

MEMORANDUM

1980

TO:

Ken Taylor
Game Biologist
Dillingham, AK

DATE : September 8, 1980

FROM:

Alfa H
Jim Taggart & Cindy Zabel
Game Biologist I, Game Tech. III
Round Island, AK

SUBJECT: 1980 Interim Report, Round
Island

The objectives we expect to accomplish this year are:

- 1) Prevent harassment of walrus on the sanctuary
- 2) Assist visitors so that observation of walrus is done in a non-disruptive manner
- 3) Conduct walrus research
- 4) Study the red fox population

cc: Jim Faro *copy sent 9/9/80. JZ*

JT:CZ:jcb

1980 INTERIM REPORT, ROUND ISLAND

DISTURBANCES

Compared to past seasons the number of disturbances has dropped dramatically.

One boat landed on the tip of the spit causing a substantial disturbance. Approximately 2,000 walrus were harrassed off the beach by rock throwing and people being too close to the herd. Six people were apprehended and informed they were in violation of trespass of the sanctuary. Although they were belligerent, they left with no further violation of the sanctuary. No other significant boat disturbances occurred.

There was a flurry of airplane disturbances the 21 and 22 of August. Two and five planes respectively circled the island blatantly within the protected air zone. In addition, throughout the summer, six planes circled the island on the edge of the protected air zone.

Apparently word is getting out that access to the island is by permit only.

WALRUS RESEARCH

There were two major objectives for the 1980 season:

1. We surveyed the entire island each day to estimate the number of walrus hauled out. Autocorrelation analysis will be run on these data as well as correlations with weather parameters.
2. We determined the length of haul out and feeding excursions of individual walrus by attaching transmitters to the tusks. The island was scanned for transmitters once daily while survey for abundance was conducted.
3. Several types of tags were tested for durability and visibility.

The transmitters were attached by two methods. Fifteen transmitters were attached to the tusks of sleeping walrus with a hydraulically powered banding tool we developed last winter. Of these, fifteen transmitters, two had electronic malfunctions, and one fell off around August 25. The remaining 12 are still attached and functioning.

Six transmitters were attached with a latex banding tool, which we also developed last winter. Around the latex band was a conglomeration of pigmented underwater epoxy and fiberglass fiber. There was variable success

with this technique. Once transmitter fell off immediately, one was never picked up, 2 stayed on 3 weeks, two stayed on 5 weeks, and one was visually resighted August 26. No analysis has been done on the transmitter data yet. The walrus are hauled out from 2 - 5 days and foraging trips range from 7 - 12 days.

Visual tags were placed on 14 walrus with the latex banding tool. Double tagged walrus were resighted with only one tag. This technique needs further development to minimize tag loss. Nevertheless one tag was recovered on a walrus carcass on Cape Seniavin.

RED FOX BEHAVIOR STUDY

During the months of May and June individual foxes on Round Island were followed from distances as close as 25 feet, and their social behavior and activity patterns were observed. Breeding foxes led me to their dens, and male foxes were observed delivering birds to dens where nursing females retrieved the food. Although many fox studies have been conducted by other researchers, direct observation of wild foxes is virtually non-existent (with the exception of a few notes from Murie). Whether male foxes assist in feeding and raising young has remained unknown. During July and August, I intensively observed activity at 2 den sites. Frequency of trips each adult fox made to the den, food items they brought in, adult-pup interactions, and pup-pup interactions were all observed and recorded.

There are complex reproductive systems occurring on Round Island, never before documented among foxes. One male mated with 2 females who nursed their litters in separate dens about 1/8 mile apart. The male delivered food to both dens while the females nursed, and the females left only for short periods of time to forage for themselves. I observed pups at both dens about July 10. By July 15 the 2 litters had been combined into the larger of the 2 dens and all 3 adults delivered food to the pups.

Two females were associated with another den, although only one was lactating. The second female was submissive to both the lactating female and the male. I observed this "helper" fox dig a second den on July 15, and the 5 pups were seen the next day in the new den about 100 yards upslope from the original den site. The "helper" fox was frequently seen "playing" with the pups, and the parent foxes were never observed doing this. All 3 foxes delivered birds to the den. By August 15, the family had moved into a third den site, about 200 yards from the second den. The pups were by this time observed traveling back and forth between the 2 latter dens.

RED FOX BEHAVIOR STUDY - CONTUNUED

Three more active dens were located in late August, after the pups had beat down large patches of grass making the dens fairly obvious. Therefore, at least 5 family groups were reproductively active this year. From studies done in the midwestern US, one family group would be expected on an area the size of Round Island. The adult fox population is at least as great as the 12 foxes associated with 5 dens, and I estimate there are probably 20 adults. (I can visually recognize 10 adults from natural markings, all on the east ½ of the island, 3 known to be non-breeding.) Such unusually high densities of foxes has never been documented and may explain the complex social system. I estimate there are 35 pups.

A male and female adult pair have been extensively followed on the east side of the island; they were not reproductively active. The range of this non-breeding pair is a small area within the larger range of the polygamous male and 2 reproductive females. The non-breeding pair are subordinate to the parent foxes, but are tolerated within their range. Aggressive displays were frequently observed, but no fighting or biting was ever seen.

Data will be analyzed to determine if there are dominance heirarchies within sibling groups. Past studies with captive foxes indicated there was relative dominance, i.e., whichever pup first found a food item, kept that food from siblings. It appears that on Round Island there are absolute dominance heirarcies. Among 10 siblings tagged at one den, aggressive male pups were frequently seen taking food from siblings.

Pups were tagged at the 2 den sites we intensively observed. At one den pups were snared with fishing line dangled into their "playground" from a rock 25 ft. directly above the den. The adults were unaware of this procedure, as they were never present when pups were handled. Pups at the second den site were tagged by a combination of methods: one was hand-grabbed, one was snared from a pulley system "clothes line" 15 feet above the den, and the remainder were caught in a Victor box trap.

Two adult foxes have been remotely tagged by snaring them with nylon cable ties. This method allows the fox to collar itself; without being handled. A fox pen has been built at camp, and two foxes have become trapped in this enclosure in the past week, whom have been ear tagged. Their behavior appears to be altered as a result of having been handled.

ROUND ISLAND VISITORS

JULY 1, 1980 - SEPTEMBER 4, 1980

<u>DATE</u>	<u>NUMBER VISITORS/ PARTY</u>	<u>TOTAL LENGTH OF STAY</u>	<u>#"UNPLANNED WEATHERED-IN" DAYS</u>	<u>NUMBER MAN-DAYS</u>	<u>NUMBER CAMP-DAYS</u>	<u>MODE OF TRANSPORTATION</u>
7/3 - 7/8	2	6 days	5 (3-DLG 2-RI)	12	10	YUTE AIR
7/3 - 7/19	1	17 days	3	17	16	YUTE AIR-IN FISHING BOAT-OUT
7/19	6	2 hours	0	6	0	FISHING BOAT
7/20	4	5 hours	0	4	0	FISHING BOAT
7/20	2	3 hours	0	2	0	FISHING BOAT
7/20 - 7/22	3	3 days	0	9	6	FISHING BOAT
7/22	5	1½ hours	0	5	0	ICICLE SEAFOOD HELICOPTER
7/23	5	2 hours	0	5	0	FISHING BOAT
7/23	3	2 hours	0	3	0	ICICLE SEAFOOD HELICOPTER
7/25	4	2 hours	0	4	0	FISHING BOAT
8/11	2	4 hours	0	2	0	FISHING BOAT
8/12 - 8/13	2	2 days	2 (2-DLG)	4	2	FISHING BOAT
8/23 - 8/24	2	2 days	0	4	2	FISHING BOAT
8/23	7	3½ hours	0	7	0	FISHING BOAT
8/26	3	1 day	0	3	0	FISHING BOAT
8/29	2	7 days	5	14	12	FISHING BOAT
8/29	5	7 days	5	35	30	YUTE AIR
TOTALS	58	48 days ½ hour	20	136	78	

Visitor use of Round Island has not increased significantly since 1977. The mode of transportation changed with more fishing boats bringing visitors, and fewer airplanes arriving than in previous years. Local use did increase during 1980 relative to past years, with many Bristol Bay fishermen stopping in for a few hours visit. (Four parties non-local, 14 parties local.)

Visitors created no major disturbances of walrus herds while arriving or departing from the island, unlike previous years. The "Round Island Permit" creating an entrance corridor through Boat Cove seems to have prevented unnecessary harassment of walruses.

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