Final Report to the Fish and Wildlife Enhancement Trust

February 4, 2014

Can we reduce human-bear conflicts at the Congdon Ck campground by removing soapberry, a natural bear attractant?

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Project Activities During the 2013 field season I carried out field work with students from Yukon College and staff members from Kluane First Nation to meet our two project goals of (i) removing female soapberry bushes from heavily used areas of the Congdon Creek campground, and (ii) developing ways of monitoring bear use of the campground area over time based on analysis of historical records and setting up current monitoring with game cameras. This research will help us understand whether grizzly bears will change their feeding habits in the immediate vicinity of the campground sufficiently to reduce human-bear conflicts. The three sections in this short report summarize the work we completed.

1. Interviews and historical research. In June I began work with a Yukon College summer student by contacting current and retired Yukon Parks staff and Conservation Officers as well as other workers who had some experience dealing with human-bear problems in the Congdon Creek campground. We asked open ended questions about their experiences with bears at that campground such as what were the attractants to draw bears, were there particular seasons when bear were present and descriptions of local movement corridors or resting sites. These interviews continued until January 2014 when we had collected a total of 18 interviews. We learned that the early history of human-bear conflicts was very likely affected by easy access to human garbage at a local landfill (within 1 km) and from open garbage containers in the

campground; these sources were not phased out until 1988 or 1989. We worked with Yukon Environment to obtain their records on bear mortalities and occurrences at Congdon Creek so we could document the trend over time. It appears that the Congdon Creek area has been a "hotspot" for grizzly bear mortality in many years during the past decades. The key outcome of this work was that we now have a good timeline of human-bear conflicts at Congdon Creek. We know the number of bears that have been killed in control actions or trapped and relocated; we have a detailed list of the occasions when the campground was closed because of bear concerns and finally we have an independent record of bear sightings at Congdon Point collected by the wildlife monitors from Kluane First Nation during their patrols. The full report titled, *History of Human-Bear Interactions at Congdon Creek Campground,* is available for download as a 13 page pdf file.

2. Field work to set up game cameras and measure the distribution of bear foods in the Congdon Creek campground.

We began our field work at Congdon Creek on June 17, 2013 by setting up two game cameras (model Bushnell Trophy Cam HD) that we borrowed from Yukon College. We then kept these cameras running until late September and were pleased with their reliability. The camera insatlled at the north end of the campground (~100 m from the camping area) only recorded one grizzly bear at the end of the camping season on September 26. We also recorded one moose and coyote passing by this site. Our second camera location was about 500 m south of the campground and set up to observe a bear rub tree along a game trail that ran parallel to the lakeshore. We recorded grizzly bears here on 7 occasions as well as lynx (7 occasions), coyotes (2 occasions) and snowshoe hares (9 occasions).

We spent 5 field days in June and July mapping the location, and estimating the density of, three natural bear foods that occurred in the campground: soapberry (*Shepherdia canadensis),* bear root (*Hedysarum alpinum*) and a yellow flower called field locoweed (*Oxytropis campestris*). We used transects and GPS units to collect information on these plants and concluded that the main source of field locoweed in the campground is in the central meadow surrounding the cook shelter. Bear root was found at low density in the active campground, however soapberry was widespread, abundant and the key natural attractant during July and August. We compared the density of soapberry bushes in the currently active campground with the bushes found in Loop 3 (which was closed to the public in 1999 or 2000) and found that density was much higher in Loop 3 (which fortunately was not one of the areas we proposed for removal). Further details are available in a 10 page technical report titled, *Proposal for Removing Natural Bear Attractants at the Congdon Creek Campground- July 2013.* The report suggested that Yukon Parks permanently decommission Loops 2 and 3 in the campground and recommended proceeding with the removal of female soapberry bushes in the actively used portion of the campground.

3. Field work to remove female soapberry bushes from high use areas of the campground.

On August 1st we began removing soapberry bushes in the campground and targeted the high traffic areas used by campers. We kept careful records of the amount of labour involved in treating each area of the campground and we also tried to estimate the weight (biomass) of the soapberry bushes we were removing. We reasoned that if this approach to bear habitat management proves useful in future, then the various measures of how much time, labour and biomass are involved could help resource managers budget treatments for other sites.
We divided the campground into six treatment areas (below) and were able to complete soapberry removal in four of the smaller areas totaling 3.6 hectares by the end of September.

This involved 112 hours of labour (i.e. actual hands on work without including breaks or travel time) and yielded an estimated 1,800 kg of bushes which were stockpiled and burned by Yukon Parks in October. The labour required to treat an area varied with the density of shrubs; the quickest area we treated was in Block 5 (interior loop) which produced 83 kg/ha and took 3.8 hours/ha of labour. The slowest area to treat was the beach front which produced 568 kg/ha and took 10 times as long to treat at 33 hours/ha. The "motivation" of our hard workers seemed comparable – in the easiest section they removed 22 kg per person- hour and in the thickest stands of soapberry bushes they removed 17 kg of bushes per person-hour. Six hectares of the campground remain for treatment in 2014, Blocks 4 and 6, as we anticipated when we proposed the project.

Description of soapberry removal treatment areas			
Block	**Description**	**Area (ha)**	**Status**
1	Lakeshore camp sites	1.0	Completed
2	North end meadow	0.1	Completed
3	North end camp sites	0.7	Completed
4	Loop 1- outside of Loop 1	4.6	2014
5	Loop 1- Interior & outhouses	1.8	Completed
6	Loop 1 - Access road strip	1.3	2014
	Total area completed (ha)	3.6	
	Area left for 2014 treatment (ha)	5.9	

Acknowledgements

I thank summer students Sean McGinnis, Kelsey Kabanak and Alex Mischler as well as Kluane First Nation staff members Simon Johnson, Colin Wright and Kelly Wroot for their help with the field work. I appreciate the volunteer labour provided by the members of the 2013 NOST 215 field course from Yukon College who put theory into practice with their hard work.

Geraldine Pope and Colin Wright from Kluane First Nation and Eric Schroff, Ramona Maraj and Ken Knutson from Yukon Environment provided important support to get this project started. Once it was underway, Gary Vantell, Afan Jones, Brian Johnston and Sara Nielsen at Yukon Parks went out of their way to accommodate my information requests regarding the campground history. Ken Knutson, Ramona Maraj and Shelley Marshall from Yukon Environment provided access to data on bear occurrence reports for the area near Congdon Creek as well as details on bear mortalities in Game Management Subzone 5-21. Nancy Campbell at Yukon Environment helped search the record of media advisories on campground closures. Geraldine Pope extracted the bear sighting records from the patrol reports collected by the Kluane First Nation wildlife monitors.

I obtained much valuable information from interviewing government staff and contractors who had worked directly at the campground or in the Kluane region over the past several decades: George Balmer, Ray Breneman, Dan Drummond, Tom Elliot, Lloyd Freese, Morris George, Bob Hayes, Denise Grantham, Tom Grantham, Lorne LaRocque, Kevin McLaughlin, George Nassiopoulos, Russel Oborne, Cecile Sias, Doug Sias, Rick Staley, Patrick Sydenham, Gary Vantell, Rod Watson, Anne William and Bruce Williams.

Uncovering the obscure history of the garbage dump adjacent to the campground proved to be challenging and I thank Bengt Petersen, Don Wilson, Bob Gates, Cheryl Baxendale , Bill Stanley, Jesse Walchuk, John Trotter, Neal Allison, Roberta Sembsmoen, Dave Milne and Ron Wilson.

The staff at Yukon Archives, the Yukon Environment library and the Energy, Mines and Resources library helped retrieve old reports and documents.

I thank Pauly Wroot and the members of the Dän Keyi Renewable Resources Council for their support and hospitality at their meetings. Clint Sawicki, Kyla Foster and Elaine Austin from the Yukon Research Centre provided administrative support and guidance.

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Communications – Our project was set up as a practical test of whether removing soapberry bushes from the Congdon Creek campground would have an impact on the amount of time bears spent in the immediate vicinity of the heavily used area of the campground. We did not set out with a goal of public education but did our best to try and share information about the results of our project.

- I provided a short written summary of our proposed work to the Dän Keyi RRC community BBQ held on April 18, 2013 before the project began.
- I took a class of 23 Yukon College students from the Renewable Resources Management program to the site on August 27-28 for a day and provided an orientation to the goals of the project and the history of problems in the campground. Students then spent some time removing soapberry bushes along the lakeshore campsites and helped service the game cameras to download pictures.
- I made a short presentation to the Dän Keyi Renewable Resources Council meeting on November 4, 2013 in Destruction Bay where I described our preliminary results. I followed up in January by providing an early draft copy of my report on the history of human-bear interactions at Congdon Creek.
- A copy of the final report, *History of Human-Bear Interactions at Congdon Creek Campground,* was passed on to YESAB in January to support their assessment of a local mining proposal.
- A short synopsis of our ”Project in Pictures” is attached to this report.

Project in Pictures - 2013

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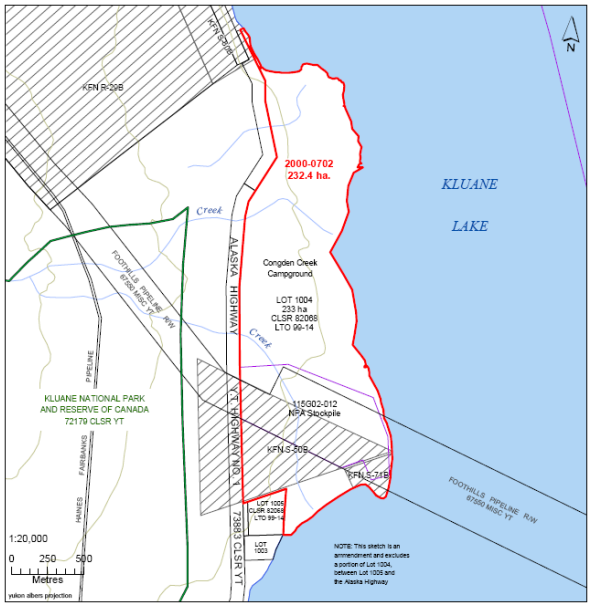
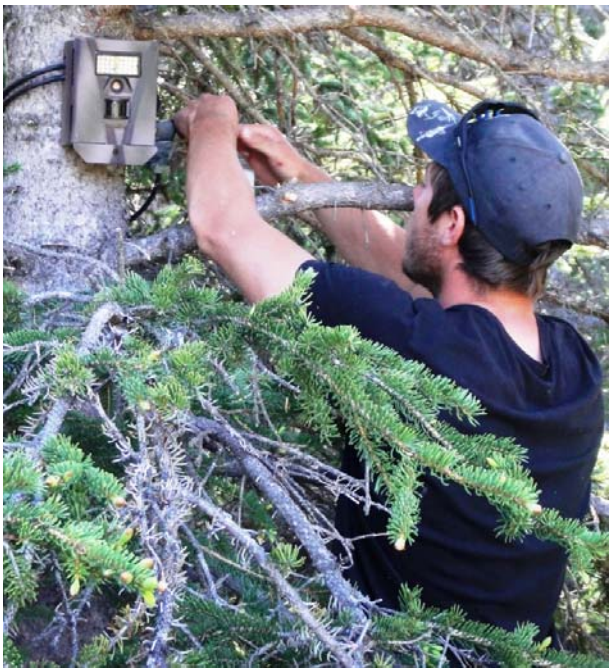
YUKON RESEARCH CENTRE
Yukon College



Figures 1 & 2 Land parcel for Congdon Creek Campground on the Alaska Hwy. Loops 2 and 3 were closed to the public about 15 years ago.

In June, 2013 we started field work by setting up two game cameras at either end of the campground and carrying out surveys of the distribution of three natural bear foods in the



campground.

Figure 5 We measured **s**oapberry density in two areas (red circles) and found higher densities in Loop 3 (left circle) than in the current, active camping loop (right circle).

Our game cameras captured pictures of bears near the campground on several occasions during the 2013 field season (*below)*:

<table>
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<tr><td>July 13 – light-coloured bear</td><td>July 31 – after dark – colour unknown</td></tr>
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<tr><td>August 7-8 – feeding on soapberries at night</td><td>August 16 – 6:30 AM</td></tr>
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<tr><td>August 23 –bear rub tree at 9:50 AM</td><td>Sept 16 – inspecting bear rub tree</td></tr>
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We used hand tools such as shovels and Pulaskis to dig out female soapberry bushes by their roots (*top left*).

We focused on high traffic areas of the campground (*map below*) such as the areas around outhouses and the beach (*above*).

We used a trailer to haul the loads of bushes to a massive pile that Yukon Parks burned for us in the fall (*left*).