

Stanley Park Bald Eagle Nest Update 2020

Overview

Stanley Park Ecology Society (SPES) has been monitoring Bald Eagle (*Haliaeetus leucocephalus*) nests in Stanley Park since 2004 following the Wildlife Tree Stewardship (WITS) protocol.

Bald Eagles are highly territorial and repeatedly return to the same nest, so the number of established couples and successful fledglings provide insights into eagle productivity, competition and the capacity of the Park to support Bald Eagles. This monitoring also allows SPES to apply best-management practices, and inform the timing for Park operations and other activities (Appendix 1). Where available, Bald Eagles prefer to use large conifers for nesting. They build their nests near the trunk, high up in the tree, but below the crown. A site with an unimpeded view of the surroundings is especially desirable. Most Bald Eagle nests are found within 300 m of a water body. In Stanley Park, many of the Bald Eagle nests have been reused throughout the years, with some falling and others being built. It is difficult to identify individual adult eagles by their morphology, so we are not certain for how long a given nest is being used by the same individuals. However, one Bald Eagle pair lays their eggs on a consistent date year after year, which may indicate the same couple is using a nest again.

From 2004 to 2020, thirteen Bald Eagle nests were active at different times (Figure 1). This year two new nests were partially completed, five Bald Eagle couples were active at their nests in the Park, and four of these nesting pairs were successful. Six eaglets were born and all survived to successfully fledge (Table 1).

From March 2020 to August 2020 every active nest was surveyed at least once a week. The Dining Pavilion nest was monitored more often since the SPES staff could make observations from their office. The Cathedral Trail nest was also monitored more often by Dean Sinnett, surveying the nest with a scope from his home downtown. The people that surveyed the eagle nests regularly this year were:

- Meghan Cooling – SPES Conservation Technician
- Claudia Kowalski – SPES Volunteer
- Nicole Delapierre – SPES Volunteer
- Dean Sinnett – Naturalist (surveys the Cathedral Trail nest)

In this report we detail the 2020 Bald Eagle nests and compare data with preceding years, excluding 2015 due to lack of data.

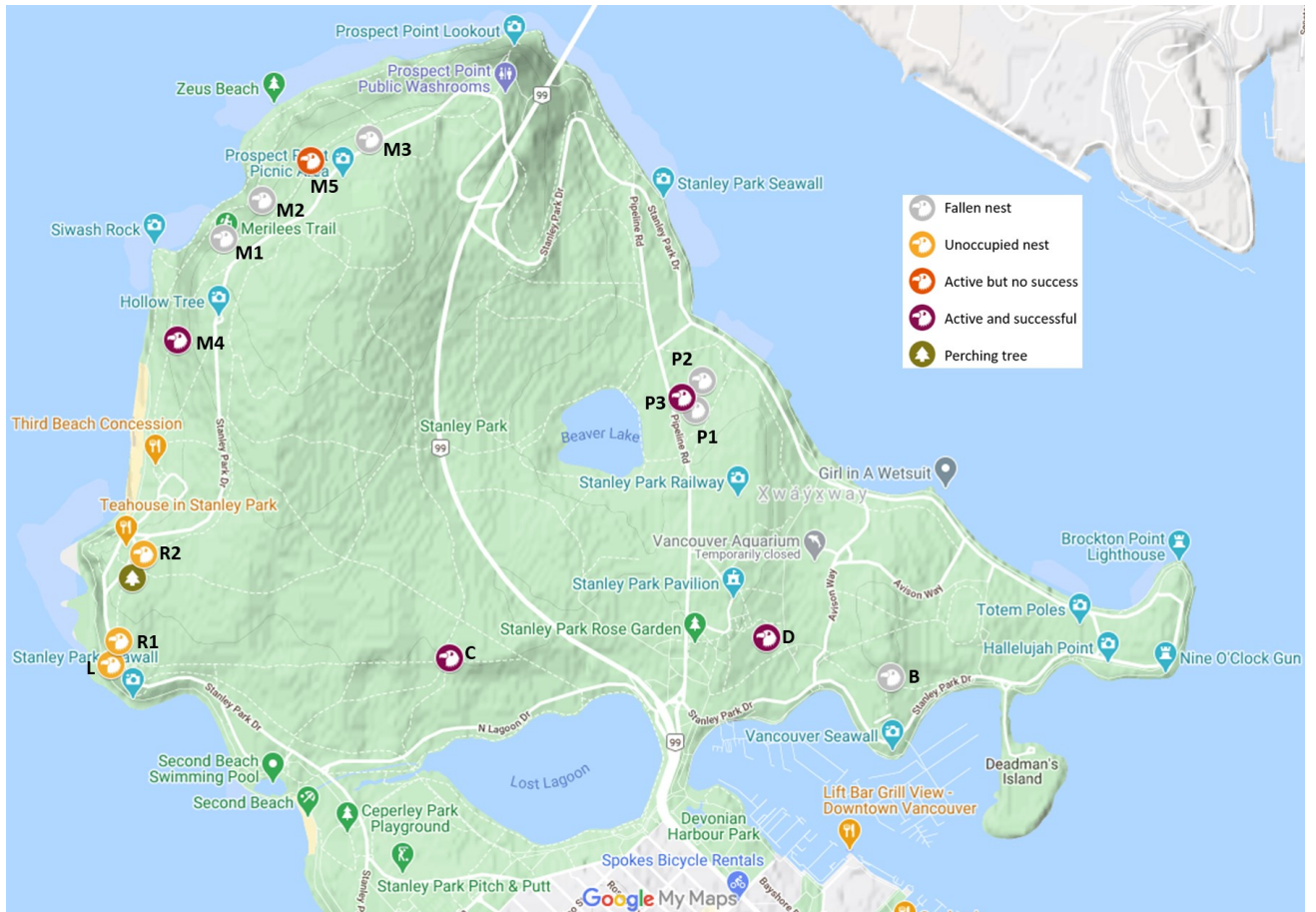


Figure 1. Bald Eagle nest locations throughout Stanley Park from 2004 to 2020, with their status in 2020. B: Brockton; C: Cathedral; D: Dining Pavilion; L: Lees; M1-M5: Merilees 1-5; P1-P3: Pipeline Road 1-3; R1-R2: Rawlings 1-2

Table 1. Incubation, number of eaglets, and number of fledglings per active nest in 2020

Active Nests	Incubation	Eaglets	Fledglings
Cathedral	Yes	2	2
Dining Pavilion	Yes	2	2
Merilees 4	Yes	1	1
Merilees 5	No	0	0
Pipeline Road 3	Yes	1	1

Active Nests in 2020

Cathedral Trail

Tree species: Douglas fir

Coordinates: UTM zone 10N, 489507, 5460638

Location description: At the junction of Bridal, Lees, and Cathedral trails (Figure 2)

Nest productivity: Successful, 2 eaglets



Figure 2. Left: Cathedral nest as viewed from Bridle Trail, the inset shows a close-up of the nest (Photos: Meghan Cooling, SPES Staff, 2019). Right: One of Cathedral pair calling from top of nest tree (Photo: Claudia Kowalski, SPES volunteer, 2020).

After being inactive last year for the first time in 16 years, the eagles were back in Cathedral nest this year and successfully raised two chicks. The Sinnett family, who monitor this nest with a scope from their home, observed the pair return to the nest at the beginning of March, and begin incubating in early April. Chicks were first seen via scope on May 3, but due to the depth of this nest, weren't observed during weekly monitoring until July 6. As these two eaglets hatched later than the other eagle chicks in the Park, they were also the last to fledge, and were last seen on August 13. The Cathedral nest is the oldest and largest nest in the Park.

Dining Pavilion (Malkin Bowl)

Tree species: Douglas fir

Coordinates: UTM zone 10N, 490342, 5460700

Location description: Just east of Malkin Bowl (Figure 3)

Nest productivity: Successful, 2 eaglets



Figure 3. Top left: View of Dining Pavilion bald eagle nest from northwest, standing in the Pavilion Garden (Photo: Ariane Comeau, SPES staff, 2017). View of Dining Pavilion nest and eaglets from SPES office using spotting scope. Week labels refer to the approximate age of the eaglets since hatching (Photos: Meghan Cooling, SPES staff, 2020).

This year the couple at the Dining Pavilion nest had two eaglets that both successfully fledged. Last year one of the eaglets died falling from the nest and in 2016 both chicks fell from the nest, though one was later released by O.W.L. back into the Park. We suspect a different pair used the Dining Pavilion nest this year, as the eggs were laid in early March, almost a month before when they were laid last year. Bald Eagles mate for life, and a given pair tends to lay their eggs at the same time every year, give or take a few days (Hancock Wildlife Foundation). The eaglets were first seen flying at the end of June. They stayed around the nest tree for over two weeks before flying away for good on July 19 (week 15).

Merilees 4

Tree species: Douglas fir, leaning sharply

UTM: zone 10N, 488721, 5461526

Location description: On east side of Merilees Trail, south of where the trail meets with Siwash Rock Trail (Figure 4)

Nest productivity: Successful, 1 eaglet



Figure 4. Left: View of Merilees 4 nest from Merilees Trail, looking south, just south of where trail meets with Siwash Rock Trail (Photo: Meghan Cooling, SPES staff, 2019). Right: Female eagle sitting in nest (Photo: Claudia Kowalski, SPES volunteer, 2020).

This pair was seen around the nest in January and February, and rebuilt the nest higher up the tree in early March. They were first observed incubating on March 22. A chick, already covered in brown feathers, was glimpsed in early June. This eaglet was unusual in that it spent most of its time hunkered down in the nest, instead of “branching” like the other eaglets in the Park. Branching refers to when the young eaglets begin sitting on branches near the nest, often flapping their wings to strengthen flight muscles, in preparation for fledging. Branching behaviour usually begins several weeks before flying, but this eaglet wasn’t observed perching outside the nest until a week before it flew away! It was last seen flying to a nearby tree on August 7.

Merilees 5

Tree Species: Western hemlock

Coordinates: UTM zone 10N, 489090.5, 5462019.9

Location Description: Tree by Park Drive road, in front of fire hydrant, North of Prospect Point Picnic Area (Figure 5)

Nest productivity: Failed



Figure 5. Left: Merilees 5 nest from viewpoint in front of Prospect Point Picnic area (Photo: Meghan Cooling, SPES Staff, 2019). Right: The Merilees 5 pair perched near the nest tree early in the season. Notice the large size difference between the male (left) and female (right)! Female Bald Eagles may be up to 25% larger than males (Photo: Claudia Kowalski, SPES volunteer, 2020).

Despite early observations of activity in Merilees 5 nest between January and April, including mating in the nest, this couple laid no eggs this year. This nest was built in 2018 and successfully fledged two eaglets in both 2018 and 2019.

Pipeline Road 3

Tree species: Douglas fir

Coordinates: UTM zone 10N, 490115.5, 5461364.5

Location description: East side of Pipeline Road, between Tisdall Walk and Ravine Trail, between two snags (Figure 6)

Nest productivity: Successful, 1 eaglet



Figure 6. Left: View of Pipeline Road 3 Bald Eagle nest from west, standing by Pipeline Road (Photo: Meghan Cooling, SPES Staff, 2019). Right: Pipeline eaglet perched above nest (Photo: Michael Seear, 2020).

For the first time since this nest was built in 2017, the couple in this nest successfully raised an eaglet! Like the Cathedral nest, eagles sitting in this nest cannot be seen from the ground, making observing incubation impossible. Due to this difficulty, we did not know for sure if the couple were using this nest until a chick was observed on June 10. The Pipeline Road 3 eaglet was last heard on August 3, singing from a tree east of the nest tree.

Inactive nests

Lees

Tree species: Douglas fir, leaning sharply

Coordinates: UTM zone 10N, 488537, 5460629

Location description: Across Stanley Park Drive from the western entrance to Lees Trail (Figure 7)



Figure 7. Left: View of Lees nest, in severely leaning Douglas fir, looking west across Stanley Park Drive from Lees Trail (Photo: Meghan Cooling, SPES staff, 2019). Top right: Remnants of Lees nest at end of March (Photo: Claudia Kowalski, SPES volunteer, 2020). Bottom right: Small Rawlings 1 nest discovered in area in July (Photo: Michael Seear, 2020).

This unusually small nest was discovered at the end of 2018. A couple was seen periodically sitting in the nest during 2019, but no eaglets were observed. This year the nest was not worked on, and is now in considerable disrepair. Interestingly, two additional small nests were noticed in the area in July (named Rawlings 1 and 2 in Figure 1). A female eagle was rescued by O.W.L. early on in the breeding season, and another eagle continued to be seen in the area. We hypothesize that these nests were built by this couple. Building practice nests is typical of young Bald Eagle couples, and it will be interesting to see if one of these nests becomes permanent next year, as the female eagle was later successfully released by O.W.L.

Comparison with previous years

In the Broken Islands of Vancouver Island, eagle populations are only considered sustainable when more than 0.7 young are produced per nest per year (Pendergast 2004). According to this number, the nests in Stanley Park from 2007 to 2012 were not sustainable, with the exception of 2011, but have been sustainable since 2013 (Figure 8). Figure 8 also shows the nesting success of the Bald Eagles in Stanley Park over the years. Table 2 shows which nests were active every year, and how many eaglets successfully fledged from each nest. Figure 9 shows the total number of nests observed, active nests, successful nests and number of fledglings per year in the Park. Table 3 indicates the date of Bald Eagle nesting events in 2020.

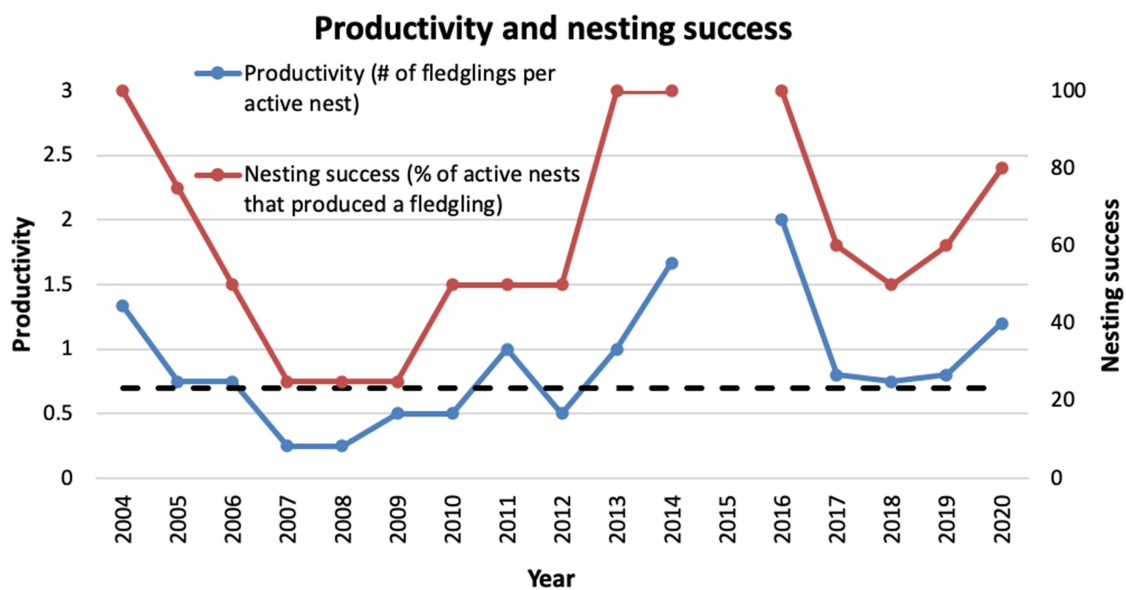


Figure 8. Productivity and nesting success of Bald Eagles in Stanley Park from 2004 to 2020 (excluding 2015). Bald Eagle populations are considered sustainable if the number of fledglings per nest observed is over 0.7 (dashed black line) (Pendergast 2004).

Table 2. Productivity expressed by the number of fledglings per active nest throughout the years. The grey cells indicate the active nests for each year.

Bald Eagle Nests	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Brockton							1	0	1	1	1						
Cathedral	1	0	0	0	0	0	0	1	0	1	2	?	2	2	1		2
Dining Pavilion	2	1	2	0	0	0						1	2	0	0	1	2
Lees																0	
Merilees 1		1	0							1	2						
Merilees 2				0									2				
Merilees 3					1	2	1	0	0					1			
Merilees 4										1	0	?	?	1		1	1
Merilees 5															2	2	0
Pipeline Road	1	1	1	1	0	0											
Pipeline Road 2							0	3	1								
Pipeline Road 3														0*	0	0	1

*In 2017, an eaglet was heard in the Pipeline Road 3 nest but we don't believe it survived.

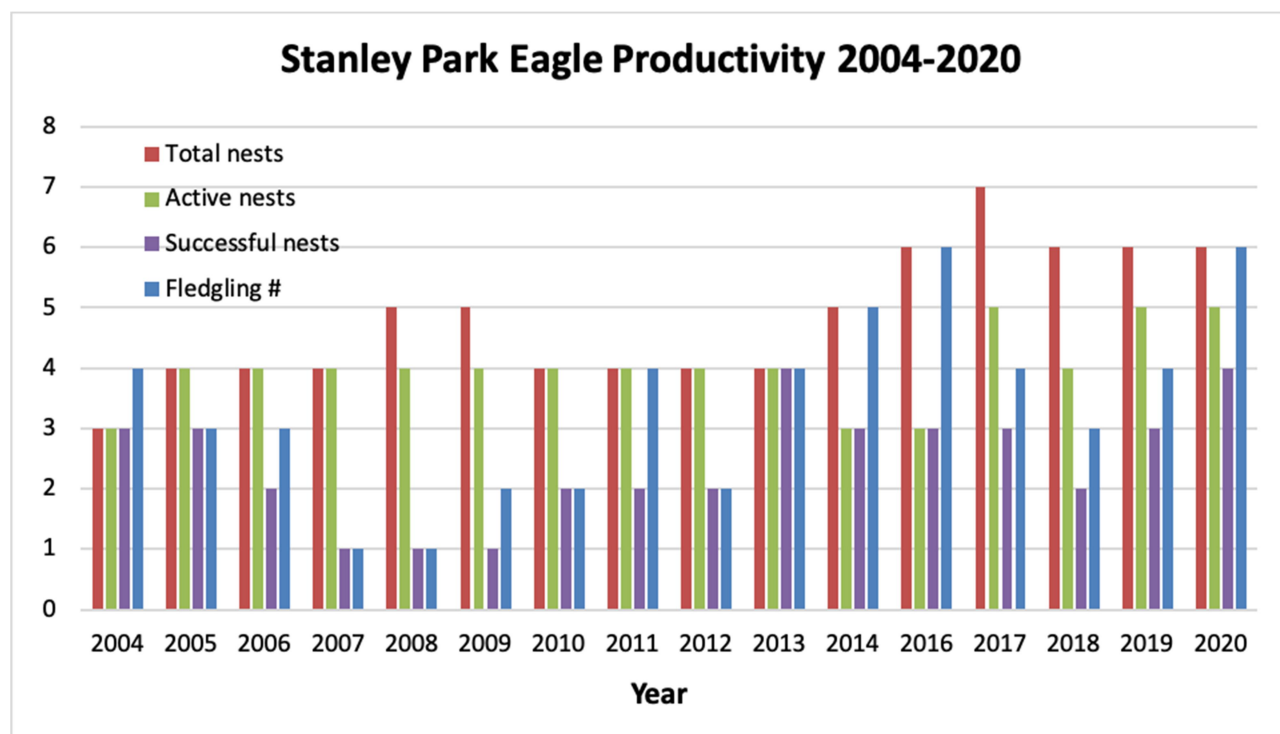


Figure 9. The number of total nests, active nests, successful nests, and number of fledglings each year.

Table 3. Bald Eagle nest event dates in 2020. The dates are as close as possible to the event dates, but are not exact due to lack of daily observations and the difficulty of seeing into some nests.

Bald Eagle nests	Adult first seen inside nest	Adult first seen incubating	Adult last seen incubating	Hatching date	Eaglet first heard/seen	Eaglet last heard/seen
Cathedral	2020-03-11	2020-04-06	2020-05-03	~2020-05-03	2020-05-04	2020-08-13
Dining Pavilion	2020-01-08	2020-03-05	2020-04-25	~2020-04-09	2020-04-28	2020-07-19
Lees	n/a	n/a	n/a	n/a	n/a	n/a
Merilees 4	2020-02-11	2020-03-22	2020-04-25	~2020-04-26	2020-06-09	2019-08-07
Merilees 5	2020-01-09	n/a	n/a	n/a	n/a	n/a
Pipeline Road 3	2020-03-11	?	?	?	2020-06-10	2020-08-03

In 2020:

Adult incubating starting in March / early April

Hatching in April / early May

Eaglets last seen late July / August

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Bald Eagle nests and the trees they reside in are protected under Section 34 of the Wildlife Act. If you have concerns about the safety of a nest in your area, please contact your regional BC Ministry of Environment office.

References

Hancock Wildlife Foundation. Accessed here: <https://hancockwildlife.org/hancock-wildlife-reference/bald-eagle-biology/bald-eagle-nesting-season/>

Pendergast, C. 2004. Bald Eagle Occupancy and Productivity Surveys on Vancouver Island. Accessed here: http://www.env.gov.bc.ca/wildlife/wsi/reports/4198_WSI_4198_RPT.PDF

Appendix 1: Buffer map for Vancouver Park Board

This map, which provides a 200 m around eagle and heron nests, is used to guide best-practices for Park operations, film crews, etc.

Stanley Park Eagle and Heron Nests 2019

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