Walrus Islands State Game Sanctuary
Annual Report 1999

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Introduction

Project goals

A management plan for the Walrus Islands State Game Sanctuary was drafted in October 1992. The plan has not been finalized and no formal management goals have been developed by the Department. In the interim, the management goals for the Sanctuary are to:

1) protect walruses and other wildlife within the Sanctuary;
2) provide an opportunity for scientific and educational study of walruses; and
3) provide an opportunity to view, photograph, and enjoy walruses.

Methods and materials

The Alaska Department of Fish and Game (ADFG) and the US Fish and Wildlife Service (USFWS) have cooperatively staffed Round Island since 1993. Under the terms of the cooperative agreement, each agency provides one wildlife technician and half the cost of transportation and supplies. This year, ADFG purchased the initial supplies and USFWS paid for additional supplies during the field season. ADFG paid for all fuel, and ADFG staff in Dillingham provided logistic support.

Steven Rice (ADFG) and Mary Cody (USFWS) were stationed on Round Island (Figures 1-2) from May 16- August 12, 1999. Matt Kirchhoff (ADFG) replaced Rice from June 26-July 5. Duties included assisting and educating visitors; maintaining and improving island facilities; patrolling the island for access violations; monitoring walrus disturbance; and counting walrus, sea lions and seabirds. ADFG is primarily responsible for managing the Sanctuary, while USFWS takes the lead in walrus research; however, all responsibilities are shared.

Visitor program

Round Island has drawn visitors from around the world for more than 20 years, and enhancing the visitor experience while protecting the island's wildlife is one of our primary responsibilities. Visitor-related duties included monitoring the radio daily and providing would-be visitors with condition reports, authorizing visits, issuing permits and collecting user fees, explaining Sanctuary rules, answering visitor questions, maintaining facilities, and assisting visitors unprepared for the island's extreme conditions.

Access violations/disturbances

Boat access is restricted within three miles of Round Island, and airplane access is strongly discouraged within one mile or 1,000 vertical feet of the island. In addition, visitors to the island are required to stay on the trails and are not permitted on the beaches except when arriving and departing the island at Boat Cove. Staff recorded all observed access violations and reported serious violations to ADFG staff in Dillingham. Staff also attempted to contact any boat or airplane within the restricted area. No further action was taken against vessels which immediately and cooperatively responded.

Staff also monitored walrus response to both authorized and unauthorized disturbance. Staff recorded both the number of walrus affected and the degree of their response, using three distinct behaviors (head raising, reorienting, and dispersing) as measures of increasing disturbance (Kruse, 1993).

Walrus counts

Pacific walrus (*Odobenus rosmarus divergens*) were counted daily throughout the summer using a standardized methodology provided by USFWS (Appendix 1). This count methodology was initiated in 1998 and is similar to that used on the island in preceding years. The only significant difference is that counts were conducted at 2:00 PM every day instead of timing the count to coincide with the daily low tide.

The new methodology also introduced regular counts of West Main Beach (every third day) and regular interval counts designed to look at diurnal periodicity. Walrus on West Main and South West Main Beaches were opportunistically counted from an inflatable skiff, as weather permitted.

Sea lion counts

Steller's sea lions (*Eumetopias jubatas*) hauled out at the southeast tip of the island were counted every six days throughout the summer. Sea lions were typically counted from the terrestrial observation point; however, counts were occasionally conducted from our inflatable skiff.

Seabird counts and research

Counts of seabirds and seabird nests begun in 1997 were continued. All black-legged kittiwakes (*Rissa tridactyla*), common murre (*Uria aalge*), and pelagic cormorants (*Phalacrocorax pelagic*) on established plots were counted 13 times between May 31-July 17. A subset of nests within these plots was selected and nesting chronology and productivity were monitored. These nests were checked approximately every three days from the time the first egg was seen on June 7 through the end of the field season. This research will be described in greater detail in this season's USFWS field report.

In addition to the above, staff counted all kittiwakes and murre visible from the Main Beach observation point. The cliff was divided into sections using prominent sea walls as markers, and all birds on that section, including the beach, were counted twice using either Pentax 10x40 binoculars or a Bausch and Lomb 15-45x spotting scope, depending on distance. Additional counts were made if the two initial counts were too disparate, and the mean of all counts was used. Murre were counted between June 21- June 25. Kittiwakes were counted between July 12-July 24. Because this count included birds nearly a kilometer away, counting was only possible when the weather was good. Rain, wind, and fog interrupted the kittiwke count for almost a week. Bird nests and cormorants were not counted due to time constraints and difficult counting conditions. Two US Geological Survey biologists visiting the island between July 15-July 22 volunteered to help with a count of all island birds using our inflatable skiff; however, weather during this period was prohibitively rough, and the count was cancelled.

Raven research

Steven Rice began collecting preliminary raven behavior data this summer in preparation for a Master's study to be conducted on the island. Ravens visible from Main Beach observation point were monitored for one hour each day between 8:00 AM and 11:00 PM. The same optics described above were used for these observations. Along with other information, attempts were made to record the identity and fate (eaten, cached, lost, etc) of each raven prey item. When items were cached within view, the slope of the surrounding area and dominant vegetation were recorded. Similar data was also recorded from all opportunistic observations. In addition, several raven nests were located and nest success was monitored throughout the summer. In an attempt to determine how many eggs, initially taken by ravens, are ultimately used by red foxes (*Vulpes vulpes*), approximately 60 chicken eggs were cached individually 60-80 inches at a known bearing from colored wooden stakes. Next summer, as many eggs as possible will be relocated and, assuming the majority of the eggs not recovered were taken by foxes, the degree of secondary predation by foxes will be estimated. This study will be eventually be presented as a Master's thesis for the University of Arizona.

Other work

Other opportunistic observations were recorded in the Round Island Daily Logbook. These included the first sighting of birds and mammals on the island and subsequent unusual sightings, first sightings of blooming plants, beach-cast marine mammals, and environmental conditions.

Ivory from beach-cast walrus carcasses was collected to discourage off-season trespassers and supplement state and federal funding of the program at Round Island. The Eskimo Walrus Commission will sell this

ivory to other Alaskan natives, and the proceeds will be used for future walrus research and management. Ivory was collected from all accessible carcasses, but weather and the presence of other walrus limited access in some areas.

Approximately 50 feet of new boardwalk was constructed through muddy, wet areas this summer and Matt Kirchhoff built a sturdy, new outhouse to replace the visitor's outhouse destroyed in a storm last fall. Lumber arrived late in the season when other duties prevented us from doing more; however, the lumber now cached on the island will allow staff to continue this project early next season when more time is available.

Results

Visitor program

Visitors traveled to the island with one of two charter services or via an independent vessel. Don's Round Island Charters (DRIC) made twelve trips to the island between June 15- August 7 (DRIC made one additional trip on August 12 to pick up staff). Johnson Maritime/ Walrus Island Expeditions (JMWIE) made eleven trips between July 4- July 31. The remaining visitors traveled to the island via eleven fishing vessels and one pilot boat throughout the summer.

Forty campers spent a total of 204 days on the island. Length of stay ranged from three to seven days, based largely on weather. Forty-five percent of the campers were from Alaska. Other visitors hailed from California (12.5%), Washington (10%), New York (2.5%), Florida (2.5%), Switzerland (7.5%), France (7.5%), Australia (5%), Germany (2.5%), and the United Kingdom (5%). DRIC provided transportation for 95% of the campers; the remaining 5% traveled to the island with JMWIE.

Seventy-five day-visitors spent a total of 87 days on the island (some, like the guide for JMWIE, made multiple day-visits). Day-visitors were more likely to be from the United States (two visitors were from the United Kingdom), but hailed from multiple states, including Alaska, Washington, Oregon, California, Texas, New York, New Jersey, Wisconsin, and Ohio. Thirty-two day-visitors traveled with JMWIE; the remaining 43 day-visitors reached the island independently.

Total visitation to the island increased slightly in 1999, from 110 visitors in 1998 to 115 in 1999. While both camper and day-visitor numbers remained similar to last year, significantly more day-visitors traveled to the island via independent vessel and fewer traveled via charter service. This increase is related to a brief closure in the herring fishery that allowed 26 fishermen to visit the island during a two-day period in late May. At the peak of this rush of visitors, staff kept a list of individuals waiting to come ashore as soon as visitation dropped below the sanctuary's imposed visitor limits. In a more normal fishing year, these visitors might not have had the opportunity to visit the island, and this year's visitation would have been significantly lower than in previous years.

Among other visitors, a film crew from Fox's "World Gone Wild", as well as several professional still photographers, filmed the island this summer. The "World Gone Wild" film crew was interested in walrus behavior and other aspects of Round Island's ecology, and they interviewed island staff on film.

Access violations and disturbances

The most blatant access violation (Appendix 2) of the summer involved a professional photographer from France visiting the island. Eric Baccega was observed on the beach (Flat Rock) taking photographs of seven walruses within six feet. It is unknown how much disturbance was caused before Baccega was observed on the beach. Baccega left Flat Rock immediately after he realized he had been observed by staff and claimed he had only been on the beach for five minutes and taken two rolls of film. Baccega admitted that he had understood Sanctuary rules prohibiting both harassing wildlife and access to beaches, and had willfully broken the law to get good pictures. Sanctuary staff notified ADFG staff in Dillingham and

USFWS staff in Anchorage because Baccega's actions violated both state and federal law. ADFG law enforcement met Baccega in Dillingham and confiscated approximately 60 rolls of film. The film was developed and reviewed by ADFG staff in Anchorage, who identified six rolls of film which were probably obtained illegally at Flat Rock. Baccega then admitted being on the beach for nearly two hours instead of the five minutes that he originally claimed. As part of a plea bargain, Baccega agreed to surrender the six rolls of film to avoid further prosecution. These photographs now belong to the state and are available for use by ADFG. The Baccega case was written up in the *Bristol Bay Times* (August 12) and *Anchorage Daily News* (August 15), so the incident did generate some constructive publicity.

Only three unauthorized boats were observed within the restricted area this summer. Staff were unable to monitor walrus behavior during the three incidents; however, all three boats were at least a mile and a half offshore and walrus numbers were relatively low, so it is unlikely that any of the boats caused a serious disturbance.

One unauthorized airplane entered the restricted area. Although the plane passed within 0.5-1 mile of the island at about 1,000 feet and there were nearly 2,000 walrus present, the walrus were not noticeably disturbed.

Other airplanes outside the restricted area did cause significant disturbance. On June 24, a plane circled Main Beach at an elevation of 1,500 feet, disturbing at least 1,000 walrus and causing approximately 250 walrus to leave the beach. Although outside the restricted airspace, this pilot could have been cited for harassing walrus under the Marine Mammal Protection Act. ADFG staff in Dillingham were apprised of the incident and provided a partial description of the airplane; however, it was not possible to positively identify the airplane based on our description. Airplanes outside the restricted area probably caused at least four other disturbances of low to moderate severity.

Authorized traffic within the restricted area included gear transfer to the island (by the Fish and Game Protection vessel "Kvichak" and a Hughes 500 helicopter), 36 visits by charter operators or independent vessels, three USFWS aerial counts of walrus on Main Beach, and a University of Alaska Fairbanks groundfish survey boat. Staff also used a 12-foot Achilles inflatable skiff with a 15 horsepower outboard motor to count walrus and collect beach-cast ivory seven times. Walrus often appeared undisturbed by this traffic (such as when visiting boats used the access corridor and no walrus were present in Boat Cove), but other authorized activities caused significant disturbance. Approximately 3,000 walrus were disturbed and raised their heads during the June 17 aerial count of Main Beach. Staff probably also caused three other small to moderate disturbances during regular, land-based walrus counts.

At least nine moderate to severe walrus disturbances occurred without any detected anthropogenic stimulus. On July 23, 1,200 walrus on Main Beach raised their heads, reoriented, and began to disperse. Approximately 90 walrus left the beach, but the rest slowly settled. There were no boats or airplanes audible or visible during this disturbance, and observers were too far away (0.5 miles) to have been the cause. These disturbances may initially be triggered by a minor rockfall or seabird activity undetectable from our observation point and then exaggerated by the walrus's herd behavior. Walrus response to disturbance is unpredictable and probably influenced by a number factors including group size, time spent hauled out, environmental conditions, and others.

Walrus counts

The east side of Round Island was counted on 86 consecutive days between May 17 and August 10 (Figure 3). The peak east-side count of 4186 walrus occurred on July 8 (there were also 681 walrus on West Main beach on this day). Walrus were totally absent from east-side beaches on only one day, August 4. The average east-side count for 1999 was 1235 walrus.

West Main Beach was counted every day between July 6- July 20 and every third day between May 20-August 6 (except May 23, May 26, and July 25). West Main Beach was counted a total of 35 times with a

peak of 765 walrus on June 25. Walrus were totally absent from West Main Beach on five count days (July 4, July 11, July 20, July 22, and July 31). The average West Main count was 251 walrus.

Steller's sea lion counts

Steller's sea lions hauled out at the southern tip of the island were counted 16 times between May 17-August 2. The peak count of 138 sea lions occurred on May 22; the low count of 12 sea lions occurred on June 27, a beautiful calm day; the mean count was 53 sea lions. Sea lions were often seen swimming around the island, alone or in small groups, and lone sea lions hauled out sporadically on Second Prime. Sea lion and walrus herds at Round Island are almost entirely segregated; however, on one occasion a big male sea lion was observed on Flat Rock, ordinarily a popular walrus haulout. A walrus approached the rock but decided not to haulout when confronted by the sea lion.

Seabird research

Staff counted 14,916 murre and 4,315 kittiwakes from the Main Beach observation point. Historically, the entire island has been counted (most recently by Haggblom, 1996) or counts have focused on small, regularly counted plots, so this year's count cannot be compared to published historic data. However, it may be useful to institute a regular Main Beach seabird count if whole-island counts are not feasible.

Raven Research

Preliminary analysis of raven behavioral data indicates that seabirds, seabird eggs and chicks comprise the bulk (up to 90%) of the summer diet of Round Island ravens. Common murre eggs were the single most common prey item this summer. Ravens predation on Main Beach seabird nests was estimated to exceed 2,000 eggs this summer. While this level of predation may be relatively unimportant in years of high seabird productivity, it virtually eliminated all kittiwake and murre productivity this year. Other food items included adult and chick kittiwakes and murre, kittiwake and cormorant eggs, adult puffins (*Fratercula* sp.) and possibly a whimbrell (*Numenius phaeopus*), voles (*Microtus* sp.), insects, dead fish, the skin of a dead gray whale (*Eschrichtius robustus*), and other unidentified items.

Four raven nest sites were identified on the east side of the island (two of these had not been previously identified, and one was probably relocated 100 yards from a known site). There are probably four to eight additional nests on the west side of the island (based on the number of ravens seen flying above the island throughout the summer and the greater number of seabird nests on the west side); however, this area is inaccessible by foot and was not carefully surveyed this season. Each of the known nests fledged three to four chicks this year.

Other observations

A gray whale carcass washed ashore in Boat Cove on July 16 and was present through the end of the season. The whale was male and measured about 35 feet long. The average length of an adult gray whale is 46 feet (Wynn, 1992), so this was probably an immature animal. A small sample of skin and blubber was collected and frozen at approximately 0°C for future genetic analysis. Gray whale mortality was high from Mexico to Alaska this summer, and roughly 25 gray whale carcasses were reported in Bristol Bay alone. NMFS believes this high mortality was caused by nutritional deficits (Mahoney, pers. comm.).

A pod of orca (*Orcinus orca*) was observed pursuing walrus off Main Beach on July 28. The whales (at least two males and three females) approached to within approximately 20 feet of small groups of three to five walrus in the water before the walrus visibly responded to the threat. The walrus then grouped tightly together and swam toward shore at top speed. At least three whales followed within five feet of the walrus, one on each side and one just behind. When the walrus reached shore, the whales swam away and found another small group of walrus to harass. This was repeated three or four times, but the whales did not kill any walrus while staff were watching. After about 10 minutes, the whales started to move off to the southeast. The whales disappeared at Boat Cove, where three visiting boats were anchored, and were not

seen again. Although the sea lion haulout was not checked immediately, no sea lion carcasses or other evidence of predation were observed in the following days.

Foxes used the dens behind the cabin and near the sea lion observation point this summer, and two to three kits were observed at each den. No kits were seen in the West Main observation area or on top of the island (infrequently visited) where dens have been reported in the past.

Five beached walrus carcasses were observed this year. This is significantly lower than in 1998, when 12 carcasses were observed (Raymond, 1998), but may simply reflect the lower number of walrus in the Round Island area during the past year. Ivory was collected from three carcasses, but staff were unable to reach the others before they floated away. Several loose pieces of ivory were also found during beach-walks. Ivory was sent to ADFG staff in Dillingham for sale at a later date.

Discussion

Visitor program

Visitation to Round Island has been highly variable since the Sanctuary's inception. It is affected by the success and timing of commercial fishing in Bristol Bay, the number of charter operators and the amount of effort they put into attracting clients, ADFG budget and ability to staff the island, national and international economic conditions, and other factors. A peak of 305 visitors (14 campers, 9 day-visitors, and >250 tour boat day-visitors) was reported in 1978 (summarized in Koenen, 1996). Total visitation fluctuated between 58 and 273 through the '80's, but was high near the end of the decade. Visitation dropped again to a low of 61 visitors (18 campers, 41 day-visitors) in 1994, and stayed low in 1995 and 1996. This slump was largely attributed to the uncertainty of transportation during this period when only one charter service was operating (Koenen and Spencer, 1994; Koenen and Kruse, 1995). In 1996, many foreign and out-of-state visitors cancelled their visits in response to the uncertainty of legislative funding for Round Island (Koenen and Rice 1996). Recently, the addition of a second charter service in 1997, and adequate legislative funding in the past three years, have strengthened the Round Island visitor program. However, the program remains vulnerable to a number of factors currently beyond our control.

Walrus counts

As many as 14,000 walrus have been counted at Round Island in a single day (summarized in Koenen, 1996). The peak in recent years was 9,550 walrus in 1995; however, walrus numbers have fallen steadily since then, reaching a low of 1,746 walrus in 1998. This three-year decline reversed this year, and our peak count this year was the highest since 1996.

The number of walrus using Round Island is no doubt affected by a number of diverse elements. One such factor is the increased use of other haulouts including Capes Peirce, Newenham, and Seniavin. These haulouts had been all but abandoned by the time the Walrus Islands State Game Sanctuary was established, but they now rival Round Island as important walrus haulouts. Cape Peirce, in particular, reached a peak count of 12,500 in 1985. Walrus move between the haulouts and often peak at Cape Peirce after the Round Island field season (MacDonald, pers. comm.); however, extremely high use of other haulouts may reduce walrus use of Round Island. At the time this report was written, Togiak National Wildlife Refuge and the Marine Mammals Management office of USFWS had not released count data from these other haulouts for the 1999 season.

Since 1996, Bristol Bay area natives have also been given limited access to Round Island for a traditional hunt of up to 20 walrus, including struck and lost animals. In the fall of 1998, hunters from five villages harvested 13 walrus at Round Island. However, this hunt occurs between September 20-October 20 and there are usually less than 200 walrus on the island during this period. Because disturbance is minimized in this manner, and because walrus numbers rebounded again this year, it seems unlikely that this limited hunt affects walrus use of Round Island.

Raven research

Raven research will be continued next season as a University of Arizona Masters thesis. Research goals include:

1) Accurately quantifying the composition and degree of raven predation on seabirds and other prey at Round Island.

2) Determining the number of ravens that use Round Island, determining whether ravens are year-round or seasonal residents and how they subsist during the winter, mapping their nests, and evaluating their reproductive success.

3) Studying the social structure of Round Island ravens.

4) Determining the effect of ravens on both their prey and co-predators.

Recommendations

1) Continue to follow walrus count protocols initiated in 1998. Maintain or increase the effort to regularly count the walrus on West Main beach. Research remote sensing technologies that would allow daily counts of West Main and South West Main beaches, as well as provide a better view of Main Beach.

2) Use aerial photographs and walrus count data to generate a correction factor for each observer.

3) Weather permitting, initiate regular whole-island seabird surveys at five-year intervals.

4) Work cooperatively with other agencies to broaden the scope of Round Island research and better monitor the entire ecosystem.

5) Continue to protect walruses and other wildlife within the Sanctuary, while providing an opportunity for scientific study and enjoyment of the Sanctuary.

Acknowledgements

First and foremost, I would like to thank Mary Cody for all of her help in and out of the field. I would also like to thank John Westlund, Jim Woolington, Eunice Dyasuk, Don Winkleman, Cathy Yahr, and Terry Johnson for their support during the field season.

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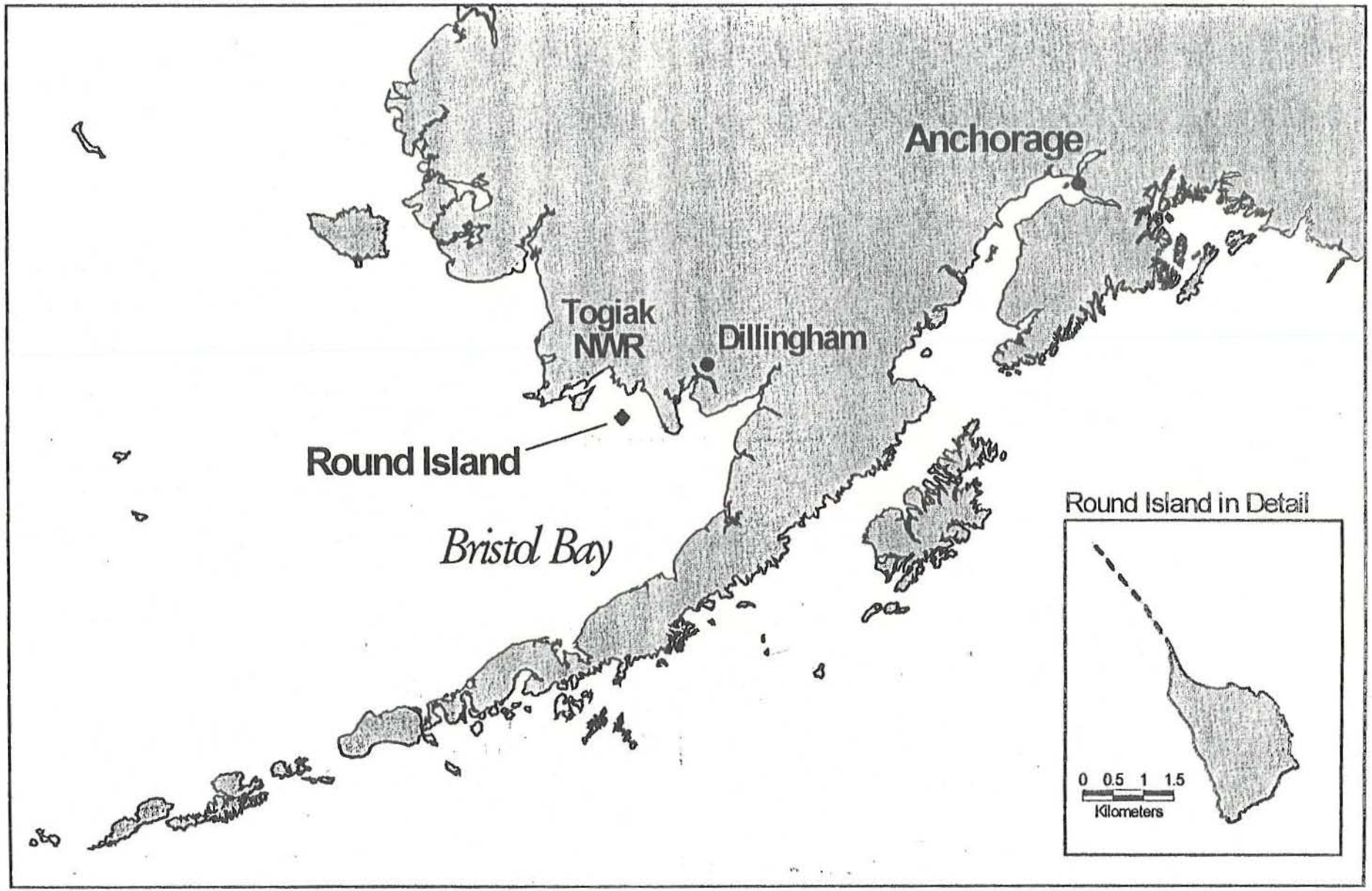

Figure 1. Bristol Bay area map.

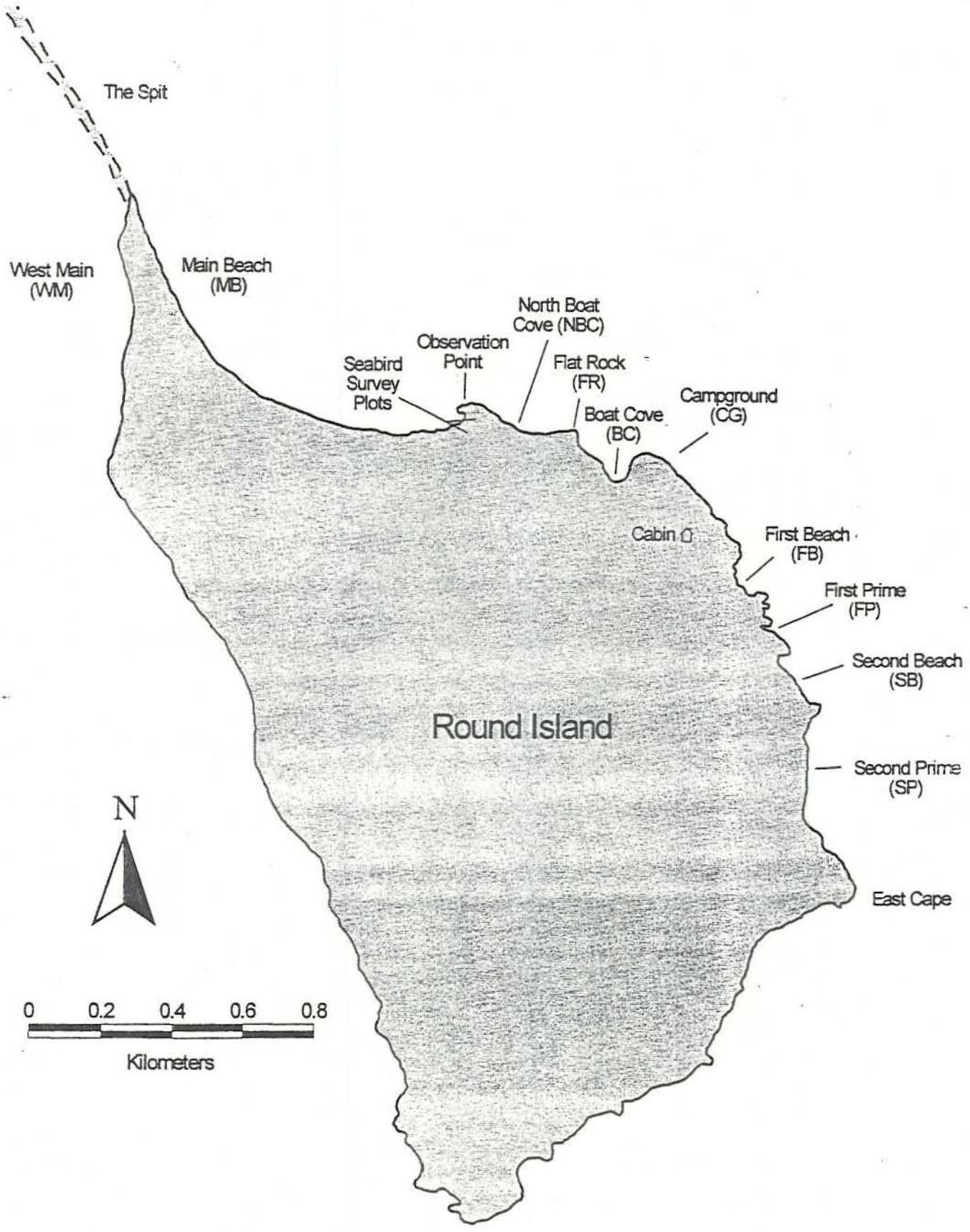

Figure 2. Area map of Round Island including landmarks and walrus haulout beaches.

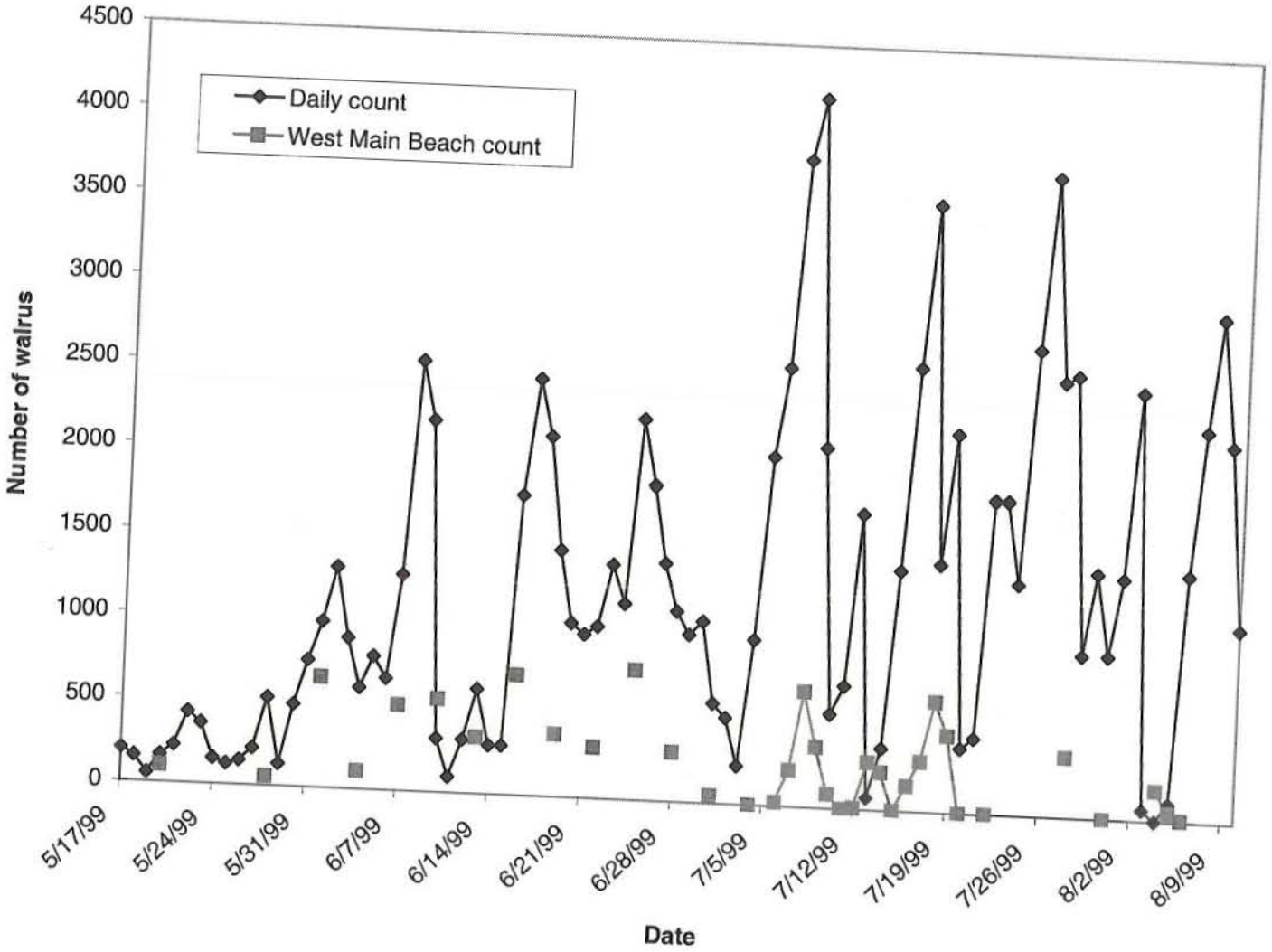

Figure 3. Mean daily and West Main counts of walrus on Round island, Alaska; May 17-August 10,1999.

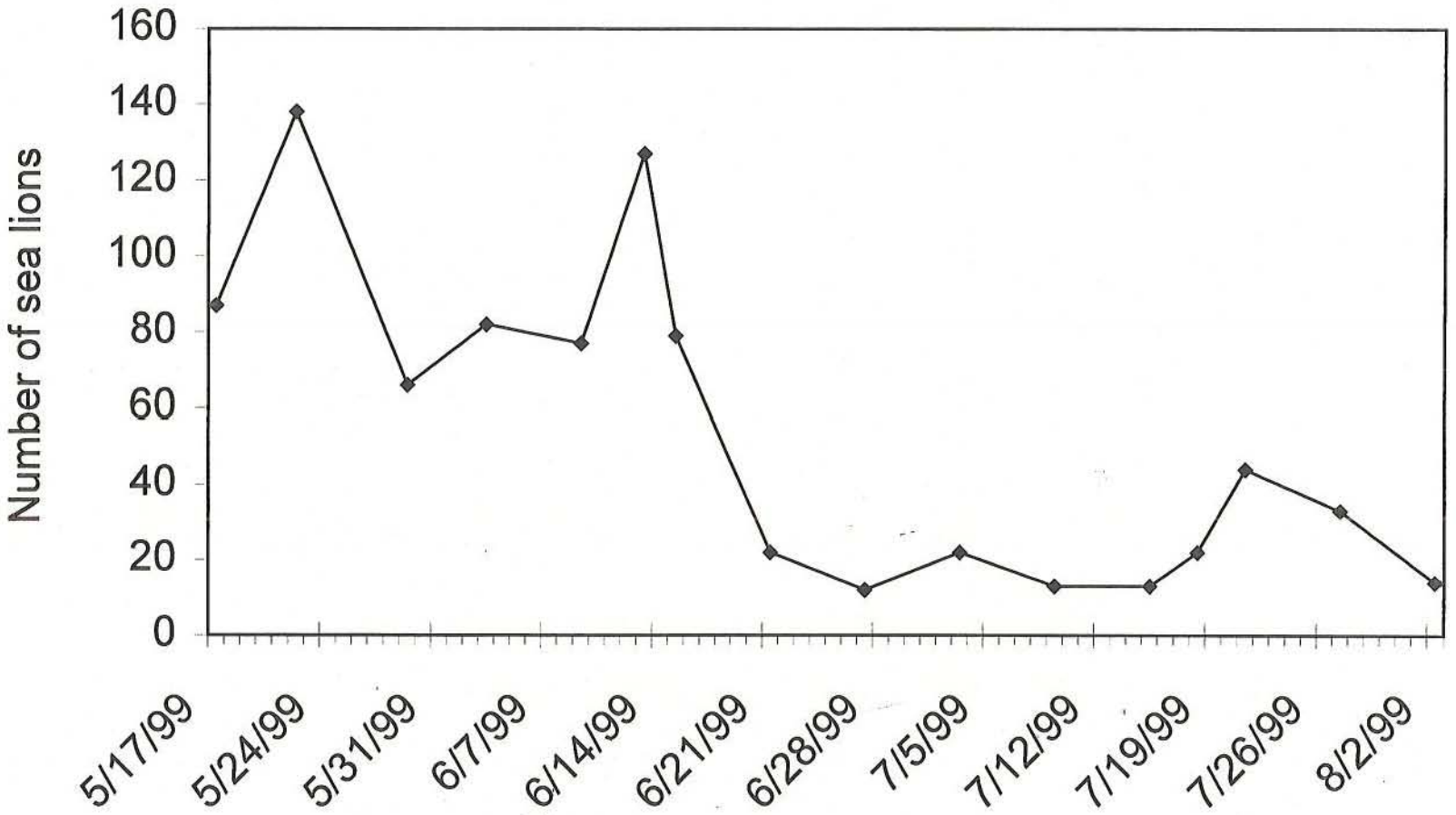

Figure 4. Round Island Steller's sea lion counts.

Appendix 1.

Walrus Counting Protocols
Bristol Bay Walrus Haulout Monitoring Program
Summer, 1999

Follow these protocols every day. If a situation arises and you cannot follow standard protocols, document (in detail) how and why you changed protocols in the comments section of the count data form.

We are asking for an increase in observer effort this year so we can collect information to answer some basic questions of haulout use and herd movement patterns. This information will help to refine the methodology for the Bristol Bay haulout index and monitoring program and will provide important information on widespread movement patterns (useful in understanding the dynamics of the Bristol Bay complex and will help in the design of the next range-wide population survey) .

1. Counting Methodology. Individually count walrus hauled out on each beach or estimate their numbers using binoculars, tally meter, pencil, and notebook. Count the number of walrus in the water (within 10m of shore) at each beach and record the number separately from the beach count.

Tally meters are notorious for short functional (accurate) lives, and quickly become great sources of variability and innacuracy in counting. Every day or 2, check your tally meter by counting to 100-200 and checking what the tally reads, repeat this once or twice to determine if the tally is working properly. Replace the tally meter as soon as the it begins malfunctioning.

Counting technique will vary with group size counted. The following guidelines are suggested. In general, count individuals in groups of up to 200 animals. The maximum number of walrus that can be counted individually will vary with observer experience, beach location, survey conditions, etc. For example: on haulouts with distinctive landmarks such as boulders, larger numbers of walrus can be individually counted. To count these groups, divide the beach into sections, using landmarks as reference points. Count walrus in each section, and add these sections for a total count. Otherwise, in groups >200 individuals, estimate walrus numbers.

To estimate numbers in larger groups, count the number of animals in a manageable, representative

subsection of the group. Extrapolate that number over the remaining herd area.

All observers involved in walrus counting will count together each day.
Each observer will make 3 independent counts of each beach (groups $\geq$ 10 animals) and record these counts in their field book. If time permits, make 4 independent counts/beach. Each count is independent; the replicates will be used to identify sources and levels of variability in the count data. Do not discuss your counts with your partner until after counts are complete. Do not discard counts or change your counts after discussing them with other observers. If you are mid-way into a count and lose track or feel that the count is poor, start over.

Photograph one beach each survey day. Select a beach to start with and then photograph each beach (one each day) in sequence. Dont photograph herds comprising less than 10 animals. Record the roll identification and frame numbers in your field book and transfer this information to the comments section of the count data form. After the slides are processed, write the log-ID, beach, and start time on the slide frame with indelible marker. We will count a sample of these slides to identify individual bias and assess count accuracy of herds.

2. Daily Counts.

I. Round Island, Cape Peirce, Cape Seniavin: Start by recording the AM barometer reading at 0800. Begin counts at 14:00. Establish a routine where you count the beaches in the same order each day. Describe any changes to your normal routine in the comments section of the count data form.

II. Cape Newenham: Collect the AM barometer reading at 0800. Time your hikes to arrive at the haulout as close to 14:00 as possible.

3. Interval Counts (Round Island, Cape Peirce, Cape Seniavin). Every third day, observers will conduct repeated counts of each beach at prescribed intervals. Like the daily counts, these counts will be conducted independently, by both observers. Interval counts will occur simultaneously at monitored haulouts. (Because of the distance and time involved in covering Cape Newenham beaches, this haulout is exempt from interval counts). Once you begin a sequence of beaches counted, follow this same sequence for the duration of the field season. Collect the same environmental data as you do during routine daily counts.

Interval counts will begin at 0900, 1400, and 1900. Dates of interval counts are:

MAY: 3, 6, 9, 12, 15, 18, 21, 24, 27, 30
JUNE: 2, 5, 8, 11, 14, 17, 20, 23, 26, 29
JULY: 2, 5, 8, 11, 14, 17, 20, 23, 26, 29
AUG: 1, 4, 7, 10, 13, 16, 19, 22

Disregard any dates you are not in the field. Continue the pattern if you are in the field longer than the listed schedule. If there is a conflict between a scheduled interval count and another unavoidable activity (Round Island boat visit, etc), continue normal protocols (multiple observers, independent counts) to count as many of the intervals as possible. During periods of interruption, attempt to have one observer keep to the schedule to prevent interruptions of the intervals. Note any changes to standard protocols in the comments section of the count data form.

4. **Main Beach Correlation (Round Island only)**. In order to determine the relationship between numbers of walrus hauled out on West Main beach and Main beach, observers on Round Island will include counting walrus at West Main as part of their daily counts once every 3 days. In order to count West Main beach, observers must walk Traverse Trail to the west end of the island. If trail or weather conditions prevent safe travel over this trail, delay beginning the counts until conditions are safe. If scheduling conflicts prevent observers from counting West Main, reschedule the correlation count for the day before the originally scheduled count (ie. if a correlation count is scheduled for July 4 and Winkleman is bringing visitors to the island during the counting period, reschedule the correlation count for July 3). This will take a little advance planning. If schedules or protocols are modified in any way, record how and why in the comments section of the count data form.

Dates of correlation counts are:
MAY: 5, 8, 11, 14, 17, 20, 23, 25, 28
JUNE: 1, 4, 7, 10, 13, 16, 19, 22, 25, 28
JULY: 1, 4, 7, 10, 13, 16, 19, 22, 25, 28, 31
AUG: 3, 6, 9, 12, 15

If you have any questions regarding the count protocols, contact Sue Lapkass at the FWS: (800) 362-5148.

Protocols: Bristol Bay Walrus Haulout Data Base, 1999

DAYLOG.DB - Daily environmental information table. This information primarily is collected once per day.

Log ID:	Concatenation of location code and the date in yymmdd format: for instance: a count on Round Island on May 10, 1997 would be entered: RI970410.
Location	General location of haulout counts (**CP** = Cape Peirce, **CN** = Cape Newenham, **CS** = Cape Seniavin, **RI** = Round Island)
Date	Date (mm/dd/yy)
Time	Military (24 hr) recorded when you start to collect the environmental data at the first beach counted.
Cloud Cover	A qualitative description of the visible sky. Record at the first beach counted. **C** = clear (no clouds or haze). **B** = broken (individual clouds separated by open sky, stretches of clear sky within a cloud cover, or patchy fog or haze). **O** = 0vercast (no clear sky visible). If the entire sky is obscured, except for a fine line at the horizon, record as overcast.
Wind Speed	The estimated wind speed at the observer's position obtained with a hand-held anemometer. Record in nautical miles per hour (kts). Face into the wind, make sure nothing is obscuring or deflecting the wind at your

position. If you are standing at a bluff where the wind funnels up, take a step back and get out of the main drift. This will allow you to obtain a more accurate wind speed reading. Hold the anemometer directly in from of you at eye level, record the average reading after watching changes for 60-90 sec.

Wind Direction

Estimated compass direction of prevailing wind. Stand facing the direction of the wind. If you are in an area where the wind swirls around local topography, assess the direction of prevailing wind offshore, beyond the influence of land. Record the direction the wind is coming from, not the direction it is going. If necessary, use a compass to help identify headings. Line north up, then, holding the compass directly in front of you, turn until you face into the wind and read the direction indicated on the compass. Enter the direction in a 1 or 2 letter code:

N = north; **S** = south; **E** = east; **W** = west

NE = northeast; **SE** = southeast; **NW** = northwest; **SW** = southwest

V = variable- the wind keeps switching directions and seems irregular

NO = no wind detectable.

Precipitation

Any precipitation, such as rain, sleet, snow, or fog. Record at the first beach counted. Usually, conditions are very dynamic so record the worst weather encountered while you are collecting the above weather information.

Y = yes, there is some kind of precipitation.

N = no precipitation occurred during your weather evaluation.

Barometer AM

Barometer reading at about 08:00 in the morning (in mmHg).

Barometer PM

Barometer reading at about 20:00 (8:00) at night (in mmHg).

Tide — Record the tidal state just before you leave camp to begin counts. Each location has different methods for determining tidal stage. If your camp relies on a published tide table, look up the day's record and if necessary, extrapolate tide stage according to differences in time zone and area (this information is available as "correction factors" in every tide book). Each tide stage will be of equal duration. Use this graphic to determine tide stage from tide table data. Enter the following codes, to indicate tide stage during counts: **H** = high; **L** = low; **R** = rising; **F** = falling.

Max Temp — Maximum temperature: read the minimum-maximum thermometer immediately before you leave camp to begin counts. Record the maximum temperature for the last 24 hrs.

Min Temp — Minimum Temperature: read the minimum-maximum thermometer immediately before you leave camp to begin counts. Record the minimum temperature recorded for the last 24 hrs. RESET the thermometer before you leave camp for counts.

Comments — Record any time. This is you narrative pertaining to walrus observations/ problems with methodology, or needed changes. Comments can be an important part of your field observations so be thorough and concise.

COUNTS.DB- Daily walrus count information which is recorded at each beach counted.

Beach — Name of the beach being counted. Enter the 4-letter identifier which has been entered into the data base look-up table. If additional beaches must be added to the lookup table, follow directions in "data base management" section. Appendix one is a printed look-up table for beach codes.

Start Time — Enter the time you begin to count the walrus on the beach. Use 24-hr. (Military) time.

End Time — Enter the time you conclude counting the beach. Use 24-hr. (Military) time.

Method — The method used for counting the beach. Enter appropriate code before you start counting.

O = opportunistic ground count- an unscheduled count which occurred because you were just walking by or were doing something else (as opposed to counting this beach as part of a regularly scheduled counting round).

S = scheduled ground count- a scheduled count performed as part of your daily census activities.

A = aerial count (made from an aircraft).

GP = ground photograph- counts made (or which will be made) from photographs of this beach taken from the ground. Enter the Roll # and frame #'s into the comments section of the DAYLOG.DB part of the form. This information is crucial to keep accurate records of photographic counts, especially when count methods are compared later.

AP = aerial photograph-counts made (or which will be made) from photographs of this beach which were taken from an aircraft. Enter the Roll # and frame #'s into the comments section of the DAYLOG.DB part of the form. This information is crucial to keep accurate records of photographic counts, especially when count methods are compared later.

B = boat count. Count of beach made from a vessel of some kind, either as part of a scheduled counting plan or an opportunistic approach.

Observer

If you make the count alone, enter your 3 initials (First, Middle, Last). If you count with a partner or group of people, enter **G** (Group). If the identity of the counter is unclear or unknown, leave this field blank.

Beaufort

Before you begin counting, record the Beaufort sea state (0-7) of waters offshore, away from land effects. This is important because islands and shore topography can have major effects on perceived localized water conditions. The Beaufort Scale is described in detail in Appendix 2. In general the codes are:

0 = sea like a mirror. Wind speed is under 1 kt. No waves.

1 = slightly rippled- water's surface looks like orange peel or scales. Wind speed ranges from 1-5 kts. Sea waves are smooth and less than 1 ft.

2 = small wavelets- the crests are still glassy. Wind speed ranges from 6-11 kts and you can begin to feel a breeze on your face or hear the grasses rustle. Sea waves are slight- 1-3 ft.

3 = large wavelets which begin to crest with foam. The first signs of whitecaps will be seen. Wind speeds range from 12 -19, and you could imagine a light flag extended in the wind. Sea waves are moderate: 3-5 ft.

4 = Small waves are consolidating into lines (rather than individual wavelets); numerous whitecaps. Wind speeds range from 20-28. Loose clothing will flap. Sea waves can be 3-8 ft.

5 = Many waves, growing slowly to ridges, many whitecaps and some spray off of the wave crests. Wind speeds range from 29-38 kts. Your eyes will tear and the binos will be difficult to hold steady. Sea waves range from 3-8 ft.

6 = Large waves are forming, walrus probably can disappear in the troughs. Lots of whitecaps. Spray trails (streaks of foam) are beginning to form down the backs of the waves. You have to lean into the wind and probably have to drop to your knees to count, you can't look directly into the wind without squinting hard. Wind speeds are 39-49, sea waves range from 3-8 ft.

7 = You probably shouldn't be out counting walrus. Winds are up to 50-60 kts, sea waves are 8-12 ft. Waves are leaving obvious foam streaks in their path. The sea is frothing and white with spray. There is little chance of being able to hold your binoculars steady, so the counts are probably pretty inaccurate.

Beach Condition

An evaluation of the waves breaking on the beach you are counting.

0 = very calm- no wave splash at all.

1 = little waves- ranging to 1 ft (0.3 m).

2 = moderate waves- ranging from 1 ft - 3 ft (0.3 m to 1.0 m).

3 = rough waves > 3 ft (>1m).

Beach Availability

An assessment of amount of beach available to walrus for hauling out. Beach availability is recorded for each beach counted. It combines aspects of both tide and weather conditions. 100% available is the amount of beach visible during mean low tide during a calm day. You are going to have to make observations of each beach counted to determine what 100%

is. Identify landmarks you can reliable see to help you identify levels of beach availability. Using the amount of beach exposed during mean low tide on a calm day as 100% we will be looking at extremes in both directions. Break changes down by quartiles. For example: if it's a pretty low tide and an additional 25 % of beach is available, record the beach availability as 125%. If the tide is high and only 50% of the mean low beach is exposed, record it as 50%. If tide is high and waves are breaking on the cliff face, that might be 0% beach availability.

Visibility

This is a qualitative assessment of the visibility of the haulout you are counting.

C = clear- there are no obstructions (physical, weather, or sun glare) which impede your ability to clearly see all of the haulout.

P = partially obscured- fog blows in and out during the count, partially obscuring some of the haulout all of the time. The sun glare might be bad, but you can still squint hard and make a count.

O = obscured- bad weather or sun glare can make it impossible to count a beach. If you linger for a time and conditions don't change- you probably can't get a decent count, so enter this qualifier.

Land

The number of walrus counted on a particular beach. These animals must be on exposed beach or standing in tide wash.

Water

All animals in the water and within ~~50m~~ 10 m of the shore line.

SKL 5/6/99

Appendix 2. Round Island access violations and walrus disturbances. Unless otherwise noted, visiting boats were only monitored as they approached the island and not during departure. HR= head raising; OR= reorienting; and DS= dispersing.

Date	Approximate start time	Disturbance type	Closest approach to island	Elevation	Walrus response	Comments
5/16/99	1800	Unauthorized boat traffic.	1.5 miles	N/A	Unknown.	Walrus not observed. Vessel not contacted (radio not yet operational).
5/16/99	1830	Authorized boat traffic.	0.5 miles	N/A	Unknown.	Walrus not observed.
5/16/99	1830	Authorized helicopter traffic.	Lands on island	Lands on island	Unknown.	Walrus not observed.
5/18/99	1740	Unauthorized boat traffic.	2-3 miles	N/A	Unknown.	Walrus not observed. Vessel did not answer radio hail, but changed course.
5/18/99	2145	Unauthorized boat traffic.	2 miles	N/A	Unknown.	Walrus not observed. Vessel apologized and changed course.
5/22/99	Unknown	Authorized visit by independent boat.	Anchored at 100 yards, beached skiff.	N/A	Unknown.	No walrus present in Boat Cove area.
5/22/99	Unknown	Authorized visit by independent boat.	Anchored at 100 yards, beached skiff.	N/A	Unknown.	No walrus present in Boat Cove area.
5/22/99	Unknown	Authorized visit by independent boat.	Anchored at 100 yards, beached skiff.	N/A	Unknown.	No walrus present in Boat Cove area.
5/23/99	1245	Authorized visit by independent boat.	Anchored at 100 yards, beached skiff.	N/A	None observed.	No walrus present in Boat Cove area; no obvious disturbance on Main Beach.
5/23/99	1300	Authorized visit by independent boat.	Anchored at 100 yards, beached skiff.	N/A	None observed.	No walrus present in Boat Cove area; no obvious disturbance on Main Beach.

5/23/99	1319	Authorized visit by independent boat.	Anchored at 100 yards, beached skiff.	N/A	None observed.	No walrus present in Boat Cove area; no obvious disturbance on Main Beach.
5/27/99	Unknown	Authorized visit by independent boat.	Anchored at 100 yards, beached skiff.	N/A	None observed.	No walrus present in Boat Cove area; no obvious disturbance on Main Beach.
5/27/99	Unknown	Authorized visit by independent boat.	Anchored at 100 yards, beached skiff.	N/A	None observed.	No walrus present in Boat Cove area; no obvious disturbance on Main Beach.
5/27/99	Unknown	Authorized visit by independent boat.	Anchored at 100 yards, beached skiff.	N/A	None observed.	No walrus present in Boat Cove area; no obvious disturbance on Main Beach.
6/12/99	Unknown	Authorized staff skiff operations.	Beached skiff.	N/A	None observed.	No walrus present in Boat Cove area; no obvious disturbance on Main Beach. Maintained minimum distance 250 yards from walrus.
6/13/99	Unknown	Authorized staff skiff operations.	Beached skiff.	N/A	None observed.	No walrus present in Boat Cove area; no obvious disturbance on Main or West Main beaches. Maintained minimum distance 250 yards from walrus.
6/15/99	1030	Authorized visit by charter operator.	Anchored at 50 yards, beached skiff.	N/A	Unknown.	Walrus not observed; probably no walrus in Boat Cove area.
6/17/99	2200	Airplane outside restricted area.	Overhead.	<10,000 feet	20+ HR/OR/DS.	Beach not recorded, probably Main Beach.
6/18/99	1430	Airplane outside restricted area.	3-5 miles.	1,500 feet	Walrus at SB seemed mildly disturbed. 3-4 HR/OR/DS to waterline and stop.	Airplane plainly audible. Makes two passes.
6/19/99	Unknown	Unauthorized airplane traffic.	.5-1 miles.	1,000 feet	None observed.	No obvious disturbance to walrus at either Main or West Main beaches. Airplane cuts NW corner en route toward Dillingham from SW. We were unable to positively identify the airplane.

6/19/99	Unknown	Authorized staff skiff operations.	Beached skiff.	N/A	None observed.	Walrus on FR were not obviously disturbed. We maintained a minimum distance of 250 yards from other beaches, and walrus elsewhere were not closely observed.
6/20/99	1030	Authorized visit by charter operator.	Anchored at 50 yards, beached skiff.	N/A	Walrus on Flat Rock appeared mildly disturbed.	We were unable to monitor disturbance closely because we were bringing visitors ashore.
6/22/99	1610	Unknown stimulus.	N/A	N/A	~900 HR and OR. ~250 DS into water out to 10 yards. 20-30 in water disperse further 2-3 minutes later. Up to half return within about 20 minutes.	We arrived at Main Beach just after the initial disturbance. There were no boats or airplanes audible or visible, and no evidence of rockfall or other natural stimulus.
6/24/99	1609	Airplane outside restricted area.	Overhead.	1,500 feet	1000 HR and OR. 250 DS into water; the rest remain, but seem very agitated. Animals on FR also disturbed.	Pilot visible leaning out window with a video camera. Incident and partial description of airplane reported to ADFG staff in Dillingham, but airplane not identified.
6/25/99	1503	Unknown stimulus.	N/A	N/A	150 HR and OR; 10-20 DS into nearshore water.	There were no boats or planes audible or visible during disturbance. A large seabird disturbance just seconds before may have triggered walrus dispersal, or both may have been caused by the same stimulus.
6/26/99	Unknown	Authorized visit by charter operator.	Anchored at 50 yards, beached skiff.	N/A	Unknown.	No disturbance recorded, but there were probably animals in the Boat Cove area.
6/27/99	~2200	Unauthorized trespass on Flat Rock by visitor.	On beach.	N/A	Unknown- walrus appeared restless, but only a fraction of the disturbance actually observed.	Photographer on beach taking photos. ADFG law enforcement in Dillingham notified. Criminal charges filed. See more detailed account under "Results".
6/30/99	Unknown	Authorized visit by charter operator.	Anchored at 50 yards, beached skiff.	N/A	Unknown.	No disturbance recorded, but there were probably animals in the Boat Cove area.

7/3/99	0930	Authorized visit by charter operator.	Anchored at 100 yards, beached skiff.	N/A	Unknown.	No disturbance recorded, but there may have been animals in the Boat Cove area.
7/4/99	Unknown	Authorized visit by charter operator.	Anchored at 100 yards, beached skiff.	N/A	Unknown.	No walrus present in Boat Cove area.
7/4/99	Unknown	Authorized staff skiff operations.	Beached.	N/A	Unknown.	No walrus present in Boat Cove area.
7/5/99	Unknown	Authorized visit by charter operator.	Anchored at 100 yards, beached skiff.	N/A	Unknown.	No disturbance recorded, but there were probably animals in the Boat Cove area.
7/5/99	Unknown	Authorized visit by charter operator.	Anchored at 50 yards, beached skiff.	N/A	Unknown.	No disturbance recorded, but there were probably animals in the Boat Cove area.
7/6/99	1050	Authorized visit by charter operator.	Anchored at 100 yards, beached skiff.	N/A	Walrus seemed a little agitated and several HR. No DS observed.	
7/7/99	0904	Authorized visit by charter operator.	Anchored at 100 yards, beached skiff.	N/A	All of the approximately 89 walrus in the Boat Cove (50 in nearshore waters) area seemed agitated. Several in water DS and two onshore HR/OR/DS. Twenty-six HR/OR/DS when visitors leave at 1600.	Visitors ashore at northeast corner of Boat Cove to reduce disturbance.
7/8/99	Unknown	Authorized visit by charter operator.	Anchored at 100 yards, beached skiff.	N/A	Unknown.	No disturbance recorded, but there were animals in the Boat Cove area. Visitors ashore at northeast corner of Boat Cove to reduce disturbance.
7/10/99	Unknown	Authorized visit by charter operator.	Anchored at 50 yards, beached skiff.	N/A	Unknown.	No disturbance recorded, but there may have been animals in the Boat Cove area.

7/12/99	1015	Authorized aerial count of Main Beach.	Overhead	2,000 feet	Approximately 1,000 walrus on Main Beach. Many HR, but no DS visible from cabin area.	
7/12/99	1700	Unknown stimulus; possibly caused by staff counting from observation point.	N/A	N/A	~130 of 160 walrus at Second Beach HR/OR/DS to a maximum of 100 feet offshore, but begin to haulout within 10 minutes.	No boats or airplanes audible or visible.
7/12/99	2030	Unknown stimulus	N/A	N/A	600-800 walrus HR. 300-400 HR/OR/DS at Main Beach.	Visitors report disturbance. No boats or airplanes audible or visible.
7/12/99	2230	Authorized staff skiff operations.	Beached	N/A	One HR at Flat Rock; no other obvious disturbance.	
7/13/99	1830	Authorized visit by charter operator.	Anchored at 100 yards, beached skiff.	N/A	Unknown.	No walrus present in the Boat Cove area.
7/15/99	Unknown	Authorized visit by charter operator.	Anchored at 50 yards, beached skiff.	N/A	~15 HR/OR/DS from FR.	Walrus jumped into water from about 4 feet, but no injuries were observed.
7/16/99	1546	Staff counting from observation point.	N/A	N/A	5 HR/OR/DS to waterline.	We backed off immediately and don't know whether walrus settled down again.
7/16/99	Unknown	Authorized staff skiff operations.	Beached	N/A	~5 HR/OR/DS from Campground and North Boat Cove beaches.	
7/17/99	1029	Authorized aerial count of MB.	Overhead	2,500 feet	Unknown.	We were at the cabin and missed walrus response.
7/17/99	1501	Possibly staff counting from observation point.	N/A	N/A	5-10 of ~60 walrus on First Beach HR/OR/DS.	
7/17/99	1624	Authorized aerial count of MB.	Overhead	2,500 feet	~3000 HR and several begin to disperse but settle quickly.	

7/18/99	Unknown	Authorized staff skiff operations.	Beached.	N/A	Unknown.	No disturbance recorded, but there were probably walrus at BC and elsewhere.
7/19/99	1600	Seabird disturbance or unknown.	N/A	N/A	~100 walrus HR and 3 quickly DS.	A huge flock of kittiwakes on the spit took off just prior to walrus disturbance- may have caused walrus disturbance or both may have been caused by the same unidentified stimulus.
7/21/99	Unknown	Authorized visit by charter operator.	Anchored 100 yards offshore, beached skiff.	N/A	No disturbance recorded during vessel's approach, but 6 HR/OR/DS from Second Beach at 1445 (approximately the time visitors left the island).	Probably no walrus in Boat Cove area.
7/21/99	1631	Unknown stimulus.	N/A	N/A	~130 walrus HR/OR/DS from spit.	No boats or airplanes audible or visible.
7/22/99	0740	Authorized visit by charter operator.	Anchored at 50 yards, beached skiff.	N/A	None observed.	No walrus in Boat Cove area.
7/22/99	Unknown	Unknown stimulus	N/A	N/A	~100 HR/OR/DS.	No boats or airplanes audible or visible. A large flock of kittiwakes were disturbed at the same time, and one disturbance may have triggered the other. There may have been a secondary disturbance at 1817, but the beach was obscured by fog.
7/22/99	1615	Unknown stimulus	N/A	N/A	~700 HR/OR and begin to DS. ~200 leave the beach. Walrus remain agitated and another 40 DS at 1651.	No boats or airplanes audible or visible.
7/23/99	~1000	Authorized visit by charter operator.	Anchored at 100 yards, beached skiff.	N/A	None observed.	Only one walrus in Boat Cove area. No walrus present when vessel departs at 1532.
7/23/99	1230	Authorized UAF groundfish study vessel .	1 mile	N/A	None observed.	

7/23/99	1609	Unknown stimulus.	N/A	N/A	~1200 of 1600 walrus on MB HR/OR and start to DS. ~90 into the water and the rest settle slowly.	No boats or airplanes audible or visible.
7/25/99	Unknown	Authorized visit by charter operator.	Anchored at 50 yards, beached skiff.	N/A	None observed.	~11 walrus on Flat Rock, but visitors reported no obvious disturbance.
7/27/99	1508	Authorized visit by independent boat.	Anchored at 75 yards, beached skiff.	N/A	1 HR/OR and 11 HR/OR/DS.	Only 12 walrus in Boat Cove area observed.
7/28/99	~0920	Authorized visit by independent boat.	Anchored at 100 yards, beached skiff.	N/A	Multiple HR and 6 HR/OR/DS.	Nine walrus on Flat Rock observed. Three boats arrive simultaneously.
7/28/99	~0920	Authorized visit by independent boat.	Anchored at 100 yards, beached skiff.	N/A	Multiple HR and 6 HR/OR/DS.	Nine walrus on Flat Rock observed. Three boats arrive simultaneously.
7/28/99	~0920	Authorized visit by independent boat.	Anchored at 100 yards, beached skiff.	N/A	Multiple HR and 6 HR/OR/DS.	Nine walrus on Flat Rock observed. Three boats arrive simultaneously.
7/30/99	0930	Authorized visit by charter operator.	Anchored at 50 yards, beached skiff.	N/A	3 HR/OR/DS and five more walrus in the water DS.	Five walrus on Flat Rock and five in the water were observed.
7/31/99	Unknown	Authorized visit by charter operator.	Anchored at 100 yards, beached skiff.	N/A	Unknown.	No disturbance recorded, and there were probably no walrus in the Boat Cove area.
8/1/99	~1630	Authorized staff skiff operations.	Beached skiff.	N/A	Walrus on FR seemed a little restless. 2 HR/OR/DS from corner of SP and SB. No obvious disturbance to walrus on other beaches.	We passed within 100 yards of the walrus at SB/SP, but maintained a distance of at least 250 yards from Main Beach.
8/1/99	2033	Airplane outside restricted area.	Unknown	Unknown	400 HR/OR but settle within one minute.	Airplane only faintly audible in the distance.

8/2/99	1200	Authorized visit by charter operator.	Anchored at 50 yards, beached skiff.	N/A	At least 15 HR and 9 HR/OR/DS.	Approximately 15 walrus on FR and another small group of unknown size at Campground beach.
8/4/99	1640	Airplane outside restricted area.	Overhead	Unknown	Unknown walrus disturbance; minor seabird disturbance.	No walrus present on east side; walrus on West Main were not observed.
8/6/99	1525	Unknown stimulus.	N/A	N/A	More than 200 HR; several at the waterline HR/OR and start to DS but stop quickly.	Walrus appeared agitated when we arrived at 1525 and then secondary disturbance at 1527. No boats or airplanes audible or visible.
8/6/99	1638	Airplane outside restricted area.	Unknown, but near MB.	>1000 feet.	At least 100 HR and 10 HR/OR/DS from MB.	Only about 250 of ~1500 walrus on Main Beach were visible during this disturbance. Airplane plainly audible, but not visible due to 1000 foot ceiling.
8/7/99	Unknown	Authorized visit by charter operator.	Anchored at 50 yards, beached skiff.	N/A	Unknown.	No disturbance recorded, but there were probably animals in the Boat Cove area.
8/12/99	1100	Authorized visit by charter operator.	Beached boat.	N/A	Unknown.	No disturbance recorded, but there may have been walrus in the Boat cove area.