

Geographic Information Systems Program

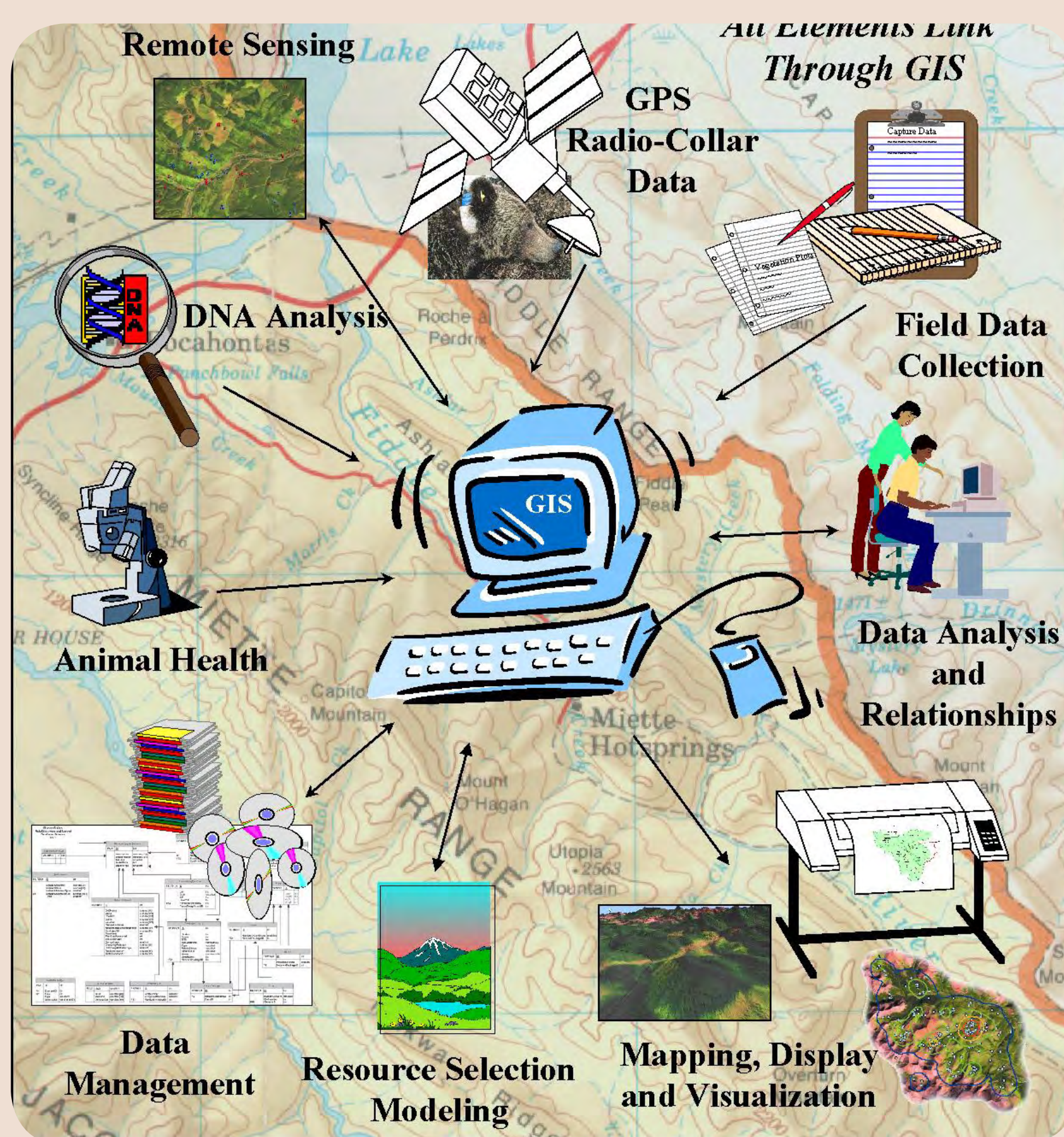


Supporting the research activities within Foothills Research Institute

Underlying the GIS Program is a strong belief in the practice of sound data management practices. Sound data management aids us in deriving useful information that can assist in making sound management recommendations across all program areas.

Some highlights include the following:

- Final completion phase of the GeoConnections project: Foothills Research Institute Regional Online Landscape Decision Support System.
- Converted many existing AMLs to process grizzly bear collar data to python script and created tools that can be used from ArcToolbox. This also allows grizzly bear program staff to more easily run scripts to successfully complete their tasks.
- Participated in GIS Day 2009 with FRI Partner agencies.
- Created database improvements to the Foothills Stream Crossing Association Geodatabase. This will help process user requests more efficiently.
- Made database upgrades to the Streams and Watersheds Geodatabase.
- Creation of the FRI historical database which captures information about archival historical documents, artifacts, sites (trees, facilities or other), photos and audio/video. Data is currently being collected and added to the database.
- FLMF access database containing existing roads, purposed roads and barriers is now being distributed out to Forest Officers of the Foothills ASRD office so they can modify or collect new information while they are out in the field.
- Analyzing spatial-temporal changes of grizzly bear kernel home ranges. Looking at yearly change events in home ranges such as unchanged areas, new areas, and areas no longer used.
- Prepared and sent data layers, scripts and GIS tools to ESRI for testing against future versions of ArcGIS.
- Loaded 2005 Stream Crossing Survey pilot data into the current Stream Crossing database. Reconciled duplicate crossings to ensure consistent identification.
- Created queries to support a decision matrix in the Stream Crossing database. Based on the severity of key factors, each crossing was assigned a future inspection date ranging from 1 to 5 years from the last date of inspection. This will enable the program to prioritize their inspections and their suggestions for remediation efforts to their partners.
- Updated stream crossing barrier information and watershed statistics based on currently available information from all past crossing inspections.
- Building upon the existing AIP Referral Process tool in python script.



GIS and Caribou

Working to satisfy two contrasting needs, the Foothills Landscape Management Forum (FLMF) uses GIS to proactively manage the industrial footprint in the west central portion of Alberta. Their priorities are;

1. Conserve intact habitat areas for caribou
2. Satisfy industry resource extraction for economic and social benefits while maintaining other environmental values

The FLMF focuses on collaboration and cooperation between industry sectors and government, robust GIS information is a vital component of their partnerships.

Access information is collected by FLMF staff through;

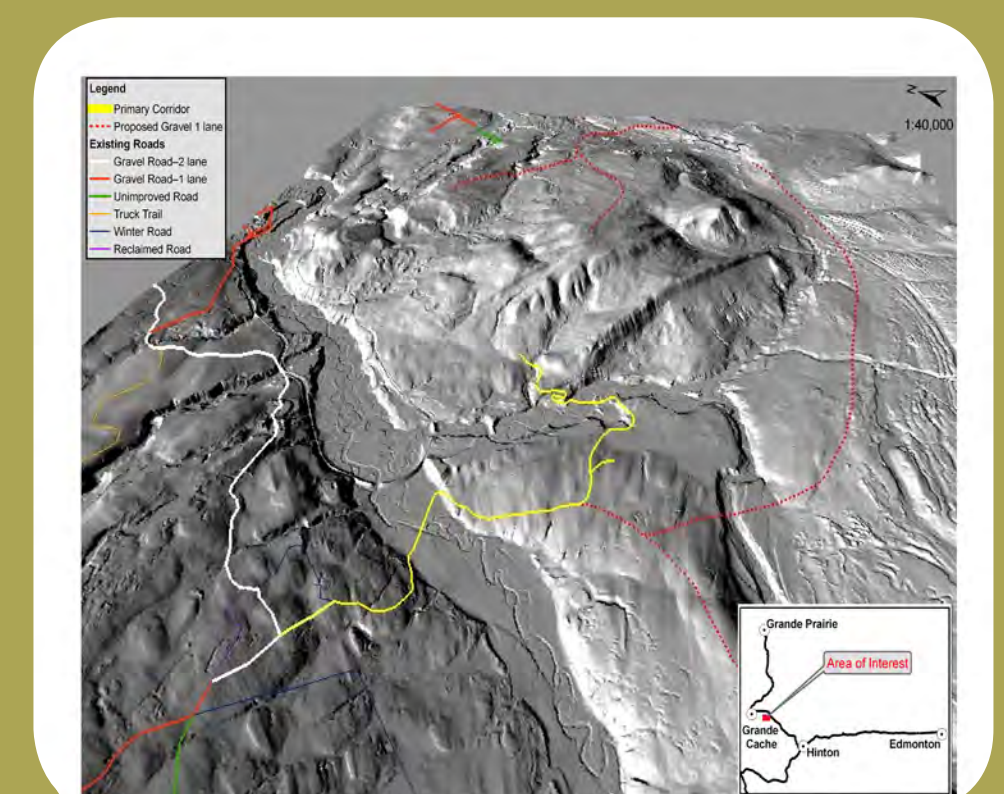
- Interviews with government and industry staff
- Updates from industry members
- Field work

The FLMF facilitates planning sessions for their members where they overlay access information with other GIS datasets. By working together with accurate GIS information, access for the region is effectively and collaboratively planned.

A dynamic dataset, such as the FLMF's access information, is well-suited for storage in a SDE geodatabase. ArcSDE technology is used to frequently distribute, update and archive the FLMF database.

Data is available to partners in an online map. The online map enables those without GIS software to view the data and examine the entire landscape with just an internet connection. The data is also distributed to those partners with GIS software.

Effective route planning requires accurate information. The FLMF conducted an Integrated Industry Access Plan (IIAP) that identified the primary access corridors within the caribou region. Currently, the information is now being used in a secondary road plan which identifies proposed roads that will be required for access within the next 20 years.



Foothills Research Institute is a leader in developing innovative science and knowledge for integrated resource management on the forest landscape through diverse and actively engaged partnerships.

The Foothills Research Institute landbase is located in west-central Alberta, and is based in the resource community of Hinton, some three hours west of Edmonton. It covers roughly 2.75 million hectare (27,500 square kilometres), and embodies Jasper National Park of Canada, the Willmore Wilderness Park, and the Forest Management Area of Hinton Wood Products, a Division of West Fraser Mills Ltd. It also includes some provincial "crown forest management units" and the Hinton Training Centre's Cache Percotte Training Forest. Within its boundaries are three forest areas—boreal, montane, and sub-alpine—and many forest uses including timber, petroleum, and coal extraction, tourism, and recreation.

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