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Checleset Bay

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SEA OTTER SURVEY: JULY, 1980

August 1980
Anthea Farr
University of BC 10p

11th September 1980

INTRODUCTION

This report summarizes the findings of a sea otter survey conducted off the west coast of Vancouver Island from the 14th to the 18th of July, 1980. The survey was supported by the Resource Analysis Unit which was inventorying estuaries along the coast. Three observers, Anthea Farr, Alton Harestad and Lindsay Jones, conducted 2 aerial surveys between Tofino and Checleset Bay and conducted a 4½ day boat survey within Checleset Bay.

OBJECTIVES

The general objectives of the survey were to evaluate population condition and range expansion by recording numbers, group composition, and locations. More specific objectives for the Checleset Bay survey were as follows:

1. to determine if the female/juvenile group was adhering to the range-use pattern observed in 1978 by Morris et al.
2. to determine if home-range expansion of the female/juvenile group had occurred.
3. to try to locate an all-male group, the whereabouts of which was unknown.
4. to gather information on sea otter feeding behaviour.

METHODS AND RESULTS

A single-engined Otter was used for the aerial surveys and to transport people and gear to and from Checleset Bay. The aerial survey on July 14th began at 1215 hours at Cleland Island, NW of Tofino. The flight path followed the coastline northward, swinging out to cover outer reefs and islands where such occurred. Survey conditions were initially good, with overcast and little wind, but deteriorated to fair and poor south of Nootka Island where rain decreased visibility and low cloud necessitated flying at an altitude of 100' or less instead of the preferred altitude of 200' to 300'. No sea otters were seen south of Bajo Reef. At Bajo Reef several circles were made to cover both inner and outer kelp beds. On the first pass, five sea otters were seen swimming rapidly away from the plane. On a subsequent pass, a mother carrying a pup on her chest was seen. All of the otters were located at the outer edge of the outermost kelp bed, where the surge was greatest. Two killer whales were also seen near Bajo Reef. No sea otters were seen north of Bajo Reef and the survey was terminated just north of Kyuquot at 1327 hours, when the plane entered a patch of fog that reduced visibility to near zero.

A 14' Zodiac equipped with a 20 h.p. Johnson motor was used for the boat survey. Prior to the survey, the line-transect method of censusing (Eberhardt, 1978), that of adhering to a straight transect line, maintaining a constant speed, and recording the angle and distance to each animal from the boat, had been considered and then ruled out on the basis of very low population numbers and clumped distribution. One raft containing the majority of the population could more easily be overlooked using that mehtod. Instead, survey routes were selected to maximize coverage of kelp beds, reefs, and areas of shallow water (less than 10 fathoms). When sea otters were sighted the Zodiac was either stopped or was moved slowly towards the animals and then stopped in order to obtain a better count. Time was constrained by both the weather and by the time required for L. Jones to travel to and from estuaries. The number of sea otters seen, their locations, and the survey route followed each day, are shown in Figure 1. Survey conditions, which sometimes varied hourly due to an unstable weather system, along with the total number of sea otters seen each day, are summarized in Table 1.

The total number of sea otters seen was between 29 and 58. The minimum number of 29 is a count made within a short period in 1 day. The maximum number of 58 assumes that otters seen one day at one location were not the same otters seen another day at a different location, at approximately the same time of day. Admittedly this is a risky assumption. Two of the 60 totalled in Table 1 are not included as their locations were covered more than once during the survey and these individuals were likely counted twice. Counts and observations were also made from a point of land (Lookout A in Figure 1.) with the use of a 20-45x spotting scope. The highest counts from land were obtained before dawn; nearly all the otters left at dawn and did not return before dusk. The maximum count of 22 consisted of one raft of 17, a group of 4 and 1 solitary animal.

All of the otters seen were located in or very close to kelp beds, with the exception of the solitary individuals seen on July 16th between Lookout A and Smoothtop Rock in the Barrier Islands. The latter individuals were in open water; the fact that we encountered them in poor survey conditions (choppy with waves breaking) indicates that this may be a well-used route of travel between Smoothtop Rock and the rafting area east of Deer Island (Figure 2). During daylight hours the largest groups of 9 to 20 sea otters were located off Smoothtop Rock, in the kelp bed north of Smoothtop Rock and off Humpback Island. Groups of 2 to 3 were seen elsewhere along the chain of Barrier Islands: off Clara Island, the FarOut Reefs and the rocks southeast of Smoothtop Rock. The latter location was about 1.5km north of a colony

of at least 18 sea lions. One otter was seen in the sheltered channel of Gay Passage. Three otters were seen in the Cuttle Islands west of the Bunsby Islands; 2 of these were within 500m of the O'Leary colony of 70+ sea lions. One otter was seen off Lookout Island in the Mission Group; Indians at Atkis village reported that there were "a couple of sea otters off Lookout Island last year (1979)".

Lack of experience and poor visibility due to waves and distance made it difficult to classify the otters. In the Zodiac it was seldom possible to get within 100m of an otter and the otters observed from lookouts were up to 1km away. On the basis of behaviour (solitary or gregarious), heaviness of build, and head colouration, a few statements can be made regarding the geographical distribution of sex and age classes. The larger groups seen off the Barrier Islands were female/juvenile groups. A female carrying a pup was seen near the rocks southeast of "Smoothtop Rock". The solitary otters seen off Cautious Island, in Gay Passage and southeast of Lookout A, and at least 2 of the otters seen in the Cuttle Islands were probably adult males.

Feeding activity was not observed during the survey. All of the otters seen from Lookout A were engaged in resting, grooming or travelling. Feeding was likely occurring off the Barrier Islands, but as the approach of the boat caused disruption and dispersal it was not observed there.

The aerial survey on July 18th began at 1120 hours off the Bunsby Islands. Survey conditions were fair to good with overcast skies and moderate to light chop. Two circles were made within Checleset Bay, with the outer part of each circle following the line of the Barrier Islands. The plane flew at an altitude of about 200'. A total of 12 otters were seen on the first circle and none were seen on the second. Of the 12 seen, one was to the west of Deer Island, one was near Humpback Island, 4 were in a kelp bed north of Smoothtop Rock and 6 were off Smoothtop Rock.

Failure to locate more sea otters may have been due to several factors. It is probable that the sea otters were widely dispersed in relatively small groups and that many dived underwater as the plane approached. Also, the difficulty in making quick manoevres with the Otter, as compared with a smaller plane like a Cessna, was apparent when the observers wanted to loop around some of the reefs rather than follow a straight line course. Most important, this aerial survey illustrates the difficulty in obtaining an accurate aerial census of a small

population of sea otters. The aerial count made by the B.C. Fish and Wildlife Branch in February, 1979, which found only 15 otters was probably a similar incidence of missing the majority of the population.

The only other areas surveyed were the Mission Islands, where no sea otters were seen, and Bajo Reef, where 14 sea otters, including 2 pups, were seen scattered along the edge of the outer kelp bed.

DISCUSSION

Although this survey was brief and leaves much unanswered, the data suggest that several things may be occurring. The summer home range of the Bunsby Island female/juvenile group has either shifted or increased to include areas southeast of FarOut Reef (Figure 2). The fact that otters were also seen along the outer portion of the home range documented by Morris et al in 1978 suggests that range expansion rather than relocation is occurring. Recent feeding range expansion to the southeast was suspected by Breen et al (1980) when they found a partially depleted sea urchin population at site "a" (Figure 2). Feeding range expansion is hardly surprising given the depletion of preferred food items throughout the sea otters' original home range (Breen et al, 1980). This depletion, which is characteristic with sea otters, raises the question as to whether the feeding range would increase irrespective of an increase or decrease in population number.

Similarly, overnight rafting of the female/juvenile group has either shifted or increased, to include the area east of Deer Island. Morris et al (1978) reported that the otters rafted overnight at 2 to 3 different locations. As we did not census any of these locations (off Gull Island, Humpback Island, and FarOut Reefs) before dawn, it is not known if sea otters were also using these locations for overnight rafting. No sea otters were seen off Gull Island in the early afternoon of one day and at about 0740 hours another day.

The data also suggest that range expansion of "peripheral otters" into the Mission and Cuttle Islands is occurring. Although one female and pup were seen at Kyuquot Sound during a May 1977 aerial census by the Pacific Biological Station, no otters were seen in the Mission Islands until 1979 when Atkis and Kyuquot residents noticed a few in the area. Our survey confirmed the presence of at least 1 sea otter off Lookout Island at the western edge of the Mission Islands. Two sea otters were seen in the Cuttle Islands in the 1977 aerial census. Our sightings of 2 males and 1 otter of unknown sex at least raises the possibility that the

Cuttle Islands may be functioning as male sea otter home range. Segregation of the sexes has been well documented in Alaska (Kenyon, 1969). In Alaska the pattern of sea otter dispersal is characterized by males occupying new territory first (D. DeMaster, pers. comm. 1980).

Although it is difficult to assess population trends, it appears as though both the Bajo Reef and the Checleset Bay population are probably stable. Fifteen were counted at Bajo Reef in September 1977 and in June 1978 by the Pacific Biological Station; our count was 14. Pups were seen on both the 1977 and 1980 counts. About 55 sea otters were counted in Checleset Bay during the 1977 and 1978 surveys. We counted between 29 and 59 sea otters; given that boat surveys miss a considerable proportion of the animals it is unlikely that there are presently fewer than 55 individuals. However, neither does the population appear to be increasing at a significant rate. Given the trends in sea otter transplants elsewhere (Farr and Bunnell, 1980), it may thus be beneficial to release another transplant into the area. This possibility should at least be considered along with a transplant to the Hippa Island Ecological Reserve. Confirmation of Checleset Bay as an Ecological Reserve may be a desired pre-requisite to further transplant releases.

REFERENCES CITED:

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TABLE 1: Survey Conditions and Numbers of Sea Otters seen in Checleset Bay

Date	Time of Survey	Weather	Sea Condition	Survey Condition[1]	Number of Sea Otters Seen
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July 16	0930→1400	overcast	very choppy, waves breaking, large swell	poor	29
July 17	0715→1145	clear	calm in channels, rippled to slightly choppy with swell elsewhere, sun-glare present	fair	1 (22)[2]
July 18	0715→1030	partially cloudy to overcast	very light chop	good	4 (16)
				Total	60

[1] Based in part upon Kenyon's (1969) classification

[2] Numbers in parentheses are pre-dawn counts from shore at Lookout A (shown in Figure 1)

18/8/80

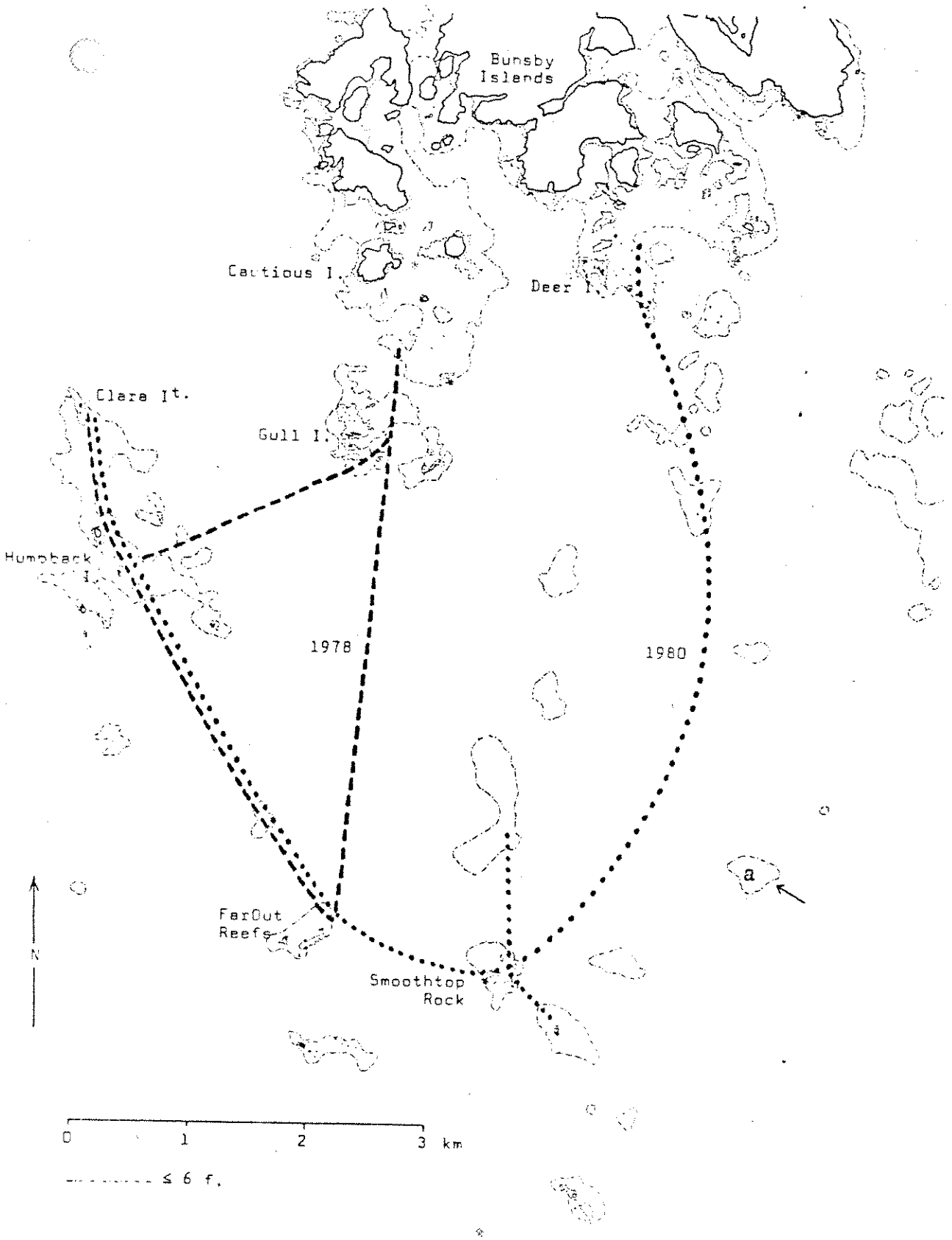

Figure 2. Suspected routes of travel between and beyond known rafting locations.

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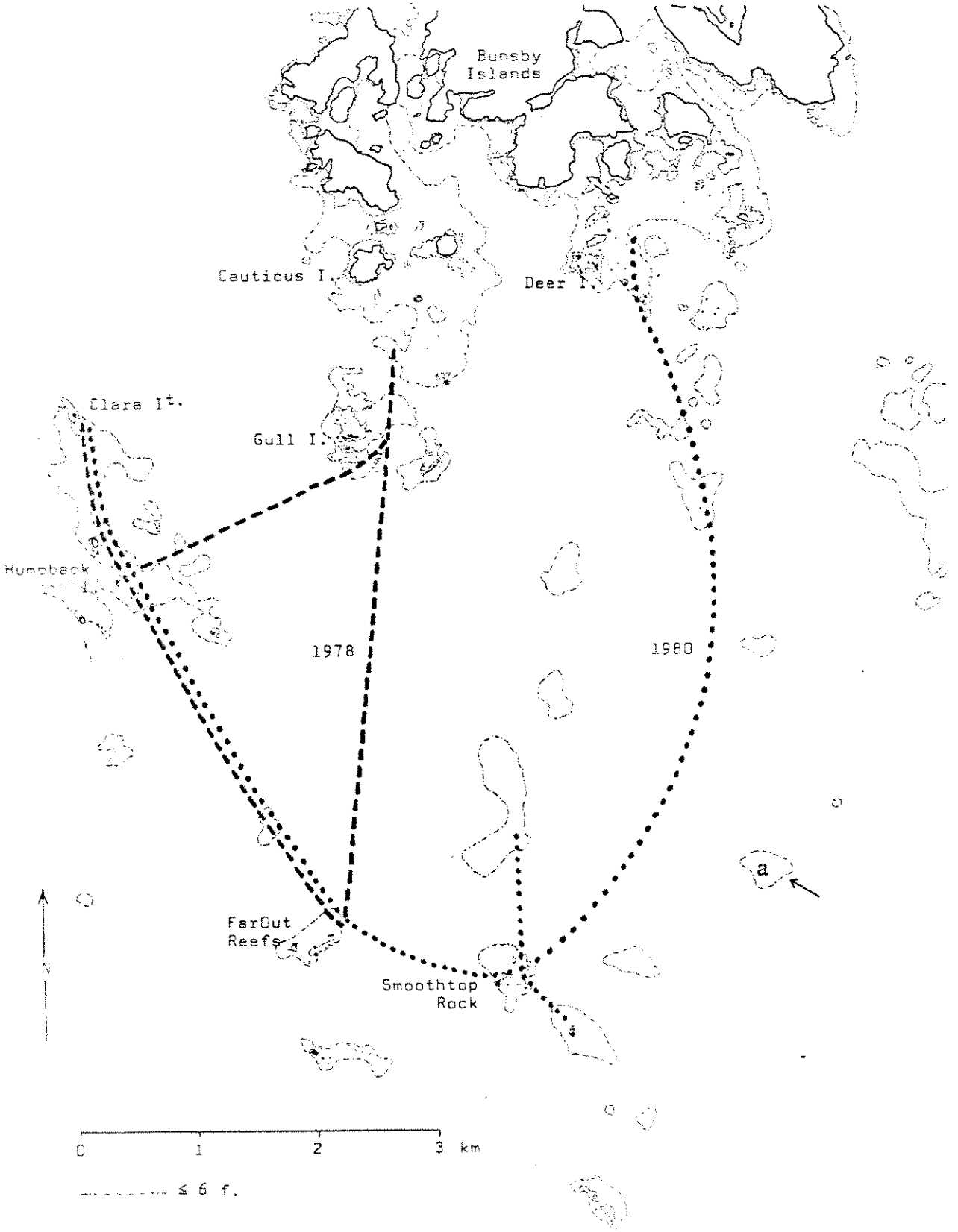

Figure 2. Suspected routes of travel between and beyond known rafting locations.

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a. September, 1979 Inferred sea otter feeding (Breen et al. 1980)

THE UNIVERSITY OF BRITISH COLUMBIA
2075 WESBROOK MALL
VANCOUVER, B.C., CANADA
V6T 1W5

MacMILLAN BUILDING
FACULTY OF FORESTRY

11th September 1980

Dr. Bristol Foster,
Ecological Reserves Unit,
Dept. of Lands, Parks and Housing,
Victoria, B.C.

Dear Bristol,

Enclosed is a copy of the report on the sea otter survey we did this summer, that I thought you would be interested in. I regret that we weren't able to get a better estimate of population size. However, the information on range expansion is interesting and confirms findings of yours and Paul Breen from the September 1979 SCUBA survey. I would be grateful if you could let Fred or me know what is happening with the Checleset Bay Eco-Reserve proposal.

Hope the diving off Hippa Island went well.

Sincerely,

Anthea Farr

Anthea Farr

AF:pm

enc: