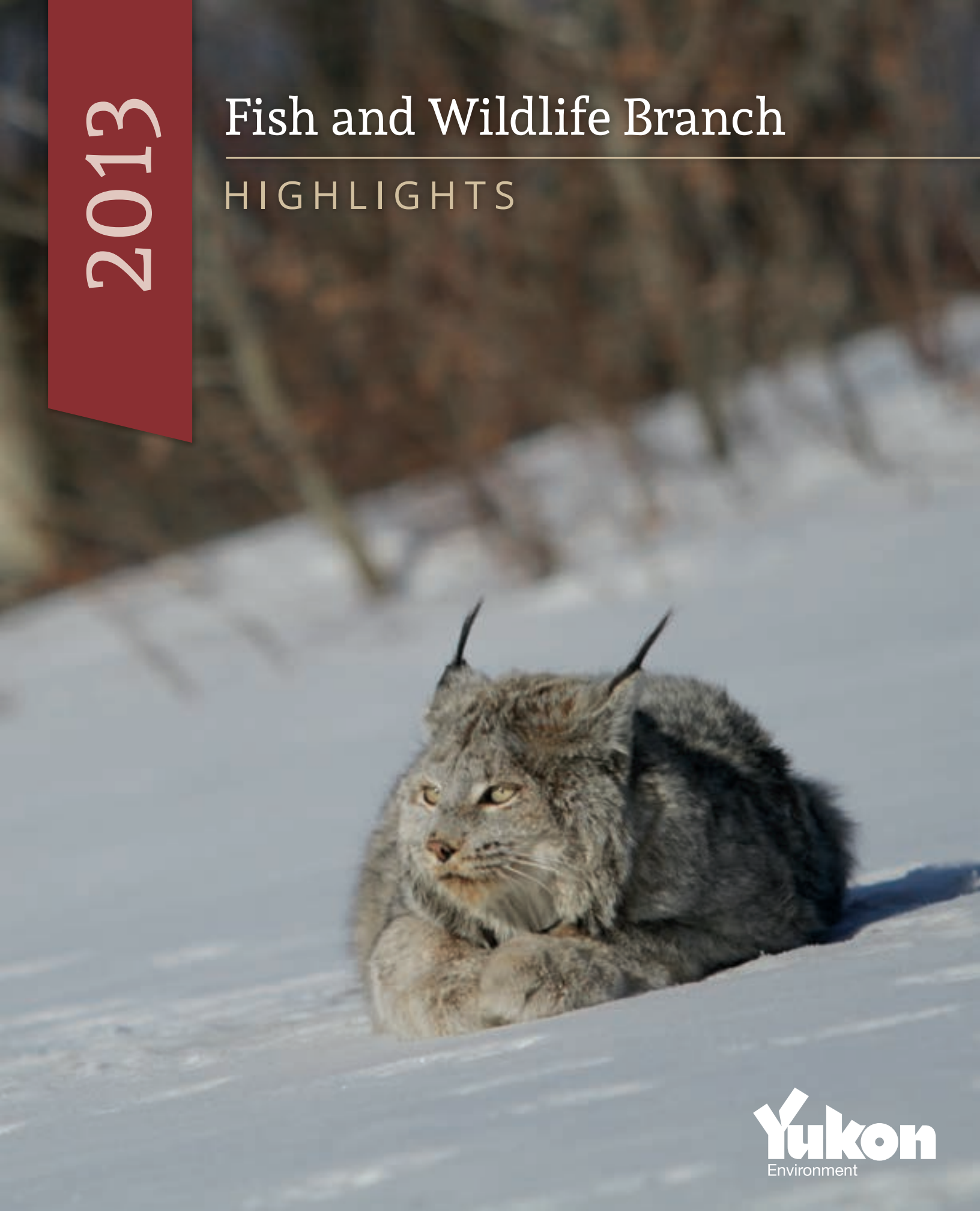
2013

Fish and Wildlife Branch

HIGHLIGHTS



Yukon
Environment

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Photos: Government of Yukon unless otherwise noted.

Contents

We foster informed, inclusive decision making, generate and share knowledge, and guide others to act responsibly and respectfully in their interactions with the environment. We strive to safeguard Yukon's ecosystems.

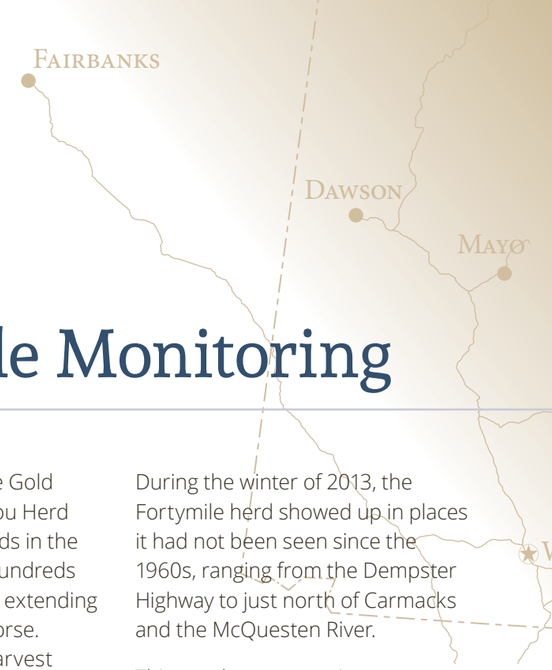
Environment Yukon's Mission Statement guides the work of the Fish and Wildlife Branch. This report highlights just some of the projects and accomplishments of 2013 that demonstrate how we put these words into action.

If you would like more information about any of our projects, visit Environment Yukon's website www.env.gov.yk.ca

Informed Decision Making

Using information we have gathered along with local and traditional knowledge, we work with other governments, advisory boards and communities to come up with collaborative solutions for management issues. Ensuring we have the best information available to make these decisions drives much of what we do.

Sonny Parker



Fortymile Monitoring

At the time of the Klondike Gold Rush, the Fortymile Caribou Herd was one of the largest herds in the world, numbering in the hundreds of thousands with a range extending from Fairbanks to Whitehorse. However, by the 1970s, harvest pressure, predation, and habitat change caused the herd to decline to just 6,000 caribou.

Since the mid-1990s, we have been working as part of a collaborative population recovery program involving Canadian, American, and First Nation governments and advisory groups who work together to support the herd's growth and help them return to their traditional range. In Yukon, there has been no licensed hunting of the herd and First Nations have voluntarily restricted their harvest to support the rebuilding of the population.

Range expansion is an important indicator of herd recovery. Using satellite and radio collar information, we monitor winter distribution of the herd within Yukon each year. Over the past decade, we have seen the herd continue its expansion back into the territory.

See the history of the Fortymile Caribou Herd on the next page.

During the winter of 2013, the Fortymile herd showed up in places it had not been seen since the 1960s, ranging from the Dempster Highway to just north of Carmacks and the McQuesten River.

This good news story is a testament to what can be achieved when all governments work together. When the herd reaches population and range distribution goals, we will revisit harvest restrictions, which may provide for greater opportunities for Yukon hunters.

Fortymile Timeline

1800

1800s
Hundreds of thousands of Fortymile Caribou range across Yukon and Alaska

Forty Mile Caribou Herd range in 1800

1898
Caribou becomes an important food source during the Klondike goldrush and the Fortymile herd declines

1920s
The herd rebounds to about 600,000 caribou

1950s
Increased access, overharvest and predation cause the herd to decline to about 50,000 caribou

1970s
Herd reaches all-time low of 6,000 caribou

Forty Mile Caribou Herd range in 1970

2013
Herd expands into its previous Yukon winter range

Forty Mile Caribou Herd range in 2013

1990s
Collaborative recovery program initiated, including harvest restrictions and predator control

2002
Herd reaches 12,000 animals and crosses the Yukon River near Dawson

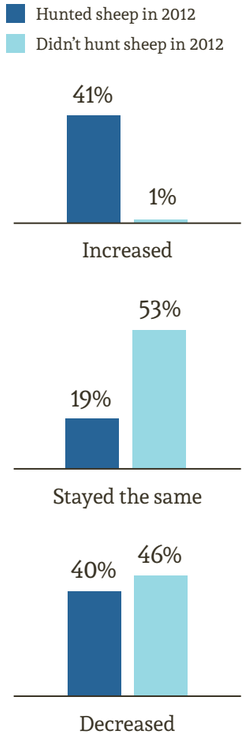
2010
Herd size estimated at 52,000 but continues to have limited distribution in Yukon

2013

Hunter Effort Survey

Each year we send out a questionnaire to registered harvesters to get a picture of the number of active Yukon hunters, where and when they hunt, their success rates, and their overall satisfaction. This data helps us make more informed decisions about population management and hunting regulations.

Sheep hunter effort in 2012 compared with 2011



The main reason given for a decreased effort was "lack of time".

Fisheries Stock Assessments

The information collected through these annual surveys allows us to manage fish populations, ensure sustainable harvests, and monitor any changes in fish populations over time.

Lake Trout

We use a systematic approach, capturing lake trout in gill nets to estimate their density and abundance.

2013 Surveys: *Dezadeash, Kluane, Mandanna, Twin, and Fox lakes*

Arctic Grayling

Surveyors snorkel down streams and count the number of grayling they see to estimate grayling density.

2013 Survey: *Lubbock River*

Burbot

Using a mark-recapture survey method, we assess burbot abundance, condition, growth, and health.

2013 Survey: *Squanga Lake*

Dall's Sheep Genetics

Sheep horns have long fascinated people, but they also hold secrets that are useful for management (e.g., harvest) and environmental assessment decisions. Since 1996, Yukon hunters have routinely provided Dall's sheep horn core samples for DNA analysis as part of their harvest reporting. We are combining the DNA analysis with landscape feature assessments and existing survey information to evaluate biological sheep populations. Which groups of game management subzones have genetically similar sheep? Do these groupings make sense for population monitoring and harvest management? Should we consider new management approaches based on these groupings?

Generate and Share Knowledge

Each year we conduct studies and surveys that establish baseline information or monitor changes to populations and habitats. This information helps us and others make decisions around things like harvest management or environmental assessments.

Lake Trout Movement

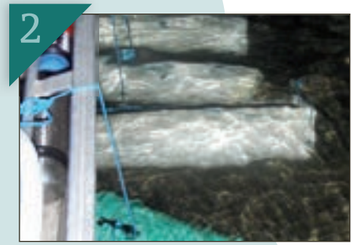
Southern Lakes Seasonal Migration and Population Structure

We know that lake trout move throughout the Southern Lakes system, but we don't know much about them. This multi-year project will help clarify how trout use each lake within the system as well as annual migration patterns for feeding and spawning between each lake. By determining the origin, destination, and timing of lake trout movements and linking this to genetic information, we can understand the effects of harvest on lake trout, allowing us to have more effective harvest management within the region

1

Underwater acoustic receivers were installed at key locations throughout the Southern Lakes.

2



Lake trout were captured at specific locations and briefly put in special holding tubes until they could have transmitters implanted.

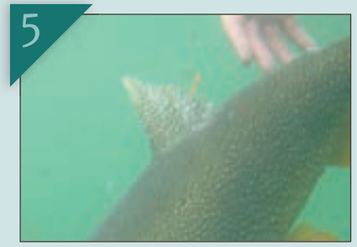
3

Each fish was anesthetized and closely monitored.

4

Acoustic transmitters that send out "pings" every so often were implanted in 23 lake trout to track their movements.

5



We collected genetic material from tagged fish. This will help us understand whether genetically similar fish also share movement patterns in the Southern Lakes.

6

We made sure the fish were healthy and fully recovered before releasing them back into the lake.

7

The receivers are now monitoring the movements of the tagged trout, recording all the 'pings' picted up from passing transmitters. We will visit each receiver and download the first year of data in summer 2014.

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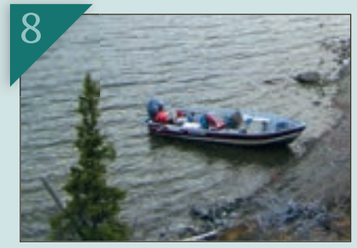


We will be tagging more fish and asking anglers to provide genetic samples in 2014.

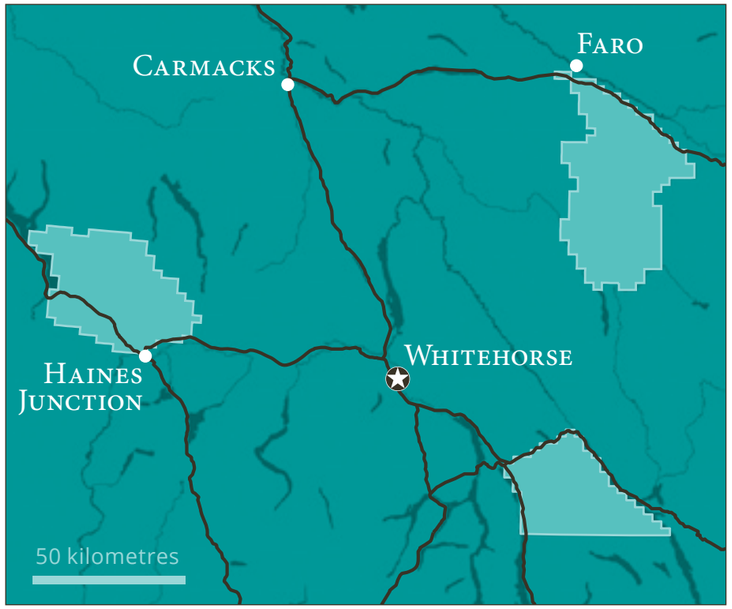
Southern Lakes Grizzly Bear Project

This multi-year study provides us with a solid population estimate, genetic make up and information on grizzly bear habitat use. As a primary harvest species, and potentially in decline in the Southern Lakes area, it is important to complete an assessment of this important population. This project began in 2009. It is expected to wrap-up next year.

Community Moose Monitoring

In areas with significant harvest, regular monitoring of moose populations helps ensure populations are sustainable. Since 2001 we have been working with key community members to conduct ground-based or observational monitoring of moose — particularly calf survival — in the Northern Tutchone region.

Moose Census



Each year we conduct surveys in areas where there are questions about moose populations and their management. In 2013 we tested a new survey method that incorporates habitat data and input from local experts to increase the efficiency of the survey and actively engage community members. Preliminary survey results suggest this approach works well and may allow us to more accurately estimate moose numbers in a local area.

2013 Moose Survey Locations:

South Canol, Paint Mountain, Teslin Burn

Conservation Data Centre

The CDC's database currently lists and tracks information on the locations and conditions of 258 species of conservation concern in Yukon. Through our program, this information is widely available to inform management and development decisions.

Visit the CDC online at: www.env.gov.yk.ca/cdc

Caribou Composition Counts

Fall composition surveys are one of the main ways we monitor mountain caribou herds in the territory. The ratio of calves to cows and bulls to cows in a population is estimated during annual aerial surveys, providing indicators of the herd's health. We surveyed nine herds in 2013.

Guide Others to Act Responsibly

Helping people appreciate the diversity of our fish and wildlife populations and understand how to interact with them responsibly is something we take pride in. Providing educational programs and viewing opportunities, as well as demonstrating best practices, are ways we ensure Yukoners have the knowledge and tools to help conserve our wildlife resources.

4,048 Visitors

We are the most popular wildlife appreciation program in the territory.

20 PARTNER ORGANIZATIONS

That help us deliver Celebration of Swans events.

429 STUDENTS

Engaging schools is an important part of our program.

10%

of the North American swan population visits Swan Haven each spring.

30 Days Open

We greet visitors every day during the month of April.

11 EVENTS

This includes coffee houses, photography workshops and spiritual gatherings

19 YEARS

2014 will be our 20-year anniversary

77

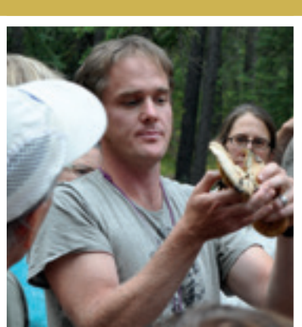
ENTRIES IN THE 2013 SCHOOL ARTWORK CONTEST

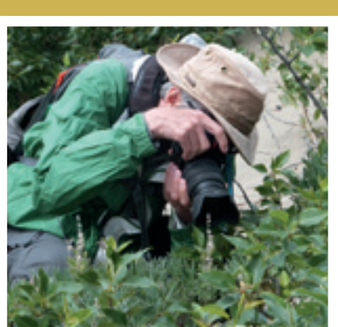
Swan Haven By The Numbers

Wildlife viewing is Fish and Wildlife's primary outreach and education program. Swan Haven is one of our projects that sees thousands of visitors come each spring to experience the annual migration of Trumpeter swans. Here's the breakdown by numbers...

Getting Out There

Outreach is a big part of what we do. We work across the territory with a variety of communities and organizations to deliver programs and projects that support the appreciation and conservation of Yukon's fish and wildlife resources.





Safeguard Ecosystems

As the territory continues to develop and our human population grows, we are taking the time to understand how these changes might affect fish and wildlife populations. We are tracking what effects climate change, developments and human activities have on some important habitats and sensitive populations — information that will help inform future decisions.

Klaza Caribou Population and Habitat Baseline Assessment

There is a lot going on within the Klaza caribou herd's range west of Carmacks. Mineral exploration is proceeding at a rapid pace, one large-scale mining project is advancing, there are active placer mining operations, and there will soon be a remediation program underway at the old Mount Nansen mine site.

Before there is more development in the area, we are gathering baseline population and habitat information for the Klaza herd. This year we conducted herd composition surveys, calf survival monitoring, and adult female mortality assessments. GPS radio-collars placed on female caribou are providing us with insight on how the herd moves about its range over the course of the year.

Information from this project will help inform environmental assessments and harvest management decisions.

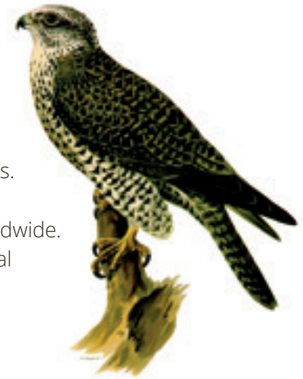
Species at Risk

Yukon is home to several nationally listed Species at Risk. We have ongoing monitoring programs for many of these species to ensure they are carefully managed.

Bison

Bison are listed as *Threatened* nationally, but in Yukon we have a healthy population. Bison were reintroduced to the Aishihik area in the late 1980s and the population quickly grew. Since 1998, hunters have been allowed to harvest bison to help manage the population. Regular composition counts and census surveys, tracking of range use, and constant genetic and disease monitoring helps ensure the ongoing conservation of this important species.

Gyrfalcon



For the past 12 years we have conducted annual gyrfalcon surveys in Yukon's Coast Mountains to track the occupancy and productivity of gyrfalcons. Gyrfalcons are a highly valued bird for falconers and an important species worldwide. Information collected through this annual survey is shared with British Columbia, contributing to the joint management of this trans-boundary population.

Pika

Pika are a species of *Special Concern* nationally. We are using an occupancy modeling approach to monitor changes in the Pika population around Tombstone Park.

Bats

Disease outbreaks across Canada have decimated bat populations and many species are now deemed *Endangered*. By setting up bat houses at Yukon campgrounds, then banding and monitoring the bats that use them, we are able to establish baseline information so we can understand impacts of this disease and other factors, such as climate change, on Yukon bat populations.

Effects of Snowmobiles on Subarctic Vegetation

Harvesters currently cannot use snowmobiles along the Dempster Highway until the ground is frozen and there is enough snow to protect vegetation underneath. In 2005, we started a study to determine if having these rules prevents vegetation damage. We have set up study plots in areas disturbed by snowmobiles and have monitored changes in plant communities and permafrost over time. Results from this project will help inform future management and regulatory decisions.

Fuel Drum Retrieval

When we conduct wildlife surveys, we often set up fuel caches in remote places. In the past, empty fuel drums might be left stranded for months or years before they were retrieved. Because keeping the environment clean is part of our job, in 2013 we hauled out 38 empty fuel drums used in surveys in the central Yukon before they could rust out and spill fuel.

Management Plans and Technical Reports

More information about results from Fish and Wildlife Branch programs and projects can be found online at: **www.env.gov.yk.ca/fwreports**. Every report starts with a brief summary of the project and key findings, for those readers wanting a quick look at what we learned.

TR-13-01 Distribution of the Ogilvie Mountains Collared Lemming in Tombstone Territorial Park, Yukon.

TR-13-02 Moose and caribou survey: Carmacks West-Casino Trail, late-winter 2011.

TR-13-03 Moose Survey: Lower Stewart River West – White Gold area, Early-winter 2012

TR-13-04 Bonnet Plume caribou herd, late-winter 2011.

TR-13-05 Mountain Goat Survey Itsi Range, July 2012

PR-13-01 Klaza caribou herd inventory studies: 2012 activities

TRC-13-01 Late winter habitat selection by moose in the Dawson land use planning region.

TR-13-06 Burbot Population Assessment: Pine Lake 2012.

SR-13-01 Survey of Dall's Sheep in the Northern Richardson Mountains: June-July 2010.

TR-13-07 Chisana caribou herd population estimate, 2010.

TR-13-08 Moose Survey: Lower Stewart River Moose Management Unit, early-winter 2001

TR-13-09 Moose Survey: Lower Stewart River – White Gold, late-winter 2012

TR-13-10 Moose Survey: Little Salmon and Magundy rivers, late winter 2007.

TR-13-11 Moose Survey: Yukon and Tatchun rivers, late-winter 2007

TR-13-12 Wood Bison Harvest in Southwestern Yukon, 1997-1998 to 2012-2013

TR-13-13 Estimating little brown bat (Myotis lucifugus) colony size in southern Yukon: a mark-recapture approach

TR-13-14 Moose survey, Whitehorse south early-winter, 2010.

SR-13-02 Atlin Lake campground reserve: Identification of wildlife values and summary of potential impacts of campground development.

SRC-13-03 Aishihik wolf census 2012

PR-13-02 Yukon woodland caribou composition surveys, 2012.

SR-13-04 Hunter satisfaction: A survey of Yukon licensed moose and caribou hunters.

TR-13-15 Niche overlap and the potential for competition between reintroduced bison and other ungulates in southwestern Yukon.

SR-13-05 Hunter effort survey: Resident sheep and goat hunters, 2012.

MRC-13-01 Range assessment as a cumulative effects management tool: A recommended approach for Environment Yukon.

PR-13-03 Conserving and monitoring little brown bat (Myotis lucifugus) colonies in Yukon: 2012 Annual Report

PR-13-04 Wolverine carcass collection program: 2013 progress report.

TR-13-16 Moose Survey: Rackla area, late winter 2013.

TR-13-17 Local knowledge-based moose habitat suitability assessment – south Canol region, Yukon.

TR-13-18 Early winter moose habitat selection in the South Canol region.

TR-13-19 Early-winter habitat suitability for cow and calf moose in southern Yukon: An evaluation of the differences between local knowledge and survey-based predictions.

TR-13-20 Angler Harvest Survey: Snafu Lakes, 2010

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