

# Laskeek Bay Conservation Society

## Summary of the 1994 Field Season

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### **Introduction**

This summary briefly covers the research, monitoring and interpretation activities of the Laskeek Bay Conservation Society (LBCS) at East Limestone Island and the surrounding waters and islands in Laskeek Bay during the 1994 field season. This was the fifth field season for the LBCS. We ran the project with 1 or paid 2 staff, assisted by up to 4 volunteers each week, from 5 April to 15 July.

Our interpretive programs were received by school groups from Haida Gwaii communities, and by visitors travelling independently or with commercial tour operators.

Research efforts this year were again anchored by the long-term monitoring of East Limestone Island's Ancient Murrelet population. There were also investigations into Black Oystercatcher ecology; seabird, marine mammal, and intertidal surveys; studies of the impacts of introduced species; and observations of terrestrial birds, mammals, and plants. Further analyses and a more detailed discussion of results will appear in the 1994 Scientific Report.

### **Participants**

**Volunteers** A total of 337 volunteer-days of work was performed for the LBCS to support our programs. Of these, 275 days were contributed by 27 volunteers who helped at camp for periods of 1 to 4.5 weeks over the 14.5 week period. Nineteen of these volunteers were Haida Gwaii residents, of whom 5 returned from previous years. An additional 15 days were contributed by 3 volunteers who stayed for less than a week at the beginning of the season.

Eight volunteers committed themselves for more than 1 week, 2 more people than in 1993. The average stay of volunteers this season exceeded all previous years (mean=9.7 days), continuing an upward trend since 1990.

Volunteer effort prior to, during, and following the field season (47 days) also made possible the tasks of camp transport and equipment purchases/repairs/fabrication. Weekly grocery purchases, newsletter distribution, and accounting were just a few of the additional services provided by directors of the Society. We appreciate everyone's contribution.

**Staff** Four people took on formal responsibilities for parts of the project this year and were paid by the Society; Colin French (Supervisor 7 wks, Assistant 3 wks.), Kathy Heise (Supervisor 5 wks.), Janet Brown (Supervisor 1 wk., Assistant 2 wks.), and Ginny Collins (Assistant 1 wk.). Andrea Smith served as an assistant for five weeks while working under contract to Dr. Tony Gaston. All together they contributed 168 staff-days to the project.

Other researchers Jean-Louis Martin returned for one week to continue his study into the impacts of introduced predators on songbirds and native vegetation.

## **Visitor Interpretation**

### **Touring Visitors**

Two commercial tour operators, Bluewater Adventures and Maple Leaf Adventures, visited the island this year, bringing a total of 61 adult visitors over 5 visits. This is a large increase from 1993 (17 visitors), which we were able to accommodate by dedicating one staff person to offering interpretation to all visitors. These groups participated in interpretive walks during the day and assisted in the catching, weighing and releasing of chicks at night. Their enthusiasm for understanding the lives of Ancient Murrelets and the diverse interactions occurring in the Laskeek Bay ecosystem were inspiring. Many donations and over 30 T-shirt purchases were made by these generous folks, plus some delicious cuisine.

Independent travellers stopped in 6 times with a total of 17 people, three of whom had visited us in previous years. This number is also higher than in 1993 (6 visitors).

### **Schools Program**

Four school groups from Haida Gwaii schools visited the island this year, with 14 adults and 32 students participating, more

than triple the number who visited in 1993. The Kayak and Biology clubs from Queen Charlotte Elementary Secondary School (QCESS) made their third annual visits to East Limestone Island in 1994. Two first-time groups of Outdoor Education teens and Sandspit teens, from QCESS and A.L. Mathers School, respectively, also visited.

Each group received a day-time interpretive tour and a general orientation to field research methods. Maturity, prior knowledge, and respect were very evident in each of the three groups who came for night-catching in addition to the daytime interpretive walks. The staff and volunteers really appreciated the high level of commitment these kids and adults had towards conservation research.

The LBCS will review this year's interpretive programs with reference to the guidelines and management recommendations we developed for visitation on seabird colonies last year.

## ANCIENT MURRELET PROGRAM

### Adult Banding

A total of 209 adult Ancient Murrelets were trapped this year. Of this number, 143 were new birds which were banded, an increase of 55 birds over 1993. Sixty-six (66) were re-traps from previous years, an increase of 36 over last year.

Twenty-seven of the adult Ancient Murrelets were banded between 5 April and 14 April. Only two of these birds had brood patches. The remaining adults were caught and banded in the late and post-incubation periods, 14 May through 9 June. Of the re-traps, 10 were banded as chicks on Limestone Island, 2 in 1990, 4 in 1991 and 4 in 1992.

### Chicks

From 10 May to 11 June (33 days, the same length as last year's chick season) 675 chicks were caught. Six hundred and seventeen (617) were weighed and banded in the six funnels, 17 outside funnels, 40 in burrows and one lone chick was weighed but not banded. This year we captured 10 more chicks than in 1993, but only one more than in 1992. The peak number of chicks (52) occurred on 22/23 May, a noticeable drop from the peak counts of 70 in 1993 and 76 in 1992. On 1 June the last chick in a monitored burrow was banded.

Through the season,

four chicks were found dead. Two were at the bottom of a pothole (approx. 1 metre deep) on the cliff near camp. The ends of their beaks were bashed and worn, presumably from trying to escape. Another was in the tideline by Crow Valley and the fourth was on the beach in front of the cabin. It had been banded the previous night and released (in a very strong South Easter) at the base of funnel six. A fifth chick died of unknown causes when being carried to a release site at North Cove.

In early June, two pipped eggs were salvaged from a raccoon-dug burrow found near the cabin. They were cold, but small voices started to peep when spoken to so the eggs were kept for educational purposes. Both hatched and the chicks flourished, travelling in their "mothers" shirts as they went about their various tasks. The only thing they didn't like was water, and no amount of cajolery would get them to cross even a minute tide pool. It was with deep regret that they were humanely killed after 3 days, as there was no way they could be raised to adulthood.

**Burrow Monitoring** At the start of the season, eighty-three burrows in the two study plots were monitored with knock-down tags and searched for a first egg. XXX Janet to check number with eggs and temp probes installed XXXXXXXX Eggs were ultimately laid in XXXX 33?? burrows and temperature probes were installed to monitor incubation without any further disturbance to the nest.

Nineteen burrows were dropped in the first month as they appeared to be unoccupied. The first eggs were found in burrows on 6 April and laying continued through 30 April, with 8 May being the latest date on which incubation began. Of the twenty-one adults examined in their burrows, 6 were re-traps, all banded as adults ( 3 in 1989, 2 in 1991 and 1 in 1992). Four birds occupied the same burrows last year, 2 the same burrows in both '93 and '92. Of the 4 burrows abandoned last year, two were used and successfully produced chicks this spring.

Chicks fledged from 33 burrows, while two other burrows contained dead chicks at the end of the season (one of the dead chicks was banded ). Most of the chicks departed for the sea on their 2nd or 3rd night, but a few braved the daylight of afternoon or early evening to join their parents on the water. One such chick appeared to have left without the benefit of adult company and paddled about desperately peeping, gradually fading from sight and sound heading out to sea.

## Predation

Seven predation transect lines were monitored this year as in previous years. Each is 20 metres wide and between them they cover 17% of the colony area. They were checked every 6 days. Transect 7, which passes through “C” plot, to the south of the cabin had the most signs of predation, including a headless adult, an inverted skin, a small digging (appeared to be raccoon) and assorted feather piles. Two carcasses with inverted skins were found along T4, and 2 raccoon diggings appeared on T6. A total of 58 predations were found, not counting egg shells, avian pellets or raccoon/otter scat. This is lower than last years count of ninety-three predation remains on the same transects. It is substantially higher than the 18 predations in 1992 when no raccoons were present on the island

Four raccoons were killed by the Ministry of Environment at Vertical Point in early April. Unfortunately, they missed one who came to East Limestone sometime in late April or early May. At least 5 burrows were excavated by the raccoon, all in the “C” plot. A raccoon hair was found at the entrance to one dug out burrow. Other diggings were found in the area though they did not appear to have anything to do with Murrelet burrows.

A collection of Murrelet parts (8 left wings, 6 right wings, 3 pairs of connected wings, 1 leg and assorted loose feathers), as well as shells and a fish head were found at the base of a limestone cliff in a water trickle.

Otters, Peregrine Falcons, ravens and eagles also preyed upon the Murrelets, though it is difficult to know what impact each had. A Saw Whet Owl apparently wanted to join the predator list and was seen to land less than a metre from a departing chick. It was about the same distance from the watching human and took off after a quick look.

## Gathering Area Count

Numbers of adult Ancient Murrelets flying over their gathering grounds between E. Limestone and Low Is. were counted by telescope every evening. This count gives a relative idea of the numbers of birds visiting the colony. The highest 10 minute count was 220 on 13 April. The visibility was too low on 3 nights for a count to be

possible. Numbers at the gathering ground dropped noticeably on nights when the weather was bad, though it didn't always seem to affect the number of adults coming to their burrows.

Non-breeders did appear to be put off by heavy rain and wind.

Ancient Murrelets were seen on the water near Low Island in late June, and a few continued to come to Limestone through 24 June

### Seabird Surveys

Surveys by boat covering the near-shore and off-shore waters of Laskeek Bay (Figure \*\*\*\*\*) were conducted every two weeks, to census all birds at sea. Six complete surveys were achieved. A total of 58.25 km was traversed bi-weekly between 9 April and 8 July, noting all birds on the water within a 400m wide transect. This is the fifth consecutive year that the LBCS has surveyed this area, and the database of sightings grows.

### Peak numbers of Marbled

Murrelets in Laskeek Bay were recorded on 16 May (635 birds) and 20 June (318 birds). Otherwise, from 23 April to 8 July, between 166 and 192 birds were sighted each survey. These totals are higher than in 1990, 1991 and 1992 but do show a similar seasonal trend. We now have 4 out of 5 years of survey results in which the highest count of Marbled Murrelets occurred in May, and 3 out of 5 years in which it occurred in the second half of May. 1993 now seems to have been a different year and the incredible count of 1686 birds on 21 June 93 seems like an interesting anomaly. Birds carrying fish in their bills were seen a few times, and the first fledged Marbled Murrelet chick was seen 8 July near the Skedans Islands.

Flocks of Ancient Murrelets were common during April and May, but were replaced by Rhinoceros Auklets in June and July (often with fish in their bills).

Similar transects covering the near-shore waters of southern Laskeek Bay between Thurston Harbour, Talunkwan Island, and Windy Bay, Lyell Island, (Figure \*\*\*\*\*) were conducted on 14 June (537 birds) and 3 July (635 birds). The 1994 surveys were the third consecutive replicate since the surveys were initiated in this southern area in 1992. Numbers of Marbled Murrelets sighted in Southern Laskeek Bay were roughly twice the highest counts of previous years, and a whopping 389 birds were sighted off Windy Bay/Gate Creek on 3 July. Numbers of other seabirds sighted were low.

Additional opportunistic surveys were carried out in the waters east of Reef Island five times between 26 April and 9 July. Ancient Murrelets and Rhinoceros Auklets were the two most common seabird species sighted on surveys following a due east transect into Hecate Strait from Reef Island. The distance travelled varied from 10 km to almost 20 km and presented a few chances to watch Humpback Whales, a Minke Whale, Stellar Sea lions, and Harbour Porpoises. Only a few Sooty Shearwaters (SOSH) were sighted on surveys in April and June, then 49 SOSH were seen on the water on the 9 July survey, with an added 375 SOSH flying by. Black-legged Kittiwakes were only sighted once on these surveys, but two groups were seen off Cumshewa Inlet in June associated with Sooty Shearwaters, Pacific Loons, Rhinoceros Auklets, Glaucous-winged Gulls, Pigeon Guillemots, and Pelagic Cormorants.

Occasional sightings of Common Murres and Tufted Puffins were a special treat.

#### Black Oyster catchers

The work of Andrea Smith continued and expanded our efforts to learn more about the feeding ecology, longevity and movements of this interesting bird. Surveys of Black Oystercatcher (BLOY) nesting and feeding in Laskeek Bay have revealed a total of 35 active nests this year, 7 more than the number found in 1993. In addition, evidence of nesting activity was found at 7 other sites.

The highest numbers of nests found were in the Reef Island area (7), in the Skedans Islands area (7), and on South Low (4) and Lost Islands (4). New active scrapes were discovered at Cumshewa Island (3) and near Skedans Village (2), sites which were not censused in 1993. A total of 14 chicks were banded, each with a white colour-band on the right and left leg.

Three nest sites were active on East Limestone and one on West Limestone. Detailed observations of chick feeding, interactions with parents and responses to predators were made from blinds at the three East Limestone sites.

Food remains were collected adjacent to nest sites (scrapes) at 10 different sites, in an ongoing study of foraging and chick diet. Most food remains (about 60 %) were limpets with six species represented. There were also two species of chitons and one species of mussels in the food remains.

Parental care of chicks and predator avoidance were also noted, with eagles being the most frequent predator and always eliciting a response. Of the nests monitored, 39%

experienced complete loss of eggs and/or chicks and an additional 17% experienced partial loss.

Two birds banded as chicks in 1992 (out of only 8 banded that year) were sighted - one on E Limestone Island, the other on Skedans Islands.

#### Other Marine Birds

Visits to Glaucous-winged Gull colonies in Laskeek Bay were made from early June to early July. We counted nests and recorded numbers of eggs or chicks. A total of 270 nests were active in six colonies; Lost Islands (165), Kingway Rock (82), Reef Island (2), Low Island (2), Skedans Islands (12), and Cumshewa Island (7). Excluding Reef and Cumshewa Islands, which were not censused in 1993, the number of active gull nests was 261 this year compared to 234 nests in 1993. No egg measurements were made and no chicks were banded this year. Very few immature gulls were seen at the colonies, and no banded gulls from previous years were sighted.

At East Limestone Island, natural CAAU burrows as well as nestboxes were monitored for visitation from 25 April to 08 June. In monitored natural burrows, 31 of 34 were visited, and 14 of the 15 nest-boxes were visited. Nest box 1 was the home of a CAAU chick from late May/early June until July 12 or 13. It was the first CAAU egg laid and the first chick to fledge from a nestbox on East Limestone Island since the nest-boxes were installed in 1992. The level of activity and the use of the nest-box is encouraging, as Cassin's Tower appears to be recovering from the extensive raccoon digging in 1991.

One night of Cassin's Auklet (CAAU) catching at Reef Island in early June netted 11 new birds and 9 retraps. This is the 10th year for this work and is providing good information.

#### Marine Mammal Surveys

Eleven species of marine mammals, including four pinnipeds and seven cetaceans, were censused opportunistically throughout Laskeek Bay.

Stellar Sea Lion numbers on the Skedans Islands increased between 09 April (60 animals) and 4 May (94 animals), then dropped to 0 after 16 May. On the Reef Island Rocks, there was a fairly stable population between 9 April and 6 June (353 to 497



animals), then a decline to 269 animals by 09 July. The counts and seasonal trends at both haul-outs are consistent with data from 1993.

California Sea Lions were recorded on Reef Island Rocks on 25 April (7 animals) and 29 June (1 animal), making 1994 the second year we have observed this species at Reef Island as it expands its range northwards. A mature male Northern Elephant Seal was sighted on 27 April, followed by individuals sighted on 2 May and 5 May.

Counts of seals at intertidal haul-outs were recorded on Cumshewa, Skedans, Low, South Low, Reef, and Lost Islands. The first Harbour Seal pup was seen on 9 June at West Limestone Island. One adult male Harbour Seal was found dead at Cumshewa Island on 15 June, having been shot with a rifle bullet.

Orcas were sighted 5 times, once in April and 4 times in July. Dozens of photos were taken to try and identify individuals, especially one very small calf with a dorsal fin so short it was easily hidden by its mother's wake.

Two Gray Whales and 2 other whales (possibly Sei Whales) were sighted in April; 3 Humpback Whales were seen in June, and individual Minke Whale sightings were recorded on 2 May, 15 June, and 25 June.

Harbour Porpoises were sighted individually and in groups of 2 or 4, on eight occasions between 6 June and 13 July. Pacific White-sided Dolphins, in groups of 4 to 200 individuals, were sighted 11 different times as they graced the waters of Laskeek Bay between 25 April and 1 July. No Dall's Porpoise were seen this year.

#### Terrestrial Surveys

Seven species of terrestrial mammals were observed, including five species seen regularly at East Limestone Island. They were the River Otter, a small brown Bat, Deer Mouse, Red Squirrel, and Sitka Black-tailed Deer. The sightings of a Pine Marten at Louise Island and fresh raccoon scat plus a raccoon hair on East Limestone Island rounded out the list.

Red-breasted Sapsucker surveys were expanded this year by describing the location and condition of nest trees in more detail according to established classification procedures. The sample of 19 nest trees

established in 1990 has increased to 28 trees this year, of which 15 were active. Three of these nest trees have been active for three consecutive years, four trees have been used in two out of the five years and five trees have been used three out of the five years from 1990 to 1994. Tree #1 beside the cabin had a squirrel preparing its mossy nest this July, in an abandoned nest cavity. This adds squirrels to the list of Red-breasted Sapsuckers and Northern Flickers as former occupants of this tree.

At least 4 pairs of Hairy Woodpeckers were observed on East Limestone, one pair with a youngster in July. Northern Flicker calls were heard in April and May.

Songbird point counts were conducted occasionally on East Limestone Island to increase our song identification skills. Through the season, we also identified a grand total of 66 bird species, from loons to grosbeaks. Not a bad total considering the lack of last year's birding heavyweights.

The Peregrine Falcon eyrie was active again in 1994, with 2 fledglings successfully leaving the ledge by 28 June. The eyrie has been active 4 out of the 5 years of our project.

A family of Common Ravens (2 adults, 2 young) used a nest tree near the Boat Cove until July when the adults relentlessly chased out the no-longer welcome young ravens.

Two Bald Eagle nests were active in Crow Valley for the first time in our records, both with almost-fledging chicks when we left on 15 July.

Northern Saw-whet Owl sightings included a brief night-time encounter with a bird intent on capturing an Ancient Murrelet chick by the cabin on 13 May, followed by night calls until 7 June. The second sighting on 4 July was in the early evening in Crow Valley.

Plant diversity and development were noted as in previous years.

#### Intertidal Surveys

Three intertidal plots (0.5 square metres each) were established in May at Cabin Cove, each at a different stage of the tide. The plots were visited 25 May, 23 June, and 12 July at the lowest low tides to record all plants and animals present. The diversity

of organisms was inspiring, with 21 species of plants and 27 species of animals.

### Introduced Predators Study

Dr. Jean-Louis Martin from Montpellier, France conducted 2 short studies from 24 June to 1 July. In the first study he set up cameras and decoy nests in an attempt to photograph potential songbird nest predators in the act. Nine pictures resulted, plus 2 sightings of squirrels eating the bait (quail eggs) near a decoy nest.

The second study examined the impact of deer browsing on vegetation at 5 islands in Laskeek Bay. No impact was observed on Lost and Low Islands, but severe to very severe impacts were seen on Reef, Limestone, and Louise Islands.

We hope to continue working with Jean-Louis to monitor the impacts of introduced predators on native species as part of a larger study next year

In addition to the impact of racoons on Ancient Murrelets on the Limestone Islands, we also observed this year, a raccoon scat close to a predated Black Oystercatcher nest on the Skedans Islands. This observations adds another set of islands to those threatened by racoons.

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- The many people who gave donations or bought LBCS t-shirts at Limestone Island
- And finally an enormous appreciation of each volunteer who came to East Limestone Island to discover and to help. We hope you challenged yourselves and took away memories to cherish. Our invitation to come again is open.