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NARRATIVE. ~~777~~

This is a report of observations by Game Management Agent Averill Thayer at and near St. Lawrence Island for the period May <sup>10-24</sup> 10-June 5, 1958.

Agent Thayer and Dr. Fay departed Anchorage via N-~~720~~ <sup>720</sup> with Aircraft

Supervisor Smith as pilot on May 9 proceeding to Fairbanks where Agent Frederickson and Biologist Carl Kenyon and Dr. Buckley of the Cooperative Wildlife Research Unit joined the group. A 05:17 departure from Fairbanks on May 10 allowed us to reach Nome by 09:28 where Frederickson, ~~and~~ Kenyon and their equipment were off-loaded, ~~and the plane parked.~~

N-720 departed Nome at 13:00 enroute St. Lawrence Island with Fay, Thayer, Buckley and Smith surveying and photographing walrus herds to North East Cape where more gas was taken aboard and the flight continued surveying and photographing walrus herds to the east, south and west of the Island till landing at Gambell at 18:24 where Fay and Thayer were offloaded.

May 11. Departed Gambell 10:20 via sailboat with Dr. Fay and four Eskimo hunters. No walrus were sighted this day. A Gray Whale was sighted and the boat was sailed on a collision course with the periodically surfacing whale. A hunter was stationed in the bow of the boat armed with a hand-throw whale harpoon which carried on ~~its~~ <sup>its</sup> shaft a contact fired gun for the purpose of shooting a bomb into the whale. The whale failed to surface at the anticipated point, however.

An ~~approach~~ <sup>also</sup> was made on a bearded seal which submerged before the boat ~~came~~ <sup>came</sup> within range.

May 12. Departed Gambell at 06:25 in John Apongaleoks sail powered walrus skin boat with five eskimos hunters. Apongaleok was boat captain and directed hunting operations from his position at the tiller, the next man forward handles the sail and during calm weather operated the outboard motor located ~~in a well~~ in a well at that point.

In the bow were three hunters who scanned the sea for "game", pushed ice cakes away from the boat and by hanging over the bow<sup>2</sup> smashed new ice with their feet to allow the boat's passage. Each boat has at least one pair of binoculars ~~aboard~~ aboard which are used constantly. When the shooting started<sup>R</sup> the three men in the bow did most of the shooting although the engineer or sailman found time for a few shots.

7 After sailing westerly for five miles we approached an adult male walrus resting on an ice cake. The walrus upon observing the boat, showed signs of apprehension and inched toward the edge of the ice ten feet away. When the boat approached within sixty yards of the walrus, one shot from a 30-06, and two shots each from two .22s were fired into it causing it to immediately<sup>E</sup> topple headlong into the water and disappear. The boat was brought to within fifty feet of the splash made by the walrus and within 45 seconds moved on. Apparently the hunters were satisfied that the walrus would not be seen again. As we left the scene of the shooting I watched the area for further signs of the walrus but saw no evidence of its surfacing.

Twenty minutes later we observed five walrus on ice cakes surrounded by new ice too extensive to negotiate. Ten minutes later we passed three ~~yearling~~<sup>juvenile</sup> sized walrus swimming. No attempt was made on these walrus as no calves accompanied them.

At 12:00 we made an attack on one bull, one cow and a two year old walrus swiming together in open water. Fourteen shots were fired at these walrus resulting in all three being hit. The bull and two-year old sunk ~~before they~~

~~while the crew was bating the harpoon~~ while the harpoon was being bounced off  
 the female. The female was finally secured by jabbing the harpoon into it as  
 it floated dead. A slot was cut in the heavy skin on the forehead of the cow  
 and a walrus hide line passed thru the slot and looped around a tusk and  
~~and~~ secured for towing to an ice cake. At the ice cake a ramp was <sup>chiseled</sup>  
~~in~~ the edge ~~of~~ and the walrus was dragged onto the ice ~~by~~ with the aid of  
 a walrus hide ~~block and tackle~~ rope using the slot in the head of the walrus  
 and an ice projection as blocks to make a block and tackle arrangement.  
 The hunters cut two slabs of skin, blubber ~~and~~ with a thin layer of meat  
 attached from the chest of the animal then skinned out the rest of the  
 hide discarding the blubber, ribs, back bones, pelvis, front shoulders etc.  
 The discarded parts of the animal were pushed into the sea "for the worms  
 to eat".

After finishing ~~the~~ butchering the walrus we proceeded south for four  
 miles and stopped to observe, with binoculars, a group of 100-150 walrus  
 on the ice one mile away. No <sup>attempt</sup> ~~attempt~~ was made on these walrus due to a  
 danger of being trapped between <sup>FLOES</sup> ~~floes~~ of young ice.

Heading north again enroute back to Gambell, bearing a little west to  
 circumvent an ice flow two miles in diameter, we met three more walrus  
 swimming in open water. Fifteen shots were fired at these walrus with a  
 total of 10 hits ~~distributed~~ distributed among the three walrus.

While the crew was ineffectively bouncing the dull harpoon off the skin  
 of one dead floating cow walrus, another dead walrus, (probably a cow),  
 after floating about ten minutes with its back partly out of the water,  
 lost air with great blubbling gasps and sank. At this time the third walrus,  
 a wounded female, suddenly surfaced at the stern of the boat creating a  
 brief panic until the engineer full throated the motor and avoided the  
 walrus.

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The two female walrus recovered from the three walrus killed were then butchered and the hunters headed back to the village arriving at 8:00 P.M.

May 13. The weather clear and windy, departed Gambell with Apongaloek ~~at~~ at 9:10 traveling west by outboard power as the skin boat has no keel which makes sailing in strong winds unsafe. One bearded seal ~~was shot~~ ~~at~~ resting on an ice cake was shot with a .222 rifle causing it to leap into the water and sink. Apongaloek's boat and nine others rendezvoused at a tower of ice for <sup>one-half</sup> hour then all proceeded back to the village thru rough water which deposited ice on the boat and passengers.

Dr. Carlton Ray, of the New York Zoological Society, arrived by plank for the purpose of capturing four young walrus for the New York Zoo. Mr Ray was accompanied by a life photographer and a free lance movie maker. *5000 KILLING*

May 14 & 15. Stormy weather. No boats out.

May 16. Departed ~~at~~ Gambell at 08:45 in Apongaloek's skin boat traveling with outboard motor headed south. At 10:00 three shots were fired at a bearded seal which was hit by the third shot and sunk.

At 10:30 two more bearded seal were shot and sunk.

At 14:20, ten miles west of the island, a female walrus ~~was~~ ~~killed~~ resting on an ice cake was shot with a .220 Swift causing it to plunge into the water and swim around the ice cake surfacing within 10 feet of the boat where it was killed with a shot in the head from the same gun. The calf of this walrus swam around the floating dead mother and the boat barking. The female was ignored while the calf was captured and taken onto the ice cake where it was killed with a blow on the head despite Dr. Ray's offer of \$100.00 each for live calves. While butchered, the adult, the hunters observed another female with calf <sup>approximately</sup> 200 yards away ~~swimming~~ but no attempt

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May 23. Weather clear. Continued work on the beach recording ~~Ambling Blots~~.

the take by nine boats. Three of the boats immediately departed again but soon returned due to a heavy fog moving in.

The hunters reported that the ice which was not visible above was about twenty miles off shore.

May 25. Departed Gambell at 16:10 for Savoonga in Slwookos whale boat with Dr. Fay and five others. At 20:00 entered ice field and made <sup>slow</sup> ~~slow~~ progress. While passing between ice flows <sup>es</sup> struck a submerged ice arm projecting from one of the flows <sup>es</sup> causing the boat to rise and slide over it breaking one of the blades of the outboard motor propeller. As this motor is fastened in a well in the boat as shown in the photographs it could not tip up and clear the keel of the boat. Mr. Walunga, the lookout, did not note the ice arm until the boat was almost on it. We continued into a dense fog with the motor vibrating badly. The weather was calm preventing the use of the sail. We arrived in Savoonga at 22:15 and pulled the boat onto the ice self which extends 3/4 mile off shore from the beach and went ashore. At the boat docking area noted four dog teams still waiting for hunting boats to return.

May 26. Weather still foggy. The hunters report more females walrus have been killed out of Savoonga this year than in previous years. The females are found farther off shore than the males.

Noted 518 dogs in the village. The human population is 300.

Also noted 127 walrus skulls with ivory intact laying about in the dog chaining areas to be cleaned of meat by the dogs.

In the three houses I visited noted ivory also stored on the storm porch.

was made to kill them.

During this days hunt, on two different occasions, we heard a strange sound emitting from the water in the immediate area in which a bearded seal was observed diving and possibly feeding. The sound was a varying pitch wailing which dropped in pitch to a howl. If the sound produced by thick cracking clear freshwater ice during cold weather could be modulated with ~~the~~ a wailing, ~~as~~ the resultant sound would be similar to that heard near the bearded seal. This sound occurred only when the seal was under the water.

May 17<sup>18</sup> Strong wind and rough water. No hunting attempted.

May 19. Windy. Six boats hunted but only one took a walrus.

May 20. No walrus hunting today due rough water. Hiked to the top of ~~Qanukit~~ Sevuokuk mountain and observed that the pack ice was ten to 12 miles off shore. Roger Slwooko killed 70 murre with 25 shots today.

May 21. Wind continues. Still no hunting

May 22. Stayed on the beach this day meeting the incoming hunting boats, taking pictures and recording the kill. One boat reported seeing a young polar bear but did not get shot as the bear escaped in the pack ice.

Oozevaseuk reported one walrus put its tusk thru the bottom of his boat forcing him to place a walrus flipper over the hole and lay some slabs of hide and blubber over it to prevent ~~leaking~~ <sup>leaking</sup>.

Hunters who took only one walrus utilized a greater portion of their walrus than those who were more successful.

Fifteen walrus calves and eleven pairs of tusks were measured.

May 27. Departed Savoonga at 6:25 with Penhya and five others via skin boat making slow progress thru ice flows till 07:50. At that time made approach on 12-16 walrus on ice cake which were unfortunately alerted by sound of shots from other boats. One shot was fired at 70 yards with 30-06 which appeared to be a miss.

As another group of 15 males were visible 3/4 mile away the boat continued toward them presumably in the hope of getting some walrus killed on the ice. One shot each from a 30-06 and 30-30 were fired ~~intentionally~~ putting two walrus end the ice. No effort was made to shoot the walrus that were then milling around in the water adjacent to the ice cake. While the boat was turned away from the ice cake, of the <sup>one</sup> ~~successfully~~ wounded walrus slid into the water and sunk.

While butchering ~~the~~ the remaining walrus, three other groups of bulls could be seen on ice cakes ~~about~~ one mile away. <sup>e</sup> Two gray whales were observed in the same area. After butchering the walrus, we continued westerly killing one ~~medium~~ bearded seal <sup>on</sup> on ice cake. The utilization on these bearded seals is complete.

~~After departing from the bearded seal~~ <sup>Entered back to Savoonga</sup> the boat entered a thick fog bank and tightly packed ice. The hunters in the bow jumped onto the ice and with poles pushed the ice cakes far enough apart to allow passage of the boat. The remainder of the crew paddled the boat. Arrived back in Savoonga at 11:45. Departed Savoonga again at 15:00 thru ice cakes about 30 yards apart traveling north till hailed by another ~~hunting~~ group of hunters.

<sup>They</sup> requested assistance in dragging an unusually large walrus onto an ice cake for butchering. This walrus which measured 9'10" to tall <sup>appeared to be old.</sup> had green wrinkled stained soles on its flippers and had worn 1/2 inch grooves in the tusks with the movements of its lower jaw. <sup>tooth samples collected.</sup> Continued hunting finally killing

a young bull walrus found swimming. The first shot, from 30-06, caused it to alternately dive and surface spraying blood. One <sup>shot each</sup> ~~each shot~~ were fired into it with a .222 and 30-30 causing more energetic diving and blood spraying. Finally, a close range neck shot from the 30-30 finished the animal.

As the walrus floated with the hump of its back out of the water, the harpoon was thrown onto it twice each time bouncing off, the boat then made a pass alongside the walrus and the harpoon was jabbed into it which was the only way, I observed, the ~~walrus~~ harpoon penetrates the hide of a walrus. The harpoons were usually dull. ~~and were dull~~

The hunters are very cautious to see that absolutely no life is left in a walrus before an attempt is made to haul it onto the ice. The walrus was towed to an ice cake and then, <sup>in quick succession</sup> shot in the head for good measure with the 25-35 rifle. Returned Savoonga 21:15.

May 28. No hunting due jammed ice in front of village.

Measured ivory on 93 skulls in the village.

May 29. Departed Savoonga 12:10 With Wayne Penayah and six others.

~~We~~ searched <sup>1:30</sup> for walrus till 12:55 when a group of 25 bulls was sighted sleeping on a ice flow. The approach on these bulls was made by paddling ~~and~~ <sup>for</sup> ten minutes. The hunters climbed onto an ice flow and, after pulling the boat onto the ice, crossed the flow and took cover behind an edge piece of ice. ~~From this place of concealment~~ From this place of concealment the hunters shouted, "wake up" which some of the walrus did. After a slight delay, during which the hunters were judging the ivory, the shooting began. Twelve shots were fired <sup>at 50 feet</sup> with a minimum of three bulls wounded, ~~and~~ possibly more were wounded <sup>as</sup> the animals milled around in confusion before diving into the water.

After the animals dived into the water, some of them surfaced again immediately <sup>at the hunters, & could be</sup> ~~and could have been~~ <sup>Therese could be easily be</sup> shot from by the hunters standing on the ice cake ~~at~~ at a range of ~~50~~ feet. Preference was shown to the bulls with the largest ivory.



Two of the wounded bulls died and floated in the water. The third wounded bull swam to the ice cake on which the hunters were standing, ~~and~~ <sup>hooking</sup> its tusks onto the ice levered itself high enough <sup>to</sup> place the front flippers on the ice and haul out on the ice cake within 20 feet of the hunters ~~who~~ <sup>they</sup> ~~then~~ shot it again. One of the hunters then told a story of the time when the walrus all tried to climb back onto the ice in a threatening manner. The hunters shouted at the walrus and shot them to keep them off the ice finally igniting gasoline along the edge of the ice to keep the walrus away. The hunter further stated, "I was scared and almost cry". The hunters stated that the young bulls are the ones which are most likely to attack the hunters.

Finished butchering the walrus at 16:35 and arrived back in Savoenga at 18:05.

May 30. Departed Savoenga 10:17 with Penahya and four others. Sighted a gray whale and young five minutes out and chased them till they dived and disappeared. At 11:27 one bearded seal was shot while sleeping on a ice cake and was loaded into the boat intact as it was medium sized.

At 13:57 a 7'2" bearded seal was killed after two ~~each~~ <sup>shots</sup> with .222, 30-30, 25-35, 30-06 were directed at it.

Continued hunting in a dense fog stopping <sup>occasionally</sup> to listen for walrus. Returned to Savoenga without a walrus at 19:05.



June 1. Departed Savoenga 14:00 in fog enroute Gambell by compass navigation arriving Gambell 17:30. Flocks of Auklets and Murres sometimes could be ~~seen~~ detected by their odor before they were sighted thru the fog.

June 2. Walked to top of <sup>SEVUOKUK MT.</sup> ~~Gambell~~ ~~hill~~ and observed the ice pack about 10 miles off shore to the west. To the north, the ice covered the entire horizon about 20 miles out. Observed three gray whales west of the village.

At 11:00 P.M. eight boats left the village to hunt walrus.

June 3. Walrus hunting boats returned.

THE FIRST

3:00 A.M. None of the boats had killed any walrus!

June 4. Gambell. The ice <sup>approx</sup> ~~was~~ six miles off shore but <sup>only one boat</sup> ~~none of the~~ hunters had ~~not~~ gone out to investigate possibility of walrus on it.

Observed five ~~killer~~ <sup>gray</sup> whales off shore west of town. Four of them had been alerted by five killer whales and were taking evasive action. One ~~gray~~ <sup>Gray</sup>

whale proceeded <sup>south</sup> ~~along the shore~~ 70 feet off shore ~~traveling south in shallow water to avoid the killer whales.~~ Two other gray whales stayed in

a tide rip off the point in shallow water. A fourth whale was being attacked 3/4 miles north off the point by the killer whales. One boatload of hunters were shooting at the south-bound whale with a .22 cal rifle.

With <sup>340</sup> 40 power telescope observed John Aponglook's boat five miles north of Gambell shooting and pursuing what was later discovered to be walrus in open water. When Aponglook returned, he ~~stated~~ <sup>stated</sup> that his crew had killed a female walrus with calf but lost both of them, due to his reluctance to come close enough to harpoon them in the open water until the cow was completely dead. The cow suddenly sunk. How the calf happened to escape is not understood. Aponglook killed another cow with calf later ~~in the day~~ <sup>the same trip</sup> and managed to save both of them.

June 5. Departed Gambell for Nome and Anchorage at 14:10. <sup>ed</sup> observing two gray whales one mile west of town with one boat load of hunters chasing them. Also noted five whales 43 minutes out of Gambell toward Nome.

Karl Kenyon, FWS, Sand Point NAS  
Seattle, Washington

May 1, 1958

Regional Director-BSFW, Juneau

Diomedes Walrus Study

My plans have been changed and it will be necessary for me to make a trip to Florida and Washington next week. I will fly to Anchorage on Friday the 2nd, leave the Goose there for Mr. Smith to use. Either he or one of the other pilots will make the trip to St. Lawrence. Therefore it would not be necessary for you to go to Anchorage until May 9, however if you want to spend an extra day with Dr. Fay, you may wish to go up on May 8.

CLARENCE J. RHODE

cc: Scott  
~~Thayer~~  
Fredericksen

Act.	Ref.
	Larsen
	Thayer
	Switzer
	Weinrich
	Sholes
	Dechant
	Wildlife Mgt.
	Aircraft
	Fisheries

*[Handwritten signature]*



*Office Memorandum* • UNITED STATES GOVERNMENT

TO :

DATE: 3/20/59

FROM :

SUBJECT:

Abe,

Thanks very much for your information on walrus hunts out of Savoonga. I have written the Village Council and the school teacher and mentioned your friend Wayne Penayah.

If everything goes well and no transfers come through prior to the latter part of May, I might find myself among the ice flows of St. Lawrence !

Thanks aganin Abe,

Attached please note Gov't postage for your records.

*Office Memorandum* • UNITED STATES GOVERNMENT

TO : U.S. Game Mgt. Agent Averill Thayer  
BSFW, Kenai

DATE: June 19, 1958

FROM : Information & Education, BSEW, Juneau

SUBJECT: Walrus - study photos

Many thanks for the walrus footage just received. I hope to be able to examine it within a few days. I shall look forward to seeing your color slides also; just indicate which slides you desire black and white prints and will be happy to oblige. Which ever way you want to handle the black & white negatives will be OK with me, as I know you are a careful lab worker. How do you like your new home?

*Malcolm*

J. Malcolm Greany

Gambell vill hunts	Number men in Boat	Number SHOOTERS	Time spent per Hunting Trip Hrs	Firearms used	Number walrus ATTACKED	Location of walrus on or in ICE or water	SHOTS FIRED	Number SHOTS HIT	Number walrus HIT	walrus Adults killed	walrus Adults recovered	Dead walrus sunk	walrus escaped wounded	walrus escaped unharmed	calves recovered	Total walrus seen on trip	Weather
Thayer Gambell May 12 Kill 1	5	3		30-06 222 222	1 M ice	3	3	1	1	0	0	1				1	Good
Kill 2	5	3		30-06 222 222	1 F 1 M water	14	9	3	3	1 F 1 M	1 M					1	Good Broken overcast
Kill 3	5	3	1.35	30-06 222 222	2 F 1 M water	15		3	3	2 F 1						120	Good overcast
Gambell Fay May 12 Kill 1	6	4		1 2/8 222 30-30 30-06	1 F water	9	9	1	1	0	0	1 F					"
Kill 2	6	3		2 222 30-30 30-40	1 F ice	5		1	1	1 F					1		" Broken overcast
Kill 3	6	3	7.6	222 2/8 30-30	2 F 1 M water	20		3	2 F 1 M	1 F 1 F						11	"
Gambell Thayer May 16	5	2	2.3	2 220	1 F ice	2	2	1	1	1					1	2	Fair snow flurries
Gambell Fay May 22 Kill 1	5	3		3 222 4 30-30 3 30-40	10 F ice	10		4	3	2	1	1	6	4			low overcast
Kill 2	5	2		3 222 2 30-40	1 F ice	5		1	1	0	1				1		"
Kill 3	5	1	6.72	30-30	1 F ice	2	2	1	1	1					1	59	"
May 23 Gambell Fay Kill 1	5	4		5 222 4 220 4 30-30 30-40	9 F 1 M ice	20		4	1 M 1 F	1 M 1 F		2 F	6	1			Good clear
Kill 2	5	1	10.9	1 222	1 F water	1	1	1	1	0		1 F		1	300+		"
<del>May 27</del>																	
Totals for Gambell vill Hunts.	man Hours				4 M 30 F 2 ?				13 F 3 M 2 ?	10 F 2 M	1 M 3 F 2 ?	1 M 5 F					
	247	144.7	369.7		36	106	24	18	12	6	6	12	10	492			

<del>Table 1</del>	Number men in Boat	Number of Shooters	Time per hunting Trip Hours	Firearms used	Number of walrus attacked	Location of walrus when attacked	Shots fired	Number of Shots hitting	Number of walrus hit	Number walrus Killed	walrus Recovered	Dead walrus sunk	walrus escaped wounded	walrus escaped unharmed	Calves recovered	Total number walrus seen on trip	Hunting weather
Gambell Village Hunting May 11	6		7.9		0	-	-	-	-	-	-	-	-	-	-	0	Satisfactory Broken overcast
MAY 12 Kill 1	5	3		30-06 .222	1 F	on ice	3	3	1	0			1 M				Good Broken overcast
Kill 2	5	3		"	1 M	in water	14	9	3	3	1 F	1 M					"
Kill 3	5	3	13.5	"	2 F	in water	15		3	3	2 F	1 M				120	
May 12 Kill 1	6	4		218 .222 30-30	1 F	in water	9	9	1	0			1 F				"
Kill 2	6	3		222 30-30	1 F	on ice	5	?	1	1	1 F						"
Kill 3	6	3	7.6	222 218 30-30	2 F	in water	20	?	3	2 F	1 M	1 M	1 F			11	"
May 13	6	-	4.75		0	-	-	-	-	-	-	-	-	-	-	0	Poor clear but windy
May 13	6	-	1.9		0	-	-	-	-	-	-	-	-	-	-	0	"
May 16	5	2	9.3	220	1 F	on ice	2	2	1	1	1				1	2	Broken overcast snowfall
May 16	6	-	5.9		0	-	-	-	-	-	-	-	-	-	-	0	"
May 22 Kill 1	5	3		222 30-30 30-40	10 F	on ice	10	?	4	3	2	1 F	1	6	4		Fair low overcast
Kill 2	5	2		222 30-40	1 F	on ice	5	?	1	1	0	1 F			1		"
Kill 3	5	1	6.7	30-30	1 F	on ice	2	2	1	1	1				1	59	"
May 23 Kill 1	5	4		222 220 30-30 30-40	9 F	on ice	20	?	4	1 M	1 M		2 F	6	1		Good clear
Kill 2	5	1	10.9	222	1 F	in water	1	1	1	0			1 F		1	300+	"

= Fay  
= Thayer

Total Man Hours 369.7

4 M  
30 F  
2 ?  
36

106

18 F  
4 M  
2 ?  
24

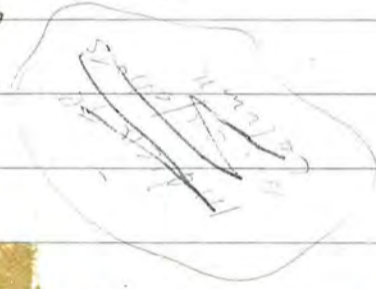
13 F  
3 M  
2 ?  
18

10 F  
2 M  
12

1 M  
3 F  
2 ?  
6

1 M  
5 F  
6

12 10 492



18 females shot & hit. 2 unknown sex hit  
 10 " recovered.  
 10 calves recovered. 24 walrus shot  
 12 walrus recovered  
 4 males shot & hit. 8.8 shots per walrus recovered  
 2 males recovered 4.4 shots per walrus hit

13 walrus shot & hit on ice cake  
 7 of them recovered. = 53.9% recovery

11 walrus shot & hit in water  
 5 of them recovered. = 45.4% recovery

Regional Director, BFW,  
Fish and Wildlife Service, Juneau

June 12, 1958

F. H. Fay, Arctic Health Research Center, Anchorage  
(Biologist, St. Lawrence Team)

Walrus studies, May 9 - June 6, 1958

### Itinerary

On May 9, a field party, consisting of Thayer, Kenyon, and Fay, departed from Anchorage at 5:30 PM, arriving in Fairbanks at 8:30 PM. Buckley and Frederickson joined the party there, and on May 10 all departed for Nome at 5:15 AM (AST) aboard FWS Grumman Goose N720, piloted by Smith, arriving at Nome at 8:30 AM (NST).

Departed from Nome at 12:00 PM for NE Cape, St. Lawrence Island, after refueling and leaving the Dioneo team (Kenyon and Frederickson) in Nome. Aerial survey of walrus was conducted en route, arriving NE Cape at about 1:35 PM. Departed NE Cape at 3:05 PM for Gambell, flying aerial survey along the east, south and west coasts of St. Lawrence Island. Arrived Gambell at 5:22 PM. Thayer and Fay were left at Gambell, and Buckley and Smith returned to NE Cape and Nome.

Ground observations of walrus biology, hunting procedures, and utilization conducted at Gambell by Thayer and Fay from May 10 through June 5. Thayer spent the period May 25 through June 1 at Savoonga, observing walrus hunting conditions there, and Fay made a brief round trip to Savoonga and back on May 25 and 26.

Departed Gambell June 5 at 2:05 PM via Alaska Airlines, observing ice and walrus distribution from there to Nome, arriving Nome at 3:15 PM. Returned to Anchorage via Alaska Airlines on June 6, departing Nome at 11:30 AM (NST) and arriving Anchorage at about 4:15 PM (AST).

### Procedures

Flight routes of the aerial surveys Nome-NE Cape, NE Cape-Gambell, and Gambell-Nome are shown on the attached map. For the most part, flights were at 1500 feet or less from Nome to Gambell and 3000 feet from Gambell to Nome. Visibility was excellent on all flights, except for two small fog banks on the Gambell-Nome flight. From Nome to Gambell, Fay observed on the left side of the flight path, only, and Buckley on the right; Thayer operated as photographer from the co-pilot's seat. From Gambell to Nome,



Regional Director, BSW, FNS-6/12/58

observations were made only on the right side of the aircraft, except as indicated.

Ground observations at Gambell by Fay consisted principally of accompanying one walrus hunting crew on each hunt and recording the statistics and biological information, insofar as possible, as indicated in the memo of May 9 from the Supervisor of Game Restoration, BSW, Anchorage. Additional data and photographic records of the harvest, hunting procedures, and utilization were secured and biological specimens were further examined and processed in the time between hunts. Assistance was given in the care and handling of four walrus calves obtained by a representative of the New York Zoological Society aquarium from the time when the animals were captured, until they were shipped to New York.

### Results

Aerial Survey:- Flight time from the water's edge at Nome to the water's edge at NE Cape was 1 hour and 1½ minutes, including 13½ minutes of low altitude circles and passes for the purpose of close observation and photography. During this flight, a total of 36 seals (22 Phoca sp.; 14 Erignathus) and 2236+ walrus were sighted in a strip approximately 1 mile wide on the left side of a straight flight path from Nome to NE Cape (corrected heading 233°). Seals of the genus Phoca (P. vitulina and/or P. hispida) were mostly in the area from about 15 to 15 miles SW of Nome, where heavy ice was sparse (less than 5% cover) and in small floes. Young ice, 80-90% cover, occupied the southern half of this area. The walrus and bearded seals were mostly in the area 60 to 80 miles SW of Nome, where ice cover ranged from 45% heavy and 35% young to 75% heavy and 15% young. Two walrus were sighted about 3 miles NE of NE Cape in 90% track and heavy floe. Approximately half of the walrus sighted were adult males; 40% were adult females and juveniles; and 10% were calves. Evidence of calving were noted (blood and placentas) amongst the groups of females.

Flight time from NE Cape to Gambell was 2 hours and 17 minutes, including 4 minutes of low altitude circles and one 10-minute reversal of course near Gambell. The course was erratic, and the flight line indicated on the attached map is only an approximation of the true course. During this flight, a total of 16 seals (5 Phoca; 11 Erignathus) and 474+ walrus were sighted on the left side of the flight line. These were all near the east and south coasts; none was seen along the west coast nor for 10 miles due N of Gambell. The greatest concentration of walrus was along the edge of a large area of heavy ice approximately 25 miles SSE of SE Cape, where 220 males and 120 females and young were seen. Small groups (2-10, mostly males) were scattered over

Regional Director, BSPW, FWS--6/12/58

small floes of old ice in a large area of open water and young ice to the south, west, and northwest, and intermittently along the south coast as far as SW Cape. The over-all composition for this flight was estimated to be 60% adult males, 30% adult females and juveniles, and 10% calves. Again, much evidence of calving was noted.

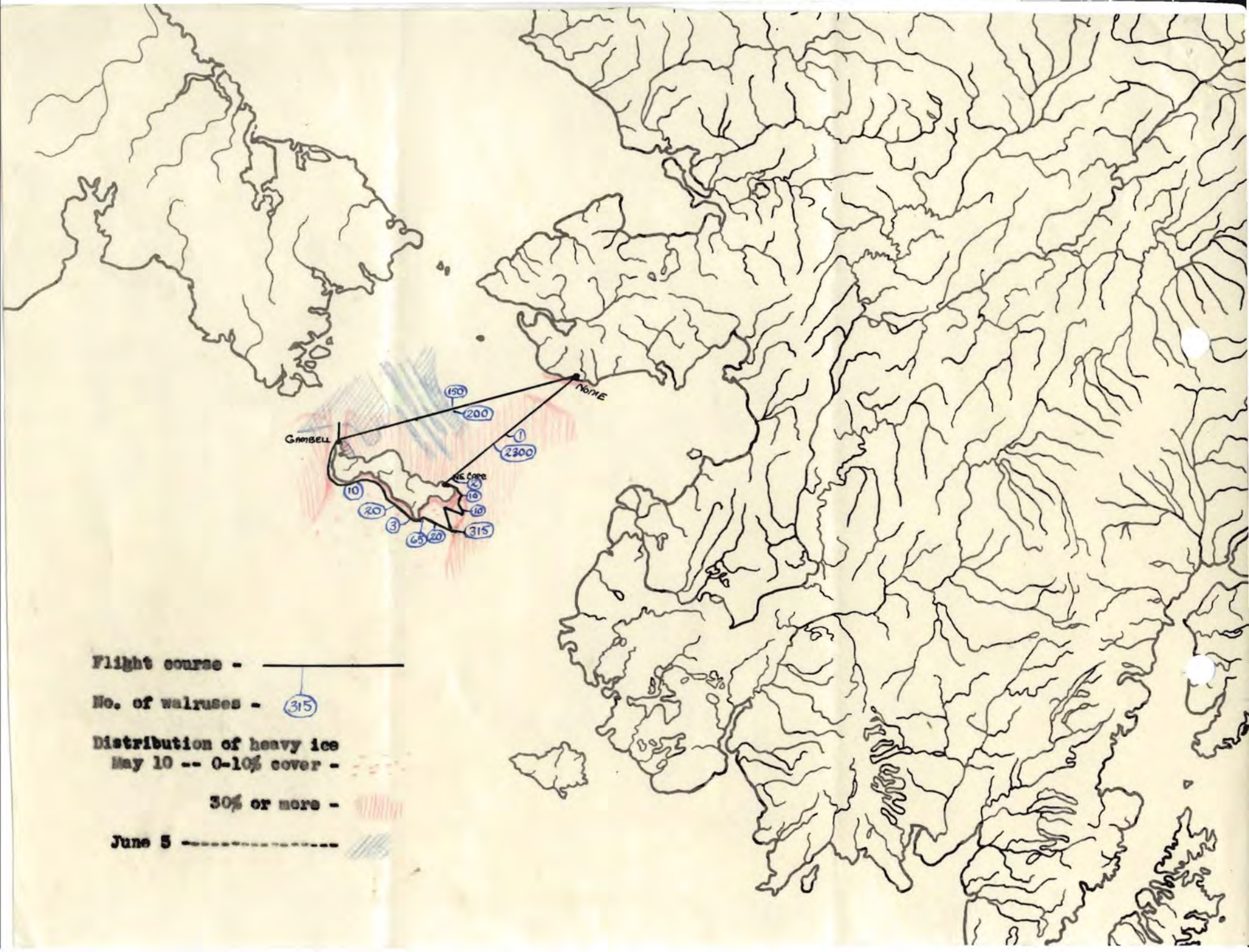
Flight time over water from Casbell to Nome on June 5 was 1 hour and 11 minutes. The sky was clear; there was little wind, and the ice was widely scattered and in small, heavy floes, much of which appeared to be old shore ice. This was mostly in bands 3-15 miles wide, oriented in a NW - SE direction, extending to or near the Siberian coast. The outermost band (north of St. Lawrence) was crossed between 65 and 80 miles from Casbell, and the only walrus sighted were at the northern edge of this band. About 200, congregated on a large ice pan, were 1 mile SE of the flight course, and 150-200 more in another large group about 2 miles to the northwest. No mammals were seen in the open water from there to Nome.

#### Hunting Activities

Hunting Pressure:- At Casbell there are 14 umiaks and 2 whaleboats used for walrus hunting, though it is seldom that all are used at one time. The boat crew size of men and boys ranged from 3 to 8, with an average of 5. Hunting trips ranged from 3 to 10 hours each in 1958, and the average trip in Fay's boat was 6 hours and 58 minutes. The area covered was mostly 10-15 miles W and NW of the village, with one exception when it was 20-25 miles SW. Ice and weather conditions were suitable for hunting on 14 days during the period May 1 through June 5. Within this period, 87 boat trips were recorded, 49 of which were unsuccessful (no walrus taken). A total of 38 successful trips yielded 98 walrus, or about 2.6 walrus per trip. Age and sex of these were: Adult male 3, adult female 46, juveniles 2, calves 45, unidentified 2. The total harvest for this period was estimated to be 150 walrus.

The hunting crew which Fay accompanied sighted at least 385 walrus on 3 successful trips and only 1 on one of 4 additional trips. Twenty-six of these were shot at and hit; 7 were wounded and lost; 19 were killed, 2 of which sank. The remaining 17 were recovered and approximately 50% (by weight) of the flesh, hides, and viscera were utilized, in addition to the heads.

Biological Data:- Specimens and data were collected from 36 walrus, mostly adult females and calves. These include reproductive organs from 10 adults, plus weights, measurements, and miscellaneous notes and observations. The volume of data is insufficient for analysis at this time, but will be a useful addition to materials collected since 1952. A complete analysis of all this material will be prepared at a later date.



- May 30 - Temp. 42°F, wind ENE 10, clear overhead, fog all around.  
Whalers returned about 1:00 am with male Eschrichtius. Fork length estimated 22 feet. Utilization nearly complete except viscera and bones.  
No boats out today.
- May 31 - Temp. about 38°F, wind ENE 10-15, rain and fog. Large swells from SE tonight. Storm expected. No boats out except 2 which left for SW cape in evening.
- June 1 - Calm, warm and foggy. No ice in sight; no boats out. Thayer returned from Savoonga in pm.
- June 2 - Warm, clear, wind ENE 0-5.  
Eight boats out to NW to edge of ice, returning empty. Departure time 10:00-10:40 pm., returning 12:30-1:00am. One w. sighted in water, none on ice. Large bergs of old shore ice with many dirty spots (dirty spots were sighted from shore and thought to be w.).
- June 3 - Temp. 40°F, wind NE 5, clearing in midday, fog in evening,  
Ice visible to NW, but no w. in sight. Tourist flight from Nome arrived in am. Had sighted very little ice betw. Nome and Gambell, only a string of small floes 40<sup>+</sup> miles N of Savoonga. Three herds of w. on it est, more than 300 total. More (100+) on same kind of ice near NE Cape yesterday. King Island has had very successful w. hunting, and one boat at Nome got at least 50.  
Savoonga shore ice went out yesterday.
- June 4 - Same weather as yesterday.  
One boat out to edge of ice NW. Shot 2 cows with calves, but secured only 1 cow and 1 calf.
- June 5 - Clear, warm, wind N 0-2.  
Departed Gambell at 2:05 pm, arriving Nome at about 3:18 pm. (Alaska Airlines). Aerial observations as follows:  
2:05½ - Gambell beach edge  
2:11 - Fog; visibility ½ mile  
2:13 - Loose ice, small cakes; 1-10% cover  
2:15 - Same ice 20-30% cover; fog cleared  
2:20 - 1 Erignathus  
2:22 - travelling along SE edge of ice; open SE, ice NW  
2:28 - End of ice; open both sides with less than 1% small cakes  
2:32 - loose ice both sides, 1-10%  
2:35 - ~~open~~ open both sides  
2:37 - fog; visibility ½ mile  
2:39 - scattered heavy ice 1-10% in narrow strip here only; 1 Erignathus  
2:40 - 3 Erignathus; fog cleared  
2:43 - Beginning ice less than 1% cover  
2:45 - 5% cover  
2:48 - 10% cover  
2:50 - Edge of ice; all clear beyond; 200+ w. on ice to SE, 150+ on ice to NW.  
3:17½ - Nome beach edge
- June 6 - Departed Nome 11:30 am. BST, (Alaska Airlines) arriving Anchorage about 4:15 pm. AST



UNITED STATES  
DEPARTMENT OF THE INTERIOR  
FISH AND WILDLIFE SERVICE

Alaska Cooperative Wildlife Research Unit

December 22, 1958

Mr. Averill M. Thayer  
U. S. Fish and Wildlife Service  
Kenai, Alaska

Dear Mr. Thayer:

Dr. Fay has asked that we forward you a copy of the enclosed report which he has currently prepared for the Fish and Wildlife Service.

Sincerely,

Robert F. Scott  
Unit Leader

RFS:ph

Enc.

cc: Dr. F. H. Fay

*Just saw a copy of your report -  
excellent job!*

COPY

COPY

COPY

*Thayer - Anchorage*

Daniel L. Leedy, Chief, Branch of Wildlife  
Research, FWS, Washington 25 D. C.

11 April 1958

Karl W. Kenyon, Biologist, Bureau of Sport Fisheries & Wildlife  
FWS, Sand Point Naval Air Station, Seattle 15, Washington

Translation of Russian publication on walrus

Yesterday we obtained a copy of *Priroda* (Nature) 1957, No. 7,  
pp. 101--103 entitled "About observations of the walrus" by Kleynenberg  
and had it translated.

Although much of the material is of the rehash type it contains  
some items of interest and the bibliography may be useful. We have  
kept the ribbon copy in our research file and are forwarding herewith  
a carbon in the event that it may prove useful.

s/ KWK

Encl.

cc: Clarence Rhode

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Ob okhrane morzha ( on preserving  
the walrus).

Kleynenberg, S. Ye.

Priroda (Nature), 1957, No. 7  
pp. 101-103.

(Justification of recent measures  
introduced by Soviet Government  
to protect walrus.)

505-PR (Paragraph numbers ours)

COPY

## ABOUT PRESERVATION OF THE WALRUS

1. The walrus is the largest mammal among the pinnipeds of the northern hemisphere. His body length reaches 4 meters and his weight sometimes more than a ton. Females are smaller than the males.
2. The massive body of the walrus rests on 2 pairs of flippers; the hind flippers may fold underneath the trunk which affords the animal the possibility of raising his body and eases locomotion on hard surfaces.
3. The relatively small head of the animal is equipped with a pair of powerful tusks in the upper jaw.
4. The tusks serve the walrus not only as a weapon for attack or defense; he also digs the ground at the bottom with them when he looks for food. Besides that the walrus uses his tusks when he climbs on ice or on dry land and sometimes propells himself by digging his tusks in the ground and pulling himself forward with them. So it is not unreasonable that the translation of Odobinus means tooth-walking animal.
5. In form and size the tusks of the females differ from those of the males. In females they are longer but thinner and more graceful--they are saber-form. They are parallel to each other but sometimes they meet at the ends or even cross each other. In males they are more massive, shorter and more like pillars and they separate noticeably at the ends.
6. The upper lip is equipped with powerful vibrissae. The body of young animals has a thick and soft hairy covering of chestnut color. As the animal ages the hair thins out and toward old age disappears almost completely, so much so that the old walruses are usually of a dirty olive color, that is the color of the epidermis of the skin (K. K. Chapsky, 1936).
7. The skin of walruses is very thick--up to 3-4 centimeters. On it are distinctly visible the characteristic cross folds extending along the body of the animal. In males with the advent of sexual



maturity the skin on the neck and shoulders becomes thicker similar to that of the "kalkan" in boar and reaches the thickness of 5-6 centimeters and here on the skin lumps are found as big as a human fist which the hunters call bumps (shishki). Thus the exterior sexual dimorphism of the walrus is shown not only in the body size and shape of tusks but in the skin covering.

8. The walrus is heavy, clumsy, moving slowly while on dry land but in water it is immediately transformed into a maneuverable rapidly moving animal irrespective of the huge size of his clumsy body.

9. & 10. The walrus inhabits only the northern hemisphere where his geographic distribution is circum-polar and only in arctic waters. The northern limit of its distribution is 81° north latitude and the southern limit is 70° north latitude; this is for the Atlantic race and 63° north latitude (the southern limit) for the Pacific race. The Atlantic walrus is distributed then in the western part of the Canadian Archipelago along the northern and eastern shores of Greenland, at Spitsbergen and further to the east to the islands and some sectors of the shoreline of the Barents Sea, of the Kara Sea and of the Laptvy Sea. The Pacific race occurs in the eastern part of the east Siberian Sea, in the Chukotsky Sea in the Bering Straits and the northern part of the Bering Sea, that is within the waters washing the Chukotka peninsula, and within the American sectors of the Arctic waters washing the shores of Alaska.

11. Inside the mentioned area of distribution the walruses perform regular migrations, determined by the ice condition and the biology of the animal himself. 1/

12. Usually the walruses keep to the coastal shallow areas since they feed on benthic invertebrates. The main feed of the walruses is mollusds, they also feed on Giferia (marine worms) and other worms, holothuroidians echinoderms and some species of crustaceans. Quite often the stomachs of walruses disclosed the remains of warm blooded animals; seals and even birds.

13. Among the industrialists there is a widely distributed opinion that only those walrus that are early separated from their mothers become predatory and these animals always keep separately,

1/ In detail this is described in the work of K. K. Chapsky, 1936; V.I. Tsalkin, 1937; L. O. Belopolsky, 1939, and P. G. Nikulin, 1941.

singly. However, the remains of seals were often discovered in the stomachs of individuals within a herd which did not differ at all from the rest of their herd brothers. It is possible that the walrus is not averse to the corpses of warm blooded animals and probably also hunt the live animals because, while in water, the walrus is very aggressive, attacking even boats with people in them, often piercing the bottoms with their powerful tusks. Such behavior is described by many and in that number by F. Nansen (1897). V.I. Aidanov (1953) and others.

14. Walrus propagate on the ice; the delivery takes place in April-May and according to information of some investigators in May-June. Apparently immediately after delivery copulation takes place as is the case with fur seals and sea lions. However, in contrast to the latter, the sexually mature males very soon leave the females and keep usually separately, whereas the females keep together with the sexually immature of both sexes.

15. S.I.U. Freiman supposes the presence of polygamy in walrus in analogy with fur seals and sea lions. However, no one has discovered any harems among walrus and likewise, by the way, no one has observed wither copulation or delivery. Even the newly born animals were observed so far only by P. G. Nikulin (1941).

16. The female, with duration of pregnancy of about 1 year and with yearly delivery, usually bears 1 pup but there are occasions of twins, a fact observed by P.G. Nikulin (1954). The period of nursing apparently is very lengthy, since in the stomachs of the young of 2 years of age was discovered, along with independently procured food, also mother's milk. That is why the walrus often remain as separate families. Around one mature female there may be a yearling and 2 or 3 young of a more advanced age, up to 4 years old. The mother instinct in walrus develops so strongly that the mother doesn't desert even a killed pup and while running away from pursuers pushes the pup into the water when she encircles it with her fore flippers and dives down with it.

17. The slow rate of propagation in the walrus is determined not only by the lengthy period of pregnancy and lactation alone but also by the late advent of sexual maturity. The beginning of which in females is in the 3rd year of life and in the males in the 5th year.

18. The enemies of walrus--the polar bear and the Kaatsatka (or Kasatka) (killer whale) attack, it is true, only the young animals. To attack the adult animals, especially males, the predators do not dare.

19. The walrus form groups on the ice and the size of ice floes does not have any significance. Very often the walrus recline on small ice floes which barely sustain the weight of thickly grouped animals. Beginning in August they form coastal (aggregations on) hauling grounds, usually the same places being used from year to year. The coastal aggregations in contrast to those on the ice are very heavily populated. Thus, for example, on the Island Arakamcheher (near the shores of Chukotka) were observed in separate years up to 10,000 animals reclining in one place.

20. Industry utilizes the skin together with the fat and the tusks, which are reminiscent of the ivory of the elephant, and goes to manufacture of various ivory articles. For the local population of the Chokotka Peninsula shores the walrus has a great economic significance not comparable to that of any other animal. Here the walrus is utilized almost completely. The skin is used for the roofs of dwellings (Yarang) and as the covering of the boats (bidar). The fat is utilized for food and also for heating and lighting. The meat is also utilized for food and it is even processed for storage. It is placed in sacks sewn from the skins which then are kept in ditches in the earth. The stomach, the intestines and the bladder go for the making of water-tight clothing. The tendons are used for thread and laces. Tusks go for manufacture of various ivory articles. The attractive little articles of Chukotka ivory carvers may be seen in all the stores of hand-made articles.

21. We must not omit to mention that the resident aboriginal population of Chukotka treat the walrus industrially with a maximum of caution in the sense of the influence of industry on the reserves and preservation of the coastal aggregations, realizing perfectly well the significance which this animal has on their economy.

22. However, the reserves of walrus were subjected to criminal (uncontrolled) exploitation by the industry from aboard ships of different countries, especially starting from the second half of the last century. Thus, for example, the Norwegian hunters having exhausted the reserves (stocks) of walrus in the waters of Greenland

and Spitsbergen resorted to hunting in our waters of the Barents and Karsky (Kara) Seas forming there settlements on Novaya Zemlya. The Pacific Walrus was subjected to criminal (piratical) industry by the American hunters and there were cases when the walruses were killed and not utilized, with only the tusks being removed. Such a case is described by J. F. Bernard when in 1923, near Cape Barrow, he discovered more than 1,000 whole bodies of walruses with only the tusks removed.

23. Naturally such exploitation of the reserves in the face of the slow rates of propagation of these animals could not remain unfelt in the numerical population of the animals. At the present time on the shores of Canada, Greenland and Spitsbergen the walrus has become a rarity; at the same time the picture of the animal still figures in the contemporary postage stamps. Also in the same condition were the Alaska herds which only very recently began to reestablish themselves.

24. The catastrophic situation of the reserves of these animals has led to the prohibition of the industry from aboard ship through legislative action in Canada, Norway and the United States. These protective measures must be, however, considered very belated.

25. Within our waters the walrus are preserved in large numbers. The Atlantic walrus keeps in insignificant numerical groups along the high water expanses of the polar seas, whereas the Pacific walrus--the 2nd race--keeps in herds of larger numbers and more concentratedly. However, here too, according to data of V. M. Sdobnikov (1956) out of 33 coastal rookeries which existed in the past on the Chukotska Peninsula, by 1954 only 3 were left. Nevertheless we may state the fact that the main (basic) world reserves of walruses are at present concentrated in our waters and to a greater degree within the eastern sector of the Arctic. However, they too were subjected, besides the local coastal industry, to that of hunters from aboard ships.

26. Basing their decision on the propositions offered by the Academy of Sciences of the USSR, the Soviet of the Ministers of RSFSR issued legislation in 1956 concerning measures for the preservation of animals in the Arctic. At present, State (Government) walrus hunting is completely forbidden and so is the utilization of

fat and skin. The hunting of this animal is permitted only to the Kolkhozy (local people) of the Chukotosky and the Koriaksky national areas and to the Kolkhozy in the northern areas of the Yakutsk ASSR for the exclusive use of the local population and only by licenses issued by the local officer of the Government. The killing of females with pups and the killing of animals while in the water is categorically forbidden.

28. These measures will unfailingly bear fruit and the reserves of the walrus will begin to reestablish themselves. We have only to see that this legislation reaches every hunter, every single native of our northern shores and then the success of this useful work cannot be doubted.

S. E. Kleinenberg  
Doctor of Biological Sciences  
Institute of the Morphology  
of Animals in the name of  
A. N. Severtsov of the  
Academy of Sciences of  
USSR (Moscow)

## BIBLIOGRAPHY

- Albanov, V. I. Notes on travel among the ice floes of the Arctic Ocean, in the summer of 1914, Geographical State Publishing House, 1953.
- Belopolsky, L. O. About the migrations and the ecology of propagation of the Pacific walrus, Zoological Journal: 18 1935 No. 5, pp. 762-778.
- Nansen, F. Along the ice floes and in the dark of the Polar night, 1897
- Nikulin, P. G. Chukotka walrus. The Pacific Scientific Research Institute of Fisheries and Oceanology (TINRO). Vol. XX, 1941, Bull. Vnedavosto, pp. 21-59.
- Nikulin, P. G. About the twin births in the Chukotka walrus. TINRO, Bull. Vol. 39, 1954, p. 353.
- Sdobnikov, V. M. About the preservation and the rational utilization of Arctic animals. Preservation of Nature and Refuge Work in the USSR. Bull. I, 1956, pp. 96-104.
- Freiman, S. I. U. Material on the biology of the Chukotka walrus. TINRO Bull. Vol 20, 1941, pp. 3-20.
- Tsalkin, V. I. The material on the biology of the walrus in the Franz-Joseph Archipelago, MOIP, Division of Biology Bull. Vol. 46, 1937 No. 1, pp. 43-51.
- Chopsky, K. K. The walrus of the Red Sea. The Arctic Institute Transaction, Vol. 67 1936.
- Bernard, J. F. Walrus protection of Alaska. Journal of Mammalogy Vol 6, 1952, No. 2.

Thayer

Regional Director, BSW, Juneau

May 9, 1958

Supervisor of Game Restoration, BSW, Anchorage

Walrus Studies--Spring, 1958

As requested by the Regional Director, a meeting was held at Anchorage today, to define objectives, procedures and responsibilities in connection with the current walrus studies. Kenyon, Fay, Smith, Thayer, Olson, and Scott were present.

It was agreed that the primary objectives of the field studies are as follows:

1. To obtain factual, quantitative data, and photographs, documenting hunting practices and characteristics of the walrus kill at St. Lawrence and Little Diomedé Islands.
2. To obtain biological data necessary for evaluating current productivity of the walrus population, and the effects of hunting mortality upon the population.
3. To utilize the FWS aircraft as effectively as possible in reconnaissance surveys, with the objectives of determining general distribution of walrus, and recommending methods suitable for future aerial census or sampling projects.
4. To obtain other biological data regarding walrus, as opportunity permits.
5. To recommend potential methods of improving hunting technics or otherwise preventing loss or wastage of walrus as associated with present hunting technics. To recommend other solutions to the inter-related problems of waste, over-hunting, and long-range native economy in the areas involved.

To insure uniformity and completeness of the data gathered, the following abbreviated outline of specific objectives was agreed upon:

## SPECIFIC INFORMATION REQUIRED

### HUNTING ACTIVITIES (All illustrated by photographs)

#### Hunting Pressure

No. Men  
No. Boats  
Time Spent  
Area Covered  
Weather Conditions

#### Hunting Methods

Weapons  
Other Equipment  
Technics  
Philosophy

#### The Kill

No. Walrus Seen  
Shots Fired  
No. Walrus Hit  
No. Walrus Killed--Not Recovered  
No. Walrus Killed--Recovered  
No. Walrus Escaped Wounded  
No. Calves Orphaned--Used  
No. Calves Orphaned--Abandoned  
Where Shot at--  
    On Ice  
    In Water

#### Selectivity

Walrus Seen--  
    Adult Male *—preferred.*  
    Adult Female *preferred (with calves)*  
    Subadult  
    Calf  
    Unidentified Older than Calves  
Walrus Taken--  
    Same breakdown, plus detailed age (measurements of tusk, total length, tooth specimens) and sex data.



**Utilization--Amount and Type**

**Ivory  
Hides  
Meat**

**Economics**

**Income from various parts taken, sold, manufactured,  
etc. (hide use as well as ivory)  
Sport Hunting Situation**

**Possible Hunting Improvements**

**BIOLOGICAL DATA**

**Aerial Surveys**

**Ice Conditions  
Percent Cover and Patterns  
Old-New Ice Proportions  
Cake Size  
Group Size and Composition of Walrus Seen  
Oblique Photographs of Groups  
(best camera and film available)  
Movements--Direction and Rate**

**Field Observations**

**Ice Conditions  
Walrus Movements  
Life History and Behavior Notes**

**Weights and Measurements**

**Weights  
Total Dressed Weight  
Organs  
Stomachs  
Fetuses or Embryos  
Measurements  
Total Length  
Hind Foot  
Tusk Length  
Girth--Umbilicus and Behind Flippers  
Blubber Thickness--Ventrally between Fore Flippers**

945-6-2  
1-9-51  
10/21/51

## Specimens and Data

Tooth

Uterus w/Ovaries

Record uterus size, placental scars (measure width, & color), look for embryo, preserve.

Testis and Epididymis Sections

Description of Stomach Contents

Type, Quantity, Frequency

Parasites

Intestinal, Liver, Small Piece of Diaphragm

## TENTATIVE FLIGHT SCHEDULE

(To be adapted to weather and other conditions)

1. A. To Gambell, via south side of Island, carrying extra gas (or refueling at NE Cape military if possible).
- B. Drop gear, refuel, and make additional survey south of Island.
- C. Drop crew (Fay and Thayer), return to Nome.
2. A. To Diomedede early in day, surveying enroute. Drop crew (Kenyon and Frederickson). (Probably drop crew at Wales if unable to land Diomedede).
- B. Survey back to Nome.
3. Additional surveying as required, with Dr. Buckley as observer. (Observations to be plotted on USC&GS Hydrographic Chart 9302 "Bering Sea", if possible).

## RETURN FROM ISLANDS

To be via commercial transportation when field studies completed. These and other additional expenses to be taken care of by Thayer and Frederickson with charges to appropriate TA.

## SUPPLIES AND EQUIPMENT

Specialized scientific items to be furnished by Kenyon and Fay, the latter providing all collecting materials.

## DATA AND REPORTS

Field Notes--All to be typed up and copies distributed to participating cooperators.

Specimens--To be deposited with Dr. Fay for addition to his current collection, with analysis scheduled to begin fall of 1958.

Preliminary Reports--A general narrative summary report, in memo form, to be submitted by each crew immediately upon return from the islands.

Final Reports--A separate report will be prepared by each crew, covering findings at each island. By prearrangement, each member of the crew will be responsible for preparing certain sections of the report, setting forth mutual findings. Biological data will be tabulated, summarized, or described as appropriate. Recommendations will be made separately by each crew member, but included in the appropriate report.

Final reports shall be due in the Regional Office July 31, 1958. A copy of Kenyon's portion of the Diomedea report will also be forwarded directly to Washington.

## BRISTOL BAY STUDIES

As previously agreed upon, the Regional Office will make arrangements to have Dr. Fay, Karl Kenyon, and possibly James Brooks, transported to and from Crooked Island near Togiak, on or about June 25, 1958, for a period of about ten days, with a skiff, motors, and gear.

Kenyon will participate in this study as representative of the BSF&W, and will have expenses paid for by the Regional Office, as confirmed by radio conversation with Mr. Nelson, this date.

Results of Kenyon's observations here will also be described in a report due July 31, 1958.

If circumstances permit, transportation in Bristol Bay may be provided by vessel under charter to FWS for pelagic fur seal studies in the area, under direction of Ford Wilke. Coordination in this event will be by contact with Scott in Anchorage.

R. F. Scott

cc: Kenyon, Fay, Frederickson, Thayer, Buckley, Leedy

PRELIMINARY REPORT - WALRUS SURVEY MAY 10-12, 1958

Itinerary

On May 10, 1958 two field parties consisting of Dr. Francis Fay and Mr. A. Thayer, and Messrs. S. Fredericksen and K.W. Kenyon, accompanied by Dr. J.L. Buckley as observer and Mr. Theron Smith as pilot departed Fairbanks, Alaska in Crumman Goose N720 at 0518 hours, arriving at Nome, Alaska at 0828 hours. Messrs. Kenyon and Fredericksen remained at Nome, and the balance of the party continued to Northeast Cape on St. Lawrence Island. After refueling at the military facility, a flight was made to Gambell via the south side of St. Lawrence Island. Dr. Fay and Mr. Thayer were left at Gambell. Buckley and Smith continued to Northeast Cape to refuel, then returned to Nome.

On May 11, Buckley and Smith, with Fredericksen and Kenyon departed Nome on a course of  $280^{\circ}$ T to about  $169^{\circ} 45'$  W, then northerly to Diomede Island, where Fredericksen and Kenyon remained. Buckley and Smith returned to Nome along the coast.

On May 12, Buckley and Smith departed Nome on a course of  $195^{\circ}$ T to a point 60 miles west of the Yukon River Delta, then to the Delta, and generally south about 30 to 60 miles west of the coast to Taunak, then following around the coast to the south and east to the Walrus Islands in Bristol Bay. From the Walrus Islands they flew to Dillingham, King Salmon and Anchorage.

The flight time was a total of 10.4 hours on May 10, of which 6.2 hours were on actual walrus survey; 3.0 hours on May 11 all on walrus survey; and 9.1 hours, on May 12, of which 6.2 were on walrus survey.

Procedures

The flight routes on walrus survey are shown on the attached map. All flights were made at 1,500 feet altitude or less. Weather was cloudless except for a small area on the west end of St. Lawrence Island, and visibility conditions were excellent. There were strong North and Northeast winds on May 11 and 12, but they did not affect observation conditions adversely. Photographs (35mm ektachrome, and some 4 x 5 black and white) were taken of the concentrations of walrus, and probably can be used for sex and age composition counts. Walrus numbers (and sex and age when possible) were

recorded, as well as a running log of ice conditions.

### Results

Approximately 6,000 walrus were seen, of which 1,600 were on the Walrus Islands in Bristol Bay, and the balance in the Bering Sea. The largest concentration lay on the direct line from Nome to Northeast Cape, from about 35 to 75 miles from Northeast Cape--more than 3,200 walrus were estimated in this area. All ages and sexes were recorded, with abundant evidence of recent calving in the form of blood stains on the ice. These animals were in groups of up to 150+ in size. The most dense concentration was in an area 7 miles long about 60 miles from Northeast Cape where there were 2,000+ animals. Almost all of the animals seen were on floes of old heavy ice at the edge of a half mile wide lead of "young" ice and open water. Ice covered more than 90 percent of the surface, and was predominantly old ice with floes up to 1/2 mile or more in diameter.

To the east and southeast of Northeast Cape 75+ walrus were seen, most of which were adult bulls. The surface was covered with approximately 20 percent young ice, 70 percent old ice and 10 percent water. These bulls were on floes about 100 feet in diameter, surrounded by young ice. About 10 to 20 miles south of Southeast Cape 613+ walrus were seen, again of all ages and sexes, but predominately bulls. Between Southeast Cape and Siskik Point 17 more walrus were seen. This area is essentially all open water, and the walrus were on scattered small floes of old ice. The area to the southwest of Southeast Cape was ice-free as far as we could see. Ice was again present in the vicinity of Cape Singikpa, but apparently was very local. To the west and northwest the surface was 80 percent water, and 20 percent old ice in small floes. The north side of the island was solid ice, with only occasional leads, most of the ice was greatly crushed and refrozen into larger floes up to a mile or more in diameter. One walrus was seen about 10 miles north of Gambell, and four more near Savoonga.

About 40 miles due north of Northeast Cape 233+ walrus were seen, mostly adult males; no blood was seen on the ice here. From about 65 miles to about 85 miles north of Northeast Cape we saw 182+ walrus, including at least 12 calves. At a point 85 miles due west of Nome two sub-adults were seen, but no walrus from here to Nome. In the area with walrus the surface was about 20 percent water, 60 percent old ice and 20 percent "young" ice. The total of the estimates for May 10 is 4,327+.

On May 11, between a point due south of King Island and the western most point of our flight, 11 walrus were seen, and six more were seen between here and Diomede. The largest group was five; no calves were seen. On the return trip to Nome only three walrus were seen, about 40 miles from Diomede. The total on May 11 is 20.

On May 12, three walrus were seen between 85 and 95 miles south of Nome. No other walrus were seen until we reached the Walrus Islands about 400 miles to the southeast. On the east side of Hegenister Island we counted nine dead walrus which probably have been there since 1956 or before. On Crooked Island we saw three dead walrus probably 1957 kills with no tusks, two skeletons from 1956 and one dead walrus from 1957 on Crooked Island. On the North end of Big Twin Island we saw 300+ adult male walrus. On Round Island estimated 500 walrus on Northeast side of North end and 800 on Northwest side of North end.

#### Discussion

It seems safe to assume that the bulk of the walrus herd, at least in American waters, was in the area outlined in black on the attached map, i.e. to the north and east of the eastern half of St. Lawrence Island. There is apparently no connection, at least at this time of year with the group of bull walrus in the Walrus Islands. Detailed study of the photographs taken, when they become available, should provide some clue to the population structure at this season, and to the distribution of sexes at the time of calving.

The data obtained are not suitable for estimating total population size.

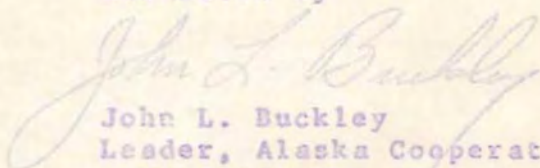
#### Recommendations

It appears entirely feasible to determine the total population of Pacific Walrus by aerial survey during the northward movement of the herd, provided

- a) an aircraft with suitable range and instruments were available on standby to wait for clear weather.
- b) Cooperation of the U.S.S.R. could be obtained for either a joint survey using one aircraft, or separate surveys in appropriate sides of the U.S. - Russia convention line at the same time.

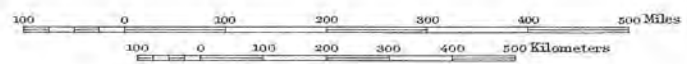
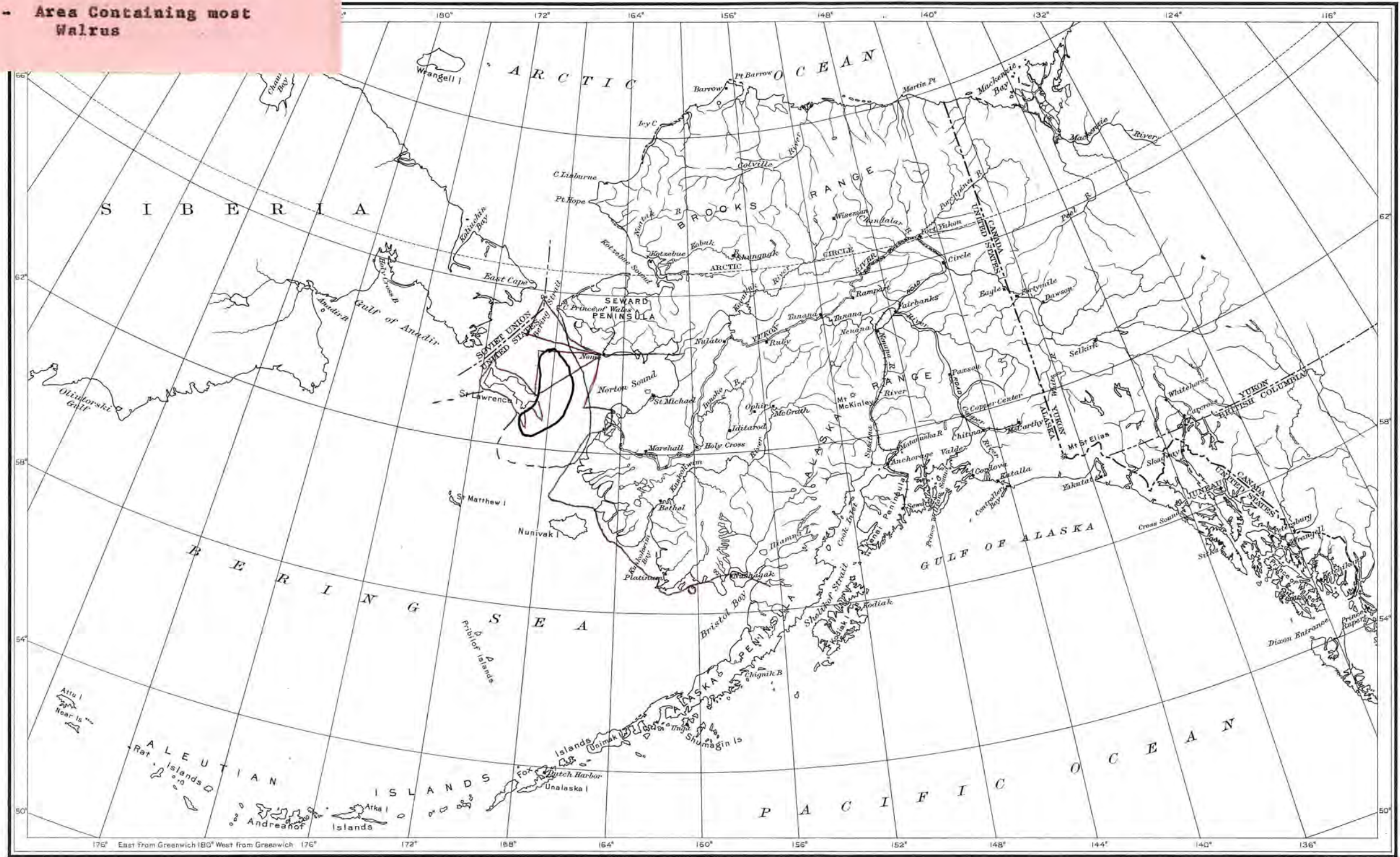
Considering that the Goose used for the survey this year has a safe range of only slightly over four hours, the area was well covered. Longer gas range and better navigational equipment with the same weather conditions would have permitted delimiting the boundaries of the herd. It would also have permitted a system of transects to be used to obtain density figures. Probably a C-47 is the smallest aircraft that could be used satisfactorily.

Submitted by



John L. Buckley  
Leader, Alaska Cooperative  
Wildlife Research Unit

**RED - Flight Route**  
**BLUE - Edge of Ice**  
**BLACK - Area Containing most Walrus**





MEMO

TO: A. Thayer, USFWS, Anchorage

DATE: June 9, 1958

FROM: F. Fay, USPHS, Anchorage

SUBJECT: Field notes: Walrus studies, Gambell, 1958

May 9 - Dep. Anchorage 5:30 pm AST, Arr. Fairbanks 7:30 pm Ast

May 10 -Dep Fairbanks 5:15 am AST, Arr. Nome 8:30 am BST. Refueled.

Norton and Golovnin Bays both 100% heavy ice, unbroken. Norton Sound 100% open water except for few small patches of brack and floes: less than 1% cover. Mainland rivers about 10% open. Fresh snow. Nome weather (estimated): wind NE 5-10; temp. 30°F; broken overcast onshore, clear offshore.

Passengers Kenyon and Frederickson and gear left at Nome. Passengers Buckley, Thayer and Fay and pilot Smith departed for NE Cape, St. Lawrence Island at 12:04pm BST on first part of aerial survey of walrus herds. Aircraft: Grumman Goose (FWS); starting altitude: 1500; ground speed approx. 140 mph.

12:05 $\frac{1}{2}$  - crossed Nome beach on course; 100% heavy shore ice

12:07 - crossed edge of shore ice; beginning less than 1% ice cover, small rectangular floes, seperately and in clumps (photo)

12:13 $\frac{1}{2}$  - 1 Phoca sp. in water

12:15 - 2 " " " "

12:16 - 1 " " " "

12:16 $\frac{1}{2}$  - 2 " " " "

12:17 - 2 " " " "

12:17 - 2 " " " "

12:22 - beginning young ice 75-80%, brack and small floes 10%

(2 photos)

12:22 $\frac{1}{2}$  - 1 Phoca sp. on ice

12:23 - 2 " " " "

12:28 $\frac{1}{2}$  - 1 " " " "

12:29 - 1 " " " "

12:31 - beginning 40-50% medium and heavy ice, 30-40% young ice (photo)

12:37 - 3 large seals (Erignathus?) on ice

3-MINUTE LOW CIRCLE FOR CLOSER OBSERVATION

12:40 - 1 large seal (Erignathus?) on ice

12:41 - many walrus holes in young ice (3 photos)

12:42 - large herd sighted by Buckley on right side (females and young)

(2 photos)

- 1 w. swimming (photo)

3-MINUTE CIRCLE FOR CLOSER OBSERVATION OF BUCKLEY'S HERD

12:46 - beginning heavy rough ice 100%

12:49 - beginning 50-80% heavy, 20-10% youngice

- 85 w. at edge of heavy ice; also 1 Erignathus

- 2000 (mostly bulls) on ice in large group, 1 mile East; few calves

7-MINUTE DEVIATION AND CIRCLE TO ABOVE HERD (photos)

- 150 additional females,  $\frac{1}{2}$  with calves, scattered about on nearby ice and in water. (photos) Holes in young ice very numerous (photo)

12:56 - return to original flight course

12:57 $\frac{1}{2}$  - 3 Erignathus on ice

12:58 - 3 " " " "

12:58 $\frac{1}{2}$  - 1 " " " "

12:59 $\frac{1}{2}$  - 1 " " " "

- 1:00 $\frac{1}{2}$  - 2 Erignathus on ice  
 1:02 - 2 Phoca sp. on ice  
 1:03 $\frac{1}{2}$  - walrus holes in young ice (photo)  
 1:12 - 3 Phoca sp. on ice  
 1:13 $\frac{1}{2}$  - 2 " " " "

$\frac{1}{2}$ -MINUTE CIRCLE FOR CLOSER OBSERVATION OF PHOCIDS AND WALRUS

- 2 w. on ice; few holes  
 - polar bear tracks (2, together)  
 1:15 - beginning brack 30-50%, large heavy floes 50%  
 1:20 - crossed NE Cape beach

Landed at NE Cape for refuelling.

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NOTE: Fay observed on left side (East side) of aircraft, Buckley on right. Above and following observations cover strip width of approx. 1 mile, on course only, to the left of the aircraft. Herds circled on right side were not recorded by Fay. Photos indicated are those ~~MI~~ by Fay, only. Phoca sp. probably P. hispida.

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Departed at 3:05 pm BST on the second part of the survey flight, around the east, south and west coasts of St. Lawrence Island. The flight path was rather erratic, and I was unable to keep an accurate record of it. The following is an approximation which should correspond roughly to the record kept by Buckley. Again, I observed on the left, only.

3:06 - proceeding eastward, over the shore ice, to the easternmost tip of the island, passing over the beach at the tip. Then SE for approximately 5 miles. Heavy ice in large pans 60-80% cover (photo)

3:13 - 8 w. cows, no calves

3:15 - 2 w. adults

Proceeding in an erratic southerly direction to about 3-4 miles SE of Punuk Islands. Ice cover from Punuk north to the eastern tip of SLI and inshore: Heavy 50%, young 50%. From about the middle of this ice and stretching as far to the SE as we could see was heavy, broken ice 60-80% and young ice 40-10%. In the angle of these two ice types was open water with 5-10% old broken and 1-10% young, grading into 40-80% young with occasional old, small floes.

3:21 - 1 Erignathus on ice

3:25 - 2 Erignathus (adult and young)

-10 bull w. on ice

3:28 - turned to 320° and proceeded to the Punuk Islands. No walrus there.

3:31 - proceeding SW from Punuk 210° for about 5-7 miles

3:33 - 1 Erignathus on ice

3:36 - 7 Bull w. on ice

Turned to SE, proceeding about 5 miles to the edge of the heavy ice

3:42 - 2 Phoca sp. on ice

3:42 $\frac{1}{2}$  - 2 Adult w. (photo)

3:47 - edge of heavy ice

- 200 bull w. on ice (2 photos)

Cruised briefly SSE along edge of heavy ice 2-3 miles

3:50 - 45 w., including 20 bulls, 25 cows and 10 young and 1-2 yr. olds (photo)

- 3:52 - 35 cows with young. Ice bloody (calving) (photo)  
 - 40 cows with few young. Ice bloody (photo)  
 - 10 cows, some with young, some pregnant (photo)  
 3:54 - turned WNW, heading in toward SLI, slightly N of Kialeglak  
 3:56 - 1 w. adult on ice  
 3:58 - 1 Erignathus on ice  
 3:59 - 10 w. adult on ice  
 4:00 - 10 w. adult on ice  
 - 1 Erignathus on ice  
 4:01 - 2 " " "  
 4:02 - 1 " " "  
 - 15 w. adult on ice  
 4:03 - 50 w. adult on ice  
 4:13 - About 1 mile due S of SE Cape, SLI

Proceeding hereafter mostly 1-2 miles offshore around the S and W sides of St. Lawrence I.

- 4:14 - 3 w. on ice  
 4:17 - 20 bull w. on ice (photo)  
 1-MINUTE CIRCLE FOR CLOSER OBSERVATION  
 4:22 - crossing tip of Siknik Cape, SLI  
 4:37 - 10 w. 3-4 miles S of Powoiliak, SLI (Puguviliak)  
 4:38 - 1 Phoca sp. on ice  
 4:41 - 3 miles S of Boxer Bay, SLI  
 - 2 Phoca sp. on ice

Beginning large pans heavy ice 30%, young ice 30%

- 4:42 - few walrus holes in young ice  
 4:44 - 1 Erignathus with pup off Konkok  
 Ice off W coast open 2 miles wide along shore. Outside this was 50% large heavy, 10% young

5:00 - Passed over village (Gambell) and proceeded due N for 10 minutes, climbing to 5000 feet. Ice to N and NW mostly young 60-90%. To the east was much heavy ice, 80-90% cover. No w. seen.

5:10 - 180° turn, returning to Gambell, landing at 5:22pm BST.

Thayer and Fay deplaned and secured lodging in the village. Smith and Buckley returned to NE Cape and Nome, surveying along the way.

Six boats were out today, hunting in the area about 15 miles to the W. One walrus was seen, but none shot at or secured. 7 Erignathus were taken.

May 11 - Temperature 27°F; wind N 0-5; broken overcast. Departed at 10:10 am in Slwooko's boat, proceeding W under sail about 8 miles. Sighted 3 Erignathus and 1 gray whale during the day. No shots fired. Stopped on the ice for several hours, twice, waiting for game to appear. Returned under sail, arriving at 6:00 pm. Crew: Vernon, Tommy, Charles, Tim, Marvin, Thayer, and Fay. At least 8 other boats out to the W and NW. Ozeva's boat got 3 w. (cow, 2-yr male, female calf).

May 12 - Temp. 25°F; wind N 0-5, overcast with few breaks. Departed in Slwooko's boat at 6:55am under sail. Crew: Vernon, Charles, ~~Tommy~~, Tommy, Tim, Marvin and Fay. At least 7 boats out with 6 men in each. Guns in our boat: .218, .222, 30/30, 30-40. Direction WNW. Distance 15 miles. Much young ice moving down from the N.

9:25 - 2 Erignathus (separately) on ice. One shot at (218) and missed.

9:55 - Sighted Ad. female w. in water, swimming N. Chased her for approx 30 minutes. Shots fired, each hitting: .218 once, .222 four, 30/30 twice, 30-40 twice. Finally went into a large patch of young ice and was abandoned in favor of another on ice about 1 mile W. (Photos)

10:40 - Reached ice floe where Ad. female had just given birth to calf. Shot as follows: .222 once, 30/30 twice, 30-40 twice. Killed on the ice. (photos). Weight of calf 145 lb. Weight of mother (less blood and urine) 2085 lb. Both totally utilized, except bladder, and uterus.

11:50 - Finished butchering and headed for home. Sighted another Ad. on ice 1 mile NE and 3 more animals in water, swimming NE. Went after the latter, which were as follows: Ad female, 3-yr female, 2-yr male. (photos) Unable to keep accurate count of shots fired. Estimate 20, all .222, .218, and 30/30. All three killed, but only Ad. and 2-yr floated. Ad. and 3-yr killed first; 2-yr. harpooned before dead at same time 3-yr sunk. Two secured were towed to ice floe and butchered. Ad. skin removed whole, blubber, backbone, lungs, liver and uterus discarded. Juvenile's backbone discarded. Adult contained large foetus, larger than first newborn above.

2:45 - departed for Gambell. Sighted 2 Ad. females and 3 of unknown sex and age on the way. Also 6 more Erignathus.

4:30 - arrived at Gambell

Ozeva's boat got 3 cows and one calf; Kaningok's boat got 2 females and 1 calf; Phillip got 1 Erignathus; Joe Slwooko got 1 Erignathus and sighted 1 bull; Apangalook got 3 cows and no calves; and Kulukhon got 1 bull.

#### ENE

May 13 - Temp. 25° F; wind N 10-15; heavy ice 99% cover on north side, 50% on west side.

Departed at 7:15 am in Slwooko's boat. Crew: Charles, Vernon, Roger, Marvin, Timmy, and Fay. Proceeded W about 8-10 miles, then N 5 miles under sail. Ten boats with 49 men. No game seen or taken by any, though walrus were seen on ice NW of village this am. All boats returned home by motor, arriving about 12:00 noon. Water very rough on return trip. Much open water beyond west ice.

May 14 - Temp. 23° F, wind ESE 45, sky heavy overcast. Snow squalls in pm. No boats out today.

Radio message from Kenyon and Frederickson at Diomed: no walrus yet.

May 15 - Wind NW 30, temp. 21° F; overcast and snowing until mid afternoon.

Delegation from the New York Zoological Society Aquarium arrived to obtain young walrus. Mr. Stan Wayman, photographer for Life Magazine accompanied them. Dr. Carleton Ray represented the Society, and Mr. Russ Kinne was photographer for the Society. They observed 8-10 walrus on the ice SW of the village.

May 16 - ~~ENE~~ Temp. 23° F, calm, broken overcast, snow flurries.

Departed at 11:10 am in Slwooko's boat. Direction SSW, between beach and edge of heavy ice, 3/4 mile off shore. Distance travelled approx. 25 miles. Walrus seen NW of village on outer edge of heavy ice but not accessible.

Crew: Charles, Roger, Vernon, Marvin, Tim, Fay. Total game sighted: 6 Erignathus, 1 P. vitulina, 1 Eschrichtius (gray whale). Three Erig. shot at (1 shot each, .222), of which 1 missed, 1 killed and sunk, 1 killed and recovered. P. vitu. shot at (2 shots, .222), killed and recovered. Eschric. shot at (1 shot 30/30, 1 shot 30/40), wounded. Returned to village at about 6:00 pm.

At least 8 other boats out, of which 2 got nothing, 3 got 1 cow and calf each, 2 got 2 cows with calves each, and one got at least one cow and calf. One other got 1 Erig, and 1 P. vitu., and one of those with 2 cows and calves also got 1 P. vitu.

May 17 - Temp. 36° F, dropping to 29° F in evening. Wind S 20 mph, increasing to 40 by midnight. Snow squalls. Rough sea. Ice moving northward rapidly. No boats out today.

May 18 - Temp. 34° F, wind SE 40 diminishing to 15 by late evening, wet snow all day. Surf running very high. Shore ice gone. No boats out.

May 19 - Temp. 36° F, wind ESE 10-15. Clear overhead, but low overcast and fog over the sea. No ice in view, until current changed.

Six boats went out at about 12:30 pm, heading N and NE. Returned about 8:30 pm. Three got nothing, 1 got bull walrus, 1 got 2 Erig., and 1 got 1 Erig.

Two Eschrichtius off west beach this evening.

May 20 - Temp. 34° F, wind NE 10, changing to E 15 and then NE 15. Sky overcast. Snow squalls. No ice except brack carried by tidal current and few large bergs off W side. No walrus hunting today; too rough in a.m., no ice in p.m.

May 21 - Temp. 35° F, wind NE 20, broken overcast. Fog in evening. No boats out: water too rough.

May 22 - Temp. 36° F, wind NNE 0-5, broken low overcast.

Departed at 1:50 pm in Slwooko's boat. Direction W; distance 10 miles. Crew: Charles, Vernen, Marvin, Tim, Fay.

Encountered loose ice one hour out (about 10 miles) and hunted in the eastern edge of it. Chased a 2-year-old male w., but did not shoot it. Sighted 2 adult cows with 2-yr.-olds on ice, and one cow with 2-yr-old in water. Did not chase. Looking for cows with calves. Erignathus numerous. One other lone 2-yr-old in water.

Shot at Erig. on ice (1 shot, .222); wounded and lost. Shot at adult and yearling Erig. on ice (adult - 1 shot each .222, 30/40; yearling - 1 shot, .222); adult sunk, yearling secured. At least 8 others seen, not shot at. Sighted 10 cows together on ice and approached for kill. Shots fired: three .222, four 30/30, three 30/40. Three cows killed and at least one other hit. One of those killed slipped into water and sank, other 2 were secured, plus four calves. Latter killed with .22 by Tim. Heads, hearts and 7 large slabs of mungona saved from adults (about 1000 pounds, total), all except viscera from calves. The remainder was dumped into the water.

One adult of unknown sex rose next to the ice where we were butchering. Observed adult bull and old cow (no calf) sleeping on ice, also herd of 30<sup>±</sup> cows with calves, surrounded by impassable ice. Then cow nursing calf on ice, shot at (1 shot .222), wounded. Chased 10 minutes, finally killed with 2 shots .222, 2 shots 30/40. Cow sank, calf secured.

Cow with wound in mistachial pad chased us briefly but went away. Another cow nursing calf on ice. Shot (2 shots 30/30) and killed on ice. Took 4 slabs of mungona (4-500 ponds) and heart and head. Also calf.

Old cow with no calf on ice nearby. Very thin, flabby, very long tusks. Another adult female with no calf seen on way home. ~~Four~~ Three other w. of unknown sex and age sighted.

Arrived at beach about 8:30 pm. All boats seem to have been successful tonight. Abraham checking each boat as they arrive. Argued with Vernon about our 6 calves (village rule is not more than 5 per boat). Made him give one to someone else (as penalty).

Dr. Ray got male and female calves today.

May 23 - Temp. 36<sup>o</sup>F, wind NE 10, sky clear.

Departed at 7:00 am in Slwooke's boat. Direction W; distance 10 miles. Sighted 8 groups (estimated 300+ animals) on same ice (same location, anyway) as yesterday. One boat attacked each group. We (Vernon, Roger, Marvin, Tim, Fay) shot into group of about 10 adults, all females except one young adult male. Killed one female with calf and wounded at least three other animals including male. Shots fired: six .222, four .220, six 30/30, four 30/40. Secured dead cow and calf, saving latter and all (8 pieces) mungona, head and heart from latter. Then secured bull (shots included above) and saved 7 pieces of mungona (of 10 possible), head and liver.

Chased another cow with calf in water. Wounded cow (1 shot .222) which then escaped, deserting calf. Latter secured.

Sighted adult bull (old) sleeping in water. No shots. Escaped.

Arrived at the beach at 1:00 pm., ate, stored away meat, and departed again (same boat and crew) at 4:45pm. Direction NW, distance 5 miles. Fog closed in, so returned home without sighting ice or walrus. Saw 1 Erig. Arrived home about 5:50 pm.

Dr. Ray got second male calf today.

May 24 - Temp. 38<sup>o</sup>F, Wind NE 15, broken low overcast and fog patches. No boats out.

May 25 - Same weather as yesterday except heavy overcast and some rain. Wind changed to ENE in pm. and diminishing. Departed for Savoonga at 4:10 pm., arriving 10:10 pm. At Gambell at least one boat out for w. Got adult bull.

May 26 - Temp. 40<sup>o</sup>F, wind ENE 0-5, Fog until noon.

Departed for Gambell at 2:30 pm, leaving Thayer in Savoonga. Sighted 2 Erignathus NE of Tapphook. Both shot (first with 1 shot .222, second with 3 shots .222) and first secured. Second sunk. Arrived Gambell 11:30 pm.

At least 3 boats out from Gambell today. One got 2 cows with calves and others got one or two cows with calves, each. Winfred says many w. swimming, few on ice.

Dr. Ray and party left today.

May 27 - Temp. 43<sup>o</sup>F, wind SE 5, broken overcast.

About 8 boats out to the west today. Only one got walrus (cow). Many gray whales in the area. Apangalook struck one, but harpoon came out.

Dr. returned briefly today by chartered aircraft to pick up last calf (female) caught yesterday by Winfred.

May 28 - Temp. 40<sup>o</sup>F, wind SE 15-20, heavy rain. No boats out.

May 29 - Temp. 37<sup>o</sup>F, wind SE 10 to NE 10 to calm to SE 20. Fog all day; rain all night. Six boats out whaling in evening; still out at midnight.

Title 50--Wildlife

Chapter I--Fish and Wildlife Service,  
Department of the Interior

Subchapter E--Alaska Wildlife Protection

Part 47--Protection of Walruses

Basis and purpose. By an Act approved on June 29, 1956 (70 Stat. 372), the prior existing restrictions imposed by the Act of August 18, 1941 (55 Stat. 632; 48 U. S. C. 248), on the sale and exportation of parts of walruses lawfully taken in the Territory of Alaska by natives for food and clothing for themselves and by miners or explorers or any other person when in need of food were released to the extent that the hides of walruses so taken may be sold and exported under regulations to be prescribed by the Secretary of the Interior. The amendatory Act cited also authorizes the Secretary of the Interior to prescribe regulations under which walruses may be taken by natives and nonnatives for purposes other than food and clothing.

To implement the Walrus Protection Act, as amended, the following regulations, constituting a new Part 47--Protection of Walruses, are hereby adopted:

Definitions

Sec. 47.1        Meaning of terms.

Food, Clothing and Emergency Uses

Sec. 47.5        General provisions.

Walrus Hunting

Sec. 47.10        General provisions.  
47.11        Open season.  
47.12        Areas open to walrus hunting.  
47.13        Methods and means of taking.  
47.14        Guide requirement.  
47.15        Utilization, possession and exportation of walruses.

Licenses

Sec. 47.20        General provisions.  
47.21        License applications.  
47.22        Exemptions.

## Scientific Permits

Sec. 47.25	General provisions.
47.26	Permit applications.
47.27	Carrying and exhibiting.

Authority: §§ 47.1 to 47.27 issued under sec. 1, 55 Stat. 632, as amended; 48 U. S. C. 248.

## Definitions

§ 47.1 Meaning of terms. For the purposes of this part, the following terms shall be construed, respectively, to mean and to include:

- (a) Territory. Territory of Alaska.
- (b) Secretary. The Secretary of the Interior or his authorized representative.
- (c) Person. Individual, association, partnership or corporation.
- (d) Native. Eskimo, Aleut or other aborigine of one-half or more Eskimo, Aleut or other aboriginal blood.
- (e) Nonnative. Any person not of one-half or more Eskimo, Aleut, or other aboriginal blood.
- (f) Take. Pursue, hunt, shoot, wound, kill, capture, trap or wilfully molest or disturb.
- (g) Open season. The time during which walrus may lawfully be taken. Each period of time prescribed as an open season shall be construed to include the first and last days thereof.
- (h) Export. Transportation or offering for transportation by any means from the Territory to any place outside the Territory.

## Food, Clothing and Emergency Uses

§ 47.5 General provisions.

- (a) Taking and utilization. Walrus may be taken at any time and by any means by natives for food and clothing for themselves and by miners or explorers or any other person when in need of food and other food is not available, and the hides or ivory of walrus so taken may be possessed, purchased, sold, bartered, transported within and exported from the Territory, at any time, subject to the conditions and restrictions specified in this section.



(b) Possession and sale within the Territory. The hides or ivory of walruses taken in conformity with paragraph (a) may be possessed, purchased, sold, bartered and transported within the Territory by any person at any time.

(c) Exportation of ivory. Ivory from walruses taken in conformity with paragraph (a) may be exported only when manufactured or processed in the Territory by carving, drilling, cutting or engraving to such extent as materially to alter its original form and surface.

(d) Exportation of hides. Any person at any time may export, without limitation on numbers or sizes of such hides, the hides of walruses taken in conformity with paragraph (a) after first procuring an export permit obtainable without charge upon application to the Administrator, Alaska Wildlife Resources, Juneau, Alaska, or upon application to any game management agent or other officer designated by the said Administrator.

(e) Marking of packages. No package containing the hides of walruses subject to exportation under this section shall be exported unless it is clearly and conspicuously marked, labeled, or tagged on the outside thereof to show the names and addresses of the consignor and consignee, the contents of the package, and the number of the export permit required by paragraph (d).

### Walrus Hunting

§ 47.10 General provisions. During the open season, by the methods and means, and in the areas open to walrus hunting as specified in this part any person may take (without regard to the food and clothing purposes required by § 47.5) one bull walrus per year. Such walrus or parts thereof so taken may not be purchased, sold or bartered but they may be utilized, possessed, or transported within and exported from the Territory, at any time, subject to the conditions and restrictions prescribed by the succeeding sections of this part.

§ 47.11 Open season. May 15 to August 15 (dates inclusive).

§ 47.12 Areas open to walrus hunting. Territorial waters of the Bering Sea, the Chukchi Sea, and the Arctic Ocean North of 59° N. Latitude.

§ 47.13 Methods and means of taking. Walruses may be taken for other than food and clothing purposes only by the use of a rifle not smaller than .30 caliber and no airplane or helicopter shall be used in any manner in the taking of walruses; Provided, That nothing in this section shall prohibit the use of an airplane or helicopter as a means of transportation between a settlement or point of outfitting and a native village or other initial point from which a walrus hunt is to be conducted

§ 47.14 Guide requirement. Any nonnative taking a walrus pursuant to § 47.10 must employ as a guide, a native residing in the vicinity of the hunting area and be accompanied by such guide at the time of such taking.

§ 47.15 Utilization, possession and exportation of walruses. The meat of any walrus taken by a nonnative pursuant to § 47.10 shall be delivered without charge to natives residing nearest the hunting area for use as food. The remaining parts of any walrus so taken may not be purchased, sold or bartered but such parts may be possessed, transported within and exported from the Territory subject to the conditions and restrictions specified in this section.

(a) Possession and transportation. Parts of any walrus taken pursuant to § 47.10 (other than the meat which may be possessed and used only by natives for food) may be possessed and transported within the Territory by any person at any time: Provided, That any person possessing or transporting parts of any walrus not legally taken by himself shall furnish upon request of any person authorized to enforce this part a statement relating the manner in which acquired or the name, license number and address of the person from whom such parts were obtained.

(b) Exportation of parts of walruses. Any person at any time may export parts (other than the meat) of walruses taken pursuant to § 47.10 after first procuring an export permit obtainable without charge upon application to the Administrator, Alaska Wildlife Resources, Juneau, Alaska, or upon application to any game management agent or other officer designated by the said Administrator.

(c) Marking of packages. No package containing any parts of walruses subject to exportation under this section shall be exported unless it is clearly and conspicuously marked, labeled, or tagged on the outside thereof to show the names and addresses of the consignor and consignee, the contents of the package, and the number of the export permit required by paragraph (b).

#### Licenses

§ 47.20 General provisions. Except as permitted by § 47.5, no nonnative shall take any walrus unless at the time of such taking he carries on his person a valid license as required by the Walrus Act of August 18, 1941, as amended by the Act of June 29, 1956 (48 U.S.C. 248). Each such license shall bear the signature of the licensee written in ink on the face thereof and such license shall be produced for inspection upon request by any game management agent or other authorized person requesting to see it.

§ 47.21 License applications. Each application for a license shall be made on a form furnished by the U. S. Fish and Wildlife Service and shall be accompanied by a fee of \$25 if the applicant is a nonnative

resident of the Territory (as defined in section 3 of the Alaska Game Law of January 13, 1925, as amended; 48 U. S. C. 207) and a fee of \$50 if the applicant is a nonresident. If the application is made by mail it shall be accompanied by a bank draft or an express or postal money order payable to the U. S. Fish and Wildlife Service for the amount of the license fee.

§ 47.22 Exemptions. No license shall be required of a native nor of any person taking a walrus for scientific or educational purposes in accordance with a permit issued pursuant to this part.

#### Scientific Permits

§ 47.25 General provisions. Permits for the taking, possession and exportation of walruses or parts thereof for scientific or educational purposes will be issued by the Secretary upon such terms and conditions as are consistent with the protection and conservation of the walrus herds.

§ 47.26 Permit applications. Applications for permits to take, possess or export walruses or parts thereof for scientific or educational purposes should be addressed to the Administrator, Alaska Wildlife Resources, Juneau, Alaska.

§ 47.27 Carrying and exhibiting. Any permit issued pursuant to § 47.25 shall be carried by the permittee when taking walruses and shall be exhibited to any game management agent or other authorized person requesting to see it.

Since the foregoing regulations relieve existing restrictions applicable to the taking and utilization of walruses and parts thereof, notice and public procedure thereon are not required and they shall become effective upon publication in the Federal Register. (5 U.S.C. 1001, et seq.)

Issued at Washington, D. C., and dated May 10, 1957.

/s/ Hatfield Chilson

Acting Secretary of the Interior

2300 Jefferson Ave , Spenard  
12 July 58

Mr. Averill Thayer  
U.S. Fish and Wildlife Service  
Kenai, Alaska

Dear Ave:

Here are the data you wanted regarding weights of the various parts of a walrus. These are from a large bull and may not be exactly comparable to a female, but fairly close.

<u>Item</u>	<u>Weight (lb)</u>	<u>Approx. % of total</u>
Skin and blubber (except head & limbs)	1160	35
Ribs with meat	338	10
Vertebrae with meat	240	8
Hind flippers and pelvis	215	7
Shoulders and fore flippers	512	16
Neck	40	1
Head	87	2
Brisket and flank	100	3
Blood	277 <sup>+</sup>	9
Intestines	94	2
Penis	7	0.16
Kidneys	15	0.4
Spleen	5	0.14
Liver	115	3.1
Stomach (empty)	26	0.8
Diaphragm	12	0.3
Lungs	54	1.6
Heart	19	0.5
Totals -	<u>3316</u>	<u>100.0</u>

Enclosed is a Kodachrome photo of Siberia, as seen from the top of the mountain on the day when you and I and the aquarium people were up there. This was one that you asked me to take for you at that time.

~~Will get the field notes to you as soon as possible.~~ *enclosed*

Regards,

Francis H. Fay

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
FISH AND WILDLIFE SERVICE  
Juneau, Alaska

MEMORANDUM

June 18, 1957

TO: All Game Management Agents  
All FWS Licensing Officers

FROM: Acting Regional Director, FWS, Juneau, Alaska

SUBJECT: Walrus Licenses and Export Permits

Attached is an initial supply of applications for walrus licenses and export permits and a copy of the regulations pertaining to walrus hunting. Please make the forms available to those requesting them.

DEFINITIONS: Natives, as defined in the regulations, are not required to obtain a license to hunt walruses; all non-Natives, likewise defined, are required to be licensed. For purposes of licensing, non-Natives are classified as residents and non-residents. A resident non-Native is any person, not of one-half or more aboriginal blood, who has resided in Alaska for 12 months immediately preceding the date of his application. A nonresident non-Native is any person, not of one-half or more aboriginal blood, who has resided in Alaska for less than the 12 months preceding the date of his application. You will note that citizenship is not a factor to be considered in establishing residence. A resident alien is entitled to a resident license and a nonresident alien may purchase a nonresident license.

LICENSING - NON-NATIVES: It shall be the applicant's responsibility to fully complete the form and to provide a current address thereon. Applicant shall mail the license application and fee, preferably via air mail to speed delivery, to the Juneau office where the license will be issued and mailed to the applicant.

EXPORT PERMITS - NON-NATIVES: Non-Natives may export from Alaska parts of a walrus (other than the meat) upon the procurement of an export permit. Such permits are obtainable upon application at any Fish and Wildlife Service office.

EXPORT PERMITS - NATIVES: Export permits covering the hides of walrus taken by Natives under the food, clothing and emergency provisions of the regulations will be issued by the Juneau Office in accord with arrangements mutually agreed upon by the FWS and the Alaska Native Service.

  
DAN H. RALSTON

Attachment

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
FISH AND WILDLIFE SERVICE  
Juneau, Alaska

29 May 1957

Area Director  
Alaska Native Service  
Juneau, Alaska

Dear Mr. Olson:

As you are no doubt aware, the Secretary of the Interior recently prescribed regulations permitting, among other things, the export of the hides of walrus taken by natives for food and clothing. Section 47.5(d) of those regulations provides that, prior to the export of any such hides, the shipper must obtain an export permit from this office. (This is the permit we originally proposed be issued by your office, but the Secretary's Office preferred to have all permits issued from one activity).

From discussions with Mr. Mountjoy and others of your office, it appears that most, if not all, walrus hides to be exported, will accumulate at the native cooperative stores at Gambler, Savoonga, Kivalina, Point Hope, Wainwright, King Island, Diomed Islands, and possibly Melkoryok, Point Lay and Barrow, and that shipments from these places will occur once, or at the most, twice a year on your vessel North Star, also that the shipments will all probably be to ANICA in Seattle from where they will be disposed of to the trade.

With this limited anticipated activity, we propose to handle the permit requirement on the following basis:

When a skin, or lot of skins is ready to ship (a few days before loading), the shipper (presumably your agent or the storekeeper) is to request from us, by wire, a permit to export the skin or lot of skins, stating the consignor, name and address of the consignee, number of skins in the shipment, date and method of shipment. On receipt of such request, we will forward a numbered permit, by return wire, authorizing the shipment. The shipper shall mark each skin, bundle or container of skins to show the permit number, the contents and the name of the consignor and consignee and shall, when the shipment is made, submit to this office a detailed list of all skins in the shipment showing name of the person (native) who owns the skin, the sex of the animal from which taken, and the date and place killed.

At this time it is believed that this procedure will suffice to expedite shipments and at the same time provide the essential basic data on this phase of walrus management.

Since your people have indicated the workability and approval of this plan, will you please inform your field personnel concerned regarding the information required and the procedures for obtaining the required permits.

Very truly yours,

/s/ Clarence J. Rhode

Clarence J. Rhode  
Wildlife Administrator

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
FISH AND WILDLIFE SERVICE  
Juneau, Alaska

MEMORANDUM

June 18, 1957

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All FWS Licensing Officers

FROM: Acting Regional Director, FWS, Juneau, Alaska

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*Dan H. Ralston*  
DAN H. RALSTON

Attachment

Library  
U.S.  
107 E. ...  
Anchorage, Alaska 99503