

2010 Wildlife Management Unit 536 moose



Section Author: Dave Moyles

Moyles, D. 2012. Wildlife Management Unit 536 moose. Pages 79-82. *In: M. Ranger and S.Webb. Delegated big game surveys, 2009/2010 survey season. Data Report, D-2011-001, produced by the Alberta Conservation Association, Sherwood Park, Alberta, Canada.*

WMU 536 is an important unit for providing moose hunting opportunities to hunters living in northwestern Alberta. Aboriginal moose hunters routinely hunt within this WMU throughout the year. During the recreational hunt, demand for the 'Calling Season' (1 September to 31 October) has exceeded the supply of licenses for the past few years. The moose hunting outfitting industry is also active in this WMU.

Study area

WMU 536 is within the County of McKenzie No. 23 (Figure 1). In the south, the unit is bordered by the 27th Baseline while the western boundary is the Alberta/B.C. border. The Hay River forms the northern boundary while the eastern boundary shifts from the eastern side of

range 19 and 20, and then becomes Highway 35 to its intersection with Hay River. WMU 536 is completely Crown land. The three main communities are High Level, Rainbow Lake and Chateh (Assumption). The western portion and the area around Mt. Watt are classified as lower boreal highlands, the central portion is central

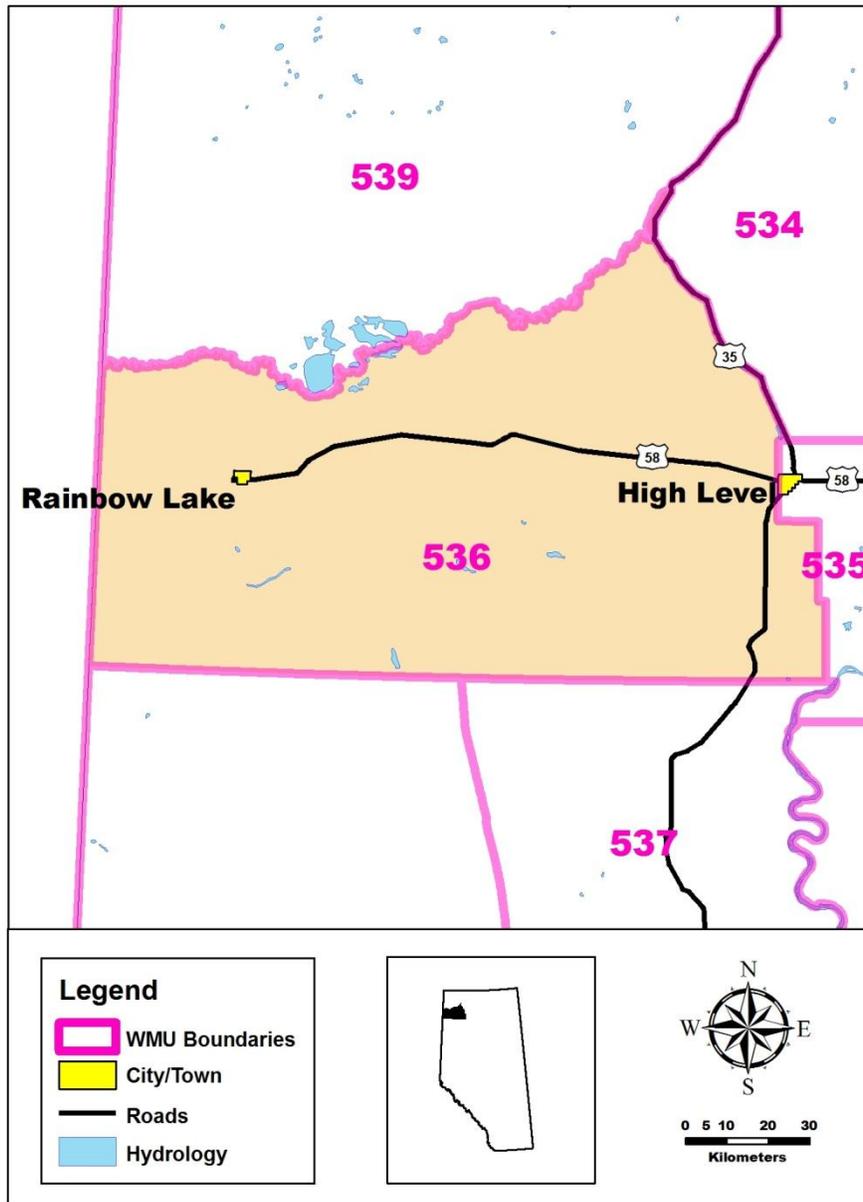


Figure 1. Location of Wildlife Management Unit 536 in Alberta.

mixedwood, and the southeastern portion is classified as dry mixedwood (Natural Regions Committee 2006). Mixedwood forests of aspen and spruce dominate much of this unit, although peatlands are common in the west. Industrial development has been extensive in this unit during the past several decades and has intensified in recent years. Forestry activity has been intensive in past years with large cut blocks in the central and southern areas of this unit. Industrial development has increased both quantity and quality of access in recent years. Much of this unit is accessible in frozen ground conditions. Attempts to regulate access have not been effective.

Survey methods

All surveys for moose were conducted as per Lynch (1997), and ASRD (2010). We used three fixed-wing aircraft (one Cessna 210 and two Cessna 206) and flew transects 1.6 km apart, orientated in an east-west direction on the four minutes of latitude between the survey unit boundaries. One crew worked from Rainbow Lake while the two other crews were based at the High Level airport to reduce dead-heading. The long transects in the southern and central portion of the WMU were split at 118 degrees 30 minutes longitude so that the lines would not be too long and thus reduce observer fatigue. Each crew consisted of two observers, one in the front and one sitting behind the pilot. For each wildlife sighting, the front observer took a waypoint using a hand held Garmin 76Cx and recorded the sighting. Data from the stratification flights was used to categorize the WMU into sampling units of low, medium, or high strata. However, cold temperatures forced the cancellation of stratification flights with only 65% of the unit surveyed. In order to stratify the remaining 35% of the unit we used a combination of past survey results, local knowledge and current (2008) spot imagery to identify new access and impacts of intensive timber harvest on moose numbers.

For the intensive surveys we used three two-person crews in Bell 206B helicopters from 16 – 19 December 2009 to conduct intensive searches of 33 survey blocks. One crew worked from High Level, concentrating on the eastern, southern and central portions of the WMU, while two crews were based in Rainbow Lake and worked the northern, western and southern part of the unit. One crew shuttled from Rainbow Lake on the evening of 18 December to concentrate on the eastern portion of the unit on the last day of surveys.

Crews flew transects orientated east-west that were spaced to ensure full coverage of the survey unit. All moose observed were classified as 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. Ninety-four bulls (91%) still had antlers while nine other bulls were classified as males because of the absence of a vulva patch. Antlered bulls were classified as small, medium or large in accordance with the Alberta standardized classification system for male ungulates (Table 1). We did not correct for sightability; therefore, overall counts should be considered as minimum population estimates and direct comparisons of survey results among years may be difficult.

Results

Moose populations in WMU 536 are estimated to be between 1,454 and 1,964 (Table 1). Of a total of 103 bulls, 40 bulls were classified as small, 34 as medium and 20 as large, while 9 bulls had already dropped their antlers. A ratio of 38 calves to 100 cows is to be expected for northern WMUs with adverse weather and a large number of predators.

Table 1. Comparison of aerial survey results for moose in Wildlife Management Unit 536 in 1996/97 and 2009/10.

Year	Population Estimate (90% confidence limits)	Moose/km ²	Ratio to 100 Females	
			Males	Juveniles
2009/10	1,709 (±14.9%)	0.12	69	38
1996/97	3,226 (±25.0%)	0.23	51	43

Literature Cited

Alberta Sustainable Resource Development (ASRD). 2010. Aerial ungulate survey protocol manual. Produced by the Fish and Wildlife Management Division, Edmonton, Alberta, Canada. 65 pp.

Lynch, G.M. 1997. Northern moose program moose survey field manual. Unpublished report, Wildlife Management Consulting, Edmonton, Alberta, Canada. 68 pp.

Natural Regions Committee. 2006. Natural regions and subregions of Alberta. Compiled by D.J. Downing and W.W. Pettapiece. Pub. No. T/852, produced by the Government of Alberta, Edmonton, Alberta, Canada.