Foothills Focus

Newsletter of the Foothills Model Forest Summer 1995

Radio waves and wildlife in the Model Forest

Almost every day of the year, we are gaining valuable information by following animals through the Model Forest in west central Alberta. Not just any animal though, animals that send out radio waves are usually easier to follow. These radio waves are emitted from the transmitters that we have attached to the animals.

Radio telemetry is not a new thing, but it hasn't been used to study wildlife in this area of Canada to the extent that it is being used by the Foothills Model Forest.

Radio transmitters have been attached to elk, woodland caribou, white-tailed deer, and pileated woodpeckers. Transmitters are either in the form of a collar that attaches around the neck of the animal or a backpack that attaches to the back of the animal with Teflon. Collars are being used for elk, deer, and caribou while backpacks are used mainly on birds. This summer we'll be radio tagging barred owls, northern goshawks, and more white-tailed and mule deer.

The transmitters send out a signal that can be monitored by a biologist using a receiver and an antenna. And each transmitter has its own radio frequency allowing us to identify and follow individual radio-tagged animals.

Biologists use radio telemetry techniques to follow wildlife and learn what types of habitat are important for the survival of a particular wildlife species. Food, cover, and water are essential for the survival of most living things. Therefore, our research will determine the habitat types which provide food, cover, and water for particular wildlife species.

Biologists are able to follow each animal around noting the habitat types used by the animal or mark the animal's location on a map so the habitat characteristics in that location can be measured later.

Radio telemetry, as outlined above, is a very reliabe technique to identify the habitat requirements and home range of certain wildlife species. For example, before our pileated woodpecker study, the types of trees used by the birds in this area was not well known. Because of this study, we have good evidence that the birds prefer to excavate nests in large trembling aspen (poplar) trees infected with heart-rot fungus and tend to feed on carpenter ants in white spruce trees. Radio telemetry has assisted us in identifying the habitat requirements of pileated woodpeckers in the Model Forest, and the new information will also be useful for much of Alberta and many parts of Canada.

The "Clover trap" (invented by M.R. Clover) is baited with a salt block and when the elk reaches to take a lick, a trip wire is set-off which shuts the door. Biologists check the traps shortly after the most likely times elk would be captured, that being dawn and dusk.

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Interest in Model Forests is Growing

As the Model Forest Network goes into its third year, interest in what the project will mean to land management practices and resource-dependent communities continues to grow.

The Foothills Model Forest (FMF), one of ten Model Forests in the Network across Canada, is also seeing this growing interest. The mission of the FMF is to develop and recommend an approach to sustainability and integrated resource management through research and technology developed by means of collaborative partnerships.

The local newspaper has generated much interest in the FMF. In the last six months, we have been focused in eight major articles in Hinton's local newspaper. All of this newspaper coverage has led to many opportunities for community outreach projects. Opportunities with the schools and community organizations are continually developing.

A phone survey of Hinton residents, done by math students of a local high school, shows that many people know of the FMF and even want to know more.

This growing interest is not just local. We have had several groups from Germany, China, and Japan visit our research area. Members of these groups are often scientists or the media. Scientists and the media from foreign countries are getting better informed by touring the FMF and seeing first-hand, the issues that we recognize and what we are doing to ensure we are using the forests in a sustainable fashion.

All of these tours to the FMF and other Model Forests has led to an International component of the Model Forest Network. Three Model Forests have been established in Mexico, one has been established in Malaysia, and yet two more have started in Russia. The United States of America, Japan, Poland and the Netherlands are also very interested in starting Model Forests in their own countries.

The local and international interest generated by the Model Forests is comforting to see. It's a very good sign that we may be able to reach sustainable development on a global scale.

FMF 1995 Open House

April 27th and 28th...

The Parks West Mall in Hinton was packed with people both days and many people stopped to talk with the researchers at their posters. Over 150 Students from the local schools were bused to the Open House and were then toured around the event.

A slightly dirty contest

While attending the FMF 1995 Open House in Hinton, over 200 people took a guess at how many deer and elk pellets were squished into a pickle jar. The pickle jar was sitting, appropriately, at the elk project display (see below). Jordan Ball, a grade six student from a local school, was within 10 of the actual number of pellets and there were 1,332 pellets in the jar. It pays to know your poop, and for Jordan it payed off with a sweatshirt and a compass.

Paul Jones, University of Alberta graduate student studying elk in the Foothills Model Forest, is seen here eyeing up the pickle jar full of elk and deer pellets.

Holding our Open House at the Mall was very successful so watch for us next year, same place and about the same time.

The Clover trap is collapsed on the animal, and one or possibly two people hold the blind-folded elk relatively still while another handler attaches the radio-collar.

Radio waves con't...

Along with habitat requirements, the size of the home range (territory) of a wildlife species is also important information to land managers. In the case of animals that travel long distances, without radio telemetry we would have an extremely difficult time trying to follow animals through the forest to determine the size of their home range.

However, a price must be paid for the information we gain from our wildlife research. Not only is the radio telemetry equipment very expensive, but animals must be trapped and fitted with a radio transmitter. Trapping wild animals poses a risk for both the animals and the biologists.

It is in everyone's best interest, especially the animals, to release the radio-tagged animals back to the forest in good shape. Our biologists go to great lengths to guard for the welfare of the animals and our trapping techniques are reviewed and approved by the Canadian Council on Animal Care (CCAC). The CCAC is a group of experts responsible for overseeing and approving any research on animals.

Even with a transmitter on their back, the birds seem to fly as well as always and the larger animals get around just fine with a collar on their neck. Unfortunately though, we have had a few accidents while trapping and collaring the animals. After three years of work and over 50 animals being successfully trapped and collared or just released, we have experienced the death of one elk, one adult and three nestling pileated woodpeckers, and one white-tailed deer. We are continually evaluating our trapping techniques so that problems are addressed immediately.

We've had to come to terms with the darker side of radio telemetry (trap mortalities are normal) and judge the success of our research by survival of the trapped animals and the value of the information we have obtained.

Radio-tagged animals are still producing young...

We have found the trapped animals are not experiencing a higher mortality rate than what is normally experienced in nature. Also, some of our radio-tagged animals are producing young. These are two very good signs that our radio telemetry techniques are not a major detriment to the wildlife populations.

Without the information we have been gathering using radio telemetry and continuing on with the various activities in the forest, the loss of certain wildlife species in this area may have become a reality. With the new information, we can develop and recommend an approach to forest management that will allow for a sustainable economy in the area and not compromise the survival of wildlife species.

If you have any questions or comments about our use of radio telemetry to study wildlife, please give us a call at 865-8342.

This yearling elk was anxious to get away with its new radio collar. The tagging process is usually completed in less than 15 minutes and drugs were only used a couple of times to help calm the animals. Elk trapping is now completed and 12 animals have been collared for our study.

For more information please write or call:
Foothills Model Forest Inc.
Box 6330
Hinton, AB
T7V 1X6
Ph. (403) 865-8342
Fax (403)865-8266

Ryland Lilje is one of 27 Grade 8 students from the local High School who received a Foothills Model Forest tee-shirt for all the work they did on our phone survey.

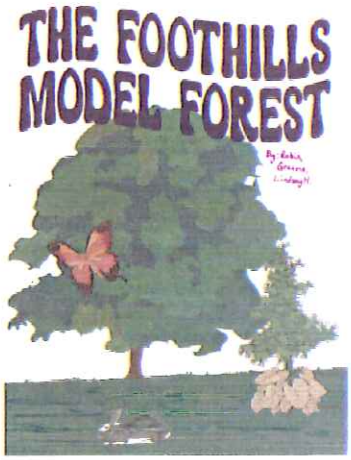
Students do phone survey for FMF

Students from Hinton's Harry Collinge High School (HCHS) grade 8 math class phoned 270 local residents to research community knowledge of the Foothills Model Forest.

Preliminary findings of the poll show over half of the Hinton residents surveyed have heard of the FMF and most people want to know more. About ninety people asked to be added to our mailing list as a result of the survey.

How people find out about the FMF is also important information. The survey shows most people learned of us through the newspaper, radio, and friends or relatives. These findings confirmed our suspicion that mass mailings of our newsletter to all post office boxes in and around the FMF is not an efficient use of money. We will use the findings of this survey to better direct our communications efforts and ultimately, save money.

Both the students and the FMF organization benefitted from the phone survey. By doing the phone survey and analyzing the results, the students learned about public opinion polling and how it's used in the 90's. They also saw how those math skills they learn everyday can be put to use. The FMF organization learned about its profile in the community.



An example cover from the survey reports done by the students at HCHS.

A special thanks to the students who did the survey, their parents, HCHS, and of course teacher, Glenn Allen.

We're now taking requests...

We'll be placing one-page informative advertisements in the local newspapers four times a year, instead of mailing out 40,000 newsletters. If you'd like to continue receiving our newsletter, please contact us to be added to our mailing list.

Volunteer opportunities in the FMF

We have an excellent opportunity for you to experience what it would be like to be a environmental researcher. Volunteer opportunities are available in the areas of wildlife, fisheries, and forestry research. If you have some experience in the outdoors and would like to help out with our research, please give us a call. Please phone 865-8342 for more information.