bison population has reached the management conservation threshold of 2,300 animals.

**Table 1.** The distribution of bison observed in each survey unit during an aerial survey in and adjacent to Yellowstone National Park on April 11, 2008.

<b>Survey Unit</b>	<b>Bison observed</b>
Held within Stephen's Creek Facility	239
Northern Range	615
Hayden Valley	83
Pelican Valley	147
Madison-Gibbon Rivers	199
Firehole River	539
West Yellowstone	148
<b>Total</b>	<b>1,970</b>
<b>95% confidence interval</b>	<b>2,048 - 2,528</b>
<b>Population estimate</b>	<b>2,145</b>

**Table 2.** The distribution of bison observed in Interagency Bison Management Plan (IBMP) zones in and adjacent to Yellowstone National Park during an aerial survey on April 11, 2008.

<b>NORTHERN MANAGEMENT</b>		<b>WESTERN</b>	
<b>MONITORING AREA</b>	<b>No. Bison Observed</b>	<b>MANAGEMENT MONITORING AREA</b>	<b>No. Bison Observed</b>
IBMP Zone 1	69	IBMP Zone 1	88
IBMP Zone 2	139	IBMP Zone 2	58
Eagle Creek/Bear Creek	135	West of Madison Junction	85
Hellroaring/Cottonwood Creek	52	<b>Total</b>	<b>231</b>
Blacktail Deer Plateau	168		
Swan Lake Flats/Gardner's Hole	26		
Stephen's Creek Capture Facility	239		

<b>Total</b>	<b>828</b>
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An additional management zone flight was conducted on April 27, 2008 to determine bison numbers and distribution near the northern and western boundaries.

**Table 2.** The distribution of bison observed in Interagency Bison Management Plan (IBMP) zones in and adjacent to Yellowstone National Park during an aerial survey on April 27, 2008.

<b>NORTHERN MANAGEMENT</b>		<b>WESTERN</b>	
<b>MONITORING AREA</b>	<b>No. Bison Observed</b>	<b>MANAGEMENT MONITORING AREA</b>	<b>No. Bison Observed</b>
IBMP Zone 1	91	IBMP Zone 1	104
IBMP Zone 2	4	IBMP Zone 2	165
Eagle Creek/Bear Creek	215	West of Madison Junction	11
Blacktail Deer Plateau	146	Firehole Drainage	408
<b>Total</b>	456	<b>Total</b>	688

### **HAZING OPERATIONS:**

Hazing operations that occur near the North and West Boundaries are primarily conducted and reported by the YNP Division of Resource Management and Visitor Protection and MT Department of Livestock, respectively.

**North Boundary Area:** 22 hazing events occurred this reporting period.

\* Hazing occurred almost daily. Many of the hazing reports have not been filed yet because the officers in charge are working overtime every day with hazing and capture operations. The days that hazing occurred are still listed and information regarding those days will be included when information becomes available. Thank you for your patience and understanding.

Hazing occurred on the following dates.

April 16 - 21

24 April: 6 bulls were hazed from the Royal Teton Ranch to Stephens Ck

25 April: 38 mixed bison were hazed from the Royal Teton Ranch to Stephens Ck; 16 bison were hazed from mile marker 5 on Hwy 89 up to Little Trail Creek

April 26 - 30

Every day from 1 April through 15 April: information regarding the hazing conducted on these days will be reported when available.

**West Boundary Area:** 0 hazing events were reported this period.

### **CAPTURE OPERATIONS:**

Capture operations that occur near the North and West Boundaries are primarily conducted and reported by the YNP Division of Resource Management and Visitor Protection and MT Department of Livestock, respectively.

**North Boundary Area:** 0 bison were reported captured this reporting period

Adding the numbers below comes to an estimated total of 1619 bison captured.

Working backwards using numbers of bison shipped, held, sent to quarantine, etc. comes up with 1645 bison captured and is probably a more accurate estimate for total bison captured at Stephens Creek Capture Facility.

8 Feb: 54 bison captured	18 March: 35 bison captured
10 Feb: 42 bison captured	19 March: 4 bison captured
11 Feb: 4 bison captured	21 March: 120 bison captured
12 Feb: 44 bison captured	22 March: 95 bison captured
15 Feb: 31 bison captured	25 March: 61 bison captured
18 Feb: 100 bison captured	28 March: 35 bison captured
20 Feb: 15 bison captured	29 March: 33 bison captured
25 Feb: 190 bison captured	30 March: 23 bison captured
26 Feb: 18 bison captured	1 April: 119 bison captured
27 Feb: 19 bison captured	4 April: 40 bison captured
28 Feb: 123 bison captured	9 April: 120 bison captured
2 March: 12 bison captured	13 April: 2 bison captured
6 March: 106 bison captured	
7 March: 87 bison captured	
8 March: 76 bison captured	
10 March: 11 bison captured	

\*10 April: 15 bison escaped from the Stephen's Creek Capture Facility during a sorting procedure due to improper gate closure/latch failure.

**West Boundary Area:** 3 bison were reported captured this reporting period

26 Feb: 30 bison captured  
4 March: 51 bison captured  
5 March: 13 bison captured  
11 March: 13 bison captured  
8 April: 34 bison captured (Horse Butte)  
9 April: 5 bison captured (Duck Ck)  
28 April: 3 bull bison captured

### **Bison Transported to Slaughter**

<i>Boundary</i>	<i>Bison to Slaughter this reporting period</i>	<i>Total to Slaughter (Sept 1 – pres)</i>

West	3	149
North	0	1276
Total	<b>3</b>	<b>1425</b>

### *Stephen's Creek*

11 Feb: 37 shipped  
12 Feb: 30 shipped  
13 Feb: 16 shipped  
14 Feb: 44 shipped  
15 Feb: 17 shipped  
19 Feb: 31 shipped  
20 Feb: 55 shipped  
21 Feb: 60 shipped  
26 Feb: 48 shipped  
27 Feb: 69 shipped  
28 Feb: 68 shipped  
3 March: 69 shipped  
4 March: 14 shipped  
5 March: 62 shipped  
11 March: 59 shipped  
13 March: 61 shipped  
14 March: 25 shipped  
17 March: 57 shipped  
18 March: 62 shipped  
20 March: 21 shipped  
21 March: 14 shipped

### *Stephen's Creek cont.*

25 March: 20 shipped  
26 March: 22 shipped  
27 March: 16 shipped  
28 March: 16 shipped  
31 March: 20 shipped  
1 April: 13 shipped  
2 April: 34 shipped  
3 April: 20 shipped  
4 April: 37 shipped  
7 April: 15 shipped  
8 April: 45 shipped  
9 April: 40 shipped  
11 April: 18 shipped  
14 April: 21 shipped  
15 April: 20 shipped

### *Horse Butte*

27 Feb: 30 shipped  
5 March: 38 shipped  
6 March: 26 shipped  
12 March: 13 shipped  
9 April: 17 shipped  
10 April: 22 shipped  
29 April: 3 shipped

### **Bison Transported to Quarantine:**

<i>Boundary</i>	<i>Bison to Quarantine this reporting period</i>	<i>Total to Quarantine (Sept 1 – pres)</i>
West	<b>0</b>	<b>0</b>
North	<b>0</b>	<b>112</b>

### **Capture Pen Mortalities:**

<i>Boundary</i>	<i>Capture Pen Mortality this reporting period</i>	<i>Total Pen Mortality this operating season (Sept 1 – pres)</i>
West	<b>0</b>	<b>0</b>
North	<b>3</b>	<b>10</b>

27 February: 1 calf with a broken leg sustained outside the pen was dispatched  
2 March: 2-3 yr old bull was gored by an older bull in a holding pen and had to be dispatched  
13 March: 1 adult cow with a severe shoulder injury was humanely dispatched  
13 April: 3 newborn calves died from natural causes (they were born on the 9<sup>th</sup> and 10<sup>th</sup>)

14 April: 1 adult cow (mother to one of the calves listed above) died from natural causes  
 18 April: 1 adult cow died while trying to give birth (breeched)  
 22 April: 1 newborn calf (6 days old) died from natural causes  
 27 April: 1 3 yr old cow was nearly dead (unable to move or respond) from natural causes and was euthanized

#### **Other Information:**

Newborn Calves held at Stephens Creek: 53  
 Seropositive Pregnant Cows held at Stephens Creek: 18  
 Radio Collared Cows not tested but held at Stephens Creek: 26  
 Total Bison being held at Stephens Creek for spring release: 288 (235 adults and yearlings)

#### **INTERAGENCY BISON MANAGEMENT PLAN SHOOTING OPERATIONS:**

<i>Boundary</i>	<i>Bison Shot this reporting period</i>	<i>Total Shot this operating season</i>
West	0	0
North	0	6

11 April: 5 bulls shot near Carbella fishing access, west of Yankee Jim Canyon  
 11 April: 1 bull shot near milepost 5 on Hwy 89

#### **HUNTER HARVEST:**

The numbers are from reports by FWP wardens/biologists, hunters, NPS employees and BFC.

#### **Montana Fish, Wildlife and Parks Bison Hunt (Nov 15 – Feb 15)**

<i>Boundary</i>	<i>FWP Hunter Take this reporting period</i>	<i>Total FWP Hunter Take this operating season (Nov 15 – pres)</i>
West	0	50
North	0	13
<b>Total</b>	<b>0</b>	<b>63</b>

#### **Native American Tribal Treaty Right Bison Hunts**

<i>Boundary</i>	<i>Nez Perce Hunter Take this reporting period</i>	<i>Total Nez Perce Hunter Take this operating season (Jan 26 – Mar 3?)</i>	<i>Confederated Salish and Kootenai Hunter Take this reporting period</i>	<i>Total Confederated Salish and Kootenai Hunter Take this operating season (Nov 15 – Jan 31)</i>
West	0	19	0	38
North	0	45	0	1
<b>Total</b>	<b>0</b>	<b>64</b>	<b>0</b>	<b>39</b>

Year	Boundary	Month	Hazing Events	Mngmt Shootings	Total Captured	Captured & Tested	Slaughtered & Not Tested	Slaughtered & Tested Positive	Slaughtered & Tested Negative	Released/Held & Tested Negative	Released & Not Tested	Vaccinated	Quarantine	Capture/Pen Mortality	Hunter Take
2007	West	September	0	0	0	0	0	0	0	0	0	0	0	0	0
2007	North	September	0	0	0	0	0	0	0	0	0	0	0	0	0
2007	West	October	0	0	0	0	0	0	0	0	0	0	0	0	0
2007	North	October	0	0	0	0	0	0	0	0	0	0	0	0	0
2007	West	November 1-14	0	0	0	0	0	0	0	0	0	0	0	0	0
2007	North	November 1-14	0	0	0	0	0	0	0	0	0	0	0	0	0
2007	West	November 15-30	0	0	0	0	0	0	0	0	0	0	0	0	10
2007	North	November 15-30	0	0	0	0	0	0	0	0	0	0	0	0	1
2007	West	December 1-15	0	0	0	0	0	0	0	0	0	0	0	0	4
2007	North	December 1-15	1	0	0	0	0	0	0	0	0	0	0	0	4
2007	West	December 16-31	0	0	0	0	0	0	0	0	0	0	0	0	14
2007	North	December 16-31	1	0	0	0	0	0	0	0	0	0	0	0	3
2008	West	January 1-15	0	0	0	0	0	0	0	0	0	0	0	0	26
2008	North	January 1-15	1	0	0	0	0	0	0	0	0	0	0	0	1

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Year	Boundary	Month	Hazing Events	Mngmt Shootings	Total Captured	Captured &Tested	Slaughtered & Not Tested	Slaughtered & Tested Positive	Slaughtered & Tested Negative	Released/Held & Tested Negative	Released & Not Tested	Vaccinated	Quarantine	Capture/Pen Mortality	Hunter Take
2008	West	January 16-31	0	0	0	0	0	0	0	0	0	0	0	0	23
2008	North	January 16-31	2	0	0	0	0	0	0	0	0	0	0	0	3
2008	West	February 1-13	0	0	0	0	0	0	0	0	0	0	0	0	16
2008	North	February 1-13	9	0	144	18	82	0	1	0	0	0	0	0	7
2008	West	February 14-29	0	0	30	0	30	0	0	0	0	0	0	0	9
2008	North	February 14-29	7	0	496	0	375	0	17	0	0	0	0	1	39
2008	West	March 1-14	0	0	77	0	77	0	0	0	0	0	0	0	5
2008	North	March 1-14	15	0	292	0	290	0	0	0	0	0	0	2	1
2008	West	March 15-31	1	0	0	0	0	0	0	0	0	0	0	0	0
2008	North	March 15-31	31	0	406	201	187	61	0	66	0	0	74	0	0
2008	West	April 1-15	0	0	39	0	39	0	0	0	0	0	0	0	0
2008	North	April 1-15	23	6	281	320	126	137	0	127	0	24	38	4	0
2008	West	April 16-30	0	0	3	0	3	0	0	0	0	0	0	0	0
2008	North	April 16-30	22	0	0	0	0	0	0	0	0	0	0	3	0
Summary			113	6	1768	539	1209	198	18	193	0	24	112	10	166