



Eric Sambol



Brad Hill

Fall 2012 Newsletter

Established by the Kitasoo/Xai'Xais First Nation in 2011, the Spirit Bear Research Foundation (SBRF) is a non-profit organization focused on conducting scientific research within the Kitasoo/Xai'Xais' traditional territory. The foundation has its origin and leadership in Klemtu. This research aims to gain a more thorough understanding of bear populations in order to

- 1) inform community leaders as to how best protect these populations from external impacts, such as trophy hunting
- 2) and assist the development of a sustainable bear-viewing industry in Kitasoo/Xai'Xais territory.

The SBRF Team

Board of Directors

Tim McGrady
Sandra White
Ken Cripps
Douglas Neasloss

Advisory Board

Charlie Mason
Larry Greba
Chris Darimont
Owen Nevin

The latter two advisors listed are well-known bear researchers: Dr. Darimont from the University of Victoria (UVic) and Raincoast Conservation Foundation, and Dr. Nevin from the University of Cumbria (UCumbria). This past season their on-the-ground teams, composed of two graduate students and Kitasoo/Xai'Xais staff, saw the commencement of two exciting SBRF research projects. Phil Charles (UCumbria) and his team continued on their 2011 trajectory, installing over 40 remote sensing cameras around the territory. Christina Service (UVic and Raincoast), assisted by field technicians Laura Grant (UVic) and Vernon Brown, collected over 1200 bear hair samples from a total of 36 drainages in the area. This could not have been done without the help and knowledge of the Kitasoo/Xai'Xais community members that participated in these projects. A special thanks to *Ernie Mason, Murray Robinson, Lenny Robinson, Medy Robinson, Sean Robinson, Brandon Robinson, Clark Robinson, and Whitney Starr.*

SBRF Research Questions

- 1) How many bears are there? Is this changing over time?
- 2) Where are bears carrying the white gene?
- 3) What impact might tourism have on bears over time?
- 4) Are grizzly bears moving to islands? If so, why?
- 5) How does the presence of grizzly bears affect black (and white) bears?

Monitoring Bear Populations in Kitasoo/Xai'Xais Territory

Christina's research program is based on the collection of bear hair, a thorough but non-invasive approach to monitor bears. Although in its early stages, the bear monitoring program is projected to be a long-term source of information for the Kitasoo/Xai'Xais resource stewardship program.

The hair collection process begins with the building of a hair-snag in an area where bears are thought to be present. This strategically placed site consists of a barbed wire fence surrounding a large pile of debris meant to mimic a kill. Bears are attracted to these snag sites by the smell of a non-reward liquid bait. When entering or exiting the site hair is often left behind.



Monitoring Bear Populations in Kitasoo/Xai'Xais Territory Con't...

Although bears rarely spend more than 2 minutes at a site, their hair can give SBRF useful information about the animal including:

- species (grizzly or black), sex (male or female) and individual identity
- diet from the past year, as assessed by chemical markers (for example, how much of their diet consisted of marine vs.terrestrial food sources?)
- and the presence of the white gene in black bears

Over 1200 bear hair samples were collected from 36 drainages in the territory this past spring, summer, and fall sampling season. Information from these samples will allow SBRF to estimate the number of bears in Kitasoo/Xai'Xais territory, investigate competition for resources between different species, identify areas where black bears are carrying the white gene, and monitor movements of these animals on a landscape scale. The movement of grizzly bears to islands was of particular focus for the SBRF research program this past season. Through hair sampling, this research can detect the presence or absence of grizzlies on islands. Additionally, Christina and collaborators interviewed 15 knowledgeable members of the Klemtu community about their traditional and modern-day experiences with grizzlies on islands. The results of this study will be made available to members of the Kitasoo/Xai'Xais First Nation for review and may be published in the spring of 2013. Genetic results, which complement this information, will not be available until late November as the processing of hair samples in the laboratory takes several months. In 2013, the SBRF team will continue monitoring bear populations through hair collection while working to expand and refine the number of systems being monitored in the territory.

Monitoring the Impacts of Tourism

This past fall saw the commencement of Phil's research program which aims to monitor the impacts of tourism, as well as the presence and absence of bears across the territory. The work is focused on the use of remote sensing cameras which are placed in areas known to be used by bears and are triggered when animals pass in front. At the peak of the season, 44 cameras could be found in various watersheds across the territory. Not only does this allow SBRF to locate bears, but it allows them to begin a catalogue of species found in the territory. Species observed on camera this year include grizzlies, black and spirit bears, wolverines, cougars, wolves, pine marten, river otter, mink, bald eagle, porcupines and humans.



These cameras are multi-purpose and allow the SBRF team to investigate several questions from the data set collected. A main focus is monitoring the potential impact, whether positive or negative, that both a dispersing grizzly population and an expanding tourism operation may have on black/spirit bear populations. The prediction is that a behavioural change will be observed in the use of both space and time by black/spirit bears where there is increased risk of grizzly bears on salmon-bearing rivers.



To monitor such impacts it is important to observe a variety of watersheds that have varied occupancy of bear species, allowing SBRF to compare differences in bear behaviour between the sites. This year, for this reason, SBRF had cameras placed in as many watersheds as possible in order to document which species are present in each area. Once this is established, certain rivers can be monitored more intensely with multiple cameras in each. This fall Phil and his team collected many thousands of images and videos of wildlife from across the territory. The data is to be analyzed in November and December and a subsequent report produced for early 2013. Once images have been analyzed, SBRF will be able to identify which watersheds they intend to monitor with remote cameras in 2013.

Research Protocols

Research protocols are in the process of being developed for the Kitasoo/Xai'Xais Nation. These will include data sharing agreements with the University of Cumbria, the University of Victoria, and Raincoast Conservation Foundation. Such protocols will also include no-harm clauses to ensure that no research done in the territory will harm the band or its members in anyway.

2012 Funding: A Special Thank You

- Kitasoo Developmental Corporation
 - Spirit Bear Lodge
- David Vernon, in memory of his late wife Madeline Owen
 - Coast Opportunities Fund

More information on Spirit Bear Research Foundation can be found at :

<http://spiritbearfoundation.com/>