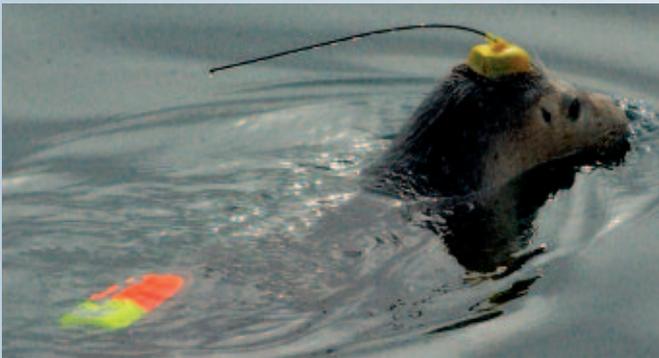


Science in the Park



Harbor Seals

If you visit Johns Hopkins Inlet, or kayak through the Beardslee Islands, chances are that you will see a harbor seal hauled out on an iceberg or a small beach, or perhaps even have one pop up next to your boat. Glacier Bay, which historically supported one of the largest harbor seal breeding populations in Alaska, is now experiencing a decline greater than any other location in the state. A multi-year study is underway to more fully understand the

possible factors contributing to the decline. As part of this effort, harbor seals are captured and fitted with one of several types of instruments, including surgically implanted VHF transmitters to estimate survival rates, externally attached time-depth recorders to record dive profiles, or satellite tags to determine seasonal movements.

The most prominent instrument, and one that you may see on a seal in the park, is external VHF 'headmount' transmitter. These transmitters track the location and foraging behavior of seals. Once found, a 'souped up' fish finder is used to estimate quantities and types of prey that seals are feeding on. Researchers are hoping this information will help determine if there are management actions that can be taken to slow or reverse the population decline.

Principal Investigators: Scott Gende, Jamie Womble, NPS
Principal Collaborators: Gail Blundell, ADF&G
National Marine Fisheries: Mike Sigler

Bear Habitat and Campsite Risk Assessment

The shoreline of Glacier Bay is a popular place for kayakers and for bears. Kayakers camp and take rest breaks on beaches, while bears travel and forage along the shore. How can they both share the beaches with minimal disturbance to the other?

In recent years, a study has been underway in Glacier Bay to try to predict where people are most likely to encounter bears. Researchers surveyed beaches and analyzed potential camping areas looking at such factors as quality of bear forage in the area, animal travel corridors, visibility, and bear sign.

In 2004 and 2005, researchers used time-lapse photography and collected shed-hair samples to find out how many and how often bears use certain areas of concern. The data will help biologists understand how bears use these sites, and provide park managers with recommendations on how to reduce bear/human conflicts and minimize displacement of bears from key habitats. Park managers can then more effectively manage backcountry areas for both people and bears.



Principal investigators: Tom S. Smith, USGS
Park Liaison: Tania Lewis, NPS



The Acoustic World of Whales

Besides the whoosh of a whale's "blow" as it exhales or the sharp whap of a flipper slap, humpback whales may seem like silent creatures living in a silent world. Yet, they are vocal animals that make a variety of sounds, from eerie moans and grunts to elaborate songs. Whales and other marine mammals rely on sound cues for many things: navigation, finding food, detecting predators, and socializing. They live surrounded by natural sounds such as the sizzle of rain hitting the surface of the water. Increasingly, their underwater world includes human-caused sounds, such as the whine of small boat motors and the throb of cruise ship engines.

Though researchers have been studying whale populations in Glacier Bay since the 1970s, little was known about the bay's underwater soundscape in which the whales live. Now, with the aid of an underwater listening device called a hydrophone, park scientists eavesdrop into the underwater world of whales, opening up a new dimension to consider when planning for the protection of this endangered species.

In May 2000, Glacier Bay National Park staff and U.S. Navy acousticians installed the hydrophone near the entrance to Glacier Bay. The hydrophone transmits underwater sounds through a cable to a computer workstation at park headquarters. Data collected about underwater sounds, especially human-caused sounds, helps park managers evaluate vessel

management policies to ensure minimal disturbance to the marine mammals that live here.

For example, since humpback whales do not eat when they are on their winter breeding grounds, they make up for it by feeding continuously on small forage fish during summers in Southeast Alaska. Yet research suggests that whales may move away from preferred feeding areas when disturbed by vessel sounds and that vessel sounds can prevent them from hearing vocalizations of other whales. This study has determined that the underwater world of Glacier Bay is a quieter place when vessels are required to travel at 10 knots rather than at 20 knots.

Underwater listening has already yielded unexpected recordings of male whales singing their mating songs while here in Glacier Bay. Until that time, it was believed males only sang in their winter breeding grounds near Hawaii. More discoveries about underwater sounds may await us. To hear live underwater sounds from Glacier Bay hydrophone visit one of the real-time listing stations in the Visitor Center or Visitor Information Station. You can also listen to recorded Glacier Bay whale sounds at the park website.

Principle Investigator and Park Liaison:
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For more information on these and other research projects going on in the park, visit:
www.nps.gov/glba/go/projects.htm
www.absc.usgs.gov/glba