

FWLB  
0462



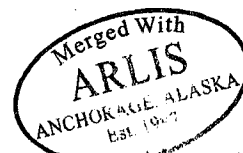
BREEDING CANADA GEESE OF THE PORT ETCHES AREA  
HINCHINBROOK ISLAND, ALASKA

David J. Kurhajec

Special Studies  
U. S. Fish and Wildlife Service  
Anchorage, Alaska 99502

September 1977

**ARLIS**  
Alaska Resources  
Library & Information Services  
Anchorage, Alaska



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

## Breeding Canada Geese of the Port Etches Area

### Hinchinbrook Island, Alaska

#### Introduction

The Prince William Sound (P.W.S.) Canada Geese (Branta canadensis) are considered to be of the subspecies occidentalis (Delacour 1951, Hansen 1962, Palmer 1976). However recent information tends to question this subspecific classification (Isleib and Kessel 1973, Isleib 1977, Timm pers. comm.). Nesting behavior is similar to B.c. fulva and brood rearing habitat may also more closely resemble fulva than occidentalis. Taxonomic characters also appear to be intermediate between these two species (Timm pers. comm.). Information presented here was gathered incidental to seabird studies conducted by the U. S. Fish and Wildlife Service, Special Studies Office, on Hinchinbrook Island, P.W.S.. The objectives of this study were to evaluate P.W.S. Canada goose nesting habits and brood rearing habitat.

#### Nesting Habits

Nesting was well underway when the study began on 29 May 1977. On this date four nests were found on the Nuchek "Spit" in Port Etches (Figure 1). An additional nest was found on 7 June. An estimated 12 to 15 pairs are nesting on the Nuchek "Spit".

Weights and measurements were taken of all eggs in the five nests (Appendix I). The average size of eggs was 84.6 mm by 53.2 mm with ranges of 79.95 - 91.1 mm in length by 51.95 - 58.15 mm in width.

Weights ranged from 114 to 151 gm with an average of 135 gm for 26 eggs, however, weights were taken at different stages of incubation for several of the nests. The average clutch size was 5.2 eggs with clutches of (6,6,5,5,4). An egg which was floated on 31 May from nest number 1, stood on end in the bottom of the container, indicating that the egg was nearly midway in incubation (Westerskov 1950).

All five nests were located under Mountain Hemlock (Tsuga mertensia), which were growing in or near bog habitat. For further information on this habitat type see Isleib and Kessel (1973). All five nests were located on the same general elevation of approximately 17 m. above sea level. Nests varied in their distance from salt water with a range of 150 to 250 m.. For more specific information on each nest see Appendix I.

Hatching of the four succesful nests began on 8 June and was completed by 18 June. The time period may have been slightly shorter since the time between observations was six days from 13 to 19 June. During this time period the last remaining nest hatched. Dates of hatching corresponded very closely with those of Dusky Canada Geese B.c. occidentalis) nesting on the Copper River Delta (Bromley pers. comm.). The initiation of incubation was calculated using an incubation period of 27 days (Bromley 1976), corresponding with that of the Copper River Delta Dusky Canada Goose. It extended from 5 May to 23 May for the four nests which hatched. Hatching success was 80% for five nests and of the four nests that were successful 100% of the eggs hatched.

### Brood Rearing

After hatching goslings remained in the nest for about one day. They were then led away from the nests by the adults and up into the higher elevation bog and coniferous forest habitat types. Elevations ranged from 34 to 68 m..

During the brood rearing and adult molting period geese remain very quiet and secretive. Habitat types used are bog meadows and Hemlock - Sitka Spruce forests. Forested areas utilized are those which are adjacent to bog habitat and where there is drainage occurring, resulting in a slightly moister habitat type.

The major food item during this time period is Yellow Skunk Cabbage (Lysichiton americanum), which is grazed intensively in high use areas.

Several broods of geese were observed on 30 July. Young appeared to be nearly fledged and adults appeared as if they were nearly complete with their molt. Geese were first observed flying on 12 August after the molting and brood rearing period was completed.

### Areas of Use

Besides the above mentioned nesting habitat and brood rearing habitat areas, geese use the intertidal areas of Constantine Harbor. During the incubation period, geese usually in pairs, visit the intertidal areas in the morning and evening. It also appears that non-breeding birds may use the intertidal areas throughout the day. Upon hatching and the onset of molt the geese restrict themselves to the

higher elevation meadows and forested areas.

The larger lakes in the area are also used by the birds during the incubation period. The majority of geese using this habitat type are probably nonbreeders. These larger lakes appear to be used primarily as resting areas when birds are not feeding on the tidal flats.

After the completion of fledging and molting, geese move back onto the tidal flats, this occurred on 12 August. Areas of primary use during this time are the intertidal areas at the head of Port Etches and in Constantine Harbor.

#### Predators

Predation on nests seems to be fairly low, because of the low numbers of large mammalian predators and the near absence of avian predators. Possible mammalian predators in the area are Brown Bear (Ursus arctos horribilis), River Otter (Lutra canadensis), and Mink (Mustela vison). Weasels (Mustela rixosa) also occur on the study area but rarely pose a threat to a large goose.

Possible avian predators are Glaucous-winged Gulls (Larus glaucescens), and Parasitic Jaegers (Stercorarius parasiticus). Predators on adult geese and goslings would consist of the above species and also include the Bald Eagle (Haliaeetus leucocephalus).

#### Estimate of Abundance

On 26 August, 165 Canada geese identified as birds having utilized the area during the entire summer were counted in the Port Etches-Constan-

tine Harbor area. This is a minimum number since many of the geese were in tall stands of Beach Rye Grass (Elymus arenarius mollis) and could not be accurately counted. An estimated 180 to 200 Canada geese utilized the area during the Fall. It is possible that not all of these geese are breeding in the area, with some family groups moving into the area after the fledging and molting period.

Breeding pairs in the Port Etches-Constantine Harbor area are estimated to be 20 to 30 pairs. The estimate of 180 to 200 geese in the immediate area, would then be valid considering young of the year and nonbreeding birds.

Literature Cited

- Bromley, R.G.H. 1976. Nesting and habitat studies of the dusky Canada goose (Branta canadensis occidentalis Baird) on the Copper River Delta, Alaska. M.S. Thesis Univ. Alaska. 81p.
- Delacour, J. 1951. Preliminary note on the taxonomy of Canada geese, Branta canadensis. Amer. Mus. Novitates, No. 1537, 10p.
- Hansen, H.A. 1962. Canada geese of coastal Alaska. 27th No. Amer. Wildl. Conf. p. 301-319.
- Isleib, M.E. 1977. The Canada goose (Branta canadensis) in Prince William Sound, Alaska. Unpubl. Rpt. 17p.
- Isleib, M.E. and B. Kessel 1973. Birds of the North Gulf Coast- Prince William Sound Region, Alaska. Univ. Alaska Biol. Pap. 14:149p.
- Palmer, R.S. 1976. Handbook of North American birds. Vol. 2, Part I New Haven and London, Yale Univ. Press. p. 205-208.
- Westerskov, K. 1950. Methods for determining the age of game bird eggs. J. Wildl. Mgt. 14(1):56-67.

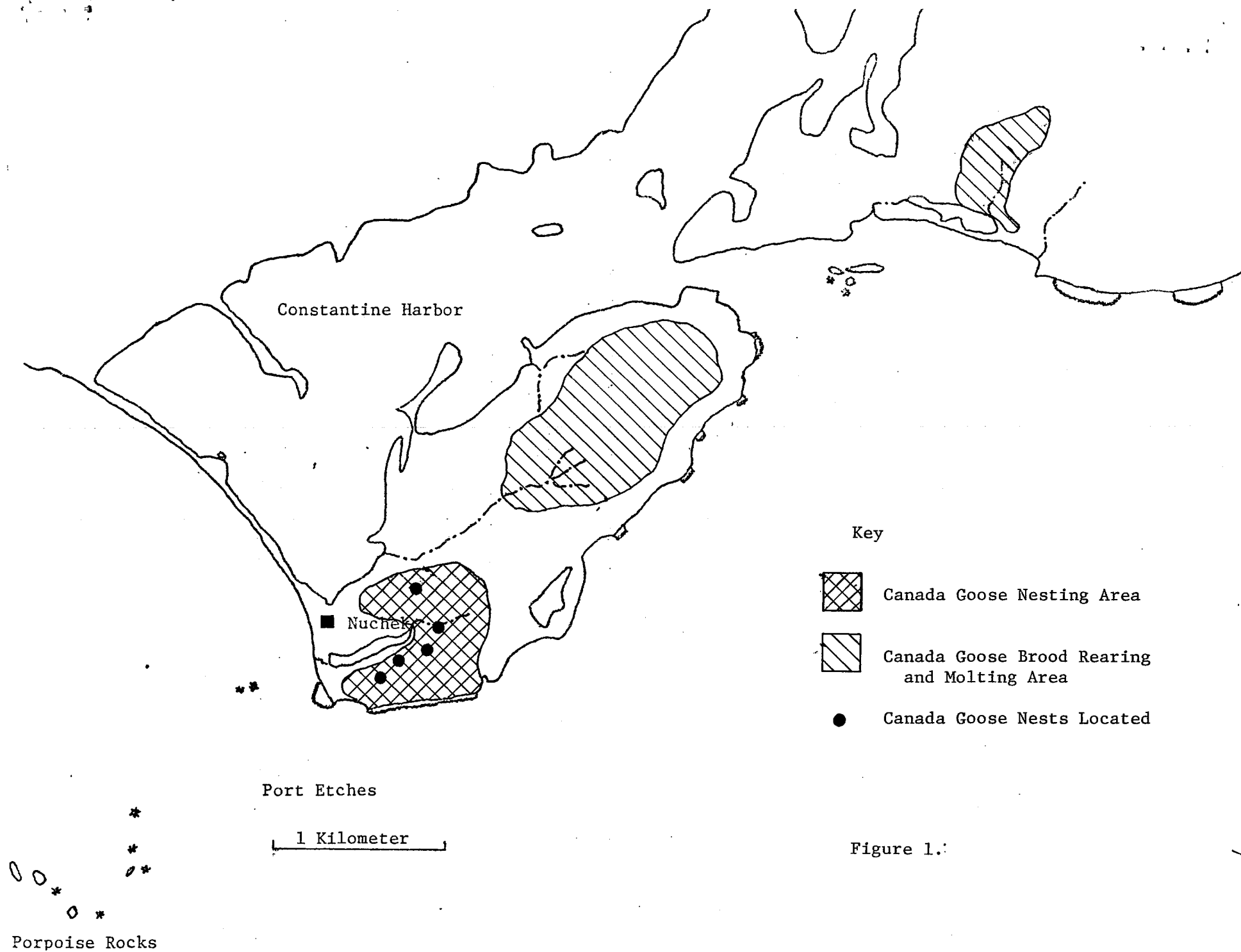


Figure 1.:



Appendix I

Nest Data Form: Canada Goose

Nest No. 1Date Found 29 May 1977Number of Eggs 6

Calculated Date of Initiation of Incubation

<u>Length(mm)</u>	<u>Width(mm)</u>	<u>Weight(gm)</u>	<u>17-18 May</u>
-------------------	------------------	-------------------	------------------

87.0	56.2	145	
87.5	54.7	135	
85.1	55.7	140	
91.1	55.25	146	
90.55	56.3	151	
89.7	54.4	142	

Nest Fate: Hatched - 6 youngDate of Hatch 12-13 June

## Measurements of Young

<u>Culmen(mm)</u>	<u>Tarsus(mm)</u>	<u>Wing(mm)</u>	<u>Weight(gm)</u>
-------------------	-------------------	-----------------	-------------------

17.8	36.4	27	100
18.55	36.5	24	93
18.95	36.7	26	98
18.9	35.7	28	102
18.7	37.15	27	102
17.1	33.9	25	92

Nest Characteristics: Located at base of Mountain Hemlock, 2m. from a large bog meadow. 150m. from salt water, 50m. to nearest bog pond. Nest cup comprised of down and moss with some hemlock needles. Small nest cup surrounding the eggs, poorly developed. Barely enough down to cover the eggs.

Notes: Egg floated on 31 May - Egg stood on small end straight up on the bottom of the container.

## Appendix I (cont.)

Nest Data Form: Canada Goose

Nest No. 2Date Found 29 May 1977Number of Eggs 6

Calculated Date of Initiation of Incubation

<u>Length(mm)</u>	<u>Width(mm)</u>	<u>Weight(gm)</u>	<u>19-23 May</u>
-------------------	------------------	-------------------	------------------

83.45      54.85      131

80.45      53.1      120

84.7      54.65      132

80.6      53.75      122

79.75      51.95      114

84.3      53.9      129

Nest Fate: Hatched - 6 youngDate of Hatch 14-18 June

## Measurements of Young

<u>Culmen(mm)</u>	<u>Tarsus(mm)</u>	<u>Wing(mm)</u>	<u>Weight(gm)</u>
-------------------	-------------------	-----------------	-------------------

None taken due to goslings leaving nest between observation times.

Nest Characteristics: Nest under Mountain Hemlock of 45 feet on a 30 degree slope, located in the middle of sloping bog habitat. 200m. from salt water, 100m. from fresh water lake. Nest cup comprised of down and grasses: 90-95% down, 5-10% dried grass and sedge, 1% moss. Well developed nest cup with sufficient amount of down to cover eggs.

Notes: Gander never observed near the nest site.

## Appendix I (cont.)

Nest Data Form: Canada Goose

Nest No. 3Date Found 29 May 1977Number of Eggs 5

Calculated Date of Initiation of Incubation

<u>Length (mm)</u>	<u>Width (mm)</u>	<u>Weight (gm)</u>	<u>12-13 May</u>
78.0	56.6	132	
83.05	56.3	135	
82.9	57.0	140	
82.4	55.2	132	
84.1	54.55	133	

Nest Fate: Hatched - 5 youngDate of Hatch 7-8 June

## Measurements of Young

<u>Culmen (mm)</u>	<u>Tarsus (mm)</u>	<u>Weight (gm)</u>
13.9	32.8	100
14.65	29.7	102
14.5	30.25	101
14.45	30.95	98
14.65	34.0	102

Nest Characteristics: Nest located in a stand of Mountain Hemlock, in a small ravine. 250m. from salt water, 50m. from nearest bog pond, 10m. from small stream. Nest cup very poorly developed, comprised of down and a small amount of moss. In the early stages of Incubation not enough down to cover the eggs but becoming better developed during the late stage of incubation.

## Appendix I (cont.)

Nest Data Form: Canada Goose

Nest No. 4Date Found 29 May 1977Number of Eggs 5

<u>Length(mm)</u>	<u>Width(mm)</u>	<u>Weight(gm)</u>
84.9	54.2	131
84.65	55.1	135
80.8	54.95	128
84.4	54.7	132
81.6	54.35	129

Nest Fate: Predation 29-30 May

Nest Characteristics: Located under 2m. tall Mountain Hemlock in the middle of a large area of bog habitat. 250m. from salt water, 25m. from small bog pond. Nest cup well developed with a large quantity of down. Nest cup 30cm. in diameter. 90% down, 10% sedges and grasses.

Notes: Predation appeared to be by a mammalian predator, all eggs gone from the nest with no shells left. Possibly a Brown Bear.

## Appendix I (cont.)

Nest Data Form: Canada Goose

Nest No. 5Date Found 7 June 1977Number of Eggs 4

<u>Length(mm)</u>	<u>Width(mm)</u>	<u>Weight(gm)</u>
85.9	58.15	146
89.55	56.45	144
88.0	58.15	145
85.75	56.95	143

Nest Fate: Hatched - 4 youngDate of Hatch 2 eggs 13 June2 eggs 13-18 June

## Measurements of Young

<u>Culmen(mm)</u>	<u>Tarsus(mm)</u>	<u>Wing(mm)</u>	<u>Weight(gm)</u>
16.9	37.1	26	116
17.25	36.65	25	116

The two goslings which hatched between 13-18 June were not measured.

Nest Characteristics: Located next to a 2.5m. tall Mountain Hemlock, in a small bog area. 300m. from salt water, 2m. from small bog pond, 100m. from fresh water lake. Nest cup well developed with a large quantity of down.

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

Merged With  
**ARLIS**  
ANCHORAGE, ALASKA  
Est. 1995