

# Glacier Bay National Park and Preserve 2011 Bear Program Report

*“Year of the Brown Bear: Take 2”*

By Christopher Behnke, Tania Lewis, and Kyle Pinjuv



*A black bear along the Bartlett River spreads the seeds of one of its favorite spring foods, dandelions.*

## ***Front Country Bears***

2011 was a busy bear year in the front-country. Bartlett Cove was prime bear habitat early in the summer, thick with tender angelica and horsetail. During the month of May there were only five Bartlett Cove bear sightings reported, but activity increased with 13 sightings in June and 23 in July. While the majority of the sightings were black bears, brown bears were also sighted in the front country and in the town of Gustavus for the second year in a row. This likely indicates a new trend in brown bear distribution in the park that now includes the Gustavus forelands.

## ***Black Bears***

A mother bear with two yearlings, likely the mom who had two spring cubs last summer, was spotted only once in June. In mid-July two yearlings showed up in Bartlett Cove and while one disappeared, the other yearling was seen regularly through October. The large cinnamon black bear that has frequented Bartlett Cove since 2006 was seen at least five times, mostly in May and June, reappearing again in August. There were a number of other black bears in the area, ranging in size and coloration.

## ***Browns Bears***

2010 was the first year that brown bears were seen regularly in Gustavus in over 50 years and one brown bear sub-adult male was illegally shot in the middle of town. According to Kyle's August 2010 community survey about the town's feelings towards an increasing brown bear presence, it was clear that the community desired outreach and education concerning bear safety and behavior. In 2011, brown bears were repeatedly sighted in Gustavus from May to as late as Nov. 17<sup>th</sup>. Bear awareness in Gustavus continued to grow with increasing brown bear sightings and educational efforts. The GLBA bear team coordinated a "Bear Necessities Night" at the Gustavus library providing pizza, music, and presenting information regarding bear safety, behavior, and local bear activity alongside Ryan Scott of Alaska Fish and Game, and Diana Raper, a graduate student at Oregon State University. Participants had the opportunity to learn ways to minimize bear-human conflicts, share questions and concerns, and practice shooting inert bear spray. Continued outreach will benefit both bears and the local community by ensuring that people have the knowledge to peacefully co-exist with the surrounding wildlife. Gustavus will hopefully continue to make a graceful transition into becoming "brown bear country."

Brown bears also continued their regular presence in Bartlett Cove and the Bartlett River in 2011. There was one sighting of a brown bear at the maintenance depot, and six sightings of two different brown bears on the Bartlett River between July 6<sup>th</sup> and July 20<sup>th</sup>. There were two separate incidents on July 9<sup>th</sup> and July 12<sup>th</sup> involving brown bears on the Bartlett River. Each incident involved a single bear and a group of anglers and NPS employees. The bears "pursued" the two groups until they stood their ground, at which point the bears walked off. The behavior demonstrated by the bears in these incidents was either curiosity or dominance-testing in a resource-rich area. One to two weeks prior to these incidents the sockeye salmon had begun to run up the river. The bear involved in one incident was spotted feeding on gut piles left by anglers. Brown bear sightings diminished in August but then increased again along the river during the coho run in September with no further incidents.



*Repeated brown bear sightings help remind us to sing a happy song when walking through the tall grass!*

## *Human Attractants*

GLBA staff kept a clean camp in 2011! Park seasonal housing received two propane grills this year, which present a new potential for attracting bears. The “seasonal culture” of the year was heavily invested in fishing and gathering wild foods, and the grills were regularly used. Those that used the grills were asked by the bear technicians to remove grates and drip pans when they were finished and clean and store them in a bear safe place. There was no evidence of bears or other wildlife tampering with the grills and all employees were very responsible in cleaning up after themselves. Unfortunately, on the night of September 9, a group of SAGA employees sitting on the deck at the Glacier Bay Lodge heard sounds of breaking bottles and rummaging from the trash bins beside the lodge. The next morning around 8:00, GLBA law enforcement went to check out the scene and discovered the trash/recycling bins had been bitten and broken into. Upon investigation, a single black bear hair was found on one of the trash bins that had been destroyed. It is unknown how much of a food reward the bear received, but the remaining trash was removed and there were no recurring incidents at the Lodge. This is a reminder that we need to continue to be vigilant about keeping our trash and waste protected from wildlife through the fall to avoid contributing to the food conditioned of bears.

After an increase in sport fish related bear-human conflicts in 2010, new fishing regulations were created requiring anglers to keep their catch within 6 feet of them, carry their fish out whole (no filleting), and to dispose of their guts and gills in fast moving water at the center of the river. These regulations were by and large successful, but required constant monitoring and education of anglers. Kyle conducted numerous river patrols and reported that about half of the anglers he spoke with were unaware of the new regulations, despite prominent signage. LE ranger Lauren LaRocca and Kyle heroically donned waders and moved up to 20 filleted carcasses from shallow stagnant stream to fast moving deep water during the sockeye run. In September, a group of anglers allowed a small black bear to obtain one of their harvested fish. The Bartlett River continues to be a potential source for bear attractants, but while the new regulations were not always followed in the first year, we hope they will help mitigate bear-human food associations in the long fun. Although many anglers did not know of the new regulations, most, if not all, were cooperative and respectful when asked to follow the new rules. The following years will hopefully show an increased understanding and knowledge of the regulations and their basis by anglers and recreationalists.



*Brown bears like this one on the Bartlett River in July add excitement to the sockeye run!*

## ***Backcountry Bears***

There were nine bear incidents in the backcountry, including four of instances of minor property damage. All of these incidents occurred when people did not have direct control over their gear. In one incident a bear opened a dry bag and proceeded to remove and shred a chemistry text book. The kayakers watched as the bear inadvertently turned on a headlamp that was in the dry bag and apparently scared itself off. How the bear turned on the headlamp, why these kayakers chose to lug this large book on their wilderness adventure, and what this bear had against chemistry are among the many unsolved mysteries involved in bear-human interactions in Glacier Bay.

In another incident, a group of three was charged by a brown bear at the outlet creek from Vivid Lake prompting an advisory for this area for the third year in a row. Gloomy Knob appears to be an incident-prone area for humans and bears, given the natural attractants for both species including an excellent beach and proximity to a salmon-bearing stream, as well as the tight beach corridor between the salmon stream, popular camping spots, and the Gloomy Knob mountain-access path. This creek contains one of the only sockeye salmon runs in the west arm of Glacier Bay, and is likely highly coveted by brown bears in the area. While bears do not generally defend a large food source such as a salmon stream, they may defend a specific fishing hole as well as their own personal space. The repeated incidents of brown bears exhibiting defensive behavior at this particular location indicate an area where seasonal advisories and/or closures may be warranted.

In one unfortunate incident a bear near McBride Glacier absconded with an improperly closed bear can in the night and consumed its contents. After tireless searching, Christopher found and retrieved the empty bear can deep in the brush amidst wrapper-filled scats. When interviewed, the kayakers who lost the bear can felt terrible, not because they lost an entire bear can of snacks, but because they realized that they may have contributed to the food conditioning of a backcountry bear. It is not known if a human or mechanical error led to the failure of the presumed “bear-resistant” food container, but all bear can lids at the VIS have since been checked. This incident serves as a good reminder for park staff to check cans and lids regularly and discard lids that appear too loose to stay closed.

## ***Dry Bay/Alsek River Bears***

There were no reports of bear-human conflicts from rafters on the Alsek River in 2011, but there were a few reports from the National Preserve in Dry Bay. On July 8<sup>th</sup>, Dry Bay rangers discovered a dead brown bear on a sand spit at the mouth of the East Alsek River. On July 12<sup>th</sup>, Tania and the rangers investigated the carcass and collected samples for genetics and aging, but the bear was too decomposed for a proper necropsy. The cause of death of this bear is not known. In September, the Dry Bay ranger reported a pair of sub-adult brown bears on the East Alsek approaching people to obtain their harvested fish. These bears approached anglers within 20 yards repeatedly but were successfully deterred by four wheelers in at least two instances. Little has been known about the movements of brown bears on the outer coast until recently when the Alaska Department of Fish and Game captured and collared several brown bears from Yakutat to the north side of the Alsek River. Interestingly, one male bear, captured at the Yakutat dump in 2009, traveled south through the Preserve and into the Park as far south as Grand Plateau Glacier. In 2011, this bear returned to Yakutat where it was shot in defense of life and property (DLP). The movement data for this bear provides the first evidence that bears in the Park and Preserve may be affected by human-food sources and bear-human conflicts in Yakutat.

## ***Bear Incidents 2011***

---

### ***West Arm***

6/7/2011	Reid/Ibach Point	Blonde brown bear "large subadult"	Bear in camp: group successfully defended property by standing ground.
7/12/2011	Gloomy Knob/S. Vivid	Blonde brown bear "medium sub adult"	Bear crossed river, charged group of three twice, then turned away and foraged.
7/27/2011	Tarr Inlet	Dark brown "medium subadult" Bear	Bear bit dry bag and text book cached with bear cans at night.

---

### ***East Arm***

6/25/2011	East Arm/Goose Cove	Light brown bear "small sub adult" "skinny"	Bear in camp: gear scattered, people scattered, bear appeared interested in food being cooked but was successfully hazed out of camp.
6/29/2011	Muir Point/Dirt Glacier	Dark brown bear "large adult"	Bear bit and batted bear can around while paddlers were loading boats.
7/4/2011	Muir Point/Dirt Glacier	Adult black bear "medium"	Bear bit tent and kayaks, group of 3 hazed bear with rocks, yelling And charging.
7/13/2011	McBride	Unknown (black bear spotted in area)	Large bear can taken during the night, consumed by bear in woods. Possible bear can lid malfunction?
7/29/2011	Muir Point	Unknown	Bear cans knocked over at night: one can moved 100 feet
7/30/2011	McBride	Brown bear	Bear cans knocked over, tarp and table ripped and bitten when group was gone from camp.

---

### ***Bartlett River/Cove***

7/9/2011	Bartlett River	Brown bear "medium sub-adult"	Bear "pursued" several groups until 7 grouped together and stood ground. Stepping forward scared the bear off.
7/12/2011	Bartlett River	Light brown bear "medium adult"	Bear eating gut piles. Bear approached group of four, who retreated several times. People finally stood their ground.
9/9/2011	Glacier Bay Lodge	Black bear	Bear got into trash bins on side of building around 9pm. Left a trash mess and damaged bins.
9/14/11	Bartlett River	Black bear	Group of anglers allowed bear to obtain a harvested fish.

---

### ***Dry Bay***

7/8/2001	E. River at Dog Salmon Cr.	2 sub-adult bears	1 bear approached anglers within 25 yards and the other within 20 yards. Bears were scared off by ATV.
7/9/2011	E. River at Dog Salmon Cr.	2 sub-adult bears	2 bears circled downwind of anglers for 90 minutes. 1 tried to Work its way closer but was scared off by ATV.

## ***Closures and Advisories***

***Geikie Whale Carcass Closure:*** The beach north of Geikie Inlet was closed to foot traffic on May 11<sup>th</sup> and remained closed summer to protect people and scavengers, including bears and wolves.

***Dirt Glacier Advisory:*** On July 4<sup>th</sup> an adult black bear investigated unattended property, causing minor damage to a tent and a kayak. An advisory was issued on July 8<sup>th</sup>.

***Gloomy Knob Advisory:*** On July 12<sup>th</sup> a group of three people at Gloomy Knob were charged by a brown bear within 100 feet. The bear then turned away and foraged on berries in the area. An advisory was issued on July 18<sup>th</sup>.

***McBride Advisory:*** On July 13<sup>th</sup>, a bear obtained and consumed the entire contents of an improperly closed or malfunctioning bear can. An advisory was issued for the area on July 18<sup>th</sup>.

***Tarr Advisory:*** On July 27<sup>th</sup> a sub-adult brown bear destroyed a dry bag that had been stored with bear cans for the night. An advisory was issued on July 29<sup>th</sup>.

### ***Bartlett River Advisories***

On July 12<sup>th</sup>, an advisory was issued warning of potential brown bear presence on the Bartlett River. The news release and trail signage informed users that hikers and anglers had been “pursued” by a brown bear. Signage also informed anglers on the new regulations for fish waste management, designed to reduce negative bear-human interactions. On September 16<sup>th</sup>, another advisory was issued warning anglers that a black bear had obtained harvested fish from a group.

## ***Training***

The bear team provided training to 13 RM and Protection employees covering bear behavior, safety, and management techniques, including use of bear spray and general bear monitoring and hazing techniques. We also provided bear safety training to VIS staff, GLBA kayak concessionaires, SAGA crews, and researchers. Christopher used his extensive kayak experience to train about a dozen park staff and researchers in kayak safety and cold water rescue techniques. Tania had the opportunity to provide training to 15 USFS and NPS employees in Yakutat covering bear behavior, safety, management techniques, use of bear spray, monitoring, hazing, aversive conditioning, and how to develop a comprehensive bear management plan/program.



*Bear Training – bear techs Kyle and Christopher helped reenact a typical bear monitoring scenario by dressing and acting like a mother bear and cub wandering through the Bartlett Cove developed area.*

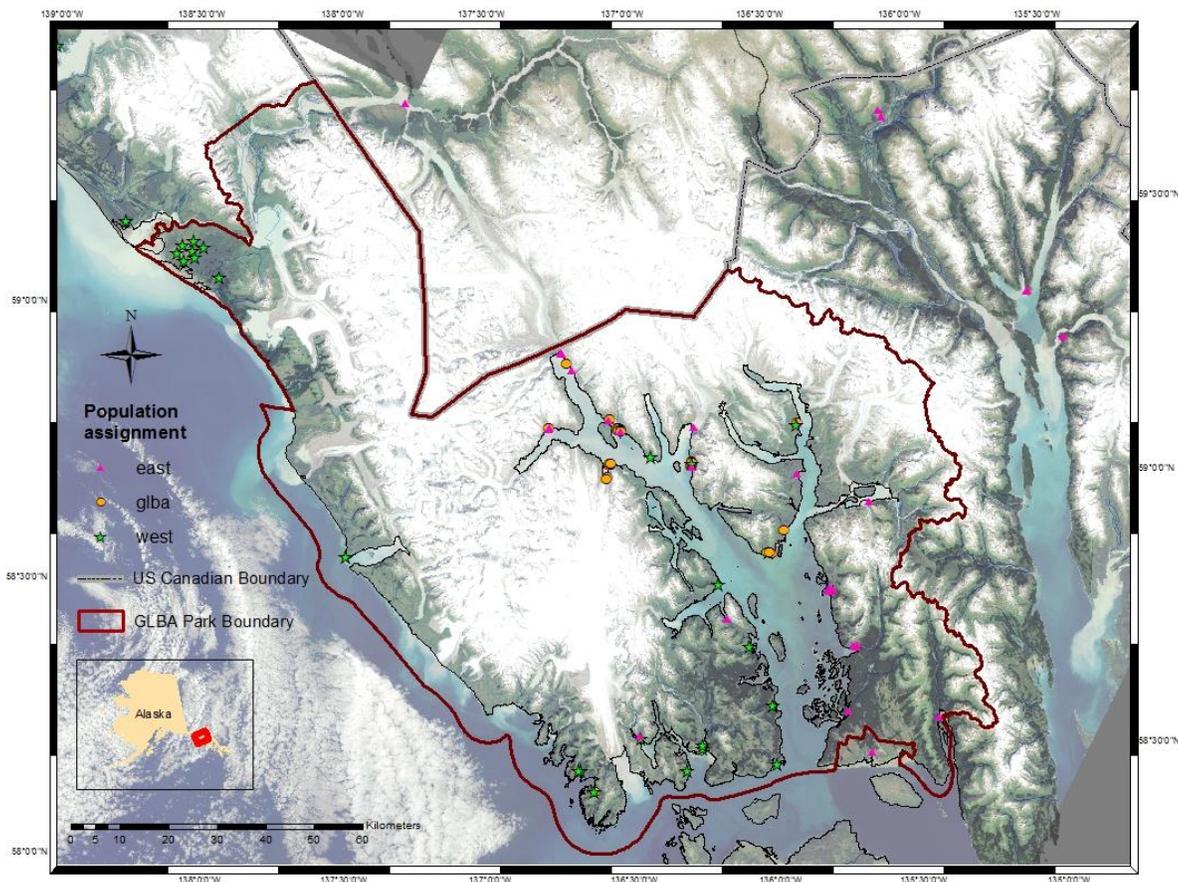
## Ongoing Research Projects

### *Black and Brown Bear Distribution*

During the summers of 2009-2010, the distribution of black and brown bears at selected shoreline study sites was determined by direct observation, tracks, and genetic identification of bear hair. Results showed that black bears are closely associated with closed forest cover in the southern 2/3 of the bay and essentially absent from recently de-glaciated (<150 years) habitats. The distribution of black bears will likely move northward as forest develops in newly de-glaciated areas. Brown bears were documented in every study site with highest levels of activity in recently de-glaciated areas of open scrub (<150 years) and old growth forest (>300 years), and lowest levels of activity in the young forest areas of southern Glacier Bay.

### *Brown Bear Landscape Genetics*

We also used the DNA from brown bear hair to determine the genetic relatedness of brown bears along the shoreline of the park and the level of mixing that occurs between different geographic areas. Genetic results indicate that brown bears in the upper west arm of Glacier Bay form a unique subpopulation. The two other subpopulations present in the park are divided neatly into eastern and western groups by the wide mouth of Glacier Bay proper. There is evidence that the majority of brown bear immigrants, including the original colonizers, come from the east. Wide fjords such as Glacier Bay and steep glacial covered mountains such as the Fairweather range appear to block movement and therefore greatly influence how Glacier Bay was re-colonized by brown bears.



*There are three distinct genetic subpopulations of brown bears in and around the park, including East (pink triangles), West (green stars), and GLBA (orange circles). Shapes represent sample locations.*



*A motion sensor camera catches a pack of wolves feeding on the whale carcass.*

### ***The Carcass that Wouldn't Die***

For the second summer in a row, we maintained remote cameras on the humpback whale carcass as part of an ongoing scavenger study. In September 2010 the bulk of the carcass washed from Scidmore Cut to the south of Giekie Inlet where bears and wolves continued to feed on it into October 2011. When the flesh of the whale was finally eaten, scavengers chewed bone and marrow out of ribs and large vertebrae. The new location allowed a much closer camera angle and has provided incredible close-ups of brown bears, a black bear, and a pack of up to 7 wolves. These photos will be added to the 2010 collection and analyzed for a manuscript on one of the longest documented scavenger events of a single carcass.

### ***Gustavus Forelands Bear Population Study***

This summer we initiated a project to determine the number of bears using the Gustavus forelands utilizing modern non-invasive genetic bear hair sampling techniques. Twenty four rub trees have been found throughout the forelands and equipped with two strands of barbed wire each. When bears rub on the trees the barbed wire captures hair samples that can be used to genetically identify individual black and brown bears. The project is collaboration between NPS, Alaska Department of Fish and Game (ADF&G), Kyle Pinjuv of Evergreen State College, and researcher Diana Raper of Oregon State University, and will continue through the summer of 2012. The results of this study will be used to inform bear management decisions made by Park Service and ADF&G managers.

## ***Acknowledgements***

Many, many park staff and volunteers have helped us. We are extremely grateful to all those who helped with logistics, equipment, and/or participated in bear research this summer! THANKS to Justin Smith, Craig Murdoch, Chad Soiseth, Patty Bean, Wendy Bredow, Todd Bruno, Kevin Colson, Barb Bruno, Katie Unertle, Nat Drumheller, Bill Eichenlaub, Chip Chipley, Allison Banks, Diana Raper, Leslie Skora, Christina Rinas, Eric Syrene, and all others who assisted in data and hair collection!

A big THANK YOU to the VIS staff for keeping us updated on bear sightings and to the LE staff for helping us with bear management around Bartlett Cove. Thanks also to the Bear Committee for offering guidance on bear management issues. And thank YOU for calling in bear reports and keeping a clean camp!

## ***Who Are We?***

### ***Kyle Pinjuv, Bear Tech***

Kyle came to us as a volunteer in 2010, was hired as bear tech in 2011, and is now working on his graduate thesis at Evergreen State on a project examining the number of bears and bear-human interactions on the Gustavus forelands. Little did we know when we hired him that not only is he extremely talented in bear management, but he also plays a mean slide guitar and has a special gift in acting with a specialty in roles of small cuddly animals, such as bear cubs.

### ***Tania Lewis, Wildlife Biologist***

Tania's penchant for banjo-singing bear education saddled her with the hefty responsibility of remembering several perennially preferred and ever-requested bear-specific songs including "Poke that Poop," and "Stand your Ground." In her spare time, she is finishing up graduate school at the University of Alaska, Fairbanks.

### ***Christopher Behnke, Bear Tech***

Christopher has completed two seasons on the bear crew and has won the "most musically gifted and overall theatrically talented bear crew member of the year" award each year. His role as mama bear during training brought tears to the eyes of several participants, who were quoted while softly weeping, "I've never...seen anything like it." Christopher spends his winters mushing dogs and studying rural development at UAF in Fairbanks Alaska, where he is contemplating pursuing an interdisciplinary BS/MSc project titled "Experimental Hazing of Bears in National Parks with Raucously Played Violins, Banjos, Ukuleles, and Kazoos".



*"Look, a bear!" 2011 Bear/Wildlife crew members Kyle Pinjuv, Tania Lewis, and Christopher Behnke.*