

## Question #5: How Will We Know If / How Caribou Are Affected?

The disturbance planning process described by Updates #10-13 is the responsibility of the Hwy40 *Planning Team* (Update #3). However, recall that developing a disturbance plan is only one of the objectives of the Hwy40 Project. Another is the intelligent, adaptive monitoring of the response of the local ecosystem to the planned disturbance activities (Update #8).

To monitor a managed landscape in a scientifically defensible manner requires significant planning. Accordingly, as the Hwy40 *Planning Team* began its work more than two years ago on the disturbance plan, the Hwy40 *Project Team* started developing partnerships and support for an adaptive monitoring program.

There was unanimous agreement that one of the priorities for a Hwy40 monitoring program is woodland caribou. Given the status and profile of woodland caribou, and the exceptional opportunity available in the Hwy40 study area, we presumed that attracting collaborators would not be difficult. Unfortunately, two years ago, no provincially coordinated caribou program was yet in place with which to collaborate research programs. As a result, the primary wildlife management and research organizations in Alberta at the time were reluctant to collaborate with us. However, if we waited much longer, this unique scientific opportunity would be lost. Faced with this dilemma, we chose to forge ahead independently, with the following provisions:

- 1) Solicit input and advice from as many experts as possible,
- 2) Ensure that all relevant agencies are kept abreast of our work,
- 3) Continue to encourage research partnerships, and
- 4) Design research activities to maximize the potential for our data and results to fit within any future provincially coordinated program.

We have three things working together in our favour in the study area; 1) historical GPS location data exist for several Hwy40 animals, 2) most of the Hwy40 study area is high potential caribou habitat, and 3) disturbance activities over the next decade will be spatially concentrated. In other words, we (will) know how caribou have used the study area, and the Hwy40 disturbance design will leave a significant amount of high quality caribou habitat intact. In fact, the caribou model provided to the Hwy40 planning team predicted that the Hwy40 disturbance plan (Update #12) would *not* result in a population decline. Just being the first to test the veracity of this model justifies the investment in caribou monitoring. However, our questions go far beyond that to asking how, why, and when caribou move across the landscape. We felt this addresses some of the most important questions with respect to the long-term sustainability of caribou today; *what are the mechanisms by which herds choose to move / migrate to other parts of the landscape?* This is the only place in Alberta, and perhaps in all of Canada, that has the capacity to address this question at low risk to local populations.

Our monitoring concepts were highly successful in attracting support. We secured funds in 2005 to purchase and deploy 12 GPS radio collars. In the spring of 2006 we collared one animal, and in December of 2006 we collared seven animals, thanks to the efforts of our new Hwy40 monitoring coordinator, Matthew Wheatley. Matt hopes to deploy the remaining five collars this winter.

Over the long term, we hope to be able to monitor caribou for several years after disturbance activities have ceased. Efforts also continue to build research collaborations / support.

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