



BRANCH HIGHLIGHTS REPORT

2015/16



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Environment Yukon's Mission

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 2015/16 that demonstrate how we put these words into action.

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

Photo: Peter Mather

Informed Decision Making

We work with other governments, advisory boards, councils and communities to find collaborative solutions for wildlife management issues. Ensuring we have the best information available to make these decisions drives much of what we do.

Alsek integrated community-based moose management program

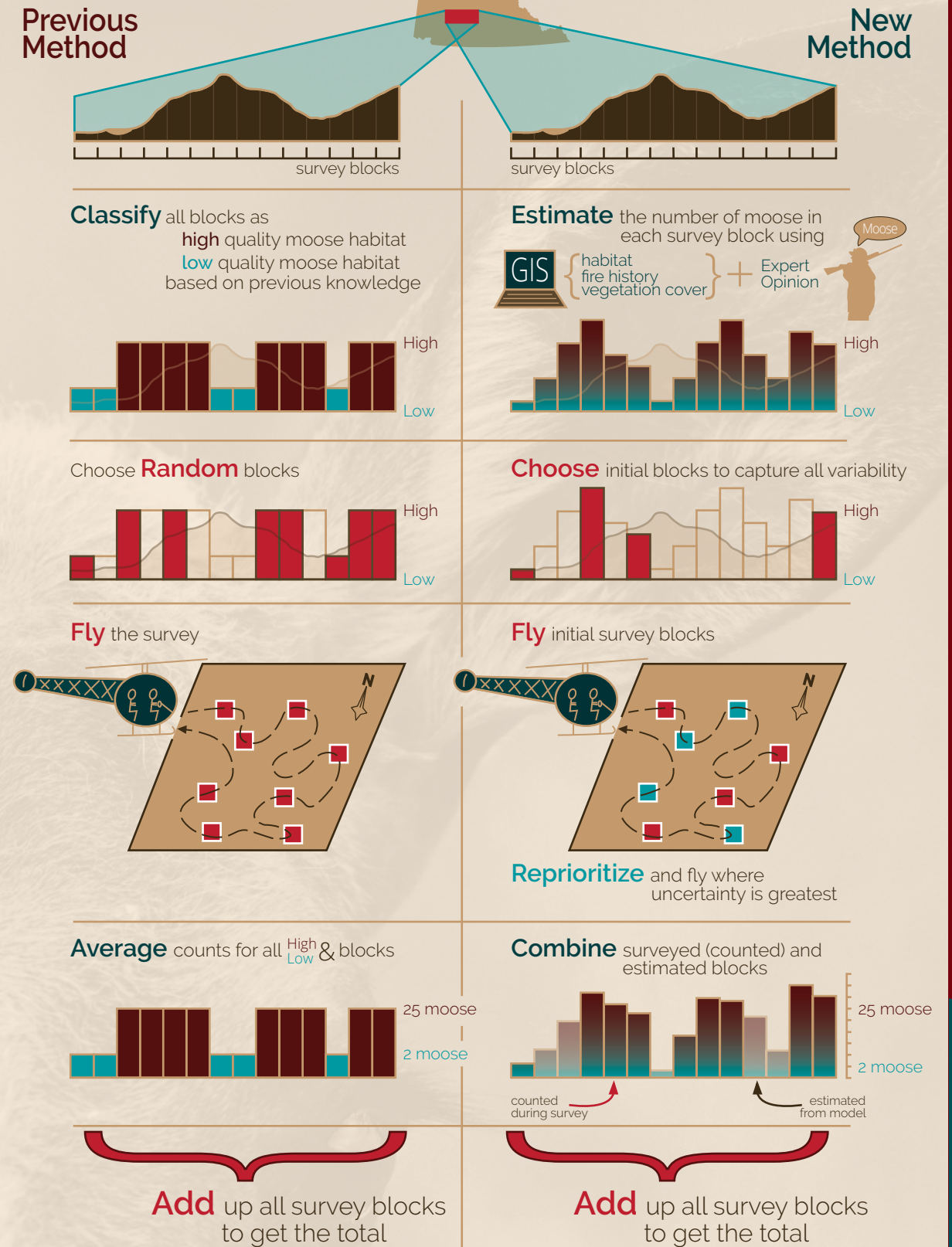
This program was developed to address mutual concerns about declining moose numbers in the region identified by the Champagne and Aishihik First Nations, the Alsek Renewable Resources Council, Yukon government, and the people who live in the Champagne and Aishihik Traditional Territory. The Alsek region south of Haines Junction is an important moose harvesting area. A 2008 census showed the moose population had declined to only half of what it had been in the 1990s.

Sustainable harvest in the Alsek area has been an ongoing management concern. We are working with the Champagne and Aishihik First Nations, the Alsek Renewable Resources Council, and the local community to implement moose recovery measures. As part of this integrated management plan, we have taken the following actions:

Moose census surveys

To help monitor the size and status of the Alsek moose population, we conducted moose surveys in the early winter of 2010 and 2015 (as well as a survey planned for 2020) using a new method that incorporates habitat characteristics and local expert opinion to improve accuracy. Results from the 2015 survey indicate that moose numbers are now greater in the Alsek area than they were in 2008. However, they are still below historical levels and lower than in the adjacent Kluane National Park.

moose census methods





Wolf population monitoring

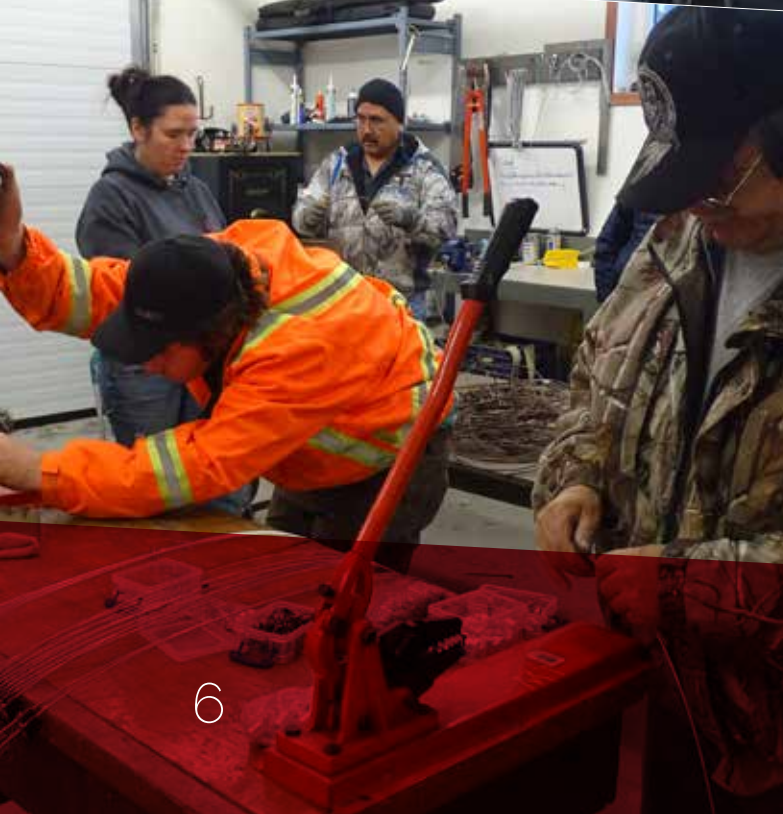
Wolves are a significant predator of moose. Understanding what is happening with wolf populations in areas where moose are in decline is a key goal of the Yukon Wolf Conservation and Management Plan (2012). There are different ways of monitoring wolves, including ground-based track counts and aerial surveys. We conducted an aerial survey in the Alsek region in late 2015. Survey results are expected in late 2016.

Trapper training

One goal of the Yukon Wolf Conservation and Management Plan is to engage the community by supporting humane wolf trapping to reduce the impacts of wolves preying on moose and, therefore, increase moose numbers. As part of the moose management program, we conducted wolf trapper training with local trappers to help achieve this goal. Seventeen wolves were trapped in the Alsek area in 2015 by local trappers.

Education and outreach

Throughout the duration of this program we are engaging with the local community through workshops and community meetings. We will continue to promote the program through educational materials like posters and newsletters to ensure the community is aware and involved. This program was implemented because of a strong community voice, so we want to make sure the program reflects the values and input from the community.



Moose recruitment surveys

To monitor the Alsek moose population between the 2015 and 2020 censuses, we are conducting annual early-winter recruitment surveys. These surveys help us estimate the recruitment rate, which is the number of calves and yearlings that survive and are added to the adult population each year. To improve our estimates of this recruitment rate, we are developing a refined technique that takes into account the different habitats used by cows with calves, compared to cows that have lost their calves over the summer and fall. This means we account for the fact that cows without calves tend to aggregate in larger groups, whereas cows with calves are often more solitary and stay under denser tree cover.

Generate and Share Knowledge

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

Sheep surveys

Thinhorn sheep are found throughout the Yukon. They are highly valued as a harvested species, but their importance within ecosystems and for wildlife viewing is also significant. They are sensitive to changes in their environment and regular monitoring helps ensure the sustainability of their populations. In 2015, we conducted several sheep surveys to help improve our knowledge of these important populations.

Whitehorse east

Previous surveys in this area suggested the population was in decline and there was a concern about the amount of harvest in this area. In total, 57 sheep were observed and classified as lambs, nursery sheep (ewes and young rams), and older rams.

Whitehorse west (GMZ 5 and 7)

Current numbers indicate that harvest in this area may be approaching or exceeding sustainable limits. To assess this, we conducted a large scale sheep survey to get a better estimate of the regional population size and composition. This was the first time in many years we have conducted a sheep survey on such a large scale. The results from the survey are expected in late 2016. In total, we observed more than 5,000 sheep during this survey. Based on preliminary results, the region-wide lamb survival rate, measured as the number of lambs for every 100 nursery sheep, indicates a stable population.

Lamb recruitment (Grey Ridge, Ruby Range, Ddhaw Ghro, Mt. Mye, Tombstone)

We surveyed these populations in the summer and fall of 2015 to count the number of lambs in these populations. This count gives us a sense of the number of lambs that survive the year to become adults—known as the recruitment rate. In general, the populations in Grey Ridge, Ruby Range, Ddhaw Ghro and Mt Mye seem

healthy with about 30 lambs per 100 ewes across locations. Sheep in the Tombstones had a lower recruitment rate (16 lambs per 100 nursery sheep) which could have been the result of poor winter conditions in the Ogilvie Mountains.

Thinhorn sheep genetics

Sheep management is currently based on game management subzones that are defined based on local topography (valleys, rivers, mountain ranges). We are interested in determining if these subzones are the best management unit for sheep, as it affects how we make decisions around harvest, environmental assessment and monitoring. Using horn core samples from sheep harvested in the Yukon, we are analyzing DNA to identify groups that are similar based on their genetics. Once completed, we will see if there is a way to use this information to identify more meaningful management units. Study results are not expected for another few years.

Sharp-tailed grouse habitat needs assessment

Lek: a place where male grouse gather during the mating season to engage in competitive displays that attract females.

Sharp-tailed grouse are not widely distributed in Yukon, and are vulnerable to human activities. They require additional monitoring, in particular, to confirm where their important breeding habitats—called leks—are located so we can limit the impacts of human activity on these sites. For the past two years we have been radio tagging grouse hens and monitoring their movement. Using this information, we have been able to identify lek sites, the number of young produced each year, and the primary predators of nests. This information will help us review mineral development applications and help guide decisions around the management of this important species.





Management plan for elk in Yukon

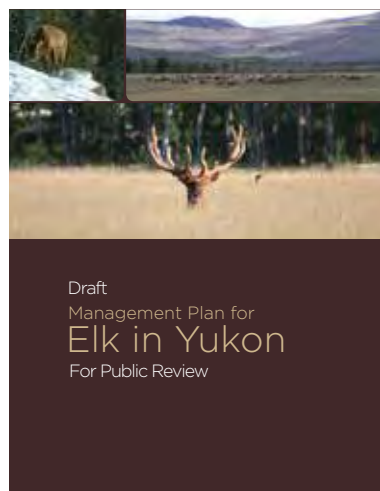
The elk management plan guides the management of the free-ranging Takhini and Braeburn elk herds in southwest Yukon. In 2015, we worked with a number of partners to update the plan to specifically respond to concerns from the agriculture community over increasing conflicts between elk and local farmers in the Takhini River Valley.

The aim of the updated plan is to maintain self-sustaining populations of elk on the land, which provide wildlife viewing and harvest opportunities, while acknowledging and addressing concerns related to elk-agriculture conflicts, collisions between elk and vehicles, and impacts of elk on other species and ecosystems.

Throughout the process, there was general agreement about the need for a range of

options to reduce conflicts between elk and humans. One action that we have taken is to establish an elk/agriculture conflict hunt to help train elk to avoid agriculture properties.

It is estimated that there are approximately 200 elk in the Takhini herd and 60 elk in the Braeburn herd.



Final management plan is expected in the summer of 2016.

Surface disturbance mapping

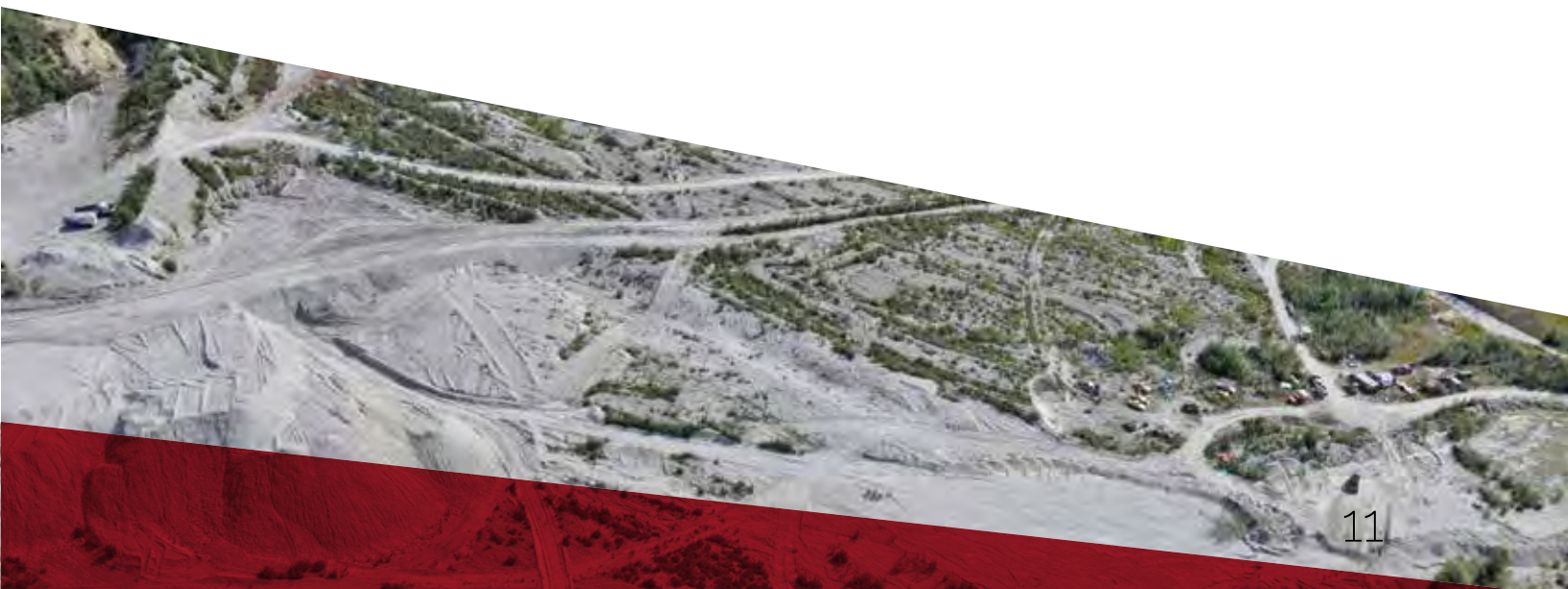
We regularly evaluate proposals for new human developments and try to predict potential impacts to species in these areas. To help us make better assessments, we need to better understand the extent of human-caused disturbance of the landscape caused by roads, mines, forestry activities, agricultural clearings,

and other human activities. To do this, we use satellite imagery to identify and map those areas affected by human activities. Having an accurate and up-to-date understanding of the extent of human-caused surface disturbance helps us make informed decisions for environmental assessment and land use planning.

Satellite Imagery



Satellite Imagery with disturbance mapped





BY THE NUMBERS

Each year we conduct a wide variety of projects that help us monitor and manage Yukon wildlife. Here are just a few of our achievements from this last year.

49
FISH & WILDLIFE
STAFF
WITH AN OPERATIONAL
BUDGET OF
2.02 MILLION

50,866 km²
SURVEYED

TWENTY SPECIES
ACTIVELY
MONITORED

923 HOURS
AERIAL
SURVEILLANCE

OF WHICH
35
ARE AT RISK

5,371
NATIVE
SPECIES



6386 SHEEP
OBSERVED
DURING AERIAL
SURVEYS IN
IN TWO GAME
MANAGEMENT
ZONES



23
YUKON WIDE
CARIBOU
RECRUITMENT
RATE FROM
NINE RUT
COUNTS

60
COLLARS
DEPLOYED



3.5
MILLION
LOCATION
OBSERVATIONS
OF SOUTHERN
LAKES LAKE
TROUT

0 ZEBRA
MUSSELS
DETECTED
0 BISON
HEALTH
CONCERNS
DETECTED

68,000
FISH
RELEASED
IN STOCKED
LAKES

4,800
SHEEP
HORN
CORES
SUBMITTED
FOR GENETIC
ANALYSIS



A TOTAL OF
453,875 lbs
WILD
MEAT



FROM A
BIG GAME
HARVEST
OF **1719**
ANIMALS

25
LOCAL TRAPPERS
TRAINED IN HUMANE
TRAPPING TECHNIQUES



889
RESPONSES TO
BISON HUNTER
ESTIMATE SURVEY



TANTALIZINGLY CLOSE TO
5,000*
PUBLIC REACHED
THROUGH WILDLIFE
VIEWING PROGRAMS



*actual number reached: 4,999

Safeguard Ecosystems

We track the effects of climate change, and human developments and activities on our important habitats and sensitive fish and wildlife populations. This information helps inform future management decisions.

Bat monitoring

Little brown bats are an endangered species in Canada. Climate change, habitat loss and disease are major challenges this species faces. To help understand what is happening with the Yukon bat population, we conducted an inventory of three little brown bat colonies where we captured, measured and tagged 940 bats. We also collected biological samples to determine diet, monitor migratory movements and look at genetic relationships. This information will be shared with other Canadian jurisdictions and help the overall monitoring and management of this species.



Tagish River habitat protection area planning

The Tagish River is called Taagish Too'e in the Tagish language which means break-up (of ice) water. The river has been an important area for the Carcross/Tagish First Nation for centuries. Historically, it was a gathering place where people would catch whitefish in early winter. The old Tagish village was founded at the confluence of the Tagish River and Marsh Lake, and was a meeting place for Tlingit trading partners from the coast.

Tagish River is an important ecological area for spring water bird migration, providing early open water and food. It is used by swans, geese, ducks, and other birds as an important stopover. The area is also home to species like caribou, moose, bears, fish and other animals.

The Carcross/Tagish First Nation Final Agreement calls for the establishment of a Habitat Protection Area along the Tagish River. We have formed a steering committee with members from the Carcross/Tagish First Nation, Yukon and Canadian governments, as well as observers from the Tagish Advisory Council and the Carcross/Tagish Renewable Resources Council. The committee is tasked with developing a management plan for the area by mid-2017.





Aquatic health monitoring program

Yukon's Fish Habitat Management System for Yukon Placer Mining established a protocol for monitoring aquatic health. This helps us see how effective the new system is for maintaining fish and fish habitats. This year, we completed aquatic health fieldwork at 20 sites in the Dawson and Mayo regions. This information is shared with partners (see sidebar) through an adaptive process that guides our decision-making around the management of placer mining in Yukon.



Stocked lakes program

As part of our fisheries program, we stock a number of pothole lakes throughout the territory to provide easy access fishing opportunities for Yukoners and visitors alike. Providing these angling opportunities helps alleviate pressures on our wild fisheries.

This year we released 39,500 kokanee and 22,500 rainbow trout fry into Chadden, Coffee, Fisheye, Hidden, Hour, Long, Lucky, Rantin, Scout, Veronica and Whiskers lakes.

For more information on how to catch fish in stocked lakes, watch our video "Fishing Methods for Yukon Stocked Lakes" on Environment Yukon's YouTube channel.

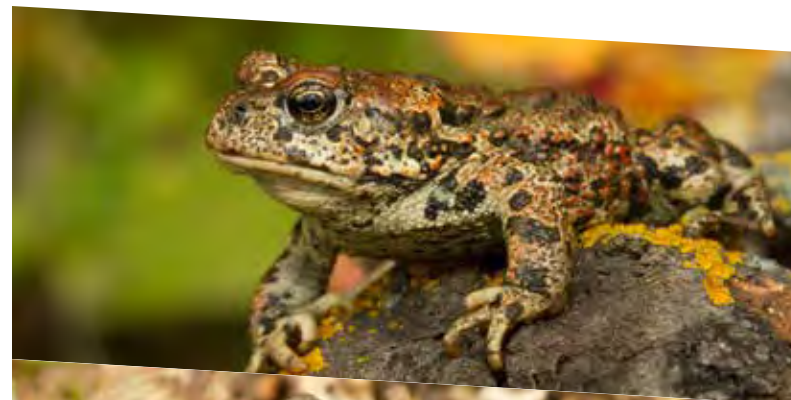


Aquatic Health Monitoring Program Partners:

Yukon Placer Secretariat (EMR), Council of Yukon First Nations, and Fisheries and Oceans Canada

Guide Others

Providing educational programs, viewing opportunities, and demonstrating best practices are ways we ensure Yukoners have the knowledge and tools to help conserve our wildlife resources.



Yukon Amphibians:

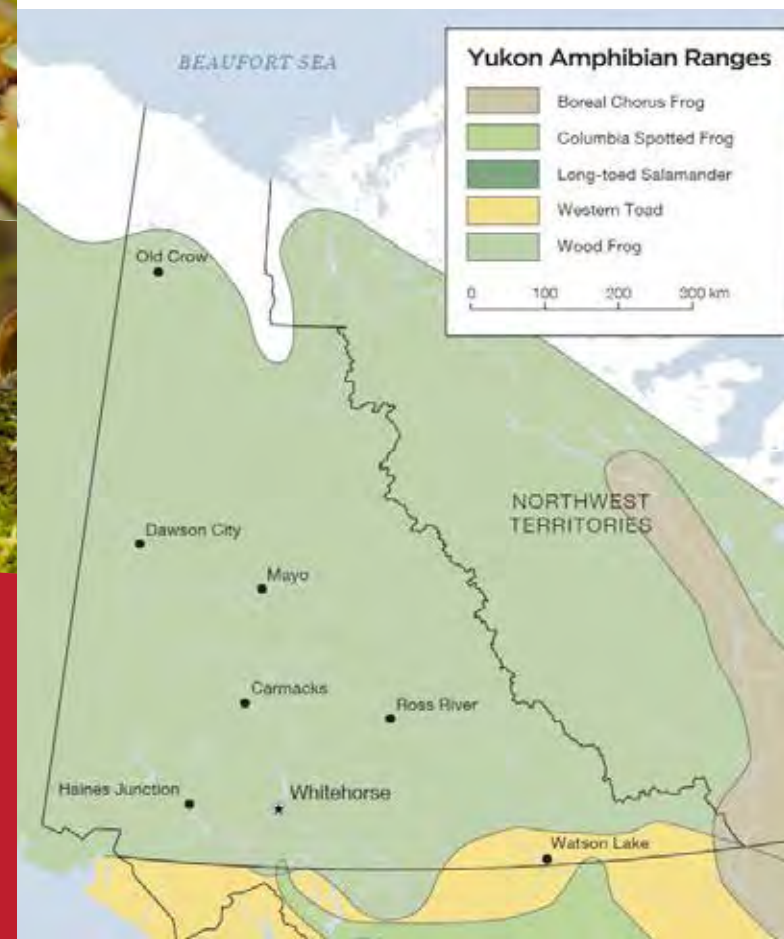
western toad (Canadian species of special concern), Boreal chorus frog (Yukon conservation concern), Columbia spotted frog (Yukon conservation concern), and wood frog (healthy population).

Photos: Jared Hobbs

Amphibian management review

Climate change, habitat disturbance, and changes to water quality are threatening amphibians around the globe. About one third of all amphibian species on the planet are threatened and many are on the brink of extinction. This is especially concerning because amphibians are sensitive to small changes in local environments, which makes them effective indicators of local environmental health. Not much is known about Yukon amphibians, but they capture many people's attention and are culturally important to many local First Nations.

In 2013, we finalized a Yukon amphibian management plan to meet national requirements for the western toad. The plan also includes actions for other Yukon species of conservation concern like the Boreal chorus frog, Columbia spotted frog and wood frog. This year we developed a best management practices document to help guide human development in critical habitat areas.



Fisheries education

Every year we engage with anglers through events, signs and publications. In places where we are concerned about fish populations—such as Snafu, Tarfu, Louise and Pine Lakes—we are installing signs to help educate anglers. We also update and maintain signage at popular fishing locations and boat launches to provide easy access to information on that location's regulations.

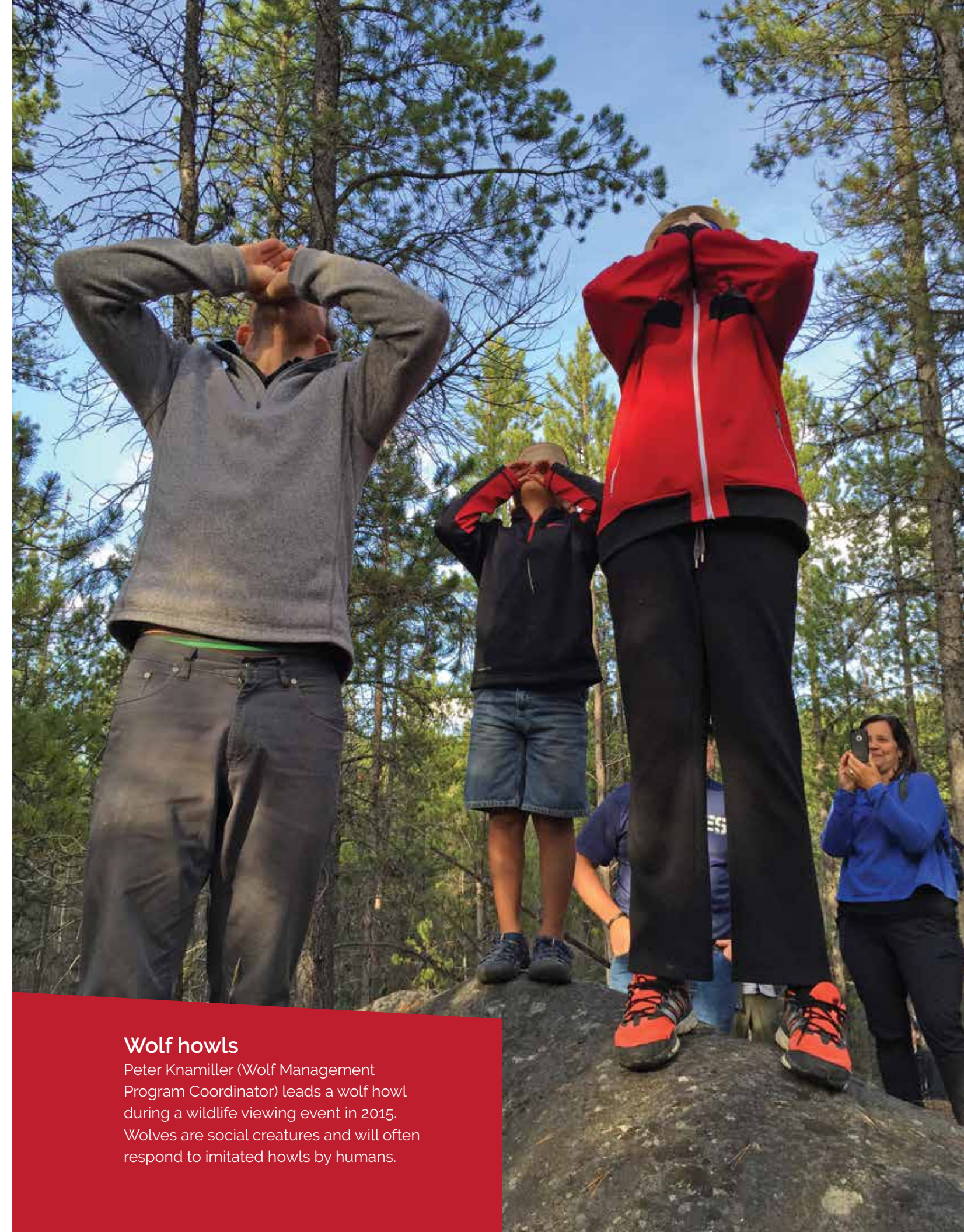
Wildlife viewing

In addition to wildlife viewing events and activities, the Wildlife Viewing Program continues to provide quality interpretive materials about Yukon's wildlife for the public. The newly released Yukon Ungulates brochure provides 33 pages of Yukon-specific

information about deer, caribou, elk, moose, sheep, goats, bison, and muskox. The Yukon Wildlife Activity book is a colourful and engaging resource for kids to encourage them to learn about Yukon's wildlife through games, activities, and interactive possibilities.

Wildlife viewing events for 2015/16

Event	Date	Location
A Celebration of Swans	1 Apr to 10 May	Swan Haven
Paddling the Lewes	31 May	Marsh Lake
You're Kidding!	2 June	Jake's Corner
Orchid Acres	7 June	Dawson
Say Cheese!	11 June	Whitehorse
Mt Decoeli Hike	13 June	Haines Junction
Eagles New Home	23 June	Whitehorse
Knee High Nature #1 Public	23 June	Whitehorse
Knee High Nature #2 Public	30 June	Whitehorse
Carcross Dune Walk	2 July	Carcross
Keno Hill Alpine Adventure	5 July	Mayo, Keno
Anyone home? Cavitynesters	8 July	Whitehorse
Knee High Nature #4 Public	14 July	Whitehorse
Knee High Nature #4 Day Care	14 July	Whitehorse
Wandering for Wolves	14 July	Whitehorse
Knee High Nature #5 Public	21 July	Whitehorse
Knee High Nature #5 Day Care	21 July	Whitehorse
Going Batty	7 August	Whitehorse
Ahhhhh Nuts!	11 August	Whitehorse
Real Raptors I	21 August	Whitehorse
Real Raptors II	22 August	Whitehorse
Yukon's Great Salt Lake	25 August	lbex Valley
Mushroom Power Up	27 August	Whitehorse
Red Fish, Blue Fish!	1 September	lbex Valley
Yukon Deer Day	12 September	Whitehorse
Elk Bugling	25 September	Whitehorse



Wolf howls

Peter Knamiller (Wolf Management Program Coordinator) leads a wolf howl during a wildlife viewing event in 2015. Wolves are social creatures and will often respond to imitated howls by humans.

