

# Laskeek Bay Conservation Society Field Season Report 2003



*"Limestone Island Shoreland"* by Penny Richardson

## Summary

The Laskeek Bay Conservation Society (LBCS) marked its 14<sup>th</sup> field season on East Limestone Island from March 29 to July 8, 2003. This report summarizes the 2003 Education, Interpretation, Research and Monitoring programs and highlights interesting comparisons to results obtained in previous years. The 14-week field season was made successful by five field staff, one in-town staff, eight Directors and 162 volunteers and visitors. Through Project Limestone, the camp was host to four school groups from Haida Gwaii. Ancient Murrelets continue to be the main focus with over 2500 adult Ancient Murrelets and 8800 chicks banded on Limestone Island since 1990. This year, 142 adults were caught, only 46 of these being new birds. There were 16 active burrows monitored throughout the season, from which 21 chicks successfully fledged. Chick banding was just below the 14-year average with 523 chicks banded from the funnels. The Black Oystercatchers in the area were also surveyed and 22 active nest sites were found throughout the season. Surveys of Glaucous-winged Gull colonies yielded a final count of 206 active nests, the majority of these on the Lost Islands. The Pigeon Guillemot nest boxes had the highest occupancy since they were put in place in 2001 with a total of three eggs found in two boxes. The return of the Cassin's Auklet to Limestone Island and significant petrel activity is also of great interest. Wildlife Trees were monitored and 20 active trees were found used by four species of cavity nesters. Although a Northern Saw-whet Owl nest was not found, it was confirmed that a pair was on island when the female was banded and the male was heard calling! Songbird banding occurred again this year with 203 birds caught during banding sessions, including two birds caught on a different island than where they were banded. To top the season off, there were 129 marine mammal sightings, including two spectacular Killer Whale encounters! Contributions by volunteers and staff alike to the long-term scientific research helped provide a unique learning experience for all.

## TABLE OF CONTENTS

<a href="#">SUMMARY</a> .....	1
<a href="#">INTRODUCTION</a> .....	3
<a href="#">2003 Field Staff</a> .....	3
<a href="#">EDUCATION PROGRAM</a> .....	3
<a href="#">Project Limestone</a> .....	3
<a href="#">Visitor Interpretation Program</a> .....	4
<a href="#">Haida Gwaii Watchmen</a> .....	4
<a href="#">Volunteers</a> .....	4
<a href="#">RESEARCH &amp; MONITORING PROGRAM</a> .....	5
<a href="#">Ancient Murrelets</a> .....	5
<a href="#">Black Oystercatchers</a> .....	9
<a href="#">Glaucous-winged Gulls</a> .....	10
<a href="#">Pigeon Guillemots</a> .....	11
<a href="#">Cassin’s Auklet</a> .....	11
<a href="#">Fork-tailed Storm Petrels</a> .....	12
<a href="#">Sea Surveys</a> .....	12
<a href="#">Marine Mammals</a> .....	13
<a href="#">Wildlife Trees</a> .....	14
<a href="#">Songbird Banding</a> .....	15
<a href="#">NATURAL HISTORY</a> .....	18
<a href="#">Daily Bird Checklist</a> .....	18
<a href="#">Birds of Prey</a> .....	18
<a href="#">Plants</a> .....	19
<a href="#">Introduced Species</a> .....	19
<a href="#">ACKNOWLEDGEMENTS</a> .....	19

## INTRODUCTION

What began as a discussion around a campfire on Reef Island in 1989 is now an active education and science program that is more than halfway to reaching its goal of providing a 25-year research program through public involvement. With pressures from introduced species, offshore oil exploration and wind farms in the Hecate Strait, long-term monitoring projects such as this provide the scientific background necessary to evaluate changes in the local ecosystem and the effects of human disturbance, should the need arise. The education program is an integral part of the scientific research, working in concert to gather data and provide a unique experience for volunteers and visitors from Haida Gwaii communities, across Canada and from around the world.

### **2003 Field Staff**

The Limestone Island camp opened on March 29, marking the start of the 2003 field season. The camp was open for a total of 14 weeks, including two days when camp closed April 25-26 and stayed open 3 extra days from July 5-8.

This year's staff were: Laura Cowen (Camp Supervisor/Biologist (April/May)), Joëlle Fournier (Camp Supervisor/Biologist (June/July)), Suzanne Charest (Biologist/Interpreter), Charlotte Tarver (Interpreter/Naturalist), and Christine Gibb (Songbird Technician from Queen's University). Dr. Tony Gaston was on Limestone Island from March 29 – April 4 to assist with camp set-up, Ancient Murrelet burrow and nestbox monitoring and the banding of pre-laying adult Ancient Murrelets.

## EDUCATION PROGRAM

This program imparts to students, teachers and other visitors what we are learning from our research projects. It provides the opportunity for the Society to demonstrate the operation of a biological field station and enables visitors to take part in the data collection at a first-hand experiential level. The program continues to draw visitors from local schools and tour boats in increasing numbers. Project Limestone is now a highly sought after field trip for local students, with more students wishing to come than there is space available. Tour operators report that their Limestone visit is a highlight of their tour for guests!

Most people come during the Ancient Murrelet season; however, the songbird-banding project is also an interesting time. Visitors are given a staff guided two-hour walk to explain the research projects. Visitors are given the opportunity to help with some of the work, such as weighing, data entries and releasing of banded birds. Most visitors have booked dates in advance of their arrival through the office, although sometimes people do “drop-in” with the approval of field staff.

### **Project Limestone**

This was the 13<sup>th</sup> year for local students to come to Limestone. Thirty-nine youth, ages 10 to 18, came during the Ancient Murrelet chick departure time. Thirteen teachers and

chaperones accompanied the children, each school group coming for an afternoon walk-about orientation and returning at night. The students' excitement mounted as they stood waiting at the funnels for the first chick of the night. Each student then helped with captures, weighing, data entry and releasing the chicks at the edge of the ocean. On two occasions, students stayed after chick banding to help trap adult Ancient Murrelets until dawn lit the morning skies.

This program is a partnership between the Laskeek Bay Conservation Society and School District 50 (Queen Charlotte Islands). It has reached 282 students since Project Limestone began in 1991. Some of the youth have participated more than once with several taking part three times!

### **Visitor Interpretation Program**

Two tour boats (*s/v Island Roamer* and *s/v Maple Leaf*) called in at Limestone seven times (May 17, 20, 24, 26, 30, June 20 and 28) bringing 94 people to learn about LBCS's work. Each tour group was given a two-hour interpretive walk across the island, ending at the cabin. The groups who came during the chick departure season also came ashore at night to sit in the dark forest listening to the activity of Ancient Murrelets in the nesting colony. They helped staff with the capturing and weighing of chicks and data entries. In June, four groups came during the day to watch and learn about the passerine bird-banding project.

Nineteen other people came to Limestone and all were given an interpretive walk-about of the island. On May 9, the *m/v Gwaii Haanas* anchored up nearby and five Parks' staff were given a tour of the island and the camp facilities. It was their first visit and all were impressed by what they learned. Two private parties visited in May, two people in a small boat and four kayakers. An LBCS work party also stayed for three days in May to help with camp maintenance, cut firewood and to erect a new shower stall.

Although the Research Group on Introduced Species (RGIS) was not operating a camp on Reef Island this year, we were fortunate to have visits from several of the researchers due to the filming of a documentary on the introduced species project. In June, the French film crew stayed on Limestone for two days to film parts of this documentary.

### **Haida Gwaii Watchmen**

In June, the two Haida Gwaii Watchmen from Skedans village, Laura and Marvin, visited Limestone Island on several occasions for dinner. They were given a tour of the island and a brief description of the programs run by LBCS. They seemed particularly impressed with the structure of the camp and mentioned interest in volunteering in future seasons. The invitation was also reciprocated and Limestone Island staff and volunteers enjoyed an evening of desserts at Skedans with the Watchmen.

### **Volunteers**

Thirty-three different volunteers worked alongside staff during the 14-week season. They contributed over 450 weeks of time towards the operation and maintenance of the field camp and towards the research programs. Twenty-four people were first-time volunteers,

and thirteen were local residents. It is notable that six of the volunteers were children ages 10 to 14, and contributed five weeks of work. Their youthful energy and inquisitive minds made for a lively camp. Without the efforts of our volunteers, we would not be able to accomplish all the tasks and work needed to run the research station.

## RESEARCH & MONITORING PROGRAM

### Ancient Murrelets

#### *Adult Banding*

Adult Ancient Murrelets were caught while leaving the colony using large flight nets at three different locations on Limestone Island from April 1-12 (pre egg laying) and from May 15 to June 3 (post egg laying). The nets were opened 17 nights, for a total of 37.15 hours from approximately 0300-0530 in April, and 0130 or 0200-0415 in May and June.

Altogether, 180 birds were caught (46 new and 134 recaptures), however 39 birds were caught more than once, so the actual number of birds on which data was collected is 142 (46 new and 96 recaptures) (Table 1). Of these 142 birds, 99 were caught in April (27 new and 72 recaptures) and 43 in May and June (19 new and 24 recaptures).

**Table 1.** The number of adult Ancient Murrelets caught on East Limestone Island in 2003. Birds with brood patches 10-19mm are of unknown breeding status. \*Recaptured birds have doubles removed.

Timing	Capture Method	Breeding Status	New Birds	Recaptured Birds*	Total Birds
Pre-laying	Net	Breeder	27	72	99
Post-laying	Net	Breeder	4	7	11
	Net	Non-breeder	10	2	12
	Net	Unknown	3	8	11
	Burrow	Breeder	2	7	9
Total			46	96	142

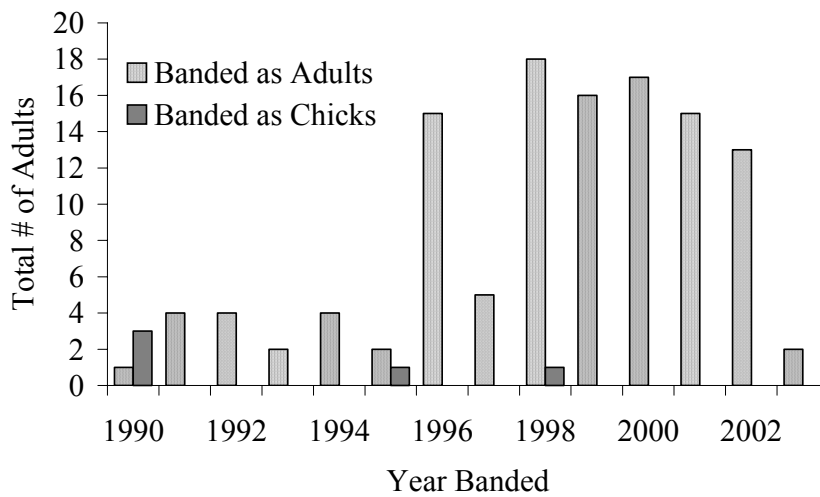
The average weight (mean  $\pm$  one standard deviation) of breeding birds caught in the flight nets was  $201.2 \pm 13.1$  g, while non-breeders caught in the nets weighed  $179.1 \pm 9.9$  g and those from burrows weighed  $208.0 \pm 14.7$  g.

The net at North Cove was opened the most number of nights (7 nights for 13.1 hours) yet caught the least number of birds (26 birds). The Spring Valley net was opened 6 nights (14.35 hours) and caught the most birds (85 birds). The Cabin net was only opened 4 nights (9.7 hours), but caught 53 birds and had our highest total for one night at 27 birds. The catching efficiencies for each net were therefore 14.2 birds/night at Spring Valley, 13.2 birds/night at the Cabin and 3.7 birds/night at North Cove.

The majority of birds recaptured this year were from 1998, including one bird banded as a chick in that year (Fig. 1). Four additional birds were caught who were banded as chicks, 1 banded in 1994 and 3 banded in 1990! All three 1990 birds were breeders this

year, making them at least 15 years old! This year, as in years past, no birds banded as chicks and few as adults in 1993, the year of heavy raccoon predation, were caught.

The number of non-breeders caught this year is the lowest ever. Only 12 non-breeders were caught and, based on the experience of people in camp, there were very few singing in the trees at night. To get a better comparison between nightly noise levels, point counts were done each night from May 25 to June 6 at 0200 at the Cabin net. The number of calls heard in 5 minutes, as well as the number of birds making these calls were recorded. Birds assumed to be on the water calling chicks out were not counted. The nets were only opened 6 times during that period, providing an inadequate sample size for estimating the catching efficiency of a net from the number of birds/calls counted.



**Figure 1.** History of Adult Ancient Murrelets recaptured in 2003

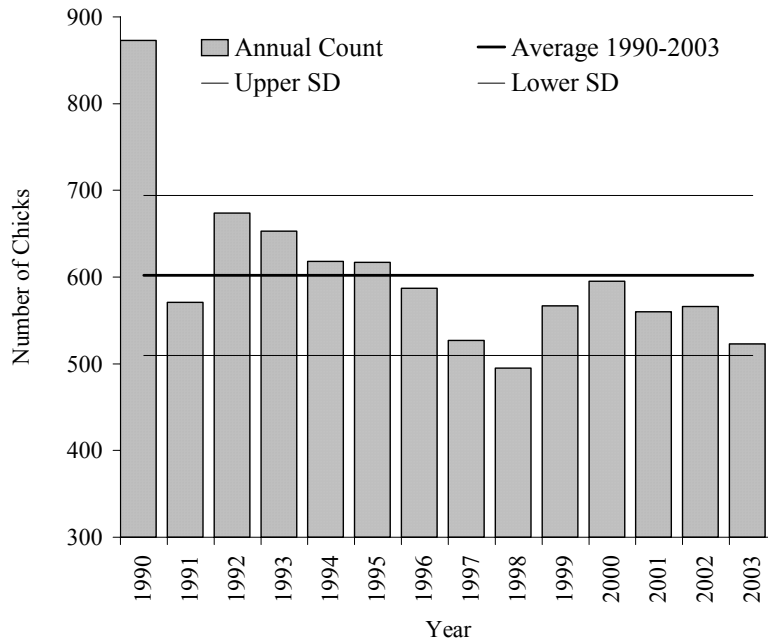
### *Chick Banding*

The plastic funnel system was used again this year to catch chicks as they departed the burrow. The six funnels were monitored from May 10 to June 7 and the first chick arrived in funnel 5, beside the cabin, on May 11 (Table 2). Using the adjusted time protocol from 2001, funnel gates were closed from 2230-0230 for the first 3 weeks of May and from 2300-0230 from the end of May to the end of banding.

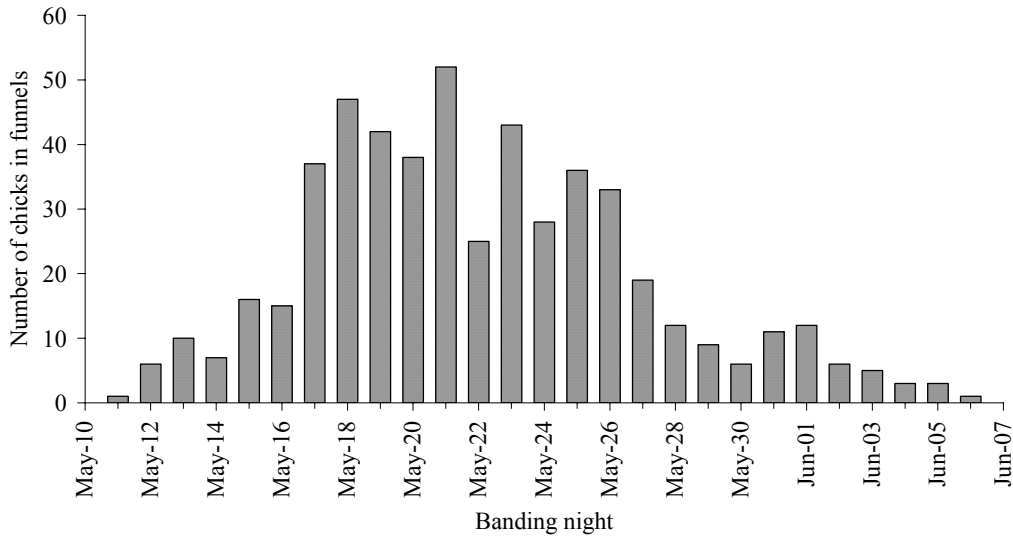
**Table 2.** Summary of chick departures, peak nights and totals for Ancient Murrelet chick banding on Limestone Island, 1990-2003.

Year	Opening night	First night	Last night	Peak night	Peak count	Total days	Total chicks
1990	12 May	12 May	15 June	22 May	65	35	873
1991	8 May	8 May	6 June	26 May	48	30	561
1992	12 May	12 May	3 June			23	674
1993	9 May	10 May	15 June	18 May	70	37	653
1994	7 May	7 May	8 June	22 May	52	33	618
1995	7 May	10 May	11 June	22 May	64	33	617
1996	10 May	11 May	9 June	19 May	48	29	588
1997	8 May	11 May	11 June	24 May	41	31	527
1998	7 May	11 May	22 June	20 May	55	43	495
1999	9 May	11 May	11 June	21 May	54	31	567
2000	11 May	11 May	11 June	20 May	62	31	595
2001	8 May	10 May	15 June	18 May	54	37	560
2002	7 May	9 May	3 June	21 May	65	26	566
2003	10 May	11 May	7 June	21 May	52	28	523

A total of 549 chicks were banded: 523 within the funnels, 10 outside of the funnels and 16 from burrows. If the chicks caught within 1990 and the non-adjusted values in 1996 are included, the 2003 total is just barely within one standard deviation of the long-term average (Fig. 2). The peak number of chicks occurred on May 21, the same as in 2002, with 52 chicks (Table 2 & Fig. 3). On average, chick weights were similar to those from previous years. Chicks from the burrows weighed  $31.0 \pm 2.8$  g, while those from the funnels weighed  $26.4 \pm 2.1$  g, a 15% weight loss.



**Figure 2.** Annual counts of Ancient Murrelet chicks caught in funnels on East Limestone Island 1990-2003. The bold line is the long-term mean for 1990-2003 and the fine lines are one standard deviation from the mean.



**Figure 3.** Nightly chick numbers from funnels on East Limestone Island, May 10-June 7.

*Burrows*

Fifty-three Ancient Murrelet burrows, 5 of which were new this year (S37, C99-C102), were checked daily for first eggs, signs of entry (knockdown sticks) and presence of incubating adults from April 4 to June 1 (June 21 for two late burrows). The first egg was found on April 4 and the last, over one month later on May 8. This year, there were 16 active burrows, containing a total of 29 eggs. From these burrows, 21 chicks fledged successfully (9 burrows with 2 chicks, 3 with 1 chick) and 4 were deserted (1 with 1 egg, 3 with 2 eggs).

There were three burrows where it was thought that the nest cup was reached and the burrow unoccupied until an adult was found incubating eggs towards the end of its incubation period. Two of the three burrows fledged chicks, and it was suspected that the third was abandoned when one of the partners was predated outside of its burrow. An adult in burrow C44 was also found incubating eggs on May 22. There had been no knockdowns at C44 all season and therefore no reason to enter, until an alternate entrance was discovered.

Of the adults banded from burrows this year, 2 were new and 7 were recaptured. For two of the recaptured birds, it was their first year in their burrows (C35 & C101). The birds from S34 and C75 used the same burrows in 2001, C14 in 2000 and C44 in 2000 and 2001. This was the fifth year that the same bird has used burrow C21 (1996-1999 & 2003).

*Gathering Grounds*

Ancient Murrelets were counted on their gathering ground on the west side of Low Island every evening from April 4 to June 19. The peak count was on April 15 with 197 birds. Peak counts for other months were May 1 – 116, June 2 – 180. Counts were missed on 11 evenings due to poor weather and 2 evenings due to camp closure on April 25-26. Counts



were extremely variable throughout the entire period and seemed to be a poor indicator of the number of birds on the colony that night for adult trapping.

#### *Nest Boxes*

All 100 nestboxes that were put in place in 2001 were checked daily from April 4 to June 1 for knockdowns and first eggs this year. Knockdowns were only found 9 times in the boxes and none of the boxes were occupied.

#### *Predation*

Predation level on Ancient Murrelets appeared normal this year, with no excessive burrow diggings, body parts or feather piles apparent (based on opportunistic surveys conducted as part of daily observations by staff and volunteers when moving around the colony). All burrow diggings appeared to be the work of river otters. One digging of interest was discovered on May 13 at Boat Cove near trail marker 510 on the main trail. A large and wide digging of a burrow was found at the base of a spruce tree, with an inverted carcass lying near-by. Upon investigation, two cold eggs were found in the burrow. The carcass, band number 1313-69365, was banded as a chick in 1999 at funnel 3 at North Cove. This predation is believed to be the work of a raven. Two other bands were found this year, one on May 9 on a leg near the upper part of the creek (band number 1313-69131, banded in 1999 as an adult). The third band was somewhat unusual in that it was found on a skinless tarsus on the path from the cabin to the woodshed on June 3. This bird was banded as an adult in 1999, band number 1313-69001.

#### **Black Oystercatchers**

Laskeek Bay is home to 3% of the estimated national population of Black Oystercatchers and in 1999 BirdLife International, Bird Studies Canada and the Canadian Nature Federation designated it as an Important Bird Area for these remarkable birds. This year in Laskeek Bay, we found 22 active nest sites on eight islands: Cumshewa Island (3), East Limestone (3), Kingsway Rock (2), Lost Islands (1), Low Island (2), Reef Island (6), Skedans Islands (3) and South Low Island (2). A new nest site with 2 eggs was found in May on East Limestone, just east-southeast of Bald Eagle nest #4, between Cabin Cove and North Cove. However, 9 days after the second egg was laid, we watched from the cabin as a Raven predated the nest.

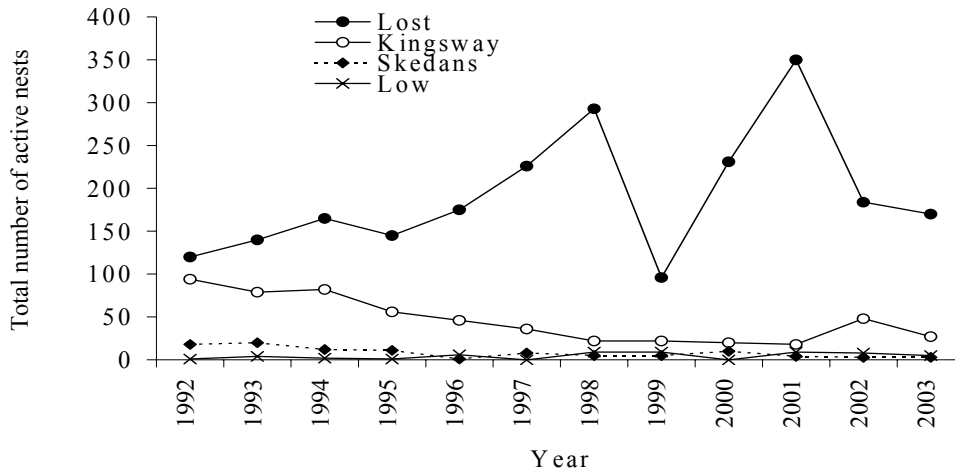
During the season, 21 Black Oystercatcher chicks had been found from the 22 nests. Fifteen of these chicks were still alive as of July 8, eight of which were large enough to be banded: 2 on Kingsway Rock, 2 on East Limestone, 3 on Reef Island and 1 on South Low Island. Bands were also spotted on 14 adult Oystercatchers throughout the season (Table 3). Of note, 32 adult Black Oystercatchers were counted at Reef Island in the afternoon of July 7, only 2 of which were banded. When camp closed in July, 13 nests were still successful to some degree: 2 with 2 eggs, 1 with 1 egg, 6 with 1 chick, 3 with 2 chicks and 1 with 3 chicks.

**Table 3.** Banded Black Oystercatchers seen in Laskeek Bay in 2003.

<b>Band Combination</b>	<b>Location seen (nest site)</b>	<b>Year Banded (Location if known)</b>	<b>Banded as (if known)</b>
Metal only (right)	Cumshewa (CUM-2)	Unknown	Unknown
Aluminum-BK/M	Lost Islands (LOS-9)	Unknown	Unknown
Metal only (right)	Low Island	Unknown	Unknown
W-BR/M	Reef Sea Lion Rocks	2001	Chick
BK/M-W	Reef Sea Lion Rocks	Unknown	Unknown
W-BR/M	Reef Island (east of REE-8)	2001	Chick
A2-BK/M	Reef Island (REE-1)	2000 (REE-1)	Adult
W-BK/M	Reef Island (REE-2)	2000	Chick
W-BR/M	Skedans Bay	2001	Chick
W-M	Skedans Islands (SKE-6)	Unknown	Unknown
?-BK/M	Skedans Islands (SKE-6)	Unknown	Unknown
?3-BK/M	South Low (SLW-5)	possibly 2000 (ELI-3)	Adult
W-W/M	South Low (SLW-8)	1994	Chick
W-BK/M	West Limestone	2000	Chick

### **Glaucous-winged Gulls**

Glaucous-winged Gull colonies in Laskeek Bay were censused for adult presence and timing of laying twice during the season, except for the colonies on Cumshewa and East Skedans Islands which were only censused once. On June 22, 20 adult gulls and 80 juveniles were counted on Cumshewa, along with one nest with 2 cold eggs. The same day, 16 adults, 1 juvenile, 3 active nests (i.e. nests containing eggs or chicks) and 3 empty nests were counted on East Skedans Island. The final counts made on June 19 on Low Island yielded 20 adults, 5 active nests and 7 empty nests and on Kingsway Rock, 95 adults, 27 active nests and 15 empty nests were counted. On June 28, the final census of the Lost Islands yielded 612 adults, 20 juveniles, 170 active nests, including one with 4 eggs and 8 with chicks and 153 empty nests. The Reef Island colony was not censused this year. Since 1992, the total number of active nests on Low Island is slightly increasing, while the total on East Skedans is decreasing slightly (Fig. 4). The number of active nests on Kingsway Rock continues to decrease, despite a slight rise in 2002. There is an overall increase in active nests on the Lost Islands since 1992, however this years numbers were lower than those since 1997 (excluding 1999) (Fig. 4).



**Figure 4.** Number of Glaucous-winged Gull nests with eggs in Laskeek Bay 1992-2003. The low 1999 Lost Island count is likely a reflection of nests not counted due to adverse weather.

### Pigeon Guillemots

In 2001, 10 Pigeon Guillemot nestboxes were put in place on the cliffs below and beside Lookout Point. The Guillemots began using the boxes in 2002, when three eggs laid by two different females were found in box #10. This year, two boxes were found to be active when they were checked on July 2. Box #8 contained one egg, while box #9 contained two eggs. Both nests were being incubated by adults who flew from the boxes upon our arrival on the cliff.

### Cassin's Auklet

In 1991 raccoons nearly decimated the Cassin's Auklet colony on Cassin's Tower on Limestone Island. A year later, 16 nestboxes were installed which provided alternate nesting that would also lend protection from raccoon predation. By 1994, the first successful use of the nestboxes was confirmed but the boxes were not used in 1995. From 1996-2002 Cassin's Tower was not monitored.

This year, knockdown sticks were placed in all possible burrow and nestbox entrances on Cassin's Tower. Many nestboxes have collapsed but some may still be somewhat intact. As of June 4, 66 burrows and 5 nestboxes had knockdowns out of 71 possible burrows and nestboxes. It is possible that some of these knockdowns were due to storm petrels (as recorded in 1995) but the majority of these burrow entrances gave off the strong odour of regurgitated plankton suggestive of Cassin's Auklets. On June 24, an attempt was made to band Cassin's Auklets chicks on Cassin's Tower. However, any chicks that were once present had already fledged leaving only eggshells and egg membranes as evidence of their occupancy. Twenty-six burrows were found with knockdowns, as were four nest boxes. None of the nestboxes contained evidence of use and all were partially collapsed and difficult to enter. Of the burrows, 3 had eggshells, 3 had egg membranes and 8 contained feathers. The nestboxes at Cabin Cove were not monitored, however Cassin's Auklets were often heard (and occasionally seen!) just north of the cabin

throughout May and early June. It appears that the Cassin's Auklet has begun to make a comeback on Limestone Island!

### **Fork-tailed Storm Petrels**

In past years, Fork-tailed Storm Petrels were known to nest on Cassin's Tower but there was no previous record of them at Cabin Cove. This year, Petrels were heard on numerous nights and seen on several occasions north of the cabin, however it was not confirmed that they were indeed nesting in that area.

During Ancient Murrelet chick banding in the last week of May, unfamiliar calls were heard coming from burrows at North Cove. These calls were suspected to be from Petrel chicks, however neither chicks nor adults were ever seen at the burrow and therefore it could not be confirmed that Petrels were nesting at North Cove.

### **Sea Surveys**

During the 2003 field season five nearshore/offshore seabird surveys (April 20, May 10, May 26, June 10 and June 30-July 1) and five Hecate Strait surveys (April 17, May 5, May 19, June 4 and June 25) were conducted. Weather was fairly cooperative and only one nearshore/offshore survey had to be continued over two days due to rough sea conditions. The Hecate Strait transects ran on the May 19 survey had to be altered slightly to avoid excessive spray and was run only 5.7 km out in the Strait instead of 9 km.

The main purpose of the seabird surveys is to continue monitoring the numbers of Marbled Murrelets in Laskeek Bay as these birds are listed as threatened in BC and federally as endangered. Numbers of Marbled Murrelets counted during the nearshore/offshore surveys this year are as follows: April 20 – 100, May 10 – 4, May 26 – 18, June 10 – 125, and June 30/July 1 – 44. The highest count was on the June 10 which follows the trend of peak numbers appearing in mid to late June. The high count for 2003 was 125 birds during a complete nearshore/offshore survey, which is slightly small when compared to the last three years.

A total of 28 species were seen during the nearshore/offshore transects (Table 4). Of special note are the sightings of Northern Fulmar, Great Blue Heron, Mallard, Greater Scaup, and Bufflehead. From the five Hecate Strait surveys, eighteen species of birds were identified (Table 5). This year saw some interesting birds out in the Strait, particularly the Parasitic Jaeger, and the Bonaparte's and Sabine's Gulls. The Jaeger was observed chasing a Black-legged Kittiwake. During the May 19 Hecate Strait survey our boat passed through thousands of Sooty Shearwaters on their way north to summer waters.

Unlike last year, Black-legged Kittiwakes were seen on a regular basis during the seabird surveys. The highest count was during the April 17 Hecate Strait survey when 106 birds were seen. After that, observed numbers dropped slightly and Kittiwakes were seen for the last time on the June 4 Hecate Strait survey.

**Table 4.** Bird species observed during the nearshore/offshore surveys in 2003.

Common Loon	Greater Scaup	Herring Gull	Ancient Murrelet
Pacific Loon	Harlequin Duck	Thayer's Gull	Cassin's Auklet
Northern Fulmar	Black Scoter	Glaucous-winged Gull	Rhinoceros Auklet
Double-crested Cormorant	White-winged Scoter	Black-legged Kittiwake	Rufous Hummingbird
Pelagic Cormorant	Bufflehead	Common Murre	Tree Swallow
Great Blue Heron	Bald Eagle	Pigeon Guillemot	Northwestern Crow
Mallard	Black Oystercatcher	Marbled Murrelet	Common Raven

**Table 5.** Bird species observed during the Hecate Strait surveys in 2003.

Common Loon	Bonaparte's Gull	Sabine's Gull	Cassin's Auklet
Pacific Loon	Herring Gull	Common Murre	Rhinoceros Auklet
Sooty Shearwater	Thayer's Gull	Pigeon Guillemot	Tufted Puffin
Pelagic Cormorant	Glaucous-winged Gull	Marbled Murrelet	
Parasitic Jaeger	Black-legged Kittiwake	Ancient Murrelet	

### Marine Mammals

Data and information on marine mammals is collected during sea surveys and at Lookout Point during sea watches. This information is shared with various researchers throughout North America. This year, Graeme Ellis of the Institute of Ocean Sciences in Saanich, loaned us a new camera to take high-resolution detailed identification photographs of whales we encountered in Laskeek Bay. These photos were sent to Graeme and contribute to an extensive photo identification database on whales, which he and others are compiling.

The number of sighting events of marine mammals increased again in 2003 to 129 (compared to 101 in 2002), with nine species encountered. This increase was mainly due to the daily presence of humpback whales in Laskeek Bay from April 3 to the end of May. Humpbacks were spotted frequently in a zone out in the Hecate Strait, approximately two nautical miles east of Low Island and later in the season, on the south side of Reef Island. They foraged and fed with extensive displays of breaching, lunge feeding, lateral rolls and tail lobbing. Counts of 20 to 50 individuals were recorded. Often the humpbacks were in the company of Ancient Murrelets, Cassin's Auklets, Sooty Shearwaters and Rhinoceros Auklets.

**Table 6.** Total counts of individual marine mammals from marine surveys, haul-out counts, and sea-watches from Limestone Island for five of last seven years .

Species (common name)	2003	2002	2001	1998	1997
Dall's porpoise	0	29	0	0	9
N. elephant seal	1	0	2	0	2
Fin whale	1	0	4	0	0
Grey whale	3	2	0	0	6
Harbour porpoise	5	21	19	25	21
Harbour seal	635	316	105	494	257
Humpback whale	152	49	140	6	2
Killer whale	21	29	16	17	36
Minke whale	0	0	0	3	8
Pacific white-sided dolphin	325	22	93	10	42
Steller's sea lion	3107	2577	1633	2317	1077
<b>TOTALS</b>	<b>4250</b>	<b>3060</b>	<b>2016</b>	<b>2875</b>	<b>1462</b>

Orcas were encountered five times on May 24 and 28, June 16, 21, and 30 for a total of 21 animals. Identification photos were taken and sent to Graeme Ellis. Twice they were sighted from shore on Limestone. On June 21, a pod of seven transients was observed and filmed as they killed a Steller's sea lion near Reef Island. A newborn calf was with this group. A fin whale was spotted from Lookout Point on May 18 and an elephant seal was sighted during an offshore sea survey on May 19.

### *Pinnipeds*

Since 1986, a census of Steller's sea lions at their haul-outs on the east end of Reef Island and at Skedans Islets has been conducted, originally by the Canadian Wildlife Service group from Reef Island, and since 1990 by the crew on East Limestone Island. These counts were taken during the same time of year (April to July) at the same haul-outs. This data set is important to current research into the declining numbers of Steller's sea lions in the North Pacific, as the records constitute the longest continuous running annual census records available. This year, surveys for Steller's sea lions were done on April 3 and 17, May 5, 10, 19 and 26, June 2 and 10, and July 1; the high count was on April 3, of 410 animals on Reef rocks and 120 animals on Skedans. This number is considerably lower than the 700 animals recorded at the Reef Island haul-out in 2002. Branded sea lions were spotted on four occasions, all at the Reef Island haul-out: F-2015 (seen twice, once in April and on June 2), F-1229 (seen once), and F-2090 (seen once on July 1). These animals were branded on rookeries in Southeast Alaska.

### *Sea-Watch Surveys*

Volunteers and staff spent 33 survey hours at Lookout Point this year. Using spotting scopes and binoculars, they sat for at least one hour at a time, monitoring Laskeek Bay from Skedans Village to Kunga Island. The view was divided into 3 equal sectors and the number and behaviour of each species of marine mammals seen in each sector was recorded.

### **Wildlife Trees**

There are numerous standing dead trees (snags) on Limestone Island that provide habitat for several species of cavity nesting birds. This year, 59 of these wildlife trees were monitored, 20 of which were used by 4 species of birds: Red-breasted Sapsuckers (14), Hairy Woodpeckers (2), Chestnut-backed Chickadees (3) and Brown Creepers (1). Eight of these trees were new wildlife trees this year (#88-95). Description data, such as tree diameter (DBH), nest height, tree height, tree species, decay code, and percent of bark remaining was recorded about each new tree. Tree species used by the cavity nesters were Sitka Spruce (75%) and Western Hemlock (25%). All 5 Western Hemlocks were used by Red-breasted Sapsuckers and were 100% covered with bark (Table 6). Trees were narrowed down to those active by May 14, after which all were checked every 2 days in order to determine more exact hatch and fledge dates. Red-breasted Sapsucker chicks from monitored trees began to hatch May 27 and the first fledge date recorded was June 2 (Table 6). The Sapsuckers were the last to fledge and all Sapsucker chicks had fledged by June 23.

There were many sightings of banded Sapsuckers this year, and thanks to their individual colour codes, we were able to identify which wildlife tree each was nesting in (Table 7). For the 3<sup>rd</sup> year in a row, the bird banded Yellow/Red – Blue/Metal was nesting in wildlife tree #78. This bird's partner was seen feeding chicks on June 8, despite having a broken leg, and continued feeding until the chicks fledged on June 17!

**Table 7.** Red-breasted Sapsucker tree species, nest height and fledge dates. Ss=Sitka Spruce; Hw=Western Hemlock.

Tree #	Tree Species	Nest hole height (m)	Fledge date
7	Ss	11.5	14 June
12	Ss	23.5	19 June
17	Ss	18.0	17 June
45	Ss	25.5	13 June
56	Hw	12.9	14 June
73	Hw	9.7	13 June
78	Ss	11.4	17 June
85	Ss	6.7	23 June
86	Hw	27.5	2 June
90	Ss	16.1	16 June
91	Ss	14.3	21 June
92	Ss	25.4	21 June
94	Hw	32.2	23 June
95	Hw	24.8	13 June

**Table 8.** Individual colour code band combinations of Red-breasted Sapsuckers nesting in known wildlife trees.

Tree #	Band Combination	Year Banded	Banded as
78	Yellow/Red – Blue/Metal	1996	Adult
85	Red/Red – Red/Metal	2001	Adult
90	White/Red – Blue/Metal	2003	Adult
91	Yellow/Yellow – Metal/Red	1997	Adult
92	Green/White – Metal/Orange	2003	Chick

### Songbird Banding

This season marks the sixth year that the staff at Limestone Island participated in a songbird banding program in conjunction with the Research Group on Introduced Species (RGIS). From June 8<sup>th</sup> until July 8<sup>th</sup>, sessions from 0700 to 1200 were run at banding stations on East Limestone Island (ELI), West Skedans Island (WSK), Low Island (LOW), and Reef Island (REEF13). In 2003, only the station on the north side of Reef was used. Each station was sampled four times, with three to nine days between banding sessions at a given station. Data are used for two distinct studies: an ongoing songbird recruitment monitoring project for RGIS and a genetic assessment of Haida Gwaii songbirds for Queen's University.

Banding sessions at all four stations netted a total of 203 birds (hummingbirds excluded). Of these, 44 were retraps from previous years. In addition, birds that were banded in 2003 were recaptured on 47 subsequent occasions. This number includes individuals caught multiple times after being banded. The number of species sampled on each island differed - LOW (5), ELI (10), REEF13 (11) and WSK (12). In all, sixteen species were represented (table 8), with the Orange-crown Warbler as the most commonly sampled species (35 individuals). With all stations combined, other frequently sampled species included: Winter Wren (33), Swainson's Thrush (27), Fox Sparrow (26), Hermit Thrush (25), Golden-crowned Kinglet (15), Chestnut-backed Chickadee (12) and Townsend's Warbler (11). Less frequently sampled species included: Red-breasted Sapsucker (5), Song Sparrow (5), Brown Creeper (3), Pacific-slope Flycatcher (2), Varied Thrush (2), American Robin (1) and Hairy Woodpecker (1). Rufous Hummingbirds were caught on 25 occasions, however, the actual number of individuals caught may have been lower. Rufous Hummingbirds were not banded, thus rendering individual identification impossible.

Various data were collected from all captured birds (if an individual was caught more than once in 2003 it was released without repeating measurements). Wing chord, bill length, tarsus length, weight, age, plumage and breeding status were recorded for all species except hummingbirds. Additional bill measurements and a small blood sample were obtained for species included in the genetics study. The blood will be used for DNA analyses.

In collaboration with Limestone staff, researchers from Queen's University, Ontario concluded the fieldwork portion of a two-year genetic comparison of selected songbirds. Nine species of resident and migratory birds found in Haida Gwaii (eight of which are found on islands in Laskeek Bay) will be compared to their coastal counterparts in Alaska, Northern and Southern B.C., Vancouver Island, Washington and Oregon. The study aims to determine the extent of genetic isolation of Haida Gwaii populations and map it onto geological time. In addition to regular banding sessions, target banding sessions were conducted on Limestone and Reef Islands. The latter sessions used a species-specific song playback to draw in the target species and were not restricted to the established net lanes. An additional thirty target individuals were captured using this method (table 9). Data from these birds were not used in the RGIS songbird monitoring project.

The primary focus of the songbird banding sessions is to better understand the relationship between introduced species and songbird recruitment rates. Over the past six years, the RGIS songbird project has monitored the ratio of adult to hatch-year birds on islands with and without squirrels and/or deer. These ratios are indicative of the breeding success on islands differing in area, vegetation cover and presence/absence of introduced species, among other factors. In 2003, the ratios of adults to hatch-years were 26:10 on LOW (2.60), 48:19 on WSK (2.53), 26:22 on ELI (1.18) and 24:28 on REEF13 (0.86).

All but two retraps were caught on the same island on which they were banded. The first unusual recapture was a male Swainson's Thrush banded as an adult in 2002 at REEF16



(south shore of Reef Island) and recaptured on LOW. The second island hopper was a hatch-year Hermit Thrush initially banded on Reef Island and recaptured on Low Island two weeks later!

**Table 9.** Species caught at each station. Numbers include adult and hatch year birds as well as retraps from previous years.

Species	ELI	LOW	REEF13	WSK	Totals
American Robin	0	0	0	1	1
Brown Creeper	2	0	0	1	3
Chestnut-backed Chickadee	11	0	1	0	12
Fox Sparrow	0	9	1	16	26
Golden-crowned Kinglet	8	1	3	3	15
Hairy Woodpecker	1	0	0	0	1
Hermit Thrush	7	0	11	7	25
Orange-crowned Warbler	2	11	10	12	35
Pacific-slope Flycatcher	0	0	0	2	2
Red-breasted Sapsucker	3	0	1	1	5
Rufous Hummingbird*	3	12	2	8	25
Song Sparrow	0	0	4	1	5
Swainson's Thrush	2	7	7	11	27
Townsend's Warbler	4	0	4	3	11
Varied Thrush	0	0	2	0	2
Winter Wren	8	8	8	9	33

\*Actual Rufous Hummingbird numbers may have been lower because individuals were not banded and may have been caught on multiple occasions.

**Table 10.** Target species caught at target banding sessions in 2003 used for the genetics study. Numbers include adult and hatch year birds as well as retraps from previous years.

Species	ELI	REEF13	Totals
Brown Creeper	1	0	1
Chestnut-backed Chickadee	9	1	10
Golden-crowned Kinglet	5	2	7
Orange-crowned Warbler	2	1	3
Pacific-slope Flycatcher	1	0	1
Red-breasted Sapsucker	7	0	7
Varied Thrush	1	0	1

## NATURAL HISTORY

### **Daily Bird Checklist**

The daily bird checklist revealed that a total of 76 species of birds had been seen or heard throughout Laskeek Bay this season, an all time high! The highest count was on June 4 with 40 species seen or heard on that one day. Several species were regulars on the list, such as the Blue Grouse who was heard on Limestone from April 2 to June 25. During the last two weeks of April, many meals were interrupted to run to the beach and count the number of Brant and Canada Geese flying by. In April we also spotted two flocks of approximately 20 Northern Pintails flying by the cabin and in early May, 23 Whimbrels flew through our scopes during a Sea-watch Survey from Lookout Point. Also in the first week of May, a flock of 200 Green-winged Teals were seen in Skedans Bay. Pacific Loons started showing up in large numbers in late April with the highest numbers in front of the cabin on April 27 & 28 with 30 and 36 birds respectively. Also seen in front of the cabin in April were 28 Black Turnstones and a Dunlin was spotted later on in June in the intertidal at South Low during an Oystercatcher survey.

### **Birds of Prey**

In 2001, the first-ever documented Northern Saw-Whet Owl nest on Haida Gwaii was found in Wildlife tree #1 near our cabin on Limestone Island. This season we have again been fortunate to work with this fascinating species. With the expertise of Carmen Holschuh, a graduate student at UNBC and Limestone volunteer, we were able not only to establish that there was a pair of Saw-Whet Owls on the island, but even got the opportunity to band one! On the night of April 30, we set up a mist net in Crow Valley and with the use of Ms. Holschuh's Saw-Whet playback recordings, caught an owl in only 4 minutes! While we were banding what proved to be the female, the male began calling from nearby. A brief attempt was made to catch the male as well, but was then abandoned so as not to further disturb the pair in one evening.

In total, there were six sightings of an owl, during one of which it was sleeping on a branch beside the main trail. On May 17, an owl was briefly heard calling in Crow Valley, southwest of the Ridge trail, past the Crow Valley trail. When the owl had stopped calling for several minutes, the playback recording was used and within 10 seconds, an owl flew overhead, landed on a branch directly above and began calling for 10 minutes. It was suspected that if the birds were breeding on the island that the nest was in Crow Valley. Attempts were made to locate a nest by visiting all the snags in Crow Valley and using the playback, however no signs were found. An owl was heard calling on numerous occasions throughout April, May and June and its call was last heard on June 29.

Five Bald Eagle nests were monitored this year (#1,2,3,4 & 6). Bald Eagle nest #5 that was last active in 2001 was completely blown down by May this year. On a few occasions adults were seen on trees #2 and #3, as well as in nest #6, confirming last year's suspicions of it being used by Bald Eagles. No Eaglets were ever seen or heard in any of these 3 nests, nor was there any activity in trees #1 & #4.

No Common Raven nests were found this year, nor any belonging to Sharp-shinned Hawks. A Sharp-shinned was heard calling for several minutes on the West side of boat cove, however no sign of nesting was found. There were two sightings of Peregrine Falcons this year, one in mid-April when an immature falcon was seen and heard calling in North Cove and an adult was seen exactly one month later. There were also two Red-Tailed Hawk sightings, the first in early May when the same individual was seen from various locations on Limestone, the second in early June when one was seen taking off from a branch by the exclosures, near wildlife tree #73. A Merlin was also seen this season on June 23 in Cabin Cove.

### **Plants**

The timing of the bloom was early this year, possibly due to a mild winter and three weeks of sun in late April and early May. *Lycopodium clavatum*, running clubmoss, was found for the first time on E. Limestone by Rob Cameron on June 13 and a specimen collected. Surveys were done during May and early June to check on the status of the rare and uncommon plants. *Geranium richardsonii* (Richardson's geranium) were blooming by May 22, with five specimens located in five sites. Richardson's geranium is not known to occur elsewhere in coastal B.C. and these specimens are the only remaining plants known on Haida Gwaii. Other rare and uncommon plants of E. Limestone observed in bloom were: showy Jacob's ladder, Unalaska paintbrush, cut-leaf anemone, northern rice-root, few-flowered shooting star and kinnikinnick. Even though these species are common elsewhere in British Columbia, on E. Limestone Island they only survive in deer-free sites like niches, ledges and crevices of cliff faces.

### **Introduced Species**

Introduced deer and squirrel remain on Limestone Island. No presence of raccoons was detected and no burrow diggings were attributed to raccoons. Squirrel surveys resumed this year were and were conducted weekly from late April to early June. It appears that squirrels continue to use Ancient Murrelet nest boxes as a repository for spruce cones. No formal survey of deer numbers was done, however, on June 7, a survey of most of the island was conducted and 15 individuals were counted, including the collared male. Introduced thistle is spreading to more areas and becoming evermore abundant along the shoreline from Crow Valley to North Cove.

## **ACKNOWLEDGEMENTS**

With the generous contributions from the following groups and individuals, the Laskeek Bay Conservation Society has been able to provide its scientific monitoring and education programs, raising awareness and understanding of the marine and terrestrial ecosystems of Haida Gwaii:

- W. Alton Jones Foundation
- Gwaii Trust (Project Limestone)
- BC Gaming Commission
- Science Horizons, Environment Canada
- Important Bird Areas Community Action Fund
- EcoAction, Environment Canada
- Blue Water Adventures (t-shirt purchases and donations)

- Maple Leaf Adventures (t-shirt purchases and donations)

We would also like to acknowledge the following for loans or permits:

- Canadian Wildlife Service (equipment loans)
- Research Group on Introduced Species (equipment loans)
- Ministry of Water, Land and Air Protection (research permit)
- Gwaii Haanas National Park Reserve (research permit)
- Environment Canada, Bird Banding Office (banding permit)

Thanks also to the following individuals and groups who gave generously of their time and services to the Society:

- Greg Martin, Executive Director, for contributing many extra hours and working to keep field staff happy and healthy
- LBCS Directors for their time and efforts in keeping the Society running year after year: Chris Bowman, Betsy Cardell, Alvin Cober, Brigid Cumming, David Greenall, Keith Moore, Maggie Stronge, and Julie Towers
- Dr. Tony Gaston for sharing his enthusiasm for murrelets and science and for his valuable advice and guidance throughout the field season
- Barb Rowsell, RGIS coordinator
- The 162 hard working volunteers who stayed awake through all hours all in the name of science
- Haida Gwaii Watchmen at Skedans, Laura and Marvin, for their company and generous hospitality
- Graeme Ellis (Pacific Biological Station) for providing a camera and film to document the whales
- Kevin Borserio and Project Limestone teachers for their dedication to the project and for bringing great groups of kids to the island
- The Living & Learning school teachers for not only accompanying the students, but also for returning as week-long volunteers on their time off
- The m/v Pacemaker and m/v Wanderlust for transporting gear at camp start-up and take-down
- The s/v Island Roamer and s/v Maple Leaf for promoting LBCS, assisting with banding and for welcoming us aboard to share their gourmet meals
- South Moresby Air Charters for their friendly and skillful pilots
- Moresby Explorers for last minute transportation of volunteers
- Carmen Holschuh for her Saw-whet Owl banding equipment and expertise
- The RGIS film crew for allowing us to be movie stars for a weekend

Report prepared by Suzanne Charest, with Joëlle Fournier and Charlotte Tarver.

Edited by LBCS.

For more information, copies of this report or other publications, please contact LBCS at:

**Laskeek Bay Conservation Society**  
**Box 867, Queen Charlotte, B.C., V0T 1S0**  
**(250) 559-2345 ph/fax**  
[laskeek@laskeekbay.org](mailto:laskeek@laskeekbay.org)  
[www.laskeekbay.org](http://www.laskeekbay.org)