



REHABILITATION BANDING REPORT

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The Vancouver Avian Research Centre (VARC) has been banding Orphaned Wildlife (OWL) rehabilitated birds since December 2013. OWL is a raptor rehabilitation facility which means that all birds banded and released are owls, eagles, hawks, falcons, ospreys, or vultures (although no vultures were banded any year). From 2013 to 2019, 1,222 birds were banded and released, with a further 134 in 2020 (until the end of May) bringing the total to 1,356 individuals. Of these, just over 1,100 are recorded with injury information allowing for the categorizing of injuries, many with their causes. These birds have come from all over the province of British Columbia and the small adjacent region of Point Roberts, U.S.A. Following population density, the majority of birds were reported from Vancouver and the Lower Mainland as well as the Fraser Valley. The two most common species banded were Barred Owl and Bald Eagle, each making up approximately 20% of the total. The most common cause for rehabilitation was raptors found on the ground, usually orphaned young as a result of early fledging or falling out of the nest. As may be expected, nearly all causes of injury were human-related.

Species and total number banded:

21 American Kestrel	255 Bald Eagle
286 Barred Owl	164 Barn Owl
2 Boreal Owl	72 Cooper's Hawk
1 Flammulated Owl	12 Great Grey Owl
94 Great Horned Owl	12 Golden Eagle
2 Gyrfalcon	6 Long-eared Owl
77 Merlin	2 Northern Hawk Owl
9 Northern Goshawk	8 Northern Harrier
27 Northern Pygmy-Owl	102 Northern Saw-whet Owl
15 Osprey	23 Peregrine Falcon
3 Rough-legged Hawk	125 Red-tailed Hawk
2 Short-eared Owl	28 Sharp-shinned Hawk
8 Western Screech-Owl	

Total: 1356 individuals, 25 species

Species and total number banded by year:**2013** (all December)

2 Sharp-shinned Hawk	3 Merlin	2 Northern Pygmy-Owl
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Total: 7 individuals, 3 species

2014

3 American Kestrel	22 Bald Eagle
19 Barred Owl	22 Barn Owl
10 Cooper's Hawk	1 Great Grey Owl
16 Great Horned Owl	10 Merlin
1 Northern Goshawk	2 Northern Harrier
5 Northern Pygmy-Owl	5 Northern Saw-whet Owl
1 Osprey	1 Peregrine Falcon
16 Red-tailed Hawk	6 Sharp-shinned Hawk
1 Western Screech-Owl	

Total: 141 individuals, 17 species

2015

4 American Kestrel	49 Bald Eagle
57 Barred Owl	26 Barn Owl
1 Boreal Owl	16 Cooper's Hawk
5 Great Grey Owl	19 Great Horned Owl
2 Golden Eagle	1 Long-eared Owl
12 Merlin	2 Northern Goshawk
1 Northern Harrier	11 Northern Pygmy-Owl
22 Northern Saw-whet Owl	4 Osprey
8 Peregrine Falcon	22 Red-tailed Hawk
1 Short-eared Owl	3 Sharp-shinned Hawk
3 Western Screech-Owl	

Total: 269 individuals, 21 species

2016

2 American Kestrel	36 Bald Eagle
44 Barred Owl	39 Barn Owl
1 Boreal Owl	14 Cooper's Hawk
1 Flammulated Owl	1 Great Grey Owl
14 Great Horned Owl	3 Golden Eagle
2 Long-eared Owl	12 Merlin
4 Northern Goshawk	1 Northern Pygmy-Owl
16 Northern Saw-whet Owl	5 Osprey
4 Peregrine Falcon	1 Rough-legged Hawk
23 Red-tailed Hawk	1 Short-eared Owl
5 Sharp-shinned Hawk	1 Western Screech-Owl

Total: 230 individuals, 22 species

2017

7 American Kestrel	45 Bald Eagle
54 Barred Owl	23 Barn Owl
13 Cooper's Hawk	1 Great Grey Owl
11 Great Horned Owl	4 Golden Eagle
1 Gyrfalcon	2 Long-eared Owl
16 Merlin	2 Northern Hawk-Owl
1 Northern Pygmy-Owl	17 Northern Saw-whet Owl
1 Osprey	2 Peregrine Falcon
1 Rough-legged Hawk	26 Red-tailed Hawk
5 Sharp-shinned Hawk	1 Western Screech-Owl

Total: 233 individuals, 20 species

2018

13 Bald Eagle	9 Barn Owl
2 Cooper's Hawk	1 Great Horned Owl
1 Gyrfalcon	4 Merlin
1 Northern Harrier	1 Northern Saw-whet Owl
1 Peregrine Falcon	1 Red-tailed Hawk

Total: 34 individuals, 10 species

2019

4 American Kestrel	61 Bald Eagle
64 Barred Owl	29 Barn Owl
13 Cooper's Hawk	2 Great Grey Owl
27 Great Horned Owl	2 Golden Eagle
1 Long-eared Owl	18 Merlin
1 Northern Goshawk	4 Northern Harrier
5 Northern Pygmy-Owl	38 Northern Saw-whet Owl
3 Osprey	5 Peregrine Falcon
1 Rough-legged Hawk	25 Red-tailed Hawk
5 Sharp-shinned Hawk	2 Western Screech-Owl

Total: 310 individuals, 20 species

2020 (up to end of May)

1 American Kestrel	29 Bald Eagle
48 Barred Owl	16 Barn Owl
4 Cooper's Hawk	2 Great Grey Owl
6 Great Horned Owl	1 Golden Eagle
2 Merlin	1 Northern Goshawk
2 Northern Pygmy-Owl	3 Northern Saw-whet Owl
1 Osprey	2 Peregrine Falcon
12 Red-tailed Hawk	2 Sharp-shinned Hawk

Total: 132 individuals, 16 species

Injuries

Injuries when provided have been assessed into general categories. Main classifications are by cause; however, many birds did not have a cause identified or specified, and so for some individuals, classification is simply by anatomical area of injury. For example, 'collision with vehicle' is a classification by cause, whereas for birds with less details they may only be placed under a general injury category such as 'wing injury'. Unfortunately, many birds with a listed cause of injury did not specify the resultant injury itself, and so it was not possible to include sub-classifications with cause of injury classifications overall. One exception was for raptors involved with vehicle collisions, of which almost all specified injuries were broken or fractured radii and ulnae.

Cause of Injury Categories:

- Collision with Vehicle
 - Primarily raptors struck by moving cars, though a small number hit busses and trains and a Peregrine Falcon struck a plane at YVR
- Collision with Wall/Window
 - Generally of residential homes; almost all owl collisions were of Northern Pygmy-Owls or migrating Northern Saw-whet Owls
- Poisoned
 - Lead poisoning was a prevalent issue most noticeably for eagles
- Electrocuted
- Predator or inter-species fighting
 - Cats were listed on a few occasions as the cause of injury; for almost all Bald Eagles in this category the cause was only inter-species fighting
- Found on ground/in water
 - Majority were young orphaned on the ground or that had fallen out of a nest; comparatively few additional grounded birds so included in this category for brevity
- Covered by Substance
 - Most often covered in manure or oil, with one instance of paint and a few in hay
- Entanglement
 - Caught in net, wire, barbed wire, string, or rope

General Injury Categories (for individuals without specified cause):

- Wing Injury
- Foot/Leg Injury
- Eye Injury

Most indicated one or both eyes blind, and in a single case one eye was missing

- Beak Injury

One instance of an overgrown lower mandible

Injuries have been segregated by year and type of raptor (based on OWL rehab raptor categories). Additional number of birds banded with unspecified injuries included in year notes. (Note that none of the seven birds from 2013 had injuries specified, and no vultures were banded during the time period)

Total All Years

	OWL	HAWK	EAGLE	FALCON	OSPREY	TOTAL
COLLISION WITH VEHICLE	180	41	12	5		238
COLLISION WITH WALL/WINDOW	115	37	2	19		173
POISONED	7	1	16			24
ELECTROCUTED		2	10	1	2	15
PREDATOR OR INTER-SP. FIGHTING	11	9	35	2	5	62
FOUND ON GROUND/IN WATER	187	59	91	56	4	397
COVERED BY SUBSTANCE	9	1	1	1		12
ENTANGLEMENT	23	8	3			34
WING	38	25	41	15	3	122
FOOT/LEG	6	8	7	2		23
EYE	4	2	2			8
BEAK		2				2

2014

	OWL	HAWK	EAGLE	FALCON	OSPREY	TOTAL
COLLISION WITH VEHICLE	6			1		7
COLLISION WITH WALL/WINDOW	1	1				2
POISONED	1					1
ELECTROCUTED						
PREDATOR OR INTER-SP. FIGHTING		1				1
FOUND ON GROUND/IN WATER	3					3
COVERED BY SUBSTANCE	2					2
ENTANGLEMENT						
WING	1					1
FOOT/LEG						
EYE	1					1
BEAK						

Notes:

- two owls covered by manure and oil, respectively
- 123 banded with injuries unspecified

2015

	OWL	HAWK	EAGLE	FALCON	OSPREY	TOTAL
COLLISION WITH VEHICLE	28	4	2			34
COLLISION WITH WALL/WINDOW	26	6	1	5		38
POISONED	1		2			3
ELECTROCUTED		1				1
PREDATOR OR INTER-SP. FIGHTING	3	3	2			8
FOUND ON GROUND/IN WATER	26	14	24	13	2	79
COVERED BY SUBSTANCE	2					2
ENTANGLEMENT	5	1	1			7
WING	3	5	3	2	2	15
FOOT/LEG						
EYE						
BEAK		1				1

Notes:

- one owl and one eagle shot
- beak injury pertains to one hawk with overgrown lower mandible
- 81 banded with injuries unspecified

2016

	OWL	HAWK	EAGLE	FALCON	OSPREY	TOTAL
COLLISION WITH VEHICLE	32	10	2	1		45
COLLISION WITH WALL/WINDOW	15	12		5		32
POISONED	1	1	2			4
ELECTROCUTED			2		2	4
PREDATOR OR INTER-SP. FIGHTING	2	2	8		2	14
FOUND ON GROUND/IN WATER	57	12	13	10	1	93
COVERED BY SUBSTANCE	2	1				3
ENTANGLEMENT	2	1				3
WING	9	3	9	2		23
FOOT/LEG		2	1			3
EYE			1			1
BEAK		1				1

Notes:

- 1 banded with injury unspecified

2017

	OWL	HAWK	EAGLE	FALCON	OSPREY	TOTAL
COLLISION WITH VEHICLE	33	13	1	1		48
COLLISION WITH WALL/WINDOW	19	6	1	4		30
POISONED	1		3			4
ELECTROCUTED			3			3
PREDATOR OR INTER-SP. FIGHTING	3		5	1		9
FOUND ON GROUND/IN WATER	39	16	24	19		98
COVERED BY SUBSTANCE			1	1		2
ENTANGLEMENT	4	1				5
WING	6	8	6		1	21
FOOT/LEG	2	1	3			6
EYE	1					1
BEAK						
*POX			2			2

Notes:

- 1 banded with injuries unspecified
- three uninjured Barn Owl nestlings banded at nest in barn on OWL rehab centre property
- *special category: two Bald Eagles with Avian Pox

2018

	OWL	HAWK	EAGLE	FALCON	OSPREY	TOTAL
COLLISION WITH VEHICLE	1		1			2
COLLISION WITH WALL/WINDOW	1	1		1		3
POISONED						
ELECTROCUTED				1		1
PREDATOR OR INTER-SP. FIGHTING			6			6
FOUND ON GROUND/IN WATER	4	2	4	2		12
COVERED BY SUBSTANCE	1					1
ENTANGLEMENT						
WING			1	2		3
FOOT/LEG		1				1
EYE			1			1
BEAK						

Notes:

- 4 banded with unspecified injuries
- one owl covered in hay
- eagle listed under eye injury was missing eye and also had injured beak

2019

	OWL	HAWK	EAGLE	FALCON	OSPREY	TOTAL
COLLISION WITH VEHICLE	50	9	3	2		64
COLLISION WITH WALL/WINDOW	38	7		4		49
POISONED			8			8
ELECTROCUTED		1	5			6
PREDATOR OR INTER-SP. FIGHTING	2	3	6		3	14
FOUND ON GROUND/IN WATER	44	14	20	12		90
COVERED BY SUBSTANCE	2					2
ENTANGLEMENT	8		1			9
WING	9	6	11	6		32
FOOT/LEG	4	3	3	1		11
EYE	1	1				2
BEAK						
*DISEASE	1			1		2

Notes:

- 19 banded with unspecified injuries
- lead poisoning prevalent in eagles
- two owls covered in manure
- *special category: one Barred Owl with trichomonosis, one Peregrine Falcon with an infected wound
- two uninjured Barn Owl nestlings banded in nest box on OWL property

2020 (to end of May)

	OWL	HAWK	EAGLE	FALCON	OSPREY	TOTAL
COLLISION WITH VEHICLE	30	5	3			38
COLLISION WITH WALL/WINDOW	15	4				19
POISONED	3		1			4
ELECTROCUTED						
PREDATOR OR INTER-SP. FIGHTING	1		8	1		10
FOUND ON GROUND/IN WATER	14	1	6		1	22
COVERED BY SUBSTANCE						
ENTANGLEMENT	4	5	1			10
WING	10	3	11	3		27
FOOT/LEG		1		1		2
EYE	1	1				2
BEAK						

Notes:

- notably none of six grounded eagles were young

Selected Graphs

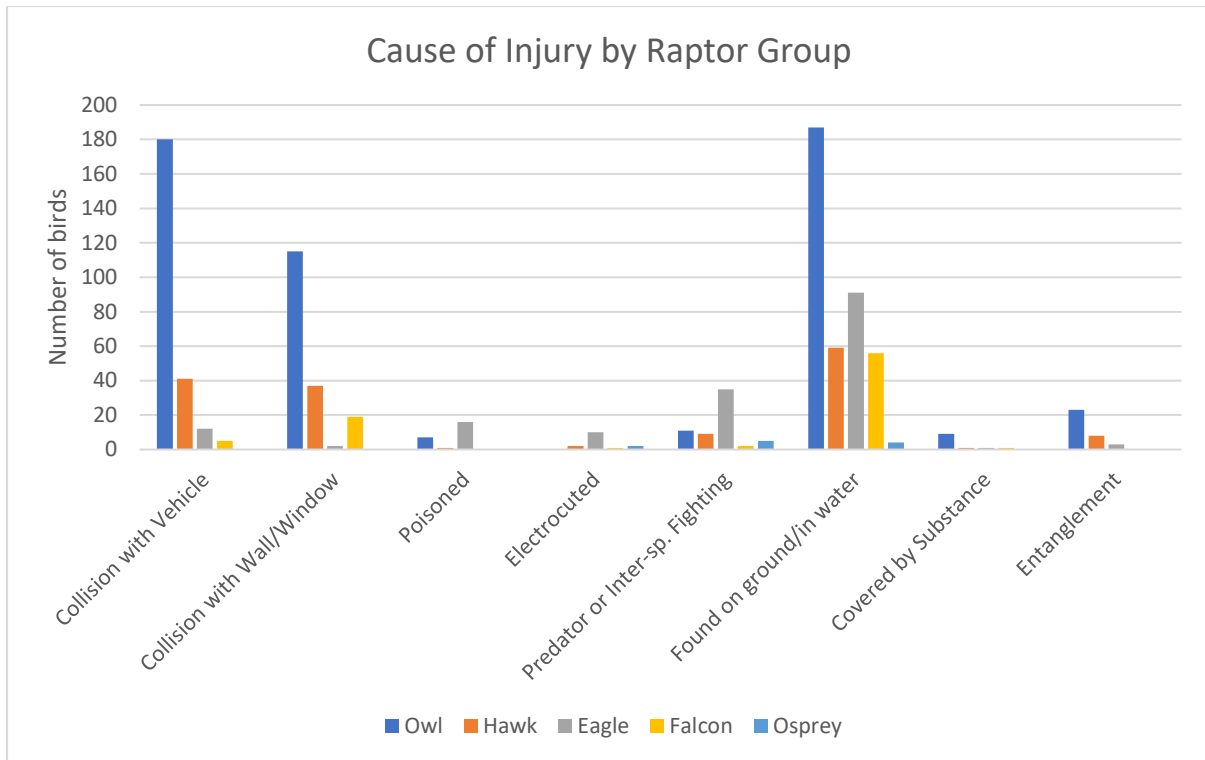


Figure 1

Cause of injury for each raptor group:

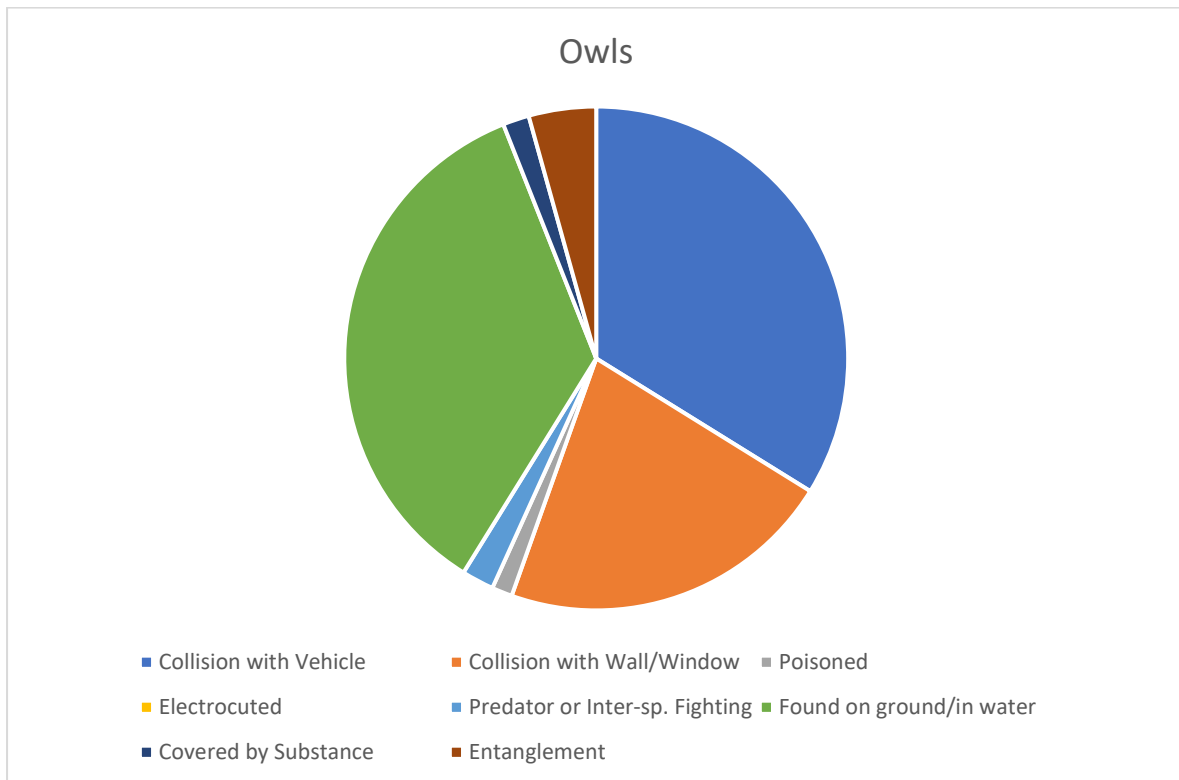


Figure 2

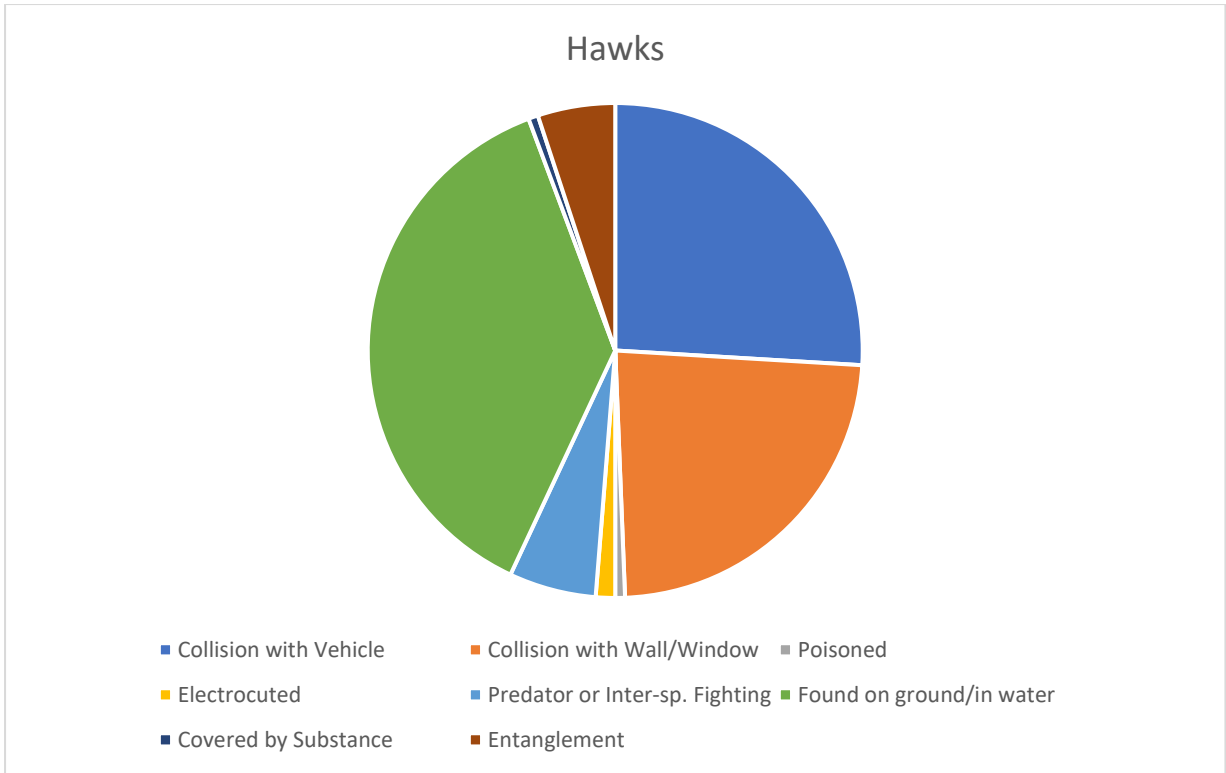


Figure 3

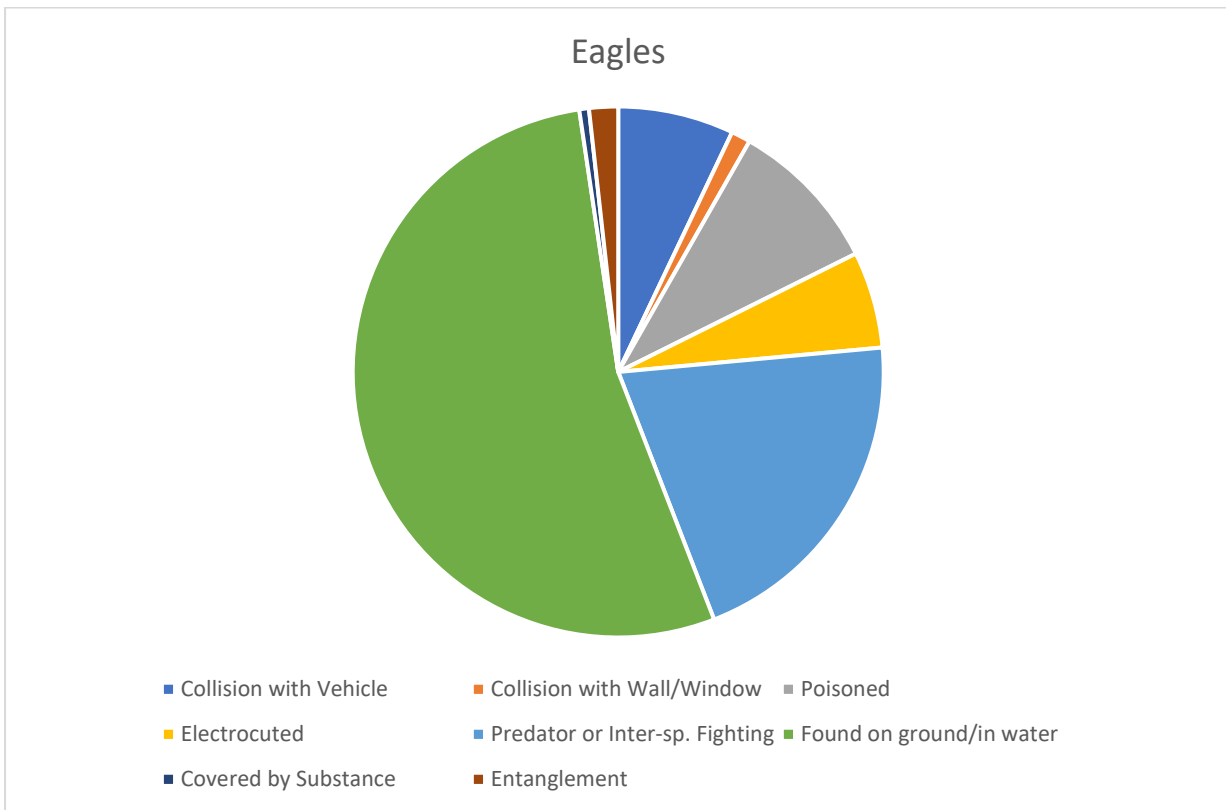


Figure 4

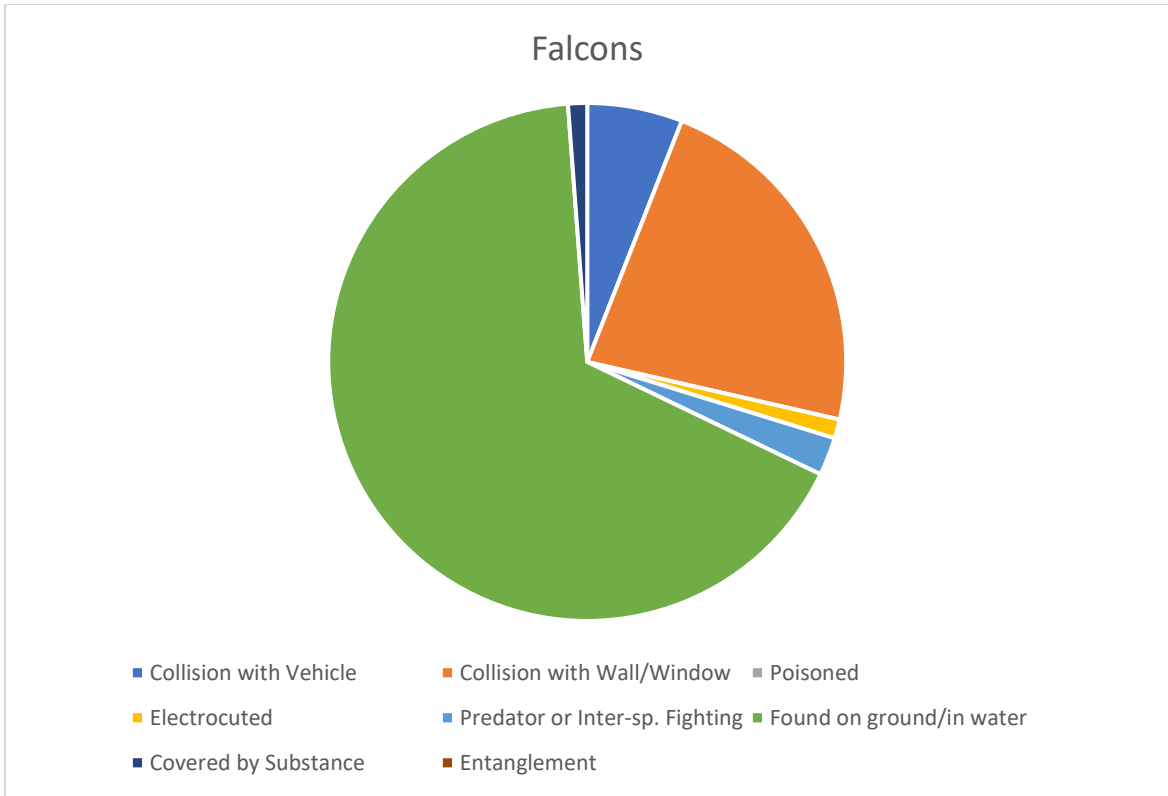


Figure 5

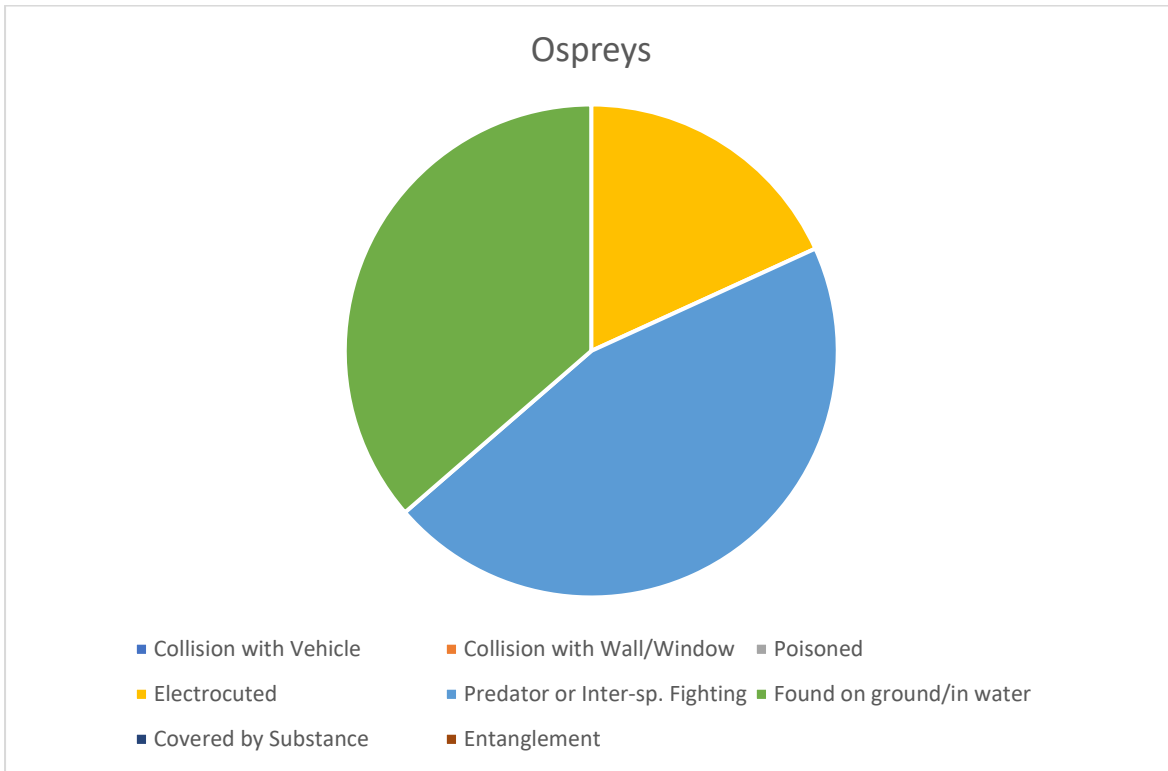


Figure 6

Selected Map Images

Points are of locations where birds were originally recovered. Blue points indicate birds rehabilitated and released, and black points denote deceased birds.

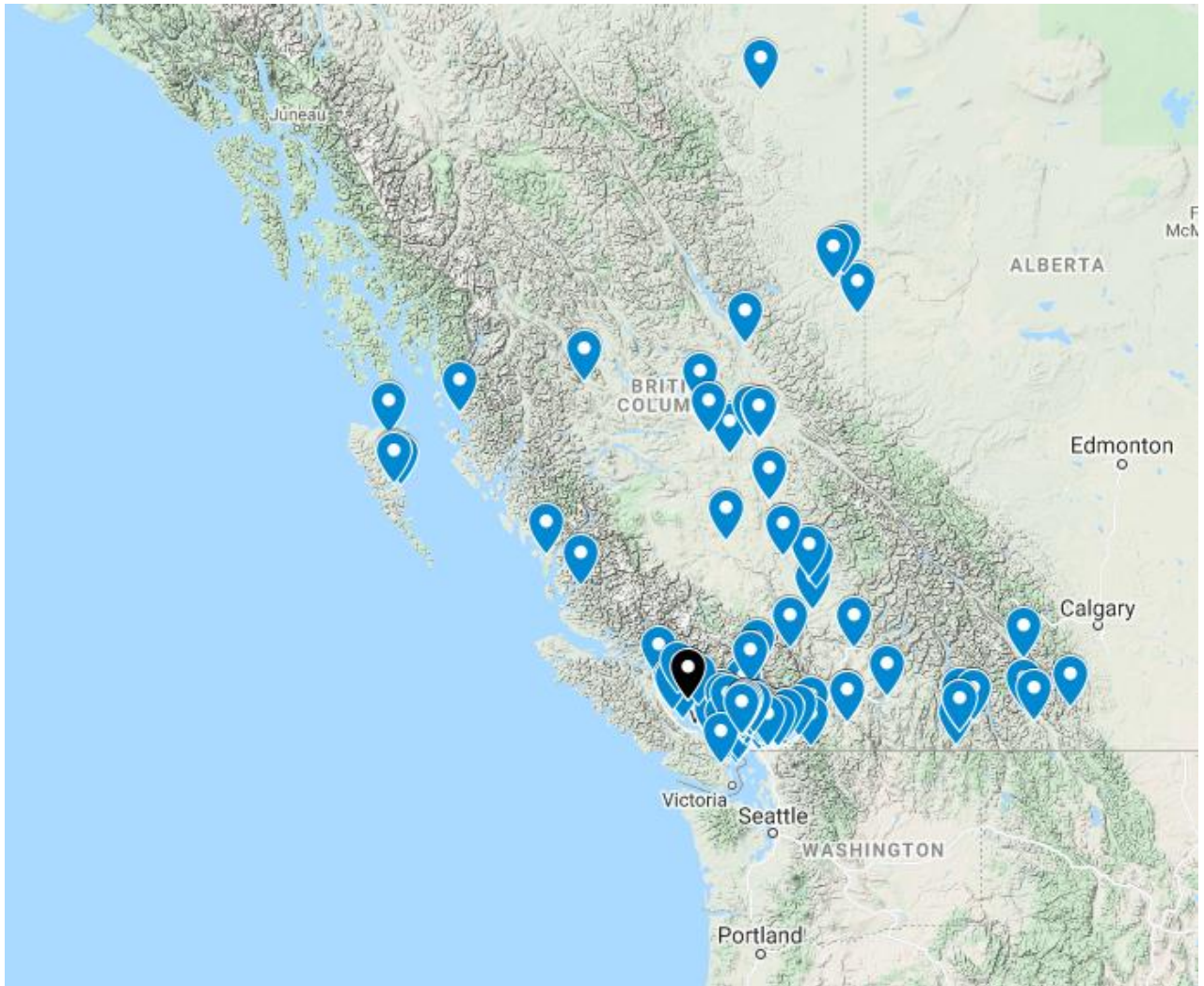


Figure 7

British Columbia

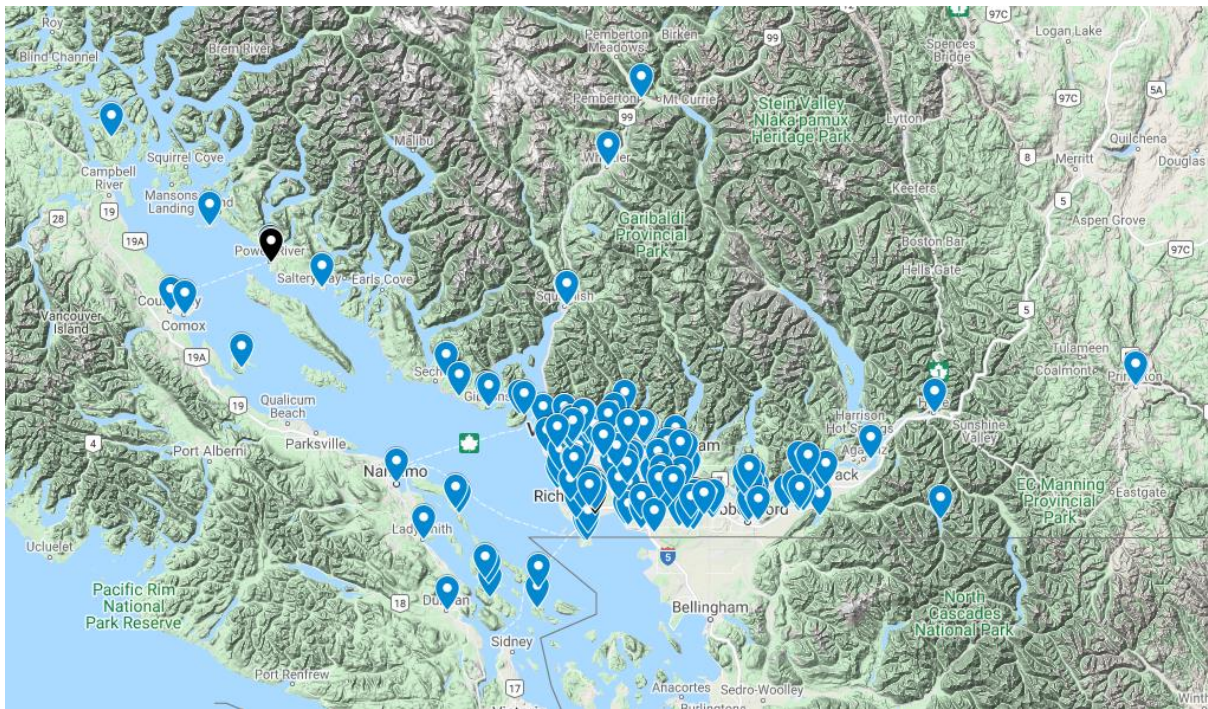


Figure 8
Southwestern British Columbia

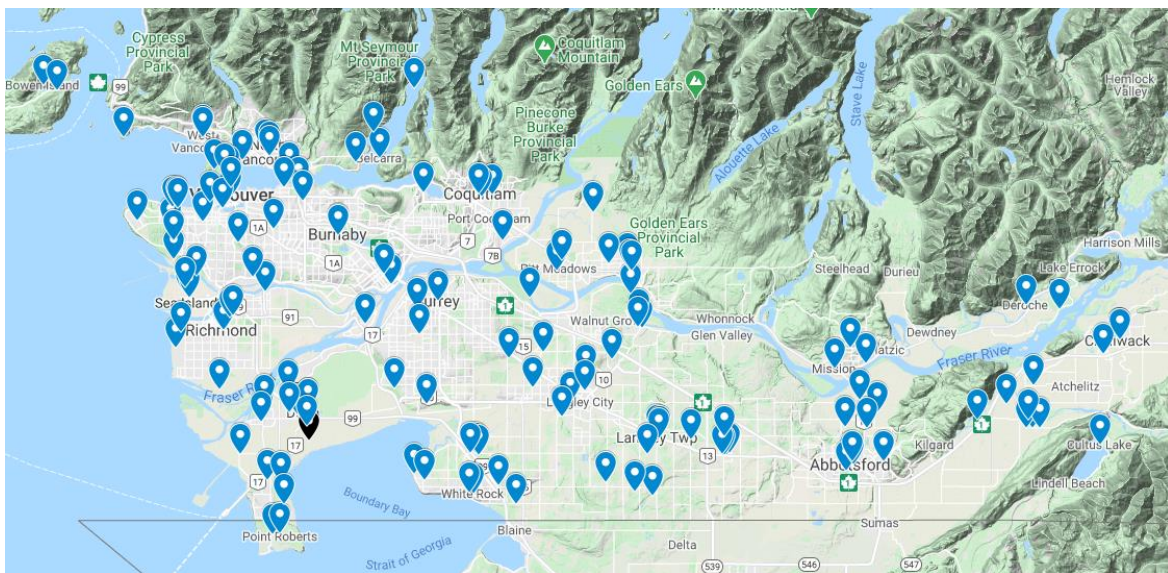


Figure 9
Greater Vancouver and the Fraser Valley

Map Data ©2020 Google

Acknowledgements

A special thank you to the Orphaned Wildlife Rehabilitation Society for the countless hours they work caring for injured raptors. Thank you also to the Vancouver Avian Research Centre for banding birds across southern BC and providing the valuable data for this report.