



# The BC-Yukon Nocturnal Owl Survey

November 2004



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## Five years of owl surveys in BC and the Yukon

We have now been monitoring owls for five years in British Columbia and the Yukon, and every year brings new insight into the distribution and numbers of these little-known birds. This year 126 owlers carried out 125 surveys on 114 routes, stopping 1755 times in the darkness to listen for owls (see p. 4 for details). They detected 236 owls, an average of 1.35 owls per 10 stops. This is down dramatically from last year (383 owls, 1.67 per 10 stops) and the

year before (308, 1.67). Indeed, they are the lowest totals since the survey began. “The owls have deserted us!” lamented Sandra Kinsey of Prince George. The cause for this drop can’t be assigned to any one species—all the common owls of the province seemed to decline in detections (it’s often hard to distinguish silent owls from absent owls in these surveys, so I’m hesitant to say a decline in numbers) except for Great Horned Owls in the central and northern Interior. Only 84 Northern Saw-whet Owls were reported, compared to 144 last year, while Boreal Owl reports dropped from 98 to 33.

----*Dick Cannings, survey coordinator*



Boreal Owl detections were down sharply in British Columbia and Yukon this year, probably due to a drop in vole numbers across the region.

*Photo: Doug Leighton*



## Thanks to 126 owlers:

Ken Anderson, Kris Andrews, Cathy Antoniazzi, Benita Antonio, Libby Avis, Rick Avis, Ron Barre, Andy Bezener, Maj Birch, Peter Blokker, Derek Bonin, Jack Bowling, Doug Brown, Richard Cannings, Lynne Cannon, Bob Chapman, Chris Charlesworth, Jim Clelland, George Clulow, Paul Colton, Larry Cowan, Loyd Csizmadia, Ed Dahl, Monica Dahl, Chris Dale, Jonathan Darbyshire, Peter Davidson, Rick Dawson, Boris Dobrowolsky, Frank Doyle, Dan Dunlop, Helen Dunlop, Eva Durance, Carol Fairhurst, Jamie Fenneman, Trevor Forder, Julie Frisch, Mark Gardiner, Dolly Gehlen, Phil Gehlen, Mike Gill, Betty Goodman, Jim Goodman, Helmut Grünberg, Les Gyug, Larry Halverson, Blair Hammond, Willie Haras, Todd Heakes, Daniel Helm, Dr. Charles Helm, Phil Henderson, Scott Herron, Neil Hughes, Peter Johnston, Gerald Kerr, Joan Kerr, Sandra Kinsey, Nancy Krueger, John Lambie, Vi Lambie, Laird Law, Maria Ledergerber, Nicky Luck, Diana Maloff, Thor Manson, Wendy Marshall, Sue McDonald, Darrel McEachern, Kathleen McEachern, Bruce McLean, Michelle Mico, Bruce Morgenstern, Pearl Morgenstern, Norma Morton, Bob Murkett, Gordon Neish, Laure Neish, Heather Neville, John Neville, Fran Newsom, Ann Nightingale, Caitlin O'Donoghue, Mark O'Donoghue, Molly O'Donoghue, Lyn Paterson, Stan Paterson, Georgia Patterson, Sylvia Pincott, Rosamund Pojar, Melanie Pratch-Rees, Larry Prosser, Anne Redfearn, Kerry Rees, Trish Reid, Gillian Richardson, Trevor Richardson, Keith Riding, Margaret Riding, Syd Roberts, Laurie Rockwell, Mary Roddick, Vern Roddick, Marj Rodwell, Greg Ross, Maureen Sargent, Brent Schmor, Brian Scott, Judith Shapiro, Cindy Smith, Jessica Speed, Erin Spiewak, Gail Spittler, Elsie Stanley, Ray Sturney, John Theberge, Mary Theberge, Russell Tkachuk, Alan Vyse, Frances Vyse, Angela Walkley, Margaret Waring, Michaela Waterhouse, Rita Wege, Eve Whitehead, Chris Withers, Stuart Withers.

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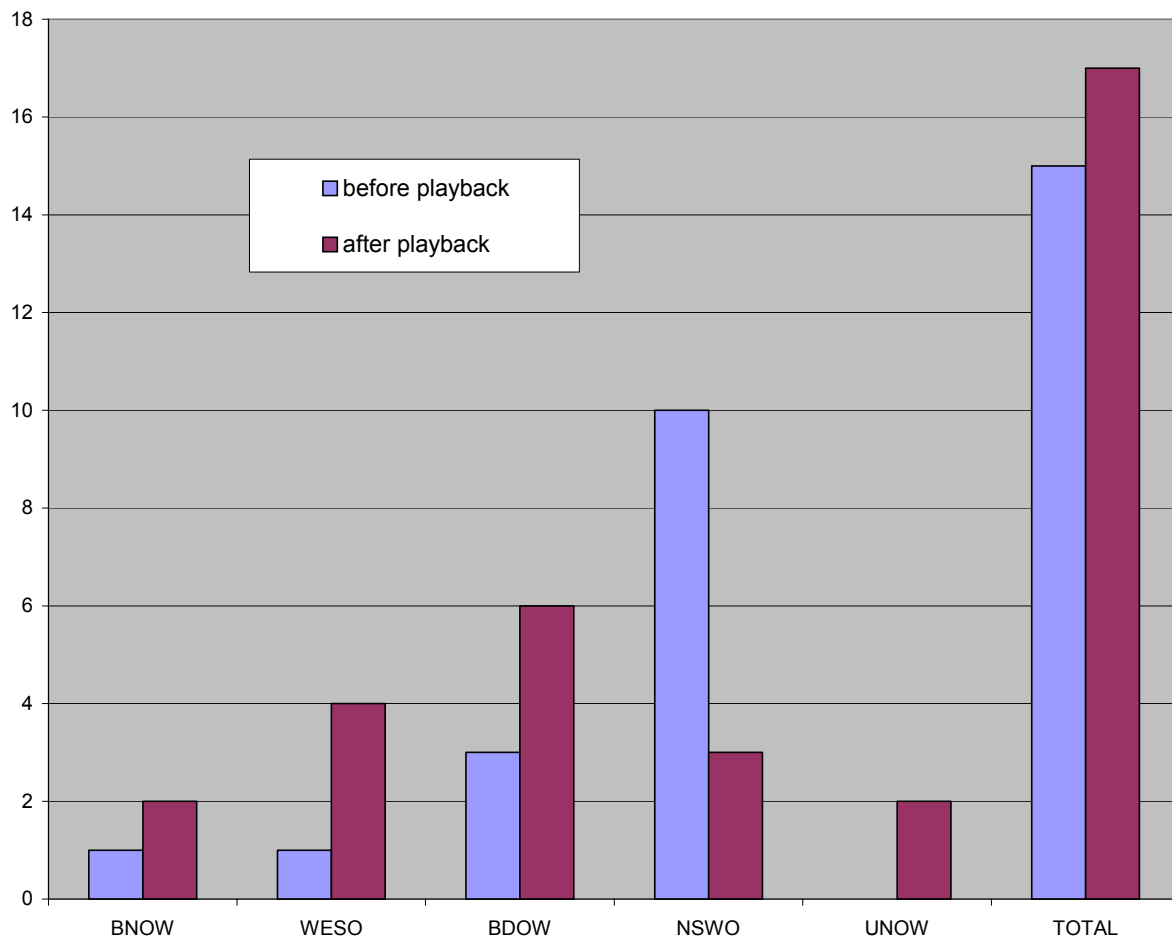
*This juvenile Flammulated Owl, like many other young owls, left its nest before it could fly very well. To gain altitude it climbed up the tree trunk like a woodpecker, holding on with its beak and talons!*

Photo: Steve Cannings

## A new playback protocol for coastal owl surveyors

A big change for the BC-Yukon Nocturnal Owl survey this year was a new playback protocol used for coastal owl surveys. Low numbers of owls there for the first four years of the survey prompted the use of a screech-owl playback protocol designed to bring in that species as well as other common coastal species such as Barred (attracted by the promise of breakfast) and Northern Saw-whet Owl (which will call out of curiosity after hearing other owls). You can from the chart below that the playback seems to have worked, though owl detections are still low. More owls were heard after the playback than before in all cases except for saw-whets. The latter is not surprising, since in February (when coastal surveys are done for the most part), saw-whet males are calling constantly, so would be first detected during the two minutes of silent listening. Some of the increase could be simply attributed to the longer listening period (as in the Barn Owl example), but numbers of screech-owls detected clearly increased because of the playback.

### Coastal Owl Surveys 2004



		Barn	W. Screech	Great Horned	Northern Pygmy	Barred	Great Gray	Long-eared	Boreal	N. Saw-whet	TOTAL
<b>COAST</b>											
<b>42 surveys</b>	<b>Total Owls</b>	4	7	0	0	11	0	0	0	17	39
	<b>Owls per 10 stops</b>	0.08	0.13	0.00	0.00	0.21	0.00	0.00	0	0.32	0.78
<b>37 routes</b>	<b># routes with species</b>	3	4	0	0	9	0	0	0	10	
<b>SOUTHERN INTERIOR</b>											
	<b>Total Owls</b>	0	3	10	1	5	0	2	2	18	41
<b>37 surveys</b>	<b>Owls per 10 stops</b>	0.00	0.06	0.18	0.02	0.09	0.00	0.04	0.04	0.33	0.75
<b>37 routes</b>	<b># routes with species</b>	0	2	8	1	5	0	2	1	16	
<b>NORTHERN INTERIOR</b>											
	<b>Total Owls</b>	0	0	56	1	17	2	0	31	49	154
<b>46 surveys</b>	<b>Owls per 10 stops</b>	0.00	0.00	0.82	0.01	0.25	0.03	0.00	0.45	0.72	2.28
<b>38 routes</b>	<b># routes with species</b>	0	0	22	1	10	2	0	13	13	
<b>TOTAL</b>											
	<b>Total Owls</b>	4	10	66	2	33	2	2	33	84	236
<b>125 surveys</b>	<b>Owls per 10 stops</b>	0.02	0.06	0.38	0.01	0.19	0.01	0.01	0.19	0.49	1.37
<b>114 routes</b>	<b># routes with species</b>	3	6	30	2	24	2	2	14	39	

**Table 1. Owls reported on the survey in 2004.** Species totals are given as birds per 10 stops so that direct comparison can be made among regions and years. Coastal routes are those west of the Coast-Cascade crest; Southern Interior counts are those from the Thompson, Nicola, Okanagan, Columbia and Kootenay valleys and adjacent plateaus; Northern Interior routes include those from the Cariboo-Chilcotin, Prince George, Mackenzie and Fort Nelson areas, the Bulkley Valley, and the Yukon. The number of surveys includes routes that were done more than once.

## Owl Migration Monitoring .

One of the main goals of the BC-Yukon Owl Survey is to monitor the populations of owls. Another way to do this is to count them as they fly by in the fall. Of course this only works for those species that migrate. Come to think of it, which owl species do migrate? Flammulated, Burrowing, Snowy and Short-eared Owls are obvious answers, but we really don't know enough about the other species to say a lot about their movements. In fact, we know so little about owl biology in North America almost every small owl study that is undertaken comes up with some very interesting findings.

Owl migration has been monitored for many years in eastern North America, particularly on the Great Lakes but also at obvious migration bottlenecks such as Cape May, New Jersey.



*Owl surveyor Ann Nightingale with her hands full of Barred Owls at Rocky Point, near Metchosin, Vancouver Island.*

Photo: Paul Levesque

Northern Saw-whet Owls have turned out to be by far and away the commonest owls detected in these studies, with Boreal and Long-eared Owls also showing distinct migration tendencies.

Nocturnal owl migration is monitored by mist-netting and banding. Once in the hand, the owls can be weighed, their wings measured, and feathers examined for moult patterns. The moult patterns can accurately pin down the age of a bird—at least tell us whether it was born this year or not. Owls rarely moult all their wing feathers at once, so any owl with a wing full of fresh flight feathers is almost surely a young bird. The length of the wings can be a good guide to the sex of the bird—female owls are almost always bigger than males. And the bird's weight is of course

a good index of how well the bird has been feeding.

There are two sites in British Columbia with regular fall migration monitoring for owls. This year in central BC at Mackenzie, owlers banded 84 saw-whets (equal to last year's total) and 2 Boreal Owls. Owers at Rocky Point Bird Observatory (RPBO) at the south end of Vancouver Island have been busy over the last three autumns counting owls. This fall, Rocky Point owlers have banded owls on 34 nights between 24 September and 10 November, netting a phenomenal 403 Northern Saw-whet and 8 Barred Owls! All of the Barred Owls at RPBO were young birds, while 239 (59%) of the saw-whets were young. This ratio is down from 67% in 2003 and 72% in 2002, perhaps indicating poor nesting success this year for coastal saw-whets.

Even more interesting are the several recaptures Rocky Point owls have been involved in. One bird caught on 1 October this year had been banded on the Olympic Peninsula at Forks, WA on 17 May 2000. At that time, she was brooding 5 nestlings, so she had obviously pulled up stakes sometime in the interim and moved to Vancouver Island, but seemed to be in the process of heading back to Washington when caught. Two of the adult saw-whets banded this year were originally banded as young birds at RPBO in 2002. Another bit of exciting news was that a saw-whet banded on 24 September at RPBO was recaptured on 5 November on Bainbridge Island near Seattle! In fact, of the 25 saw-whets banded in the last two autumns at Bainbridge, two have been previously banded at RPBO!



## Five-year trends in owl populations

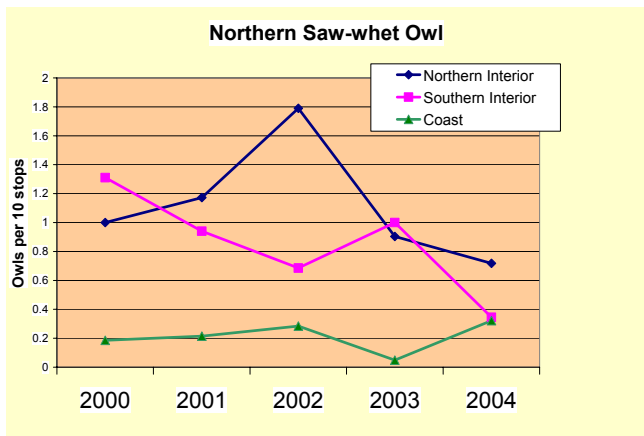
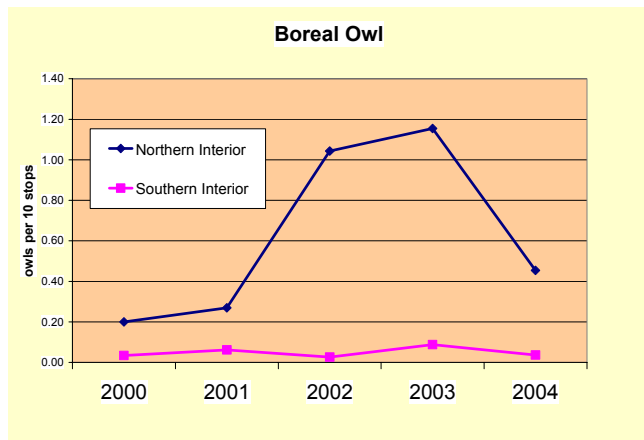
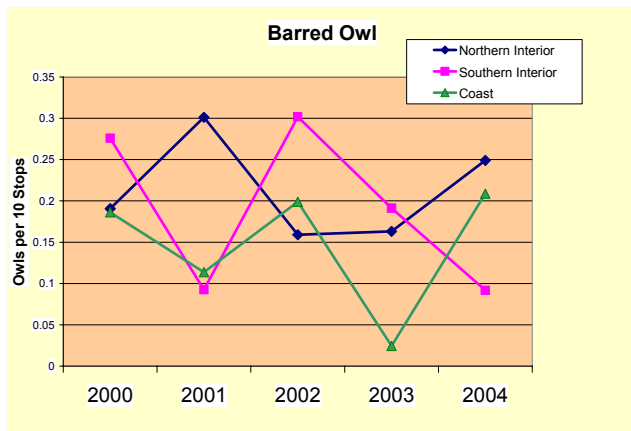
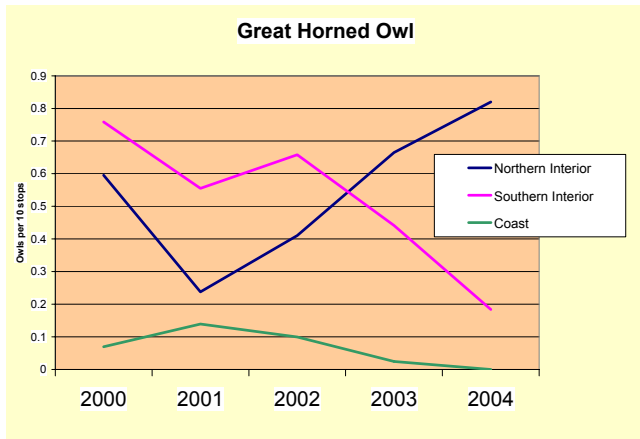
Owl monitoring takes time, but after five years it is certainly interesting to look back at owl population indices that our survey has generated. The graphs on the left represent the numbers of Great Horned, Barred, Boreal and Northern Saw-whet Owls reported for every 10 stops surveyed from 2000 to 2003.

As usual, I've separated the survey into three main regions--the coast, the southern Interior and the northern Interior (including the Yukon). This year, Great Horned Owls have increased for the third year in a row in the northern interior; but numbers reported from the southern Interior continue to drop, while none at all were heard on the coast.

Detection rates for Barred Owls have see-sawed in all three regions over the last 5 years. This year detections rose on the coast but continued to drop in the southern Interior. The coastal increase may be, at least in part, due to the new playback protocol introduced there. The results shown include all coastal detections, whether the birds were heard before or after the initial two minutes of silent listening.

As predicted last year, Boreal Owl detections nosedived this spring after two years of high counts, probably reflecting a similar crash in vole populations across the north.

Northern Saw-whet Owl detections continued to drop in the northern Interior and went down sharply in the southern Interior as well. The slight increase on coastal surveys may be a result of the new playback protocol there, which hasn't been factored out of these graphs.



## NEWS AND NOTES

### Owl identification tapes

If you are a primary observer on one of the owl surveys and would like a reference tape of the owl calls you may hear, please contact Dick Cannings at the address on the back page.

### Hawk Owls invade southern Canada

Gord Court, Alberta government biologist and raptor expert, reports that Northern Hawk Owls have literally invaded central Alberta. Gord has been helping owl bander Ray Cromie band 80 birds so far! This species is notorious for its nomadism, populations wandering the northern forests for patches of high vole density. This irruption reportedly extends east at least to southern Manitoba and Minnesota and smaller numbers are appearing in southern British Columbia as well.

*Photo: Gord Court*



### Snowy Owls come south



*Photo: Dick Cannings*

Early reports suggest that this might be a good year for watching owls on the BC coast. 15 had already appeared on the Queen Charlotte Islands by mid-November according to Peter Hamel of Masset. Whether this is good for the owls is debatable, however; these southerly incursions usually mean tough times for the owls in the north. Our coastal Snowies come from Alaska, so lemmings, hares and ptarmigan numbers are likely insufficient to maintain numbers there this winter.

### Burrowing Owl Reintroduction Programs



*Photo: Dick Cannings*

Continued reintroduction efforts to bring Burrowing Owls back to British Columbia are showing some signs of success. Fourteen captive breeding pairs of Burrowing Owls are producing 40 or more young each year that are being released in the Nicola Valley. Most of these birds migrate south each winter, and the number of returning birds is slowly rising—nine came back in 2004. Some don't go far—one released bird has spent the last two winters at the Portland airport.



Photo: Steve Cannings

## SCREAMING OWLS

Every summer and fall I get calls from curious people about loud, rising screams coming from their neighbourhood at night. “Are these screech owls?” nonowlers often ask. They are almost always calls of young Great Horned Owls. Hungry young Great Horneds, to be exact. Great Horned Owls have the longest dependence period of any Canadian owl. The youngsters are totally dependent on their parents for about 2 months after leaving the nest in mid-summer, and only gradually wean themselves off parental handouts after that. Some are still asking for handouts well into fall, and I have heard these begging calls while out looking for owls on Christmas Bird Counts. Great Horned Owls hunt fairly large prey such as hares, which are often not common on the landscape and it takes some time for the young birds to get the hang of catching enough to stay alive. They also have rather small broods—only two or three young on average—so the adults invest a lot of time and energy to make sure their offspring have the skills to survive by themselves. Perhaps this makes Great Horneds the most human of our owls!

## Looking forward to 2005...

Participants will be getting their 2005 BC Nocturnal Owl Survey packets early in the new year. I would like to thank you all for the hard work you put in 2004; if we keep this up we'll have a valuable database for owl population monitoring research, and the owls will thank us too!

--Dick Cannings

## BC-Yukon Nocturnal Owl Survey



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