WILDLIFE INFOMETRICS

VOLUME 2, ISSUE 1

# NEWS BULLETIN

JUNE 2007 NEWSLETTER

## INSIDE THIS ISSUE:



## A FOCUS ON PARTNERS . . .

As we begin a new fiscal year and reflect on the progress made last year, we want to take a moment and thank our many partners for their continued interest in, and support of, the work we do. The McGregor Model Forest Association continues to provide a network to other researchers and to manage a full line of forest science projects that we participate in together. Thanks to Dan Adamson, Dan Lousier, and Kathi Zimmerman. Canadian Forest Products, Ltd., Abitibi Consolidated Company of Canada, and BC Timber Sales have been and continue to be strong supporters for our development of monitoring tools (see *Monitoring Tools for Sustainable Forest Management* in this issue). Through their Land-based Investment Program, we also undertook a variety of wildlife inventories and other innovative projects last year. Thanks go to Doug Ambedian (Canfor) and Shaun Kuzio (Abitibi). We have also had the opportunity to work together with Tsay Keh Dene over this past winter. Thanks go to Karl Sturmanis, Robert Tomah and Travis McIssac.

*Travis McIssac from Tsay Keh joined our crew this past winter to assist in field work.*

## POINTS OF INTEREST

- Reports produced by Wildlife Infometrics can be obtained in digital format by sending an email to: wild_info@cableroc ket.com
- The total count for caribou obtained this year was the highest recorded for the area
- A new plan for monitoring the effectiveness of management for mountain goats is now complete

## MONITORING TOOLS FOR SUSTAINABLE FOREST MANAGEMENT

Since the inception of Wildlife Infometrics Inc. in 2002, we have pursued wildlife habitat supply modeling (HSM) as a paradigm for monitoring Sustainable Forest Management. Our notion is that efficient use of HSM will lead to more routine monitoring of wildlife resource values; an outcome of which would be conservation of those values. The generation of autoCHASE (see *WII News Bulletin Vol. 1, Iss. 1*) marked the first HSM ready for operational implementation. We say first because the Caribou Habitat Assessment and Supply Estimator is one in a series of these tools that we are working on. The next most complete HSM was constructed for monitoring mountain goat habitat and was used this past winter as a fundamental component of a plan to monitor the effectiveness of managing for goat habitat values (see WII Report 299). We also built and implemented a riparian assessment tool (RHASE) to measure the potential for riparian management to affect the timber harvesting land base (see WII Report 223). This fall, we're hoping to collaborate with our research partners to re-initiate work on a similar type of model for use in evaluating habitat values for grizzly bears.

## MITIGATING RISK OF PREDATION

Can managers avoid creating new, special regulatory policy on reduction of wolves for the purpose of caribou recovery in BC? In collaboration with other researchers, we are testing the efficacy of two currently available policies that could support recovery of caribou: (1) directed and focused operation of regulated trap lines and (2) an enhanced hunter-harvest of moose. Because no special management is occurring or planned within the Wolverine caribou herd area, monitoring caribou population changes that occur there can be used as a baseline to assess the effect of trapping (Chase herd area) and the enhanced harvest of moose (Parsnip herd area). While Peace-Williston Fish and Wildlife Compensation program is monitoring the hunter-harvest, Wildlife Infometrics is monitoring the effects wolf removal. This past year we conducted 2 population surveys to estimate caribou calf recruitment. We also collared wolves from 3 wolf packs surrounding the wolf removal zone, removed 24 wolves, replaced radio-collars on caribou, and investigated 20 deaths of radio-collared animals. The first year of the ongoing project is documented in WII Report 232.

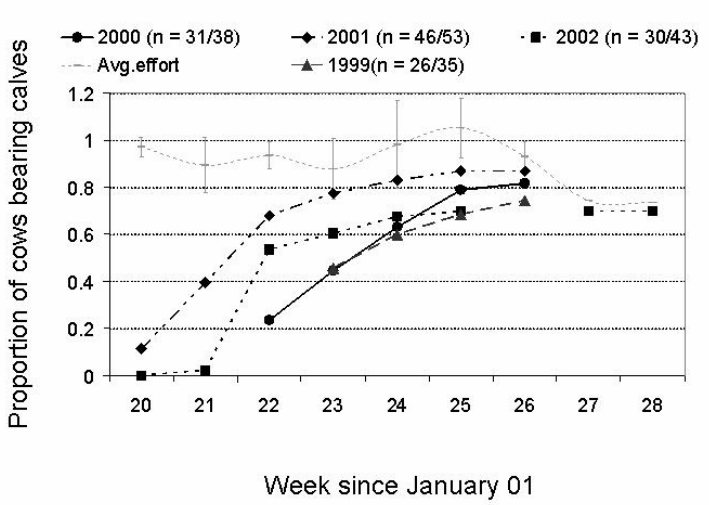

## INVENTORY OF MOOSE, GOATS, AND CARIBOU

Snow accumulation this past winter made for unusually good conditions for counting caribou. With deep snow in low-elevation winter ranges, caribou change foraging tactics and move to high-elevation areas where snowpacks are usually shallower; much of the snow having been blown away by persistent mountain winds. With the more open conditions of alpine areas, we were able to count 787 caribou within the Chase and Wolverine herd areas. Unfortunately, the number of calves seen was only 15% of the population; lower than usual. We'd appreciate hearing about any large groups of caribou (= 30) seen in the Mackenzie Forest District and in particular about any caribou spotted around the Manson Creek area or the Manson Peninsula.

| *Area* | *Species* | *Date* | *Number Observed* | *Young / 100 adult females* | *Young as % of population* | *Males / 100 Females* | *Corrected Total* | *#/1000kms² in study (strata)* |
|---|---|---|---|---|---|---|---|---|
| Akie | Goat | Nov 2003 | 74 | | 19 | | 224 | ? (218) |
| Ingenika | Goat | Mar 2007 | 150 | | 21 | | 195 | 23 (166) |
| Ingenika | Moose | Jan 2007 | 178 | 21 | 11 | 62 | 5812 | 560 |
| Nabesche | Goat | Jul 1998 | 62 | | 18 | | 62 | ? (112) |
| Omineca | Caribou | Mar 2007 | 356 | 34 | 15 | 66 | 375 | 44 |
| Omineca | Goat | Mar 2007 | 94 | | 27 | | 122 | 30 (168) |
| Omineca | Moose | Jan 2006 | 345 | 26 | 16 | 50 | 1000 | 300 |
| Osilinka | Caribou | Mar 2007 | 431 | 31 | 14 | 72 | 561 | 32 |
| Osilinka | Goat | Oct 2003 | 109 | | 26 | | 261 | ? (273) |
| Ospika | Goat | Mar 2007 | 105 | | 14 | | 137 | 79 (226) |
| Russel | Goat | Mar 1993 | 211 | | 20 | | 211 | ? (222) |
| Scott | Caribou | Mar 2007 | 22 | 56 | 24 | 11 | 23 | 3 |

## SYNCHRONICITY OF CALVING IN

Moose, caribou, goats, and all herbivores in general, have evolved in a way that pregnant females give birth timed roughly to be consistent with emergence of fresh, nutritious forage each spring. Presumably this supports healthy development of young because the energy cost of lactation is offset by the maternal adult's access to relatively good forage. Another theory about this apparent synchronicity in births is related to risk of predation. Synchronicity essentially means there will be less risk per calf than if births occurred over a broader period of time.




In the Chase, Wolverine, and Finlay herd areas, we conducted 994 observations of 69 individual collared caribou from 1999-2002 (a total of 170 individual cow calving periods). Serum progesterone levels determined from blood samples of these caribou indicated a 95% pregnancy rate. We confirmed the birth of 135 calves for a minimum parturition rate of 79%. Synchrony of birth varied from one year to another. In 1999 and 2000, calving was later and less synchronous than during 2000 and 2001. A complete report of these results is in progress for release this year.

## AUTOMATION OF *CHASE* IS NOW COMPLETE

Wildlife Infometrics Inc. and Refractions Research of Victoria, BC have now completed the automation of WII's caribou habitat supply model, known as CHASE (the Caribou Habitat Assessment and Supply Estimator). CHASE has been assisting planners in government and industry for years in managing northern caribou in north-central BC. Now with *auto*CHASE, users can apply the CHASE model after only a modest amount of training thanks to the extreme simplicity of the *auto*-CHASE user interface.

After supplying only a file path to input data and a reference year, users can step back and concentrate on other tasks while the computer does all the work. This allows users to increase their productivity, lower the cost of model use, and eliminate the chance of human error all at the same time.

Based on user requests we have also designed habitat monitoring functions to quickly summarize the outputs of model runs and enhance the accessibility of habitat supply modeling for caribou.

In the future *auto*CHASE v2.0 may be released with features allowing the modeling of specific habitat scenarios and projections of habitat through time with similar ease of use.


*The autoCHASE user interface*

Photo by D. Dittrich

## RECENT PUBLICATIONS AND PRESENTATIONS

McNay, R.S. , B.G. Marcot, V. Brumovsky, and R. Ellis. 2006. A Bayesian approach to evaluating habitat suitability for woodland caribou in north-central British Columbia. Can. J. For. Res. 36:3117-3113.

McNay, R. S., D. Heard, R. Sulyma, and R. Ellis. Submitted. A recovery action plan for northern caribou herds in north-central British Columbia. FORREX Special Report Series XX.

### Publications and In-House Reports in Preparation

- Impact of Riparian Management on Timber Supply in the Mackenzie TSA, British Columbia. Report No. 223.
- Assessment of modeled high-elevation winter range in woodland caribou herd areas of north-central British Columbia. Report No. 224.
- Abundance and distribution of woodland caribou in the Chase, Wolverine, and Scott recovery plan areas. Report No. 225.
- Abundance and distribution of mountain goats in selected areas of north-central British Columbia. Report No. 226.
- autoCHASE Development Summary. Report No. 227.
- autoCHASE User Manual. Report No. 228.
- Mountain goat effectiveness monitoring plan for north-central British Columbia. Report No. 229.
- Timing and synchronicity of calving in woodland caribou herds of north-central British Columbia. Report No. 230.
- Reconnaissance of MPB-killed woodland caribou habitat in the Kluskus Timber Supply Block of west-central British Columbia. Report No. 231.
- Mitigating risk of predation for woodland caribou in north-central British Columbia. Report No. 232.
- Spatial characteristics of predation risk for woodland caribou in north-central British Columbia. Report No. 233.
- Mackenzie Mountain Goat Management Team: Fiscal 2006-2007. Report No. 234.
- Use of serial dependence to indicate movement decisions by woodland caribou in north-central British Columbia. Report No. 235.
- Survival rates and cause-specific mortality of woodland caribou in north-central British Columbia. Report No. 236.
- Decomposing Bias in GPS Relocations of Caribou and

## NEW AND CONTINUING PROJECTS FOR 2007-2008

1. Mitigating risk of predation for woodland caribou
2. Strategy for harvest of Mountain Pine Beetle-killed timber on Ungulate Winter Ranges
3. A science-basis for recovery of woodland caribou
4. Change in caribou range values 2000—2007

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Wildlife Infometrics Inc. was established April 2002 in Mackenzie, British Columbia. With our full time staff ranging from 6 to 10 employees, we focus on the collection, management, and interpretation of data concerning aquatic, avian, and terrestrial wildlife resources values. Our strength is turning collected data into information that can be easily used by industrial resource developers. Our motive is the promotion of conservation conscious development. To that end, we offer project development, data collection, data management, and data and information transfer services to clients from a variety of government and business sectors.