1987

ROUND ISLAND FIELD REPORT 1987

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INTRODUCTION

The 1987 summer field season on Round Island was ushered in by an unexpectedly early arrival of spawning herring. The herring fleet and commencement of the commercial fisheries soon followed. Dick Sellers began setting up camp on May 30 in order to establish a presence at the sanctuary during this time. However, most nearshore herring traffic left as quickly as it came as the fishery was over by the second week of May.

A major yellow fin sole bottom dragger fishery developed in May this year and continued through June. For this reason, vessel traffic did not decline as in previous years, but increased significantly. Approximately 75 catcher and processor boats were involved, primarily fishing the local waters; that is, those waters bordered by the Nushagak Peninsula to the east, Summit Island and the mainland to the north, Round Island to the west, and 20 km southward from Round Island. Vessel activity during this two-month period demanded a constant effort towards sanctuary vigilance.

A USFWS walrus tagging operation was initiated in mid June. A radio transmitter was s, cessfully attached to each of three walruses and radio monitoring proceeded for the remainder of the summer. Problems involving weather, equipment, and the development of banding and drugging techniques slowed and eventually halted the project, causing it to fall short of the season's goal.

Visitor use on the island dictated the season's itinerary, as the number of campers reached a high. Special interest groups served as a reminder of the wide variety of recreational and professional users enjoying access to the sanctuary. The compatibility of various interest groups and sanctuary management philosophy is a justified concern.

VISITORS

The sanctuary has experienced increasing visitor use over the past several years. From 113 visitors in 1985, to 255 in 1987, there has been a steady increase. Of the 255 visitors, 124 were day visitors and 131 were overnight campers (refer to Appendix 1). With the continued publicity the sanctuary is receiving, visitor numbers are expected to approach 300 during the 1988 season (Figure 1).

There are problems associated with increased use of Round Island. Most of these problems involve the increase in disturbance of wildlife and habitat. There are also conflicts that involve the prioritization of responsibilities by the island staff and their designated use of time.

In 1987, visitor numbers were split approximately 50:50 between day users and overnighters. As expected, herring and dragger fleet fishermen comprised the bulk of day visitors. As in the past years, end-of-the-season cannery workers from Togiak, locals from the Dillingham area, and the occasional helicopter charter from Icicle Sea Foods comprised the remainder of day users.

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The majority of visitors, and those causing the greatest concern, are the overnight campers. This year the sanctuary hosted people from Germany, France, Switzerland, Australia, Canada, and England, as well as from throughout the U. S. Included among these were professional photographers, editors from various magazines, a BBC crew, a KIMO TV crew, and a private film company, RFD Productions. The new turbo-sail Cousteau vessel, the "Alcyone," also spent two days filming and recording underwater sound.

Two professional tour groups, VanOs Tours and Victor Emanuel Safaris, visited the island in groups of about 14 people each. Both groups attract an older clientele, and one had at least two people in their 80s. Needless to say, Round Island is a very difficult place for most elderly people; loading and unloading can be especially dangerous even with moderate sea conditions. Although the tour group guides stated that they "screen" potential clients, the competitiveness of the tour business must make it very difficult to turn people away.

Under the present permitting system, 15 campers and 15 day visitors are allowed on the island at any one time. This year the maximum was reached primarily during the times tour groups were present. The overall length of the camping season increased dramatically, however, with people showing up earlier in June and continuing to the final days of August. The recent reduction in number of permits issued for any particular time will necessarily distribute use over a longer period of the season. Whether this result benefits the sanctuary remains to be seen, but it is anticipated to reduce disturbance and improve management on the island.

Despite improved limits on visitor use, it is the opinion of the staff that the vegetation, sanitation facilities, and capabilities of the sanctuary personnel will suffer greatly should the maximum visitor number be reached on a continuous basis. It is difficult for two people to monitor 15-30 visitors along with performing enforcement, maintenance, and naturalist type activities (not to mention time available for basic censusing and research).

There is concern regarding the allocation of time by Round Island staff. An increasing amount of time is spent waiting for the arrival of visitors. The distribution of visitor use over the season requires launching the Zodiac and hauling people and gear on a daily basis. Because Don Winkleman is a private businessman and the primary mover of visitors, it is to his disadvantage to have people sitting in Togiak if he can at all get them to Round Island. This fact combined with a new, more seaworthy boat (with talk of even a bigger boat), means that trips in marginal weather have become more frequent. The time spent waiting for visitors is often inefficient and of limited value to the sanctuary.

A typical morning for Round Island staff may go something like this:

Warm up radio for 8:30-9:30 a.m. radio call.

- Speak with Ken and Don; the mail flight from Dillingham is due in Togiak at 9:30 a.m. with six people for Round Island. <u>Stand-by</u>; will contact when visitors arrive and give <u>ETA</u> at island.
- 3. 10:00 a.m. mail flight delayed, stand-by at 11:00 a.m.
- 11:00 a.m. six people at Togiak, will reach island about 12:30 p.m.
- 12:00 p.m. call to island, <u>stand-by</u>, rougher than expected; will arrive at 1:15-1:30 p.m.
- 6. 1:30 p.m. six people arrive.
- 7. 2:30 p.m. people and gear are finally on island.

A total of about six hours is spent whereby at least one person remains by the radio and the other is close enough for contact to help with the boat launching.

During this waiting period, other visitors are interested in hiking to the north end of the island (we require that one of the staff accompany people on this trip), special interest groups (i.e., film crews, magazine photographers) are waiting to be taken onto the beaches and out in the boat, and offshore boat traffic must be monitored. It is impossible to please everyone and people can get demanding and frustrated, and take it upon themselves to go where they are not permitted.

Because of the growing interest in Round Island and the variety of user groups, we asked visitors impromptu questions concerning the island, the facilities, and the permitting procedures for the sanctuary. Generalized results are as follows:

- Virtually no one complained of the idea of charging for permits. Many were surprised that it was free.
- No one wanted tent platforms other than the tour group leader with the elderly visitors.
- 3. Only a small group of people thought that a shelter would be appropriate. Arguments for a shelter were listed as: a) a place to cook and hangout, out of the wind and rain; b) may reduce chance of fires. Arguments against a shelter are: a) detract from wilderness experience; b) do single visitors want to share it if a tour group of ten people are using it; c) who is responsible for cleaning--i.e. increased visitor monitoring; and d) may increase the risk of fire if campers leave stoves unattended.
- Almost all visitors recommended improvements to the trails.

5. Other than one tour group leader, everyone thought that opening the island to a concessionaire would be detrimental to the sanctuary. Lengthy discussions with two park service employees visiting the island pointed out through examples the "domino" effect of using a concession.

RESEARCH

Kittiwakes

The breeding biology of black-legged kittiwakes was studied for the third successive year. The two previous years provided data on correlations between breeding success and micro-habitat characteristics of nest sites. The 1987 research effort was reduced, and only one reproductive plot with 265 nests was monitored. The primary goal this year was to document kittiwake reproductive performance.

A pattern emerged typical of nesting kittiwakes in poor reproductive condition. Egg-laying was initiated late, 7 June, and many nesting pairs did not lay eggs. Those pairs that did breed primarily laid clutches of a single egg.

In order to track reproductive success at each phase of breeding, egg and chick losses were monitored on a two- to three-day observation schedule. Pre-hatching losses were comparable to years' past. Unlike 1985 and 1986, post-hatching losses did not occur within the first week of hatching, giving hope for relatively improved reproductive success.

However, chick losses suddenly increased later in the brooding phase, dashing any chance for fledging of a few young. A summary of breeding success at progressive stages of reproduction is included below.

Kittiwake 1987 Reproductive Summary

Number of nest sites occupied	265
Number of clutches	119
Average clutch size	1.17
Hatching success	53.0%
Fledging success	2.7%

Cormorants

Two permanent reproductive plots were established this year for gaining baseline reproductive information on pelagic cormorants. The plots contained 35 and 40 nests each. Both were situated just below the cabin area, and were readily monitored on a two- to four-day observation schedule. Depending on the breeding phase, an average of one hour was required per plot per observation period. Maps were drawn and photographs taken for locating individual nest sites, and providing reference continuity in future years (refer to Figures 10 and 11). Casual observations in previous years indicated reproductive stability for pelagic cormorants. This was reinforced by data collected in the 1987 breeding season.

The season's breeding chronology progressed as follows: the first egg was laid on or around 14 May; the first chick was seen at that nest on 11 June; the incubation period was approximately 33 days. Fledging occurred roughly 43 days post-hatching. The range of laying was considerable, with the last clutch of the season initiated on 13 June. A reproductive summary is included below.

Cormorant 1987 Reproductive Summary

Number of nesting attempts		76
Number of clutches		49
Average clutch size		3.4
Hatching success		68.0%
Fledging success	approx.	87.0%

Walruses

The purpose of th USFWS walrus tagging and drugging effort was three-fold: 1) to develop banding and drugging techniques for future banding work on the ice; 2) to monitor the general haulout pattern of walruses; and 3) to ultimately use the results of the above objectives for improving censusing estimates and extrapolation methods as a management tool in tracking population trends.

The tagging effort resulted in the successful banding of two walruses with VHF transmitter packages and one with a satellite package and VHF. During the immobilization, however, three walruses were killed. The exact causes of death were uncertain, but respiratory failure occurred twice, and it was concluded that one died from internal injuries due to trampling by other walruses. Federal restrictions allowed no more than two research related losses before project reevaluations, and these deaths forced a temporary restraint of the operation.

The banded walruses were monitored through July and August by ADF&G island staff. During this period, the signals from two of three transmitters were received; frequencies 5660 and 6740. The dates frequency 5660 was received were: 13 July, 20 July, 21 July, 28 July, 29 July, 4 Aug, 7 Aug, 8 Aug, and 9 Aug. Frequency 5740 was located a few days after banding, but not heard again on Round Island. On 16 July, we received word that frequency 5740 was sighted at Cape Peirce.

The peak haulout number this year was 5,300 walruses, a dramatic drop from 12,400 in 1986. This decline in numbers may reflect changes in general walrus movement patterns due to seasonal sea ice conditions. Censusing occurred daily on all east side beaches, and more opportunistically on all the west side beaches. East Side Beach records of walrus numbers are referred to in Figures 2-13. West Side Beach records were maintained in the daily log. The haulout pattern of walruses deviated somewhat from the expected 9-10 day cycle, and preferred use areas shifted considerably from years' past. Main Beach and West Side North had a relatively high haulout occupancy. However, the east side beaches were not as popular, being used for hauling out later in the season, and then, only irregularly.

WILDLIFE NOTES

Gray Whales

The predictable gray whale migration occurred during the last week of April and the first two weeks of May. Casual observation suggested this was an early movement of whales through the region. According to Dick Sellers, peak numbers were present offshore prior to our arrival on 3 May. In general, whale activity was low compared to previous years.

In the past, whale numbers reached a high in this area during mid and late May. Frequent and lengthy play sessions between whales and sea lions have been observed as pods lingered and cruised offshore of the island. However, in May of this year, a bottom dragger fishery developed which continued through June. The dragger fleet intensified its effort to the east of Round Island with approximately 75 vessels present, ranging from 85' to 600' in length. The noise from this fishery was phenomenal, and its effect on gray whales is worth consideration. The 1986 report included a comment concerning potential damage to the ocean bottom and whale feeding.

Northern Sea Lions

Sea lions were regularly censused at East Cape throughout the summer. Peak numbers reached approximately 1,000 animals in May, coinciding with the herring season. Numbers decreased steadily to between 100-200 animals through August. No tagged sea lions were seen this year.

Red Foxes

Red fox numbers on the island were difficult to assess because of the lack of tagged animals. Only one fox was seen with tags (green/yellow in both ears, observed on Traverse Trail). A population estimate is a minimum based on active den sites.

Five breeding dens were active with pups. The Cabin Den pair produced four pups; the South Bench Den produced two pups+; and the Sea Lion Point, East Cape, and West Side Dens produced one+ pup each.

There were also "floater" foxes, that used general areas but were not associated with a den. These foxes were nonbreeders and not seen regularly enough to be identified individually.

A minimum population estimate is 10+ adult foxes.

Birds

A daily record of bird sightings is included in Appendix 2.

ANIMAL DISTURBANCE

Walruses

Walrus disturbances were relatively few this year. Offshore vessel traffic did not cause any disturbances, despite several boats entering well within the two-mile limit. The most common cause of disturbance was related to visitor traffic. There were several instances of walruses leaving the beach due to approaching visitors, however, some of these were related to walrus research.

The arrival and departure of Don Winkleman's boat service not uncommonly disturbed walruses in the vicinity of the Boat Cove landing area. From a few to over 50 walruses were regularly forced into the water as the "Puffin" approached. Large number of walruses, 100+, were disturbed at least twice as the "Puffin" motored offshore of the Main Beach area.

Visitors to the island are specifically instructed on how to approach walruses and what to look for as signs of potential disturbance, and most people take great precaution to avoid disturbance. As a result, there were only two instances of disturbance; one, a major disturbance of 50-60 animals that bolted into the water upon smelling the approach of a group; and the second, was a larger but more moderate disturbance where 100+ walruses slowly moved off a beach while 8-10 visitors were observing them from the bluff.

The activities of the research crew required forcing walruses out of the vicinity of drugged animals. This occurred seven times and involved disturbing 30-60 walruses each time. Approximately, 100-300 walruses were disturbed two different times during a phase of the operation.

As discussed briefly, a dragger fishery developed this year and was very successful in catching yellow-fin sole. (Reportedly the entire Bering Sea quota was caught in 100 mi² area, primarily to the east of Round Island.) The fleet is comprised of 85-120' catcher boats and 300-600' processor ships. It is an impressive newcomer to the area.

Dragger boats reported catching marine mammals in their nests; most cases involved sea lions. However, the vessel "Dawn" snared a walrus and successfully transferred it to the mother ship, where it was released from the net unharmed.

Boats frequently entered the sanctuary restricted area unaware of offshore access regulations. Subsequently, we spent a great deal of time on the water and making contact by radio from land and in order to inform the fleet of sanctuary access regulations and their purpose. Contact was made with NMFS observers and representatives on board and, after they brought up sanctuary regulations at several weekly meetings, the word spread through the fleet. Ken Taylor also made contact with the NMFS office in Seattle to inform them directly and request the fleet be reminded of regulations. It is recommended that this be done prior to each fishing season.

The dragger fleet was not responsible for any disturbances that we were aware of. The Round Island staff was very pleased at their cooperation with sanctuary regulations, and a good rapport was established. It should be noted, however, that coincident with the fishing related activity offshore, there was a delayed use of beaches by walruses on the island's east side. First Beach was never used as regularly as in the past, nor to a lesser extent, was Second Beach.

Only one instance of disturbance caused by air traffic occurred this summer. This was on 26 August when a group of day visitors took off from offshore of the east side of the island. Lift-off disturbed 100+ walruses on Main Beach.

Red Foxes

Red foxes appear to be sensitive to human disturbance during the post-pupping period of the summer. When the pups emerge in late June, and until dispersal in the fall, human activity around den areas is at a peak. People are naturally attracted and curious to observe pups playing and interacting with fox parents. However, five instances in the past have led staff to believe this may be a risky time to approach dens. In each case, foxes relocated to a new den following either a high degree of human activity or low, but persistent, human activity around the den site. This occurred twice in 1987, and resulted in island staff creating an arbitrary 100 m restricted area around the popular Cabin Den area.

It is known that adult foxes will vacate natal dens, moving pups to cleaner sites, thereby limiting the spread of parasites and disease. The effects of premature or lengthy relocations are not known. In 1986, one family group moved their den nearly a mile, just prior to having been "discovered" by a group of photographers. In 1987, another family moved under similar conditions, and were never seen again; the last sighting was of an adult trotting away from the den with a pup in its mouth.

HABITAT DISTURBANCE

There are three issues of concern regarding habitat disturbance: trails, the campground, and sanitation. The problems with trails are well known to anyone who has visited the island. During persistent rains and for weeks thereafter, the trails degenerate into mudslicks that can be knee deep. On sloping stretches of trail, especially, walking becomes difficult and can be dangerous.

Sanctuary policy limits all foot traffic to the trails in order to minimize disturbance. However, most people walk around muddy sections of trail, whether or not they are safe. As a result, the trails have become wider and deeper from the total breakdown of above ground vegetation and below ground root matting. Habitat destruction of this kind is a serious problem where the trail system runs adjacent to a cliff or over a creek or boggy area. These sensitive areas suffer noticeable vegetative deterioration every year because of unstable and unsightly slumping.

Unsafe trail conditions pose a serious problem on Round Island. The time needed to respond to a medical emergency may be several hours to a few days away, depending on weather. Most people visiting the island are not accustomed to walking on slick mud or lose rock and have a very difficult time. This year an 84-year-old man visited the island. Elderly people and those in only fair physical health have multiplied risks of slipping and injuring themselves on the trails. As more people use the trails there is an increased chance of mishap (refer to photos).

Disturbance to vegetation in the area of the campground is spreading and deepening as camper use increases. The below ground grass root mass has become exposed and no longer regenerates every year. Construction of a cook shelter has been considered as a means of containing foot traffic within a limited area, as well as protecting against fire hazard.

The present single outhouse is sorely inadequate. Sanitation problems conceivably could arise in the near future regarding safe drinking water. A simple solution to part of the problem is to relocate the outhouse to a location that is not in conflict with ground water drainage. However, the demands of 15-30 people per day will eventually require installation of a more sophisticated solid waste system.

MAINTENANCE PROJECTS

Numerous projects were undertaken on Round Island during the 1987 season. A listing and a brief description of the maintenance follows:

 <u>Trail system</u>. The sanctuary trails have required ongoing maintenance in an effort to stabilize them from erosion and to provide a safe path for visitors. The most heavily used portion of the trail, Boat Cove to the outhouse, is nearly completed with the addition of large rocks as stepping stones. Many more rocks are still needed along the trails and appropriate large stones are becoming scarce at the beaches closest to the problem areas. This will cause increasingly more time and effort for trail maintenance.

The wet weather this season created exceptionally muddy and slippery conditions, particularly in the areas of First and Second Beach. These areas are characterized by natural drainages saturated with ground water seeps. Wooden stakes were used to try and keep visitors from creating large mudholes; success was marginal.

It was discovered this year that a landslide had occurred approximately 200' from the end of the Traverse Trail leading to the north end of the island. The slide eliminated access to a favored photography spot and left a dangerous overhang of sod and grass. The staff installed a warning rope 2-3 feet from the edge and encompassing the entire end of the trail. (It should also be noted that the slide killed at least six walrus and most likely occurred in late fall of 1986.)

The trail system winds through tall grass that requires at least two or three complete cuttings along its edges. Unwanted shortcuts and new trails develop quickly after only one person heads off the main path. This season the most regular haulout of walruses was on Second Beach. Combined with the coincidental visits of large tour groups, this led to many new short trails and heavily worn spots overlooking second beach.

- 2) <u>Ice house</u>. The new ice house, constructed in 1986, worked well. The opening lid of the box permitted complete filling with snow in less than 30 minutes. About one foot of ice and snow had to be removed at the end of this season to facilitate better drying. Two inches of foam were added to the lid, as well as a cover of visqueen to reduce air circulation. Assorted hardware was also added to the ice house.
- 3) <u>Burn-barrel</u>. An unused, broken fox trap was dismantled and used to cover the barrel during burning. A forced air system was constructed of stove pipe and a five gallon can to push air under the barrel while it remained in the pit. This allowed safer burning under lightly breezy conditions.
- 4) <u>Refrigerator</u>. A new lid was installed on the refrigerator, complete with insulation. The bottom was cleaned of old food and ground water seepage. A false floor was built to keep the food buckets above the seep level.
- Fuel drum. The old rusty 55-gallon fuel drum was replaced with a newly painted drum.
- 6) <u>Bathing area</u>. The old pallet that served as the floor to the tub area was replaced with a plywood floor and was perforated to help drainage. A sliding tray was also added to help gain access to the stoves.
- Trash grate. A wooden grate was built to support the three trash containers. This reduced the amount of moisture on the wall and floor in that area of the cabin.
- <u>Garden</u>. A fair amount of effort was put into the 1987 garden. However, a wet and gray summer eliminated all but the rhubarb, radishes, carrots, and lettuce.
- 9) Boat cable. As in 1986, the boat launch cable was down and twisted in the surf upon our arrival to the island. All four rock bolts installed by the crew of the "Rainier" in 1986 had been sheared off over winter. Two new sets of larger bolts, four bolts each, were installed during the 1987 season. However, the proper replacement cable was not obtained prior to the end of the

season. This required the boat and gear to be hauled by hand the entire season, causing wear and tear on the boat. A new boat hauling system must be given serious consideration.

10) Shed. The door on the old shed had fallen off and so was remounted with new wood and hardware. A 3' x 4' x 4' storage box was constructed to ease the overflow from the old shed.

A major backhaul of trash (metal objects, cans, 55-gallon drum) was sent to the Togiak dump. Combined with the new storage box, the backhaul eliminated the unsightly collection of "stuff" from the past ten years.

- 11) Outhouse. A door and shelf were added to the outhouse. The bare wood on the inside was treated with preservative.
- 12) <u>Shore-box</u>. The old outhouse box located in the Boat Cove from years' past was cleaned, repaired, and converted into a storage box for boat supplies.
- 13) <u>Cooking platform</u>. Two triangular cooking platforms were built for use in the campground. The platforms proved extremely popular as they allowed cooking in windy and wet weather and reduced the chance of grass fires.

IVORY COLLECTION

A complete listing and recording of all ivory collected on Round Island for 1987 is presented in Appendix 4. Upon arrival to the island, no carcasses were present on the east side beaches. Also, very little loose ivory was found on the beaches. A single live shotgun shell was recovered on the beach, leading us to believe that ADF&G personnel not the first to arrive for the 1987 season.

Carcasses were found on the west side of the island under the area covered by the rock slide. Some of this ivory was recoverable.

A total of 23 tusks, or large pieces of tusks, were collected and cleaned, as well as seven noseplates with ivory. Two of the noseplates were from USFWS mortalities. The weight of the loose ivory excluding noseplates with tusks is approximately 125 lbs. It can be quite a problem to discreetly store this ivory, and is quite heavy to transport. It should be removed periodically over the summer in boxes built for this purpose. The permanent storage of this material is already becoming a problem. It is hoped that permission to auction the ivory is not to many years away.

RECOMMENDATIONS

Visitors

If visitor use patterns maintain the present trend of growth, the island may realize the allowable limit of 30 people per day within a few years. The present condition of trails, campground, and sanitation facilities indicate that the island will suffer from habitat destruction and offer a lesser quality of experience if that 30-person maximum is sustained. Long-term objectives need to be supported and implemented in order to avoid an imbalance of the formula "the most people and the least impact" that is applied to our special areas.

The typical conditions of wet, steep trails can best be improved by creating a system of stones, boardwalks, and bridges. In areas where rock laying has failed in the past, limited stretches of wooden grating would provide safe walking and allow revegetation, while stabilizing the soil. In other areas, the trail intersects five small drainages with seasonal surface run-off. These sections of trail are particularly delicate habitats, and would be adequately protected by short, wooden bridges.

A capital improvements project has been submitted for FY89. The proposed project work plan included:

- Trail improvement, to include laying stone, installing bridges and boardwalks, and erecting a hand-line system, and;
- <u>Campground shelter</u>, a 10' x 12' basement-type cabin, to provide severe weather protection and prevent fire danger, and;
- Sanitation facilities, to replace a single outhouse and install a more effective system.

If CIP monies are not awarded to the department for this project, funding should be created elsewhere to, minimally, begin major trail improvement work.

Several additions to the Round Island application handouts are appropriate. First, the difficulty of the terrain should be emphasized. People in poor physical condition should be specifically discouraged from venturing to the island. Second, special interest groups should not be led to believe they will be given special treatment. Our policy has been to work people's needs, that otherwise defy sanctuary regulations, into our own schedule. However, this has not always proved to be an acceptable agreement for some visitors. Third, foreign-speaking persons should be aware of all island restrictions before obtaining permits. If costs were reasonable, a bilingual brochure may solve communication problems.

An updated permit may be in order, as several people expressed interest in activities that were not addressed in the permit. Permit conditions might include: 1) a restriction on taking plants, and 2) no pets to be allowed on the island.

A number of visitors expressed interest in helping support the sanctuary through a visitor fee system. Logistical costs involved in getting to Round Island are expensive except, perhaps, for locals. The concensus was that to add another \$25-40 costs would not be prohibitive, especially if ADF&G budget constraints threaten sanctuary maintenance and management.

Access and Disturbance

Visitors to Round Island usually arrive by boat, though floatplanes and helicopters make the trip irregularly. Disturbance related to legally permitted access has not been a big problem, but is mentioned out of caution.

The three types of access possible are each associated with variable degrees of disturbance. The "Puffin" boat service is a source of limited and regular but localized disturbance of walruses. Informed pilots of aircraft have caused major but less frequent and inadvertent disturbance. Helicopter landings have caused unavoidable major disturbances when walruses are hauled out on the east side beaches. The incompatibility of wildlife and helicopter traffic is an issue of concern.

Helicopter viewing of wildlife has become a popular recreation in Alaska and elsewhere. The possibility of unregulated air traffic is real, as there exists no air space restrictions around the island. Landing during any time but early season, pre-peak walrus haul-out, would cause major disturbance. The staff recommends prohibiting such helicopter activity, excepting when east side beaches are without walruses.

Research

The USFWS drugging and tagging operation has raised questions concerning the suitability of certain types of research and the sanctuary's public relations interests.

The research operation involved the use of experimental drugs. The outcome was unpredictable, with 50% success. The ultimate management benefit outweighs the risk and loss of a limited number of walruses. However, the public is not always sympathetic to this justification. Because of this, it is appropriate to use discretion when there is a chance of negative public reaction.

During the research effort this summer, there were two times when animals were drugged on Main Beach when visitors were present on the island. Main Beach is a favorite viewing area by visitors, and both drugging attempts resulted in walrus deaths that were in view of the beach observation lookout.

The staff recommends that if "high profile" research is planned for Round Island in the future, it should be limited to the west side beaches. An alternative is to perform research at a time when visitor activity is minimal. It is also recommended that the number of people involved in the research effort be included in the daily limit of 15 campers per day.

Daily Records

Records are maintained daily for reporting of staff activities, enforcement, and wildlife observations. The notes on wildlife observations can be improved by including comments with greater detail and more regularity. The three wildlife areas that could benefit by being given more attention are: whales, sea lions, and terrestrial birds. Also, the collection of plants remains incomplete and with effort could be finished.

Seasonal staff are in a fortunate position to collect interesting, if not valuable, information about year to year comparisons. These baseline data provide a point of reference in future years. Examples of an improved observation base might be: 1) whale watches, to include a 15-minute scan and count twice daily of offshore whale activity; 2) sea lion watch, to intensively search the colony weekly in an effort to locate tagged animals; 3) bird watch, one hour weekly for record of passerine activity (from a location behind the cabin that attracts song birds); and 4) to collect newly emerging and flowering plants at all stages of senescence in an effort to complete the Round Island plant collection.

Ivory

Handling large quantities of ivory can be conspicuous and awkward. It is recommended that two $36" \times 18" \times 12"$ wooden boxes be built for storage of ivory. Once a month, or when necessary, a supply should be sent to town in these storage crates, so that an unmanageable volume is not stockpiled at the cabin.

Island Facilities

The recent capital improvement project proposed maintenance and repair work on the cabin and the boat launching system. A list of improvements for the cabin included:

- air vents, to improve air circulation;
- window, to improve air circulation by installing a window that opens in the loft;
- weatherproof cabin, to counteract external weathering by applying fresh coats of wood preservative, and;
- roofing, to replace torn and leaking roof material.

A list of supplies and repair work was recommended for the boat launch, as follows:

- 1) repair or replacement of the cable system;
- repair or replacement of the pulley system, and;
- installation of a launch ramp.

All these projects would help improve the island's facilities and provide needed maintenance and repair.

Management Plan

Development of a management plan would provide a sound set of guidelines for the future. Much of the groundwork has already been compiled in one form or another, and an operational plan written by Ken Taylor provides a strong starting point that has already received ADF&G review.

There are several benefits in proceeding to completion of an officially approved plan for management of Round Island. In the momentum of increased access and use of the island by a variety of recreational, scientific, and educational groups, future island staff and managers need a constant point of reference to help in decision making. This would also provide continuity to island procedures and limit the influence of a single special interest group.

L'OT TESTOR OUS OF HOMEN LUIGH	987	7 Visitor	Use	of	Round	Is	lan
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Date	# Pe Part	er cy c	# Days # of Stay	Visi Day	tor- s	Transportation Used	Home Location
		11					
4 May	14		1	14		Desperado	Kodiak
"	7	21	1	7	2.	Rebel	Anchorage
11	4	25	ī	4	15	Renaissance	Dillingham
7 May	5	30	ĩ	5	30	Little Comfort	?
11 May	5	3.	1	5	35	Icicle	•
	-		-	-		Helicopter	Dillingham
13 May	4	21	1	4	31	ADF&G	orrenonam
10			•			heliconter	herring camps
16 May	5	11	1	5	-1	Puffin	Togiak
"	3	4+	1	3	17	Garfield	Manokotak
23 MAY	2	11	ĩ	2	19	ADF&G	
nay	-	- 574	-	-		helicopter	herring camp
24 May	3	84	1	3	51	Topaz	Kodiak
4 June	4	11	ĩ	4	100	Hickory Wind	Kodiak
4 June		1,0	-4	-16	22	Puffin	Dillingham
7 June	1	1.1	3	3	15	Puffin	Dillingham
11	2	.3	1	2	1+	NOAA skiff	Seattle
11 June	3	حاد	2	6	9,3	Puffin	Fairbanks/
							L.A., CA
13 June	1	0-	7	7	°C	Puffin	Fairbanks
11	- 1	03	45	45	35	Puffin	Fairbanks
17 June	25	93	1	25	: ac	Rainier launch	NOAA crew
18 June	- 2	15	4	8	:05	Puffin	Anchorage
19 June	3	2.	4	12	130	Puffin	Dillingham
11	3	151	15	45	1	Puffin	Canada/
							Anchorage
25 June	. 2	-	10	20	* 5	Puffin	Missouri/
							California
27 June	6	1 -1	3	18	2 6 4	Puffin	Dillingham
**	2	1 ± 4	7	14	1.4	Puffin	California
**	3	$a \in \mathcal{A}$	1	3		Rainier	Seattle
2 July	2	17	10	20	° C	Puffin	Maine/Nome
	13	129	5	65	36.7	Puffin	Victor
					areas.		Emanuel
8 July	4	133	2	8	34 5	Puffin	?
	- 1	134	7	7	2. 3	Puffin	?
9 July	2	130	5	10		Puffin	Germany
10 July	- 1	• •	3	3	(A	Puffin	Togiak
12 July	3	*	1	3	•	Puffin	Dillingham
15 July	- 3	5	3	9	+05	Puffin	California
16 July	2	7 4	2	4	4.09	Puffin	Dillingham
"	2		4	8	4.53	Puffin	Iowa
19 July	5		6	30	N	Puffin	Fairbanks
21 July	2		4	8		Puffin	Anchorage
23 July	2		5	10	1	Puffin	France

Appendix 1. (cont'd)

		# P	er #	Days	ŧŧ	Visitor	- Tr	ansportation	Home
Da	te	Par	ty o	f Stay		Days		Used	Location
23	July	1	152	4		4	119	Puffin	Fairbanks
"		1	197	19		19	158	Puffin	Fairbanks
**		5	13	1		5	19:	Alcvone	France
24	July	7	10	1		7		Alcyone	France
25	July	13	1 53	3		39	1	Puffin	Calif/NY/
									Seattle
26	July	4	1:7	1		4	5	Puffin	Koliganek
28	July	1		3		3	330	Puffin	Australia
28	July	3	,	1		3	541	Credo	Seattle
11		9	- 10	1		9	610	Ingolf	Dillingham
30	July	3	203	3		9	2	Puffin	King Salmon/
	,			-					Colorado
31	July	- 3	220	9		27		Puffin	Anchorage
1	August	2	5-5	2		4	· · ·	Puffin	Unalaska
2	August	8		1		8		Puffin	Cannery crew
7	August	1		5		5	2	Puffin	Sitka
8	August	5	*	2		10		Puffin	Wisconsin
12	August	1	2.	25		25		Puffin	Fairbanks
=		1	÷	21		21	15	Puffin	Fairbanks
12	August	2		4		8	2.	Puffin	France
11		5		2		10	1	Puffin	New York
13	August	1	13	6		6	3.14	Puffin	Anchorage
14	August	2	-3.	2		4	615	Puffin	Seattle/N.Y.
"		3	13	2		6	5-	Puffin	Seattle
16	August	4	- 71	2		8	- 7	Puffin	Dillingham
"		1	743	29		9	2.3	Puffin	Fairbanks
19	August	2	2.1	4		8	2-	Puffin	Dillingham
"		2	A 1	- 4		8	- 1	Puffin	Germany
21	August	1	21	- 4		4		Puffin	Dillingham
22	August	2	• 1	14		8	*	Puffin	England
26	August	6	1	51		6	1	Tikchik	
								Lodge Beaver	Arkansas

Total Grand

752

2

Total day visitor <u>124</u> Total overnight campers <u>131</u>

255

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1.1.12.4.

APPENDIX 2

BIRD LIST 1987

4-28-87	Pelagic cormorants Pigeons guillemots Glaucous-winged gulls Black-legged kittiwakes	8-2-87	Ruddy turnstone Western sandpiper Dunlin
	Harlequin ducks	8-26-87	Brown-headed cowbird
4-29-87	Sandhill crane Ravens Gray-crowned rosy finch Bald eagle, immature		
4-30-87	Common murres		
5-1-87	Parakeet auklets		
5-2-87	Pintail Steller's eider Savannah sparrows		
5-5-87	Cliff swallows Short-eared owl Horned puffin Water pipits		
5-9-87	Tufted puffins Hawk (dark-underside?)		
5-10-87	Tree sparrow		
5-11-87	White-crowned sparrow		
5-13-87	Golden-crowned sparrow Tree swallow Snipe Northern phalarope		
5-14-87	Wandering tatter		
5-15-87	Whimbrel Hermit thrush		
5-17-87	Red-faced cormorant		
5-28-87	Orange-crowned warbler		
5-31-87	Wilson's warbler		

6-2-87 Yellow wagtail

Vessel Contacts 1987 Herring Fleet

Desperado Rennaissance Rebel Little Comfort Impala Garfield Colleen Thunderbolt Jazz

Dragger Fleet Processors (w/some VHF channels and observers)

Korean

Russian

Japanese

K-HoTymovsk - Ch 7 (Laura)Akisi-Maru-Ch 74Asung-HoVladivostok - (Jim)Tashama-Maru-Ch 68Charley-Ho-Ch 79 (Russ)Baganova - Ch 11 (Diana)Takashimo-Maru-Ch 69Papa-Ho-Ch 62Hamil-Ho-Ch 6565

Yellow-Fin Sole Dragger Fleet (catcher boats and a few skippers)

Exodus Excaliber I Excaliber II Topaz - Mark Chandler Hickory Wind - Dennis Cook The Dawn - Corky Golden Dawn Orion 501 Ambition Viking Explorer Ocean Spray Hazel Hazel Lorraine The Dusk Coho Paragon II - Eddy

Elizabeth F. - Steve

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Emerald Sea
Oceanetta
Columbia - Jim
U. S. Dominator - Bill Jensen
Revolutionair
Alaskan Pride
Sleep Robber
Pelagos
Distant Water
Pacific Viking
Dona Marrita - Bob
Golden Venture - Larry
State Rebel
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Ivory Inventory 1987

<u>Tusk #</u>	Weight (lbs ozs)	Frontal length (inches)	Maximum girth (inches)	
1	9.0 lbs	31	9 3/4	
2	4 1b. 4 oz.	25 1/2	7 1/4	
3	2 1b 8 oz.	17 1/4	7	
4	3 lb 1/2 oz.	19 1/4	6 3/4	
5	4 lb. 8 oz.	23 1/4	8 1/4	
6	6 lb. 2 oz.	27	8 3/4	
7	6 lb. 10 1/2 oz.	28 1/2	8 1/4	
8	5 lb. 2 1/2 oz.	22 1/2	8	
9	6 lb. 7 1/2 oz.	31	7 3/4	
10	6 lb. 6 oz.	33 1/2	7 3/4	
11	5 1b. 6 oz.	23 1/2	8	
12	4 lb. 11 oz.	19	8 1/4	
13	4 lb. 8 oz.	23	8	
14	6 lb. 2 oz.	26 1/2	9	
15	6 1b. 2 1/2 oz.	29 3/4	8	0
16	5 lb. 3 oz.	25 1/2	7 3/4	
17	6 lb. 14 oz.	27	8 3/4	
18	5 lb. 8 oz.	27	8 1/4	
19	6 lb. 3 1/2 oz.	27 3/4	8 1/4	
20	7 lb. 1 oz.	28	9	
21	1 lb. 14 oz.	17	6	
22	to be done			
23				

Total lbs. approx. 114 lbs.

Seven (7) noseplates w/tusks were also collected. Two of the seven were from USFWS mortalities.

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Cabin Inventory

Back room (under the bed)

1 - 1	DOX 1	kle	een	ex
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- 31 rolls toilet paper
- 2 rolls paper towels
- 5 boxes 1 qt. ziplocs approx. 350 bags
- 3 boxes 1 gal. ziplocs approx. 70 bags
- 3 75' boxes aluminum foil
- 2 100' boxes waxed paper
- 1 box white garbage bags

Boxes under bed

- Assorted noodles: many packages
- "Lettuce box": grain cereal, corn meal, dry milk, raisins, pecans, dried soups, kool aid, peanuts, cocoa.
- Misc. box: mayonnaise (3), parmesan cheese (2), matches, cheerios, jello, syrup, tea, oatmeal, rice cakes.
- 4. Cracker box: rice (4), pretzels (2), boxes assorted (10).

Lumber (in loft)

(under cabin)

of plywood

1 - 4' x 8' sheet 3/4" plywood 1 - 2' x 8' sheet 1/2" plywood 2 - 1' x 8' sheets 1/4" plywood 2 - 2' x 8' sheets 1/4" plywood 1 - 4' x 4'-5' odd shaped plywood

7.1 6.

2 - 2 x 4s 8' long assorted small cuts

approx. 30 gallons heating oil approx. 75 lbs. propane

approx. 5 gallons gasoline approx. 5 gallons blazo

Wish List

Rain gauge Wood preservative - four gallons Thermometer - max/min Anomometer Distance finder - two-mile range Propane bottles - four-35 lbs. Small vise





















(BOUTH FALING)

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B







NORTHERN END OF TRAIL ABOVE MAIN BEACH, ROUND ISLAND, 1987. TRAIL LOST TO A LANDSLIDE OVER 86-87 WINTER.

