

2009 WMU 527 Moose, Mule Deer, and White-tailed Deer

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Ungulate populations had increased throughout the Peace Country agricultural areas during the period of seven consecutive mild to average winters from the winter of 1998-99 to 2005-06 (ASRD-AFWD unpublished data). These increases created both excitement from hunters and naturalists and concerns and complaints from residents dealing with increases in crop and haystack depredation and with increases in ungulate-vehicle collisions. ASRD attempted to reduce ungulate populations by increasing hunting pressure and harvests through several different initiatives, including increasing season lengths, allowing hunting on Sundays in white zone areas in the Peace Country, increasing numbers of hunting licenses and, for antlerless mule deer, having three tags per hunting license in WMU 527. In past years elk herds were located and the varying amounts of depredation in these locales was determined. Given the intensive management effort, ASRD needed to determine current populations to assess impacts of the increased hunting pressure and effects of the past winter.

Study Area

WMU 527 is bordered by the 25th base line (northern boundary of township 96) to the north, the Peace River to the east, highways 684 and 35 to the southwest, and then bordered on the west by the TransCanada Peace Pipeline from its intersection with the Whitemud River to its intersection with the 25th base line. This WMU is relatively large at 6767 km² and dominated by settlement and agriculture, with only 37% in the Green Zone. There are two main communities, Manning and Peace River, several smaller communities, including Dixonville, North Star, Notikewin, and Deadwood, acreage developments near Peace River and farms throughout this WMU. This WMU is dissected by tributaries to the Peace River, including the Whitemud, Notikewin, Buchanan, Hotchkiss and Meikle Rivers. These river valley complexes provide escape

and wintering habitat for all ungulate species, while the agricultural areas provide feeding areas.

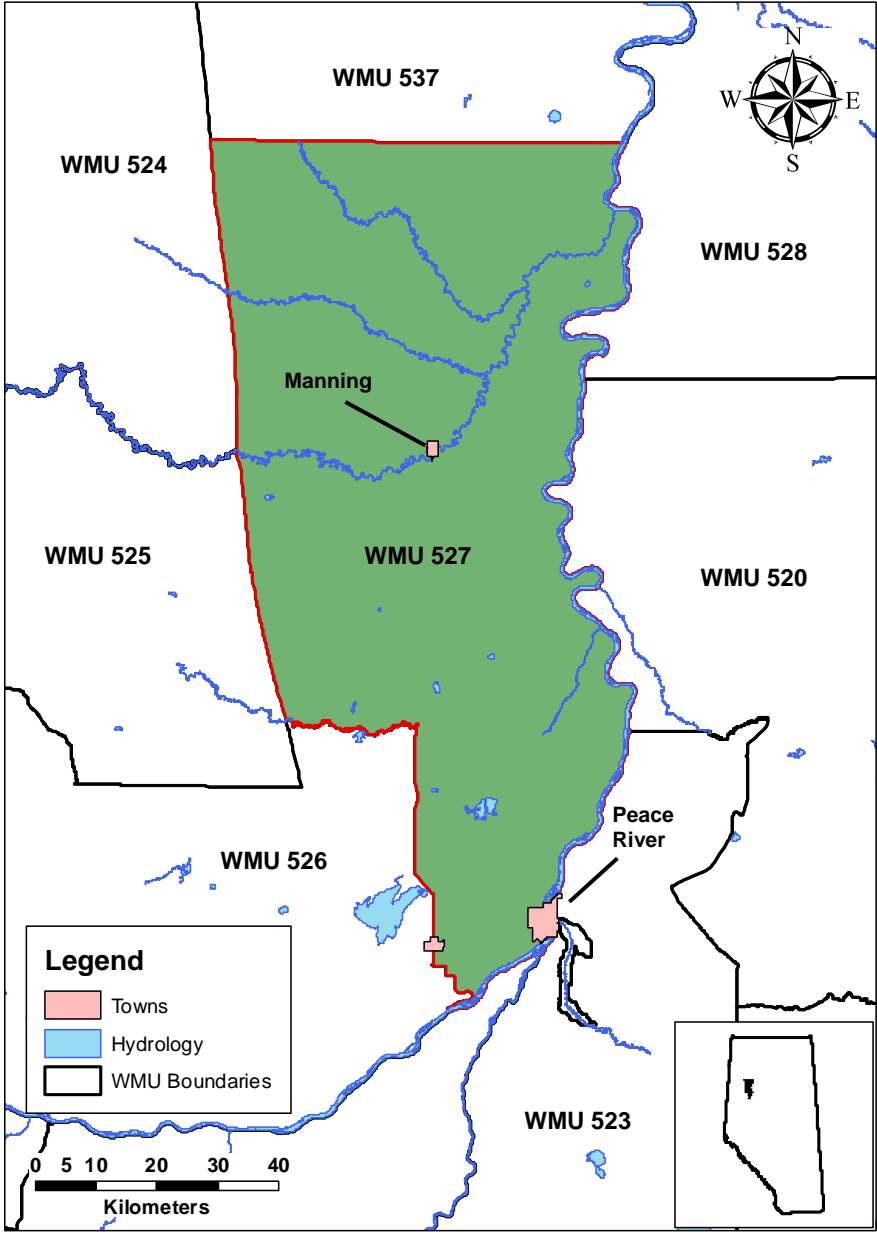


Figure 6.13.1. Location of WMU 527 in Alberta.

Survey Methods

The surveys for moose, mule deer and white-tailed deer were conducted as per Lynch (1997). We used two Cessna 206s on January 22 and 23, 2009 to complete the stratification flights of four transects through each survey block. Transects were spaced one minute of latitude apart, (~1.6 km) and the lines flown in an east-west direction. Each crew consisted of two observers, one in the front and one sitting behind the pilot. For each sighting of wildlife, the front observer took a waypoint using a hand held GPS and recorded the sighting. Crews circled deer to obtain a complete count if the observers believed that more deer were present. There were no attempts to classify any ungulates to age or sex during stratification flights. Conditions were in general favourable with good depths of relatively fresh snow and not a great deal of wind and turbulence. We did lose about one and a half days to excessive cold with temperatures to -37° C.

Survey blocks were initially classified based into low, medium, or high strata for each species (moose, white-tailed deer, and mule deer) separately, based on number of each ungulate species seen. Blocks with significant areas of river valley, a high occurrence of depredation complaints, or with local knowledge that indicated a high density of ungulates were adjusted up to the next stratum.

We used two crews in Bell Jet Ranger 206B helicopters on January 24-27, and one crew on January 28 to conduct intensive searches of survey blocks. In total we searched 24 survey blocks with varying classifications for the three species. Crews flew transects orientated east-west that were spaced to ensure full coverage of the survey block; in this WMU usually a separation of 0.25 minutes of latitude was sufficient. Every attempt was made to classify all ungulates seen, unless the animals were in close proximity to farmyards or domestic livestock. All moose seen were classified as to either adults or calves, based on body size and length of the nose; all yearling moose were considered as adults. All adult moose were classified as cows if a vulva patch was present. Twenty four bulls (22%) still had antlers while all other bulls were classified as males because of absence of a vulva patch. Deer were classified to species, then to age, based on body

size and length of the muzzle. Male adult deer with antlers were classified according to Table 3.5.1.

Waypoints were taken for all elk seen during fixed wing surveys but no efforts were made to classify elk. During the rotary wing intensive counts, elk were classified as either adults or calves, based on body size and length of the muzzle. Male elk were classified according to Table 3.5.1.

Results

Moose populations were estimated to be 3,983 (+/- 16.7%) with density of 0.59 moose/km² (Table 6.13.1). Ratios of bull and calves to 100 cows were 27 and 38, respectively. Only 1 moose showed evidence of winter ticks; an adult cow was approximately 30% ‘rubbed’ on both flanks. Mule deer populations were estimated to be 3,174 (+/- 17.5%), for a density of 0.47 deer/km² (Table 6.13.1). The ratio of bucks and fawns to 100 does was 56 and 110, respectively. Whitetail populations have increased to 3,210 (+/- 22.2%), for a density of 0.47 deer/km² (Table 6.13.1). The ratio of bucks and fawns to 100 does was 35 and 117, respectively.

There were 36 different sightings of elk during the survey for a minimum count of 488 elk. We observed 25 bulls/100 cows and 25 calves/100 cows.

Table 6.13.1. Population estimates and herd composition of moose, mule deer, and white-tailed deer in WMU 527.

Species	Year	Population Estimate (confidence limits)	Density / km ²	Ratio to 100 Females	
				Males	Juveniles
Moose	2009	3938 (16.7%)	0.59	27	38
	2000	2039 (--)	0.30	25	49
Mule Deer	2009	3174 (17.5%)	0.47	56	111
	2000	1941 (--)	0.29	15	150
White-tailed Deer	2009	3210 (22.2%)	0.47	35	117
	2000	642 (--)	0.10	6	170

Table 6.13.2. Antler Classifications of Mule Deer and Elk in WMU 527.

Species	Year	<u>Antler Classification</u>		
		Small	Medium	Large
Mule Deer	2009	45%	46%	9%
	2000	77%	17%	6%
Elk	2009	57%	40%	3%

Literature Cited

Lynch, G. M. 1997. Northern moose program, moose survey field manual. 68pp.