

CLAIMING GLACIER BAY

by

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ABSTRACT

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This research compares and contrasts the experience of current cruise ship passengers with the experience of the 1899 Harriman Alaska Expedition (HAE) in Glacier Bay, Alaska. What little academic research that has been done on the cruise ship industry has focused on the negative environmental impacts making this research significant as it includes the experience of the cruise ship passenger in environmental studies. The hypothesis states that U.S. and Alaska populations, as well as visitors to Glacier Bay, have significantly increased in the last century.

Methods include an extensive literature review and a historical contrast/comparison method measured by objective and subjective social indicators. Social indicators demonstrate that contrasted with 1899, current total U.S. population has quadrupled, Alaska population has increased tenfold, and visitors to Glacier Bay, Alaska have increased by hundreds of thousands due to the increase in cruise ship visits to the bay since 1965. Claims to the bay by national and international entities have managed and preserved Glacier Bay and it continues to be of lasting value as an area of scientific study and interest.

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1. Introduction

There is little academic literature surrounding the topic of cruise ship tourism and even less literature that focuses on the experience of cruise ship passenger's interactions with nature viewed through the lens of environmental studies. Cruise ships sail through environmentally sensitive areas including World Heritage Sites and U.S. national parks bringing hundreds of thousands of visitors to these areas annually. Tourism is one of the largest industries on Earth and is replacing agriculture and resource extraction as a primary economic development method in many areas of the world, making research in tourism in environmental studies crucial. This research analyzes growth in population and numbers of visitors to Glacier Bay due to an increase in cruise ship visits and asks "Is this a good use of Glacier Bay?" The research is of interest to land managers, the U.S. National Park Service and those concerned with human/nature interactions. This research looks at the experience of cruise ship tourist's interactions with nature in Glacier Bay, Alaska.

The Bay is home to hundreds of land and sea mammals, birds and plants. Glacier Bay is a place of contrasts, a beautiful welcoming place while at the same time a deadly icy land. Most visitors to the bay, both human and animal, tend to be seasonal summer visitors, arriving when the weather is mild and rainy and they do not stay for the long, snowy winters. For example, scientists find special significance in the blank geological slate revealed by the retreating glaciers and spend summers in the bay, humpback whales return in the spring to the lower portion of the bay each year to eat and frolic and seals give birth to their pups each summer at the face of John Hopkins Glacier. Each year, May through September, two cruise ships enter the bay each morning and head toward

the terminus of Grand Pacific Glacier, 65 miles up-bay, then leave the bay each evening. Those concerned with management of the environment question whether the cruise ship passenger experience in Glacier Bay is a good use of nature.

This research compared and contrasted the experience of current cruise ship passengers with the experience of the members of the 1899 Harriman Alaska Expedition using three factors: space (Glacier Bay), social grouping (tourists) and two time periods (1899 – 2013) as variables and includes both objective and subjective social indicators as instruments to observe and analyze social change through an extensive iterative literature review. These two methods provided vital elements of scientific research including historical comparison as an act for analysis, the choice of both the 1899 Harriman Alaska Expedition and the current cruise industry as models and a strong footing of empirical literature as a system of replication. The combination of a literature review with a historical contrast/comparison provides an interdisciplinary view of change over time and adds to the body of ecological thought including literary, economic and philosophical connections.

In the field of environmental studies one of the most important contributions history can have is to explain the social construction of nature. Human interactions with the natural environment have histories that help explain how current relationships developed and socially constructed Glacier Bay. Human/nature interactions include changes in world views, shifts in ideology, and developments in society and economics affecting how nature (the environment) is perceived (Adelson 2008). The methods used to research human/nature interactions are surrounded by the concept of a perceived environment, the idea that humans consider the environment by looking through a lens

that is colored by previously formed insights. Human culture shapes scientific concepts, views of the environment and patterns of interaction with nature (Adelson 2008). Human interactions with nature in Glacier Bay are unique because the largest group of visitors, 406,947 cruise ship passengers in 2011, arrive on cruise ships and never actually set foot on land.

Why Glacier Bay?

Glaciers advance (increase in overall mass) and retreat (decrease in overall mass) in response to current changes in temperature and amounts of snowfall. Between 2,000 and 3,000 years ago the climate surrounding Glacier Bay cooled and the glaciers advanced over the land. After a brief warming around 1,500 years ago the Little Ice Age began and glaciers advanced over Glacier Bay until it was filled with ice. The ice sheet grew to a thickness of 4,000 feet and advanced into further south out of the bay and into Icy Strait. In 1794 Captain George Vancouver sailed by the entrance to Glacier Bay noting that the glaciers had begun to retreat, the bay was emerging from the ice and forming a fjord. Generally the glaciers in Glacier Bay have continued to retreat since the end of the Little Ice Age about 1850 although it is important to note that individual glaciers may advance or retreat due to localized conditions.

Grand Pacific Glacier, the largest glacier in Glacier Bay, retreated 65 miles from the mouth of the bay during the last two hundred and twenty years, a rapid glacial retreat known nowhere else on Earth. This rapid glacial retreat revealed spectacular fjords, glacial deposits of moraines, terraces, channels and ridges forming a barren chaotic landscape. The geological and glacial history is literally carved in stone, but the histories of human claims to this area have a more complex story.

Limitations

It is imperative to state the specific limitations of each method used in research. Limitations are inherent in scientific inquiry and it is important to understand the limits which proscribed the methods of research. Time constraints and economics prevented a current cruise to Glacier Bay. Access to cruise passengers is constrained by the cruise lines. However, the researcher had previous experience working as an onboard Alaskan Naturalist from 2003 – 2007 which offset the need for a current cruise and provided information on the Glacier Bay experience onboard cruise ships.

The choice of Glacier Bay provided a geographic scope for research and the inclusion of the Harriman Alaska Expedition provided a specific point in time for comparison to current practices. This research used the name Glacier Bay as an informal reference to the area of the bay while this research also used the more formal name used by the U.S. government, Glacier Bay National Park (GLBA). Both references refer to the same physical space with varying meanings of socially constructed spaces.

While this research was bounded by the confines of Glacier Bay it is important to consider actions of the HAE outside of the bay. Two specific instances of interactions of the HAE members and the Native Alaskans are out of the boundaries of Glacier Bay specified in this research, but cannot be ignored due to their significance in showing common past perceptions of Native cultures. First the HAE visited Metlakahtla on Annette Island on June 4, 1899 to meet Duncan, the dictatorial leader of an Indian reservation which practiced the current ideas that Indians were savages and needed to be controlled and civilized under social Darwinist thinking. Harriman, Burroughs and

Grinnell were impressed with the control and civilization of the Natives while Muir reported hearing Duncan's story but withheld judgment (Goetzmann 1982).

However, Polly Burroughs, in her introduction to Grinnell's book *Alaska 1899 Essays From the Harriman Expedition* states that Grinnell disagreed with ethnologists concerning the reformation of the Indians (Grinnell 1901). It is acknowledged that Grinnell did not have the opportunity to study Native Alaskans in depth due to the short stops that the HAE made so he wrote on cultural practices rather than cultural change and wrote as a detached observer of his data (Grinnell 1901). Further accounts of Grinnell's personal ideas on Natives must be left for further research as it is beyond the scope of this research.

Second, the taking of Tlingit property from Cape Fox village also cannot be ignored although it is out of the area of Glacier Bay. Members of the HAE landed to explore the village and removed totem poles and other items belonging to Tlingits that had temporarily moved from their village. HAE members spent a whole day hauling off artifacts. At the end of the day everyone gathered for a group picture on the beach of the village that they had pillaged. Then they boarded the ship and entered into a night of wild glee and abandon (Goetzmann 1982).

These two experiences, although outside the boundaries of Glacier Bay, cannot be ignored as examples of the perceptions of social Darwinist thinking that prevailed in 1899. Several other interactions with Tlingits occurred within the bounds of Glacier Bay and are significant due to their friendly nature. Several different HAE parties met with Tlingits in Glacier Bay and each recorded friendly interactions including the Tlingits sharing their food and knowledge of the area.

This research was also limited in topic. The topic surrounding the use of GLBA and its resources continues to change and this research does not look at the economic value of resource use and extraction. Other topics including waste water disposal in Alaskan waters by cruise ships is not within the scope of this research but remains an important concern as does the potential for ship wrecks on Alaska's rocky coasts.

Methods

The literature review served several purposes during this research. The process of understanding this topic has been iterative, a repeated action of reading and writing, then reading and writing again, since new concepts have continually arisen. Initially the literature review helped in the choice of topic and the design of the question, and then suggested new contexts, themes and additional methods to explore including the use of historical comparative method. The literature review is situated in the larger scope of environmental education (Creswell 2009) while the inclusion of the historical comparative studies provides variable social groupings.

Historical comparative studies are commonly used in many different disciplines including geography, anthropology, comparative biology and forensic science (Carpi 2008). Comparative research has recently come to the forefront due in part to the process of globalization including economic and political integration and multiculturalism and the access to information technology. Currently, comparative studies have gained further importance due to the ongoing processes of globalization as well as the increasing economic and political integration not only taking place in Europe, but also in other regions of the world (Carpi 2008).

Three factors shape historical comparative research; space, time, and social grouping. Historical comparative research involves comparing two stages in time to see what changes have occurred (Carpi 2008). In this research the space selected is Glacier Bay, Alaska, the time periods are 1899 and 2012 and the two social groups are members of the 1899 Harriman Alaska Expedition and 2012 cruise ship passengers.

Historical comparison assists in interpreting a relationship between two or more variables by documenting similarities and differences between variables. However, comparison itself is not considered scientific research without systematic cataloging of the nature and behavior of the two variables, and quantification of the relationship between the two. Comparison is similar to descriptive analysis in that it involves observation in a more natural setting than a controlled experimental laboratory. The use of social indicators in historical comparison is regarded as an instrument for the regular observation and analysis of social change.

Social indicators identify a particular social idea, show validity and meaning, expose underlying issues and summarize rather than particularize. Social indicator measurement must be pertinent, the concepts clear and it must produce reliable results without bias and relate to more complex analytical models. Social indicator research is all data which enlighten us in some way about structures and processes, goals and achievements, and values and opinions.

Social indicators identify quantifiable symptoms of living conditions in a broad sense in order to measure and monitor levels and degrees of civilization and social progress across time and space. Raymond Bauer, Director of the National Aeronautics and Space Administration (NASA) invented the term “social indicators’ in the 1960s

when NASA attempted to detect and anticipate the side effects of the space program on American society. Bauer's definition of social indicators was "statistics, statistical series, and all other forms of evidence that enable us to assess where we stand and are going with respect to our values and goals." (Carpi 2008). Types of indicators chosen for empirical measurement depend largely on the underlying conceptualization. In particular, the distinction between 'objective' and 'subjective' social indicators goes closely together with the respective conceptual frame of reference. While objective social indicators are statistics which represent social facts independent of personal evaluations, subjective social indicators are measures of individual perceptions and evaluations of social conditions.

Two types of qualitative research methods were used in this research; literature review and historical comparison/contrast. The first method, literature review, is a process of studying what has already been written on a particular topic. The second method, historical comparison/contrast is used as a hybrid of other methodologies, which made it the primary choice for a multi-disciplinary environmental studies research thesis.

This research uses both objective and subjective indicators in the historical comparison/contrast method. Objective indicators include the total population of the U.S and the number of visitors to Glacier Bay. Subjective social indicators include documented communication with Native populations, regulations and policies affecting use of the bay, and perceptions of nature expressed through written communication.

The selection of interdisciplinary methods including the use of historical comparison/contrast using social indicators and a literature review provides an interdisciplinary understanding of topics within environmental studies. The use of two

methods provided essential elements of scientific research including historical comparison as an action for investigation, the selection of both the 1899 Harriman Alaska Expedition and the current cruise industry as models and a strong foundation of empirical literature as a system of replication.

2. Literature review and methodology

The literature is arranged by topic, first looking at historical perspectives, then moving to relationships with nature, which leads into information on Glacier Bay and the original inhabitants of the bay the Tlingits. Next, information on E.H. Harriman and the 1899 Harriman Alaska Expedition is followed by a view of the current cruise ship industry in Glacier Bay.

Daniel Worster, in *Nature's Economy: A History of Ecological Ideas* provided a historical review of how Americans consider nature over time, providing a basis for this research. *Big History* by Cynthia Stokes Brown was a source of information on technological advances in steam engines and coal mining in Britain in the 1800s and provided figures and charts illuminating global measures for the future. Bruce Braun and Noel Castree in *Remaking Reality* focus on two themes of capitalizing and envisioning nature and actors networks and possibilities of future natures. Thomas S. Kuhn in *The Structure of Scientific Revolutions* provided a paradigm for conceptualizing shifts in worldview through the contributions of scientific and political development. Donella H. Meadows, author of *Thinking in Systems*, helped in understanding the structure of socio-ecological systems and their performance over time. *The Federal Landscape* by Gerald D. Nash gave an economic history of the 20th century west.

The book Silent Spring by Rachel Carson continues to compel each generation to reevaluate its relationship to the natural world. *Last Child in the Woods* by Richard Louv provides studies that point to direct exposure to nature as a vital component in child development. *Political Ecology* by Paul Robbins provided a shift from views of the destruction of nature and the social construction of nature to a view of the broad

production of nature by human and non-human actors with an exploration of the complex and shifting connections of these relationships. Robbins shows that while it is impossible to opt-out of engagement with globalizing world, it is possible to set some of the terms of engagement. Robbins explains how urban ecologies are produced and why these ecological networks look the way they do. *Northwest Lands, Northwest People: Readings in Environmental History*, a selection of readings edited by Dale D. Goble and Paul W. Hirt, combines the history of the Northwest with its sense of site and place including the presence of humans.

Primary sources on the topic of Glacier Bay include the classic *Travels in Alaska* by John Muir and *The Only Kayak* by Kim Heacox, a coming-of-middle-age-memoir written by an Alaskan naturalist expert and lover of the bay. Julie Cruikshank in *Do Glaciers Listen?* discusses local knowledge, colonial encounters and social imagination surrounding the glacial environment. *Glacier Bay National Park, Alaska* contains essays by Sherry Simpson and photos by noted Alaskan photographer Mark Kelley provided visual imagery, as did *Sculpted by Ice* by Michael Collier. *Hoshino's Alaska* by the late Michio Hoshino gave inspiration to the ever-present of time and the relationship of life to habitat. *Green Alaska: Dreams from the Far Coast* by author and naturalist Nancy Lord offered a literary history of the Harriman Expedition in a blend of travel, nature writing, and ecological thought which included several references to the current state of the cruise industry in Alaska.

Information about Tlingit culture and history were provided by *The Native People of Alaska; Traditional Living in a Northern Land* by Steve J. Langdon, *Alaska's History the People, Land, and Events of the North Country* by Harry Ritter, and *In Search of*

Ancient Alaska by Ellen Bielawski Ph.D. Additional information was gleaned from the Hoonah Indian Association website <http://www.visithoonah.com/history.html>.

Information on E.H. Harriman was provided by *The Life and Legend of E.H. Harriman* by Maury Klein and written in 1939. This lengthy view of Harriman's life gave foundation to a deeper understanding of Harriman's life experiences which led him to conceive of such a great expedition. Klein integrated Harriman's career into the broader context of his life and the era in which he lived.

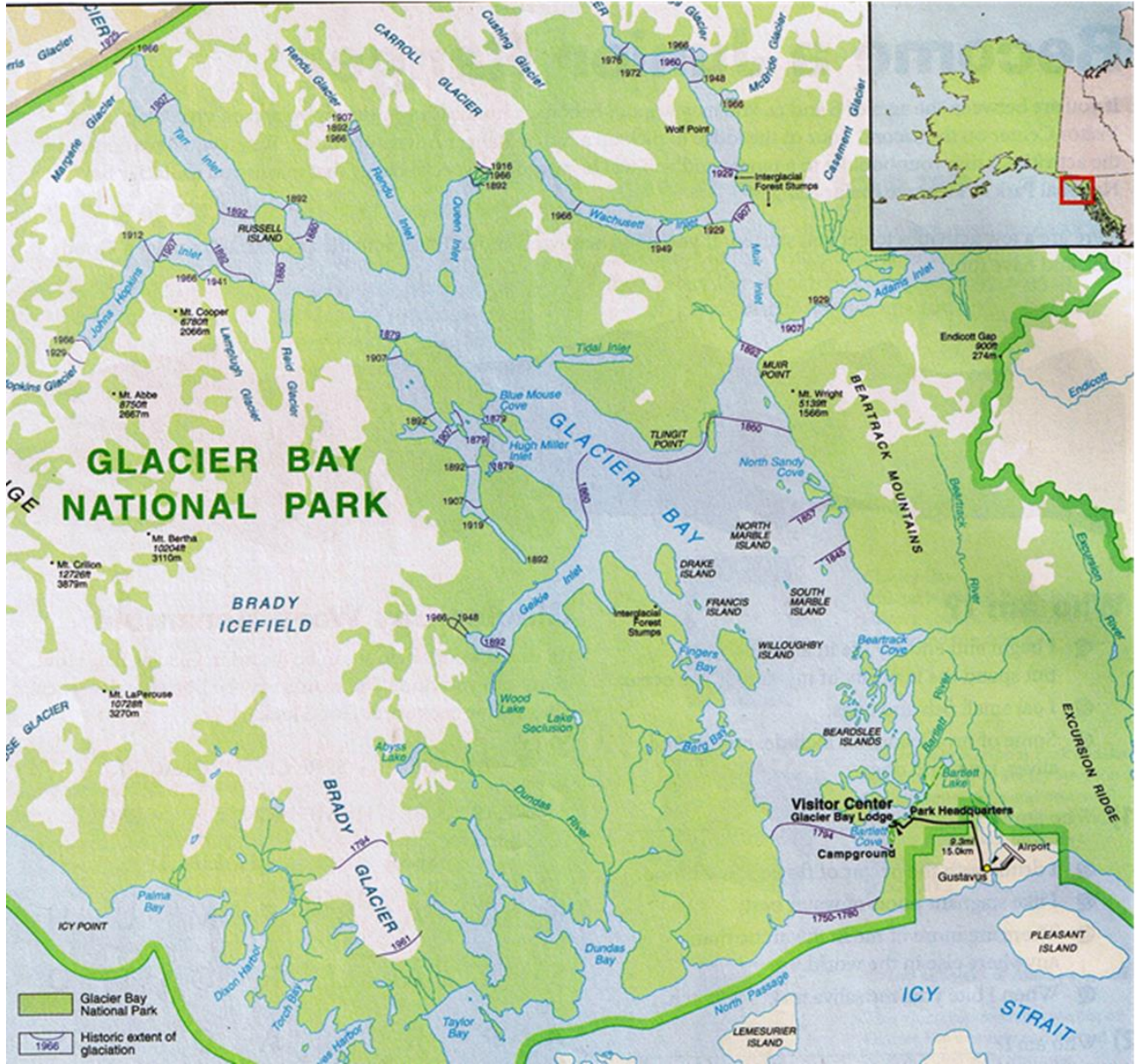
Primary texts consulted for information on the Harriman Alaska Expedition include: Volumes one through thirteen of the Harriman Alaska Series, Smithsonian Institution Archives, Record Unit 7243, Harriman Alaska Expedition (1899), Harriman Alaska Expedition Collection. [Smithsonian Institution Archives, Harriman Alaska Expedition Collection, 1899-1900](#) includes the *Narrative of the Expedition* by John Burroughs, first volume in the series. *Cruising with the Harriman Alaska Expedition*, included in *John of the Mountains, The Unpublished Journals of John Muir*, and *Alaska 1899: Essays from the Harriman Expedition*, George Bird Grinnell. (Klein 1939). *Looking Far North: The Harriman Expedition to Alaska 1899* was written by William H. Goetzmann and Kay Sloan, published in 1982, views Alaska through the eyes of emergent modern science. *The Harriman Alaska Expedition Retraced: A Century of Change, 1899-2001*, edited by Thomas S. Litwin included essays by a group of scientists, writers and artists that retraced the HAE route and repatriated Alaskan Native artifacts taken from Cape Fox by the HAE.

Photographs were obtained from the [University of Washington Libraries Digital Collections – Harriman Alaska Expedition of 1899](#) 254 photographs from 1899 of

Edward Harriman's scientific expedition to Alaska, including images of Alaskan Native Americans and their villages, scenic views of the coastline, glaciers and Alaskan towns.

Primary text for information on the cruise industry was the research book *Cruise Ship Tourism* edited by Ross Dowling and written as a snapshot of the cruise industry in the early 21st century. This book provides an insightful overview of the industry and covers a broad range of topics and issues. Contributors are an eclectic group of researchers, academics and industry professionals. Additional research includes *Neoliberal Globalization: The Cruise Ship Industry as a Paradigmatic Case* and *Cruise Ships: Deterritorialized Destinations*, both by Robert E. Wood of Rutgers University.

Additional research papers include *Cruising in the 21st Century: Who Works While Others Play?* by Philip Gibson from the University of Plymouth Business School in the United Kingdom. In *Geographies of tourism: critical research on capitalism and local livelihoods*, Chris Gibson of the University of Wollongong in Australia, explores the idea of who benefits and where power lies when looking at the current cruise industry through the global commodity chain of cruise tourism. Statistics and data on the cruise industry were taken from the website of the Cruise Line International Association (CLIA).



Map 1. Glacier Bay National Park. <http://www.glacier.bay.national-park.com/>

3. Native Glacier Bay

As shown in Map 1 the entrance to Glacier Bay opens north off Icy Strait and branches for over 60 miles through increasingly deforested mountains terminating in an area of bare rock and glacial ice. Glacier Bay is located between 58 and 60 degrees north latitude and stretches northward from Alaska's inside passage to the Alsek River, surrounding a saltwater bay. The bay's position astride the active suture between the North American and Pacific plates is visible in the extremely mountainous topography. Total area is 3,280,198 acres of land and 940 square miles of marine waters (Swanson 2011).

South and east from the bay, landscapes are fragmented into forested islands and fjords of the Tongass National Forest and the Alexander Archipelago. West of the bay, the outer coast opens to the Gulf of Alaska and the Pacific Ocean. The first inhabitants of the bay were the Huna Tlingit people. Tlingits built large houses of wood that housed up to 12 families each and carved canoes, house poles, and other objects. They used roots and bark from spruce for clothing and baskets (Ferrell 1994). The Tlingits lived from both the sea and the land, fishing for salmon and halibut and gathering seaweed, clams and herring eggs and also hunting land mammals, birds and eggs. As glaciers ebb and flow over time, the people of Glacier Bay also came and went over time. When the glaciers were retreating and the land was exposed, Huna Tlingit would harvest gull eggs and other subsistence foods from the bay.

No one ever counted them, but historical estimates believe that there were about 60,000 Native people in Alaska before contact with European explorers (Ferrell 1994). The Huna are one of thirteen *kwaan* or "tribes" (contemporary Huna prefer *Kaawu*, as in

Huna Kaawu, as their self-designation) of the Alaskan Tlingit language group or nation.

According to the Huna Tlingit website:

The Huna Tlingit people have lived in the Southeast Alaska archipelago for many hundreds of years. They originally occupied the area now known as Glacier Bay, but were forced from their village more than two hundred years ago by advancing glaciers. In Tlingit tradition, Glacier Bay is the Choo Kaa Nei Di country of the Choo Kaa Nei Di people. This claim results from a Choo Kaa Nei Di woman that stayed in Glacier Bay and died when all the others left as the glaciers advanced (<http://www.visithoonah.com/charters.htm>)

The Choo Kaa Nei Di people chose to permanently settle twenty miles to the south in a new settlement which was referred to as Gaawt'ak.aan, or "village by the cliff". Later the name was changed to Xu.naa (Hoonah), "where the north wind doesn't blow". Although Tlingit were the largest Native population there were many impacts on their population from the post-colonial imperialism of the Russian and United States governments. Early Alaskan history can be separated into three periods: exploration and discovery (18th century), control and exploitation (1800—1867), and anarchy and neglect (1867-1895).

The first period is exploration and discovery prior to and during the whole of the eighteenth century, by explorers, hunters and fur traders of all nationalities. The second colonial period, from 1800 to 1867, is characterized by control and exploitation from the Russian American Company as an imperial monarchy. The third colonial period is characterized as a time of anarchy and neglect and begins with the United States purchasing the Russian rights to the land in 1867 and concludes in 1895 when the gold rush began. While looking at Alaska history it is imperative to also view the changes in society in the rest of the world, including the process of industrialization.

During the first period, 500 or 600 years ago, explorers from Russia sailed east and brought back stories of the lands they found. The Russians described the land, which at that time had no name, as “a lot of land” and the “big country” (Ferrell 1994). In 1728, Danish sea captain Vitus Bering was sent by Russia’s Czar Peter the Great to find if Asia and North America were joined by land and explore the northeast coast. Sailing with Bering was German Naturalist Georg Wilhelm Steller, who did field work during the voyages. Steller discovered and named the Steller’s sea lion, Steller’s jay, Steller’s eider, Steller’s eagle, Steller’s greenling and also Steller’s Sea Cow, which became extinct in 1768.

Russians hunted sea otters throughout the coastal areas of Alaska. By the late 1700s the Russian fur trade became the richest fur trade worldwide. The land area of mainland Alaska, as well as the offshore islands, was claimed by Russian imperialism.

In 1794 the area of Glacier Bay was covered by a sheet of ice when European explorers charted the waters. Captain George Vancouver of the H.M.S. Discovery, along with Lt. Joseph Whidbey, describes Glacier Bay as "a compact sheet of ice as far as the eye could distinguish". Glacier Bay is a mere 5-mile indentation in the coastline

The second period, from 1800 to 1867, is regarded as an imperial monarchy, with control and exploitation from the Russian American Company and has been characterized as a long era of violence (Ford 1966). Russians devastated the peaceful Aleuts by murder and rape. Russian traders became rich overnight, taking not only sea otters but also fur seals and blue fox. When one island was decimated they moved eastward, then to the south. During this period there were also many European expeditions to Alaska, by 1805

at least 200 European scientific and commercial expeditions had been made up the coast of Alaska (Ritter 2002).

The years between 1820 and 1870 are known as the beginning of the global Industrial Revolution and refer to a change from hand and home production to machines and factories. It was a period of change in agriculture, manufacturing, mining transportation and technology with a profound effect on the social, economic and cultural conditions of the world. Average income and global population began unprecedented growth. The Industrial Revolution began in Britain where it was discovered that pig iron could be refined into wrought or bar iron by using finery forges fired by charcoal. The discovery that fire could be used to transform the mineral iron into a metal was a scientific breakthrough.

In the late 1850s, Henry Bessemer invented a new steelmaking process by using pressure to inject cold air into molten pig iron thereby oxidizing the carbon in the iron to produce steel. Steel was a much better product than iron, stronger and more durable. Wall Street, the nerve center of American finance, experienced a revolutionary change through the inventions of technology in the 1860s.

This was the gilded age when fortunes were amassed by Vanderbilt and Morgan, there was no income tax, and the new scientific theories of Darwin led the wealthy to believe that they were naturally selected to be rich...better adapted than others that were not as successful and are seen as naturally deficient. By the mid-19th century many people both in Europe and the United States regarded their economic dominance as evidence of their innate biological superiority rather than cultural, technological or

geographic benefits (Brown 2007). This attitude was prevalent when the United States purchased Alaska.

The third period of colonialism began with the U.S. purchasing the Russian rights to the land in 1867 and concluded in 1895 when the gold rush began in Alaska. Russian interest in Alaska waned with the diminishing fur trade. Ferrell notes that “Whether the Russians owned Alaska or not, they sold it to the Americans for \$7.2 million” (Ferrell 1994). At the time of the purchase, Alaska had about 30,000 people living there, with 29,000 of them Native Alaskans (Ritter 2002).

Tlingits living in southeast Alaska objected to the sale on the grounds that the Russians could not sell what they did not own, but the American government did not recognize the Tlingit’s claim to the land. From 1865 to 1884 Alaska had no civil government and just a few hundred soldiers policed the entire region. Alaska, with its large size and untapped resources was ripe for the imperial political and economic dominance of the United States. The purchase of Alaska created unequal economic, cultural and territorial relationships based on domination and subordination in post-colonial Alaska.

The 1884 Alaska Organic Act recognized Native rights to the land and stated that Natives would not be disturbed in their use of homes and seasonal camps. During the latter part of the nineteenth century a severe decline in population of Native Alaskans occurred as the result of numerous epidemics. Civilization was spread throughout Alaska by missionaries of several different religions and the effects of earlier missionary work were becoming more evident, culminating in the Christianization of Alaskan Natives (Blackman 1976).

In 1879 famous naturalist and author John Muir traveled to Glacier Bay. John Muir, founder of the Sierra Club and naturalist, made his first visit to Glacier Bay along with a Presbyterian missionary S. Hall Young and they were guided by four Tlingit paddlers. Muir was an amateur scientist as well as a romantic. He believed that glaciers once covered much of the northern hemisphere and that they had carved geological features. Muir's reports to the San Francisco press helped inspire tourism to the area. Muir played a crucial role in publicizing Alaska's natural wonders to the world (Ritter 2002).

Published in Century Magazine in 1895, Muir describes his adventures titled *The Discovery of Glacier Bay*.

"The very thought of this, my first Alaskan glacier garden, is an exhilaration. Though it is 2500 feet high, the glacier flowed over its ground as a river flows over a boulder; and since it emerged from the icy sea as from a sepulcher it has been sorely beaten with storms; but from all those deadly, crushing, bitter experiences comes this delicate life and beauty, to teach us that what we in our faithless ignorance and fear call destruction is creation."

THE DISCOVERY OF GLACIER BAY, reprint of Century magazine article, 1895 (NPS website).

Cruises to the bay began in 1883 and by 1890 25,000 people has traveled by ship to Glacier Bay, around 4,000 each year (Ritter 2002). Due to the advances in technology during the industrial revolution, it was during the mid-1800s when people began to travel for pleasure and takes tours, earning themselves the name tourists (Heacox 2005).

Tourism came quickly to the area; by 1884 a boardwalk was built near Muir Glacier to allow easier walking for tourists to view the glacier. In 1890 Muir made his third visit to the bay and constructed a cabin at the base of Mt. Wright. By 1899 Alaska had come to

the forefront of the outside world, due in part to the gold rush and the compelling descriptions of authors like John Muir.

E.H. Harriman, The 1899 Harriman Alaska Expedition (HAE)

Railroad magnate and Wall Street millionaire Edward H. Harriman decided to cruise to Alaska in 1899. Harriman was a small, unimpressive looking man, considered rude and obnoxious by many. However, Harriman was a man that got things done, a man that changed American life and institutions. Harriman amassed a great fortune as a stock trader and invested it in railroads.

While he was known to be an astute businessman, he also had a philanthropic side and he began the Boys Club in New York City. While Harriman was a dedicated businessman, most of all he loved fishing and hunting or simply roaming the woods. He used nature as a tonic, and spent as much time camping with friends as he did at dinner parties (Klein 1939).

Harriman sought relief from his hectic schedule by organizing, underwriting and directing the last major scientific expedition of the nineteenth century, the Harriman Alaska Expedition of 1899 (HAE) (Klein 1939). The literature is contradictory as to what motivated Harriman to conceive the HAE. Burroughs places equal importance on Harriman's desire to shoot an Alaskan Brown Bear (*Ursus arctos*) which he hoped to display in a manner similar to those he had seen in the trophy rooms of business associates. Sloan credits the Harriman family physician Lewis Rutherford Morris as directing Harriman to rest from

business for several weeks to improve his health as the impetus for the Alaska expedition.



Photo 1. The Elder in Glacier Bay. (<http://content.lib.washington.edu/u/?harriman,37>)

Harriman refitted old iron steamship, the George W. Elder, and had it outfitted as a luxury liner with fine food and crystal champagne glasses, including scientific labs, for a two-month cruise along the Alaska coast. C. Hart Merriman, Chief of the U.S. Biological Survey, was asked to assemble the expedition scientists. 126 people boarded the ship in Seattle, including the captain and crew, and Harriman's wife, children, three relatives and a friend, along with 23 of the nation's top scientists representing 12 fields, three artists, two photographers, two physicians, two taxidermists, and one chaplain.

Each evening onboard the *Elder* the experts would conduct lectures for the entire group. Arctic experts included William H. Brewer of Yale College and the California Geological Survey and William Dall paleontologist and geographer for the United States Geological Survey (USGS) and founder of the National Geographic Society. Botanists included Frederick Colville of the U.S. Department of Agriculture, William Trelease of Harvard and Bernard Fernow, First Chief Forester of the U.S. Forest Service. Daniel Elliott, Zoologist at the American Museum of Natural History and William Emerson Rittler, biologist from the Scripps Institute were onboard as well as five ornithologists, three geologists, artists, photographers and writers including John Burroughs, author and naturalist and George Bird Grinnell editor of *Field and Stream* magazine.

The interdisciplinary work done by the scientists on the HAE was not the norm in 1899. At that time science was done by highly specialized and compartmentalized scientists. Specialization was the norm; the value of interdisciplinary science was an advanced concept at that time. “The vision that brought the HAE to fruition embraced the forest as well as the trees.” (Grinnell 1901). While the itinerary of HAE was flexible, several stops were planned in advance by Harriman. One of the ports of call was Skagway, where the guests were able to ride the White Pass Railway which had been recently built in 1898 and carried miners’ partway to the gold fields of the Yukon. After their stop in Skagway the expedition proceeded to Glacier Bay.

They reached the bay around five in the evening on June 8, 1899 and stayed for until the 13th. The *Elder* anchored in Glacier Bay for five days while the scientists charted and mapped the area while collecting specimens of flora and fauna (Goetzmann

1982). When the HAE entered Glacier Bay separate parties were formed for different activities.

The first was a party of hunters; Harriman's primary purpose in coming to Alaska was to kill a big, trophy brown bear (*Ursus arctos*) (Lord 2000). Following the advice of John Muir the hunters headed toward Howling Valley, through a pass beyond Muir Glacier, eighteen miles into the wilderness. Harriman, Merriam, and Grinnell and packers, led by a scout, rushed to find a bear. They trekked over rocky moraine, a crevassed glacier, and across snow fields, struggling all night long because they found it too cold to sleep on the glacier.

When they finally reached Howling Valley they found a snowy and trackless valley (Lord 2000). The literature does not reveal whether Muir knowingly sent the hunters to an area of little wildlife or, whether or not he believed that the likelihood of finding a bear in the area at that time of the year was poor or not. Muir understood that it is not the act of conquering the wild that men need, sometimes it is the humility learned from the lessons of wilderness that are important (Lord 2000). Muir remembered his own hike to the valley in 1879 accompanied by his faithful dog Stikeen when he had gotten lost in a maze of ice crevasses and barely made it back to camp. The Harriman party struggled back to the bay over the same eighteen miles they had come and returned the next day exhausted.

A second party, composed of Muir and the Harriman ladies, climbed Muir Glacier and enjoyed sightseeing. Edward Curtis set out on his own in a canvas canoe with his photographic equipment. Gannett charted the front of a glacier with Dall assisting him but the ice was too dense for them to maneuver and they returned to shore.

All along the beach members of the HAE found a makeshift boardwalk. They saw evidence of the tourism trade when they came across wooden boardwalks along the moraine of Muir Glacier. Muir may have been surprised that the glacier he had explored in 1879 had become a tourist attraction in just twenty years but the scientists on the HAE already knew that they were exploring areas known to the public (Grinnell 1901). Some members witnessed the glacier calving huge chunks of ice into the salt water and had to run uphill to avoid getting wet from the waves generated by such a large calving (Goetzmann 1982).

Early the next morning parties set off to hunt specimens and explore the land. Ritter, Coe, Coville, Saunders, Kincaid, and Trudeau left the ship to dredge for marine specimens (Goetzmann 1982). Fisher, Fuertes, Ridgway, Kearney, Fernow and Cole took three days of provisions and camping equipment, hoping to return with a large collection of birds (Goetzmann 1982). Muir, Palache and Gilbert headed up bay to the head of Grand Pacific Glacier.

As the Elder returned south to pick up the dredging party, Indians approached. The Indians bartered paddles and a rattle with the HAE members. Ritter and his party had come on the Indians camp and eaten a meal of gulls eggs, boiled marmot, and hair seal which the Indians graciously shared with them (Goetzmann 1982). Muir mentions being offered gull eggs by the Tlingits during the HAE visit to Glacier Bay on June 1, 1899, “They (the Tlingits) offered us gull eggs obtained from the Hugh Miller rookery (Wolfe, 1938).

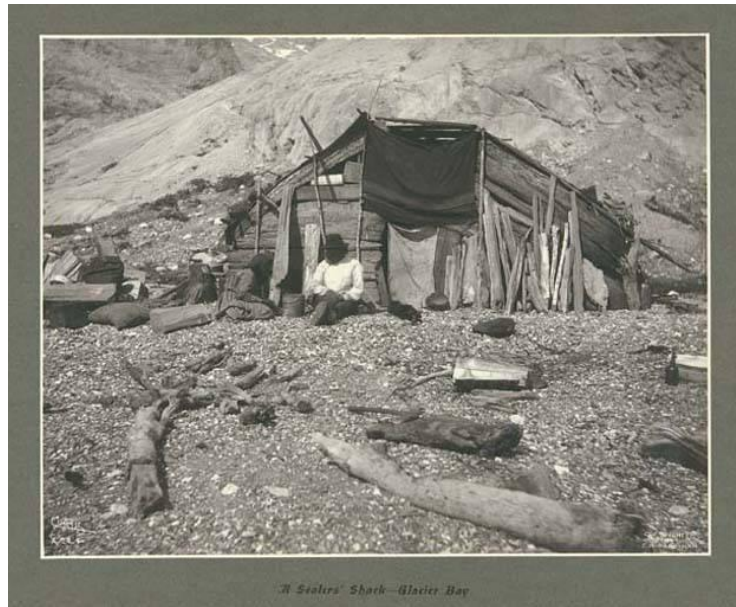


Photo 2. Sealer's shack in Glacier Bay.

<http://content.lib.washington.edu/u/?harriman,46>

On June 13th the Elder sailed south to Sitka before heading north to Siberia and then returned to Seattle at the conclusion of the two month voyage. The literature and information gathered on the HAE consumed the time of Merriam for the next eleven years and resulted in volumes one through thirteen of the Harriman Alaska Series, Smithsonian Institution Archives, Record Unit 7243, Harriman Alaska Expedition (1899), Harriman Alaska Expedition Collection and includes the *Narrative of the Expedition* by John Burroughs, first volume in the series. *Cruising with the Harriman Alaska Expedition*, included in *John of the Mountains, The Unpublished Journals of John Muir, and Alaska 1899: Essays from the Harriman Expedition*, George Bird Grinnell.

When Harriman died in 1909, he left Mary a fortune to further her lifelong work as a philanthropist. She supported the works of both Muir and Merriam after the death of

her husband. Three years after Harriman passed away, Alaska became a territory on May 11, 1912 and the federal government asserted its claim on Glacier Bay in 1925.

Federal involvement in Glacier Bay

Federal involvement in Glacier Bay began when it was designated a National Monument on Feb. 25, 1925 by U.S. President Calvin Coolidge at the urging of William Skinner Cooper a member of the Ecological Society of America. Mr. Cooper, an ecologist from the University of Minnesota, studied the plants that began growing in the rocky soil left behind by glaciers retreat.

Cooper presented his research at the annual meeting of the Ecological Society of American held in Boston in December 1922.

At this meeting he reported on his two expeditions and described the development of vegetation during the five year interval and the changes shown by charting and the interstadial forest remnants as well as the glaciers. Other members of the Ecological Society appointed a committee to consider establishing Glacier Bay as a national park or monument. They decided to pursue establishment as a monument rather than a park because a national monument is created by presidential proclamation, whereas a national park is established by an act of Congress. In the first case is necessary only to convince one man of the advisability of the actions, while in the second six hundred people must be converted to the idea. Additionally a national monument may later be converted into a national park by congressional action (Goetzmann 1982).

In 1939 Glacier Bay National Monument doubled in size through a proclamation by President Franklin Roosevelt. Glacier Bay was established as a national park and preserve on Dec. 2, 1980 when the Alaska National Interest Lands Conservation Act was

signed into law. The park takes its name and biological and cultural significance from the bay, which is a unique assemblage of marine and terrestrial life covering 3.3 million acres, much of it designated wilderness.

In 1986 the park was designated an International Biosphere Reserve by the United Nations Educational, Scientific and Cultural Organization (UNESCO). According to the UNESCO website the World Heritage Convention became the first international legal instrument to recognize and protect cultural landscapes by defining them as significant interactions between people and the natural environment. In 1992, the park received greater protection on its northern boundary when the Asek-Tatshenshini Park in Canada was formed. This new park joined national parks in Alaska and Canada: Glacier Bay National Park, Wrangell-St. Elias National Park and Kluane National Park, creating one of the largest internationally protected areas in the world. These protected areas are shown in map #2.



Map 2. One of the largest internationally protected areas on Earth.
http://www.visitglacierbay.com/media/112444/gb_areamap.jpg

Current cruise ship industry

Some visitors to Glacier Bay arrive first in the small city of Gustavus which can be reached only by plane or boat. Gustavus, known as the Gateway to Glacier Bay, is connected to NPS headquarters at Bartlett Cove by a 10 mile long road. However, the greatest number of people that visit Glacier Bay each year never step foot on land instead they are passengers on cruise ships that cruise up the bay.

In 2011 the NPS reported 406,947 cruise passengers, 8,965 tour boat passengers, 6,725 land visitors, and 1,573 backcountry users in Glacier Bay (NPS 2011). In the last few years, cruise ship passengers comprised 95-97% of the approximately 400,000 visitors to GLBA (Swanson 2011). This study defines cruise ships as over 100 gross tons and does not consider smaller, expedition cruise ships in comparison. While the selection of smaller ships may more closely resemble the HAE, this study looks at the largest number of people that currently visit Glacier Bay on large cruise ships.

Cruise ships reposition to Alaska in May from warmer climates. The ships typically operate the same one-week round trip itinerary until September when they reposition back to warmer locales. The market requirement for an Alaskan cruise is visiting three ports and a glacier experience. The average cruise ship spends about 30 hours in Alaskan ports during a one week cruise. Due to a limited number of available permits from the NPS to enter Glacier Bay, some cruise ships offer other glacier experiences including Hubbard Glacier in Yakutat and the Sawyer Glaciers near Juneau.

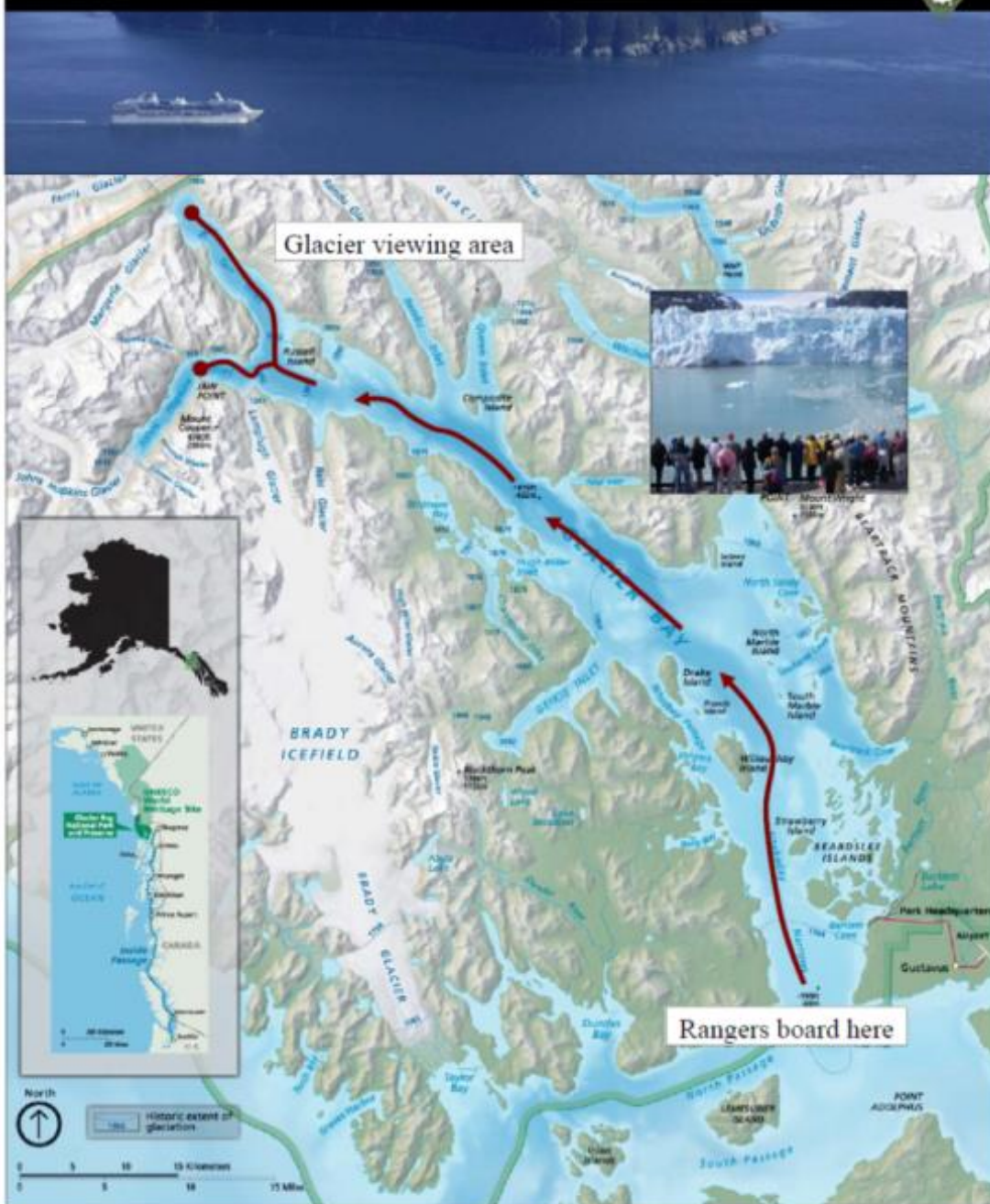
Cruise ships began serving GLBA in 1969 and since the early 1970's have brought the majority of visitors to the park (70% or more) (Swanson 2011). Cruise ship use in GLBA has both daily and seasonal limitations set by the NPS. Daily limits are two cruise ships a day. Seasonal limitations provide for two seasons, the shoulder season (May and September) and prime season (June, July and August) and are measured in use days. The limit for the shoulder season is 92 use days and the limit for the prime season is 153 use days (NPS 2006). Cruise ship permits are managed under concession contracts. Currently, six cruise lines are concessioners acting under a contract with the NPS. Two of

those lines are considered as historical users and are entitled to non-competitively continue their historic use of 71 use days.

Cruise passengers do not disembark the ship in or near the bay but instead are provided environmental interpretation by two NPS Rangers and a Huna Totem Cultural Interpreter who board each cruise ship early in the morning. It is contractually agreed with the cruise lines that a Huna Totem Cultural Interpreter work with the NPS Rangers to provide additional cultural information. The NPS requires that the cruise lines agree to participate in the Service Interpretive Program and to distribute NPS brochures to each cabin the night before entering the bay.

The environmental interpretation is broadcast over interior and exterior speakers throughout the ship. While the NPS limits the narration to certain areas of the bay noise disruption of the environment is concerning.

Typical cruise ship route in Glacier Bay



Map #3. (NPS 2009) Cruise ship routes in Glacier Bay, Alaska.



Photo 3. Cruise ship passengers viewing the glaciers. Photo by Debra Dozier.

The cruise lines are contractually obligated to advertise the times and locations of the interpretive events prior to arrival and to suspend other ship board events (bingo,

dance lessons) while services which are not organized public events are allowed (shops and spa). Cruise lines agreed to provide a vantage point and public address system for the full ship narration by a NPS Ranger, and to provide a table area for the second NPS Ranger to display materials and an auditorium for an afternoon presentation by a Ranger. The cruise lines have also agreed to have one onboard television channel dedicated to Alaska and to show NPS videos. The contracts are lengthy and cover a variety of other topics such as safety, environmental impacts and liability.

4. Analysis

This study used both a historical comparative method and a literature review to compare two groups of people at two points in time in Glacier Bay, Alaska to view the changes in perceptions of nature over time through the lens of land claims. Historical comparison used subjective and objective social indicators as measurement of change. The literature review provided a process for research design and suggested new contexts, themes and additional methods to explore and provided a foundation situated in the larger scope of environmental studies.

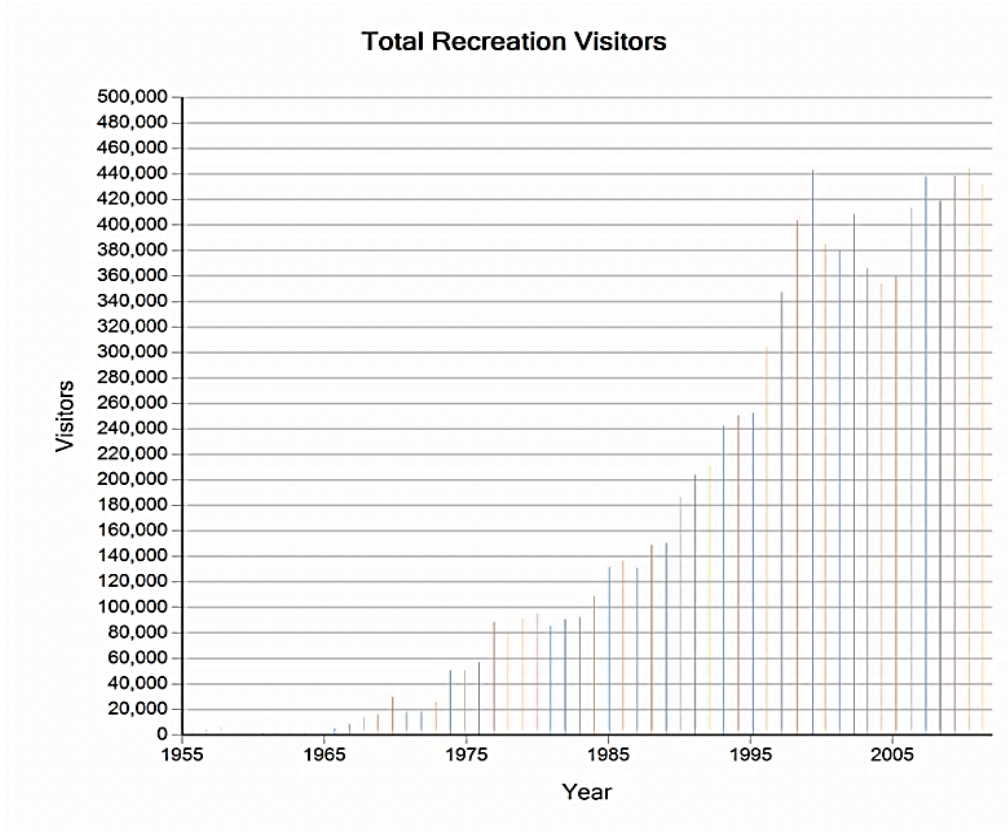
The literature review was iterative and exhaustive. While analyzing the literature it became apparent that some of the stories about the HAE were inconsistent and inconsistencies are noted in the text of this research. Research began with a broad literature review with the goal of understanding what cruise ship passengers want to learn and experience in furthering their connection with nature while visiting Alaska. Scope was narrowed and bounded by the area of GLBA for research purposes. Access to cruise ship passenger's motivations was absent so a historical population was used for comparison. The HAE provided extensive documentation of their experiences and provided a baseline for comparison using historical objective and subjective comparative indicators.

Analysis of historical comparative objective indicators represent social facts and include the U.S. population, the Alaska population and the number of visitors to GLBA as shown in Chart 1.

	1900	2010
U.S. Total Population	76,212,168	308,700,000
Alaska population	63,592	710,231
# of visitors to GLBA	Total of 25,000 from 1883-1890 3,500	424,210

Chart 1. Population in the U.S. and Alaska and numbers of visitors to Glacier Bay.

Chart 1 indicates the total U.S. population, the population of Alaska and the numbers of visitors to GLBA have increased significantly in the last century. Total U.S. population has quadrupled, Alaskan population has increased by tenfold and visitors to GLBA have increased by hundreds of thousands. This data supports the hypothesis that U.S. population, Alaska population and visitors to Glacier Bay have significantly increased in the last century. While visitor numbers have increased in GLBA in the last century, most of the increase has been in the last fifty years as shown in Graph 1.



Graph 1. Total recreational visitors to GLBA ([https://irma.nps.gov/Stats/SSRSReports/Park Specific Reports/Annual Park Visitation Graph \(All Years\)?Park=GLBA](https://irma.nps.gov/Stats/SSRSReports/Park%20Specific%20Reports/Annual%20Park%20Visitation%20Graph%20(All%20Years)?Park=GLBA))

Graph 1 demonstrates visitors to GLBA began increasing significantly in 1965 and the number of visitors has been over 340,000 since 1987, due to the growth in industrial cruise tourism. The growth of the Alaska cruise industry from 38 sailings in 1970 to 436 sailings in 2004 explains the increase in numbers of visitors to GLBA (Munro 2006). The objective indicators of population and visitor numbers show increases.

Subjective social indicators include documented information concerning changes in relationships and the regulations and policies as claims to the area. Claims and access to the area have changed greatly in the past one hundred years. Environmental disruptions

including collection of plant and animal specimens, air emissions and noise disturbances were noted by the HAE members in 1899.

No longer can ships enter the bay without permission from the NPS. Cruise ships are issued permits to enter the bay and personal watercraft must also apply for a permit to enter. Disruption of the environment occurs from cruise ship air emissions as it did from the Elder in 1899. However in 2013 two cruise ships enter the bay each summer day. Air emissions were not measured in 1899 so it is impossible to compare quantities of air emissions with modern cruise ships. Another restriction by the NPS concerns the collection of specimens.

People are no longer allowed to collect specimens randomly as members of the HAE were able to. Scientists approved by the NPS continue to use GLBA for research purposes continuing the use of the bay for scientific purposes. Huna Tlingit Native Alaskans have limited opportunities to gather native foods due to regulations of the NPS. There is lasting value in the data collection which continues from 1899 to the present day.

The data and specimens collected by the HAE were the basis for volumes 1 – 13 and included the most recent thinking in 1899 and included studies on glaciers, geology and paleontology, botany, insects, crustaceans, and other topics which were published in 1904 with the other volumes following until the final one was published in 1914 (Goetzmann 1982). The volumes were the most recent and definitive works in each scientific discipline and became the standard references for later researchers (Goetzmann 1982). The lasting value of the experience in Glacier Bay by the HAE was purposeful and productive.

Contrasted with the purpose and productivity of the HAE members today's cruise ships intent is to provide the most entertaining and educational experience for their guests in cooperation and compliance with their contractual obligations with the NPS. While the intent of the cruise line is education and entertainment there exists the possibility that the Glacier Bay cruise experience may increase conservation and protection behaviors in cruise ships guests as a result of their experience (Tilden 2007).

Cruise lines may do well to partner with scientists to conduct onboard research to collect data to provide a global baseline. Cruise guests may enjoy participating in a citizen science program during their vacation experience; otherwise the impact of visiting areas like Glacier Bay may simply be an entertaining diversion with no lasting environmental education. The HAE added to the information about the region which was valuable to scientists and the general public. The narration provided to current cruise ship passengers has value primarily in environmental literacy but is without lasting scientific value.

Many changes have occurred since 1899 when Alaska was a territory and the capital was Sitka. Today Alaska is a state and the capital is located in Juneau. Cruise ships sail from port to port with a day spent scenic cruising in Glacier Bay. Glacier Bay has been changed very little by people in the last one hundred years due to the protection and management of the United States government agencies yet over 400,000 visitors annually visit the bay on cruise ships.

5. Conclusion

“ A claim is a right or title, actual or supposed, to a debt, privilege, or other thing in the possession of another, not the enjoyment” (Black 1891). The human history of land claims in Glacier Bay includes a wide variety of peoples; Tlingit Native Alaskans, Russians, trappers, hunters and fishermen, geologists and miners, scientists, land managers and tourists, among others.

The first known claim to the area known as Glacier Bay in Southeast Alaska was by the Tlingit Native People. Tlingit oral history states that their ancestors have been on this land since “time immemorial” (Bielawski 2007). For hundreds of years the Tlingit claimed to possess certain territories, this ownership was acknowledged by all and was not encroached on (John Burroughs 1901).

Harriman and members of his party including John Muir saw Glacier Bay was a wild land, very similar to what visitors see today. The imperialistic relationships between Western and Native cultures have changed in the intervening years and Alaskan Natives are on a path of reconstruction. Visitors are awed by the tidewater glaciers calving into the sea just as they were a hundred years ago.

Glacier Bay was first claimed by the U.S. government as a National Monument in 1925. Currently Glacier Bay National Park (GLBA) is claimed and regulated by the United States National Park Service (NPS). National parks illuminate cultural changes in the concepts of nature and wilderness, the idea of economic interests of setting aside and development of public lands, and ways that Americans connect with nature and wilderness in changing paradigms of tourism, recreation and natural resources extraction (NPS 2010).

While GLBA is claimed by the NPS the majority of visitors to the park arrive on cruise ships and never step foot on land. The cruise ship passenger experience is carefully crafted by the NPS based on decades of research (Tilden 2007). The experiences of cruise ship passengers compared with the experience of the members of the HAE are similar in searching out remote areas to develop a closer relationship with unspoiled nature. In contrast these two groups of people differ in their experience that cruise ship passengers are contained on their ships and are not allowed to step ashore. This minimizes the environmental disruption of over 400,000 visitors a year. However, environmental disruptions still occur from noise from public address systems and air emissions from cruise ships.

Environmentalists, land managers and members of the NPS have protected a remote and unspoiled area while maintaining access to the park for large amounts of visitors making the cruise ship passenger experience a good use of nature in our current understanding.

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