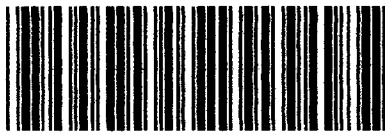




ALEUTIAN CANADA GOOSE TRANSPLANT FROM BULDIR ISLAND  
TO AMCHITKA ISLAND, ALEUTIAN ISLANDS, ALASKA  
SUMMER 1985

by  
Deines, Fredric G.

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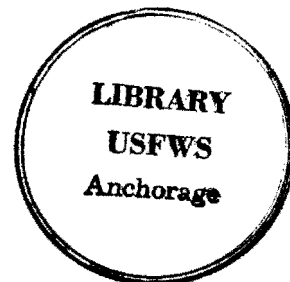
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SUMMER 1985



by  
FREDRIC G. DEINES



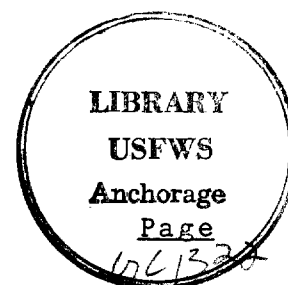
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## TABLE OF CONTENTS



Executive Summary-----	1
List of Expedition Members-----	2
Acknowledgements-----	2
Introduction-----	2
Methods and Materials-----	4
Capturing the Geese-----	4
Handling the Geese-----	4
Results and Discussion-----	7
Recommendations-----	18
Literature Cited-----	20
Appendix:	
Appendix A. 1985 Banding Schedules for Wild-----	21
Aleutian Canada Geese Released	
on Amchitka Island	

### FIGURES:

Figure 1: Map of Central and Western-----	3
Aleutian Islands	
Figure 2: Backpack and Goose Cage Illustration-----	6
Figure 3: 1985 Goose Release Site, Amchitka Island-----	9
Figure 4: 1985 Goose Capture Sites, Buldir Island-----	10

### TABLES:

Table 1: Goose Tubing Solution-----	6
Table 2: Results of Capture, Banding and Trans- planting of Aleutian Canada Geese from-----	8
Buldir Island to Amchitka Island, 1985	
Table 3: Estimated Age of Goslings Captured-----	12
After First Day and Color Banded	
Table 4: Geese Exhibiting Some Paralysis-----	15
at Time of Release	

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<b>TITLE</b> Aleutian Canada Goose Transplant from Buldir Island to Amchitka Island, Aleutian Islands, Alaska--Summer 1985		<b>DATE</b> September 1, 1985  <b>I.D. NO.</b>
<b>AUTHOR(S)</b> Fredric G. Deines	<b>CITATION</b>	
<b>OBJECTIVE</b> Capture Aleutian Canada geese and transplant to Amchitka Island to continue efforts toward reestablishing a nesting population on Amchitka Island.		
<b>METHOD OF STUDY</b> Geese were captured on Buldir Island by searching the upper and lower edge of the lowland tall plant association where tall plants offer cover and short plants offer succulent food. When the geese were captured, they were sexed, aged and banded with a numbered colored plastic leg band and size 7B FWS leg band. Within 48 hours after capture the birds were transported to Amchitka via the charter vessel "NorPac" and released at Bouy Point Cove, Amchitka Island.		
<b>MAIN FINDINGS</b> A total of 136 geese were captured on Buldir. Of this number, 11 died in the capture or transplant efforts. The birds that died represented an eight percent mortality factor for all the birds captured and transplanted. Three birds of the 11 died after release on Amchitka. One additional adult bird escaped prior to transplant. A total of 124 Aleutian Canada geese composed of 96 goslings and 28 adults were successfully transplanted and released on Amchitka Island.		
<b>CONCLUSIONS</b> The capture and transplant of wild Aleutian Canada geese from Buldir Island is the most efficient method for reestablishing nesting populations of this sub-species on islands cleared of foxes where the geese historically nested (prior to the introduction of foxes near the turn of the century). Eleven nests were found this year on Agattu Island proving the success of previous transplants to that island.		
<b>MANAGEMENT IMPLICATIONS</b> Continuation of transplant efforts will lead to reestablishment of nesting populations of this endangered sub-species on Amchitka and other islands and hopefully lead to the species eventual removal from the endangered species list.		
<b>ADDITIONAL REMARKS</b>		
<b>UPDATES OR SUPERSEDES I.D. NO.</b>		
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### ACKNOWLEDGEMENTS

Special appreciation must be extended to Volunteer Biologists and Biological Technicians for their assistance in the 1985 Aleutian Canada goose capture, banding and transplant efforts. Their enthusiastic and professional participation helped complete the efforts in a timely manner under difficult working conditions. Thanks must also be given to the "Norpac" crew members for their assistance in our goose capture and transplant efforts. Appreciation is also extended to Fred Zeillemaker, AIU Refuge Manager, for editing this report.

### INTRODUCTION

The U. S. Fish and Wildlife Service is attempting to reestablish the endangered Aleutian Canada goose on selected historic nesting islands that have been rendered fox-free in the western portion of the Aleutian Chain (Fig. 1). To accomplish this goal, hand-reared birds were formerly transplanted to some islands in hopes that they would reestablish nesting populations. This was not successful, as the birds had no knowledge of the migration route to California wintering grounds and they subsequently perished. The next effort was to release a combination of hand-reared birds and wild birds transplanted from Buldir Island. It was hoped that the experienced wild adults transplanted from Buldir would serve as "guides" for their goslings and the hand-reared birds transplanted with them. The young of the year would then return to the island on which they first became capable of flight and establish new breeding populations. This combination of hand-reared and wild geese was used at Agattu in 1978, 1979, 1980 and 1982. Although many of the wild goslings returned to the island of their release, again there was little success with the hand-reared birds. Therefore, the release of hand-reared birds was discontinued following the 1982 program. The 1983, 1984, and 1985 transplants have been composed solely of wild birds captured at Buldir.

The goal for the 1985 season was to capture and transplant 100 geese from Buldir to Amchitka. This was accomplished, but with some difficulty due to weather. The first attempt to get ashore on Buldir on 4 August resulted in the boat seeking shelter back at Kiska due to heavy seas. It was not until 8 August that the crew could get ashore at Buldir. Even then we found the cook tent frame completely blown away by winter storms. This required



a complete rebuilding from the ground up before a completed camp was possible and transplant operations could begin.

### METHODS AND MATERIALS

Work was conducted on Buldir and Amchitka Islands from 8 August to 14 August 1985. All personnel participated in the capture efforts of wild Aleutian Canada geese on Buldir Island this season. The geese captured on Buldir were eventually transported to Amchitka via the charter vessel "Norpac". Three transplants were made to Amchitka. Every effort was made throughout the capture, banding and transplant operations to reduce stress caused by handling, increasing the birds' chances for survival.

#### Capturing the Geese

Most methods used while searching for geese were based on information obtained during past work at Buldir. Byrd and Woolington (1978) indicated that most family groups could be found near the upper edge of the lowland tall plant association and the lower edge of the upland short plant association where tall plants offer cover and the short plants offer succulent forage. When searching for geese, only one person usually walked in the short plant community and the others walked at a slightly lower elevation in the tall plant community. Depending upon vegetation and topography, personnel usually walked abreast at about 5 to 15 m apart (Early and Henry 1979). Most geese were encountered in the tall plant community from near its upper edge to about 200 m down hill. A 1 m long by 1/2 m wide, long handled dip net was used to catch the geese. The net was most efficient when being used in fairly even terrain with moderately short vegetation (Early and Henry 1979). The net helped prevent injury to birds during capture.

Usually, when one goose was sighted others could be located in the same area. This occurred with non-breeders as well as family groups. It also became readily apparent that fresh goose droppings and clipped vegetation indicated geese were in the area. If no such sign was observed, very few if any geese were found (Early and Henry 1979).

#### Handling the Geese

As initiated in 1984, handling of the birds in the field was kept to an absolute minimum to help reduce the initial shock of capture. After capture, the birds were immediately placed in small laundry bags. The bags had one corner cut and hemmed to allow heads and necks to extend outside of the bag. The end of the bag was tied just beyond the bird's tail with a short piece of string to limit movement and minimize the chance of injury. This new system helped protect the birds better and improved our overall efficiency in the field. In the past, the age and sex of the bird were determined and the bird was banded with a FWS band prior to being put into burlap bags.



The bagged geese were then placed inside covered welded wire cages for transport to main camp. Three wire cages were attached to a backpack frame. Each compartment held two adult geese or two to three goslings (Fig. 2). Unnecessary walking with birds in the packs was avoided. When additional areas were about to be worked for a time, any goose laden backpacks were usually set aside while crew members chased other geese. Hiking back to camp was accomplished without unnecessary delays or rough treatment to the birds.

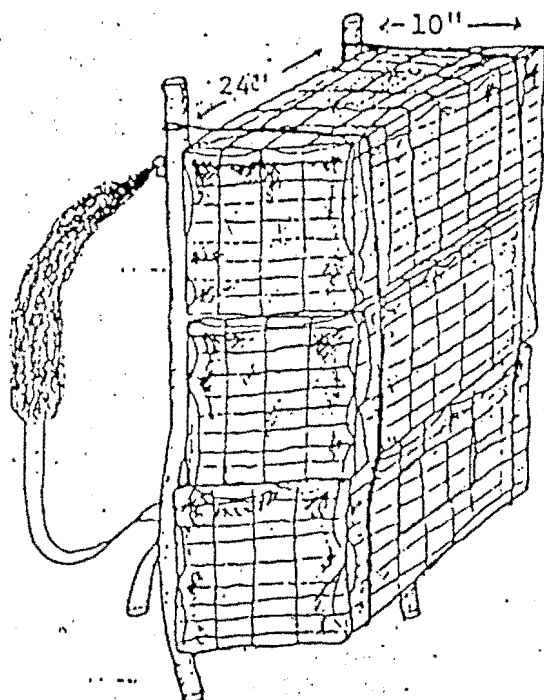
Upon return to the main camp at North Marsh, the geese were taken out of the backpack cages and burlap bags and placed in wooden goose crates to await processing. The banding materials, tubing supplies and other equipment necessary for processing of the birds were then gathered. Each person in the crew was responsible for a specific task and a small assembly line type operation was established to process the geese. The age and sex of a bird was determined first, it was then banded with a metal FWS band and finally a blue colored band was affixed. The FWS band was placed on the left leg of males and right leg of females, while the colored bands were placed on the right leg of males and left leg of females. All of this information along with the capture date and location was recorded in a field log. All geese were then tube fed about 15cc of protein mixture (Table 1). The tube feeding continued once daily thereafter, including the day of transport. The birds were also tube fed just prior to release on Amchitka. The tube feeding of the geese helps reduce the shock of handling, increases their chances of survival, and insures success of the transplant (Forrest Lee pers. comm.).

The birds were then released into a fenced 5 x 15 m enclosure built of metal fence posts and poultry wire. The enclosure included a poultry wire roof with burlap attached to the side walls as a visual barrier for the birds. The area within the enclosure provided natural food and cover. Water and commercial goose feed were also provided. The band numbers of any birds which appeared to be suffering from paralysis due to the stress and shock of handling were recorded at that time.

Just prior to transport to Amchitka, the birds were taken from the holding pen and tube fed. They were then placed in 91 x 66 x 36 cm or 91 x 66 x 51 cm specially constructed wooden crates covered with burlap and lined with Elymus mollis. Adults and goslings were put into separate crates to eliminate the potential of adult birds trampling younger ones during transport. The number of birds put into the wooden crates was limited to 4 to 6 adults or 6 to 8 goslings to prevent injury.

Once the geese were placed in the crates, they were taken out to the charter vessel via a 4 m inflatable boat powered by a 15 HP motor. The goose crates were then securely tied to the deck of the 27 m vessel (beneath a helicopter pad). All efforts were made throughout handling of the geese to provide maximum protection from the elements.

Figure 2. ALEUTIAN CANADA GOOSE TRANSPORT SYSTEM



Note: Cages constructed of one-half inch wire mesh lined with burlap, and attached to a standard aluminum backpack frame.

Table 1. Goose Tubing Solution

<u>Ingredient</u>	<u>Small mix (1 qt.)</u>	<u>Large mix (1 gal.)</u>
ProSobee	1-13 oz. can	4-13 oz. cans
Electrolyte Powder	.75 tablespoon	3 tablespoons
Shaklee Protein Power	2 tablespoons	8 tablespoons
Nutrical	2.5 tablespoons	10 tablespoons
Water	sufficient to make 1 qt. of solution	sufficient to make 1 gal. of solution

Upon arriving at Amchitka Island, the geese were tube fed on the vessel and taken ashore to the release point via inflatable boats. Prior to release of the geese at Bouy Point Cove (Fig. 3), the birds were placed in a rectangular shaped fenced 5 x 10 m holding pen for about two hours. Placement of the geese in the holding pen prior to release allowed the birds to reestablish family groups. The fenced holding pen was equipped with a burlap visual barrier. The birds settled down quickly after release into the holding pen and began to feed on the vegetation. The birds were then released from the holding pen and they quickly departed the release site.

### RESULTS AND DISCUSSION

A total of 136 Aleutian Canada geese were captured on Buldir Island (Table 2). Eleven birds died during the transplant. Of the eleven, one bird died during the banding operation on Buldir, seven died during transport to Amchitka and three died after release on Amchitka. The three goslings that died on Amchitka included two killed by eagles and one was found dead near a creek. Ten of the eleven birds that died were goslings (five females, and five males). The remaining bird was an adult female. The birds that died represented an eight percent mortality rate for all birds captured. In addition, one adult female escaped on Buldir prior to transplant.

A total of 124 Aleutian Canada geese were successfully transplanted to and released on Amchitka Island. This total was composed of 96 goslings and 28 adults (Table 2). The birds released on Amchitka included 48 male goslings, 48 female goslings, 11 male adults and 17 female adults.

Two of the birds transplanted to Amchitka were recaptures. One was an adult female with a red colored band numbered P48 and FWS band numbered 1067-21121. It was banded on 21 March 1984 as a second year female on the wintering grounds at the Lofton Ranch pasture (adjacent to the southeast end of Lake Earl in Del Norte County, California). The second recaptured bird was an adult male with red colored band numbered P-71 and FWS band numbered 1067-21145. This bird was banded as a second year male on 24 March 1984 at the same location as the recaptured female.

Initial capture efforts began on 10 August in the Bean Goose Lake area (Fig. 4) in the late afternoon. The late start was due to bad weather (rain and fog) earlier in the day. As usual, not many birds were captured (three goslings) in this area, but the operation had begun. The second day's capture effort concentrated in the Extra Plateau area, which provided its usual twenty or so birds (26). In addition, 14 geese were captured in Glissade Valley while enroute to Extra Plateau. This is the first time that geese have been caught in Glissade Valley. Because of this success and its close proximity to camp, it should be considered as a primary capture site in the future. The 40 birds caught the second day were combined with the first three and transplanted to

Table 2. Results of Capture, Banding and Transplant Efforts on Aleutian Canada Geese from Buldir Island to Amchitka Island, 1985

Capture Date	Capture Location*	Transport Date	Number of Geese Captured and Banded			Mortality				Number of Geese Successfully Transported to Amchitka		
			AHY	LOC	Total	AHY	LOC	AHY	LOC	AHY	LOC	Total
8/10/85	A	8/12/85**	0	3	3	0	0	0	2	0	1	1
8/11/85	B	8/12/85	8	19	27***	0	1	0	2	8	16	24
8/11/85	C	8/12/85	1	12	13****	0	0	0	0	1	12	13
8/12/85	D	8/14/85	6	34	40*****	0	0	0	3	5	31	36
8/14/85	E	8/17/85	13	34	47	0	0	0	2	13	32	45
8/15/85	F	8/17/85	2	4	6	0	0	1	0	1	4	5
TOTAL			30	106	136	0	1	1	9	28	96	124

- \* A = Bean Goose Lake  
 B = Extra Plateau  
 C = Glissade Valley  
 D = Dip Camp  
 E = Dry Lake  
 F = Kittiwake Lake Plateau

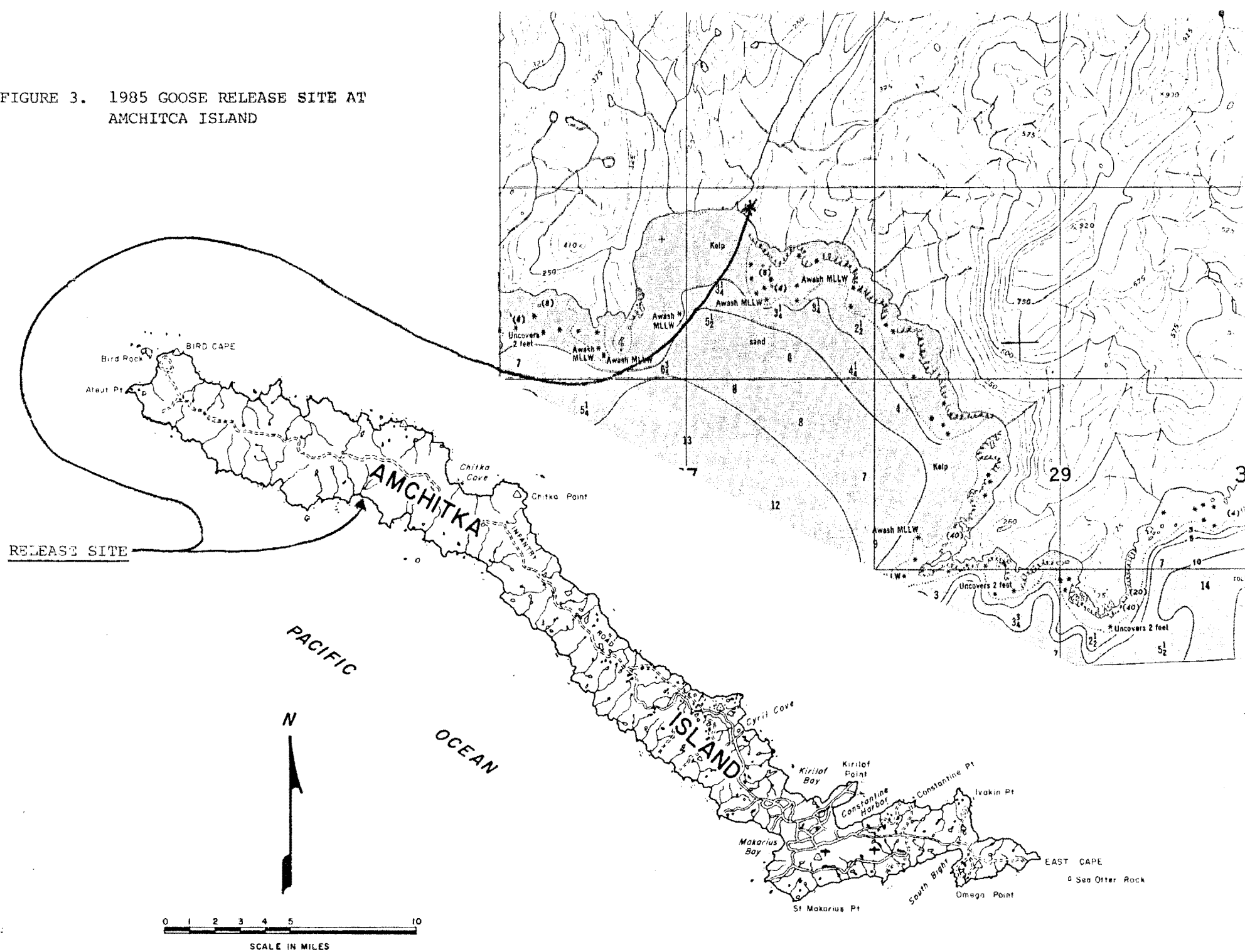
\*\* Two of the three goslings were not transplanted until the last transplant because of their young age (seven and 14 days). Even then, both died enroute to Amchitka.

\*\*\* Includes one bird previously banded (red leg band #P71).

\*\*\*\* Includes one bird previously banded (red leg band #P48).

\*\*\*\*\* Note that this total includes one adult which escaped on Buldir prior to transplant.

FIGURE 3. 1985 GOOSE RELEASE SITE AT  
AMCHITKA ISLAND



AMCHITKA ISLAND



Amchitka via the "Norpac" that evening. The birds were released on Amchitka after a 15 hour trip the following day at noon. The third day's capture effort centered on the Dip Camp area. Although a long hike from camp, it has historically been the most successful capture area. After hiking over Owl Knob Pass in the fog, the crew found the Dip Camp area clear and full of geese. After slightly more than two hours effort, 40 geese were bagged and ready for the long trip back to base camp. It may have been possible to catch more birds, but the full packs and the long hike back to camp precluded additional efforts. The following day the 40 geese captured at Dip Camp were transplanted to Amchitka via the "Norpac" and arrived there on 14 August. Meanwhile, in low, dense fog and with tired muscles, the capture team recuperated at camp.

On 14 August the capture effort was on again with excellent weather and a long walk to Dry lake. This area has always been good for geese, but it cannot be reached every year due to weather limitations and its distance from camp. This year the capture team was able to work the area and was rewarded with a record capture of 47 geese. It should be noted, however, that over 50 other geese observed in the area were capable of flight. With only six people and six backpacks, some of the birds had to be hand carried back to camp. This was fine for the birds, but difficult for the capture team.

The last day's capture effort was oriented toward Kittiwake Lake with high hopes. These hopes were not to be fulfilled, however. Six geese were caught on the Kittiwake Plateau. The usual two-person drive of geese from the Petrel Valley side to the capture team on the west side of the lake was then attempted. As the drivers came up over the Petrel Valley ridge, they observed over 300 geese on the southeast slope above the lake. The two drivers sneaked up and around the birds in hopes of driving them onto the lake and over to the capture team. As they came into view and began to walk down towards the geese, all geese flew away. This left about 30 geese on Kittiwake Lake. An attempt was then made to drive those birds to the capture team using whistles and small hand flares. The birds were driven off the lake, but they outflanked the capture team and escaped over the mountain. The large number of flight capable birds in the area confirmed suspicions that Kittiwake Lake is an important staging area for the geese. The escape of the geese from the lake served to reaffirm that the area is difficult to work as a capture site.

The six geese captured at Kittiwake Lake were combined with the 47 from Dry Lake and began their trip to Amchitka after camp was pulled from Buldir. The camp was taken down and secured that night because of gale warnings received during that evening's weather forecast. A gale could have delayed transplant of the geese and departure from the island by at least one day and probably longer. As it turned out, the weather just made for a rough ride to Amchitka. The final load of geese arrived at Amchitka on the evening of 16 August. Although it was hoped to offload the birds that evening, heavy fog and rough seas delayed

the operation until the following morning. Even then, fog and five to eight foot swells onto the beach made the release difficult.

Unlike the previous two releases on Amchitka where the birds had two hours to settle down and reestablish old or establish new family ties, the last birds only had about 1/2 hour. This was due to concern for the safety of the release team under such adverse sea conditions. Although the Bouy Point Cove has a good, sandy beach, it is also a shallow beach, which allows frequent large breakers to develop along the shore. For this reason, it should continue to be an interesting beach to land on for future goose releases.

Even though nearly all the geese encountered at Buldir were incapable of flight, flightless birds were still able to move quite rapidly over the rough island terrain. Every days effort found that some geese were able to outrun the crew in open areas, especially if headed uphill in short vegetation. On most of these occasions, the capture crew was spotted by wary geese before the crew saw the geese. The only view the crew had of these birds was one of proceeding out of the area with all expediency. The birds were impossible to overtake after such a head start. Our efforts to circle ahead of them also proved fruitless. Our capture efforts were most successful when we searched the zone where the tall vegetation (Elymus-umbell) gave way to the short vegetation (mossy-willow).

The overall average age of aged goslings at release was 42.2 days (Table 3). By counting back 42 days from 12 August one can deduce that the peak of the hatch was about 1 July. By counting back an additional 27 days from 1 July, one could conclude that the peak of incubation initiation was 15 June. By counting back an additional seven days one could estimate that the majority of egg laying began on 29 May. The first week in June has always been considered the time when the majority of incubation begins at Buldir. The average age for birds captured in 1983 was 27.5 days (Deines, Zeillemaker 1983) and in 1984 was 33.5 days (Deines 1983).

Table 3. Estimated Age of Goslings Captured, Color Banded and successfully transplanted to Amchitka.

	Colored Leg <u>Band Number</u>	Capture <u>Location</u>	Date of <u>Capture</u>	Estimated Age on Date <u>Captured</u>	Adj. Est. of Age in Days at Time of Final <u>Transplant</u>
1.	A02	Bean Goose Lake	8/10/85	35	42
2.	A04	Extra Plateau	8/11/85	49	55
3.	A05	"	"	49	55
4.	A08	"	"	21	27
5.	A12	"	"	28	34



Table 3. (Continued)

	<u>Colored Leg Band Number</u>	<u>Capture Location</u>	<u>Date of Capture</u>	<u>Estimated Age on Date Captured</u>	<u>Adj. Est. of Age in Days at Time of Final Transplant</u>
6.	A13	"	"	49	55
7.	A14	"	"	28	34
8.	A15	"	"	28	34
9.	A16	"	"	28	34
10.	A17	"	"	49	55
11.	A18	Extra Plateau	8/11/85	42	48
12.	A20	"	"	42	48
13.	A21	"	"	42	48
14.	A22	"	"	42	48
15.	A23	"	"	42	48
16.	A26	"	"	42	48
17.	A27	"	"	49	55
18.	A29	Glissade Valley	"	42	48
19.	A30	"	"	42	48
20.	A31	"	"	35	41
21.	A32	"	"	35	41
22.	A33	"	"	28	34
23.	A34	"	"	35	41
24.	A35	"	"	49	55
25.	A36	"	"	35	41
26.	A37	"	"	49	55
27.	A38	"	"	42	48
28.	A39	"	"	28	34
29.	A40	"	"	49	55
30.	A41	Dip Camp	8/12/85	28	33
31.	A43	"	"	35	40
32.	A85	"	"	42	47
33.	A45	"	"	35	40
34.	A50	"	"	42	47
35.	A51	"	"	42	47
36.	A54	"	"	35	40
37.	A55	"	"	35	40
38.	A56	"	"	42	47
39.	A57	"	"	42	47
40.	A58	"	"	35	40
41.	A59	"	"	28	33
42.	A60	"	"	35	40
43.	A61	"	"	35	40
44.	A64	"	"	28	33
45.	A65	"	"	35	40
46.	A67	"	"	35	40
47.	A68	"	"	28	33
48.	A69	"	"	28	33
49.	A70	"	"	28	33
50.	A71	"	"	28	33
51.	A72	"	"	42	47
52.	A74	"	"	35	40

Table 3. (Continued)

	<u>Colored Leg Band Number</u>	<u>Capture Location</u>	<u>Date of Capture</u>	<u>Estimated Age on Date Captured</u>	<u>Adj. Est. of Age in Days at Time of Final Transplant</u>
53.	A75	"	"	35	40
54.	A77	"	"	42	47
55.	A78	"	"	21	26
56.	A78	"	"	49	54
57.	A80	"	"	49	54
58.	A81	Dip Camp	8/12/85	49	54
59.	A83	"	"	35	40
60.	A84	"	"	35	40
61.	A87	Dry Lake	8/14/85	28	31
62.	A88	"	"	49	52
63.	A89	"	"	35	38
64.	A90	"	"	28	31
65.	A91	"	"	28	31
66.	A92	"	"	49	52
67.	A94	"	"	49	52
68.	A95	"	"	35	38
69.	A96	"	"	42	45
70.	A97	"	"	42	45
71.	A99	"	"	28	31
72.	A00	"	"	35	38
73.	B02	"	"	42	45
74.	B03	"	"	49	52
75.	B04	"	"	21	24
76.	B05	"	"	35	38
77.	B06	"	"	28	31
78.	B07	"	"	42	45
79.	B08	"	"	42	45
80.	B09	"	"	42	45
81.	B10	"	"	49	52
82.	B11	"	"	42	45
83.	B16	"	"	28	31
84.	B17	"	"	28	31
85.	B18	"	"	35	38
86.	B19	"	"	35	38
87.	B20	"	"	28	31
88.	B23	"	"	35	38
89.	B24	"	"	35	38
90.	B25	"	"	28	31
91.	B26	"	"	49	52
92.	B27	"	"	49	52
93.	B28	Kittiwake Lake Plateau	8/15/85	42	44
94.	B30	"	"	42	44
95.	B31	"	"	42	44
96.	B32	"	"	49	51

Although every effort was made to minimize the impact of capture and handling on the birds, some geese still showed signs of partial stress paralysis when they were released into the holding pens on Buldir or Amchitka (Table 4). A few birds sustained some minor abrasion injuries during the handling and transport. These injuries were treated by spraying the affected areas with anti-septic.

In total, 31 geese exhibited some degree of paralysis at the time of release on Amchitka (Table 4). All 31 were mobile, but each had some impairment of movement, although each was expected to recover. Fourteen of the Dry Lake area birds which travelled the farthest to camp, exhibited some degree of paralysis. Dip Camp, which is the second farthest from camp, had the second highest number of birds (eight) with some paralysis at the time of release. As was the case in 1984, goslings and males had the greatest tendency to show problems with paralysis due to the stress of handling during capture and transplant. Seventy three percent (23) of the birds exhibiting some paralysis were goslings and 61 percent (14) were males. No definitive explanation can be offered for the sex bias, but it could be speculated that the aggressive territorial behavior normally associated with male birds is a factor. The age of the 22 goslings exhibiting some paralysis ranged from 21 to 42 days with an average of 36.5 days. Young birds, experiencing rapid growth and development during the time of transplant, are more susceptible to the stress of being handled.

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Table 4. Geese Exhibiting Some Paralysis at Time of Release

	<u>Band</u> <u>No.</u>	<u>Capture</u> <u>Location</u>	<u>Age</u>	<u>Sex</u>	<u>Injury</u>
1.	A06	Extra Plateau	AHY	M	Some paralysis, but mobile
2.	A19	Extra Plateau	AHY	M	Some paralysis, but mobile
3.	A21	Extra Plateau	L-42	M	Some paralysis, but mobile
4.	A25	Extra Plateau	AHY	M	Some paralysis, but mobile
5.	A30	Glissade Valley	L-42	F	Some paralysis, but mobile
6.	A34	Glissade Valley	L-35	M	Some paralysis, but mobile
7.	A59	Dip Camp	L-28	M	Some paralysis, but mobile
8.	A61	Dip Camp	L-35	M	Some paralysis, but mobile
9.	A62	Dip Camp	L-35	F	Some paralysis, but mobile
10.	A64	Dip Camp	L-28	M	Some paralysis, but mobile
11.	A65	Dip Camp	L-35	F	Some paralysis, but mobile

Table 4. (continued)

	<u>Band No.</u>	<u>Capture Location</u>	<u>Age</u>	<u>Sex</u>	<u>Injury</u>
12.	A71	Dip Camp	L-28	M	Some paralysis, but mobile
13.	A80	Dip Camp	L-49	M	Some paralysis, but mobile
14.	A84	Dip Camp	L-35	M	Some paralysis, but mobile
15.	A48	Dry Lake	AHY	F	Some paralysis, but mobile
16.	A49	Dry Lake	AHY	F	Some paralysis, but mobile
17.	A87	Dry Lake	L-28	F	Some paralysis, but mobile
18.	A88	Dry Lake	L-49	M	Some paralysis, but mobile
19.	A93	Dry Lake	AHY	F	Some paralysis, but mobile
20.	A95	Dry Lake	L-35	F	Some paralysis, but mobile
21.	B01	Dry Lake	AHY	F	Some paralysis, but mobile
22.	B02	Dry Lake	L-42	F	Some paralysis, but mobile
23.	B03	Dry Lake	L-49	M	Some paralysis, but mobile
24.	B04	Dry Lake	L-21	F	Some paralysis, but mobile
25.	B06	Dry Lake	L-28	M	Some paralysis, but mobile
26.	B10	Dry Lake	L-49	M	Some paralysis, but mobile
27.	B17	Dry Lake	L-28	M	Some paralysis, but mobile
28.	B20	Dry Lake	L-28	M	Some paralysis, but mobile
29.	B29	Kittiwake Lake Plateau	AHY	M	Some paralysis, but mobile
30.	B31	Kittiwake Lake Plateau	L-42	F	Some paralysis, but mobile
31.	B32	Kittiwake Lake Plateau	L-49	F	Some paralysis, but mobile

To help reduce the stress of capture, handling and transplant, the project is scheduled to allow capture of older goslings. Goslings of the 45 day age class probably transplant more successfully as they are near the end of their rapid growth and development period (Forrest Lee pers. comm.). The 1985 average gosling age of 38 days indicates that the capture effort may have

been slightly early. It would have been best had the capture effort centered around 16 August. It should be noted, however, that such a late date may have met worse weather, and a later date in another year might have been too late. It is probably best if transplant efforts span two weeks, as in past years, to allow bracketing of the time frame when most goslings are 45 days old. The gathering of information on the age of goslings and paralysis was begun in 1983. Both efforts should continue each year to help make future capture efforts more efficient and less stressful on the birds.

A copy of the banding schedule is contained in the Appendix.

## RECOMMENDATIONS

1. There should be enough flexibility in the vessel schedule so that bad weather, repairs, or any other delays will not impact the transplant operation at Buldir.
2. The timing of the capture effort should be centered as best as possible so as to concentrate on goslings 45 days of age.
3. The capture, banding and transplant effort on Buldir should be two weeks in length (as in past years).
4. The minimum number of goose capture personnel should be eight. Any fewer is less efficient. Ten people are considered optimal, as two people must accompany the vessel during the transplant operations away from Buldir.
5. The openings on the burlap goose carrying bags should continue to be hemmed to prevent injury of geese during transporting.
6. The goose carrying cages should be reconstructed using 1/2" square welded wire to help prevent injury to the birds. Consideration should be given to constructing two additional backpack units.
7. Whistles should be carried and used by all personnel involved in goose capture to help flush the birds out of dense vegetation.
8. The use of long handled nets should be considered mandatory. Their use helps prevent injury to the birds during capture.
9. To lessen the shock of capture, the geese should be immediately placed in hemmed bags and the backpacks. All additional handling (such as sexing, aging, banding and tube feeding) should be done back at the base camp.
10. A double wrap of burlap material 36" high should be placed around the holding pens at Buldir and Amchitka each year to provide visual barriers to the geese and reduce injury.
11. When the holding pens on Buldir and Amchitka are not in use, both ends should be left open to prevent them from becoming traps to other wildlife throughout the year.
12. The geese should be tube-fed daily beginning the day of capture and every day thereafter including the day of transport and just prior to release. Geese suffering from paralytic shock should receive additional tube feeding, if possible.
13. Stockpiled fence posts in the Goose Creek area of Agattu Island should be removed at the next opportunity.

14. Capture participants should be instructed to work together as a team whenever appropriate and down play competition toward personally capturing the most birds. Knee injuries have resulted in the past during capture operation.
15. Areas of dense vegetation and numerous large rocks, boulders, uneven terrain, or other features making footing difficult, should be avoided to reduce chances of injury to capture personnel.

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APPENDIX A

BANDING SCHEDULES FOR ALEUTIAN CANADA GEESE  
TRANSPLANTED AND RELEASED AT AMCHITKA ISLAND, ALASKA -- 1985

Banded Buldir Island, trans-  
planted and released, at Rony Pt.  
 A Cove, Amchitka Island, Alaska D  
 Banded and released Buldir  
 B Island, Alaska E  
 C F

BAND PREFIX	COMMON NAME	AOU #	STATUS	AGE-SEX	REGION	LAT-LONG	LOC	DATE MO-DAY-YR.
1067								
104 01	Aleutian Canada Goose	A22 172.1	613	L - F	AK-503	513-1785E	A	08-12-85
02		A23 ↓	↓	↓ ↓	↓	513-1785E	↓	↓
03	BAND DESTROYED							
04	Aleutian Canada Goose	A25 172.1	613	AHY M	AK-503	513-1785E	A	08-12-85
05		A26 ↓	↓	L ↓	↓	↓	↓	↓
06		A27 ↓	↓	↓ F	↓	↓	↓	↓
07		A28 ↓	↓	AHY ↓	↓	↓	↓	↓
08		A29 ↓	↓	L M	↓	↓	↓	↓
09		A30 ↓	↓	↓ F	↓	↓	↓	↓
10		A31 ↓	↓	↓ M	↓	↓	↓	↓
11		A32 ↓	↓	↓ F	↓	↓	↓	↓
12		A33 ↓	↓	↓ ↓	↓	↓	↓	↓
13		A34 ↓	↓	↓ M	↓	↓	↓	↓
14		A35 ↓	↓	↓ ↓	↓	↓	↓	↓
15		A36 ↓	↓	↓ F	↓	↓	↓	↓
16		A37 ↓	↓	↓ M	↓	↓	↓	↓
17		A38 ↓	↓	↓ F	↓	↓	↓	↓
18		A39 ↓	↓	↓ M	↓	↓	↓	↓
19		A40 ↓	↓	↓ F	↓	↓	↓	↓
20		A41 ↓	↓	↓ M	↓	↓	↓	08-12-85
21		A42 ↓	↓	AHY F	↓	↓	↓	08-14-85
22		A43 ↓	↓	L ↓	↓	↓	↓	↓
23		A45 ↓	↓	↓ M	↓	↓	↓	↓
24		A45 ↓	↓	↓ F	↓	↓	↓	↓
25		A50 ↓	↓	↓ M	↓	↓	↓	↓
26		A51 ↓	↓	↓ F	↓	↓	↓	↓
27		A52 ↓	↓	AHY M	↓	↓	↓	↓
28		A53 ↓	↓	↓ F	↓	↓	↓	↓
29		A54 ↓	↓	L ↓	↓	↓	↓	↓
30		A55 ↓	↓	↓ M	↓	↓	↓	↓
31		A56 ↓	↓	↓ F	↓	↓	↓	↓
32		A57 ↓	↓	↓ M	↓	↓	↓	↓
33		A58 ↓	↓	↓ ↓	↓	↓	↓	↓
34		A59 ↓	↓	↓ ↓	↓	↓	↓	↓
35		A60 ↓	↓	↓ ↓	↓	↓	↓	↓
36	Aleutian Canada Goose	A61 172.1	613	L M	AK-503	513-1785E	A	08-14-85
37	BAND DESTROYED							
38	BAND DESTROYED							
39	Aleutian Canada Goose	A64 172.1	613	L M	AK-503	513-1785E	A	08-14-85
40		A65 ↓	↓	↓ F	↓	513-1785E	A	↓
41		↓	↓	AHY ↓	↓	522-1755E	B	↓
42		A67 ↓	↓	L M	↓	513-1785E	A	↓
43		A68 ↓	↓	↓ ↓	↓	↓	↓	↓
44		A69 ↓	↓	↓ F	↓	↓	↓	↓
45		A70 ↓	↓	↓ M	↓	↓	↓	↓
46		A71 ↓	↓	↓ ↓	↓	↓	↓	↓
47		A72 ↓	↓	↓ ↓	↓	↓	↓	↓
48		A73 ↓	↓	AHY F	↓	↓	↓	↓
49		A74 ↓	↓	L M	↓	↓	↓	↓
104 50	Aleutian Canada Goose	A75 172.1	613	L F	AK-503	513-1785E	A	08-14-85

U.S. bandings to: Bird Banding Laboratory, Office of Migratory Bird Management, Laurel, Md. 20811. O.M.B. No. 42-R1435.

Canadian bandings to: Canadian Wildlife Service, Environmental Management Service, Department of the Environment, Ottawa, Ontario, Canada. KIA OE7. Approval expires May 31, 1981.

BAND PREFIX:	COMMON NAME	AOU #	STATUS	AGE-SEX	REGION	LAT-LONG	LOC	DATE MO.—DA.—YR.
1067								
104 51	BAND DESTROYED							
52	Aleutian Canada Goose A77	172.1	613	L F	AK-503	513-1785E	A	08-14-85
53	A78			L M				
54	A79							
55	A80							
56	A81							
57	A82			AHY				
58	A83			L M				
59	A84							08-14-85
60	A46			AHY F				08-17-85
61	A47							
62	A48							
63	A49							
64	Aleutian Canada Goose A66	172.1	613	AHY F	AK-503	513-1785E	A	08-17-85
65	BAND DESTROYED							
66	Aleutian Canada Goose A87	172.1	613	L F	AK-503	513-1785E	A	08-17-85
67	A88							
68	A89							
69	A90							
70	A91							
71	A92							
72	A93			AHY F				
73	A94			L				
74	A95							
75	A96							
76	A97							
77	A98			AHY M				
78	A99			L				
79	A00							
80	B01			AHY F				
81	B02			L				
82	B03							
83	B04							
84	B05							
85	B06							
86	B07							
87	B08							
88	B09							
89	B10							
90	B11							
91	B12			AHY				
92	B13							
93	B14							
94	B15							
95	B16			L				
96	B17							
97	B18							
98	B19							
99	Aleutian Canada Goose B20	172.1	613	L M	AK-503	513-1785E	A	08-17-85
105 00	BAND DESTROYED							

REMARKS Geese with number designations listed on right side of "common name" indicates the number of the yellow plastic leg band. This is authorized under Permit Number 20570. Yellow leg bands were placed on the right leg of males and left legs of females (see map for release site). Birds banded on 08-12-85 were captured at Extra Plateau and Glissade Valley, birds banded on 08-14-85 were captured at Dip Camp and birds banded on 08-17-85 were captured at Dry Lake.

Banded Buldir Island, trans- —Banding Locations—  
A planted and released Bouy Pt. Cove, D  
Amchitka Island, Alaska  
B E  
C F

BAND PREFIX:		COMMON NAME		AOU #	STATUS	AGE-SEX		REGION	LAT-LONG	LOC	DATE MO.—DAY—YR.
1067	103	01 Aleutian Canada Goose	B22	172.1	613	AHY	M	AK-503	513-1785E	A	08-17-85
			B23			L					
			B24								
			B25				F				
			B26								
			B27								
			B28				M				
			B29			AHY					
			B30			L	F				
			B31								
	103	11 Aleutian Canada Goose	B32	172.1	613	L	F	AK-503	513-1785E	A	08-17-85
		BAND DESTROYED									

U.S. bandings to: Bird Banding Laboratory, Office of Migratory Bird Management, Laurel, Md. 20811. O.M.B. No. 42-R1435.

Canadian bandings to: Canadian Wildlife Service, Environmental Management Service, Department of the Environment, Ottawa, Ontario, Canada. KIA OE7. Approval expires May 31, 1981.

BAND PREFIX:	COMMON NAME	AOU #	STATUS	AGE-SEX	REGION	LAT-LONG	LOC	DATE MO.—DAY—YR.
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REMARKS Geese with number designations listed on right side of "common name" indicates the number of the yellow plastic leg band. This is authorized under Permit Number 20570. Yellow leg bands were placed on the right legs of males and left legs of females (see map for release sites). Birds banded on 08-17-85 were captured at Dry Lake and Kittiwake Lake Plateau.

Master Permit No. 20570

Banding Schedule  
3-860 (Rev. 1973)

Master Permittee

Aleutian Islands Unit  
Alaska-Maritime-NWR

Banded Buldir Island, trans- —Banding Locations—  
A planted and released Bouy Pt. Cove, D  
Amchitka Island, Alaska  
B E  
C F

INCLUSIVE BAND NOS  
1127 -  
FROM 04779  
THROUGH 1127-  
04800  
REPORT ONLY CONTIGUOUS  
BAND NUMBERS

BAND PREFIX	COMMON NAME	AOU #	STATUS	AGE-SEX	REGION	LAT-LONG	LOC	DATE MO.—DAY—YR
01								
02								
03								
04								
05								
06								
07								
08								
09								
10								
11								
12								
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50								

U.S. bandings to: Bird Banding Laboratory, Office of Migratory Bird Management, Laurel, Md. 20811. O.M.B. No. 42-R1435.

Canadian bandings to: Canadian Wildlife Service, Environmental Management Service, Department of the Environment, Ottawa, Ontario, Canada  
KIA OE7. Approval expires May 31, 1981.

BAND PREFIX:	COMMON NAME	AOU #	STATUS	AGE-SEX	REGION	LAT-LONG	LOC	DATE MO.—DAY—YR.
1127								
51								
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65								
66								
67								
68								
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70								
71								
72								
73								
74								
75								
76								
77								
78								
047 79A	Aleutian Canada Goose A02	172.1	613	L F	AK-503	513-1785E	A	08-12-85
80	BAND DESTROYED							
81	BAND DESTROYED							
82A	Aleutian Canada Goose A04	172.1	613	L F	AK-503	513-1785E	A	08-12-85
83	↓ A05	↓	↓	↓ M	↓	↓	↓	↓
84	BAND DESTROYED							
85A	Aleutian Canada Goose A06	172.1	613	AHY M	AK-503	513-1785E	A	08-12-85
86	↓ A07	↓	↓	↓ F	↓	↓	↓	↓
87	↓ A09	↓	↓	↓ M	↓	↓	↓	↓
88	↓ A08	↓	↓	↓ L	↓	↓	↓	↓
89A	Aleutian Canada Goose A10	172.1	613	AHY M	AK-503	513-1785E	A	08-12-85
90	BAND DESTROYED							
91A	Aleutian Canada Goose A12	172.1	613	L M	AK-503	513-1785E	A	08-12-85
92	↓ A13	↓	↓	↓ F	↓	↓	↓	↓
93	↓ A14	↓	↓	↓	↓	↓	↓	↓
94	↓ A15	↓	↓	↓	↓	↓	↓	↓
95	↓ A16	↓	↓	↓	↓	↓	↓	↓
96	↓ A17	↓	↓	↓	↓	↓	↓	↓
97	↓ A18	↓	↓	↓	↓	↓	↓	↓
98	↓ A19	↓	↓	↓ AHY M	↓	↓	↓	↓
99	↓ A20	↓	↓	↓ L F	↓	↓	↓	↓
048 00A	Aleutian Canada Goose A21	172.1	613	L M	AK-503	513-1785E	A	08-12-85

Library  
U.S. Fish & Wildlife Service  
1011 E. Tudor Road  
Anchorage, Alaska 99503

REMARKS Geese with number designations listed on right side of "common name" indicates the number of the yellow plastic leg band. This is authorized under Permit Number 20570. Yellow leg bands were placed on the right legs of males and left legs of females (see map for release sites). Birds banded on 08-12-85 were captured at Bean Goose Lake and Extra Plateau.