

Middleton Island Canada Geese - A Status Report Alaska Department of Fish and Game -1996

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Introduction

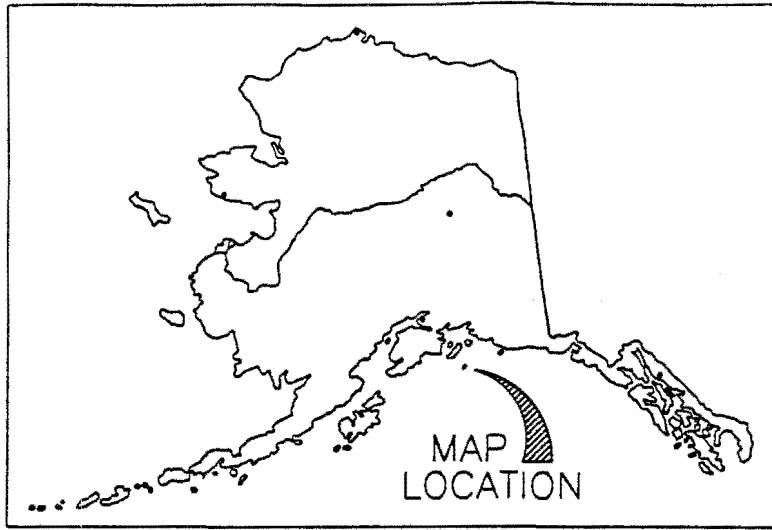
In 1987 Middleton Island was identified as a translocation site for Dusky Canada geese (*Branta canadensis occidentalis*) (Campbell, 1987). Dusky Canada geese are thought to nest exclusively on the Copper River Delta, in southcentral Alaska. However, a small population of "dusky-like" geese were reported nesting on Middleton Island in 1981 (Gould and Zabloudil, 1981). Prior to 1981 there are no records of geese nesting on Middleton Island. Rausch (1958) did not observe any Canada geese during a 15 day survey in June, 1956 and Scott Hatch (pers. comm.) did not observe any Canada geese on the island during summers in the mid-1970's. Arctic foxes were introduced to the island in 1895 and were present to about 1940 (Rausch 1958). If geese historically nested on Middleton Island, foxes likely eliminated them. Sometime between 1978 and 1981 a small population of Canada geese became established.

In an attempt to increase the population on this mammalian-predator-free island, the Alaska Department of Fish and Game moved 106 dusky Canada geese (11 flightless adults, 95 goslings) from the Copper River Delta in 1987 and another 87 Canada geese (3 flightless adults, 84 goslings) in 1988 (Campbell et al. 1988, Campbell and Rothe 1989). Since then ADF&G has conducted surveys on Middleton to monitor the population and assess the benefits of the relocation efforts (Campbell and Rothe 1990, Campbell 1990, Campbell 1991, Campbell et al. 1992).

Study Area and Methods

Middleton Island is approximately 8 km long and 1.6 km wide. It is located in the Gulf of Alaska, about 140 km southwest of Cordova (Figure 1). The climate is maritime (Rausch 1958). The island was uplifted in the 1964 earthquake.

From June 20 through June 22, 1996, 4 ADF&G biologists surveyed Middleton Island to determine total numbers and productivity (Figure 1). Two observers wandered along the top of the bluff, concentrating efforts within 100 meters of the edge, and two observers walked the area below bluff, from the toe of the bluff out to the tide line. On the last day, June 22, all 4 biologists and two volunteers, surveyed below the bluff. Offshore and nearshore areas were surveyed using spotting scopes. Observers communicated to avoid double counting.



AREAS SURVEYED



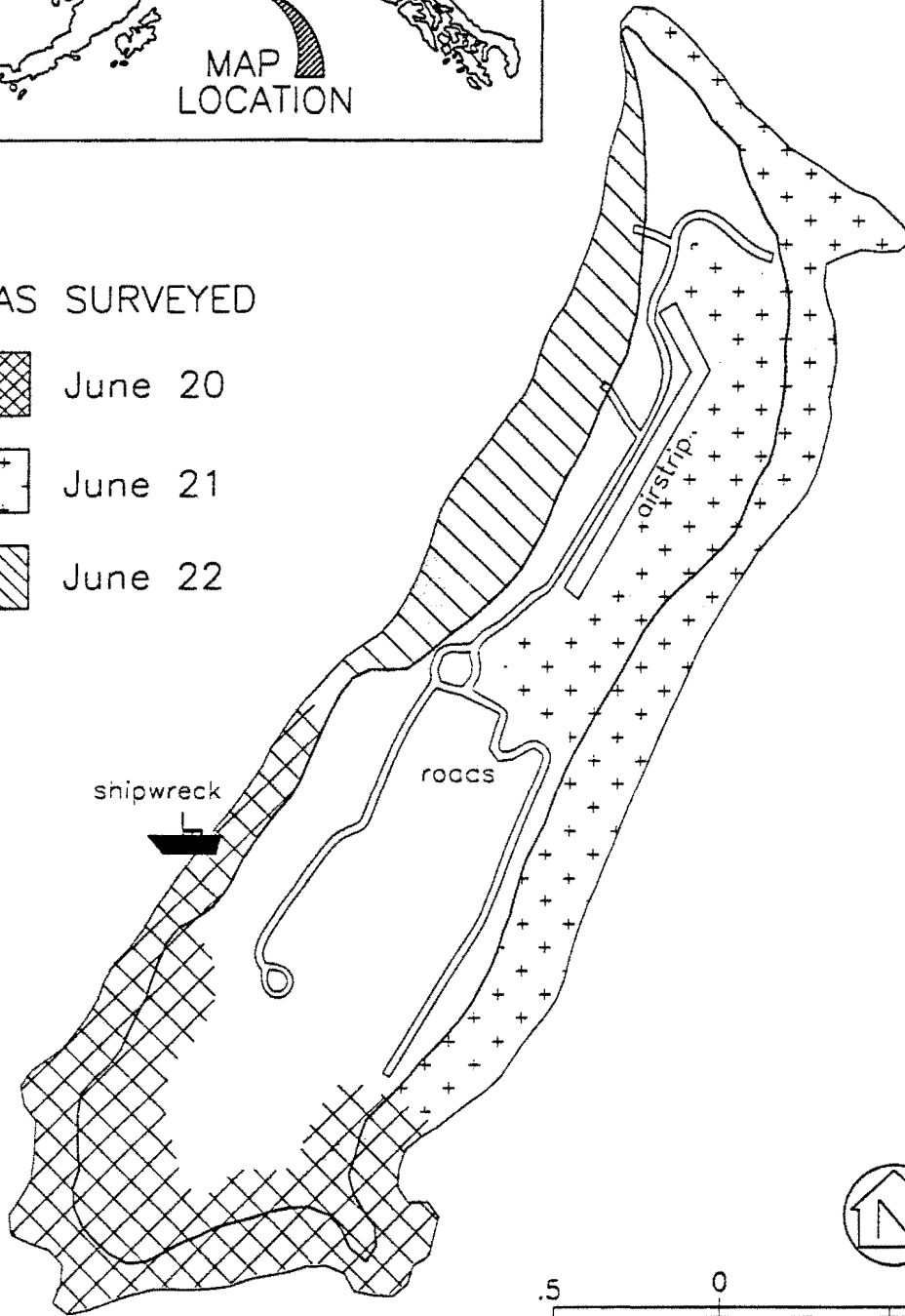
June 20



June 21



June 22



MIDDLETON ISLAND

Figure 1. Dates and areas surveyed in 1996 for Canada geese on Middleton Island, Alaska.

Broods were reported as “suspected” when an adult flushed at close range (within approximately 10 meters) of an observer but no brood could be found. In many places, especially at the top and toe of the bluff, vegetative canopy cover was close or equal to 100 %. This dense cover often completely obscured the understory, making brood observations extremely difficult.

Blood samples (1ml) were drawn from 2 flightless adults and 36 goslings, each from a unique brood. Samples were transferred to the U.S. National Biological Service for genetic analysis.

Results and Discussion

Results from this survey as well as previous surveys are presented in Table 1. Distribution and abundance of geese from this survey is roughly depicted in Figures 2-4. Based on plant community types, we surveyed most of the high density areas. However, some areas of the island were not surveyed, including some small portions of preferred habitat types. Thus, population and productivity figures are slightly higher than we present.

Table 1. Number of adult Canada geese, broods, and total young (goslings) observed on Middleton Island, Alaska from 1987 to 1996.

| Year Surveyed | Survey Date(s) | Adults | Observed Broods | Observed Young | Suspected Broods | Total Geese Observed | Survey Coverage |
|---------------|----------------|------------------------|-----------------|------------------|------------------|----------------------|---------------------------------|
| 1987 | June 4-5 | 84 | 2 ¹ | 11 | not reported | 95 | All island ex. center |
| 1988 | June 7-9 | 80-100 | 12 | not reported | not reported | not reported | All island ex. center |
| 1989 | June 18 | 75 | not reported | 85 | not reported | 156 | “entire island” |
| 1990 | July 11-12 | 93 | not reported | 241 | not reported | 334 | “extensively searched” |
| 1991 | July 9-10 | 249 | 7 | 104 ² | 2 | 353 | South 1/2 and North end in part |
| 1992 | July 14-15 | 393 (473) ³ | not reported | 247 (297) | not reported | 770 ⁴ | All island ex. center |
| 1996 | June 20-22 | 1456 | 146 | 531 | 38 | 1987 | see figures |

¹ also reported 2 nests

² aggregate broods

³ numbers in parenthesis extrapolated

⁴ includes unknown aged birds

Yearly surveys were not all conducted during the same time periods or with the same intensity so they cannot be compared without some qualifiers. However, the population

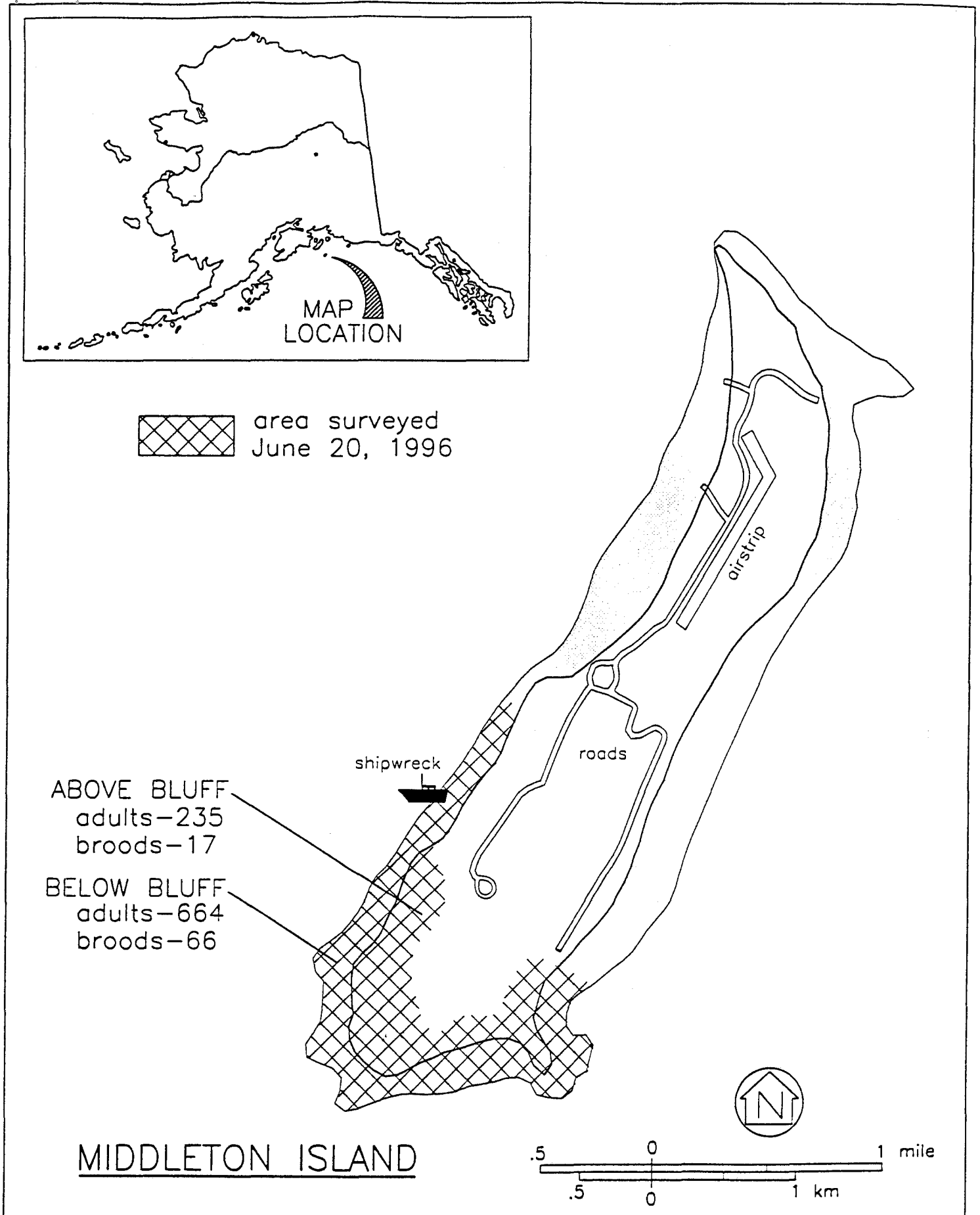


Figure 2. Area surveyed and number of Canada geese observed on Middleton Island on June 20, 1996.

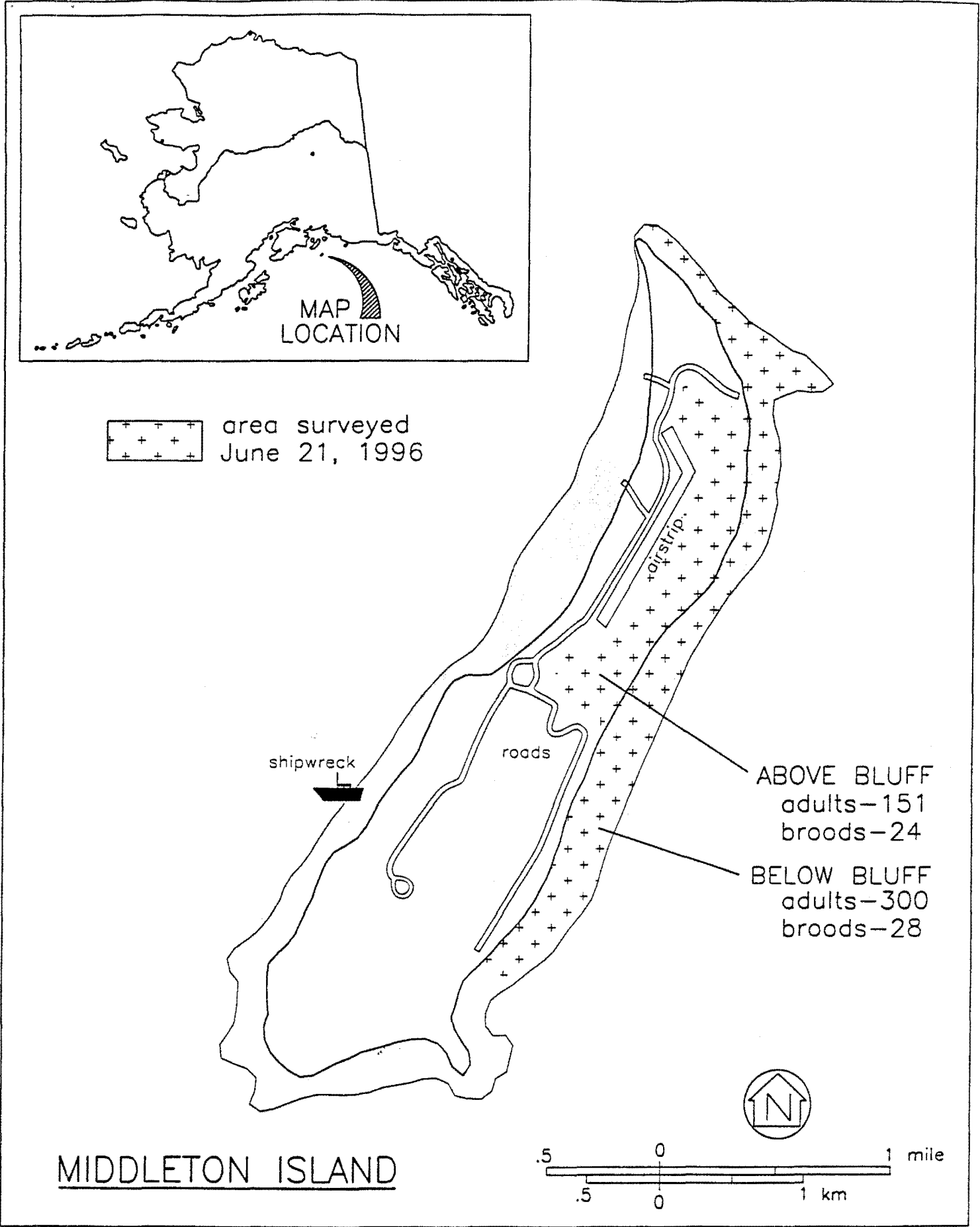


Figure 3. Area surveyed and number of Canada geese observed on Middleton Island on June 21, 1996.

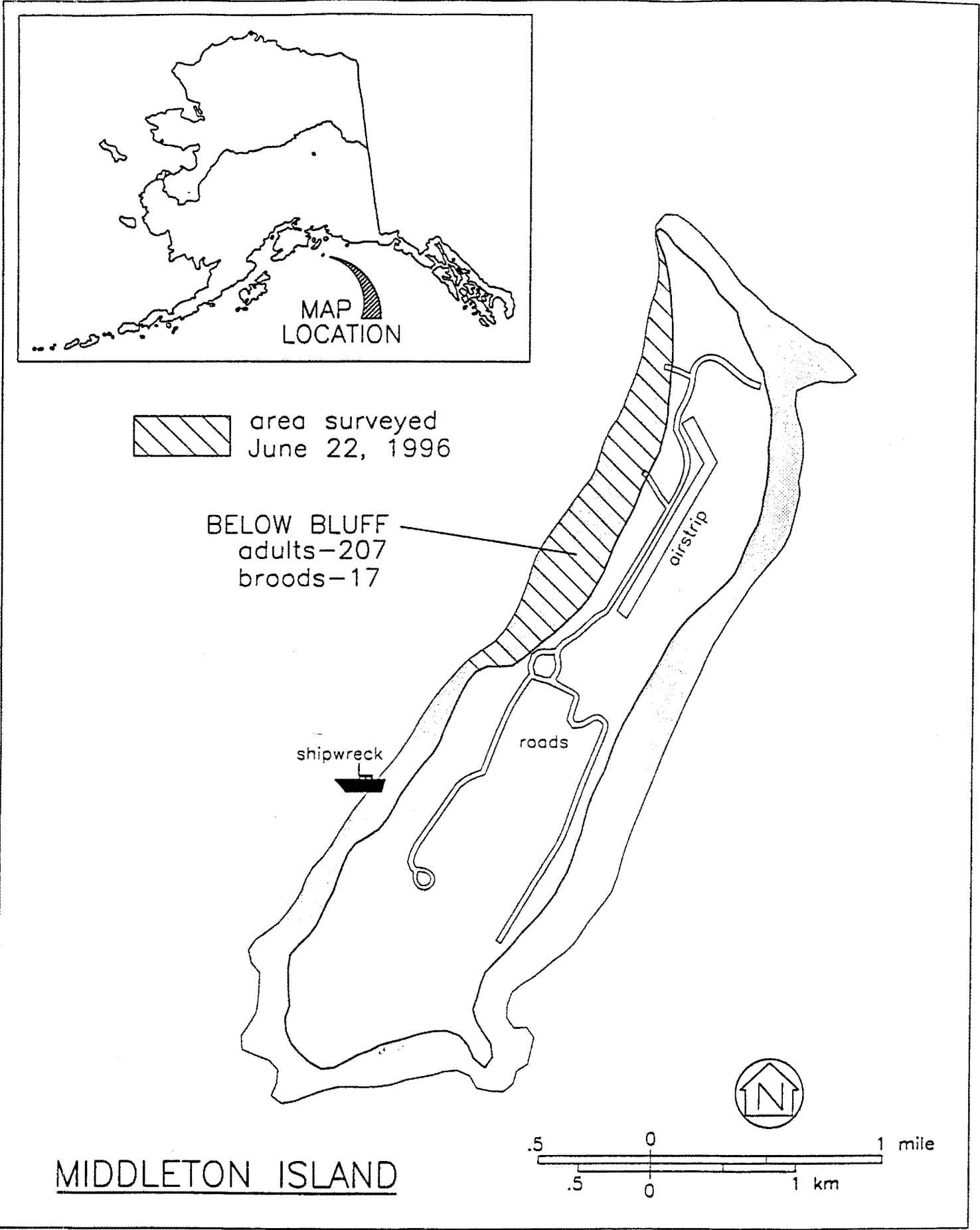


Figure 4. Area surveyed and number of Canada geese observed on Middleton Island on June 22, 1996.

has dramatically increased over the years (Figure 5). We attribute this population growth to increased productivity. We do not know if this increase in productivity is a direct result of the relocation effort undertaken by ADF&G or if it occurred independently.

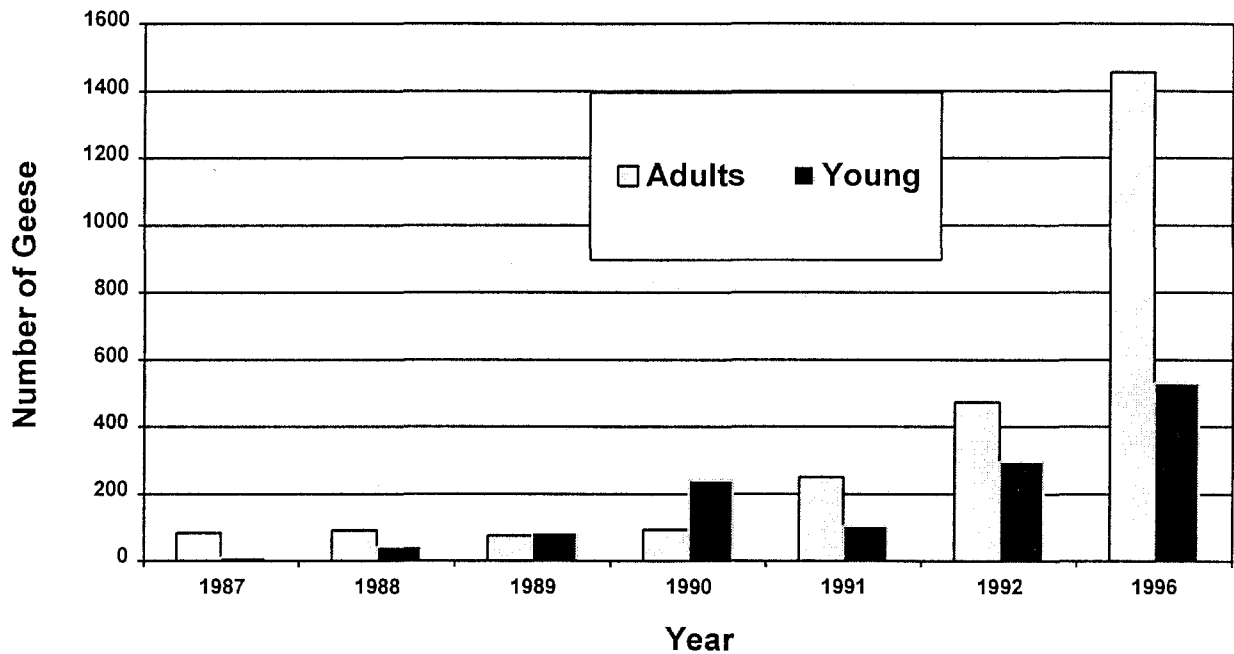


Figure 5. Number of adult and young (goslings) Canada geese observed on Middleton Island, AK from 1987 to 1996. An incomplete survey was conducted in 1991.

In years since the relocation, we have had very few resightings of marked birds (neck collars) on Middleton Island. Originally 88 of 95 goslings were collared in 1987 and 56 of 83 goslings were collared in 1988 (Campbell et al. 1988, Campbell and Rothe 1989). In 1988 only 4 collars were observed from the 1987 transplant. In 1989, 1990, and 1991 only one red-collared goose was observed in each year. In 1992, two red-collared geese were observed. Of the 5 red-collared geese observed from 1989-1992, only 2 could be identified as a transplanted bird.

In 1996, one red collar with white letters (H_{CM}) was observed on a flightless goose sighted at the toe of the bluff on the northeast end of the island on July 21. The goose was leading a brood of four. This bird was banded when molting on Castle Island on the Copper River Delta in 1991 and was reported as an After-Hatch-Year Male.

Eighty-two broods, of the 146 we observed, were aged. Age of goslings was estimated by size and plumage characteristics. Goslings were divided into 3 age classes (Table 2). We did not observe any goslings older than 20 days.

Table 2. Age-classes of broods observed on Middleton Island, June 20-22, 1996.

| Gosling Age (in days) | Number of Broods (n=82) | % of Broods in Age Class |
|-----------------------|-------------------------|--------------------------|
| 0-4 | 21 | 26 |
| 5-11 | 42 | 51 |
| 12-20 | 19 | 23 |

In 1996, we observed only 3 flightless adults. No active nests were located.

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