



PROPOSED EXPANSION OF NAHANNI NATIONAL PARK RESERVE

Grizzly Bear Research

Parks Canada and the Nahanni Expansion Working Group have sponsored research studies related to the proposed expansion of Nahanni National Park Reserve. In the Dehcho region, these studies will help provide the information needed to propose a new boundary for Nahanni National Park Reserve. Additional studies may be required in the Sahtu Settlement Area.

WHY STUDY NAHANNI'S GRIZZLY BEARS?

Grizzly bears are large animals that need many kinds of habitat and travel across huge home territories. They do not produce very many young – especially in the north – so their populations do not bounce back easily when too many animals die. Grizzlies occur in relatively low numbers and do not cope well with human intrusion or development. They need large, safe areas to keep healthy populations that will last into the future. Parks Canada knows that Nahanni National Park Reserve is not large enough to protect such a wide-ranging species.

WHAT DID WE WANT TO LEARN?

- Approximately how many grizzly bears live in the Greater Nahanni Ecosystem?
- Where are the best places for them to live and how far do they travel between these places?
- How many bears could the Greater Nahanni Ecosystem support in order to keep a healthy population for all time?

HOW WAS THE RESEARCH DONE?

- A non-invasive, hair-snagging technique was used to gather grizzly hair for DNA sampling (no bears were captured during the study).
- Multiple survey grids, each consisting of 16 cells, were used. Each cell was 8 km x 8 km in size (cell area = 64 km²).
- A temporary hair-trap station was set-up in each cell (225 stations total). Each was a brush pile, scented with rotted

livestock blood and fish oil, then surrounded by a single strand of barbed wire strung around several perimeter trees at 50 cm above ground.

- Stations were checked about 20 days later and any hair samples were collected.
- In the Rabbitkettle Lake area, barbed wire was placed on 29 natural bear rubbing trees. Hair was collected from these trees at 2-week intervals from May to August.
- Additional hair samples were collected opportunistically from rub trees at various sites, mostly along the South Nahanni River.
- Hair samples were delivered to Wildlife Genetics International in Nelson, B.C., for DNA analysis to determine species, gender, individual identity, and genetic diversity.

WHO DID THE WORK?

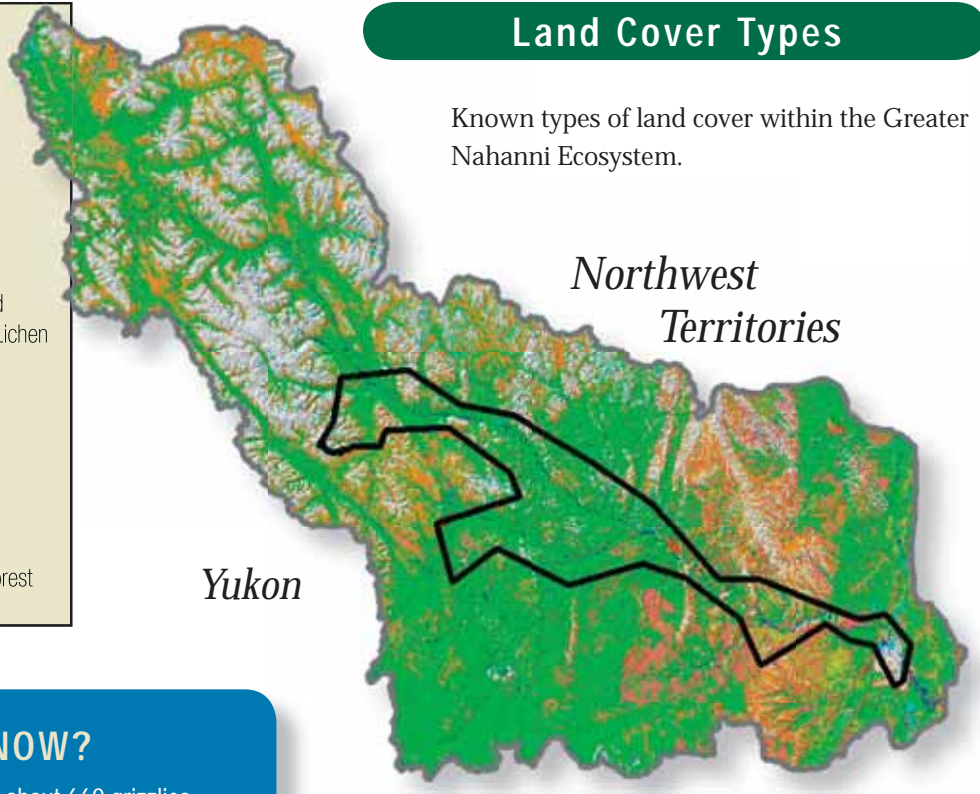
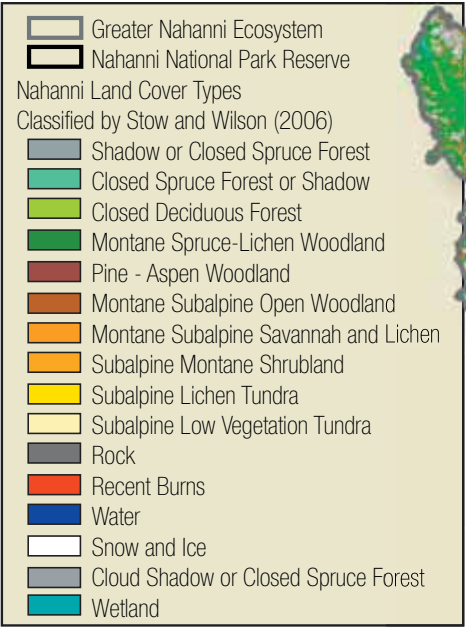
- Dr. John Weaver is a Conservation Biologist with Wildlife Conservation Society – Canada. He did the grizzly study with the help of park staff and community members from the Dehcho and the Sahtu regions.

Grizzly Bear Survey Grids



Land Cover Types

Known types of land cover within the Greater Nahanni Ecosystem.



Northwest Territories

Yukon

DID YOU KNOW?

Dr. John Weaver estimates that about 660 grizzlies may live within the Greater Nahanni Ecosystem. This is a healthy and sustainable grizzly bear population for Nahʔa Dehé. At the moment, the park reserve can support only about 80 bears – not enough for long-term survival of the population.



Park Warden Sharon Hayes collecting bear hair. Photo: Douglas Tate, Parks Canada.

Grizzly Bear Occurrence

This map shows the actual number of bears counted within each grid. **Grizzlies were found most often and in greater numbers in the mountains and valleys of the northern portion of the Greater Nahanni Ecosystem – outside the current park boundary.** There were fewer grizzly bears in the boreal forests of the southwest and southeast sectors.



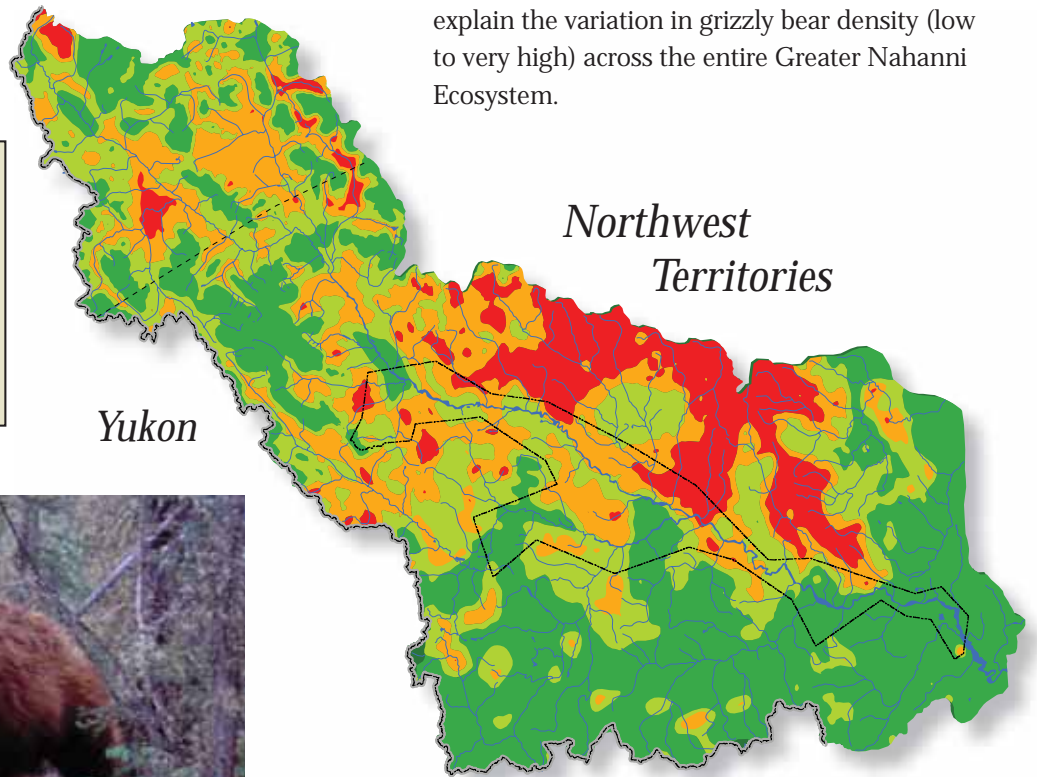
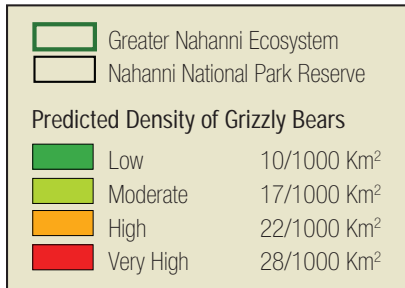
Northwest Territories

Yukon



Predicted Density of Grizzly Bears

This model is based on the combination of factors (elevation, land cover, terrain features) that best explain the variation in grizzly bear density (low to very high) across the entire Greater Nahanni Ecosystem.

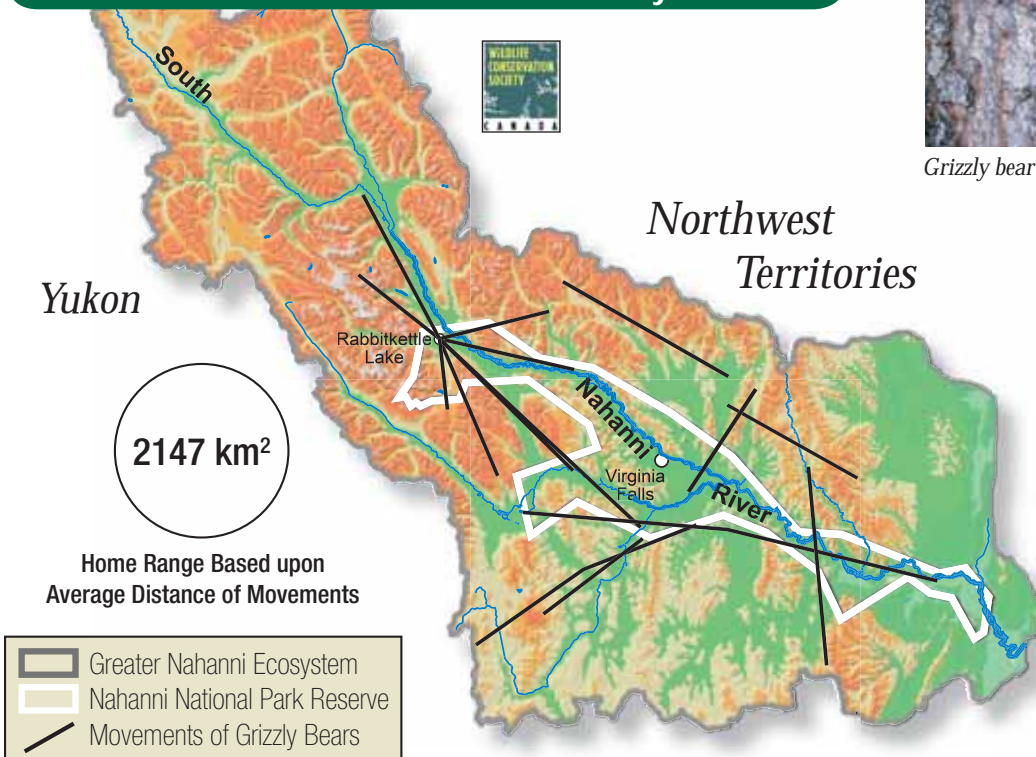


Remote camera photo of grizzly bear on a trail in Nahanni National Park Reserve. Photo: Parks Canada.



Grizzly bear hair on a rub tree. Photo: Parks Canada

Movements of Individual Grizzly Bears



DID YOU KNOW?

The 'Committee On the Status of Endangered Wildlife In Canada' (COSEWIC) lists the northwestern population of grizzly bears as a species of 'special concern' (COSEWIC 2002). This status is given to species whose 'characteristics make it particularly sensitive to human activities or natural events'.



WHAT ARE THE MOST IMPORTANT THINGS WE LEARNED?

For hair-trap stations where individual bears could be detected, 103 different grizzly bears (58 males, 45 females) were counted.

Grizzly bears were found at 49% of 225 stations and researchers estimated the overall density at 17.3 bears per 1000 km².

Grizzlies occurred most often and in greater numbers in the mountains and valleys of the northern portion of the Greater Nahanni Ecosystem – outside the current park boundary.

There were fewer grizzly bears in the boreal forests of the southwest and southeast sectors (see maps on inside pages).

Grizzly bears range widely across the Greater Nahanni Ecosystem. Very few home ranges of adult female grizzly bears would fit entirely within the current park boundary. Males have even bigger home ranges – sometimes over 2000 km²!

Grizzly bears in the Greater Nahanni Ecosystem travel long distances. Some of the grizzly bears that rubbed trees in the Rabbitkettle Lake area traveled from as far as 50 km outside the park boundary.

Many grizzlies also used the main valleys along the South Nahanni and Flat River valleys and the Rabbitkettle Lake area.

The distribution of grizzlies did not seem to change too much over the season, but they probably move to important berry patches (e.g., Rabbitkettle Lake area) in good berry years.



Park Patrolperson Raquel Cli-Michaud collects bear hair off a barbed wire at a grizzly bear scent station. Photo: John Weaver.

Nahanni grizzlies have the most genetic diversity (differences between individual grizzlies) of any grizzly bears almost anywhere in North America. Only grizzly bears from Kluane National Park have more. This means that Nahanni's grizzlies are a healthy population of bears.

WHAT WILL BE DONE WITH THIS INFORMATION?

We now know a great deal more about the most important areas for grizzlies in the Greater Nahanni Ecosystem. We will use this information to help propose a new boundary for Nahanni National Park Reserve that will better protect grizzlies and the habitat they need to survive.

DO YOU HAVE QUESTIONS?

Please contact us! Your questions, views and opinions are very important. Your voice will be heard.

For more information, please contact:

Anna Rowe, Communication and Consultation Officer
Parks Canada
Yellowknife, NT
P – (867) 766-8464
F – (867) 766-8466
E - Nahanni.Expansion@pc.gc.ca

Steve Catto, Park Establishment Officer
Nahanni National Park Reserve
Ft. Simpson, NT
P – (867) 695-3151
F – (867) 695-2446
E - Nahanni.Expansion@pc.gc.ca

The information and maps in this fact sheet are from:

Parks Canada. In Press. Nahanni National Park Reserve of Canada Nah?à Dehé Report on Research and Monitoring 2004 & 2005. Unpublished Report.

Weaver, J.L. 2006. Big Animals and Small Parks: Implications of Wildlife Distribution and Movements for Expansion of Nahanni National Park Reserve. Wildlife Conservation Society Canada Conservation Report No. 1. Toronto, Ontario.

Aussi disponible en français

Cat.#R63-342/3-2006E ISBN: 978-0-662-44755-9

Printed in Canada. © Her Majesty the Queen in Right of Canada, represented by the Chief Executive Officer of Parks Canada, 2006. 🍁

