

2010 Hay-Zama bison



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The Hay Zama wood bison population was established in 1983 and has been surveyed three times in the past (Morton 1993, Moyles 2007, 2008.) A hunting season was initiated in the fall of 2008 (September 1, 2008 to March 31, 2009), and a second season ran from September 1, 2009 to March 31, 2010. The hunting season was initiated to reduce bison numbers and distribution due to growing concerns over disease issues associated with bison moving west from Wood Buffalo National Park and public safety concerns and conflicts in communities and on area roads. We monitor the Hay Zama bison population and distribution by conducting aerial surveys in late winter. In February 2009, 597 bison were counted (Moyles, pers. comm.). The purpose of this survey is to determine bison numbers and their distribution in the Hay-Zama area in late winter 2010.

5.1.1 *Study area*

The Hay-Zama wood bison herd has established itself in the area west of High Level, east of Rainbow Lake and north to Zama City as reported by Moyles (2008). The limits of this distribution are roughly North 58 degrees 30 minutes in the south, North 59 degrees 30 minutes in the north, West 117 degrees 30 minutes in the east and West 119 degrees 30 minutes to the west (Figure 4). The distribution of this bison herd has changed in recent years, expanding to the south along Highway 58 and easterly along the Zama Highway. Expansion to the more northerly and westerly areas appears to be more seasonal (i.e. summer range). Six townships (Township 112, 113 and 114, Range 2 and 3) have been established as a “No Hunting Area” to provide a refuge for bison in critical winter habitat.

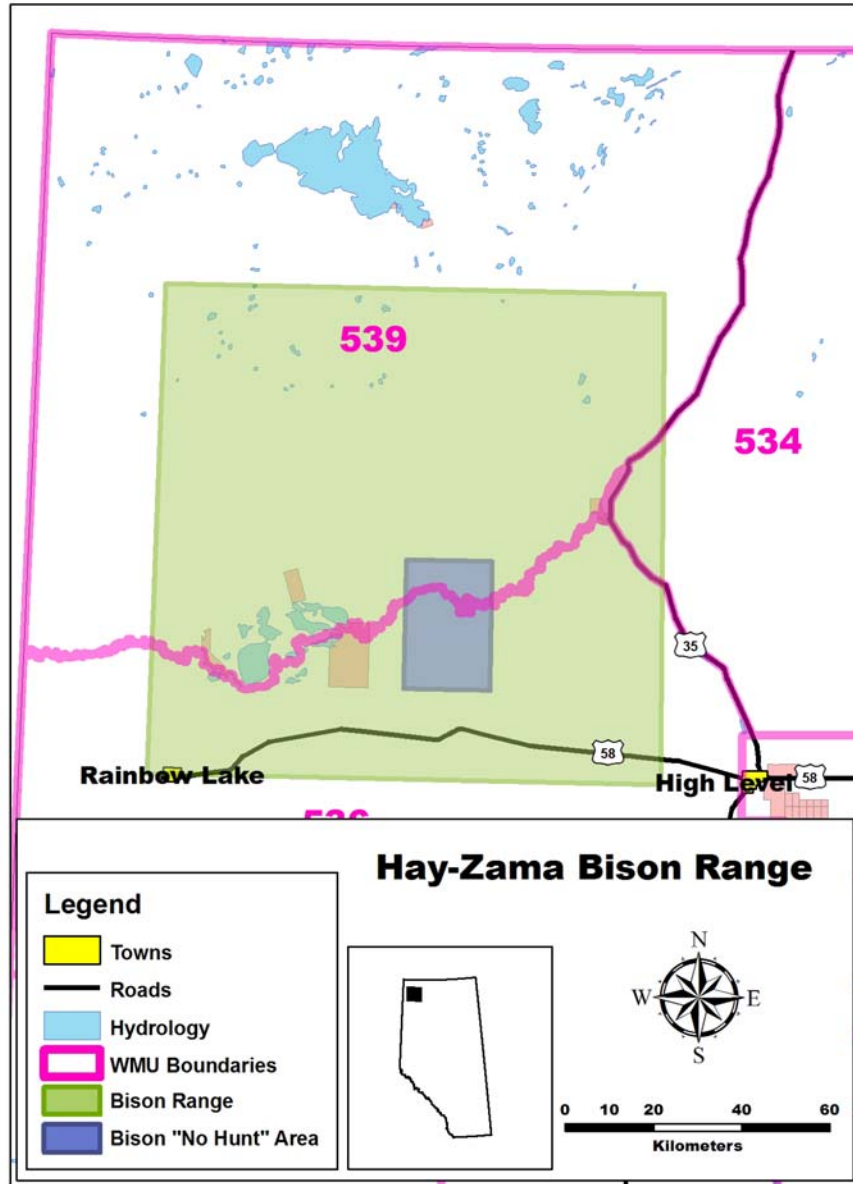


Figure 4. Location of the Hay-Zama bison herd in Alberta.

5.1.2 Survey methods

On March 19, 2010 a two-man crew in a Cessna 206 surveyed an area beginning immediately south of Highway 58 working north to the community of Habay, flying east-west transects from approximately 11 kilometers east of the Chinchaga river to approximately 8 kilometers west of Rainbow Lake. Bison sightings and areas of bison tracks were recorded, and a GPS waypoint was taken using a handheld unit. Conditions were ideal for this survey with fresh snow that had fallen on March 17 - 18.

Poor weather conditions for flying (snow and winds) prevented flights on March 20 - 21. Unfortunately on March 22, the Cessna 206 was not available to continue flying survey lines so a two-man survey crew in an EC 120 Helicopter began surveying areas where bison had been observed from the fixed wing flight of March 19. Additional survey lines were flown at 1 minute of latitude intervals from longitude West 118 degrees 10 minutes to the municipal road running north of Highway 58 into the oilfield road network on the west. All bison observed were counted and calves/adults delineated. Photos were taken of herds for future reference to confirm the number of calves seen. Calves were identified by their smaller body size and absence of horns. Yearlings were included in the adult age class because of the difficulty in distinguishing between these two age categories in this type of survey.

On March 23, a two-man crew in a Cessna 206 resumed surveying using 1 minute of latitude lines west and north of the survey conducted the previous day. Again, bison sightings and areas of bison tracks were recorded and a GPS waypoint was taken.

On March 24, a two-man crew in an EC 120 Helicopter located bison observed from the fixed wing flight of March 23. All bison observed were counted and calves/adults delineated. Photos were taken of herds for future reference to confirm the number of calves seen. We did not correct for sightability; therefore, overall counts should be considered as minimum estimates and direct comparisons of survey results among years may be difficult.

In general, survey conditions were excellent. Fresh snow covered much of the survey area and skies were clear on all days except for March 24, which was 100% overcast. Daily temperatures ranged from -23 to -18 degrees Celsius and wind speeds ranged from 0 – 20 km/h.

5.1.3 Results

A total of 527 bison (452 adults and 75 calves) were found at 39 sites throughout the area surveyed (Table 6). The vast majority of the bison were located along the Chinchaga and Hay River confluence in or near an area set aside as a “No Hunting” protection area. A total of 4 bison were located in the Shekilie oilfield area (Township 118 Range 8) and only 1 bison located north of Zama City. No bison were located near Highway 58 in the southern portion of their former range.

Table 6. Comparison of aerial survey results for bison in the Hay-Zama area from 1994 – 2010.

Year	# of Groups	Number of Bison			%Calves ^b
		Adults ^a	Calves	Total	
Mar. 2010	39	452	75	527	14
Feb. 2009	59	547	50	597	8
Mar. 2008	63	593	59	652	9
Mar. 2007	41	499	66	565	12
Feb. 2006	41	499	23 ^c	522	5
Mar. 2005	33	365	59	424	14
Mar. 2004	30	267	53	320	17
Feb. 2003	23	236	26	262	10
Feb. 2002	21	200	33	233	14
Mar. 2001	12	158	27	185	15
Mar. 2000	12	132	21	155	14
Mar. 1999	14	81	16	97	17
Feb. 1998	12	106	6 ^d	112	5
Mar. 1997	7	75	14	89	16
Mar. 1996	7	61	15	76	20
Nov. 1995	4	62	12	74	16
Mar. 1995	4	48	15	63	24
Dec. 1994	3	41	17	58	30

^a "Adults" includes yearlings.

^b % Calves = calves/total population x 100.

^c This is a minimum count; difficulty encountered distinguishing calves from yearlings.

^d This is a minimum count (Morton 2003).