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<th>Theme</th>
<th>Species</th>
<th>Year Support</th>
<th>Project</th>
<th>Lead Agency (PI)</th>
<th>Project Description</th>
<th>Outcome (selected publications)</th>
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</table>
| Birds      | Forest birds    | 2008         | Financial| Density and diversity of Forest birds in the GSA  
CWS (Craig Dockrill)                                                                 | There is a knowledge gap concerning forest birds throughout areas under or slated for future development in the Mackenzie Valley. Detailed field work is required to attain accurate baseline information for breeding birds in the Mackenzie Valley. The objective of this proposal is to determine the species composition, relative abundance, patterns of occurrence and forest type variance of breeding birds in the GSA. Data will be collected at several areas in the GSA. Densities of breeding birds with the various forested habitats will also be collected. | None to date                                                                                                                  |
| Birds      | Peregrine Falcon| 2000         | In-kind | Five-Year Peregrine Falcon Survey  
GNWT/GRRB (Carriere/Benn)                                                                 | In July helicopter flights over the portion of the Mackenzie River in the GSA will survey Peregrine falcon nest sites and determine population health (nesting density and success). The results of this survey will be compared to historical data to determine changes in health among years. Results will be used to determine if the population is healthy enough to sustain a portion of the proposed collection of Northern Peregrine falcons in the US. | May have been funded through WWF Endangered Species Recovery Fund.                                                                 |
| Birds      | Peregrine Falcon| 2000         | In-kind | Productivity survey and satellite telemetry of Peregrine Falcons (anatum subspecies) in the GSA  
GNWT/GRRB (Carriere/Benn)                                                                 | This is part of a North American 5-Year Survey and will provide health information of falcon populations in the GSA before a US proposal to annually collect 250 Northern Peregrine falcons (which nest in the NWT and Nunavut) is effective. We will use a spring survey of falcon nest sites in the GSA to determine occupancy and clutch size. Results will be compared to historical data to determine changes in population health. Satellite tracking of two anatum Peregrine falcon females will examine migration route and timing. This will help to determine a need for further study of the migration of the core population, given the US proposal. |                                                                                                                           |
| Birds      | Peregrine Falcon| 1995         | Financial| Peregrine Falcon Surveys  
GNWT (DRR)                                                                 | This project will survey peregrine falcon populations in order to provide information to the GRRB on the status of populations.                                                                 |                                                                                                                           |
| Birds      | Scoters         | 2002-2001    | Financial| Habitat Requirements of Scoters  
University of Saskatchewan (Shannon Haszard)                                                                 | This project will examine how wetland characteristics affect the abundance, distribution, and productivity of white-winged and surf scoters in the GSA. The forested wetlands of the GSA are among the most important breeding sites in North America for these two species of sea ducks. The combined scoter population has declined by 75% during the past 40 years and this is of concern to subsistence hunters from the GSA and wildlife managers across North America. A long-term decline in the population of these key harvested species threatens the availability of this traditional food source. Understanding the habitat requirements of these ducks is an important first step in explaining this decline. | Haszard, H. 2002. Habitat requirements of White-winged and surf-scoters in the Mackenzie Delta Region, NWT. 2001 Progress report to the GRRB.  
Univ. of Northern British Columbia (Heather Swystun)  
Ducks Unlimited Canada (MacDonald)                                                                 | The research objectives were to provide information to predict what types of wetlands different waterbirds select and to identify important breeding, rearing and staging areas for waterbirds throughout the study area. In 2003, aerial surveys of waterbirds was to be completed and water chemistry sampling of 100 wetlands was to be conducted. In 2004 a digital inventory of wetlands and upland habitats was to be completed and importance of different wetland & upland habitats to waterbirds was to be assessed. | Ducks Unlimited, Inc. February 2006. Middle Mackenzie Project Earth Cover Classification User's Guide. 73 pp. |
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<th>Species</th>
<th>Year</th>
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<th>Project</th>
<th>Lead Agency (PI)</th>
<th>Project Description</th>
<th>Outcome (selected publications)</th>
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<tr>
<td>Birds</td>
<td>Waterbirds</td>
<td>2004</td>
<td>Financial</td>
<td>Peel River Plateau Community Consultation</td>
<td>Ducks Unlimited Canada (Shannon Haszard)</td>
<td>This project's objectives were to: report on and explain to community members what research D.U. Canada has been doing in the Peel Plateau area and why it is important to DU and to wildlife management; to collect local knowledge about wetlands or waterbirds; to provide opportunity for community members to comment on past and future D.U. research.</td>
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<tr>
<td>Birds</td>
<td>Waterbirds</td>
<td>2000</td>
<td>Financial</td>
<td>Breeding waterfowl in the GSA</td>
<td>GRRB? DU? (Shannon Haszard)</td>
<td>The GSA contains wetlands that are important breeding sites for waterbirds in NA. Although best evidence suggests greater scaup populations are stable, there has been a steady long-term decline in the populations of scoters and lesser scaup and this is of concern to wildlife managers in the GSA and across the continent. To date, scoter species have not been separated during aerial surveys making it difficult to assess whether one or both species have declined. This study will document composition, abundance and distribution of these species in wetlands of the GSA and provide baseline information on nest site characteristics, breeding &amp; brood rearing habitat.</td>
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<tr>
<td>Birds</td>
<td>Waterbirds</td>
<td>1999, 1998, 1996</td>
<td>Financial</td>
<td>Gwich'in Territorial Park waterfowl survey</td>
<td>GRRB (Shannon Haszard, John Marshall)</td>
<td>The Gwich'in Territorial Park (GTP) is an important area for waterfowl. It provides suitable habitat for staging, rearing young and forage. Developments planned for the pak may negatively affect the life cycles of waterfowl. Waterfowl surveys were completed in 1996 and 1998 to collect baseline data. It is necessary to continue these surveys as development of the park continues to monitor the effects that this might have on the waterfowl population in the area. In addition, this project will give students from the Natural Resource Technology Program at Aurora College the opportunity to learn important surveying techniques in a hands-on environment.</td>
<td>Marshal, J.P., Firth, A. 1999. Gwich'in Territorial Park Waterfowl Survey 1998. Gwich'in Renewable Resource Board Report 99-05. Edwards, J. 1997. Gwich'in Territorial Park Waterfowl Survey 1996. Gwich'in Renewable Resource Board Report 97-02.</td>
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<tr>
<td>Birds</td>
<td>Waterbirds</td>
<td>1994</td>
<td>Financial</td>
<td>Waterfowl Harvest Study</td>
<td>GNWT (DRR)</td>
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<td>Theme</td>
<td>Species</td>
<td>Year</td>
<td>GRRB Support</td>
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<td>Lead Agency</td>
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<tr>
<td>Birds &amp; Mammals</td>
<td>Scaup, Scoters, Small mammals</td>
<td>2008</td>
<td>Financial</td>
<td>Breeding Ecology of Lesser Scaup (Blue Bills)</td>
<td>Ducks Unlimited</td>
<td>White-winged Scoters and Lesser Scaup populations have been declining in the Mackenzie Valley by more than 50% in the past 30 years. This study will provide information on what factors are contributing to the decline. The study will examine nest productivity and survivorship; food availability; nest habitat conditions; parasite loads; contaminant &amp; body condition of adults &amp; young; availability of small mammals as alternate prey for duck predators; identify populations of birds using this region, wintering origins and sources of nutrients needed for eggs.</td>
<td>Breeding Ecology of Black Ducks (Scoters) and Blue-bills (Scaup) in the Lower Mackenzie River Watershed, NWT. Progress Report submitted to GRRB, Sept. 2007. Slattery &amp; Norstrom. 2003. Breeding ecology of blue-bills (scaup) and black ducks (scoters) Progress Report -Field Season, 2003. DeVink et al. (in press) Is selenium affecting body condition and reproduction in boreal breeding Scaup, Scoters, and Ring-necked ducks? Environmental Pollution. DeVink et al. (in press) Are late-spring boreal lesser scaup (Aythya affinis) in poor body condition? Auk. Koons et al. 2007. Lesser Scaup Population Dynamics: What can be learned from available data? Avian Conservation Ecology. (online journal) <a href="http://www.ace-eco.org/vol1/iss3/art6/">http://www.ace-eco.org/vol1/iss3/art6/</a></td>
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<td></td>
<td>(hare, mice, lemmings, voles)</td>
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<td></td>
<td>and White-winged Scoters (Black Ducks - Njaa)</td>
<td>(Stuart Slattery)</td>
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<tr>
<td>Community-based</td>
<td>All</td>
<td>2009</td>
<td>Financial</td>
<td>Community Based Ecological Monitoring, Aklavik and Fort McPherson</td>
<td>Arctic Borderlands Ecological Co-op (Deanna Lemke)</td>
<td>Arctic Borderlands is a co-operative that was established in 1994 to carry out community-based ecological monitoring and to record, synthesize, and communicate local knowledge about the environment. Each year interviewees go out into the communities across the north Yukon and adjoining NWT and ask a series of questions to people who spend a lot of time on the land. This information is then used to monitor changes in the land, fish, and wildlife.</td>
<td>Project information, maps and database available at <a href="http://www.taiga.net/coop/index.html">http://www.taiga.net/coop/index.html</a></td>
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<td>Monitoring</td>
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<td>2008</td>
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<td>2001</td>
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<tr>
<td>Fish</td>
<td>All</td>
<td>2008</td>
<td>In-kind &amp; Financial</td>
<td>Population Analysis of Harvested Fish Species in Travaillant Lake</td>
<td>DFO (Kim Howlad)</td>
<td>Identified as an important cultural and biological resource, the Travaillant Lake basin also falls in the path of the proposed Mackenzie Gas Pipeline. In anticipation of development in the area, a series of studies were conducted. A five year netting study collected a wealth of information on the presence of fish species and their biological characteristics. In the summer, netting takes place in the lake, while in the fall netting takes place in the rivers. The fall netting captures broad whitefish and lake whitefish as they move into the rivers to spawn.</td>
<td>Howland, K. and L. Harris. 2005. Population analysis of harvested fish species in the Travaillant Lake system, Northwest Territories. GRRB 05-05. Harris, L. and K. Howland. 2004. Travaillant Lake fish movement study and population assessment 2003. GRRB 04-03.</td>
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<tr>
<td></td>
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<td>2007</td>
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<td>GRRB (Nathan Millar / Les Harris)</td>
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<td>Fish</td>
<td>All</td>
<td>2008</td>
<td>In-kind</td>
<td>Riverine Nutrient Fluxes</td>
<td>Simon Fraser University (Lance Lesack)</td>
<td>This project will require monthly sampling of the Mackenzie, Peel and Arctic Red Rivers from September 2008 through March 2009. Local Gwich'in beneficiaries will be hired to accompany a GRRB employee to three sites where water samples will be taken. Samples will be shipped to a laboratory in Winnipeg to aid in the quantification of Mackenzie River nutrient fluxes to the Beaufort Sea.</td>
<td>HOWLAND, K. and L. HARRIS. 2005. POPULATION ANALYSIS OF HARVESTED FISH SPECIES IN THE TRAVAILLANT LAKE SYSTEM, NORTHWEST TERRITORIES. GRRB 05-05.</td>
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<td></td>
<td></td>
<td>2007</td>
<td>Financial</td>
<td>Tsiigehtchic Fisheries Coordinator</td>
<td>DFO Inuvik (Erin Hiebert)</td>
<td>This money goes to hiring a fisheries harvest study / fisheries management co-ordinator for Tsiigehtchic. This individual conducts interviews with fishermen to record harvest information, collects any unusual specimens, and helps to co-ordinate the collection of salmon.</td>
<td>None yet</td>
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<tr>
<td>Fish</td>
<td>All</td>
<td>2007</td>
<td>In-kind</td>
<td>Traditional Knowledge of Fish in the Arctic Red and Mackenzie Rivers</td>
<td>GRRB (Nathan Millar / Amy Thompson)</td>
<td>This study aimed to document the traditional knowledge of fish species from the Arctic Red River and the Mackenzie River. Harvesters were interviewed and information was recorded about timing of migration, spawning areas, and other relevant observations about the fish.</td>
<td>Thompson, A. and Millar, N. 2007. Traditional knowledge of fish migration and spawning patterns in Tsiigehtik (Arctic Red River) and Nágwichoonjik (Mackenzie River), Northwest Territories. Gwich'in Renewable Resource Board Report 07-01.</td>
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### GRRB Wildlife Studies Fund Research (1993-2009)

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<th>Theme</th>
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<th>Project Description</th>
<th>Outcome</th>
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<tr>
<td>Fish</td>
<td>All</td>
<td>2000</td>
<td>Financial</td>
<td>Arctic Red River Fish Study</td>
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<tr>
<td>Fish</td>
<td>All</td>
<td>2005</td>
<td>Financial</td>
<td>In 2002/2003, the GRRB began a study of the fish resources of the Arctic Red River.</td>
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<tr>
<td>Fish</td>
<td>All</td>
<td>2004</td>
<td>In-kind</td>
<td>Local Knowledge of Travaillant Lake Fish Study</td>
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<tr>
<td>Fish</td>
<td>All</td>
<td>2003</td>
<td>Financial</td>
<td>Travaillant Lake Fish Movement Study</td>
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<tr>
<td>Fish</td>
<td>All</td>
<td>2002</td>
<td>Financial</td>
<td>Lower Mackenzie River Index Netting Study</td>
<td></td>
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<tr>
<td>Fish</td>
<td>All</td>
<td>1999</td>
<td>Financial</td>
<td>Biodiversity and Habitat Study of Fish Lakes on Bridged Creeks on Aklavik Trail</td>
<td></td>
</tr>
<tr>
<td>Fish</td>
<td>Broad Whitefish</td>
<td>2005</td>
<td>Financial</td>
<td>Tracking Movements of Broad Whitefish in Travaillant Lake</td>
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**Outcome (selected publications)**

- Winbourne, J. 2004. Local knowledge of fish movements and habitat use in the Travaillant Lake system. GRRB 04-06.
- GSA Fish Research Database
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<tr>
<th>Theme</th>
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<th>Year</th>
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<th>Project Description</th>
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<tr>
<td>Fish</td>
<td>Broad Whitefish</td>
<td>2005</td>
<td>Financial</td>
<td>Broad Whitefish Genetics</td>
<td>GRRB (Les Harris) UBC</td>
<td>The goal of this study is to determine the number of stocks of broad whitefish (<em>Coregonus nasus</em>) in the lower Mackenzie River. Fish fins were collected from fishermen through the Gwich’in Settlement Area. The population structure was determined using genetics (microsatellites).</td>
<td>Semi-annual updates</td>
</tr>
<tr>
<td>Fish</td>
<td>Broad Whitefish</td>
<td>2001</td>
<td>In-kind</td>
<td>Local knowledge of Broad Whitefish in the GSA</td>
<td>GRRB (Bobbie-Jo Greenland)</td>
<td>This project collected and summarized community concerns and knowledge about broad whitefish within the Gwich’in Settlement Area. This study was done to inform the development of Integrated Fisheries Management Plan for Broad Whitefish (<em>Coregonus nasus</em>) in the lower Mackenzie River. Integrated management plans use both scientific and traditional knowledge. No management plan is yet in place for broad whitefish.</td>
<td>Greenland, B.J. and J. Walker-Larsen, 2001. Community concerns and knowledge about broad whitefish (<em>Coregonus nasus</em>) in the Gwich’in Settlement Area. GRRB 01-08.</td>
</tr>
<tr>
<td>Fish</td>
<td>Broad Whitefish</td>
<td>1995</td>
<td>Financial</td>
<td>Discrimination of Stocks Using Otoliths</td>
<td>DFO Winnipeg (John Babaluk)</td>
<td>This research aimed to assess the feasibility and application of micro-PIXE analysis of otoliths for determining the spawning site of the individual broad whitefish from the lower Mackenzie River (6 from Peel and 6 from Arctic Red).</td>
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<tr>
<td>Fish</td>
<td>Broad Whitefish, Lake Whitefish, Inconnu, Herring</td>
<td>2009</td>
<td>In-kind &amp; Financial</td>
<td>Mackenzie River Fish Tagging Study</td>
<td>DFO Winnipeg (Melanie VanGerwen-Toyne)</td>
<td>The research aims to document the spawning patterns of anadromous broad whitefish, lake whitefish, inconnu, and herring. Radio transmitters were surgically implanted into fish and these fish were relocated on tracking flight by helicopter and fixed-wing aircraft. Goals of the study are to identify spawning and over-wintering areas.</td>
<td>VanGerwen-Toyne, M. 2006. Mid-term report on Mackenzie River Fish Study. Report submitted to GRRB.</td>
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<tr>
<td>Fish</td>
<td>Dolly Varden</td>
<td>2009</td>
<td>In-kind</td>
<td>Dolly Varden Char Habitat Research</td>
<td>DFO (Neil Mochnacz)</td>
<td>Dolly Varden populations in the Rat and Big Fish Rivers appear to be stressed from local habitat change. The objectives of this research are to quantify habitat use and availability, identify and measure the extent of critical habitat, establish baseline habitat reference conditions, and investigate the stock structure and life history of northern populations.</td>
<td>None yet.</td>
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<tr>
<td>Fish</td>
<td>Dolly Varden</td>
<td>2005</td>
<td>In-kind</td>
<td>Adaptation in a Changing Arctic (Aklavik char TK etc.)</td>
<td>Li of Manitoba (Eva Patton)</td>
<td>To document the management process for Dolly Varden char in the region used by the communities of Aklavik and Fort McPherson and a current focus on the Integrated Fisheries Management Plan and COSEWIC consideration. I will look specifically at how the land claims co-management groups work to combine local knowledge and interests with science in resource management decision-making. This information may be helpful to better understand how co-management groups support communities in maintaining the continued health and access to important subsistence resources even under changing conditions</td>
<td>None yet.</td>
</tr>
<tr>
<td>Fish</td>
<td>Dolly Varden</td>
<td>2008</td>
<td>In-kind &amp; Financial</td>
<td>Rat River Char Monitoring</td>
<td>DFO Inuvik (Lois Harwood)</td>
<td>A harvest-based monitoring program was initiated in 1995 and continues annually. Gwich’in fishermen are hired as monitors (locations of monitoring: Aklavik, Husky Channel, big Eddy, mouth of Rat River, and Destruction City) to collect biological data on fish caught by themselves and other beneficiaries throughout the late summer (fish migrating upstream are targeted). This monitoring program provides information on age, sex, maturity, body condition, and abundance. The monitoring program is an important component of the Rat River Char Fishing Plan and is central to obtaining population estimates every three years.</td>
<td>Yearly reports and updates. Rat River Char Fishing Plan. Harwood, L. A. 2001. Status of anadromous Dolly Varden (<em>Salvelinus malma</em>) of the Rat River, Northwest Territories, as assessed through community-based sampling of the subsistence fishery, August-September 1989-2000. Canadian Science Advisory Secretariat. Research Document 2001/090.</td>
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</table>
Investigation of Vittrekwa River Dolly Varden (Nathan Millar) Tetlit RRC (1997) Apart from the Rat River, the only other population of Dolly Varden char (Salvelinus malma) that is harvested in the GSA is the population that spawns in the Vittrekwa River. This research investigated this little known population. Using traditional knowledge, the location of the spawning grounds was determined. We equipped 10 char with radio transmitters and followed their movements through the fall and winter of 2006. We also collected information on the biology of this population and genetic samples. In 2007, we collected a great deal of information on habitat use and more information on the biology of char in the Vittrekwa River. Earlier work involved sampling fish at the mouth of the Vittrekwa and several trips up tributaries to look for char.

Rat River Char Population Estimates DFO Inuvik (Lois Harwood / Steve Sandstrom) This project involves floy tagging Rat River char at the fish hole so that next season, as they migrate back up to the spawning grounds, char can be counted and an estimate of the population can be completed. This estimate is repeated every few years to inform the Rat River Char Fishing Plan and harvest levels.

Dolly Varden Genetics DFO Winnipeg (Rob Bajno, Jim Reist) The research uses genetic techniques (microsatellites) to determine the stock structure of northern Dolly Varden (Salvelinus malma). These tools will also allow the determination of the stock structure of mixed-stock coastal fisheries at a later date.

Traditional Knowledge of Char GRRB (Nathan Millar) The Rat River Char Working Group recommended that a traditional knowledge study of char be conducted. The aim is to document knowledge of char (generally) and of Rat River char (specifically).

Rat River Harvest Study DFO Inuvik (Erin Hiebert) GRRB After the termination of the Gwich’in Harvest Study, there was very little information on the subsistence harvest of Rat River char. This project involved interviewing residents of Fort McPherson and Aklavik on their harvest of char from the Rat River.

Rat River Spawning Habitat Assessment GRRB (Cheryl Chetkiewicz) The goal of this study was to locate and map the exact areas used for spawning by Rat River char and to determine the timing and characteristics of spawning activities.

Fish Creek Fish Hole Spring Reconnaissance (Rat River) DFO Winnipeg (Brian Ferguson / Steve Sandstrom) The main objectives of this research were to determine the areas of spring upwellings (overwintering habitat) and the physical and chemical characteristics of overwintering pools, locate other suitable habitat sites and a site for a survey gauge, install a water temperature recorder, collect water samples, and obtain local knowledge about traditional fishing sites.

Rat River Dolly Varden Radio Telemetry DFO Winnipeg (Steve Sandstrom) The main goal of this research was to determine the location of anadromous juvenile and adult non-spawners during the fall and determine whether alternative locations of habitat are used/available. The project involved radio tagging 20 silvers: 10 juveniles and 10 larger silvers.

Rat River Hydroacoustics Feasibility Study DFO Winnipeg (Eric Gyselman) This study investigated the feasibility of using split-beam hydroacoustic to enumerate the char population in the Rat River. The research focused on finding good spots to test the equipment and complete a population estimate of the char.

Assessment of Rat River Char at Fish Hole DFO Inuvik (Lois Harwood) The goals of this research were to determine the relative abundance and life history composition of the Rat River stock at the Fish Hole spawning and overwintering site, examine growth and contribution of different fisheries via floy tagging, and do basic river sampling.

Coney Index Netting Study No information available

Community Concerns About Coney in the GSA GRRB (Patrice Simon) To support the creation of an integrated fisheries management plan for coney, the GRRB distributed questionnaires to collect traditional knowledge, concerns, and priorities on coney in the GSA.
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<th>Project Description</th>
<th>Outcome/Selected Publications</th>
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<tbody>
<tr>
<td>Fish</td>
<td>Lake Trout</td>
<td>1999</td>
<td>Financial</td>
<td>Sandy Lake Fish Study (Allen Firth)</td>
<td>Firth, A. 2000. Sandy Lake fish study. GRRB 00-03.</td>
</tr>
<tr>
<td>Fish</td>
<td>Loche</td>
<td>2008-2007</td>
<td>In-kind/Financial</td>
<td>Pathology of Burbot Livers in the GSA (Amy Thompson)</td>
<td>None yet</td>
</tr>
<tr>
<td>Fish</td>
<td>Pacific Salmon</td>
<td>2007-2006</td>
<td>Financial</td>
<td>Fort McPherson Fisheries and Salmon Co-ordinator (Erie Hiebert)</td>
<td>This money will go to hiring a fisheries Harvest Study / Fisheries Management Co-ordinator for Fort McPherson. This individual will conduct interviews with fishermen to record harvest information, will collect and hold any unusual specimens, and will help to co-ordinate the collection of salmon. This will help to collect information about the occurrence and harvest of Pacific salmon in the Peel River.</td>
</tr>
<tr>
<td>Fish</td>
<td>Whitefish</td>
<td>2008</td>
<td>In-kind</td>
<td>Swimming Performance/ Water Velocity Habitat Selection (Zoya Pawlychyn)</td>
<td>Presentation made on her behalf at 2009 October Board Meeting.</td>
</tr>
<tr>
<td>Theme</td>
<td>Species</td>
<td>Year 2007-2006</td>
<td>Financial/In-kind</td>
<td>Project Description</td>
<td>Outcome (selected publications)</td>
</tr>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>GRRB (Nathan Millar)</td>
<td>The goal of this study is to determine the number of stocks of coney (inconnu, Stenodus leucicthys, Sruh), and crookedback (lake whitefish, Coregonus clupeaforms, Dalts'an) in the lower Mackenzie River system. Fish fins were collected from fishermen throughout the Gwich'in Settlement Area. For both species we will determine the population structure using genetics (microsatellites). This work is being done in collaboration with Dalhousie University and DFO Winnipeg. Report to GRRB</td>
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</tr>
<tr>
<td>Forestry</td>
<td></td>
<td>2007 In-kind</td>
<td>Financial/In-kind</td>
<td>Forest management basics and sawmilling training workshop</td>
<td>Tetlit Gwich'in Council</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>To host a hands on workshop on forest management and wood-mizer operations training</td>
<td></td>
</tr>
<tr>
<td>Forestry</td>
<td></td>
<td>2004 In-kind</td>
<td>Financial/In-kind</td>
<td>Sharing knowledge of Forests in the Gwich'in Settlement Area</td>
<td>GTC, GRRB (Nathan Millar)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>The focus of this project was to develop educational materials. Forest education was to be incorporated into the Gwich'in Renewable Resource Board (GRRB) 'Nature Day' school program with visits to community elementary schools. GRRB staff will use materials prepared during this project in future school presentations, Gwich'in Science Camps and other on-the-land programs. Educator resource kits will also be held by school and college resource libraries for future use.</td>
<td></td>
</tr>
<tr>
<td>Forestry</td>
<td></td>
<td>2003 Financial</td>
<td></td>
<td>BW Caribou habitat project (seismic regrowth)</td>
<td>ENR</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1. To obtain at least one year of current thrice-daily location information for 5 GPS/satellite-tracked boreal woodland caribou. 2. Obtain information about vegetation regeneration after disturbance by seismic line cutting and wildfire. 3. Determine seasonal patterns of habitat use and selection by boreal woodland caribou in the Inuvik Region.</td>
<td>Final report</td>
</tr>
<tr>
<td>Forestry</td>
<td></td>
<td>2003 Financial</td>
<td></td>
<td>Sustainable Forest Management Network Contribution</td>
<td>SFMN</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Forestry</td>
<td></td>
<td>2003 Financial</td>
<td></td>
<td>Aklavik value added wood project</td>
<td>Aklavik Indian Band</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>This project was listed under the &quot;Manufacturing and Value Added for NWT forestry&quot; type.</td>
<td></td>
</tr>
<tr>
<td>Forestry</td>
<td></td>
<td>2003 In-kind</td>
<td>Financial/In-kind</td>
<td>Community Monitoring of Seismic Line Forest Regrowth in the Gwich'in Settlement Area</td>
<td>GTC, GRRB (Nathan Millar)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>This project was developed to monitor seismic lines and forest regrowth in the GSA</td>
<td></td>
</tr>
<tr>
<td>Forestry</td>
<td></td>
<td>2003 In-kind</td>
<td></td>
<td>Forestry Business Plan</td>
<td>Inuvik Native Band</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>The purpose of this project was to produce a forest business plan.</td>
<td></td>
</tr>
<tr>
<td>Forestry</td>
<td></td>
<td>2002 Financial</td>
<td></td>
<td>Northern Forest Regrowth after seismic</td>
<td>ENR, GRRB (Nathan Millar)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>This project was conducted to aid forest management by obtaining a clear understanding of past seismic cutting effects and knowledge of forest regrowth in the region to help predict impacts of timber cutting and refine replanting techniques for northern forests.</td>
<td></td>
</tr>
<tr>
<td>Forestry</td>
<td></td>
<td>2002 Financial</td>
<td></td>
<td>Tree phenology study</td>
<td>ENR</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>To establish plots near Inuvik, Tsiigehtichic, and Fort McPherson to monitor the progression of tree development in the Inuvik Region.</td>
<td></td>
</tr>
<tr>
<td>Forestry</td>
<td></td>
<td>2002 Financial</td>
<td></td>
<td>Forest management plan - working group</td>
<td>ENR, GRRB (Nathan Millar)</td>
</tr>
<tr>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Forestry</td>
<td></td>
<td>2002 Financial</td>
<td></td>
<td>Sustainable Forest Management Network Contribution</td>
<td>SFMN</td>
</tr>
<tr>
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<td></td>
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<td></td>
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</tr>
<tr>
<td>Forestry</td>
<td></td>
<td>2002 In-kind</td>
<td></td>
<td>Local knowledge and use of driftwood and drift logs in the Gwich'in Settlement Area</td>
<td>GRRB, SFMN (Nathan Millar)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>To develop a model of driftwood flow down the Mackenzie River. The objective of this research is to quantify the production, movement, decomposition and use of driftwood logs by aboriginal people along the major rivers in the GSA</td>
<td></td>
</tr>
<tr>
<td>Theme</td>
<td>Species</td>
<td>Year</td>
<td>GRRB Support</td>
<td>Project</td>
<td>Lead Agency (PI)</td>
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<tr>
<td>Forestry</td>
<td>All</td>
<td>2002</td>
<td>In-kind</td>
<td>GTC request to fund seasonal botanist/biologist</td>
<td>GTC - Townsted</td>
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<tr>
<td>Forestry</td>
<td>All</td>
<td>2002</td>
<td>In-kind</td>
<td>Enhanced Training of First Nation Environmental Monitors in Plant Identification</td>
<td>GTC</td>
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<tr>
<td>Forestry</td>
<td>All</td>
<td>2001</td>
<td>Financial</td>
<td>Regeneration and Productivity of Forest in the Gwich'in Settlement Area</td>
<td></td>
</tr>
<tr>
<td>Forestry</td>
<td>All</td>
<td>2001</td>
<td>Financial</td>
<td>Forest management planning - working group</td>
<td>GRRB ENR GTC</td>
</tr>
<tr>
<td>Forestry</td>
<td>All</td>
<td>2001</td>
<td>Financial</td>
<td>Sustainable Forest Management Network Contribution</td>
<td></td>
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<tr>
<td>Forestry</td>
<td>All</td>
<td>2001</td>
<td>In-kind</td>
<td>The Establishment of Permanent Sample Plots on Gwich'in Lands</td>
<td>GTC</td>
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<tr>
<td>Forestry</td>
<td>All</td>
<td>2001</td>
<td>In-kind</td>
<td>Developing sustainable NTFP</td>
<td>ENR GRRB SFMN U of A</td>
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<tr>
<td>Forestry</td>
<td>All</td>
<td>2001</td>
<td>In-kind</td>
<td>Driftwood model along the Mackenzie River</td>
<td>GRRB SFMN U of A</td>
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<tr>
<td>Forestry</td>
<td>All</td>
<td>2001</td>
<td>In-kind</td>
<td>Northern Forest Regrowth after seismic</td>
<td>GRRB ENR</td>
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<tr>
<td>Forestry</td>
<td>All</td>
<td>2000</td>
<td>Financial</td>
<td>Regeneration and Productivity of Forest in the Gwich'in Settlement Area</td>
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<tr>
<td>Forestry</td>
<td>All</td>
<td>2000</td>
<td>Financial</td>
<td>Community Forest Use Plan for part of the Gwich'in Settlement Area</td>
<td>GTC</td>
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<tr>
<td>Forestry</td>
<td>All</td>
<td>2000</td>
<td>Financial</td>
<td>ARNEWS Forest monitoring plot</td>
<td>GRRB</td>
</tr>
<tr>
<td>Forestry</td>
<td>All</td>
<td>2000</td>
<td>Financial</td>
<td>Inuvik region fire effects camp</td>
<td></td>
</tr>
<tr>
<td>Theme</td>
<td>Species</td>
<td>Year</td>
<td>GRRB Support</td>
<td>Project Description</td>
<td>Outcome (selected publications)</td>
</tr>
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<tr>
<td>Forestry</td>
<td>All</td>
<td>2000</td>
<td>In-kind</td>
<td>Inuvik forest use planning workshop</td>
<td>GRRB report # 99-02</td>
</tr>
<tr>
<td>Forestry</td>
<td>All</td>
<td>1999</td>
<td>Financial</td>
<td>Forest health monitoring plot (ARNEWS)</td>
<td>To continue the monitoring work for the ARNEWS plot set up near Campbell Lake in 1998, and propose setting up a second ARNEWS plot.</td>
</tr>
<tr>
<td>Forestry</td>
<td>All</td>
<td>1999</td>
<td>Financial</td>
<td>Biodiversity forest monitoring plot (SiMAB)</td>
<td>To continue the monitoring work conducted in 1998 on the biodiversity plot by mapping and measuring trees, and to begin monitoring the abundance and diversity of wildlife in the plot.</td>
</tr>
<tr>
<td>Forestry</td>
<td>All</td>
<td>1999</td>
<td>Financial</td>
<td>Aklavik forest use project including a forest use planning workshop</td>
<td>The goal of the workshop was to identify local forest use issues and to collect and map information about forest and land use in the Inuvik area.</td>
</tr>
<tr>
<td>Forestry</td>
<td>All</td>
<td>1999</td>
<td>Financial</td>
<td>Regeneration and Productivity of Forest in the Gwich’in Settlement Area</td>
<td>To study forest regeneration and productivity in the GSA as a step in developing an effective forest management plan which will promote sustainable use of the forest.</td>
</tr>
<tr>
<td>Forestry</td>
<td>All</td>
<td>1999</td>
<td>In-kind</td>
<td>Historical forest use research with the University of Alberta</td>
<td>to collect information on historical timber harvest in the GSA. Materials held in the Hudson Bay Archives were reviewed and information relating to cordwood cutting and wood use in the GSA was collected.</td>
</tr>
<tr>
<td>Forestry</td>
<td>All</td>
<td>1997</td>
<td>Financial</td>
<td>Timber cruising</td>
<td>n/a progress report by U of A - 1999</td>
</tr>
<tr>
<td>Forestry</td>
<td>All</td>
<td>1997</td>
<td>In-kind</td>
<td>Traditional Knowledge of the Forest</td>
<td>GRRB report # 99-03</td>
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<tr>
<td>Forestry</td>
<td>All</td>
<td>1997</td>
<td>In-kind</td>
<td>Regional Forestry Workshop</td>
<td>GRRB report # 99-03</td>
</tr>
<tr>
<td>Forestry</td>
<td>All</td>
<td>1997</td>
<td>In-kind</td>
<td>Eco-forestry training session for community representatives</td>
<td>GRRB &amp; ENR report # 99-03</td>
</tr>
<tr>
<td>Forestry</td>
<td>All</td>
<td>1996</td>
<td>Financial</td>
<td>Air photo interpretation</td>
<td>To interpret the aerial photographs taken in the previous year.</td>
</tr>
<tr>
<td>Forestry</td>
<td>All</td>
<td>1996</td>
<td>Financial</td>
<td>Timber cruising</td>
<td>To conduct timber cruising for the forestry management plan.</td>
</tr>
<tr>
<td>Forestry</td>
<td>All</td>
<td>1996</td>
<td>In-kind</td>
<td>Community survey, promotional packages, pamphlets and community workshops</td>
<td>To develop and distribute community surveys, promotional packages, pamphlets and community workshops</td>
</tr>
<tr>
<td>Forestry</td>
<td>All</td>
<td>1995</td>
<td>Financial</td>
<td>Aerial photography</td>
<td>To conduct aerial photography work in the GSA for forest inventory data.</td>
</tr>
<tr>
<td>Theme</td>
<td>Species</td>
<td>Year</td>
<td>GRRB Support</td>
<td>Project</td>
<td>Lead Agency (PI)</td>
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<tr>
<td>Forestry</td>
<td>Spruce</td>
<td>2005</td>
<td>Financial</td>
<td>Forest Regeneration Techniques for Black and White Spruce in the Delta and Adjacent Uplands</td>
<td>Concordia University (Dr. David Greene)</td>
</tr>
<tr>
<td>Forestry</td>
<td>Spruce</td>
<td>2004</td>
<td>In-kind</td>
<td>Regeneration of black and white spruce on seismic lines in permafrost environments</td>
<td>Concordia University (Dr. David Greene)</td>
</tr>
<tr>
<td>Forestry</td>
<td>Timber</td>
<td>2007</td>
<td>In-kind</td>
<td>Timber harvesting and processing for community use</td>
<td>Aklavik Indian Band</td>
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<tr>
<td>Gwich’in Ecological Knowledge</td>
<td>All</td>
<td>2003</td>
<td>In-kind</td>
<td>GEKP Database</td>
<td>GRRB</td>
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<td>Gwich’in Ecological Knowledge</td>
<td>All</td>
<td>2000</td>
<td>Financial</td>
<td>Gwich’in Environmental Knowledge Project Books</td>
<td>GRRB</td>
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<tr>
<td>Habitat</td>
<td>All</td>
<td>2000</td>
<td>In-kind</td>
<td>Rat River Biodiversity, Cultural, and Historical Assessment</td>
<td>GRRB (Shannon Haszard)</td>
</tr>
<tr>
<td>Habitat</td>
<td>All</td>
<td>1999</td>
<td>In-kind</td>
<td>Rat River Biodiversity, Cultural and Historical Assessment</td>
<td>GRRB</td>
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<tr>
<td>Habitat Flora</td>
<td></td>
<td>1997</td>
<td>Financial</td>
<td>Peel River Watershed Study -Wind, Snake, Bonnet Plume Ecosystem Mapping and Wildlife Habitat Research</td>
<td>CPAWS (Jari Peepre)</td>
</tr>
<tr>
<td>Theme</td>
<td>Species</td>
<td>Year</td>
<td>GRRB Support</td>
<td>Project</td>
<td>Lead Agency</td>
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<tr>
<td>Habitat</td>
<td>Flora Mammals</td>
<td>2000</td>
<td>Financial</td>
<td>Forest fire effects on vegetation and wildlife habitat use in the GSA</td>
<td>GRRB (Bryon Benn/Jennifer Walker-Larsen)</td>
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<tr>
<td>Harvest Data</td>
<td>All</td>
<td>2009</td>
<td>Financial</td>
<td>Gwichin Harvest Study</td>
<td>GRRB</td>
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<tr>
<td>Mammals</td>
<td>Beaver Muskrat</td>
<td>2007</td>
<td>Financial</td>
<td>Community Based Fur-bearer Monitoring</td>
<td>GRRB (Brian Dokum)</td>
</tr>
<tr>
<td>Mammals</td>
<td>Caribou - Barren Ground</td>
<td>2008</td>
<td>Financial</td>
<td>Barren Ground Caribou Monitoring</td>
<td>ENR (Marsha Branigan)</td>
</tr>
<tr>
<td>Mammals</td>
<td>Caribou - Barren Ground</td>
<td>2004</td>
<td>Financial</td>
<td>Population Dynamics of the Cape Bathurst and Bluenose-West Barren Ground Caribou Herds</td>
<td>DRWED (Nagy)</td>
</tr>
<tr>
<td>Theme</td>
<td>Species</td>
<td>Year</td>
<td>GRRB Support</td>
<td>Project Description</td>
<td>Lead Agency (PI)</td>
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<tr>
<td>Mammals</td>
<td>Caribou - Barren Ground</td>
<td>2001-2002</td>
<td>In-kind &amp; Financial</td>
<td>Satellite tracking and DNA studies were done between 1995 and 1999 indicate that there are three separate herds within the area known as the range of the Bluenose caribou herd. As a continuation of this work, we will collect additional caribou locations via satellite collars. This information will be used to assess fidelity to calving areas; obtain current information on the distribution and movements of caribou during pre-calving, calving and post-calving to help mitigate potential impacts of development activities; obtain current information on the movements of caribou during the post-calving and early summer period: and provide current information on the distribution and movements of caribou to local harvesters.</td>
<td>GNWT (John Nagy)</td>
</tr>
<tr>
<td>Mammals</td>
<td>Caribou - Barren Ground</td>
<td>2001-2002</td>
<td>Financial</td>
<td>Current recruitment data for Bluenose caribou are lacking; the last survey was done in 1994. Estimates of recruitment cannot be derived from productivity data alone, therefore data on recruitment are essential in order to properly assess population dynamics of the Bluenose Caribou herd. Baseline recruitment data must be collected because development activities are beginning and in all likelihood will continue. In order to assess the impacts of development on the population we need to know what recruitment levels can be with minimal development and document how they vary with different amounts of perturbation. The objectives of this study are to determine the number of calves per 100 2-year-old and older females present in the population in March and compare this value with values estimated in the previous July.</td>
<td>GNWT (DRR)</td>
</tr>
<tr>
<td>Mammals</td>
<td>Caribou - Barren Ground</td>
<td>1995-1996</td>
<td>Financial</td>
<td>This project will assist in defining the seasonal ranges and movements of barren-ground caribou that calve in the Melville Hills and near Bluenose Lake. This project will assist in determining whether barren-ground caribou that calve in the Melville Hills and near Bluenose Lake are part of one population or are two separate sub-populations.</td>
<td>GNWT (DRR)</td>
</tr>
<tr>
<td>Mammals</td>
<td>Caribou - Barren Ground</td>
<td>1995-1996</td>
<td>Financial</td>
<td>This project will track radio collared caribou to determine herd location. Once locations are determined, a photocensus of the caribou herd will be conducted.</td>
<td>GNWT (DRR)</td>
</tr>
<tr>
<td>Mammals</td>
<td>Caribou - Barren Ground</td>
<td>1995-1996</td>
<td>Financial</td>
<td>The Department of Renewable Resources currently does not have a reliable population estimate for the Buenose caribou herd. This project will radio-collar caribou in preparation for the July 1995 Buenose caribou census.</td>
<td>GNWT (DRR)</td>
</tr>
<tr>
<td>Mammals</td>
<td>Grant's (Porcupine herd)</td>
<td>2006-2005</td>
<td>Financial</td>
<td>This project will improve the knowledge about Porcupine caribou productivity and movement and will thus improve the capability of resource managers. Project objectives were to record calf:cow ratio of Porcupine caribou and to document late winter distribution of radio collared caribou. Composition counts are simultaneously with caribou captures to deploy radio collars to optimize time and resources. YTG deploys radio collars purchased by cooperating partners (including GRRB).</td>
<td>Gov of Yukon (Dorothy Cooley)</td>
</tr>
<tr>
<td>Mammals</td>
<td>Grant's (Porcupine herd)</td>
<td>2006-2005</td>
<td>Financial</td>
<td>This project will improve the knowledge about Porcupine caribou productivity and movement and will thus improve the capability of resource managers. Project objectives were to record calf:cow ratio of Porcupine caribou and to document late winter distribution of radio collared caribou. Composition counts are simultaneously with caribou captures to deploy radio collars to optimize time and resources. YTG deploys radio collars purchased by cooperating partners (including GRRB).</td>
<td>Gov of Yukon (Dorothy Cooley)</td>
</tr>
<tr>
<td>Mammals</td>
<td>Grant's (Porcupine herd)</td>
<td>2006-2005</td>
<td>Financial</td>
<td>Project objectives are to develop a harvest management protocol, a harvest management plan and harvest management agreements for Porcupine caribou.</td>
<td>Porcupine Caribou Management Board (Joe Tellich)</td>
</tr>
</tbody>
</table>
### GRRB Wildlife Studies Fund Research (1993-2009)

<table>
<thead>
<tr>
<th>Theme</th>
<th>Species</th>
<th>Year</th>
<th>GRRB Support</th>
<th>Project</th>
<th>Lead Agency (PI)</th>
<th>Project Description</th>
<th>Outcome (selected publications)</th>
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<tbody>
<tr>
<td>Mammals</td>
<td>Caribou - Grant's (Porcupine herd)</td>
<td>2005</td>
<td>Financial</td>
<td>Porcupine Caribou Body Condition Monitoring</td>
<td>GNWT (Marsha Branigan)</td>
<td>This project used hunter killed caribou to: monitor the estimated body weight, body fat and protein of adult cow caribou over winter, and monitoring trends over time; monitoring of fat deposits of adult bull caribou over winter &amp; monitoring trends over time; study relationship of these trends to other indicators (pregnancy rate, calf survival, herd size, timing of spring thaw, fall storm patterns, winter range snow depth); compare Porcupine herd to other herds; monitor heavy metal contaminants in caribou kidneys.</td>
<td>Wertz et al. 2005. Overwinter mortality of the Porcupine caribou herd 2004-2005.</td>
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<tr>
<td>Mammals</td>
<td>Caribou - Grant's (Porcupine herd)</td>
<td>2004</td>
<td>In-kind &amp; Financial</td>
<td>Porcupine Caribou Satellite Program</td>
<td>Gov of Yukon (Dorothy Cooley)</td>
<td>This project is an action item in the Porcupine Caribou Management Plan and was approved by the PCMB. Satellite collars were first used on the herd in the 1980s. This session of satellite collars started in October 1997 with 10 used collars from the North Slope Wolf project. Since then we have tried to maintain as many collars as we can on the herd. Currently there are 8 active transmitters. These collars allow us to document annual migration routes and winter range use and are valuable in recording routes and timing of the migrations. Documenting range use is important as various land use issues arise (e.g. exploration in the ANWR; oil and gas development in Eagle Plains area; proposed Dempster lateral pipeline; Dempster highway disturbance).</td>
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<tr>
<td>Mammals</td>
<td>Caribou - Grant's (Porcupine herd)</td>
<td>2001</td>
<td>In-kind</td>
<td>Porcupine Caribou - Peel River Check Station</td>
<td>DRWED Tim Devine</td>
<td>Dempster highway regulations will be in place next fall to address concerns about public safety, habitat protection, and allowing the caribou leaders to pass. There have been several years of consultation with co-management boards and harvesters in the development of these regulations. It is extremely important that all users are well informed of these new regulations. The purpose of the check station is to collect harvest information from hunters harvesting the Porcupine caribou herd, providing information to hunters pertaining to the new Dempster Highway Regulations, and to provide hunters with hunter surveys.</td>
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<tr>
<td>Mammals</td>
<td>Caribou - Grant's (Porcupine herd)</td>
<td>2000</td>
<td>Financial</td>
<td>Fall movements of Porcupine caribou herd near the Dempster Hwy.</td>
<td>GRRB/GRWED/ Gov Yuk. (Benn/Nagy /Cooley)</td>
<td>This pilot project will use autumn telemetry flights to find radio-collared caribou, to identify lead animals, and to describe their movements as they approach and cross the Dempster Highway. From the ground we will document the behaviour of animals approaching the highway to road hunting. We will also record caribou reactions to other disturbances. The information from this pilot project will be used to assist the development and implementation of new caribou hunting regulations along the Dempster Highway.</td>
<td>Benn, B. 2001. Fall movements of the Porcupine Caribou Herd near the Dempster Highway, August 2000. Gwich’in Renewable Resource Board Report 01-07.</td>
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<tr>
<td>Mammals</td>
<td>Caribou - Woodland (Boreal)</td>
<td>2004</td>
<td>Financial</td>
<td>Habitat Stewardship Program? Boreal Woodland Caribou Habitat</td>
<td>GR/GRWT (Auriat/Nagy)</td>
<td>Project will assess woodland caribou habitat use and selection to understand current distribution and potential change. Project will provide maps of collared caribou locations to co-management boards and communities; identify key habitat characteristics; quantify habitat use by caribou according to distinct habitat type.</td>
<td>Nagy et al. 2003. Ecology of Boreal Woodland Caribou in the Lower Mackenzie Valley: Work completed in the Inuvik Region 1 April 2002 to 31 March 2003. pp 1-63.</td>
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<tr>
<td>Mammals</td>
<td>Caribou - Woodland (Boreal)</td>
<td>2003</td>
<td>Financial</td>
<td>Habitat Stewardship Program Boreal Woodland Caribou Winter Habitat Ecology Project</td>
<td>GR/GRWT (Nagy? /Auriat?)</td>
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<tr>
<th>Theme</th>
<th>Species</th>
<th>Year</th>
<th>GRRB Support</th>
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<th>Outcome (selected publications)</th>
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<tr>
<td>Mammals</td>
<td>Caribou - Woodland</td>
<td>2003</td>
<td>In-kind</td>
<td>Movements &amp; Distribution of Boreal Woodland Caribou in Sahtu, Gwich'in and Inuvialuit Settlement Areas</td>
<td>GRRB/GNWF</td>
<td>The GRRB and Dept. of Resources, Wildlife and Economic Development (RWED) implemented a project to collect baseline ecological information on the boreal woodland caribou. To date, minimal data has been collected on the species in their northern range. Traditional knowledge on the caribou was also gathered (2001). Data accumulated will be useful in both research and management of the species.</td>
<td>Auriat, D. et al. 2003. Historic and current movements and distribution of boreal woodland caribou below treeline in the Sahtu, Gwich'in and Inuvialuit Settlement Areas. Gwich'in Renewable Resource Board Report 03-05.</td>
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<tr>
<td>Mammals</td>
<td>Caribou - Woodland</td>
<td>2000</td>
<td>In-kind</td>
<td>Mountain Caribou Survey in Northern Mackenzie Mountains in GSA, Sept 2000</td>
<td>GRRB (Shaw/Benn)</td>
<td>In 2000, the GRRB undertook research into mountain caribou in the North Mackenzie Mountains by utilizing aerial surveys and ground classifications. In two aerial surveys, 450-550 caribou were observed and mixed groups of 20-100. The groups were located along the front mountain ranges between Cranswick River &amp; Ramparts River. The ground survey observed 546 caribou with 360 successfully classified (of which ratios existed of 45 calves per 100 cows and 200 bulls per 100 cows). The study also discusses the low harvest levels of caribou, generally secure habitat, endangered species rankings and future research.</td>
<td>Shaw, J., Ben, B. 2001. Mountain Caribou (Rangifer tarandus caribou) Survey in the Northern Mackenzie Mountains, Gwich'in Settlement Area, September 2000. Gwich'in Renewable Resource Board Report 01-03.</td>
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<tr>
<td>Mammals</td>
<td>Caribou - Woodland</td>
<td>2000</td>
<td>Financial</td>
<td>Woodland caribou in the Arctic Red River headwaters region of the GSA</td>
<td>GRRB/DRWED (Bryon Benn / John Nagy)</td>
<td>To date, no assessments of the woodland caribou population or its habitat and use have been conducted in the GSA. Preliminary work will involve a thorough search of the literature and interviews with Gwich'in elders, hunters and trappers, as well as outfitter, guides, hunters and researchers who know the area. This project will undertake a basic, three week evaluation of caribou habitat and use of the region. This will include 2-3 days of aerial surveys and 2 weeks of on the ground data collection. Locations and information on other wildlife species observed will also be recorded.</td>
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<tr>
<td>Mammals</td>
<td>Caribou - Woodland</td>
<td>1999</td>
<td>In-kind</td>
<td>Genetics of woodland caribou in the GSA</td>
<td>GRRB/DRWED (Marshal/ Nagy)</td>
<td>Woodland caribou are a harvested species in the GSA; however there is almost no scientific information on them. We proposed to use genetic analysis to establish the genetic relatedness of woodland caribou to other caribou in the area (Bluenose). This will help to determine whether these caribou should be managed as a separate population. We will ask hunters to provide tissue samples on which to conduct a DNA analysis. The results will indicate whether the samples are truly from woodland caribou, or from barren ground caribou and that these caribou should not be managed as a separate group.</td>
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<td>Mammals</td>
<td>Caribou - Woodland</td>
<td>1999</td>
<td>In-kind</td>
<td>Woodland caribou management plan community consultation</td>
<td>GRRB (John Marshall)</td>
<td>As a continuing effort at effective wildlife management in the GSA, GRRB and DRWED have been working with the communities to produce management plans for wildlife. So far, management plans for several mammals are in various stages of completion (grizzly bear, moose, furbearers, Dall's sheep). The next plan will be for woodland caribou. To prepare this plan, I will prepare a workshop and travel to the communities to exchange information about woodland caribou, to provide concerns and input for a management plan, and to talk about the types of studies that should be done.</td>
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<td>Theme</td>
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<td>Mammals</td>
<td>Dall's sheep</td>
<td>2006</td>
<td>In-kind</td>
<td>Dall's sheep aerial census</td>
<td>Did this project happen in 2006? Funding through GNWT?</td>
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<td>Mammals</td>
<td>Dall's sheep</td>
<td>2005-2004</td>
<td>Financial</td>
<td>Northern Richardson Mountains Dall's sheep Ecology</td>
<td>This project's objectives include: defining the sheep seasonal ranges and determining their seasonal movements and possible corridors; describing characteristics of sheep seasonal ranges; describing the extent of sheep habitat selection and use. Denise was using the project data in her Master's thesis at Royal Road's University; Data will also be used in the development of the Dall's sheep Management Plan that GRRB is participating in developing. The Northern Richardson Mountains' Dall's Sheep Ecology Project. Progress Report for Year 2, 2004/2005.</td>
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<td>Mammals</td>
<td>Dall's sheep</td>
<td>2004-2002</td>
<td>Financial</td>
<td>Dall's Sheep Management Plan for the GSA</td>
<td>The most effective way to manage Dall's Sheep is to develop a management plan which ensures that everyone is in agreement on what needs to be done and who is responsible for doing it. The GRRB, the RRCs and the DRWED are cooperating to develop and produce a plan for the Northern Richardson Mountains. The plan will provide a framework for the management of Dall's sheep, the protection of their habitats and the protection of Gwich'in harvesting rights. Dall's Sheep management plan is still in formation and the draft is scheduled for final community review in June, 2008.</td>
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<td>Mammals</td>
<td>Dall's sheep</td>
<td>2003</td>
<td>Financial</td>
<td>Richardson Mountains Dall's Sheep Productivity and Lungworm Infection Survey</td>
<td>Project objectives were to obtain estimates of lamb productivity and recruitment, to describe the prevalence &amp; intensity of lungworm and muscle worm infection. Richardson Mountains Dall's Sheep Productivity and Lungworm Infection Survey. 1.3 Non-technical (GNWT). Project Summary.</td>
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<tr>
<td>Mammals</td>
<td>Dall's sheep</td>
<td>2003</td>
<td>Financial</td>
<td>Dall's Sheep Habitat</td>
<td>Denise Auriat</td>
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<tr>
<td>Mammals</td>
<td>Dall's sheep</td>
<td>2002</td>
<td>Financial</td>
<td>Experimental Infections of Dall's Sheep with Lungworm</td>
<td>Muskoxen on the northwestern mainland of Nunavut and Northwest Territories are infected with the proststrongylid lungworm. The geographic range of this muskox population is expanding to the south and west and it is anticipated that these animals will eventually become sympatric with Dall's sheep in the Mackenzie and Richardson Mountains. To address the concern of wildlife managers that this lungworm may infect and adversely affect Dall's sheep, four lambs and one muskoxen were each given 100 3rd stage lungworm larvae and were monitored for 9 months. No first stage lungworm larvae were recovered from the lambs and no evidence was found that the parasite had established in these animals. It is improbable that thinhorn sheep are suitable hosts for this lungworm species. Kutz, S. et al. 2004. Muskox lungworm (Umingmakstrongylus pallikuukensis) does not establish in experimentally exposed thinhorn sheep (Ovis dalli). Journal of Wildlife diseases, 40(2): 197-204.</td>
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<tr>
<td>Mammals</td>
<td>Dall's sheep</td>
<td>2001</td>
<td>In-kind</td>
<td>Dall's sheep habitat assessment</td>
<td>GRRB/DRWED (Benn/Nagy) new project - no description in contribution agreement binder.</td>
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<td>Mammals</td>
<td>Dall's sheep</td>
<td>2000</td>
<td>Financial</td>
<td>Dall's sheep in the Richardson and Mackenzie Mountains</td>
<td>GRRB (Bryn Benn, Jennifer Walker-Larsen) This population of Dall's sheep is thought to be isolated from other populations making it susceptible to over-harvesting, which is a concern in light of potential sport hunting of this population. A literature review of all research and interviews with hunters and other community members will be conducted to collect traditional knowledge on Dall's Sheep populations, movements, and hunting mortality. This information will be used to assist planning management of the sheep population if sport hunting is implemented in the GSA.</td>
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<tr>
<td>Mammals</td>
<td>Dall's sheep</td>
<td>1999</td>
<td>In-kind</td>
<td>Lungworm in Dall's sheep</td>
<td>DRWED (John Nagy) Dall's sheep are an important wildlife species for subsistence and sport harvest in the NT. Wild sheep populations in some areas are severely affected by lungworm, and die-offs of 80% have been documented in some areas. Because of this concern, we propose to gather baseline information of lungworm infection in Dall's sheep in the Richardson Mountains. We will conduct this study by collecting feces from frequently-used sheep areas in the Richardson Mountains, and by collecting gastro-intestinal tracts from hunted sheep.</td>
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<tr>
<td>Mammals</td>
<td>Dall's sheep</td>
<td>1997-1996</td>
<td>Financial</td>
<td>Northern Richardson Mountains Dall's sheep Census</td>
<td>DRWED (John Nagy) This project is part of an on-going program to monitor the sheep population in the Northern Richardson Mountains. The aerial survey will help to develop a population estimate (including the number and productivity) of Dall's sheep in the study area.</td>
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<td>Mammals</td>
<td>Dall’s sheep</td>
<td>2008</td>
<td>Financial</td>
<td>Dall’s sheep, Grizzly Bear, and Wolf Interactions and Population Dynamics in the Richardson Mountains, NT</td>
<td>GRRB (Catherine Lambert)</td>
<td>Dall’s sheep in the Richardson Mountains are declining and have low recruitment rates. The reasons for the decline are not well understood but predation is believed to play a major role. This project will provide an understanding of Dall’s sheep and predator (grizzly bear &amp; wolf) dynamics and interactions to contribute to guidelines for wildlife management and land use planning in the GSA. The project will collect baseline information on survival rates, home ranges and spatial patterns of individuals from all three species; will evaluate lamb survival rate and mortality causes during lambing season; will determine sheep predator avoidance strategies; will analyze dietary importance of Dall’s sheep to predators; will document habitat characteristics and human related disturbances.</td>
<td>Lambert. 2006. Interim Report to GRRB, Sept 15, 2006 Lambert-Koizumi. 2007. Dall’s sheep, Grizzly Bear, and Wolf Interactions in the Richardson Mountains. Progress Report to the GRRB. Carmichael, L.E. et al. 2007. Northwest passages: conservation genetics of Arctic Island wolves. Conservation Genetics. DOI 10.1007/s10592-007-9413-0</td>
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<tr>
<td>Mammals</td>
<td>Fur bears</td>
<td>1999</td>
<td>Financial</td>
<td>Trapline monitoring in the GSA</td>
<td>DRWED (John Nagy)</td>
<td>Furbearers provide an important source of income to people living on the land, and trapping is an important part of the culture of this area. Because of this importance, management of furbearers is an important part of ensuring long-term sustainable harvest of these animals. However, furbearer research has not been common in this area. After discussion with trappers and the RRCs, we will collect marten carcasses from three traplines. To monitor prey abundance, we will establish a snowshoe hare transect at each trapline. Smaller mammal abundance will be determined by trapping.</td>
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<tr>
<td>Mammals</td>
<td>Grizzly bear</td>
<td>1999</td>
<td>In-kind &amp; Financial</td>
<td>Grizzly Bear reproductive rates and cub survival in the Richardson Mountains, NWT and YT</td>
<td>DRWED (Marsha Branigan)</td>
<td>This is a long term study to gather information about female grizzly bears in the GSA, ISR and VGSA in order to estimate the sustainable harvest rate. In 1993, 15 adult female bears were radio collared. Each spring these bears are located to estimate how many cubs are born and how many survive until age 2; how often females give birth &amp; when; the survival rates of females. In June 1999 we plan to locate bears collared in 1996 and remove the collars in September 1999.</td>
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<td>Mammals</td>
<td>Grizzly Bears</td>
<td>1998</td>
<td>In-kind</td>
<td>Local knowledge mapping of grizzly bear areas in the Richardson Mountains</td>
<td>DRWED (John Nagy)</td>
<td>To provide appropriate management for the harvest of grizzly bears, information on the abundance and distribution is necessary. The objectives of this project are to use the experience of hunters and trappers to determine the abundance and distribution of grizzly bears in the Richardson Mountains. We will request that the RRCs in Aklavik and Fort McPherson hire an interviewer to collect the information. The interviewer and RRC will select individuals in the communities who are knowledgeable about grizzly bears, their locations and habits. We will provide large maps on which to draw locations, and a set of questions to ask each interviewee. Locations on the maps will be digitized in a GIS, and the questions and answers will be used to create time-lines of abundance and distribution changes.</td>
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<td>Mammals</td>
<td>Large mammal</td>
<td>1998</td>
<td>Financial</td>
<td>Integrated Large Mammal Management Plan</td>
<td>DRWED (John Nagy)</td>
<td>Part of Nagy’s project?</td>
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<tr>
<td>Mammals</td>
<td>Large mammal</td>
<td>1998</td>
<td>In-kind</td>
<td>Status of Large Mammals in the GSA</td>
<td>GRRB</td>
<td>Part of Nagy’s project?</td>
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<tr>
<td>Mammals</td>
<td>Mink, Muskrat</td>
<td>2002</td>
<td>In-kind</td>
<td>Synchrony between mink and muskrat populations in Canada</td>
<td>University of Alberta (Catherine Shier, Mark Boyce)</td>
<td>Mink are successful predators of muskrats, especially in times of stress. This, in combination with the apparent adaptation of the mink to predation on muskrats, could help to provide support for a possible mink-muskrat predator-prey interaction. This research aims to test the hypothesis that the observed geographical variation in the strength of mink predation on muskrats across Canada is due to changes in mink prey diversity. Methods include using mink carcasses obtained from NWT communities to determine what winter prey species mink are using and whether there is a change in mink winter prey diversity as latitude increases.</td>
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<td>Current conservation concerns and recommendations from the GSA moose management plan make it necessary to reassess the current state of the moose population and extend survey efforts to a larger portion of the GSA. This project used aerial surveys (in a stratified random block survey design which stratified the survey area into cells of high and low moose density) to determine moose density, composition and recruitment rate in different ecoregions of the GSA.</td>
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<td>A rotational series of moose surveys near each of the Gwich'in communities is necessary to understand the status and trend of moose populations in the GSA. Surveys in each area will take place every 4-5 years. In November, 2001, we plan to survey for moose abundance (population size and density) and composition (sex and age characteristics) in the Aklavik area. To date, no assessments of the moose population in this area have been conducted. Thus, this survey will provide baseline information from which future assessments of the moose population can be made.</td>
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<td>A rotational series of moose surveys near each of the Gwich'in communities is necessary to understand the status and trend of moose populations in the Gwich'in Settlement Area. Surveys in each area will take place every 4-5 years. In November, 2000, we plan to survey for moose abundance (population size and density) and composition (sex and age characteristics) in the Fort McPherson area. To date, no assessments of the moose population in this area have been conducted. Thus, this survey will provide baseline information from which future assessments of the moose population can be made. Methods will use an aerial stratification survey of sample units in the study area stratified into units of high or low probability of observing moose within them. Locations and numbers of moose spotted will be marked on maps and sex, age and location recorded.</td>
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<td>Moose are an important game species in the GSA. Until recently, there has been little research on moose. As part of a moose management plan, we will set up survey areas where people in the communities tend to hunt. An area of importance to Ts'eechezhic is up the Arctic Red River. With the use of small airplanes and helicopters, we will survey land to either side of the Arctic Red River between Ts'eechezhic and the mouth of the Cranwicks River. We will determine an estimate of moose numbers, composition of the population, and distribution to determine a current status of moose in this area. We will compare these numbers to the amount of harvest, to help with determining trends in population and potential for future harvest from the area.</td>
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<td>Moose harvest is often an important factor affecting moose populations. In several northern areas, overharvest has been suggested as an important contributing factor causing declines or low densities in moose populations. The effect of harvest can be different depending on which animals are harvested (cows, bulls, calves, yearlings). As part of an ongoing study to monitor factors affecting moose populations, we propose to continue the moose harvest study. Harvesters are encouraged to submit the incisor bar of the moose they kill, plus location, date of harvest, and the sex of the moose. When compared to moose abundance, this will provide an indication of the effect of harvest on the population, and whether it is an important factor limiting moose population growth.</td>
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<td>In several areas of the north, snow depth is often an important environmental factor affecting moose populations. Deep snow affects movement and energy expenditure by adult and calf moose, and has been linked to decreases in the number of moose in populations in Alaska. As part of an ongoing study to monitor snow depths and moose abundance, we propose to return to snow transects established during the winter of 1998/99 to measure snow depth, density, and to describe snow layers. When compared to moose abundance information, snow depth measurement will provide and indication as to what depths snow becomes an important factor limiting moose population growth.</td>
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<td>Moose population survey in the Inuvik-Tsiigehtchic area</td>
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<td>Mammals</td>
<td>Moose</td>
<td>1998</td>
<td>In-kind &amp; Financial</td>
<td>Moose habitat and harvest in the Inuvik-Tsiigehtchic Study Area</td>
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<td>Mammals</td>
<td>Wolves</td>
<td>2003</td>
<td>Financial</td>
<td>Wolf Prey Selection (Dall's sheep)</td>
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(Sources: GRRB/Wildlife Studies Fund)