

Great Blue Heron FAQ

**** Click on the question to jump to it ****

Stanley Park Great Blue Heron Nesting.....	3
Where is this colony located?	3
When do the herons return to the colony?.....	3
How do they pick a mate?.....	3
Do the herons use the same nest each year?.....	3
How big are the nests?.....	3
How are the nests made?	3
How long does it take to build a nest?	3
Do herons mate for life?	3
When do the herons lay eggs?	3
How many eggs do they lay?.....	4
How long do they incubate the eggs for? When do the chicks hatch?	4
How much do the chicks eat?	4
What do they eat?.....	4
Where do the parents get the food?.....	4
Why are some chicks smaller than others?.....	4
When will the chicks leave the nest?	4
Where do the chicks go when they leave?.....	5
How many fledges will survive once they leave the nest?	5
Will the fledges be back next year?.....	5
What are the main predators of the heron chicks?.....	5

Pacific Great Blue Heron FAQ's6

- How many Pacific Great Blue Herons are there?.....6
- What makes this fanini subspecies unique?6
- How long do they live?6
- How big are they?6
- How can you tell the difference between males and females?6
- Why do they have such long plumes on their chest?6
- How can you tell the difference between adults and juveniles?6
- What is the herons' conservation status?6
- Why are they a conservation concern?7
- What is the biggest threat to this subspecies?7
- What effects do bald eagle predation have on the heron colony?.....7
- What laws protect the herons?7
- Where do the herons go in winter?.....7
- How can people help herons?8

Stanley Park Heron Colony Facts9

- How many nests are in the colony?.....9
- How long have they been here?.....9
- What kind of trees are they nesting in?9
- What are the fences for?.....9
- What are the metal wraps around the trees?9
- Why is this colony so tolerant of people?9
- What is the Stanley Park Great Blue Heron Colony Management Plan?10
- How is the colony monitored?10
- What feeding habitat does this colony rely on?10
- Will this colony stay here forever?10
- Are the herons killing the trees?10
- Is it true that nesting herons sometimes build colonies next to eagle nests?11

References12

Stanley Park Great Blue Heron Nesting

Where is this colony located?

It is located at 2099 Beach Ave outside the Park Board head office parking lot.

When do the herons return to the colony?

Usually mid-February to mid-March, but it has been as early as January 15. Males return to the colony first and females may arrive a week or so later (Butler, 1991). The herons can begin mating right away or they may wait several weeks. The timing of their arrival and egg laying largely depends on whether enough food resources will be available for them during the egg laying period.

How do they pick a mate?

The plume feathers on the heron's neck are used to attract the opposite sex. After securing a nest sites, the male will stretch its neck and fluff the plume of neck feathers. He may also fly in circles or shake twigs to impress a female. When the female is impressed, courtship follows. They can be seen stretching their necks vertically, emitting loud cries, crossing their bills and clattering their beaks together.

Do the herons use the same nest each year?

Most herons likely change nests each year, and often change colonies year to year as well. Adult herons are known to return to nest in the same colony they were born in. The pair works together to fix up existing nests or build new ones, and continues improving and maintaining their nest through the season.

How big are the nests?

Nests can be 1m in diameter and 0.5 m deep.

How are the nests made?

They are a large collection of twigs and often contain a small cup at the center lined with soft materials such as moss, lichens, or leaves to hold the eggs and young chicks. The male goes to gather sticks which he brings to the female to weave into the nest.

How long does it take to build a nest?

Nest building may be completed within a day or take several weeks. Sometimes the pair selects an existing nest or starts a new one from scratch.

Do herons mate for life?

No. Herons are "seasonally monogamous" as they select a new mate each season.

When do the herons lay eggs?

They start incubating eggs in Feb-Mar, days or weeks after they return to the colony. If their first clutch of eggs fails they can lay up to 2 more clutches, so we may see eggs

as late as May/June. One assumption is that herons produce eggs soon after they consume enough fish, and fish migrations are dictated by sea temperature (Butler, 1997).

How many eggs do they lay?

They can lay 2 to 5 bluish eggs, but 4 is the average.

How long do they incubate the eggs for? When do the chicks hatch?

Eggs are incubated by both **adults, normally male by day and female by night** for the 28-day incubation period. The first fuzzy grey chicks are usually seen in early April or May.

How much do the chicks eat?

The chicks are fed for about 60 days on the nest. Both adults feed the young by regurgitating directly into the chicks' open beaks. Chicks grow rapidly, gaining almost 40 times their weight in eight weeks, from approximately 50 g at birth to 2 kg at fledging. A family of two adults and two chicks uses approximately 2000 calories daily to survive and this growth requires almost constant foraging by the parents.

What do they eat?

During the breeding season they mostly eat small fish, but they will also eat shellfish, insects, rodents, amphibians, reptiles, and even small birds. In the Fraser Valley, the herons' spring and summer diet includes gunnels, sticklebacks, sculpins, shiner perch, pipefish, tube-snout, starry flounder, shrimp, smelt, eulachon, peamouth chub, and redbay shiner (Butler, 1997).

Where do the parents get the food?

Breeding Pacific Great Blue Herons require accessible prey within about 10 km of a nesting location (Butler 1995). Adults from the colony have been observed around the Stanley Park's coastline, as well as along English Bay and Burrard Inlet shorelines. Although they used to feed mainly along Spanish Banks, the majority of herons now fly across the city at the north arm of the Fraser River. A few herons have even been observed flying past Point Atkinson towards Horseshoe Bay or Bowen Island.

Why are some chicks smaller than others?

Eggs are laid 1-2 days apart and the asynchrony of laying helps to give older chicks an advantage over younger ones. Weaker chicks often starve due to sibling dominance or may be actively killed or pushed out of the nest by siblings. If there is an abundance of food, all chicks will survive. An average of 1-2 of the 3-4 original chicks that hatched will survive to fledging age.

When will the chicks leave the nest?

At 8 weeks of age, the young leave the nests and follow their parents to feeding grounds where they learn to hunt for fish, frogs and voles, beginning the process of independent life. The first young birds begin a life on their own in June and most are gone by late August.

Where do the chicks go when they leave?

They disperse to local feeding grounds such as Lost Lagoon, Beaver Lake, the Stanley Park shoreline, Coal Harbour, False Creek, and the coastline from Jericho to Wreck Beach. Some likely move to Ambleside Beach, the West Vancouver coastline, the inner area of Burrard Inlet, the Fraser River, Iona Beach and to some of the islets and islands off the mainland. In winter, adult and juvenile herons can be seen feeding around the shoreline and in agriculture fields around the Fraser Delta.

How many fledges will survive once they leave the nest?

Fewer than 25% of juveniles survive their first winter, after which survival increases to about 75% per year for adults (Butler 1997). Young herons have to learn for themselves how to forage and avoid predators, and many are unsuccessful. Those born later in the season have a reduced chance of surviving if foraging conditions are unfavourable.

Will the fledges be back next year?

It takes 22 months before juvenile herons mature to reproductive age, and they may not be highly successful for the first year or two after that. It is understood that often they will return to the home heronry to start their own families. The herons fledged in 2015 should be back in 2017.

What are the main predators of the heron chicks?

There is growing concern for heron colonies abandoning their locations due to increased predation (Vennesland and Butler, 2004). Eagles may attack the eggs and chicks, while raccoons and owls may appear slightly later in pursuit of small chicks.

Pacific Great Blue Heron FAQ's

How many Pacific Great Blue Herons are there?

There are about 4000-5000 living in Canada, 3300 of which live around the Salish Sea (COSEWIC, 2008). The largest concentrations of these herons occur around the Fraser River delta. The global population of the Pacific Great Blue Heron is likely between 9,500 and 11,000 nesting adults.

What makes this fannini subspecies unique?

The Pacific Great Blue Heron (*Ardea herodias fannini*) is darker plumaged, smaller in size and has a smaller clutch size than continental herons. They also do not migrate as most great blue herons do (COSEWIC, 2008).

How long do they live?

Hérons can live for 18 years in the wild but most adults probably live for about 10 years (Heron Working Group, 2001).

How big are they?

Hérons stand 60cm tall and have a wingspan of 2m. They weigh approximately 2.5kg. Females are approximately 5-15% smaller than males.

How can you tell the difference between males and females?

Males are slightly larger than females and have longer bills, but they are very hard to tell apart.

Why do they have such long plumes on their chests?

The characteristic long blue-grey plume feathers on their chests and necks develop during the winter in preparation for courtship displays.

How can you tell the difference between adults and juveniles?

Adults have a blue-grey plumage and a white and black crown on their heads, while juveniles have a dark crown and chestnut-coloured edging to wing coverts. Juveniles also lack the long body plumes, shoulder patches and white crown stripes of the adult.

What is the herons' conservation status?

The coastal great blue herons (*Ardea Herodias fannini*) is blue listed (vulnerable) in BC and was listed as Special Concern federally by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) in 1997 and 2008 (BC Conservation Data Centre 2007; COSEWIC 2007). Due to the continued decline in their population, it is likely these herons will be up-listed to 'endangered' status at their next review.

Why are they a conservation concern?

The population of these herons has declined steadily since the 1980's. The entire population of this subspecies is isolated almost exclusively to the Lower Mainland region where there is heavy human disturbance and habitat loss. They are considered vulnerable to disturbance by bald eagles and humans as urban and rural development result in a loss of suitable nesting areas and disturbance to birds during their breeding season. Their nest success (percentage of nests that produce a viable fledge) has dropped from around 92% in 1977-81 (Forbes, 1985) to less than 50% in 2000 (Vennesland, 2000).

What is the biggest threat to this subspecies?

The major factors currently limiting the persistence of heron populations in the region are nesting failure and reduced nesting productivity arising from eagle predation, human disturbance and habitat declines from development (COSEWIC, 2008). Human activity disturbs nesting herons and has been linked to reduced nesting productivity (COSEWIC, 2008).

What effects do bald eagle predation have on the heron colony?

Bald eagles are the primary predator of Pacific great blue herons and represent a significant limiting factor to heron populations. Predation and the associated disturbance eagles cause results in significantly higher nest and colony abandonment. Eagle populations on the south coast have increased since the mid-1980s and the rate of attacks on nesting herons has more than doubled over the same time period (Vennesland and Butler 2004).

What laws protect the herons?

The B.C. Wildlife Act, Section 34 and the Migratory Birds Convention Act protect the herons and their nests. It is an offence to possess, take, injure, molest, or destroy a bird or its eggs, or the nests of birds when occupied by a bird or egg. The nests and nest trees of herons are protected year-round, whether or not the nest is currently active. 'Molestation of wildlife' is also an offence under the Wildlife Act, and even walking near the nest or loud noises from equipment may be considered 'molestation' if this causes the birds to abandon active nests (Develop with Care Factsheet, 2014).

Where do the herons go in winter?

The Pacific great blue herons are unique from other herons across North America because they are non-migratory. Throughout the year you may see juvenile and adult herons feeding in intertidal areas around the Fraser River delta and English Bay-Burrard Inlet. After October, juveniles reside largely in grasslands in winter (Butler, 1997) to feed on rodents.

How can people help the herons?

1. Herons compete with people for space because they feed along the shorelines and nest in trees near our local beaches. Providing adequate feeding habitat and giving herons space in intertidal areas is helpful.
2. Reducing disturbances at the colony is especially important at the early stages of nesting. Unusual events and loud noises such as mechanical chippers, chainsaws, and large trucks may cause the herons to abandon their nests.
3. Protecting large trees near the shoreline can help herons find perches and serve as potential future colonies.
4. Support the Stanley Park heron monitoring program by joining the Adopt a Nest program: <http://stanleyparkecology.ca/get-involved/adopt/adopt-a-heron-nest>

Stanley Park Heron Colony Facts

How many nests in the colony?

In 2014, the colony had a total of 116 nests (94 active) with activity peaking in May. At the start of the 2015 season there were 106 available nests, but this is expected to change as some will be taken apart and new ones will be built during the breeding season.

How long have the herons been here?

The herons were first documented breeding in the park in 1921 (near Brockton Point), and they moved to the current location in 2001.

What kind of trees are they nesting in?

The herons have presently selected bigleaf maple, red oak, and London plane trees to build nests in.

What are the fences for?

The fences surrounding the nesting trees are to protect the herons from disturbances and protect people from falling sticks and guano. Although the herons were wary of the fences at first, they soon became used to them and took advantage of their new habitat. They have regularly been observed collecting sticks that have fallen on the ground and young birds sometimes spend time on the ground before learning to fly.

What are the metal wraps around the trees?

These are predator guards to prevent raccoons from predated the nests. Prior to 2010, raccoons had commonly been seen climbing the trees and sleeping in empty nests during the daytime and were observed attacking chicks during the day and night. In 2009 approximately 44 nests were estimated to be predated, mostly by raccoons. This increased pressure was a big concern for the colony, as these birds are a Species at Risk in BC while raccoon numbers are inflated in the park due to people illegally feeding them. Predator guards were installed on the trees to reduce access for the raccoons in January 2010 by Park Board and Stanley Park Ecology Society (SPES) staff.

Why is this colony so tolerant of people?

Surrounded on all sides by parking lots, apartment buildings, automobile noises, tennis courts, and a stream of human movement below, this colony is unusual for this heron species. Many heronries are very sensitive to disturbance and the birds may flee when humans approach even from 200m away (Butler 1991). Despite the seeming tolerance from the Stanley Park herons, they are susceptible to unusual disturbances or events, which may result in nesting failures or abandonment of chicks, eggs or nests.

What is the Stanley Park Great Blue Heron Colony Management Plan?

At the request of BC provincial government biologists, the Vancouver Park Board developed the Stanley Park Heronry Management Plan in 2006. The plan provides guidelines and management directions for habitat protection, reduction of disturbances, site management, and stewardship and monitoring of the colony. The appendices include historical information, results of soil testing analysis, sample monitoring protocols, and a nesting activity timeline. Found online here: <http://stanleyparkecology.ca/wp-content/uploads/downloads/2012/02/SOPEI-Stanley-Park-Heron-Colony-Management-Plan.pdf>

How is the colony monitored?

Since 2004, the colony has been monitored regularly throughout the nesting period — from March through July—by Stanley Park Ecology Society (SPES) staff and dedicated volunteers. Observations from the ground provide an accurate overall nest count, help to locate new nests, and provide opportunities to view colony-wide nest activity. From a nearby apartment building, monitors are able to observe individual nests in order to follow their progress throughout the season. Using survey protocol developed by the local Great Blue Heron Working Group (www.heronworkinggroup.org), a sample of the nests is selected and observed for the entire season to determine nesting productivity and overall nest success. These results are relayed to provincial and federal biologists to contribute to regional population studies. For more info visit: <http://stanleyparkecology.ca/conservation/urban-wildlife/herons>

What feeding habitat does this colony rely on?

In 2007-2008 SPES volunteers and staff did a study to determine where the herons were feeding during the nesting season. They watched herons as they flew in and out of the colony and used orthophotos and compass bearings to determine which direction they were heading. Although some of them were spotted heading to English Bay and surrounding beaches, most of them appeared to fly over Kitsilano and towards the north arm of the Fraser River.

Will this colony stay here forever?

Pacific Great Blue Heron colony locations are dynamic; some are used for many years while most small colonies relocate every few years (Gebauer and Moul, 2001). This colony may decide to move one day if it is disturbed too much, or if the trees become unsuitable for nesting. If an entire colony abandons and there is sufficient time to complete a nesting cycle, the birds will occasionally return as a group to the same or different colony site in the same year (Vennesland, 2000). This is why we believe our colony increased dramatically late in 2004, just after the Pacific Spirit Park and Point Roberts colonies abandoned. Some heron colonies have been known to last for 30 or more years in one location, and given the longevity of previous heronries at other Stanley Park sites, it is possible the current site may also be in use for a quite long time.

Are the herons killing the trees?

Nesting habitat in a large colony can become degraded very quickly. The large numbers of adult and young birds deposit copious amounts of excrement; it coats the

leaves of the trees and can effect changes in soil conditions, resulting in the accelerated death of the host trees (VPB, 2006). The herons also harvest sticks for nest-building materials by stripping foliage and branches from both nesting and non-nesting trees. Removal of actively growing branch tips can reduce leaf numbers and thus photosynthetic ability, reducing the trees' ability to grow. Some non-nest trees near the heronry have suffered marked defoliation due to the herons' activities (VPB, 2006). Park Board forestry technicians keep a close eye on the trees to watch for and remove dead limbs before they become dangerous.

Is it true that nesting herons sometimes build colonies next to eagle nests?

Yes. Research shows that there are positive effects of associative nesting between eagles and herons (Jones et. al, 2012). However, these quickly dissipate when proximity is greater than 200m. Since Stanley Park's heron colony is roughly 750m from the nearest bald eagle nest, the Stanley Park herons presumably do not gain the advantages of associative nesting in their current location. However, it may be that its close proximity to the downtown core affords the Stanley Park heron colony a similar sort of 'protection'.

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