

**WALRUS ISLANDS
STATE GAME SANCTUARY
Annual Report 2004**

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EXECUTIVE SUMMARY

The Walrus Islands State Game Sanctuary protects one of the largest terrestrial haulout sites in North America for Pacific walrus (*Odobenus rosmarus divergens*). The sanctuary also protects important habitats for several species of seabirds, Steller sea lions (*Eumetopias jubatus*) and other marine and terrestrial birds and mammals. The Alaska Department of Fish and Game (ADF&G) manages the sanctuary primarily to protect these important habitats and wildlife species, and secondarily to provide for public use and enjoyment of these resources.

Through a Cooperative Agreement, the ADF&G and the U.S. Fish and Wildlife Service (FWS) (who has primary management jurisdiction over walruses) staff Round Island through the summer months to protect and monitor walruses and other wildlife, and to operate a visitor use program. This report summarizes these activities for the 2004 season.

The highest count of walruses this year was 3,500 individuals in early May, consistent with peak counts from the previous two years but below the ten-year mean of 5,329 individuals. However, within days of this peak count, numbers of walruses at Round Island plummeted and remained well below traditional levels throughout the summer. The daily mean number of walruses using Round Island in 2004 was 549 animals. Conversely, walrus numbers at Cape Seniavin, a haulout site in southern Bristol Bay, were apparently at record highs. This shift in walrus distribution away from haulout sites in northern Bristol Bay may be food related and it is unknown whether it reflects a short or long-term shift in distribution.

While there were several incidents where aircraft and boats disturbed walruses in the sanctuary, these were relatively minor and less frequent than in past years. One sanctuary access violation occurred by a vessel resulting in minimal disturbance to wildlife and the case was referred to the Alaska State Troopers for resolution.

Sanctuary staff monitored populations and productivity of several nesting seabird species and provided these data to the FWS and U.S. Geological Survey for use in their statewide seabird monitoring programs. Steller sea lions were also monitored at their Round Island haulout site. These data along with brand and flipper tag resightings were provided to the ADF&G Marine Mammal Program for use in their statewide monitoring program.

There were 74 visitors to Round Island in 2004, which is approximate 20% below the mean annual number visitors from the preceding ten-year period. Of these, 55 were day visitors and 19 were multi-day campers. While the total number of visitors was similar to last year, there was a 40% increase in day visitors and a 50% decrease in campers from 2003.

INTRODUCTION

The Walrus Islands State Game Sanctuary, created in 1960 by the Alaska State Legislature, protects a group of seven small islands and their adjacent waters in northern Bristol Bay, approximately 80 miles southwest of Dillingham (Figure 1). The primary purpose of the sanctuary at the time of its creation was to protect the last remaining terrestrial haulout for Pacific walruses (*Odobenus rosmarus divergens*) in North America (Alaska Statute 16.20.090). All other haulouts had been abandoned due to harassment from commercial hunters and other disturbances.

Today, the sanctuary continues to provide important habitat for walruses and comprises one of four primary haulout sites used by walruses in Bristol Bay. The sanctuary also protects important habitats for many species of seabirds, Steller sea lions (*Eumetopias jubatus*) and other marine and terrestrial birds and mammals.

The Alaska Department of Fish and Game (ADF&G) manages the sanctuary primarily to protect these important habitats and wildlife species, and secondarily to provide for public use and enjoyment of these resources including the opportunity for scientific and educational study, viewing and photography. Since 1985, all access to Round Island and its surrounding waters requires an access permit and restrictions have been placed on visitor numbers and their activities (Alaska Administrative Code 5 AAC 92.066).

Through a Cooperative Agreement initiated in 1993, the ADF&G and the U.S. Fish and Wildlife Service (FWS) (who has primary management jurisdiction over walruses) staff Round Island through the summer months to protect and monitor walruses and other wildlife, and to operate the visitor use program. In 2004, staff arrived at the island on May 4 and departed on August 11. Their duties consisted primarily of the protection of sanctuary resource; enforcement of sanctuary laws, regulations and policies; monitoring of sanctuary wildlife including walruses, seabirds, Steller sea lion and other species; managing the visitor use and access permit program; and maintaining trails and facilities used by staff and visitors.

METHODS AND MATERIALS

Staffing:

Sanctuary Manager Diane Okonek (ADF&G), Wildlife Technician Mary Cody (FWS) and Martin Schulz (ADF&G and FWS volunteer), arrived at Round Island aboard the M/V Lucky Bear, operated by Peter Andrew of Ayungsi Tours in Dillingham, on May 4. Equipment and supplies were slung from the vessel to shore using an ADF&G Division of Commercial Fisheries charter helicopter.

Several ADF&G personnel staffed the island through the summer and included Wildlife Technicians Missy Helfrich, Todd Rinaldi, Marian Snively and Heather Hoyt. Bristol Bay Native Association (BBNA) interns Alicia Active and Denise Coupchiak were stationed on the islands from July 6 to August 3 and assisted sanctuary staff with their duties while gaining experience in wildlife management practices. BBNA intern Tim Dyasuk assisted with camp

demobilization from August 9-11. National Park Service employees Jeanne Schaaf and Judy Alderson conducted an archeological survey of Round Island from May 27 to June 4. The sanctuary staff departed the island on August 11 aboard the M/V Incannu operated by Terry Johnson of Walrus Islands Expeditions.

Mary Cody and Helen Chythlook (BBNA) staffed the island from September 8-22 to monitor walrus hunt activities, walrus numbers and walrus response to hunters. They accessed the island via Egli Air Haul helicopter from King Salmon.

Visitor Program:

One of the primary responsibilities of sanctuary staff was to manage a visitor use program and to enhance the visitor's experience at Round Island while protecting the island's wildlife resources. These duties included monitoring marine radio traffic and providing incoming visitors with weather condition and other information, authorizing access to sanctuary waters, issuing permits, collecting user fees, reviewing sanctuary rules, answering visitor questions and providing information on wildlife and other resources, maintaining visitor facilities (trails, campground, etc.), and providing other assistance to visitors.

Visitors were permitted to visit the island after obtaining a permit from the ADF&G Dillingham office, or by obtaining verbal authorization via radio communication from sanctuary staff between 0800 and 0900 hours. They would then obtain an access permit upon their arrival to the island.

Access Violations/Walrus Disturbance:

To protect sanctuary wildlife and other resources, access to Round Island and the waters within three nautical miles of the island were restricted to those possessing permits from the ADF&G. Boats were allowed to access the island utilizing a designated corridor on the northeast side of the island. Since low-flying aircraft can cause major disturbances at walrus haulouts (Fay 1982), aircraft access to the island was discouraged and the ADF&G requested all pilots avoid flights below 5,000' AGL within 3 miles of the island. Boats or planes observed within the restricted areas were hailed via VHF marine radio and advised of the restrictions or advisories. Although the ADF&G does not have the authority to regulate airspace, pilots who harass walrus can be prosecuted by the FWS under the federal Marine Mammals Protection Act (MMPA).

All visitors to the island were required to remain on established trails and were not permitted on beaches, except when arriving and departing the island. This was permitted only in Boat Cove and a site approximately 200 yards east of Boat Cove on Campground Beach.

Sanctuary staff documented all access violations and initiated an immediate response when appropriate. The assistance of the Alaska State Troopers, FWS Law Enforcement and the Federal Aviation Administration (FAA) were requested when appropriate.

Staff also monitored and documented the response of walrus to both authorized and unauthorized access and other activities. They recorded number of walrus affected and the

degree of their response using three distinct behaviors (head raising, reorienting and dispersing) as measures of increasing levels of disturbance (Salter 1979).

Walrus Surveys:

Walrus were counted daily throughout the summer using a standardized methodology provided by FWS (Cody 2002). There were 10 different haulout sites counted once per day and counts were conducted randomly starting at 0900, 1400 or 1700 hours. When walrus were present, three comparison counts were made by the one or two staff present. Due to the exposed and steep terrain on the Traverse Trail leading to West Main Beach, this beach was not counted when weather conditions were poor. Some counts of Main Beach were made from the Traverse Trail and Southwest Main Beach was counted only four times in 2004.

Other data collected during these surveys included wind speed and direction, daily maximum and minimum air temperature, sea and surf condition, percentage of beach available to walrus, percentage of beach used by the walrus, visibility and the overall quality of survey conditions.

Sea Lion Survey:

Steller sea lions haulout at the southeast tip of the island at East Cape and were counted at five-day intervals and opportunistically throughout the summer from two different observation points. They were counted by skiff on two occasions. Branded animals and those possessing flipper tags were documented and photographs were taken with a Nikon D100 digital camera with a 300mm lens provided by ADF&G's Marine Mammal Program. Injuries, entanglement with foreign objects and other unusual conditions were noted.

These data were provided to ADF&G's Marine Mammals Program for inclusion in their statewide monitoring program.

Seabird Monitoring:

Three species of colonial nesting seabirds were monitored throughout the summer at several sites at Round Island. Population counts and nest productivity monitoring were conducted on selected plots for black-legged kittiwakes (*Rissa tridactyla*), common murre (*Uria aalge*) and pelagic cormorants (*Phalacrocorax pelagic*).

A colony located near Observation Point above Main Beach was separated into five plots and individual seabirds were counted 10 times starting when the first egg was observed (in early June). Typically, duplicate counts were made every third day. Additionally, kittiwake nests were counted in the five plots during this period.

Nesting chronology and nest productivity monitoring were conducted on the three selected species of seabirds. These surveys began when the first egg was observed and terminated at the end of the season. Murre and kittiwake plots were established on Main Beach near Observation Point and cormorant plots were established at Second Beach. Photographs were taken of the plots and 25 nests were randomly selected for monitoring. These nests were monitored every two to three days and the number of chicks and eggs were recorded.

These data were provided to the FWS Migratory Bird Management office and the U.S. Geological Survey for inclusion in their statewide seabird-monitoring program.

Other Duties:

General and unusual observations including first wildlife sightings, first sightings of blooming plants, presence of beach cast marine mammals and general environmental conditions were recorded. Walrus mortalities were documented, as were the amounts and locations of ivory collected. Ivory from beach-cast walrus carcasses was collected to discourage unauthorized off-season access to the island and was donated to the Eskimo Walrus Commission. This ivory was then sold to Alaskan natives carvers and the proceeds from these sales were deposited in the Pacific Walrus Conservation Fund. This fund supported educational, research and management projects in support of walrus conservation efforts.

Staff and visitor facilities were constructed, repaired and maintained in support of staff duties and the visitor use program.

RESULTS and DISCUSSION

Visitor Program:

During the 2004 season, most visitors arrived by boat either directly from Dillingham aboard the M/V Luck Bear operated by Ayungsi Tours or from Togiak aboard the M/V Inconnu operated by Walrus Island Expeditions. In past years, visitors arriving on the M/V Inconnu flew via floatplane to Nunavachak Lake along the mainland coast approximately 15 miles north of Round Island and transferred via skiff to the vessel. However, during the winter of 2003/04, storm waves eroded the berm forming the lake and drained it. This required visitors to fly to the village of Togiak where they were transported via skiff (operated by Togiak Outfitters) to Anchor Point where they boarded the M/V Inconnu.

In 2004, the majority of the visitors traveled to the island with Walrus Island Expeditions who made 37 trips to the island between June 25 and August 11. Ayungsi Tours made only two trips including one in early May to transport sanctuary staff and their equipment to the island and one trip in early June to transport two visitors and a National Park Service archeological crew. Four day visitors arrived via two separate commercial fishing vessels.

There were 74 visitors to Round Island in 2004, which is approximate 20% below the mean annual number of visitors from the preceding ten-year period (Figure 2). Of these, 55 were day visitors and 19 were multi-day campers (Table 1). While the overall number of visitors was similar to last year, there was a 40% increase in day visitors and a 50% decrease in campers in 2004. Camping permits were typically issued for a six day/five night period and visitors spent 120 camper/days on the island for an overall total of 175 visitor days spent on the island (120 camper days + 55 day visitors).

Annual visitor numbers at Round Island have fluctuated from a high of 303 people in 1977 to a low of 58 people in 1980 and 59 people in 1994 (Table 1). During the peak year (1977), approximately 250 of these visitors were from a small cruise ship that spent one day ferrying

passengers ashore to view walruses (Koenen and Rice 1996). This cruise ship returned in 1978 but no cruise ships have visited the island since then.

During the 1980's and early 1990's, many of the visitors to Round Island were day visitors from the herring commercial fishing fleet who visited the island during fishery closures or after the fishery was terminated. Since the early 1990's, fewer boats have fished these commercial fisheries accounting for much of the drop in visitation over the past decade.

The highest number of campers to the island was 131 in 1987 and the numbers of campers remained relatively high during the late 1980's and early 1990's. This high period of campers visiting the island may be attributed to national and international publicity of the sanctuary through several television programs and magazine articles (Rice 2002). Annual fluctuations in visitor numbers may also be attributed to the availability of transporters to the island, national and international economic conditions, and the ADF&G's ability to staff the island which is often budget related (Koenen and Rice 1996).

In 2004, approximately half the campers were from Anchorage while the remainder were from other Alaskan communities (Talkeetna and Juneau), other states (Washington, Wyoming and Virginia) or from other countries (Japan and New Zealand) (Table 1). Conversely, few day visitors were from Alaska and traveled from other states and, to a lesser degree, other countries (Austria, Germany and Japan).

There were eight scientific and educational permits issued to: Bristol Bay Native Association interns (3), a FWS volunteer, National Park Service archeologists (2), an ADF&G contractor inspecting placement sites for remote internet cameras, and an animal technician from the Indianapolis Zoo. These individuals spent a total of 95 days on the island.

In 1995, Bristol Bay area natives were again provided access to Round Island to conduct a limited traditional hunt of up to 20 walruses. This hunt was managed through a cooperative agreement with the ADF&G, FWS, Eskimo Walrus Commission and the Quoyassiq Walrus Commission (QWC). The QWC is comprised of representatives from Bristol Bay area villages. The hunt dates have been adjusted several times since hunting resumed on the island and access in 2004 was permitted between September 10 and October 20.

The only hunting effort this year was from the villages of Togiak and Twin Hills. Togiak hunters harvested three animals on September 10 and hunters from Twin Hills harvested two animals on September 24. FWS and BBNA staff monitored walruses and hunting activities on the island between September 8 and 22. More details on the fall activities are provided in the FWS field report (Cody 2004a).

Access Violations/Walrus Disturbances:

There were two access violations in 2004 by unpermitted activities. On June 6, a helicopter from King Salmon landed on the island without authorization and in violation of sanctuary policy. Seven walruses that were hauled out on Flat Rock left and entered the water when the helicopter landed. Fifteen walruses at Main Beach moved toward the beach but only four actually entered the water. Although the pilot was unaware of the sanctuary rules, he managed

to arrive on the island through the proper access corridor. No action was taken against the pilot as he misunderstood an inquiry by ADF&G staff into his helicopter availability and decided to make the flight to the island without a confirmed booking.

The second incident occurred on July 18 when a vessel from Twin Hills approached Main Beach to within ¼ mile. Apparently, there were no walruses disturbed by this vessel. When the vessel's captain was contacted by radio and informed of sanctuary regulations, he immediately departed sanctuary waters. The incident was referred to the Alaska State Troopers for resolution.

There were 40 incidents observed this summer where walruses were disturbed by anthropogenic or natural activities (including the June 6 incident described above). Most of the human caused disturbances were relatively minor resulting in head raises or body orientation and were a result of authorized activities such as arriving boat traffic or high flying aircraft. On May 22, an unidentified plane flew over the island and dispersed at least 33 walruses from Main Beach. While the plane was visually obscured due to a very low cloud ceiling, it was heard flying overhead and the walruses likely responded to the auditory disturbance. Another incident occurred on July 8 when a high-flying jet was heard while staff conducted a survey at First Beach. As the jet flew over, 28 walruses left the haulout and entered the water, presumably reacting to the auditory disturbance. Since both of these incidents involved aircraft flying well above the recommended altitude carried in the ADF&G and FAA advisories, no additional actions to identify or contact these aircraft were taken.

Two other disturbance events observed by staff at Main Beach were attributed to natural causes. On July 2, approximately 100 walruses left the haulout presumably in response to a rockslide above the beach. On August 6, 20 walruses departed the haulout possibly in response to a minor rock fall or seabird activity.

Walrus Surveys:

All walruses were counted on the haulouts along the east side of Round Island each day from May 6 to August 11 (98 consecutive days) and the West Main Beach haulout was counted on 51 days during this period. Four of these surveys were conducted by boat; the remainder were conducted from land.

The peak count of walruses using the haulouts on the east side of the island was 3,500 animals on May 6 (Figure 3). Because of dangerous trail conditions, the West Main Beach haulout was not counted this day and it is likely there were additional animals using this site. When sanctuary staff arrived at the island on May 5 (the day before this high count), they estimated 7,000 walruses were hauled out on Main Beach. While not observed by sanctuary staff, it is possible that many of the animals observed on May 5 were disturbed and left the haulout due to the boat and helicopter traffic involved in unloading equipment and supplies. The peak count of walruses at the West Main Beach haulout was 357 on June 11.

The daily average number of walruses counted on the haulouts throughout the summer was 548.5 animals. During the summer, the number of walruses on the haulouts was typically below that observed in previous years and during the two-day period on July 25–26, there were

no walrus present at any of the haulouts on the island. More details on the seasonal pattern of walrus at Round Island in 2004 are presented in the FWS Round Island Field Report (Cody 2004b).

The annual peak count of walrus at Round Island varies significantly between years and the highest number ever documented was an estimate of 15,000 animals during an aerial survey in 1978 (Figure 3). The lowest annual high-count was 1,746 walrus in 1998 (Raymond 1998). These annual peak counts vary considerably between years and it is unlikely related to the population size of the Bristol Bay walrus herd, as walrus tend to move between several haulouts throughout the bay.

While the 2004 peak count was similar to that observed in the previous three years, it occurred early in the season (May 6) and numbers of walrus subsequently declined as evidenced by the low daily average count of 548.5 animals. Anecdotal observations indicate unusually high numbers of walrus were using a haulout site at Cape Seniavin in southern Bristol Bay, which could account for the low numbers at Round Island. In mid-July, a local resident estimated 7,000 - 8,000 walrus hauled out at Cape Seniavin, which was the most he had seen in 20 years (Joel Garlich-Miller, FWS, personal communications). Likewise, walrus numbers at Capes Peirce and Newenham in 2004 were relatively low indicating that there was a range-wide shift in walrus distribution to southern Bristol Bay (Joel Garlich-Miller, FWS, personal communication).

All terrestrial haulout sites for walrus in Alaska with the exception of Round Island had been abandoned by the mid-1900's, presumably due to commercial hunting and other disturbances (Faye 1982). As walrus reestablished use of their traditional haulouts at Capes Seniavin, Peirce and Newenham and at other sites, fewer animals used Round Island at any one time as evidenced by the general decline in peak walrus numbers at Round Island over the past three decades.

Steller Sea Lion Survey:

Sea lions at Round Island typically haulout on the southeastern tip of the island at East Cape and 31 surveys were conducted through the summer. The peak count of 472 sea lions (combined land and water counts) occurred on May 10. The low count of 15 sea lions (combined land and water counts) occurred on July 25. The mean count for East Cape was 153 sea lions. Four individuals were observed entangled in foreign objects, possibly discarded fishing gear. Twenty-one brands and seven flipper tags were documented and photographed at the haulout this summer.

Sea lion and walrus herds at Round Island were generally segregated but occasionally used the same beach. On June 6, a female sea lion swam up on a rock on west main beach and watched the walrus for about two minutes before leaving. Approximately 70 walrus were on the beach at the time and did not respond to the sea lions presence.

Seabird Monitoring:

Seabird monitoring was initiated when eggs were first observed. Pelagic cormorant monitoring started May 13 at plots established on South Beach. The first chick was observed

on June 13. Black-legged kittiwake monitoring began at Observation Point on June 2 when two plots containing 25 nests each were established. As many as four kittiwake nests were destroyed this year due to a mudslide. Common murre monitoring began at Observation Point on June 16 when two plots containing 25 nest sites were established.

These seabird population and productivity monitoring data were provided to the FWS Migratory Bird Management office and the U.S. Geological Survey for inclusion in their statewide seabird-monitoring program.

Other Observations/Projects:

An unusual sighting of a black-tailed gull (*Larus crassirostris*), an Asiatic species, was made on May 15. On May 19, a recently weaned spotted seal (*Phoca largha*) was observed at Flat Rock. Spotted seals are occasionally observed in Bristol Bay but rarely at Round Island, probably due to the presence of sea lions and walruses. Grey whales (*Eschrichtius robustus*) were observed nearly daily during the first half of May with a peak of 62 individuals observed at one time on May 6. Several minke whales (*Balaenoptera acutorostrata*) were also observed in May.

Sanctuary staff spent considerable time assisting the National Park Service (NPS) archeologists conducting an archeological survey on the island. The survey mapped 105 surface features (including house pits, midden sites, caches, etc.). Present camp facilities (cabin, trails, etc.), and areas of disturbance to archeological resources were also mapped. Several small test pits (1m x 1m) were dug and one outhouse pit site was cleared of artifacts. The artifacts encountered at these dig sites were collected for archiving. Carbon (C14) testing of charcoal samples collected indicates human occupation of Round Island started as early as 6,000 years ago. The oldest site previously known in this area was from nearby Summit Island where C14 testing indicated human occupation started approximately 3,000 years ago.

The results of this archaeological survey will be presented in a report from the NPS and will contain recommendations on facilities and trail management to reduce impacts to archaeological resources.

Facilities maintenance projects included general trail maintenance as well as rerouting trails away from sensitive archeological resources and areas subject to erosion. Chicken wire fencing material was added to sections of boardwalk to improve traction. A new shower stall and tent platform were constructed for staff use. A new pulley hoist was installed for launching and retrieving the skiff in Boat Cove.

RECOMMENDATIONS:

- 1.) Continue to follow walrus count protocols initiated in 1998 and revised in 2002. Continue daily counts of walrus on West Main Beach. Research remote sensing technologies that would allow daily counts of West Main and Southwest Main Beaches, as well as provide a better view of Main Beach.
- 2.) Use ground photographs and walrus count data to generate a correction factor for each observer.

- 3.) Work cooperatively with other agencies to broaden the scope of Round Island research and better monitor the entire ecosystem.
- 4.) Continue to protect walruses and other wildlife within the sanctuary, while providing an opportunity for scientific study and enjoyment of the sanctuary.
- 5.) Conduct some trail work to reroute trails away from archeological sites, wet areas and eroding or otherwise unsafe areas.
- 6.) Construct a stairway from the base of the bluff up the steep, rocky section that currently requires visitors to climb several short rock faces while holding onto ropes.

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| Origin | Campers | Independent day-visitors | Guided day-visitors |
|-------------------------|--|---------------------------------|----------------------------|
| United States: | | | |
| • Alabama | | | 2 |
| • Alaska | 12 (Anchorage (9), Talkeetna (1), Juneau (2)) | 1 (Homer) | 2 (Togiak, Anchorage) |
| • California | | | 4 |
| • Illinois | | | 2 |
| • Massachusetts | | | 4 |
| • New Mexico | | | 4 |
| • Pennsylvania | | | 3 |
| • South Carolina | | | 2 |
| • Virginia | 1 | | 9 |
| • Washington | 3 | 3 | 4 |
| • Wisconsin | | | 2 |
| • Wyoming | 1 | | |
| Austria | | | 1 |
| Germany | | | 9 |
| Japan | 1 | | 3 |
| New Zealand | 1 | | |
| Total | 19 | 4 | 51 |

Table 1. Country and state of origin of visitors to Round Island, Walrus Islands State Game Sanctuary in summer 2004.

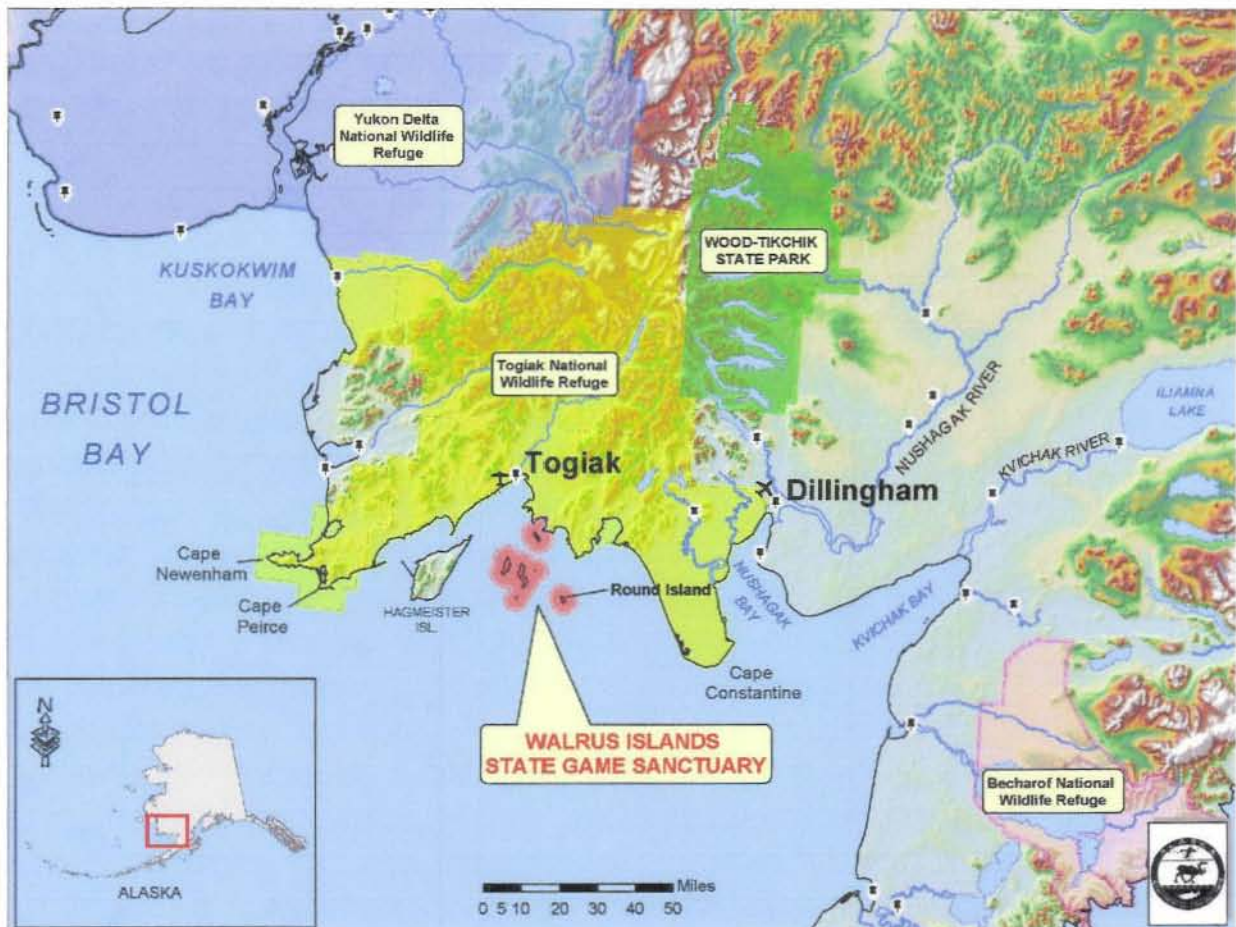


Figure 1. Map of northern Bristol Bay showing the location of Round Island and the Walrus Islands State Game Sanctuary.

Visitors to Round Island, Walrus Islands State Game Sanctuary 1975-2004

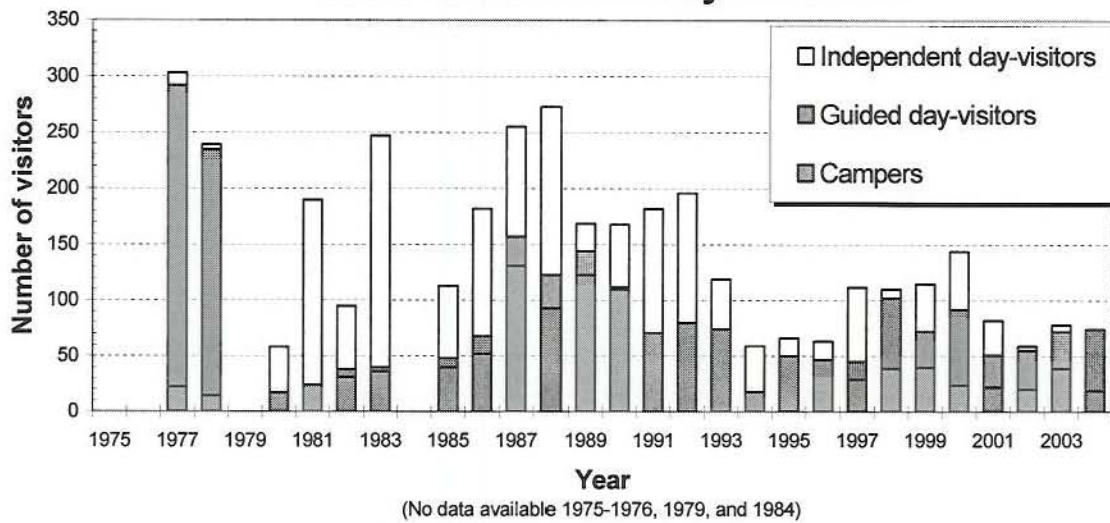


Figure 2. Annual visitor numbers at Round Island, Walrus Islands State Game Sanctuary, 1975 - 2004.

Peak Walrus Counts, Round Island, Walrus Islands State Game Sanctuary 1972-2004

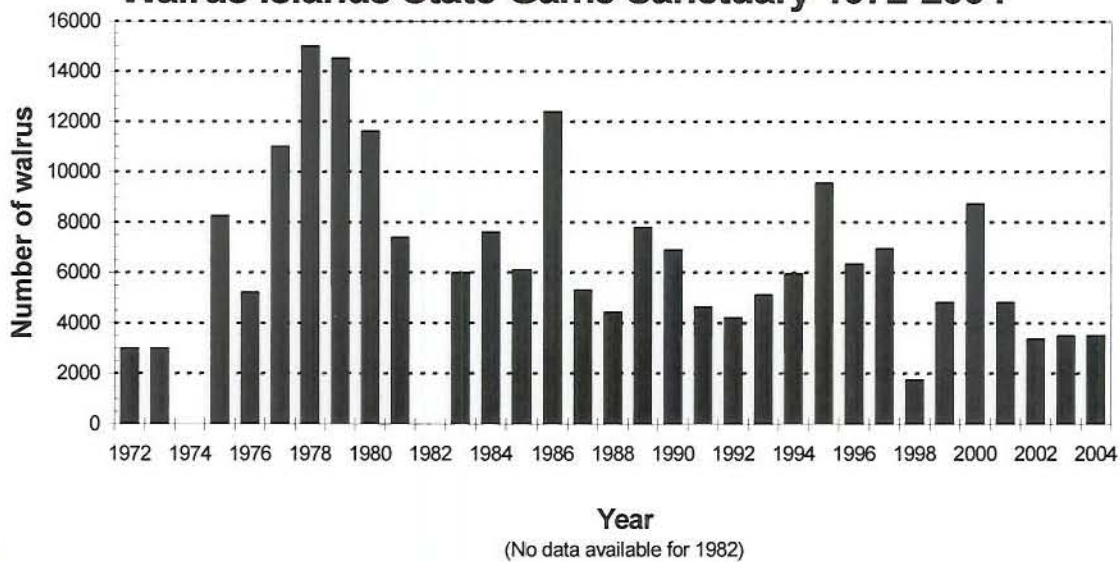


Figure 3. Peak walrus counts on Round Island, Walrus Islands State Game Sanctuary, 1972 - 2004.