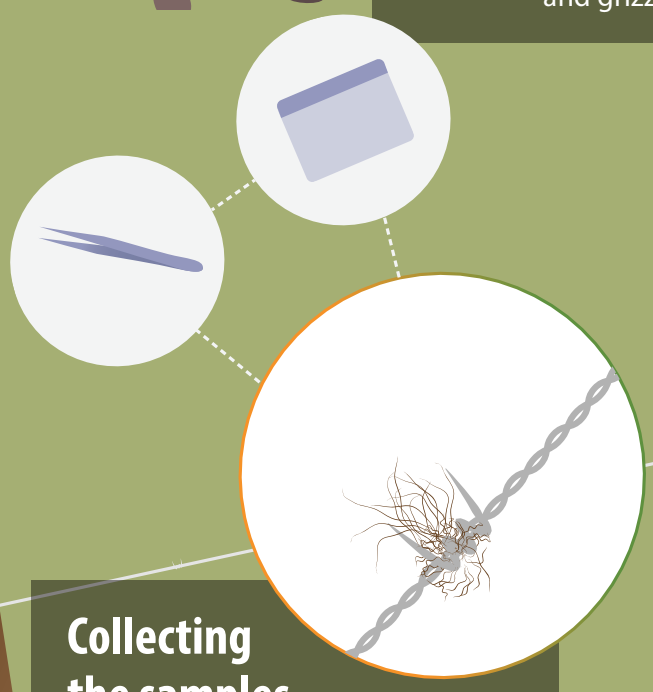
The Bear Project: What can bear hair tell us about bears?

Each Spring, as bears are waking up from winter sleep, teams of researchers, Coastal Guardian Watchmen, community partners, and local youth interns set up non-invasive hair-snagging sites (barbed wire corrals) to sample a small tuft of hair from bears.

Setting up bear hair collection sites

This non-invasive sampling technique was developed on the coast by Haíłzaqv First Nation researchers in 2006. Raincoast is currently partnered with Haíłzaqv and Wuikinuxv Nations to study black and grizzly bears.

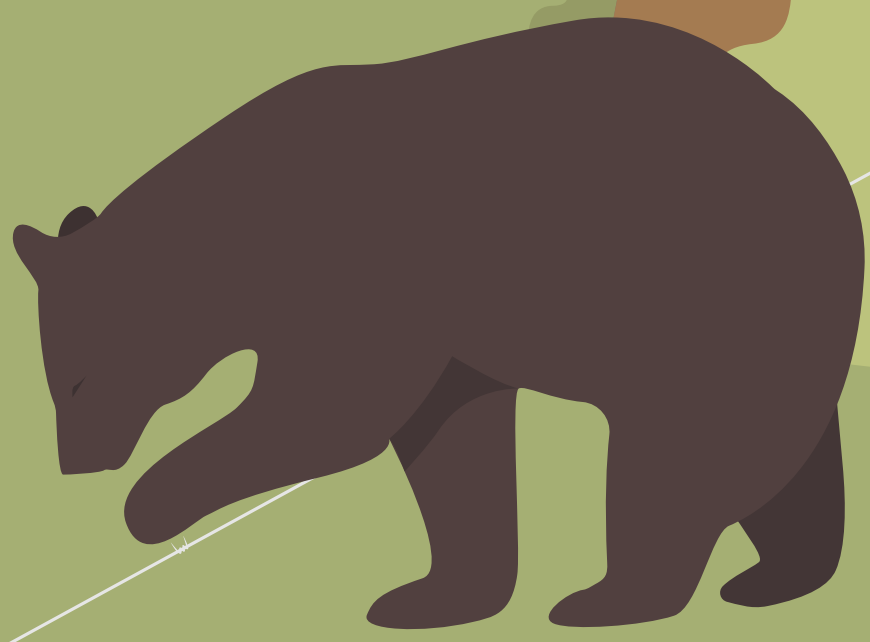


Collecting the samples

Hair samples, which have genetic information in the roots, are then collected at sampling sites every 10 to 14 days. As bears undergo an annual moult and shed their previous waking year's coats during this time, we're often able to collect intact hair strands representing a years-worth of dietary information from the sites.

Attracting the bear

Bears are attracted to the sampling sites using a non-reward liquid bait made of fish oil. During the spring shedding season, hair tufts are gently pulled out by barbs.



We perform two primary analyses, from which many applied research questions can be answered

1

Genetic analysis

Hair samples are first sent for genetic analysis to identify the species, sex, and individual identity of each sample. This allows us to track bear behaviour and their populations over time.

2

Stable isotope analysis

After samples are genetically identified, they are sent for stable isotope analysis. From this, we are able to estimate the proportions of different foods that make up individual bear diets (i.e., salmon, intertidal, plants, terrestrial meat).

Research opportunities

From this research we are able to answer:

- Where and when do we detect bears of each species and sex, and how might they move among sampling sites?
- What proportion of a bear's diet consists of salmon, and does this vary by area or year?
- Are populations growing or declining, and why?
- And ultimately, what habitat and salmon management decisions benefit bears?

Heiltsuk Integrated Resource Management Department

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Hakai Science on the Coastal Margin

Raincoast Applied Conservation Science Lab

Raincoast Conservation Foundation