1978

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1978 Round Island Report

Attached is the report I wrote up on the 1978 field season on Round Island. I hope it suffices. If you have any questions or need greater detail, give me a shout. If you need to edit and/or modify the text go ahead; I'll trust you not to put too outlandish words in my mouth.

cc: Faro OC: Skrode ç

During 1978 two biologists were stationed on Round Island from May 10 to September 23 to conduct a joint Department of Fish and Game - U.S. Fish and Wildlife Service research project, to enforce regulations of the Walrus Islands State Game Sanctuary, and to monitor visitor use of the island. Mr. S. James Taggart and Mrs. Cindy Zabel were the two individuals hired. The majority of the logistic support costs, especially air charter fees, were paid by the Fish and Wildlife Service and the Department provided most of the equipment and salary funds.

In addition to Taggart and Zabel, Dr. James Estes and Mr. Dough DeMaster of the U.S.F.& S. and Mr. James Faro of A.D.F.& G. participated in the research program. These three men spent ten days on the island in May assisting with the assessment of using drugs to immobilize walrus for telemetry studies. Mr. Christian Smith, A.D.F.& G. biologist responsible for management of the Sanctuary, also spent 7 days on the island in June to become familiar with the area and research project.

The current research project involves three broad subject areas. The first of these is basic patterns of individual behavior. Data are being gathered through radio telemetry on the timing and duration of visits to the island as well as "loyalty" to a particular hauling out area. This information will help refine estimates of population size in the future. The behavior of individuals within groups is being monitored to determine relationships between activity and various environmental factors such as temperature and tide stage. This data not only provides clues to the walrus' thermoregulatory abilities, but helps in interpretation of the second major objective of the study, analysis of social interactions. Earlier research done on walrus social behavior on Round Island is being re-evaluated and up-dated by the current program. Among the elements being examined is the role of age and tusk size on distribution on beaches of varying "quality." To accomplish this, the researchers developed a technique for optically estimating tusk length of sleeping bulls. These data were transformed into age frequencies and rough graphs of age distribution of the population have been drawn (Figure 1.). This technique could prove valuable in monitoring future changes in age structure of the Bristol Bay population. The final aspect of current research is the assessment of human disturbance factors on the walrus. > Incidents such as low overflights of aircraft or boats cruising by the island are recorded along with the animals' reactions. This information is vital to monitoring the effectiveness of existing Sanctuary regulations and their enforcement.

Taggart and Zabel also performed an important function as deterrents to potential violators. On several occasions, their appearance resulted in the immediate departure of fishing boats encroaching on the island. In at least one case they averted an attempt to illegally take a walrus, and in August "arrested" two men and a boy charging them with taking a walrus in a closed area and seizing their rifle and axe. At the time of their arrest, the violators were attempting to chop tusks off of sleeping walrus with an axe and break tusks off by dropping

boulders on the animals from above. In subsequent court action, each man was fined and one jailed; the boy, a juvenile, was not prosecuted. If the island were not staffed full time during the summer such violations would occur often enough to nullify the intent of the Sanctuary.

Finally, as more photographs and articles about Round Island appear in nature journals, visitor interest and demand escalates. Personnel on the island serve a valuable function by assisting in the logistics of visitation, providing for public safety, interpretation of wildlife values and, especially in the case of professional photographers, policing the activities of visitors to prevent harassment of the walrus. In 1978, 33 permits were issued for a total of 305 individuals. Of these, 3 permits were for the 216 members of 3 Lindblad Explorer cruises which spent a half day each at the island. Of the remaining 30 permits for 89 persons, 9 permits were used by 23 individuals for a total of 116 visitor days. Most of the other 21 permits were not used due to bad weather. The importance of having personnel on the island to prevent harassment was demonstrated many times as Taggart and Zabel had to continually supervise, and in one case issue a warning to, a photographer. Their role in public safety is summarized by a quote from their report on the field season. "If we weren't manning the island and poor weather had delayed departures, at least two people would have starved, and seven people would have died from exposure."

Plans for 1979 include an expanded radio telemetry program funded by the Center for Coastal Marine Studies of the U.S.F.&W.S. along with continuing behavioral research. Visitor use is expected to increase over previous levels, and the expanding Togiak herring fishery will likely lead to greater law enforcement problems. Staffing of the Sanctuary will have to remain a high priority item in Game Division budgeting if we are to continue to protect and study this unique walrus hauling ground. DISTURBANCES

The number of disturbances were fewer this year relative to 1977. Presumably this was due to poorer weather conditions, "In June an average of 3 disturbances/week were noted; July 4.75/week; and August 2.25/ week. During August 1977 there were an average of 8/week recorded. The potential for disturbance increases each year as more professional photographers advertise Round Island with pictures and/or articles. The greatest problem is small aircraft circling the island at less than 500 feet elevation in an attempt to photograph and view walruses from the air. On six occasions during the summer the entire island was cleared of walruses as a result of such activity. Although this obviously hasn't caused abandonment of the sanctuary, the cumulative affect of such disturbance and/or an increase in the future could be devastating. The abandonment of past hauling grounds along the coast of Alaska is well known. Although such disturbances are a violation of the law enforcement has been unsuccessful due to the apathy of the present judicial system. This problem should be given serious consideration.

The fact that we can not control disruptive aircraft makes it difficult for us to enforce a double standard with photographers who want to take disruptive pictures.

One question we have asked ourselves is why motor sounds, even the sound of high commercial planes, alarm the walrus. Several times this summer we heard vocalization that sounded like a motor, which resulted in stampeding walruses. Possibly this motor sound is an alarm call and planes are an approximate duplication. We are not drawing conclusions, merely suggesting a possibility so that it can be watched for in the future.

DISTURBANCES

Date	Time	Discription
5/25	1725	185 circled island at less than 300 feet elevation from West side to First Beach SE.
5/27	1020	High commercial prop .
5/28	1350	High commercial prop
5/31	1730	Goose circled island at 500 feet.
6/1	0920	High commercial prop
6/3	1605	185 circled island at 250 feet.
6/7	1425	Cherokee circled island twice at 500 feet
6/15	1345	High commercial prop
6/18	1930	Goose landed
6/18		Lindblad Exploer
6/24	0930	Goose landed
6/24	1530	206 landed
6/26		Lindblad Exploer
6/27	1400	High Comm prop- spooked 1st,2nd, 3rd beaches.
6/2-	0825	High Comm prop
6/30	1230	206 landed
7/6	1215	High comm prop
7/10	1800	Goose landed
7/12	1400	High Comm prop
7/13	1600	High Comm prop
7/13	1800	High Comm jet
7/13	1900	2 fishing boats circled close; pulled into 3rd beach
7/13	1805	Supercub flew over north end of island at 500 feet
7/15	1500	Cherokee circled island twice at 300 feet; dove at spit
7/16		Fishing boat pulled into 15 beach and anchored.



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DISTUPBANCES

Date	Time	Discription	0
7/21	1100	High comm jet	
7/21	1930	28 feet sternpicker anchored off spit	
7/22	1015	Comm prop	
7/22	1900	Goose landed	
7/23	1405	Comm prop	
7/23	1730	Comm prop	
7/28		Lindblad Explorer	
7/30	0930	Comm prop	
	1545	Comm prop	
7/31	1210	Super cub landed	
	1232	Super cub took off	
8/1	1130	Goose landed after circling island at 200 feet and spooking all beaches.	
8/1	1545	Comm prop	000
8/5	1115	206 landed	
8/9	1030	High prop	
8/16	2105	Small prop at Crooked Island	
8/17	0835	High prop	4
8/22	1720	185 at north end of island	
8/23	1900	206 landed	
8/25	1300	Fishing boat anchored in front of camp	

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VISITOR USE

Visitor use of Round Island was about the same as last year (see chart). As usual, arrivals and departures were delayed by poor weather and sea conditons. As usual, we encountered people with inadequate food, inadequate tents, inadequate rain gear, inadequate rubber boots, inadequate leg muscles, and generally inadequate psychologically for the poor conditions they encountered. If we weren't manning the island and poor weather had delayed departures, at least two people would have starved, and seven people would have died from exposure. Clearly people come unprepared because they know we'll bail them out. Especially since research plans for next summer are so ambitious, we feel that the detailed visitor information brouchere is an excellent idea.

Last summer we had problems with photographers working from boats. With the change in the permit over last winter, we had no further problem.

Except for a few pushy individuals, the three Lindblad Explorer visits went smoothly. On the third visit they were several days late and failed to both have their permit extended and to inform us of their new ETA. We let them know it was an inconvenience to us and to be more careful in the future.

Round Island Visitors

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May 10, 1978 - September 23, 1978

e	Number Visitors/ Party	Total Length of Stay	Number "Unplanned Weathered-in" Days	Number Man-Days	Number Camp Days	Mode.of Transportation	
8-6/24	2	6	0	12	12	Penn Air	
4-6/30	2	7	3	14	12	Ute Air	
0-7/22	3	13	7	39	36	Penn Air	
1	2	2 hrs.	0	2	0	Fishing boat	
-8/5	2	5	0	10	8	Ute Air	
	5	1/2 day	n	5	0	Ute Air	
0-8/18	3	8	1	24	24	Penn Air	
3-8/26	2	4	n	8	6	Ute Air	
'5 Total	2	<u>3 hrs</u> . 44	<u>0</u> 11	_2 116	<u>98</u>	Fishing boat	0
8	80-100	1/2 day	0			Lindblad Explorer	
°6	80-100	1/2 day	0			Lindblad Explorer	
'8	80-100	1/2 day	0			Lindblad Explorer	

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TUSK MEASUREMENT

This summer we began developing a technique to remotely measure tusk lengths of sleeping walrus. The idea behind the technique is simple; by calibrating the zoom and focus on a spotting scope, the size of the field can be determined and then the size of the tusk can be accurately estimated if they are perpendicular to the observer.

The present scope needs to be perfected. The way it is set up, tusk measuring is tedious and accuracy could be greatly augmented by a few minor changes and additions.

Once the technique is perfected and the teeth from all the skulls have been sectioned, we should be able to estimate the age structure of the population using the island. If large enough samples are collected over a number of years, it should be possible to detect changes in age structure.

Eleven samples (50 walrus each) were collected. No significant differences were found between the first 6 samples, so presently all the data is combined into the graph (). In graph () is tusk length-age data worked up by Faye. Using this graph for converting tusk length to age, our data is regraphed (see graph). From this last graph we conclude the majority of the walrus using Round Island are between 10 and 20 years old.





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Faye, 1972, unpubl. "Structure, Form and Growth of the Tusks and Other Secondary Teeth"

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CARCASSES

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ate	Location	Carcass Condition	Apparent Injuries	Blubber thick- ness	Body Lgh. cm,	Tusk Lgh. cm. R.	L.	Tus Circ cm. R.	k um L.	Coll. Ivory	Coll. Skull	Coll. Baculum	Ivory Previously Chopped	No.
/13	Spit	-	-	-	-	51	50	20	20.5	-	x	-	-	1-78
/18	West Side	Fresh Kill	Drug over- dose	-	-	50	51	18	18.5	-	х	x	-	2-78
/18	Spit		-	-	-	-	-	-	-	-	-		X(2)	-
/31	West Side	-	2	=	-	40.5	40	22	21	-	х	-		3-78
/1	Spit	-	-	-	-	-	-	-	-	-	-	х	X(entire skull)	-
/1	West Side	Inaccessable skull	-	-	-	-	-	-	-	-	-	-	-	Ξ.
/3	Spit	-	-	-	-	57	49.5	23	22.5	-	х		-	4-78
13	Spit	-	-	-	-	53.5	49.5	23.5	23.5	-	х	х	-	5-78
13	17		-	-	-	-	-	-	-	-	-	-	X(2)	-
/ 3	Spit	-	-	-	-	-	-	-	-	X(1)	-		-	-
/3	Spit	Inaccessable skull	-	-	-	-	-	-	-	-	-	х	-	-
/16	Spit	Very old	-	-	320	44.5	31.75	20.6	20.3	X(2)	-	х	~	7
/16	Spit	Fresh	Cist in neck con- tained bullet	-	256.5	41	44.5	23	23.5		х	-	-	8-78
/18	Spit	Very old	-	1.9	335	34.3	34.3	20.3	20.3	-	х	Х	-	9-78
/18	Spit	-	-	0	312.4	38.1	38.1	21.6	21.6	-	х	х	-	10-78
/1	Spir	-	Bullet hole through hea	d O	245	20.5	20	14.5	14.8	X(2)			- •	13

C.	ARCASSE		I	Blubber	Body	Tu Lgh	5	Tu: Circu	sk. 1m				Ivory	
Date	Location	Carcass Condition	Apparent Injuries	thick- ness	Lgh. cm	cm R.	L.	cm. R.	L.	Coll. Ivory	Coll. Skull	Coll. Baculum	Previously Chopped	No.
3/3	West Side	-	Tip of tusk embedded in skull from below eye to lower jaw	0	310	43	43.5	21	21	-	х	-		14-78
3/3	Camera B.	Very rotten	rock – avalanche	-	-	44	43.5	19	19	-	x .	x	-	15-78≭
1/3	Camera B.	-	rock- avalanche	-	300	-	-	-	-	x	-	-	.	16*
\$/3	Camera B.	Rotted	rock- avalanche	-	340	-	-	-	-	х	-	-	-	17*
:/3	Camera B.	Rotted	rock- avalanche	-	335	÷	-	-	-	x	-	-	-	18*
./3	Camera B.	Rotted	rock- avalanche	-	-	-	-	-	-	X	-	-	-	19*
17	West Side	-	-	0	348	39	43	23	23	-	х	х	-	20-78
/10	3rd Beach	Fresh	Blood in lungs & stomach	2	300	0	51	0	21	-	x	x	-	21-78**
/25	Spit	-	-	1	333	46	46	19.5	19.5	-	х	х	-	22-78
/25	Spit	-	-	0	335	39	39	23	23	-	х	-	-	23-78
/16	Camera B.	-	-	-	-	40.5	42.5	22	22	entire	skeleto	on collect	ed	24-78
/16	Camera B.	-	(Clam shells Eshophogus(in O	-	44	49	20.2	19.8	-	х	-	-	25.78
/20	Obb.Cove	Decomposed	-	-	-	0	0	0	0	-	-	-	-	26
/20	Obs.Cove	Fresh	Bullet in he (cóllected)	ad 1	345	50	51	22.5	22	-	х	х	Ξ.	27-78

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CARCASSES

		Carcass	Apparent	Blubber thick-	Body Lgh.	Tus Lgh cm	ik 1.	Tus Circ cm	k um	Co11.	Co11.	Coll.	Ivory Previously	
Date	Location	Condition	Injuries	ness	cm.	R.	L.	R.	L	Ivory	Sku11	Baculum	Chopped	No.
9/21	West Side	Decomposed	-	-	wrapped around rock	d 40	0	23.5	0		х	-	-	28*
9/21	Camera B.	Rotted.	-	-	325	59	0	23	0	-	Х	-	-	29*

* All mortalities from one rock slide: 7 carcasses in sleeping position with crushed skulls and tusks scattered.

** Autopsy performed; Ken Gordon (UC Davis) collected entire front and rear flippers.

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*** Both skulls stashed on Round Island; impossible to pick up in boat due to heavy surf prior to our departure.









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