

# New Westminster Breeding Bird Atlas 2012–13

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**Abstract:** New Westminster held 73 breeding species of which 32 were confirmed, 8 were probable, and 33 were possible breeders in 2012–13. We recorded 48 species during Point Count surveys across the city. The greatest species diversity was generally associated with parks. The most frequently observed species in New Westminster were similar to those reported from Vancouver.

**Keywords:** New Westminster, breeding birds, atlas

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## Background

There is growing evidence that urban landscapes can harbour impressive proportions of a region's bird life (Aronson *et al.* 2014). There is also a growing appreciation of birds in cities as evidenced by the examples of the Chicago Bird Agenda and Vancouver Bird Friendly Strategy. One means to increase the awareness and provide direction for bird conservation in urban areas is to display the diversity and abundance of birds in an atlas (*e.g.* Dinetti *et al.* 1996; Hadidian *et al.* 1997; Ringler 1978; Unitt 2004). Despite the widespread interest, we are aware of only one urban bird atlas in Canada (Smith 2014).

Several studies have related bird abundance to habitats in the City of Vancouver (Weber 1967; Lancaster and Rees 1979; Melles 2001; Melles *et al.* 2003) but little is reported about birds in New Westminster. Birds of British Columbia (Campbell *et al.* 1990a, 1990b, 1997, 2001) and the B.C. Breeding Bird Atlas included New Westminster but the data were reported at a scale larger than the city. W. S. Maguire's unpublished field notes from the 1930s and 1940s during excursions to collect eggs and specimens archived in the Beaty Biodiversity Museum at the University of British Columbia and other museums in North America provide a snapshot of early birdlife in and around the city of New Westminster (Maguire 2010, 2013).

Atlases typically cover large geographic areas requiring a large number of people to gather data in designated areas. In contrast, the City of New Westminster covers only 15.3 square kilometers with road access to nearly every part of the city making assessment relatively quick and easy for a few people. Our aim was to map the abundance and distribution of urban birds in New Westminster to guide conservation planning, enhance birding opportunities and provide encouragement for citizens to watch birds.

## Methods

### Breeding Evidence

We visited all regions and habitats in the city to search for breeding birds in 2012 and 2013 from May 1 to August 31. Table 1 summarizes the estimated number of visits and time spent in each region in 2012 and 2013. Each bird observation was scored as a possible, probable or confirmed breeding species in 2012 or 2013 based upon the behavioural cues and nest observations as defined in the B.C. Breeding Bird Atlas (2014).

Each account describes the distribution in the city of all species seen or heard during the breeding seasons of 2012 and 2013. The accounts include species that are known or highly suspected to breed in the city.

Table 1. Estimated number of visits and hours spent searching for breeding evidence of birds in each region in 2012 and 2013.

City regions	No. visits in 2012	No. hours in 2012	No. visits in 2013	No. hours in 2013
Queensborough	3	3.0	7	6.5
Connaught Heights	3	0.3	6	0.8
West End	3	1.5	7	2.0
Kelvin	3	1.5	7	1.5
Brow of the Hill	1	1.0	3	1.5
Glenbrook North	3	1.5	5	2.0
Glenbrook South	2	2.0	8	4.0
Queen's Park	5	1.5	12	4.2
Victory/Massey Heights	10	20.0 <sup>1</sup>	12	20.0 <sup>1</sup>
Downtown	1	1.0	2	1.5
Uptown	3	1.0	7	2.0
Brunette Creek	3	1.5	4	2.0
River Islands	1	1.5	1	0.8

<sup>1</sup> Estimated number of hours spent actively searching for evidence. Many more hours were spent casually bird watching this region.

### Abundance

We used the Breeding Bird Survey 'Point Count' protocol of the B.C. Breeding Bird atlas to estimate abundance. RWB cycled across the city in the morning between late May and early July 2012. He stopped every 500-1000 meters (Fig. 1) to record a GPS location, time, and all birds heard or seen in a five minute interval. Binoculars were used to see distant birds.

The Point Count method estimates the relative abundance of a species rather than its density and it is acceptable to make comparisons of a species if variation in detection is controlled (Norvell *et al.* 2003). Some species are more easily seen or heard than others and so it is not acceptable to use point counts to compare among species (Norvell *et al.* 2003). Our Point Count data were used to describe relative abundance within a species rather than between species. We assumed that detection bias was the same at all locations. This assumption might not be entirely correct at Point Count locations near busy traffic areas. Hearing singing birds in New Westminster was a challenge along the main arterial routes and the downtown core with heavy background traffic noise. Visits to these areas were made on Sunday mornings when traffic volume was lower but some major roads were too noisy to adequately survey. Species with high-pitched faint songs were especially difficult to hear. This effect likely biased the abundance distribution illustrated on the maps against some species in busier locations of the city.

### Mapping

We used Kernel Density Estimation (KDE) to generate maps of relative abundance for each species recorded dur-

ing the Point Count surveys. We chose KDE as a method due to its relative simplicity and because sample sizes were not large enough to justify more complex geostatistical approaches. KDE is a non-parametric method for estimating densities from point-based distributions and depicting density over a smoothed surface. In our model, we used the following parameters: 1) search radius 750 m, 2) output cell size 25 m, and 3) count value (number of birds detected) as the weighting factor. Because the bird records table only contained data for presences, we inserted zero values for all combinations of species and point count locations where they were missing prior to running the models. The maps depict relative abundance with a quantile classification.

### Results

We recorded 73 breeding species of which 32 were confirmed, 8 were probable and 33 were possible breeders. At least seven species were extirpated in the past century. Of those 73 species, 48 were also detected on the Point Count surveys for a total of 492 records at 88 unique survey locations. All data were entered into the B.C. Breeding Bird Atlas (2014) data base.

The mix of species in New Westminster reflects its largely urban setting. Urban species were numerous and widespread. New Westminster and Vancouver had 16 and 23 species on >10% of their respective point counts (Melles *et al.* 2003; Table 2). Nine out of the 10 most frequently encountered species in the two cities were the same (European Starling, Northwestern Crow, House Sparrow, House Finch, American Robin, Black-capped

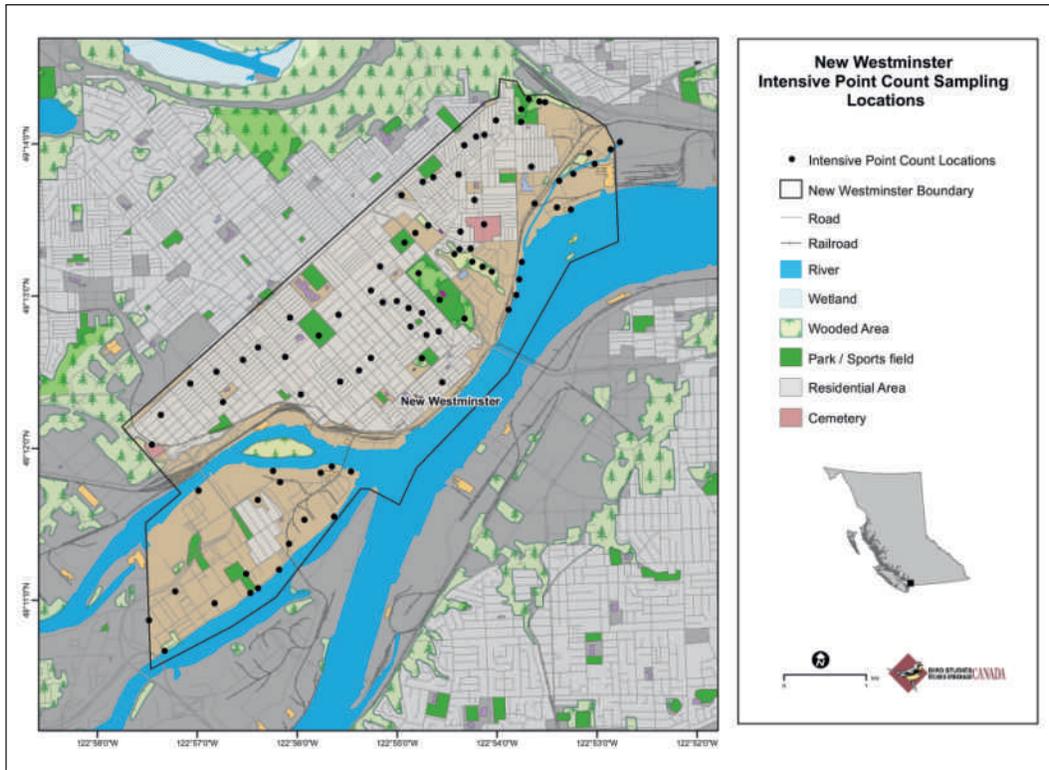


Figure 1. New Westminster study area showing intensive point count sampling locations.

Chickadee, Rock Pigeon, Violet-green Swallow and Spotted Towhee; Table 2). The Northern Flicker was frequently seen only in New Westminster whereas the Dark-eyed Junco, Steller’s Jay, Orange-crowned Warbler, Rufous Hummingbird, Swainson’s Thrush, Pine Siskin and Brown-head Cowbird were frequently found

only in Vancouver.

New Westminster had 73 breeding species representing about 48% of the 153 species recorded in historical time in the Greater Vancouver region (Nature Vancouver 2013), albeit many in small numbers. The many species that were common in neighbouring areas but absent or

Table 2. Mean number of birds detected, number of observations (N) and frequency that 18 species were recorded on point counts in New Westminster. Only species recorded on  $\geq 10\%$  of all point counts are shown.

Species	Mean	N	Frequency
Northwestern Crow	1.85	74	84.1
American Robin	1.61	44	50.0
House Finch	1.66	44	50.0
House Sparrow	1.89	38	43.2
Song Sparrow	1.89	36	40.9
Black-capped Chickadee	1.29	34	38.6
European Starling	2.08	26	29.5
Violet-green Swallow	2.37	19	21.6
Rock Pigeon	2.53	15	17.0
Spotted Towhee	1.07	15	17.0
White-crowned Sparrow	1.27	15	17.0
American Goldfinch	1.10	10	11.4
Barn Swallow	2.11	9	10.2
Cedar Waxwing	1.56	9	10.2
Northern Flicker	1.11	9	10.2
Willow Flycatcher	1.22	9	10.2

scarce in New Westminster reflect a shortage of habitat in the city. For example, we did not find Black-throated Gray Warbler (*Setophaga nigrescens*) or Red-breasted Sapsucker (*Sphyrapicus ruber*), although both were present in nearby forests. The warbler was seen during migration and a male sang in Queens Park on 11 May 2008 but we do not know if it nested. Sapsuckers and sapsuckers have been seen in Queens Park but we have no nest records.

### History

From earliest photographs and written descriptions, the lowlands of New Westminster at the time of European contact was largely bog and swamp and the upland was covered in mature coastal Douglas-fir forest. Maps by Colonel Richard Moody and Joseph Trutch from the mid-19th century show Lulu Island as marshy ground rimmed with cedar, spruce, alder and small bushes (Hayes 2005). The Royal Engineers survey of east Richmond shows “dense thickets of crabapple, willow with some spruce trees” and “good red top grass prairie with crabapple.” Further inland the “soil swamp [was] covered with moss” with ‘willows, vines and pine brush’, and “cranberry swamp” probably not unlike parts of Burns Bog are today (Hayes 2005). Accompanying photos of the city in 1861 show very tall coniferous forest overlooking an assemblage of buildings. This region grew massive Douglas-firs that towered over the fledgling city. A photograph in the B.C. Archives (193501-001) taken by Stephen Joseph Thompson about 1897 shows the Brunette River running through alders much like parts of the river does today.

We could find no bird records from New Westminster at the time of European settlement but we can infer the species that were present from current day knowledge of local vegetation. The marshy ground would have likely held waterfowl, Sandhill Crane (*Grus canadensis*), Great Blue Heron, Northern Harrier (*Circus cyaneus*), and flycatchers, warblers, vireos, and swallows. Forested habitats similar to New Westminster are home to a suite of forest dwelling bird species such as woodpeckers, Chestnut-backed Chickadee, Brown Creeper, Pacific Wren, and Golden-crowned Kinglet among others.

Field notes from W.S. Maguire in the 1930s and 1940s (Maguire 2010) reveal the nearby forest uplands and farmlands along the river held nesting species now extirpated or rare in the city such as the Lewis’s Woodpecker, Western Bluebird, and Common Nighthawk. He also recorded Yellow Warbler and Orange-crowned Warbler, Song Sparrow, Willow Flycatcher, Black-headed Grosbeak, and Swainson’s Thrush, many of which were present within the city limits in small numbers during our study.

W. S. Maguire enlisted the help of several local boys to find nests for him including Garth Sparrow. One area visited regularly was Trapp Ranch, a lowland area most likely on or immediately west of the present day border of New

Westminster immediately west of Queensborough Bridge and south of Trapp Road now used as an industrial rail yard. Sparrow (Maguire 2013) wrote:

*“The area was a mixed bag of flora – part of it cleared for grass fields for cattle but most of it a mix of slightly boggy areas, low bush, trees like willows & vine maples up 25 feet or so, birch trees (some that as usual became punky for woodpeckers & chickadees), and good sized conifers for hawks & crows to nest in.....Trapp Road area is the area most often visited over and over again by Walter [Maguire] and me and the best area in the lower mainland [where] one could find such a variety of birds and nests in a one day, one site, jaunt. I’m sure I’d be very sad to see that there’s little left of that Garden of Eden if I were to visit there again.”*

The bogs, marshes, and mature forests from a century and a half ago have been replaced by urban and residential housing with many mature gardens and ornamental trees, and industrial lands. The Brunette River has a riparian shrub and tree shoreline, and the willow and cottonwood islands in Queen’s Reach have a marshy perimeter. Poplar Island in the North Arm of the Fraser is covered in mature cottonwood and willow. There are small patches of coniferous forest in the city, the largest being in Queens Park. Many parks have playing fields, swimming pools, public walkways, and bike paths with some portion in a mostly natural state. Hume Park and Glenbrooke Ravine Park have extensive deciduous forests, and Sapperton Landing and Port Royal have had vegetation restored to approximate natural condition along the river.

## Species Accounts

The following accounts are presented in the taxonomic order of the American Ornithologists’ Union (2013) along with relevant national and provincial conservation status (COSEWIC 2014, B.C. Ministry of Environment 2013). The breeding status terms follow the definitions used in the B.C. Breeding Bird Atlas (2014).

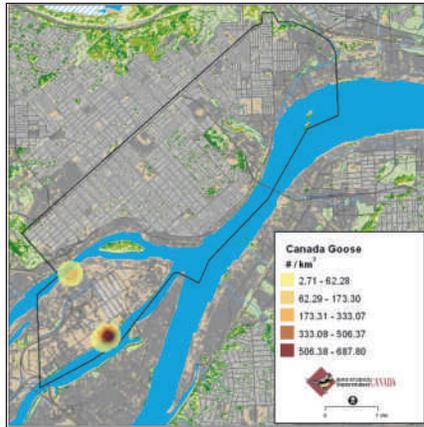
### Ducks, Geese and Swans. Family: Anatidae

#### Canada Goose *Branta canadensis*

##### *Confirmed Breeder*

The Canada Geese that nested in the city were offspring of flocks introduced to the Lower Mainland 40 years ago and have grown to many thousands today residing in most lowland areas of the region (Dawe and Stewart 2010). The geese have become a nuisance in some public places and cause ecological damage in some wetlands (Dawe *et al.* 2011). In New Westminster, the Canada Goose is not an

abundant nesting species; only a few pairs nested in Queensborough in 2012 and 2013.



**Mute Swan** *Cygnus olor*  
*Probable Breeder*

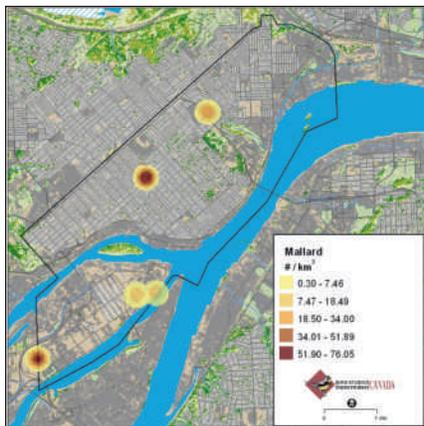
The Mute Swan is a non-native species that has become feral along parts of the south coast of British Columbia. Two cygnets with parents were present in Annacis Channel in 2011 and 2012 (Pers. comm., Kelly Sekhon, New Westminster, 2012) but the breeding site was not known. The swans begged for food from boaters along the river and ate vegetation growing on the riverbanks.

**Wood Duck** *Aix sponsa*  
*Probable Breeder*

The Wood Duck is a denizen of the woodlands of eastern and western North America, including southern British Columbia. It is an abundant nesting species in Burnaby Lake and many quiet sloughs in the Lower Mainland but not in New Westminster. The absence of nesting records in the city reflects the paucity of suitable wetland habitat and nest sites it requires. Our only record is a pair along the Brunette River in Hume Park in 2012. It might nest there or choose to do so if a nest box was provided.

**Mallard** *Anas platyrhynchos*  
*Confirmed Breeder*

The Mallard is one of the most widespread species of duck in North America and has taken well to urban environments. Despite its widespread distribution, few Mallards nested in New Westminster because of a shortage of suitable wetland habitat. Four sites where we saw Mallard on the Point Count surveys were a pond at the Justice Institute, Moody Park pool, and



two ditches in Queensborough where a brood of recently hatched ducklings was seen in 2012 and 2013 (Fig. 3). Mallards were also present on a pond in Tipperary Park and hybrid crosses possibly with domestic ducks, were present in Queensborough.

**Gadwall** *Anas strepera*  
*Probable Breeder*

The Gadwall is a widespread species of open marshland in central North America and along the Pacific Coast including the south coast, central interior and in the north-west of the province (B.C. Breeding Bird Atlas 2014). It breeds in marshes and ponds in the Lower Mainland including nearby Burnaby Lake, but the scarcity of open marsh habitat within the city likely precludes it as a breeding species. A pair was present in the Brunette River on 2013 May 25, possibly scouting a breeding location and a few pairs used the ditches in Queensborough although we had no confirmation of breeding there during the atlas period. (Addendum: a female Gadwall with four ducklings was seen in a ditch in Queensborough, 2014 July 1.)

**Hérons. Family Ardeidae**

**Great Blue Heron** *Ardea herodias*

Conservation Status:

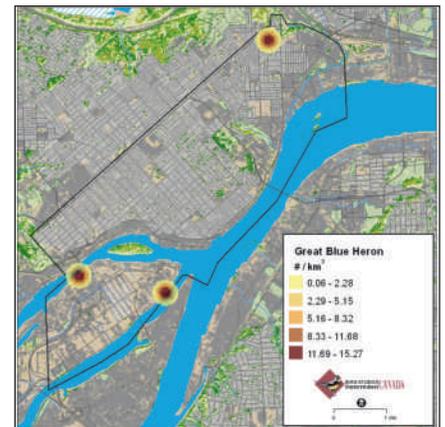
COSEWIC: 'Special Concern'

SARA Status: Schedule 1, 'Special Concern'

British Columbia: 'Blue-list'

*Possible Breeder*

The Great Blue Heron is North America's largest and most widespread heron. It nests from southern Alaska and southern Canada into Mexico. The subspecies occurring in New Westminster is *A. h. fannini* that ranges along the west coast from Puget Sound to southern Alaska (Butler 1997). We found no evidence of nesting in New Westminster during the atlas census and many herons foraged within the city limits. W. S. Maguire collected an egg from a nest in New Westminster in 1938 (Western Foundation of Vertebrate Zoology 13847). For these reasons, we listed it as a possible breeder. A large colony nested at the mouth of the Coquitlam River and a small colony nested in Deer Lake Park for several years. The Coquitlam colony merged with the Deer Lake colony in 2013 resulting in regular foraging flights over the city to feeding grounds in marshes along the Brunette and Fraser



rivers. The conservation status of this subspecies is due to concerns about frequent nesting failure.

### Green Heron *Butorides virescens*

Conservation status:

British Columbia: 'Blue-list'

Confirmed Breeder

The Green Heron is a lovely small heron found throughout the Americas (Hancock and Kushlan 1984). In Canada it is confined to southern Nova Scotia, New Brunswick, Quebec, Ontario and British Columbia. It resides year round in the lower Fraser River Valley and on the east coast of Vancouver Island (Campbell *et al.* 1990a, B.C. Breeding Bird Atlas 2014). In New Westminster, it is known to nest only along the Brunette River where a pair raised three young in 2013.

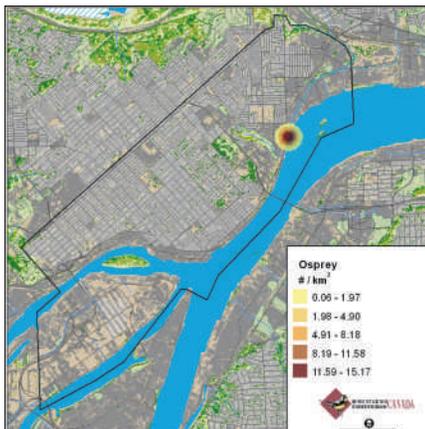
### Hawks and Vultures. Families Accipitridae and Pandionidae

#### Osprey

*Pandion haliaetus*

Confirmed Breeder

Ospreys were decimated near the middle of the 20th century but through efforts to minimize contaminants in its prey, reduce persecution and provide nesting sites, it has been making a comeback in North America. It is one of the most widespread birds of prey in the world. New Westminster is sharing in its recovery with one nesting pair on a river piling in Queen's Reach in 2012 and 2013.



#### Cooper's Hawk *Accipiter cooperii*

Confirmed Breeder

The Cooper's Hawk is a predator of songbirds that hunts by surprise attack. Alarm calls from its intended victims usually precede the hawk as it quickly and quietly slips through suburban gardens in hopes of catching a songbird unawares. Cooper's Hawks nest in forests including suburban areas from southern Canada to northern Mexico. In New Westminster, the Cooper's Hawk is a year-round resident. It was seen periodically through the breeding season in Victory Heights, Brow-of-the-hill, the West End and Queensborough. The only confirmed nest was in Tipperary Park in 2012 and 2013. Several pairs nesting in nearby Burnaby

likely hunt in New Westminster (Pers. comm., J. Brogan, Simon Fraser University, 2013).

#### Red-tailed Hawk *Buteo jamaicensis*

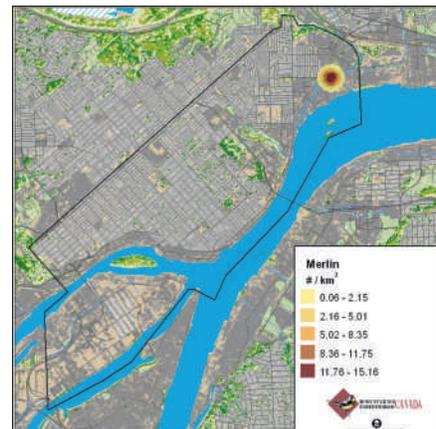
Possible Breeder

The Red-tailed Hawk is a widespread, soaring hawk found from Alaska to Panama and across much of Canada. In New Westminster, it frequents the edge of grasslands and forests. It is highly unpopular with crows that harass any that fly into view. We did not record any Red-tailed Hawks on the Point Count surveys although individuals were often seen in Queens Park and Victory Heights. The nearest known nest was in a mature cottonwood tree, 280 meters west of the border with Richmond on Westminster Highway; it held nestlings in 2013.

#### Merlin *Falco columbarius*

Possible Breeder

The Merlin is a widespread species in North America and is regularly seen around New Westminster in winter where it hunts small birds, often at bird feeders. It nests in the Lower Mainland but our only sighting was a single bird calling on the Point Counts along the Brunette River.



#### Bald Eagle *Haliaeetus leucocephalus*

Confirmed Breeder

The Bald Eagle is the largest avian predator in New Westminster where it is present for most of the year. The Bald Eagle is found across much of North America and is widespread in British Columbia especially along the coast including the Lower Fraser River Valley (B.C. Breeding Bird Atlas 2014). We know of only one nest in New Westminster among cottonwood trees on an island in Queens Reach opposite Sapper-ton Landing.

### Shorebirds. Families Charadriidae & Scolopacidae

#### Killdeer *Charadrius vociferus*

Confirmed Breeder

As its species name, *vociferus*, infers, the Killdeer is a boisterous, vocal shorebird. It is often heard uttering a shrill *killdee* before it is seen running along an open field, abandoned lot or along a shoreline. The Killdeer is perhaps

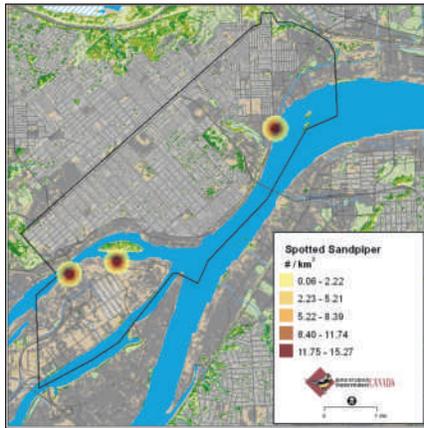
best known for its habit of feigning a broken wing to draw would-be predators from its nest.

The Killdeer is a widespread shorebird in North America, including British Columbia where it nests in open country (B.C. Breeding Bird Atlas 2014). In New Westminster, it occurred along the Fraser River and in vacant lots. In 2013, recently hatched young Killdeers were observed in a vacant lot (Sapperton Green) adjacent to the Braid Skytrain Station, in the Brunette River industrial lands and near the Starlight Casino in Queensborough.

### Spotted Sandpiper *Actitis macularius*

*Probable Breeder*

The Spotted Sandpiper is a widespread breeding shorebird along river courses and wetlands, including the seashores of British Columbia. In New Westminster, a few birds were seen along the Fraser River at Sapperton Landing and the North Arm where one bird was alarm calling and likely nested.

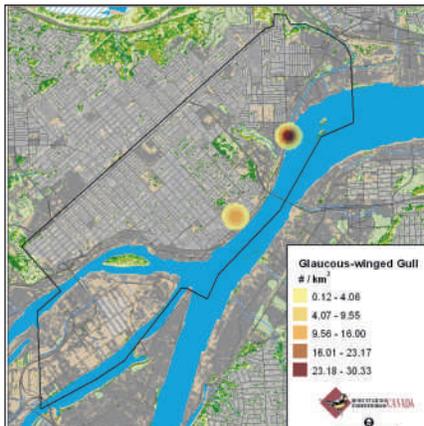


### Gulls. Family Laridae

#### Glauco-winged Gull *Larus glaucescens*

*Confirmed Breeder*

The Glauco-winged Gull is a coastal seabird that breeds mostly on small islands along the north Pacific coast. A few gulls have taken to city life in New Westminster where they scavenge food in parks throughout the year. Gulls were seen carrying grass for nests to rooftops of a few tall buildings in the Downtown during the Point Count in 2012 and where several pairs nested in 2013 (Pers. comm., J. X. Coté, New Westminster, 2013). A bird appeared to be sitting on a nest on pilings in Queens Reach and two pairs possibly nested on a bridge support of the Patullo Bridge in 2013.

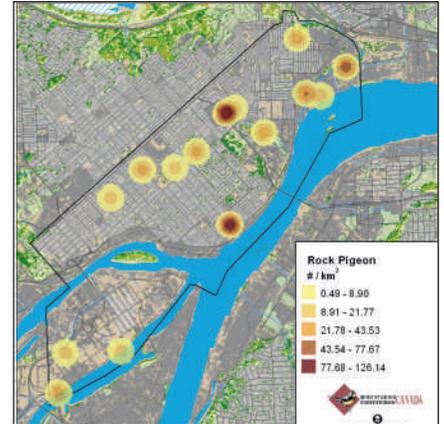


### Pigeons and Doves: Family Columbidae

#### Rock Pigeon *Columba livia*

*Confirmed Breeder*

The Rock Pigeon is a non-native species introduced to North America 400 years ago as a source of food (Schorger 1952). The Rock Pigeon is now well established across much of North America including New Westminster where the species is widespread. Rock Pigeons nested year round on bridge supports, and on ledges and crevices in buildings in New Westminster. At least six pairs nested on the McBride Street pedestrian overpass. It also nested along the SkyTrain line, in the downtown and beneath bridges in Queensborough. Nestlings were heard begging for food in a crevice in a support at the 22nd Street SkyTrain Station in 2013. There is no conservation concern for the Rock Pigeon and it is sometimes considered a nuisance.



#### Eurasian Collared-Dove *Streptopelia decaocto*

*Possible Breeder*

The Eurasian Collared-Dove is a recent arrival to British Columbia (Syroteuk 2008). Our first record in the city was of a single bird calling in Victory Heights in June 2012. A second sighting of an individual dove was reported from Queensborough in 2013 (Pers. comm., K. Sekhon).

### Owls. Family Tytonidae

#### Barn Owl *Tyto alba*

Conservation status:

COSEWIC: 'Threatened'

SARA Status: Schedule 1, 'Special Concern'

British Columbia: 'Blue-list'

*Confirmed Breeder*

The cosmopolitan Barn Owl limits its Canadian presence to southwestern British Columbia and southern Ontario where it is a denizen of open grasslands, agricultural areas and forest edges. Its name alludes to the Barn Owl's propensity to nest in barns, but it also makes a home in rural buildings, tree cavities and nest boxes. The Barn Owl is mostly a nocturnal hunter of small mammals captured during stealthy silent flights.

In British Columbia, the Barn Owl resides year round in the lower Fraser River Valley on the east coast of Vancouver Island and in the southern Okanagan (B.C. Breeding Bird Atlas 2014). In New Westminster, it is only known to nest on the east side of Queensborough in an old hangar (Pers. comm., Sofi Hindmarch, Pacific WildLife Foundation, Port Moody, B.C., 2013). Pairs also nested on the New Westminster and Coquitlam border on United Boulevard and on Anacis Island and foraged in New Westminster (Pers. comm., S. Hindmarch). The western Canadian population of Barn Owls occurring in British Columbia is designated a *Threatened Species* by COSEWIC and a Schedule 1, *Special Concern* under the Species at Risk Act due to loss of foraging habitat from urban developments. Its population is small and under threat from loss and degradation of grasslands where they hunt, and conversion of old wooden barns and other rural buildings where they roost and nest. There is also a concern that the owl suffers undue losses from collisions with vehicles. Erection of a few nest boxes on poles in Queensborough and near Sapperton Landing and retention of old fields where the owl prefers to search for rodents might improve its lot in the city.

### Nightjars. Family Caprimulgidae

#### Common Nighthawk *Chordeiles minor*

Conservation status:

COSEWIC: 'Threatened'

SARA Status: Schedule 1, 'Threatened'

#### Possible Breeder

The Common Nighthawk is neither a hawk nor is it common. It is an insect eating member of the goatsucker family that is active near dusk making it unlikely to be detected on morning Point Counts. The Common Nighthawk nests in open country across much of North America including British Columbia (B.C. Breeding Bird Atlas 2014). No nests have been found in New Westminster but a single bird was heard calling over Victory Heights several times in 2013. We have records as early as 1987 in Victory Heights, and over Queens Park and towards Brow-of-the-Hill from late June to mid-August in 2003, 2005 and 2006.

The call is used to demarcate a breeding territory suggesting the species nested in the city or nearby, perhaps on flat, gravel-covered roofs in Sapperton. The nighthawk nests in the open on the ground where it relies on its camouflaged markings to remain unseen.

### Swifts. Family Apodidae

#### Vaux's Swift *Chaetura vauxi*

#### Possible Breeder

Vaux's Swift is a western North American species. It regularly foraged along the eastern slope of Victory

Heights in 2013 and, on 2013 June 29, three Vaux's Swifts chased one another around a chimney at a house in Queens Park. The calling and swooping flights appeared to be centered round a brick chimney at a house on First Avenue. There are very few nesting records of the Vaux's Swift in British Columbia but it is known to use chimneys and hollow trees (Thompson 1977; Campbell *et al.* 1990b). Campbell *et al.* (1990b) confirmed nesting from only four locations in British Columbia although they believed nesting to likely be more widespread. The scarcity of records of this species in British Columbia highlights the importance of the possible record for New Westminster. Vaux's Swift eat a variety of winged insects including flies, aphids, and ants that they catch on foraging trips within about 5 kilometers of their nests according to Bull and Beckwith (1993), who also estimated that each nestling swift was fed hundreds of thousands of insects.

### Hummingbirds. Family Trochilidae

#### Anna's Hummingbird *Calypte anna*

#### Possible Breeder

It seems that French naturalist René Primevère was so struck by the beauty of Duchess of Rivoli, Anna Messena that he named the Anna's Hummingbird after her. But the Anna's Hummingbird is remarkable for more than just its beauty. It also nests in the dead of winter when snow and ice can grip the region (Campbell 2009).

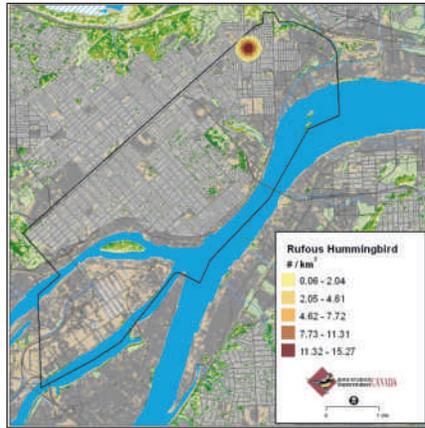
Anna's Hummingbird is a west coast species whose breeding range stretches along the Pacific coast from northern Mexico to southern Canada. In British Columbia, breeding records are mostly confined to southwest corner of the province (B.C. Breeding Bird Atlas 2014). It is a recent arrival having expanded its range into British Columbia in the past few decades. It was first reported to nest in the province in 1958 and by the 1970s it had become well established in the Lower Mainland and on Vancouver Island (Campbell *et al.* 1997). It was first detected in Burnaby on the annual Christmas Bird Count in 2008 (Pers. comm., George Clulow, Burnaby, B.C.) and arrived in Queens Park and Victory Heights in 2010. The Anna's Hummingbird is now regularly seen during the breeding season and immature hummingbirds visit gardens but no nests have yet been found.

#### Rufous Hummingbird *Selasphorus rufus*

#### Possible Breeder

The Rufous Hummingbird migrates north in early spring to breed from Oregon to Alaska. It is widespread in much of British Columbia (B.C. Breeding Bird Atlas 2014) and is abundant in the Lower Fraser Valley. In New Westminster the story is quite different where birds are seen around gardens in the city during migration and occasionally during the breeding season, but never very commonly.

We detected it only along the Brunette River in Hume Park. A nest holding two young was found at Trapp Ranch by G. Sparrow on 1943 May 23 (Maguire 2013).

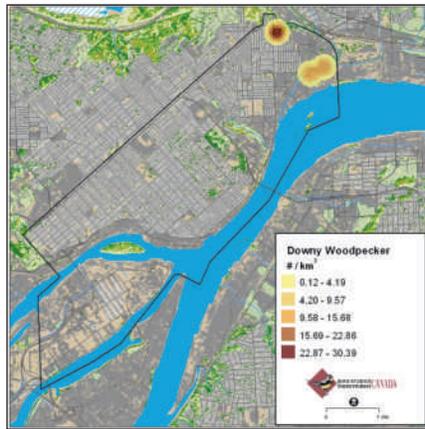


### Woodpeckers. Family Picidae

#### Downy Woodpecker *Picoides pubescens*

##### Possible Breeder

The Downy Woodpecker is North America's smallest and most widespread woodpecker. It is found throughout the forested regions, particularly in deciduous forests. This woodpecker was most numerous on Point Counts along the Brunette River and in Hume Park although it was seen at other times in Glenbrook Ravine, Queens Park, and on boulevard trees. It likely uses any forested area in the city. Outside the breeding season, the Downy Woodpecker frequents backyards in New Westminster. (Addendum: a recently-fledged Downy Woodpecker was fed by an adult parent in Queen's Park in June 2014.)

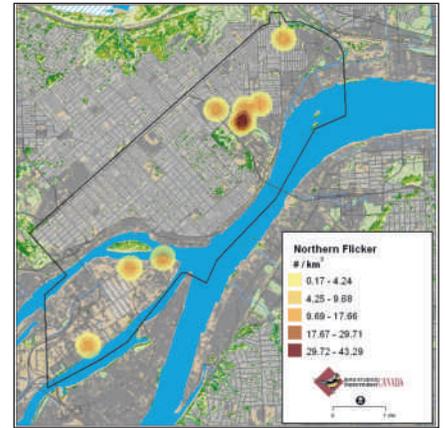


#### Northern Flicker *Colaptes auratus*

##### Confirmed Breeder

The Northern Flicker is one of North America's most numerous and widespread woodpeckers. Its breeding range includes most of North America, and parts of Mexico and the Caribbean. It has a habit of drumming out its presence on tree limbs, metal chimneys and roof cladding, or any other convenient sounding board, often to the annoyance of inhabitants. This behaviour appears unrelated to territorial ownership because the ephemeral nature of its preferred diet of ants is unpredictable (Elchuck and Wiebe 2003). The flicker diet is largely ants although it includes insect larvae excavated from dead trees, fruit rarely, and suet provided at bird feeders (Moore 1995). The Northern

Flicker is a resident species detected in many places on Point Counts in New Westminster. Our nest records include adults feeding young in a nest in a telephone pole in Victory Heights and recently fledged young seen along the Brunette River.



#### Pileated Woodpecker *Dryocopus pileatus*

##### Possible Breeder

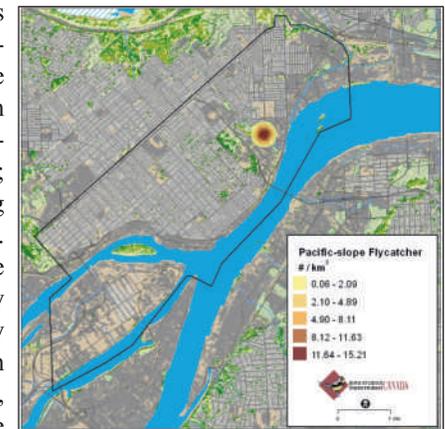
The great size, black body with white wing linings and red crest of the Pileated Woodpecker is hard to miss. It requires mature trees for nesting sites that it excavates using the large beak. A pair of Pileated Woodpeckers occurred regularly at a bird feeder in Victory Heights during the nesting season of 2013 but we could find no evidence that it nested in the city. The pair arrived and departed in the direction of a forested ravine in Hume Park where some sufficiently large trees grow that could accommodate this species.

### Flycatchers. Family Tyrannidae

#### Pacific-slope Flycatcher *Empidonax difficilis*

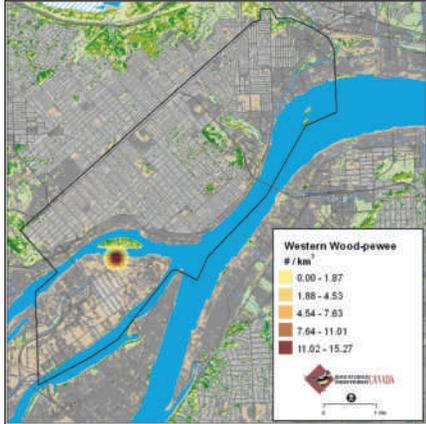
##### Possible Breeder

The Pacific-slope Flycatcher is a western denizen of mixed forests; it is particularly numerous along the coast of British Columbia (Campbell *et al.* 1997; B.C. Breeding Bird Atlas 2014). It arrives in the city in mid-May and departs by mid-September. In New Westminster, the Pacific-slope Flycatcher is not numerous. It was heard on Point Counts singing from the forest in Glendale Ravine and we heard a singing male in Queens Park in addition to the surveys.

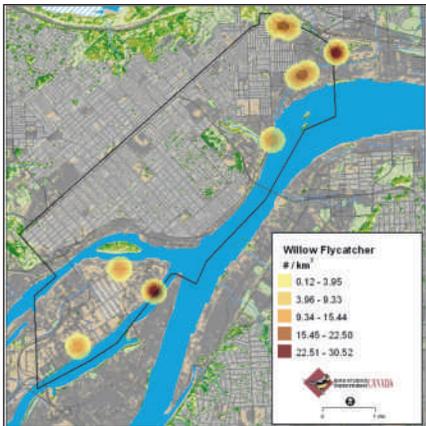


**Western Wood-Pewee** *Contopus sordidulus**Possible Breeder*

The Western Wood-Pewee is a widespread breeding species in western North America including southern British Columbia (Campbell et al. 1997). It nests in gardens and cultivated landscapes similar to those in New Westminster, but our only record on the Point Counts was a single singing male in Queensborough.

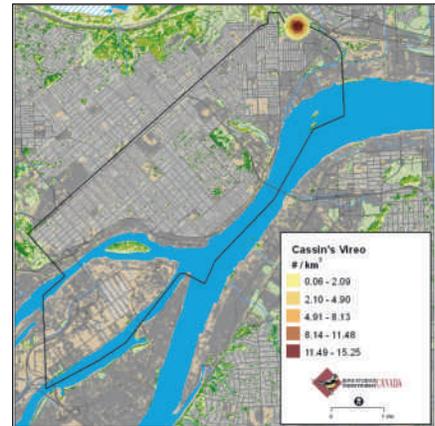
**Willow Flycatcher** *Empidonax traillii**Possible Breeder*

Shrubby areas with water nearby are usually indications of an abundance of insects and are where Willow Flycatchers frequent during the breeding season. It is widespread across North America but confined to the southern half of British Columbia (Campbell et al. 1997; B.C. Breeding Bird Atlas 2014). In New Westminster, the Willow Flycatcher arrives in May and departs by September. It was heard on Point Counts along the Brunette River, Sapperton Landing and in Queensborough. At other times, we heard singing males in a forest patch east of the Justice Institute and on Poplar Island.

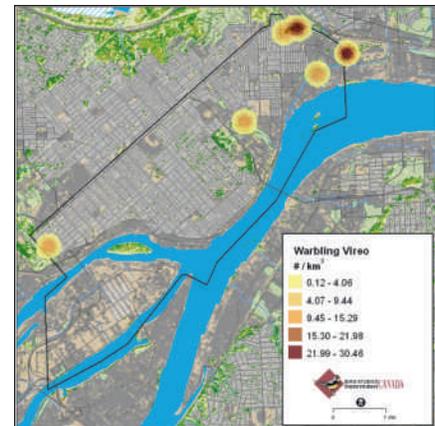
**Vireos, Family Vireonidae****Cassin's Vireo** *Vireo cassinii**Possible Breeder*

Cassin's Vireo is a western species that nests in mature mixed forests. It breeds in southern British Columbia, including the Lower Mainland (Campbell et al. 1997; B.C. Bird Atlas 2014). In New Westminster it was heard singing on the Point Counts in Hume Park in mixed big-leaf maple, alder and coniferous forest along the Brunette

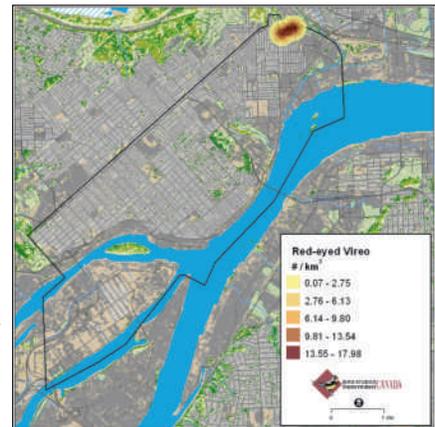
River in 2012. It was not detected there in 2013.

**Warbling Vireo** *Vireo gilvus**Possible Breeder*

The Warbling Vireo is widespread across North America during the breeding season in shrubs and small trees often near water. In New Westminster, the Warbling Vireo was heard on Point Counts in Hume Park, along Brunette River, Queens Park, and in the West End. We also heard singing males in Queensborough and it is likely more widespread than the maps indicate.

**Red-eyed Vireo** *Vireo olivaceus**Possible Breeder*

The Red-eyed Vireo is a summer songster whose languid, robin-like songs harken warm summer days in the deciduous woodlands. It is a small and drab songbird that lazily moves through the canopies of deciduous trees in search of its insect prey. Sighting a vireo requires a patient birdwatcher. Enjoy the song while hunting for it among the leaves. The Red-eyed Vireo's breeding range spans most of southern Canada and the northwest and eastern USA. It is widespread on the British Columbia mainland and on Van-



couver Island but in New Westminster, the only record on the Point Count survey was in Hume Park.

### Hutton's Vireo *Vireo huttoni*

#### Possible Breeder

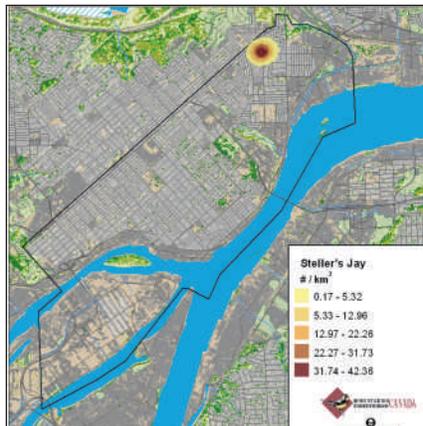
There is a good chance that the Hutton's Vireo will go unnoticed except by the ardent birdwatcher. It is a drab little songbird that inhabits mixed deciduous and coniferous forests where it searches out small insects among the leaves and branches. It is a west coast species that resides year round from southern British Columbia to Guatemala. In British Columbia, it is confined to the southwest coast (B.C. Breeding Bird Atlas 2014). In New Westminster, the Hutton's Vireo is a scarce species and requires confirmation that it breeds there. A singing adult in Queens Park in July 2013 was our only record for this species.

## Crows and Jays. Family Corvidae

### Steller's Jay *Cyanocitta stelleri*

#### Confirmed Breeder

The Steller's Jay is an abundant species that makes its presence known by its harsh call and bold behaviour. It occurs in the western mountains from Alaska to Nicaragua and is widespread in British Columbia. The subspecies that occurs in New Westminster is *C. s. stelleri* that ranges from Alaska along the Pacific Coast to British Columbia. The Steller's Jay is largely a coniferous forest species although it will readily move into deciduous forests and suburban gardens. It resides year round in New Westminster although we detected it only in Hume Park on the Point Count surveys. We found nests and saw recently fledged young in Victory Heights in 2012 and 2013.

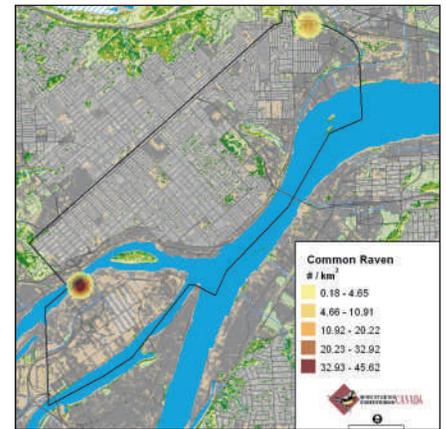


### Common Raven *Corvus corax*

#### Confirmed Breeder

The Common Raven is found across much of the northern hemisphere including British Columbia (B.C. Breeding Bird Atlas 2014). It is an iconic protagonist of a west coast culture rooted in many First Nations stories but is the nemesis of the crow. The Common Raven is the largest of a triumvirate of corvids in New Westminster that includes the Steller's Jay and Northwestern Crow. Nesting pairs are highly territorial and

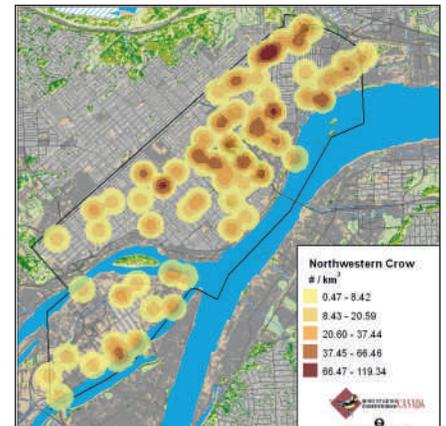
spend a great deal of effort expelling other ravens. Ravens have recently nested in the city under bridges including the southern end of the Queensborough Bridge. Ravens were also heard in Hume Park perhaps originating from a pair that nested beneath a bridge on Highway 1 where it passed over the Brunette River. Fledged young were seen being fed by adults at the south end of the Queensborough Bridge in 2012 on 26 May and 18 September.



### Northwestern Crow *Corvus caurinus*

#### Confirmed Breeder

The Northwestern Crow lives year-round along the Pacific Coast between Washington and Alaska. In British Columbia, it frequents seashores, towns and cities west of the Coast Range (B.C. Breeding Bird Atlas 2014). Whether you love or loathe the Northwestern Crow, there is no denying its coexistence in our world. The crow has taken to city living like few other native species of birds and although its penchant for stealing brings it ill repute, it also provides an overlooked service as a feathered disposal unit for street garbage. The crow quickly dispatches road-killed animals, eats insects, and worms, and dispenses with cast off food. Preying upon small bird's eggs and nestlings is not out of the question. Post-breeding crows in New Westminster joined thousands more from the region in late afternoon at a common roost in Burnaby where they spent the night.



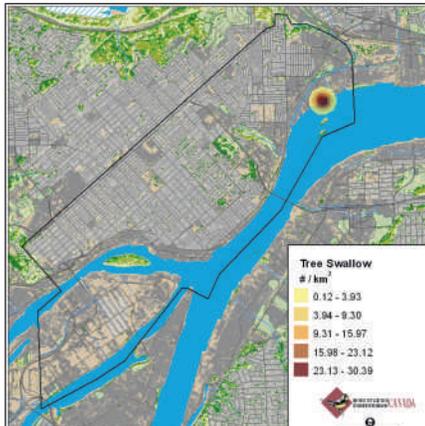
The crow appears to have become more widespread in the city over the years. W. S. Maguire's field notes from the 1930s and 1940s refer to long searches to find nests (Maguire 2010). He succeeded and the specimens and eggs now reside in collections (Royal Ontario Museum: specimen 506817 collected in 1936, and Western Foundation of Vertebrate Zoology: eggs 13847 & 141962 in 1938 and 1940, respectively). The Point Count surveys detected the crow across much of New Westminster with the

greatest densities in the suburban neighbourhoods of Queens Park and Victory Heights.

### Swallows. Family Hirundinidae

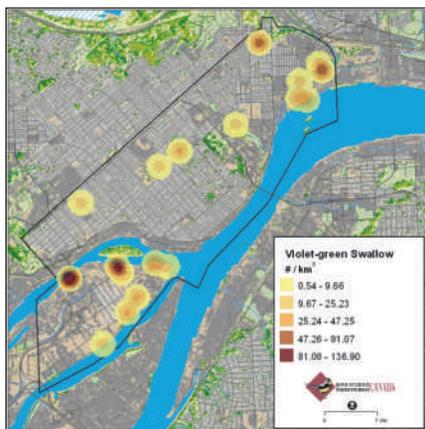
#### Tree Swallow *Tachycineta bicolor* Possible Breeder

The Tree Swallow is one of the earliest migratory birds in Greater Vancouver. The first vanguard arrives in February followed in March by large numbers of migrants. It is a widespread breeding species in Canada and northern USA. The Tree Swallow is abundant in the Lower Mainland but not in New Westminster. Our only record from the Point Counts was from the Brunette Industrial Lands where swallows fed on insects along the river. The absence of the Tree Swallow in New Westminster reflects the paucity of marshland where the species thrives.



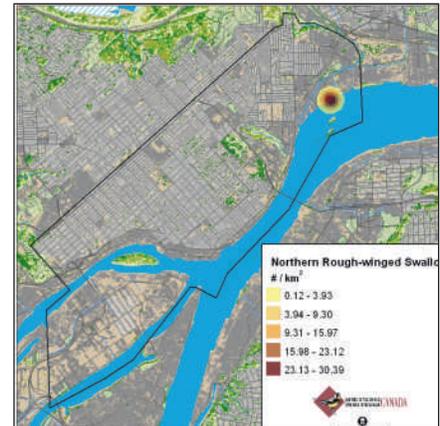
#### Violet-green Swallow *Tachycineta thalassina* Confirmed Breeder

The Violet-green Swallow is a widespread breeding species in western Canada and USA including New Westminster, especially in the Brunette Industrial Lands and Queensborough. Confirmed nesting occurred in Victory Heights where the Violet-green Swallow raised a family in 2012 and 2013. Swallows are insectivorous birds that eat flies and mosquitoes and thereby could help limit the spread of disease vectors such as West Nile disease. The provision of nest boxes around the city would assist this species and the Tree Swallow in New Westminster.



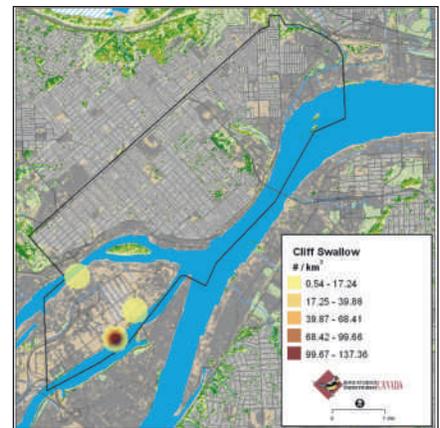
#### Northern Rough-winged Swallow *Stelgidopteryx serripennis* Probable Breeder

The Northern Rough-winged Swallow is a drab wide-spread swallow that nests from southern Canada to northern Mexico. Its breeding range includes much of British Columbia except Haida Gwaii, and it is more numerous in the southern half of the province (B.C. Breeding Bird Atlas 2014). It nests in burrows in riverbanks usually as single pairs. We saw this species along the Fraser River and scouting a nest hole in the Brunette River industrial lands during the Point Count survey and at Poplar Island along the North Arm in summer. The sandbanks of Poplar Island would be suitable nesting habitat for this species but we were unable to confirm if it nested there.



#### Cliff Swallow *Petrochelidon pyrrhonota* Confirmed Breeder

Few people give a moment's notice to this species in New Westminster unaware that it undertakes an astounding migration to South America each year. Moreover, few people know that the Cliff Swallow is the species that brought worldwide fame to the San Juan Capistrano Mission in California where its supposed legendary punctual return was celebrated each spring.



The Cliff Swallow is a colonial nesting species that builds gourd-shaped nests using small pellets of mud gathered by the mouthful on wet edges of puddles and rivers. It arrives in New Westminster in April and departs in September. Thirty-five new nests were in various stages of construction on the west side of Annacis Island Bridge on 2013 June 2. We saw remains of nests beneath Queensborough and other bridges along the Fraser River suggesting that the species relocated colonies among several bridges.

(Addendum: at least ten pairs of Cliff Swallows were seen entering and exiting nests beneath the Queensborough Bridge in June 2014.)

### Barn Swallow *Hirundo rustica*

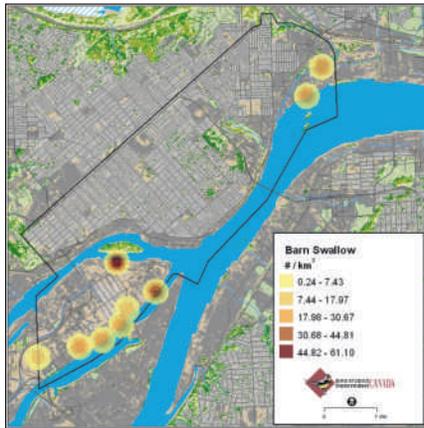
Conservation status:

COSEWIC: 'Threatened'

British Columbia: 'Blue-list'

#### Probable Breeder

The Barn Swallow is an open country species and one of the world's most widespread birds. It nests across much of southern Canada, the USA and Mexico, Europe and Asia. The Barn Swallow builds a mud cup nest that adheres in sheltered sites such as barns and other open-air buildings.



The Barn Swallow arrives in New Westminster in April and stays until mid-October. Despite being one of the most widespread species in the world, the Barn Swallow has undergone a decline in abundance beginning in the 1980s. It was most abundant in Queensborough and at the mouth of the Brunette River. It nested in sheltered locations in open buildings and foraged for flying insects along the river. The Barn Swallow frequented the uplands of New Westminster and nested in Massey and Victory Heights in the 1980s where it is now absent as a breeding bird. The species, although still present in Queensborough, is less abundant than in the recent past (Pers. comm., K. Sekhon). We have no nesting records for the atlas period although swallows were present during the breeding season and therefore likely nested. This species requires open access to buildings where it can build mud nests and open country or marshes with an abundance of insects.

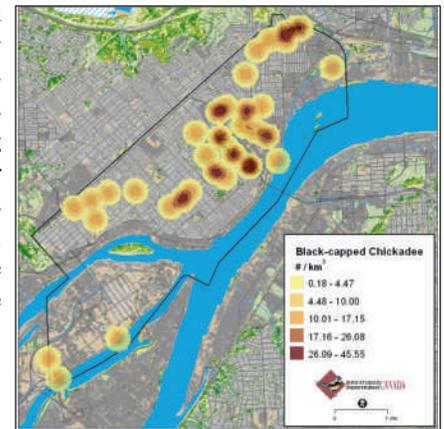
### Chickadees and Bushtit. Families Paridae & Aegithalidae

#### Black-capped Chickadee *Poecile atricapillus*

##### Confirmed Breeder

The Black-capped Chickadee is a widespread species in southern Canada and the northern USA (Foote *et al.* 2010). In British Columbia, it is confined mostly east of the Coast Range except in a few coastal valleys including the Fraser Valley where it resides year-round in mixed forests and gardens. The chickadee was widespread in New Westminster with the greatest density in the gardens of the

Queens Park and Massey - Victory Heights neighbourhoods. Adults were seen carrying food to nests or feeding fledglings in Queensborough, Queens Park, The Heights, and the West End.



#### Chestnut-backed Chickadee *Poecile rufescens*

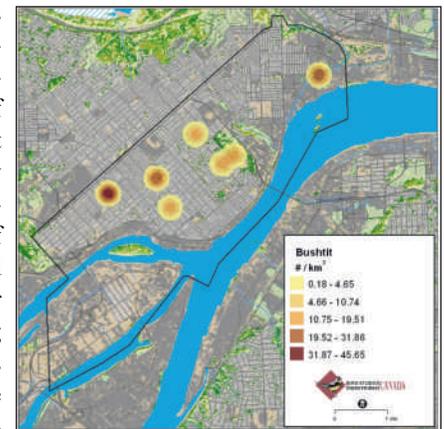
##### Possible Breeder

Enter a coniferous forest in coastal British Columbia and one of the first birds you are likely to encounter is the Chestnut-backed Chickadee. It also occurs in the southern interior coniferous forest (B.C. Breeding Bird Atlas 2014). In New Westminster, this chickadee is a scarce resident that likely breeds in the city in very small numbers. Queens Park had the most birds amidst tall Douglas-firs and it occurred occasionally in Tipperary Park. It was not detected on the Point Counts in 2012.

#### Bushtit *Psaltriparus minimus*

##### Confirmed Breeder

The tiny, nondescript Bushtit makes up for its drab colouration with its sprightly behaviour. The diminutive inhabitant of gardens and forest edges hunts tiny insects by hanging from tips of branches and searching under leaves and among flowers. It reaches the northern edge of its North American range along the southwest coast of British Columbia where it arrived in historical times (Butler 1981). The Bushtit is a resident of New Westminster, particularly along the Brunette River, in the vicinity of Queens Park and the West End. We also heard or saw the Bushtit in Queensborough, Victory Heights, Glenbrooke Ravine and many other places in the city.



## Nuthatches and Creepers. Families Sittidae & Certhidae

### Red-breasted Nuthatch *Sitta canadensis*

#### Confirmed Breeder

The diminutive Red-breasted Nuthatch is a coniferous forest-dwelling songbird that forages by descending head-first down tree trunks. This species is widespread in North America, including British Columbia and the Lower Fraser Valley (B.C. Breeding Bird Atlas 2014). We did not hear it on the Point Count surveys. The paucity of coniferous forest greatly restricts where it will nest. A confirmed nesting record was obtained in 2012 when a nuthatch arrived at a nest with begging young inside a hemlock stump in Queens Park.

### Brown Creeper *Certhia americana*

#### Confirmed Breeder

The Brown Creeper is an elusive, tiny bird often overlooked due to its camouflaged plumage. It is often located by its high pitched call before being seen hopping up tree trunks. It has a habit of flying to the base of a tree trunk where it proceeds slowly up the tree in a series of hops.

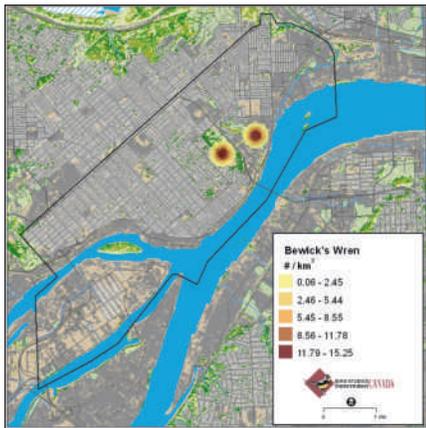
The diminutive Brown Creeper is widespread across North America from Alaska and southern Canada through much of the USA and mountains of Mexico. It nests in cavities, beneath loose bark and in cracks in trees. A few creepers reside year-round in the city, mostly in conifer trees. Recently-fledged young creepers were seen in Hume Park in May 2013. A nest with young was found in Tipperary Park in 2008 and another in Queens Park in 2005.

## Wrens. Family Troglodytidae

### Bewick's Wren *Thryomanes bewickii*

#### Possible Breeder

Bewick's (pronounced 'buick', like the car) Wren is an active, highly-vocal denizen of shrubs and deciduous forests. Its range covers much of the southern and western USA and as far north as south-western and the southern interior of British Columbia (B. C. Breeding Bird Atlas 2014).



The Bewick's Wren decline in abundance in the eastern part of its range (Kennedy and White 1996) apparently did not occur in British Columbia (Campbell *et al.* 1997; Ryder 2013). It is a year-round resident of Greater Vancouver, including New Westminster where it was most numerous on

Point Counts in Glenbrooke Ravine. However, we also heard wrens singing in Queensborough, Hume Park, and along the Brunette River.

### Pacific Wren *Troglodytes pacificus*

#### (formerly Winter Wren *Troglodytes troglodytes*)

#### Possible Breeder

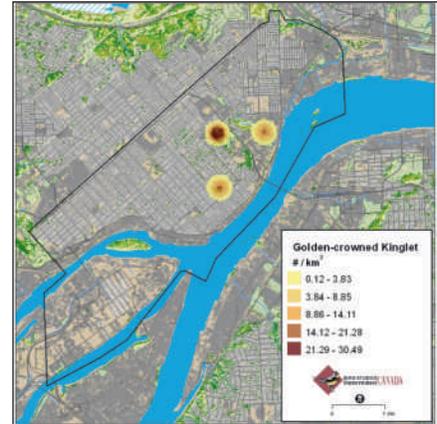
The Pacific Wren was recently recognized as a new species distinct from the widespread Winter Wren (Toews and Irwin 2008). The Pacific Wren is confined to western North America from Alaska to California and eastward to Wyoming. It is a tiny songbird with a big voice. The breathless song bursts from dank forests throughout much of the lower Mainland. The forest type preferred by this boisterous songster is scarce in New Westminster and there are only a few places where it can be found. We did not hear any on the Point Count in 2012 but two male wrens were heard singing in Glenbrooke Ravine in June 2013 and wrens were present there in autumn and winter.

## Kinglets. Family: Regulidae

### Golden-crowned Kinglet *Regulus satrapa*

#### Possible Breeder

Enter a coniferous forest in British Columbia and before long the high pitched twittering of the Golden-crowned Kinglet will likely be heard (B.C. Breeding Bird Atlas 2014). The kinglet is a tiny songbird that resides mostly in the canopies of coniferous forests where it builds its nest and searches for insects. It is a resident and widespread species in British Columbia. In New Westminster, this kinglet is common in winter but only a few were detected on Point Counts in the coniferous forests in such places as Queens Park and Tipperary Park.



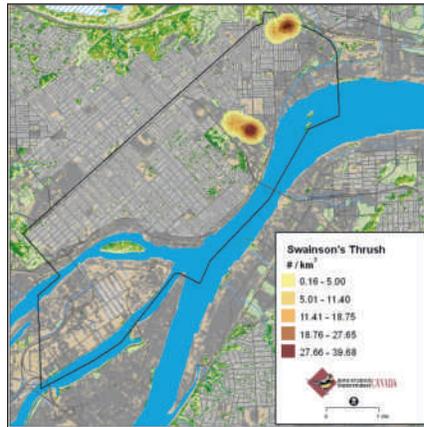
## Thrushes. Family Turdidae

### Swainson's Thrush *Catharus ustulatus*

#### Possible Breeder

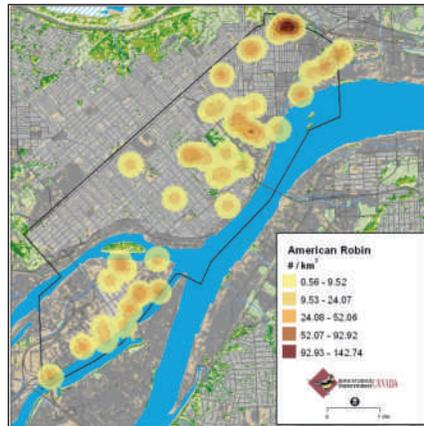
The Swainson's Thrush is an ancient North American species that diverged into several subspecies about 10,000 years ago following the last ice age (Ruegg and Smith 2002; Winker and Pruett 2006). It is a drab elusive songbird of de-

deciduous woodlands that sings one of nature's great songs. The thrush spends most of its time out of sight, skulking about in the forest in search of insect prey and at its secretive nest in shrubs and trees. It is widespread in Canada (Campbell *et al.* 1997; B.C. Breeding Bird Atlas 2014). In New Westminster, the Swainson's Thrush arrives in mid-May and departs in September. It occurred in highest density on the Point Counts in the deciduous woodlands in Hume Park and Glenbrook Ravine. Six singing males were heard in Glenbrooke Ravine in June 2013 and individual singing males were heard at other times in Queen's Park, on Poplar Island and in Queensborough.



#### **American Robin** *Turdus migratorius* *Confirmed Breeder*

The American Robin is among the most recognized and adaptable songbird in North America. It inhabits lawns, parks, deciduous forests, and gardens in New Westminster. The American Robin is a year-round resident in the city where it disperses to breeding territories in February. It built nests in shrubs, on tree limbs, and human structures in the city. The species became less conspicuous and probably less common in late summer when summer heat parched the city lawns. The American Robin was found nearly everywhere in the city on the Point Counts with especially high densities in Hume Park, Glenbrook and Queens Park, Brunette River and eastern Queensborough.

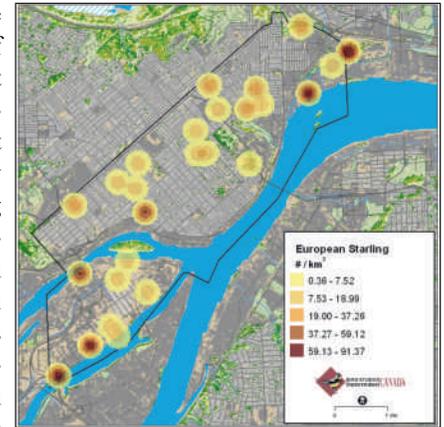


#### **Starlings. Family Sturnidae**

##### **European Starling** *Sturnus vulgaris* *Confirmed Breeder*

The European Starling is one of a European triumvirate that includes the House Sparrow and Rock Pigeon that have

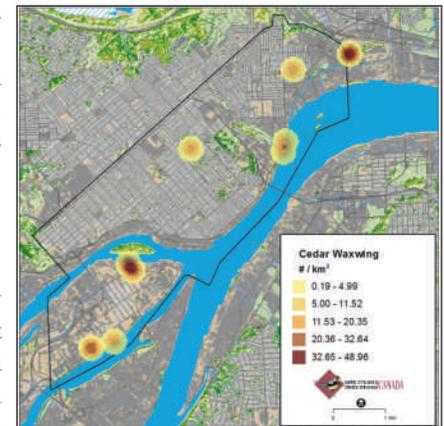
come to dominate urban regions of North America. It is a highly adaptable species that feeds on a variety of foods including suet in bird feeders, discards from humans, natural occurring fruits and insects. It arrived in British Columbia in the mid 20th century to become a year-round resident in the southern interior and in coastal areas of the province (Campbell *et al.* 1997). Scores of post-breeding starlings gather each summer in Queensborough to eat elderberries and blackberries. The European Starling is a numerous, widespread resident-species in New Westminster. The greatest concentrations on Point Counts were in the industrial and commercial districts of Brunette, Sapperton, Royal Square, Uptown, 12th Street and Queensborough.



#### **Waxwings. Family Bombycillidae**

##### **Cedar Waxwing** *Bombycilla cedrorum* *Possible Breeder*

Although the Cedar Waxwing's name implies a fondness for cedars, it is largely a fruit-eating songbird. In British Columbia, the waxwing is widespread especially at lower elevations (B.C. Breeding Bird Atlas 2014). In New Westminster, it was widespread too, especially in shrubby habitats along the Fraser and Brunette rivers, Sapperton Landing, and in Queensborough.



#### **Wood-warblers. Family Parulidae**

##### **Orange-crowned Warbler** *Oreothlypis celata* *Confirmed Breeder*

The Orange-crowned Warbler is an abundant spring migrant along the coast of British Columbia. It is largely a spring migrant in New Westminster. The few that bred

used shrubby areas along the Brunette River where an adult was seen carrying food to fledglings in July 2013.

### Common Yellowthroat *Geothlypis trichas*

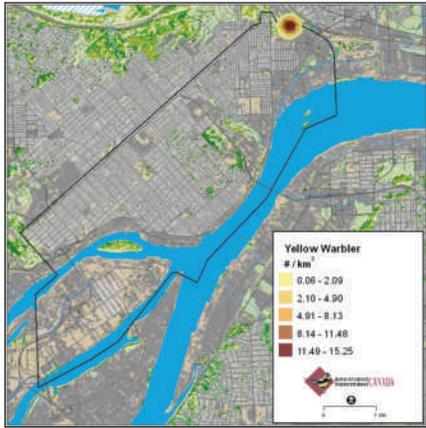
#### Possible Breeder

The Common Yellowthroat has a widespread distribution across North America during the breeding season in grassy and marshy areas but it occurs in New Westminster in only a few places where there is tall grass. Singing males were heard along Duncan Street and along Campbell Street between Ewen and Salter Avenues in Queensborough in 2013 (Pers. comm., K. Sekhon). G. Sparrow reported a nest holding four eggs at Trapp Ranch on 1952 May 31 (Maguire 2013).

### Yellow Warbler *Setophaga petechia*

#### Possible Breeder

The sprightly Yellow Warbler is widespread across North America during the breeding season in dense undergrowth of shrubs, especially willow, and small trees often near water. In New Westminster, the Yellow Warbler was heard singing in the forest in Hume Park and in Queensborough where a nest was found several years ago (Pers. comm., K. Sekhon).



### Townsend's Warbler *Setophaga townsendi*

#### Possible Breeder

British Columbia is the centre of the world distribution of the Townsend's Warbler spilling into Alaska, Yukon and northwestern USA. It is widespread in the province including on the coastal islands (B.C. Breeding Bird Atlas 2014). At one time, much of New Westminster was covered by mature conifer forest that would have been home to many Townsend's Warblers. Migrating Townsend's Warbler occur in gardens and forests of New Westminster in April and May, and in August and September, but few stay to nest. Singing males were heard in Queens Park, none during the Point Count surveys.

### Yellow-rumped Warbler *Dendroica coronata*

#### Confirmed Breeder

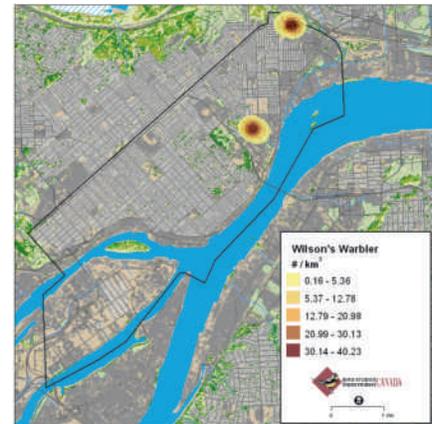
The Yellow-rumped Warbler is a widespread breeding species in North America including much of British Columbia (B.C. Breeding Bird Atlas 2014). Both

the Audubon and Myrtle form of Yellow-rumped Warbler occur in large numbers in the city on migration but only the Audubon form stays to breed and it is not common. To find a Yellow-rumped Warbler requires careful listening for the songs in coniferous forests in Queens Park where an adult carrying food was seen in June 2008.

### Wilson's Warbler *Cardellina pusilla*

#### Possible Breeder

The sprightly Wilson's Warbler is widespread across North America and occurs in large numbers in New Westminster during spring migration. We heard singing males on the Point Counts in Hume Park and Glenbrooke Ravine and at other times in Queens Park and adjoining residential areas, in Tipperary Park, and along South Dyke Road in Queensborough.

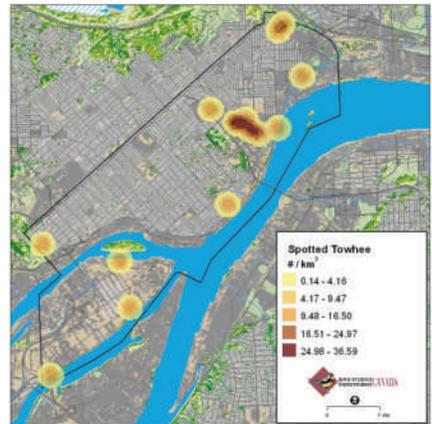


## Emberizine Sparrows. Family Emberizidae

### Spotted Towhee *Pipilo maculatus*

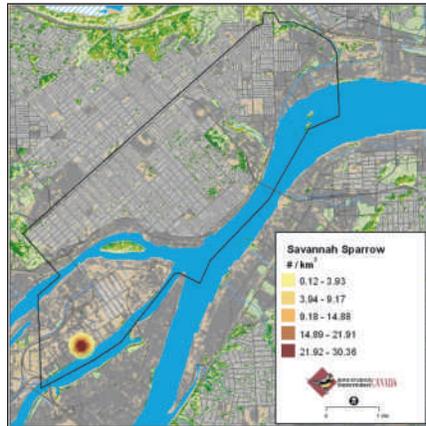
#### Confirmed Breeder

The Spotted Towhee is a large, ground-foraging sparrow confined to the southern regions of the western provinces in Canada including British Columbia (Campbell *et al.* 1997; B.C. Breeding Bird Atlas 2014). Towhees were widespread in the city. Nearly everywhere there were shrubs, the towhee was present. Despite its abundance, the towhee is especially secretive around its nest that is built on or near the ground under the cover of a shrub. Confirmed nesting records include recently-fledged young seen in Victory/Massey Heights in 2012 and Glenbrook South in 2013.

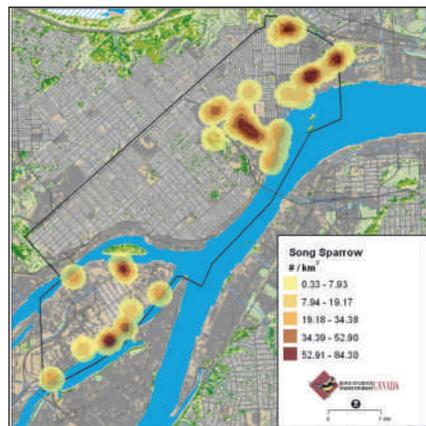


**Savannah Sparrow** *Passerculus sandwichensis**Possible Breeder*

The Savannah Sparrow is a grassland nesting species where its buzzy, lipping song is often heard before the bird is seen. The Savannah Sparrow is a widespread breeding species in North America where several subspecies are recognized (Zink et al. 2005). The subspecies in New Westminster is likely *P. s. brooksi*, whose range extends from southern coastal British Columbia to northern California. It was likely numerous in the city in the 1940s when open fields were still present. A specimen collected in 1888 is held by the Royal Ontario Museum (58156). Only one record of this species was recorded during our Point Count surveys in a vacant lot in Queensborough. We also heard singing males at an empty lot adjacent to the Braid Street Skytrain Station (Sapperton Green) in summer of 2013.

**Song Sparrow** *Melospiza melodia**Confirmed Breeder*

The Song Sparrow is a ubiquitous breeding species across North America including much of British Columbia (B.C. Breeding Bird Atlas 2014). In New Westminster, the Song Sparrow occurred in high densities in Glenbrook Ravine, Hume Park, along the Brunette River and in Queensborough. It also frequented gardens with shrubs. Confirmed nesting records include recently-fledged young accompanying an adult in Victory Heights in 2012 and an adult feeding recently-fledged young in Queens Park in 2013.

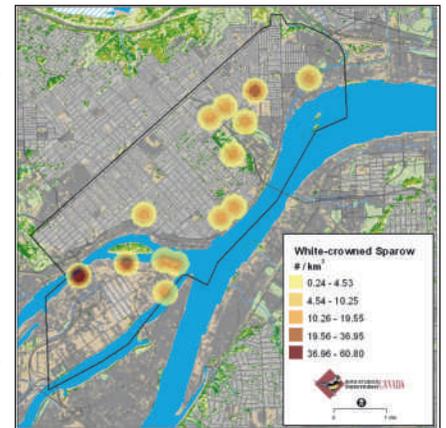
**Dark-eyed Junco** *Junco hyemalis**Confirmed Breeder*

The Dark-eyed Junco is a widespread breeding species in British Columbia (B.C. Breeding Bird Atlas 2014) that readily visits bird feeders in New Westminster in the winter,

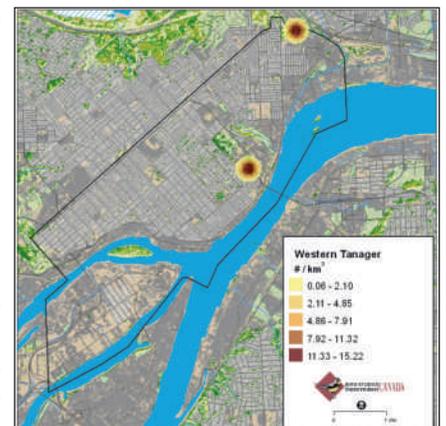
but most departed the city in spring. To find a junco in the summer in New Westminster requires a diligent search. A male sang in Queens Park in June 2013 and a recently-fledged young was seen in Victory Heights the same year. Nesting juncos have been reported in the past. One was seen carrying food for nestlings in Queens Park in June 2008.

**White-crowned Sparrow** *Zonotrichia leucophrys**Confirmed Breeder*

The White-crowned Sparrow in New Westminster is the Puget Sound subspecies *Z. l. pugetensis*. Step from your car in nearly any shopping mall parking lot in New Westminster that has a few ornamental shrubs in spring and you will be serenaded by this sparrow. Its propensity for shopping mall parking lots arises from a similarity to its natural habitat of open shrubby areas. This sparrow is at home in urban and rural settings. It occurred in many places in New Westminster especially in the shopping areas of Queensborough, McBride and Eighth Avenue, and the industrial lands along the Brunette River, but also in suburban gardens and parks. We saw fledgling Brown-headed Cowbirds being fed by adult sparrows in Queensborough and Glenbrook.

**Cardinals. Family Cardinalidae****Western Tanager** *Piranga ludoviciana**Possible Breeder*

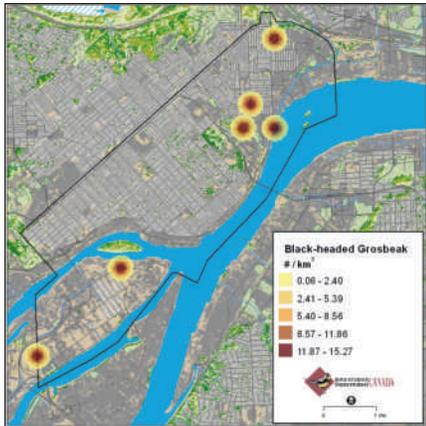
One of the joys of spring is the arrival of brightly-colored songbirds for the breeding season. The male Western Tanager is a stunningly tropical-looking creature with yellow body, black wings and scarlet red head that nests in western coniferous forests from Alaska to northern Mexico.



The Western Tanager is a widespread breeding species found across much of British Columbia except on Haida Gwaii where it is absent as a breeding species (B.C. Breeding Bird Atlas 2014). The species is not abundant in New Westminster likely because of a paucity of suitable coniferous forest habitat. It was detected in mature conifers in Hume Park and Queens Park on the Point Count surveys.

**Black-headed Grosbeak** *Pheucticus melanocephalus*  
*Possible Breeder*

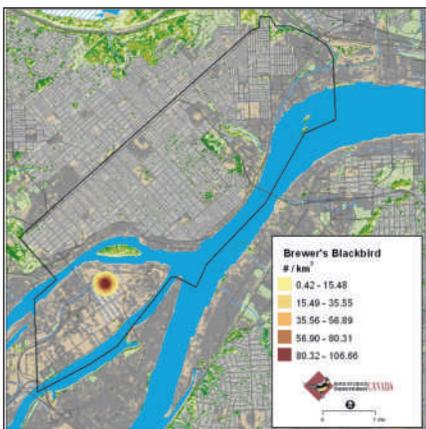
In summer, the loud, boisterous song of the Black-headed Grosbeak reverberates out of deciduous forests. It arrives in mid-May and departs near the end of August. The grosbeak breeds from southern British Columbia through the western USA into Mexico (Ortega and Hill 2010). In New Westminster, the Black-headed Grosbeak occurred in Glenbrook Ravine, Hume Park, Brunette River and Queensborough. We also heard it on Poplar Island, saw it in gardens in Victory Heights and in Queens Park. The grosbeak prefers to nest in deciduous forests where there are dense shrubs.



**Blackbirds. Family Icteridae**

**Brewer's Blackbird** *Euphagus cyanocephalus*  
*Confirmed Breeder*

The Brewer's Blackbird is a native species to western North America that is named in honour of Thomas Mayo Brewer, a 19th century American ornithologist and a correspondent of Charles Darwin. It breeds widely in the northeast and southern regions of British Columbia (B.C. Breeding Bird Atlas 2014) and is a resident in Greater Vancouver. A colony of at least 4 pairs nested at the junction of Boyd Avenue and Fenton Street in Queensborough. The blackbirds displayed on



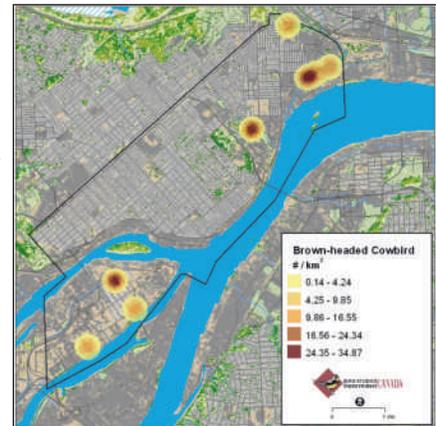
telephone wires, fed in a vacant lot and along the road and entered ornamental shrubs where they presumably had nests. A young blackbird was seen to be fed by adults there on 2012 May 26.

**Red-winged Blackbird** *Agelaius phoeniceus*  
*Probable Breeder*

The Red-winged Blackbird is one of North America's most widespread and numerous species but not so in New Westminster. It resides year-round in the region but only a few breed in New Westminster. Several males defended nest territories in a cattail and willow marsh in Queens Reach and one male sang at a slough along Boyd Road in Queensborough. None were heard on the Point Counts. The paucity of records reflects the absence of marsh cattail habitat it prefers.

**Brown-headed Cowbird** *Molothrus ater*  
*Confirmed Breeder*

The Brown-headed Cowbird is a brood parasitic blackbird that deposits eggs into the nests of many species of songbirds. Not surprisingly, the distribution of cowbirds mirrored places in New Westminster where many songbirds nested. High densities on the Point Counts were found along the Brunette River, and in Glenbrook Ravine, Hume Park and Queensborough. The cowbird is widespread in North America and a year-round resident in the Greater Vancouver region. A few years ago, a multi-layered nest of a Yellow Warbler was found in Queensborough built over a clutch with a cowbird egg (Pers. comm., K, Sekhon). Young cowbirds were seen being fed by adult White-crowned Sparrows in Queensborough and Glenbrook in 2013.

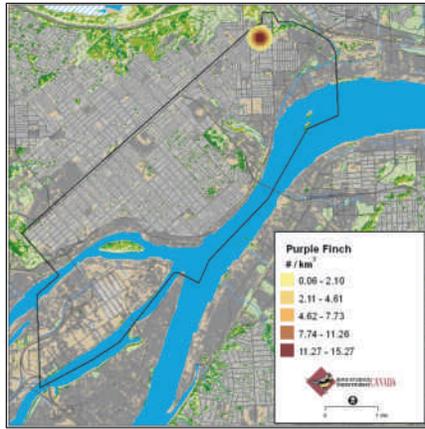


**Finches and Allies. Family Fringillidae**

**Purple Finch** *Haemorhous purpureus*  
*Possible Breeder*

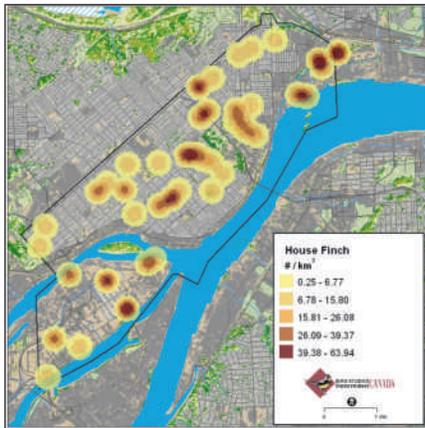
The Purple Finch breeds along the Pacific Coast from British Columbia to California and east through much of southern Canada and the northwest USA. In British Columbia it breeds on southern Vancouver Island, the Lower Fraser Valley and in the central and northern parts of the province (B.C. Breeding Bird Atlas 2014). W.S. Maguire reported a flock of six outside his

Queens Park home in March 1939 (Maguire 2010) and G. Sparrow recorded a female carrying nest material on 1943 April 15 (Maguire 2013). He noted that the species had not been reported to nest in the area. We had only one record of a singing male in Hume Park on the Point Count surveys.



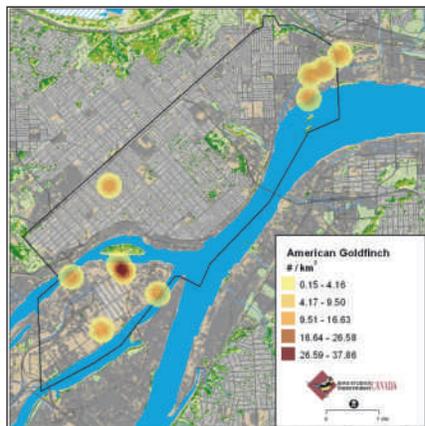
**House Finch** *Haemorhous mexicanus*  
*Confirmed Breeder*

The House Finch greatly expanded its breeding range across southern Canada and the USA in the past 50 years. It arrived on the British Columbia coast by 1947 and became well established about a decade later (Campbell et al. 2001). It does well in ornamental gardens and shrubby areas typical of much of the residential areas in New Westminster. The House Finch was one of the most widely encountered species on the Point Counts. We confirmed the House Finch nested in the city when a fledgling was seen being fed at Fourth and Columbia Street in 2013.



**American Goldfinch** *Spinus tristis*  
*Possible Breeder*

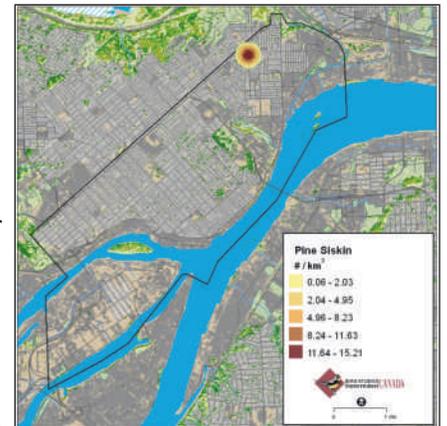
If ever there was a living garden ornament for New Westminster, the American Goldfinch would be it. The male is sharply dressed in a bright yellow coat of feathers sporting a black cap and wings with white wing stripes. It is wide-



spread across central North America and confined to southern regions of British Columbia (Campbell et al. 2001; B.C. Breeding Bird Atlas 2014). The American Goldfinch is a species of open shrubby habitats and gardens especially where there are bird feeders in the city. The goldfinch resides year round in the city and is a relatively late-nester, starting in July. In New Westminster, the American Goldfinch was recorded on Point Counts along the Brunette River, Sapperton Landing and in Queensborough and we heard it in flight at other times over many parts of the city.

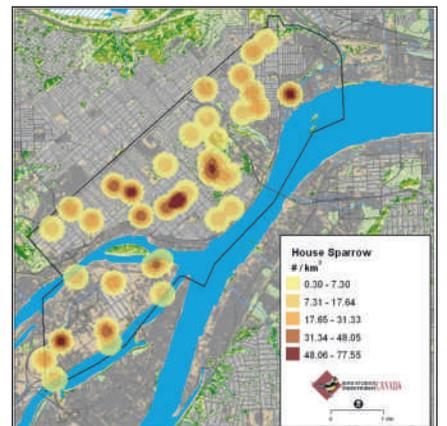
**Pine Siskin** *Spinus pinus*  
*Possible Breeder*

As its name implies, the Pine Siskin is a denizen of coniferous forests. It is a small songbird that eats seeds that it extracts from cones of coniferous trees. Its breeding range spans most of Canada, Alaska, and the western and northern USA. The Pine Siskin is considered an irruptive species that forms large flocks that roam the forests in search of pine crops. When food is plentiful, the birds arrive in large numbers and often begin to breed. Pine Siskin also take readily to bird feeders and it was a common backyard species in New Westminster in winter. Some individuals in New Westminster backyards appeared ill perhaps from a strain of Salmonella that strikes this and other songbirds (Hernandez et al. 2012). Our only record on the Point Count surveys was in coniferous forest in Hume Park.



**House Sparrow** *Passer domesticus*  
*Confirmed Breeder*

The House Sparrow is a widespread, introduced species in many parts of the world where it frequents urban areas and surrounding countryside almost always in association with human habitation. This old world sparrow became an urban



dweller by adapting to city living where it nested under eaves, in holes in buildings and spaces under bridges and ate food scraps around restaurants, spilled grain, weed seeds, and insects. The House Sparrow was a ubiquitous breeding bird species in New Westminster. We detected it in every region with especially high densities in Sapperton, the Downtown where we saw it feeding young, and developed region of western Queensborough.

## Extirpated Species

### Western Screech Owl *Megascops kennicottii kennicottii*

Conservation status:

COSEWIC: 'Threatened'

SARA Status: Schedule 1, 'Special Concern'

British Columbia: 'Blue-list'

W. S. Maguire collected a specimen of Western Screech Owl on 1946 August 5 (Maguire 2010). The specimen is in the Museum of Vertebrate Zoology at the University of California Berkeley (Bird 97850). The Western Screech Owl has declined in abundance around Metro Vancouver, Victoria and the Gulf Islands possibly as a result of predation from recent arrival of the Barred Owl.

### Marsh Wren *Cistothorus palustris*

The Marsh Wren is widespread in marshes in the lower mainland and a specimen was collected from New Westminster in 1887 (Royal Ontario Museum 51860), but it was not found as a breeding species in the city despite repeated searches in remnant marsh habitats.

### Crested Myna *Acridotheres cristatellus*

The Crested Myna was introduced from Asia to the lower mainland in the late 19th century (Campbell et al. 1990). It likely lost nest sites to the more aggressive European Starling (Johnson and Cowan 1974). The species was formerly abundant and nested in the city. W.S. Maguire (Maguire 2010) wrote in 1938:

*May 14th Got permission from the caretaker to try for Mynah nest, big apt. house cor 6th & Royal. Had seen birds there for several weeks; ten days since carrying nesting material to a nest on down pipe under eaves. Got loan of ladder from B.C. Phone stores dept. Examination of nest disclosed one ten day 'chick' and one addled egg. Will watch." and in 1940: "Jan 8th A good many Mynahs around of late. Noisy, but not quarrelsome. They also resort to picking over kitchen scraps thrown on mulch bin.*

Maguire collected a specimen in 1946, now housed in the Royal Ontario Museum (58156). Individual mynas were present near the Canada Games Pool in the 1980s. Our last observation in New Westminster was 1987 June 3 when an indi-

vidual was seen flying over Victory Heights. Kelly Sekhon's (Pers. comm.) last sighting of mynas in Queensborough was in 1989. The species is now extirpated from New Westminster.

### Ring-necked Pheasant *Phasianus colchicus*

The Ring-necked Pheasant is a non-native species introduced from Asia. G. Sparrow flushed a hen from a nest containing ten eggs in Trapp Ranch on 1943 May 23. Males were heard calling in Richmond near the New Westminster border in 2012 but we did not detect it on Point Counts or at other times in the city where we consider it extirpated.

### Ruffed Grouse *Bonasa umbellus*

We include a record from G. Sparrow (Maguire 2013) "scared up a mother grouse and her family" on the Cumberland trail on 1945 May 24. The trail led from New Westminster to Burnaby Lake and Sparrow could not recall if it was within city limits. We have never seen this species in the city.

### Lewis's Woodpecker *Melanerpes lewis*

Conservation status:

COSEWIC: 'Threatened'

SARA, Schedule 1, 'Threatened'.

British Columbia: 'Blue-list'

It is not certain that the Lewis's Woodpecker nested within city limits but it was nesting in Surrey and Burnaby in the mid-20th century. W.S. Maguire in his field notes from the late 1930s and 1940s wrote: "A Lewis' [sic] Woodpecker 'raising heck' beside a hole in another. Probably a brood of young ones." [possibly in Green Timbers, Surrey - RB].

On 1939 April 8, Maguire was "above Burnaby Lake on Cumberland Road" where he wrote:

*Lewis [sic] Woodpeckers (mated pair) first I've ever seen down there. Copulation, and seemed much interested in a nesting hole which appeared to have been excavated last year.*

Today, Cumberland Road is about seven blocks long where it runs through Burnaby after leaving New Westminster. The Lewis Woodpecker is now extirpated from the Fraser River valley, although a few individuals show up from time to time. Breeding populations were extirpated in the 1960s.

### Western Bluebird *Sialia mexicana*

Conservation Status:

British Columbia: 'Red-list'

W.S. Maguire reported a nest with five eggs on Trapp Ranch on 1939 April 23 (Maguire 2010). The species was extirpated from the coast many years ago. Attempts have been made with limited success to reintroduce bluebirds to southeast Vancouver Island.

## Discussion

The condition and variety of native shrubby vegetation is a feature that affects the presence and abundance of many species of songbirds (Allombert *et al.* 2005). Queens Park, Moody Park, Tipperary and Woodlands are examples of parks that have tall trees but few shrubs and consequently support relatively few species of birds compared to Glenbrook and Hume Park that have both tall trees and understory favourable to a variety of birds. Restoration of some of the native forest and understory would benefit many species of birds.

Marshland has largely been lost in New Westminster. A marsh fringe on two river islands in Queens Reach off Sapperton Landing and several stretches of marsh along parts of the Fraser River including a restored marsh in Sapperton Landing, and along the perimeter of Queensborough is all that remains. Marsh dwelling species such as Wood Duck, Virginia Rail (*Rallus limicola*), Sora (*Porzana carolina*), Marsh Wren, Red-winged Blackbird, and Tree Swallow that were numerous nearby, were scarce or absent in the city. Marsh habitat could be established as part of the drainage ditches in Queensborough.

Suburban gardens across the city provided habitat for many species such as the Bushtit, Violet-green Swallow, White-crowned Sparrow, Song Sparrow, House Sparrow, Spotted Towhee, Black-capped Chickadee, House Finch, Northwestern Crow, American Robin, Steller's Jay, American Goldfinch, and Northern Flicker. Encouraging residents to plant shrubs and trees, in particular native species, would collectively enhance the birdlife in the city.

Our atlas supports the view that urban environments can hold substantial numbers of a regional fauna (Aronson *et al.* 2014). Slightly fewer than half of the breeding species in the Greater Vancouver area were represented in New Westminster. Many cities have begun to recognize the significance of birds in the lives of its citizens (Johnston *et al.* 2013). In 2006, Chicago approved a plan to improve the health and diversity of its wildlife developed by the Chicago Department of Planning and Development and the Mayor's Nature and Wildlife Committee. The plan identified existing habitats and those in need of restoration, and described how they would be protected. A bird plan coordinated the implementation. Similar plans were developed in Baltimore (Nilon *et al.* 2011) and Vancouver is developing a Bird Friendly Strategy to improve bird habitats. As the popularity of birding has grown so has its economic potential. An estimated 85 million Americans were estimated to have participated in birding activities in 2009 placing birding about fifteenth among the most popular activities (Cordell 2012). More than 36 percent of Americans or between 117 and 150 million people are estimated to

participate by 2060 (Cordell 2013). The popularity of birding was underscored by CM's sighting of a Red-flanked Bluetail (*Tarsiger cyanurus*) that created media attention and drew birders to New Westminster from across North America (Toochin 2013). The birding movement creates a potential economic draw for cities and serves the need to conserve their habitats. Atlases give a picture of the distribution of breeding species and can guide the preservation and restoration of bird habitats.

### Endangered, Threatened and Rare Species

An important issue for New Westminster is conservation of rare and threatened species. A Barn Owl nested recently within the city limits in Queensborough and a pair nested about a kilometer to the east of the Brunette River city limit (Pers. comm., S. Hindmarch). Essential elements for their survival are places to roost and nest such as in buildings or specially designed nest boxes, and grassy habitats with an abundance of rodents. It is not confirmed that the Common Nighthawk nests in the city. Flat, gravel-topped roofs in Sapperton are the most likely location and they should be searched for nests. Of lower concern, but a species to consider, is the Great Blue Heron. It foraged along the river within city limits. The closest nesting colonies were Colony Farms in 2012 and Deer Lake in 2013. Herons foraged in the marshes in Queens Reach and along the Fraser River riverbank especially where there was a marsh and riparian shrub edge at Sapperton Landing and Queensborough.

## Acknowledgements

Kelly Sekhon provided several breeding records for Queensborough and commented on some of the accounts. Records for particular species were received from Jay Brogan, Jonathan Coté, George Clulow, and Sofi Hindmarch. Garth Sparrow provided additional information and his field notes of birds from the New Westminster area from 1940 to 1952, and Hilary Maguire kindly made accessible the field notes of W. S. Maguire from 1938 to 1944. Ildiko Szabo provided access to museum records of birds collected by W.S. Maguire. Sharon Butler and Rod MacVicar helped search for birds in the field.

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