

28TH IBA CONFERENCE

Co-existing with Bears on Dynamic Landscapes



IBA 2024

INTERNATIONAL ASSOCIATION FOR
BEAR RESEARCH AND MANAGEMENT

EDMONTON, ALBERTA, CANADA SEPTEMBER 2024

POSTERS

Day: Thursday **Time:** 17:00 – 21:00 **Room:** Salon 8/9

Theme: Management

Abstract Number: 299

Presentation Type: Poster Presentation

Presentation Title: Using hair snares and camera traps in community-led polar bear research: insights on polar bear genetics, distribution and body condition in the Eeyou Marine Region (James Bay, Canada)

Presenter Name: George Natawapineskum

Presenter Affiliation: Cree Trappers' Association, Eeyou Marine Region Wildlife Board

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All Authors: Alexandra Langwieder, Angela Coxon, Natasha Louttit, Stephanie Varty, Felix Boulanger, George Natawapineskum, Sanford Diamond, John Lameboy, Murray Humphries

Primary Author Occupation: Student



Abstract:

Engaging Indigenous Peoples and their knowledge in wildlife monitoring is recognized to be important in conservation science but reconciling community support and leadership with the requirements of systematic wildlife monitoring can be challenging. Polar bears in James Bay, Canada, are the world's most southerly polar bears and already experience warming conditions expected for populations farther north but little is known about their ecology in this boreal system. Eastern James Bay Cree communities have observed changing polar bear distribution and abundance in the last decade and identified polar bear ecology as a high research priority.

Given this, our objective was to build a non-invasive polar bear research program with Cree communities to co-develop knowledge on polar bear ecology at the southern edge of their range. We used hair snares and camera trap sampling stations to gather information about polar bear genetics, diet, body condition and habitat use. Over three summers we deployed 40 sampling stations across 400km of eastern James Bay with four community field teams. We collected over 300 hair samples and hundreds of polar bear observations. Here we report the genetic, body condition and habitat use results of this project and demonstrate that these non-invasive methods are effective tools for delivering valuable information through community-based polar bear research. At a time when mainstream polar bear research methods are being questioned across the Arctic, we believe this approach could be widely used by communities to lead polar bear research in their regions.

Day: Thursday **Time:** 17:00 – 21:00 **Room:** Salon 8/9

Theme: Habitat Relationships

Abstract Number: 300

Presentation Type: Poster Presentation

Presentation Title: American Black Bears in Lowland Desert: Assessing Habitat Use with Hydrogen Isotopes

Presenter Name: Sydney Stephens

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All Authors: Sydney Stephens, Christy J. Mancuso, Austin M. Green, Cagan H. Sekercioglu

Primary Author Occupation: Student



Abstract:

American black bears typically rely on forested land cover and are not expected to spend prolonged periods of time in shrub-dominated arid lands like the red rock deserts of southeastern Utah. While arid lands are known to be used as corridors between metapopulations (i.e. the La Sal Mountains, Tavaputs Plateau, Uncompahgre Forest), these areas are considered unsuitable for anything more than short-term occupation during dispersal. However, increases in the number of bear encounters near the Rio Mesa Field Station north of Castle Valley and Moab suggest bears may spend more time in arid systems than previously known. Camera traps and hair snares were used to investigate the residency of frequently visiting bears. Additionally, we received hair samples from bears in the La Sal (n=11) and San Juan (n=4) mountains from the Utah Division of Natural Resources. We measured hydrogen stable isotopes to examine bear land use at different elevations and to assess occupancy after short-scale dispersal events. While our hair snare samples were all gathered from only one individual at the low elevation area, the differences in their hydrogen values were still significantly different from higher elevation bears (p=0.03). Our findings suggest that bears were occupying these low-elevation deserts for time periods beyond temporary transit paths. Continued use of this area by other bears has been confirmed with camera trap and visual sightings. This case study provides preliminary evidence of desert habitat use being greater than previously thought, and shows the potential for using this O/H stable isotopes to assess similar situations as a more affordable, non-invasive, and random sampling technique than other current options.

Day: Thursday **Time:** 17:00 – 21:00 **Room:** Salon 8/9

Theme: Habitat Relationships

Abstract Number: 301

Presentation Type: Poster Presentation

Presentation Title: Partitioning Human and Brown Bear Niches: Transboundary Connectivity and Human Disturbance in the Alpine Region (PartNiche)

Presenter Name: Sydney Stephens

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All Authors: Sydney Stephens, Natalia Bragalanti, Claudio Groff, Nina Gandl, Sybille Klenzendorf, Francesca Cagnacci

Primary Author Occupation: Student



Abstract:

The Alpine ecosystem in Europe, a region marked by both rich biodiversity and intensive human use, stands at the forefront of conservation challenges, particularly concerning the coexistence of humans and wildlife. This research, set within the multi-national landscape of the Alps, aims to elucidate the complex interplay between human activities and the habitat use and connectivity of the brown bear (*Ursus arctos*), a species emblematic of both conservation success and social conflict. After reintroduction of brown bears to Trentino, Italy 25 years ago, the growing population allows for continued range expansion into former habitat throughout the Alps. Leveraging a multidisciplinary approach, the study designs models to analyze spatio-temporal patterns of bear movements and human-bear interactions, focusing on areas impacted by human infrastructure, recreational activities, and changing social acceptance of large carnivores.

Employing bio-logging, remote sensing technologies, and socio-ecological surveys, the research aims to produce dynamic, fine-scale representations of current bear distribution, connectivity to potential habitat within and outside the population range, and human-bear conflict zones stemming from both tangible and sociological human disturbance. Historical and sociological drivers of wildlife tolerance will also be investigated. Anticipated preliminary results include the identification of key areas of habitat, connectivity, and conflict hotspots. This research and its products such as interactive suitability maps, predicted areas of conflicts, and science-based conservation protocols, are done with the goal of contributing to the Conflict-to-Coexistence (C2C) Approach for mitigating human-wildlife conflicts through informed conservation strategies, and addressing the urgent need for a harmonized coexistence between humans and the recovering Alpine brown bear population.

Day: Thursday **Time:** 17:00 – 21:00 **Room:** Salon 8/9

Theme: Management

Abstract Number: 304

Presentation Type: Poster Presentation

Presentation Title: Population Dynamics and Feeding Ecology of Recolonizing American Black Bears (*Ursus americanus*) in the Beaver Hills Biosphere

Presenter Name: Sandra MacDougall

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All Authors: Sandra MacDougall, Ramona Maraj, Erin Henderson

Primary Author Occupation: Professional



Abstract:

The population of American black bears (*Ursus americanus*) in North America has been growing and expanding in range, recolonizing previously extirpated ranges that have been altered by human activity. Just east of Edmonton, black bear sightings in Elk Island National Park and the Beaver Hills Biosphere region have increased steadily over the past five years. This population is right at the edge of the species' range expansion which has numerous implications for municipal, provincial, and federal agencies. How wildlife coexistence programs are delivered and what will potentially happen to ungulate populations that have existed without predation by bears for over a century are critical considerations. The objectives of this five-year study are to examine the feeding ecology and demographic characteristics of black bears within the Beaver Hills region to understand the potential for population growth and dispersal at the edge of a species' range and use this information to predict the impact black bear predation may have on ungulates inside and outside of core protected areas. To date, 10 black bears have been radio-collared to assess their movement, habitat selection, and feeding ecology. We will use a combination of approaches to determine regional bear diets; including DNA metabarcoding of bear scats collected through systematic transect surveys, isotopic and fatty acid analysis of bear tissues and movement data obtained from radio-collared bears. We will present preliminary analysis of food habits based on scat metabarcoding and bear movements during the 2023 active season.

Day: Thursday **Time:** 17:00 – 21:00 **Room:** Salon 8/9

Theme: Human-Bear Conflict & Coexistence

Abstract Number: 314

Presentation Type: Poster Presentation

Presentation Title: Virtual Bear Viewing as a Conservation Tool

Presenter Name: Alysa McCall

Presenter Affiliation: Polar Bears International

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All Authors: Alysa G. McCall, BJ Kirschhoffer, Candice Rusch, Brian Byrd, Mike Fitz, Geoffrey S. York, Krista Wright, Kieran McIver

Primary Author Occupation: Professional



Abstract:

Education and outreach can be powerful tools in wildlife conservation. Targeted outreach can increase support for conservation actions by impacting attitudes and furthering awareness about environmental issues or species, and may be especially effective when visual elements, like photos or videos, are incorporated.

Polar Bears International (PBI) first deployed live Polar Bear Cams near Churchill, Manitoba in 2007, allowing the public to view the annual polar bear gathering. After an initial success, PBI partnered with Explore.org to operate and grow the impact of these cams. We now virtually reach millions of people around the world each year who tune in to watch polar bears roam the tundra and to learn about the species. PBI also uses the Polar Bear Cam footage to complement educational programming and as a platform to inspire action on climate change.

Explore.org now has over 100 live wildlife cameras deployed around the world, including several at Brooks Falls in Katmai National Park in Alaska, where local brown bears feast during the annual salmon migration. These Brown Bear Cams allow viewers to closely follow individual bears and have led to the viral "Fat Bear Week" which has captured attention and created joy across the globe.

Many people will never get to see bears in the wild but by live-streaming incredible moments and incorporating key messaging into such outreach, we can help people build connections with bears, increase our organizations' impact, broaden conservation support, and turn awe into action.

Day: Thursday **Time:** 17:00 – 21:00 **Room:** Salon 8/9

Theme: Human-Bear Conflict & Coexistence

Abstract Number: 315

Presentation Type: Poster Presentation

Presentation Title: Developing Effective Polar Bear Safety Educational Materials in a Changing Climate

Presenter Name: Alysa McCall

Presenter Affiliation: Polar Bears International

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All Authors: Alysa G. McCall, Geoffrey S. York, Joanna Sulich, Clive Tesar, Joseph M. Northrup, Lyle Walton, Greg W. Thiemann

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