

Post Point Heron Colony

2017 Monitoring - Annual Report

prepared for:

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Post Point Great Blue Heron Colony Annual Chronology

EXECUTIVE SUMMARY

The Post Point Great Blue Heron Colony is the only known heron nesting site in the City of Bellingham. The colony was first documented in 2000, at its present location in south Bellingham's Fairhaven district, adjacent to the Post Point Wastewater Treatment Plant. The colony is located in a forest patch on City owned property, situated between the wastewater plant and privately owned undeveloped land. Due to the sensitivity of the heronry and its uniqueness within the city, Bellingham Public Works requested a management plan (2003), followed by a scientific baseline study of the colony in 2005 to document breeding chronology, nesting activities, colony status and habitat use. Following these efforts, annual monitoring of the colony has been employed as a conservation measure due to the colony's local significance as a critical habitat area, and unique natural feature within the urban area.

Habitats used by the Post Point herons include upland forest, fallow grass field, freshwater, estuarine and nearshore marine areas. All of these essential habitats form a habitat mosaic supporting staging, nesting, roosting and foraging. The heron nesting area is situated on a nearshore slope in mixed forest. The herons utilize this habitat for both nesting and roosting and are present seasonally in large concentrations to nest, and in smaller year-round roosting aggregations in the same contiguous forest as the colony. Herons forage along grassy margins and the intertidal shoreline of Post Point, Marine Park, Post Point lagoon and Padden Creek estuary, as well as shoreline areas of Bellingham Bay, Chuckanut Bay and Portage Bay.

The results of the 2017 Post Point Great Blue Heron Colony Annual Monitoring are detailed in this annual update. Monitoring of the site spanned 7 months and included 27 site visits from mid-February to late August.

The 2017 nesting season was delayed due to abnormally cold weather and snow. Starting in late-February herons started to return, and then left the colony temporarily. By March 15 the colony was reoccupied and nesting was underway, although several herons arrived in April. Nesting continued through July, with fledging at that time, and a few nests remained active in August. A total of 35 nests were active and all produced young. This nest total was 6 more than 2016, and only 2 nests less than the colony's all-time high of 37 nests in 2006. Bald Eagle presence around the colony was infrequent and also peaceful this season, with no incursions in the colony reported. No major disturbances were observed or reported in the colony. Passive human related disturbance at the Marine Park foraging area occurs occasionally. In general 2017 was a successful nesting season for the Post Point heron colony.

INTRODUCTION

The Post Point Great Blue Heron Colony Annual Report details the 2017 heron colony monitoring results and provides a comparison with previous years. The Post Point heronry is located near Fairhaven in south Bellingham, Washington (T37N/R2E/Section 2). This is the only known heron nesting site in the City of Bellingham and is considered a sensitive breeding habitat area. This nesting colony is small, yet unique within the city, and is important for sustaining the area's heron population.

The Great Blue Heron (*Ardea herodias*) is a year-round resident in western Washington, and recognized as a Priority Species by Washington Department of Fish and Wildlife (WDFW). Heron colony sites are also considered Priority Habitats by WDFW, and as Critical Areas in many jurisdictions, including Bellingham, requiring the protection of both the herons and their habitat. Heron nesting colonies are sensitive to human disturbance, requiring special management to maintain their stability and productivity. The [WDFW Management Recommendations for Great Blue Heron](#) provides the necessary guidelines and important life history information to inform planned projects and activities near heron colonies.

The City of Bellingham Public Works Department has supported the conservation of the Post Point Great Blue Heron Colony site by developing a management plan 2003 (now outdated), establishing a scientific baseline 2005, and funding professional monitoring of the colony, which has been ongoing since 2005.

Monitoring of the Post Point heron colony includes four primary components:

- **general monitoring**, focusing on heron in-colony activity, nesting chronology and related behavior;
- **disturbance monitoring**, observing and documenting any disturbances to the herons within the colony or feeding areas;
- **productivity monitoring**, tracking nesting activity, number of young/nest and fledging;
- **nest and nest tree survey**, updating the number of nests, nest trees utilized during the breeding season and assess overall forest health.

In addition to the colony monitoring, heron foraging observations are also made in the immediate area during the nesting season, to document feeding activity.

Bald Eagle activity in the vicinity of the colony is also recorded during monitoring site visits, due to their role as the heron's primary predator.

Monitoring usually spans six months but may vary year to year.

Planning and implementation of monitoring in 2017, including on-site field observation and data collection, was conducted by Tami DuBow and Ann Eissinger of Nahkeeta Northwest Wildlife Services based in Bow, Washington. Ms. Eissinger has over twenty-five years experience monitoring Great Blue Herons and is expert in heron ecology, behavior, colony dynamics and stewardship. Her 2007 publication provides the most up-to-date synopsis of heron life history and status as a valued ecosystem component in Puget Sound - [Great Blue Herons in Puget Sound: Technical Report 2007-06](#) prepared for the Puget Sound Nearshore Partnership. This

technical report, serves as the general reference for heron life history and breeding information used in this annual update.

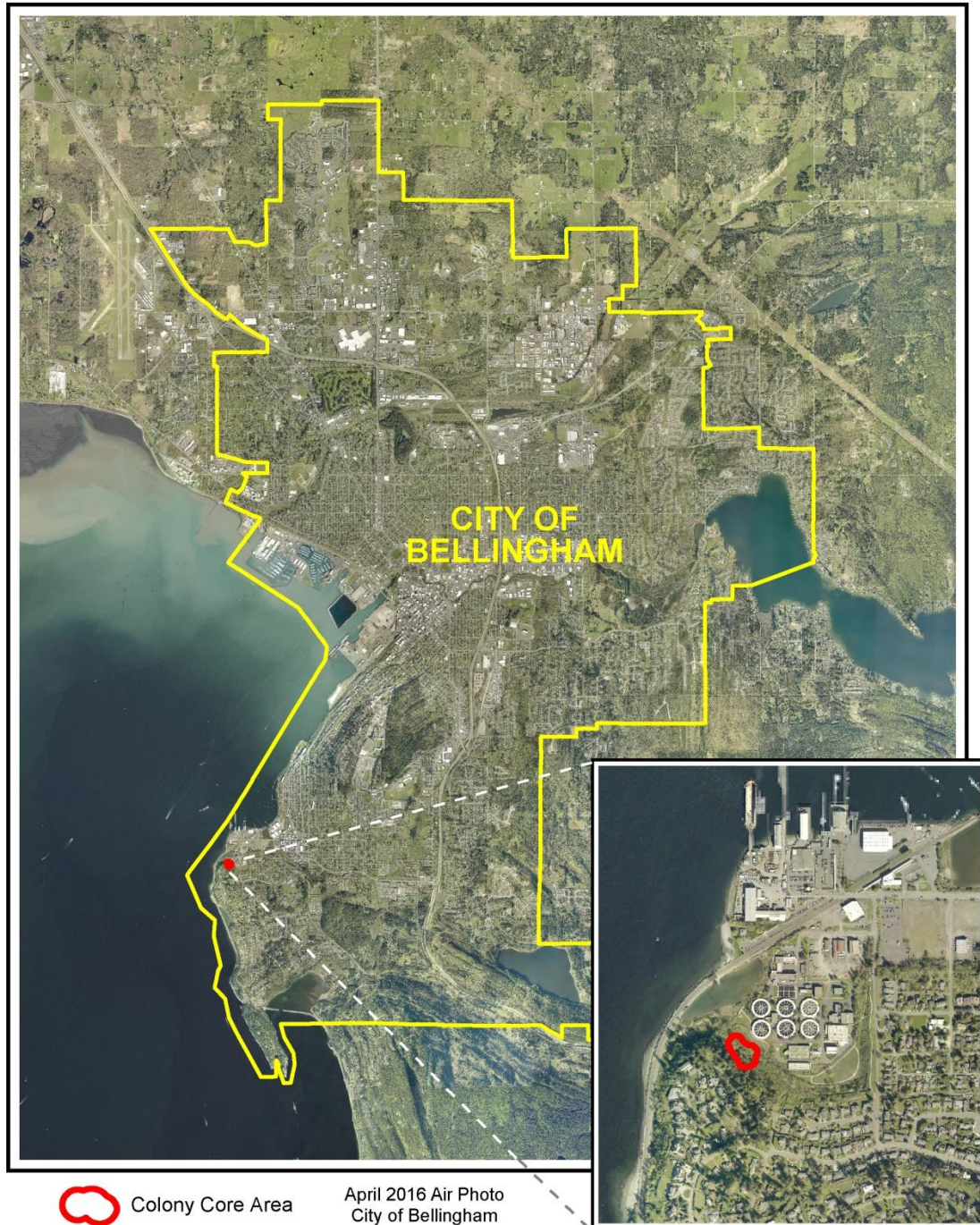
Ms. Eissinger is also the author of the 2003 Post Point Heron Colony Management Plan and 2005 Post Point Heron Colony Baseline Study prepared for the City of Bellingham, Department of Public Works. In addition, the Biologist has assisted in the development of interpretive displays and public education materials for Post Point and has provided public educational programs featuring the herons of Post Point and elsewhere around Puget Sound.

Progress reports submitted to the City of Bellingham during each nesting season document the heron's nesting activity and any observed disturbances. The point of contact for this project is the City of Bellingham Department of Public Works Post Point Wastewater Treatment Plant Operations Supervisor, Karl Lowry.



Figure 1
Post Point Heron Colony Location

POST POINT HERON COLONY



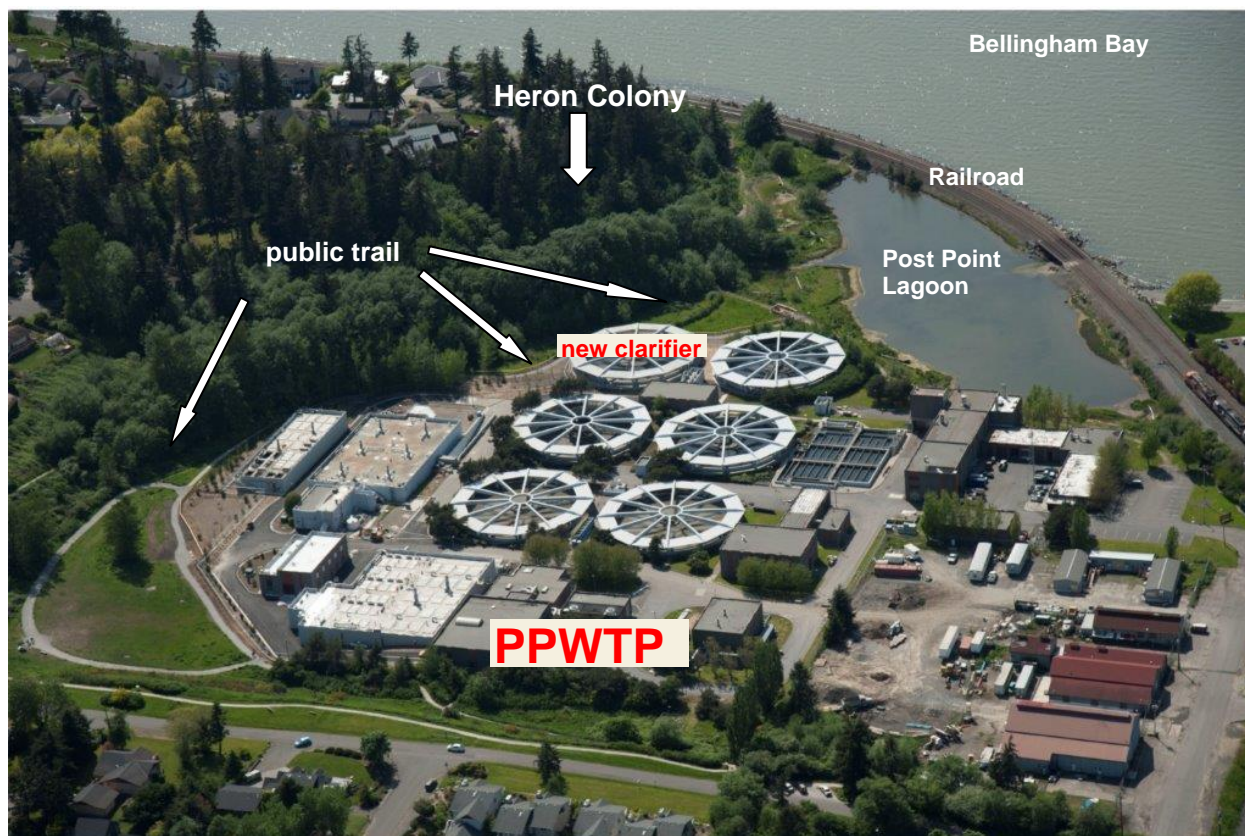
HERON HABITAT, HABITAT UTILIZATION and CHANGES

Historically, Great Blue Heron would gather and roost year-round in the forested nearshore area of Post Point. This forest habitat has provided protection from prevailing winds and weather, with the exception of wintery northeasters. This site occupies a patch of natural forest buffered from growing residential and urban development, providing direct access to foraging areas and field habitats. In 1999, a group of herons were displaced from their nesting colony along Chuckanut Drive during construction of the Blue Heron Estates, and the following year the herons settled to nest in their present location at Post Point. This heron colony has been present and active since 2000.

Upland Habitat

The habitats utilized by the herons of Post Point include upland mixed forest, nearshore bluff, marine estuary, shoreline, intertidal eelgrass, and occasionally human structures. The upland mixed forest, situated along the nearshore bluff at Post Point (Figure 2), provides the structural substrate for seasonal nesting and year-round roosting. Within close proximity of the colony is favorable habitat including small patches of grassy fallow field, marine shoreline, protected lagoon, estuary and intertidal nearshore area with eelgrass meadows. There is also human development, public use park and trail, and a major railroad corridor situated between the colony and Bellingham Bay.

Figure 2
Post Point Heron Colony and Post Point Wastewater Treatment Plant (PPWTP)



Completed Expansion June 2014 COB Photo

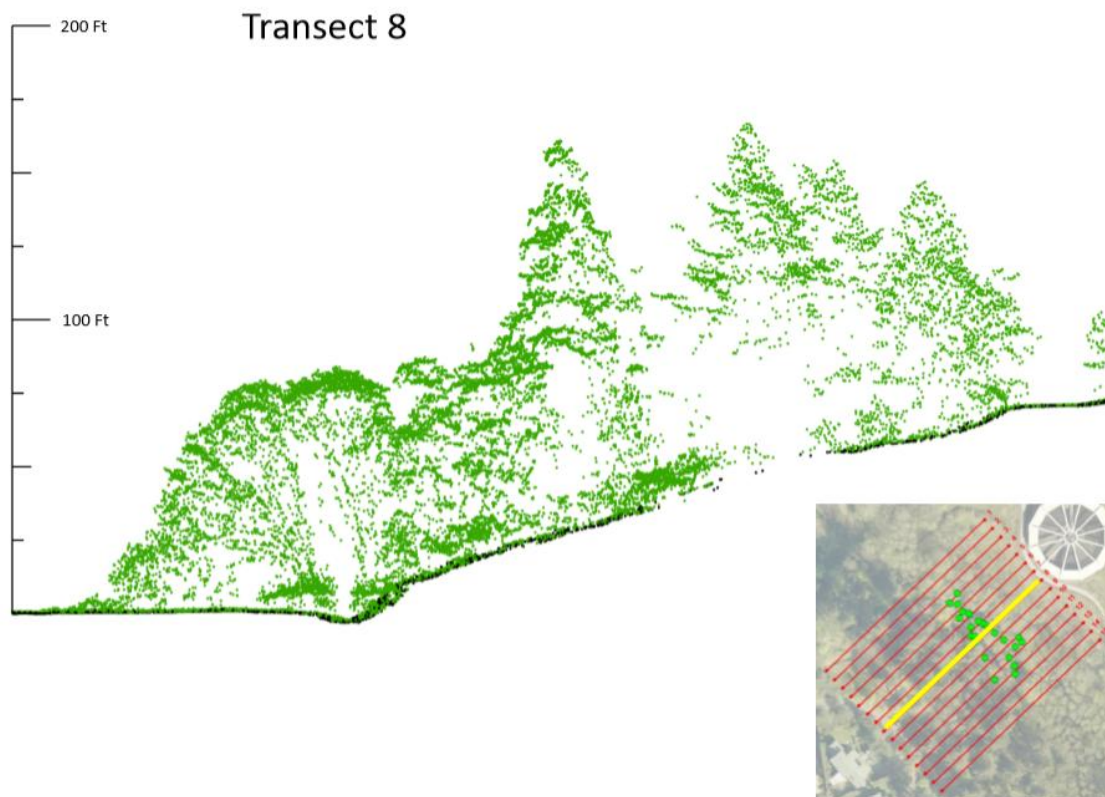
The upland forest, where heron nesting occurs, is located along the lower portion of a historic shoreline bluff. From the shoreline, the bluff line turns sharply inland, creating a protected forest habitat. The protected forest is situated out of prevailing winds and allows the herons separation and slight elevation above a public trail and nearby industrial facilities. Immediately upslope from the colony is a buffer of large mature Douglas fir (*Pseudotsuga menziesii*) trees and vegetated undeveloped residential lots.

The colony's forest is mixed second growth containing mature conifer and deciduous trees. The tree species utilized by the herons for nesting have changed over time from a mix of Pacific paper birch (*Betula papyrifera*), big-leaf maple (*Acer macrophyllum*) and red alder (*Alnus rubra*) to only red alder. The nest stand is dominated by alder and Douglas fir. Many of the older nest trees are mature and have died or blown over during the past ten years. The birch may have succumbed to birch blight and have died, and not regenerated. Large Douglas fir trees define the bluff and provide a critical overstory, screening and wind break for the colony; they also serve as the primary roost trees for herons and Bald Eagles.

Fallow field habitat, present now only in small patches below the heron colony, is an important habitat for upland heron prey, particularly meadow voles (*Microtus townsendii*), which serve as a vital food source for herons during winter and early nesting season. In addition to field, the Post Point Lagoon and salt marsh edges also serve as loafing and occasional foraging habitat. The lagoon also serves as a fledging site for young heron exploring outside the colony.

In 2017, the City of Bellingham GIS specialist Chris Behee provided a cross-section of the Post Point heron colony using a LiDAR visualization tool. One of the transects (below) illustrates the topography and vegetation of the colony habitat.

Figure 3 LiDAR Cross-section of Heron Colony



Up to 2012, habitat and conditions had remained stable in and around the Post Point heron colony. Improvements were made to buffer the nesting colony to the north from passive human recreation, and to expand estuarine habitat in the nearby lagoon. Beginning in 2012, the expansion of the Post Point Wastewater Treatment Plant and construction of a new clarifier removed approximately 8,300 square feet of wetland habitat and part of that is existing wet meadow or field. Mitigation for lost wetland and meadow habitat is described in the [Post Point Wastewater Treatment Plant Expansion Mitigation Plan](#) dated 2011. A public trail was also constructed between the clarifier and the heron colony, allowing public access nearly 60 feet from the nearest nest. Fencing and some vegetation provides barriers between the public trail and nesting area.

The proximity of the Post Point Wastewater Treatment Plant to the heron colony has not appeared to infringe on, or negatively affect the heron's activity or nesting success over the years. In fact, the heron's use of the PPWTP has been unique. Herons have utilized the top of the clarifiers during staging and occasionally during the breeding season, fledging and winter roosting. A break in this use occurred during 2012, 2013, 2014 (likely due to construction at the PPWTP) and this year 2017, likely due to NE winds and cold temperatures early in the season when use of the clarifiers is most prevalent.



Hérons roosting on PPWTP clarifier - Photo by Tami DuBow 2/8/2016

Railroad

Separating the Post Point uplands and lagoon from Bellingham Bay is a man-made causeway built for railroad use (Figure 2 and 4). This segment of railroad curves along the shoreline and used daily by Amtrak passenger trains and BNSF trains transporting freight, coal, and crude oil.

This railway was originally built by the Great Northern Railroad in the early 1900's for local a regional transport of goods. The rail was placed along the marine shoreline and over-water in places using wooden trestles. Most of the wood trestles were replaced by rock riprap leaving only the Chuckanut Bay trestle locally and a few short bridges, including Post Point, to allow tidal waters to continue to flow to and from the larger shoreline lagoons, such as Post Point and

Padden Creek Lagoons. Other smaller lagoons were permanently cut off from tidal flow and thus eliminating foraging opportunities for herons.

Maintenance and repair of the Post Point trestle took place in February-March of 2017. The noise from construction activities was measurable, with decibels reaching 80dB in the colony, which is about 18dB above the average ambient sound level at the colony. Although the noise from the railroad maintenance was well above ambient levels, there was no noticeable disturbance to the herons.

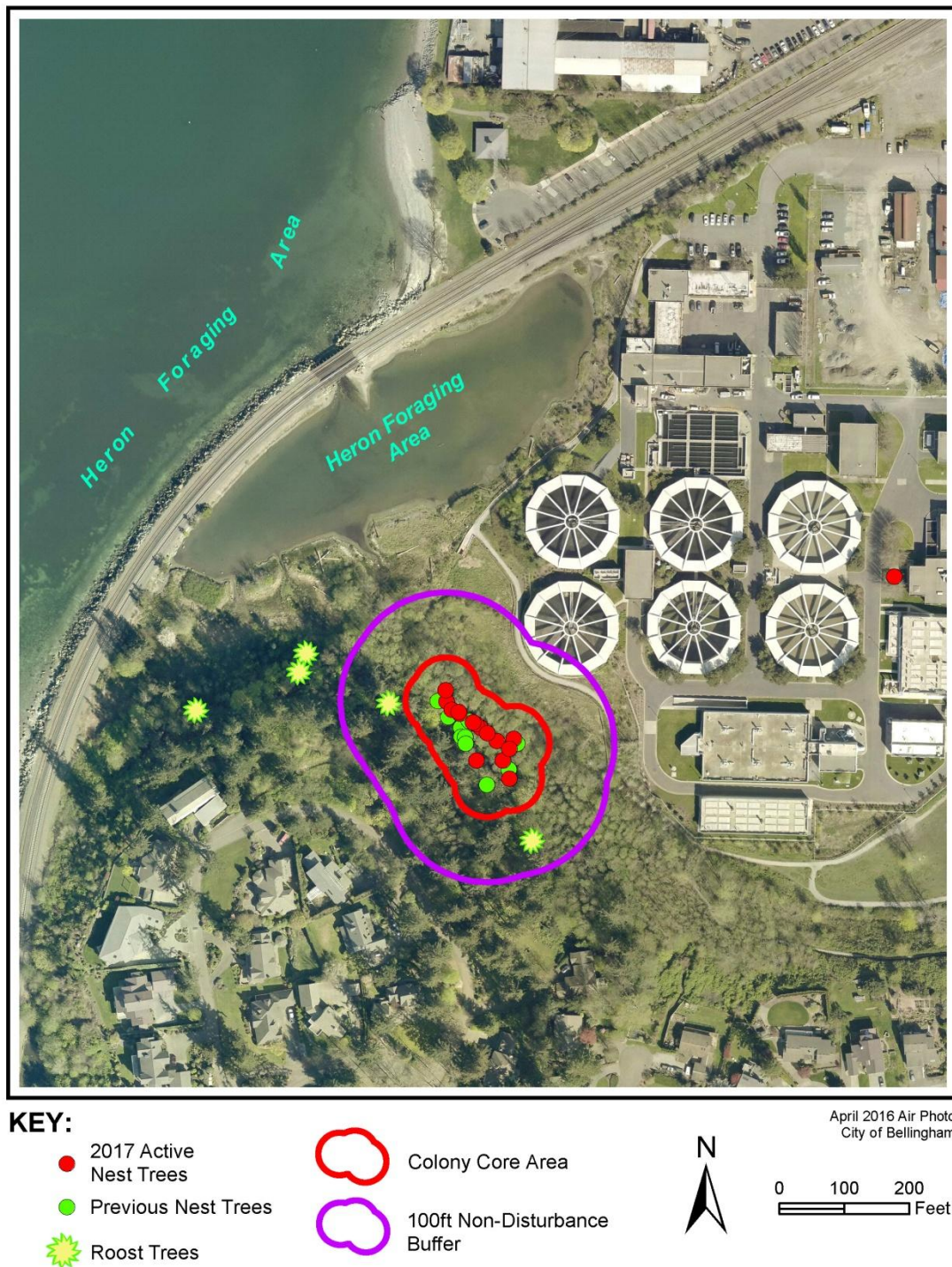
Increased use of the railway over the past 10 years has also increased disruptions both during the day and at night. These include noise, vibration and pollution. Due to the close proximity of the heron colony to the railway, potential disturbance and negative effects on heron reproduction is a concern and changes will be measured over time.

Habitat Overview and Colony Location

An aerial photograph of Post Point in Figure 4 (below) provides an illustrated view of the heron colony, nest trees, colony buffer, roost trees and important features near the colony, such as the PPWTP, the railroad, Post Point lagoon and marine shoreline feeding areas.

Figure 4

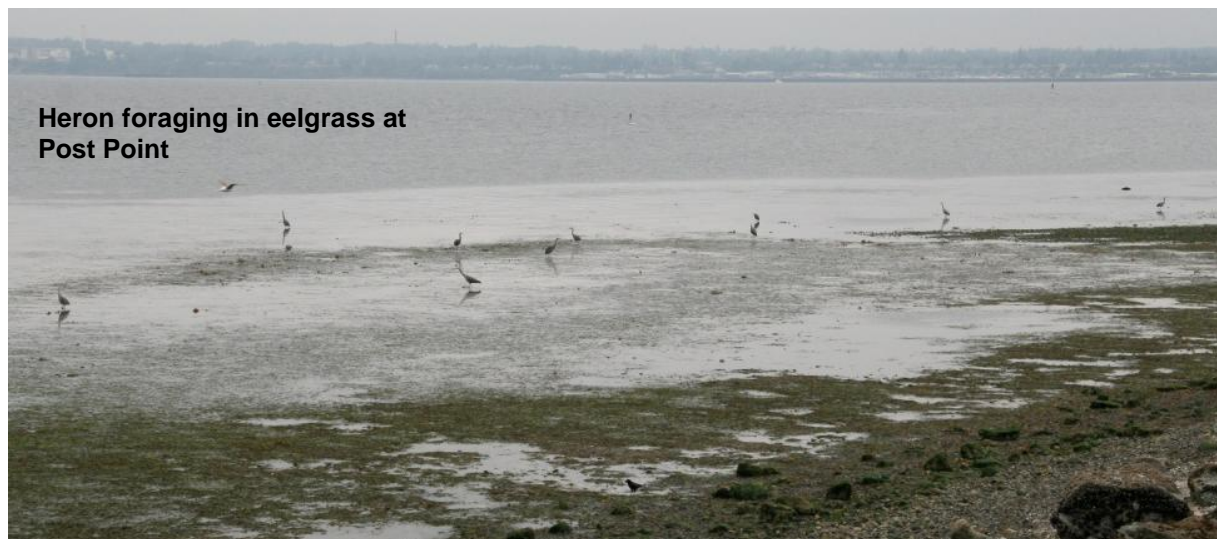
POST POINT HERON COLONY 2017



Heron Foraging Habitat

Foraging habitats for herons include: field, freshwater, estuaries and marine intertidal areas. The most productive marine foraging areas are frequented during the breeding season and provide the essential prey necessary to nourish both adults and young. The foraging areas for the Post Point herons in and around Bellingham Bay were surveyed and mapped in 2006 and are illustrated in previous annual reports. Foraging areas utilized by the Post Point herons include, Chuckanut Bay, Padden Creek estuary, Portage Bay, Lummi Shore Drive shoreline, Nooksack River delta and suitable locations along the Bellingham Bay shoreline. The Post Point lagoon also provides some foraging habitat.

The most productive foraging areas for heron are shallow intertidal areas with abundant native eelgrass (*Zostera marina*) where prey species, primarily fish, reproduce and concentrate. Eelgrass is plentiful, but patchy, along the Post Point shoreline and heron use of the area is essential for successful feeding of young and maximum survival.



Other foraging habitat utilized by the herons include terrestrial fields, wet meadows, and freshwater systems including streams, wetlands, ponds, lakes and estuaries, which are important for small mammals, amphibians, and small fish as prey. Freshwater, wetland and terrestrial habitats are important year-round foraging areas due to their non-tidal nature and abundant prey base. Grassy fields and margins in particular harbor voles and other small mammals which provide a vital protein source during winter and early spring prior to egg laying at the early stages of nesting.

The foraging areas utilized by the Post Point herons were documented 10 years ago. A survey update and documentation of current foraging areas is needed.

GENERAL MONITORING

Annual Monitoring of the heron colony is a vital component of conservation and provides an ongoing record of the colony's status, health and productivity. General monitoring of the Post Point heron colony includes on-site visits and observations made from various locations in close proximity to the colony. Monitoring occurs during the nesting season from February to July or August, and includes early season, breeding/nesting and foraging observations. Post-season monitoring takes place following the fledging of young from nests, and may include foraging observations, colony checks, nest counts and mapping updates. Both visual and audible monitoring is used. Due to the location and associated vegetation around the nesting area, views of certain nests may be obscured following tree leaf-out. All visible nests are therefore utilized for observation throughout the season.

The 2017 monitoring of the Post Point heron colony began February 15 and ended August 22. Monitoring was conducted on a weekly basis.

Monitoring of the colony included four primary objectives: 1) documentation of the nesting cycle or breeding chronology, and related behavior; 2) observation and recording of disturbances including natural predators, human and other natural or unnatural sources; 3) documentation of nest success and productivity; 4) recording and mapping of habitat utilization. All data is collected by onsite observation and recorded on standardized data sheets. A monitoring tracking system is also maintained in a database. Results for the season are then assembled in an annual report.

Monitoring of the colony captures the 6 stages of the herons nesting season.

- Staging (1 week +/-)
- Colony Reoccupation (varies)
- Nest building, Mate selection, Courtship (varies)
- Egg laying (5 days +/-) and Incubation (28 days)
- Hatching and Rearing (8+ weeks)
- Fledging (young leave the nest usually at 8 weeks of age, but can vary)

The total duration of the nesting season is usually about 6 months, but can vary. In the event that nests fail and herons lay a second clutch of eggs, and subsequently rear those young to fledging, the season may then be extended by 3 to 4 weeks. By contrast, the season may be condensed, such as in 2013 to just slightly over 5 months.

In addition to monitoring the actual nesting period, monitoring also includes pre-season or early assessment to document the condition of the colony and habitat prior to the heron's arrival, and post-season assessment and nest count to document the colony condition count nests following the nesting season. There is also a colony nest map that is updated each year. With consistent, repeatable methods applied annually, the colony can be accurately tracked over time and results compared.

In addition to the primary monitoring objectives, observations are made of any potential disturbances, including predators, human activity, loud noises, low-flying aircraft or other. Sound level is incidentally measured at each site visit using a cell phone app.

In addition to the Great Blue Heron, Bald Eagles (*Haliaeetus leucocephalus*) were also monitored for their potential nesting activity, presence near the colony, and possible depredation of, or disturbance to herons.

All vertebrate species identified in the vicinity of the colony are also recorded as part of the monitoring protocol.

2017 MONITORING RESULTS

For this report, monitoring is divided into 4 phases: Early Season, Colony Reoccupation and Early Nesting (arrival and courtship), Mid-Season (incubation, hatching and rearing of young) and Late-Season (fledging of young and post-nesting). This monitoring report will provide a summary for each period with detail provided for the immediate stage of nesting activity.

Early Season Assessment

Unlike the winter of 2015-2016 which was warmer than average due to a strong El Nino event in the Pacific, the winter of 2016-2017 was colder and wetter than average due to a strong La Niña event in the Pacific which was impacting weather throughout the western United States according to the Office of the Washington State Climatologist. This cold and wet trend has continued into spring throughout the region. Although strong storm-force northeast winds did occur during the winter, storm damage was not observed in the Post Point heron colony nest stand. As a result, 23 of the 29 nests remained in the colony prior to the onset of nesting in 2017.

Due to particularly harsh weather beginning in December and extending through February, the heron's return to the colony was delayed. For December to February in Bellingham temperatures were below normal by 3-4°F with most nights at freezing or sub-freezing and extended periods of cold and snow each month. Field monitoring was delayed to mid-February due to snow and harsh winter conditions. Early season monitoring at Post Point commenced February 15, 2017 at which time no herons were present in the colony or in the vicinity.

Colony Reoccupation, Courtship and Nesting

The reoccupation of the Post Point heron colony began later than normal this season, with herons delaying their return due to cold, harsh weather conditions. Herons were first observed in the colony February 22, and by the first of March - 10 heron were present, however the following week the herons had departed from the colony. At that time, 2 decapitated duck carcasses were found in the colony, likely the result of Bald Eagle or Great Horned Owl activity. No further "kills" were reported and the herons returned to the colony.

Although the weather continued to be cold and wet, on March 15 a total of 23 heron were present, many of which were paired in the colony and 18 nests were occupied. This is 2 weeks later than 2016. Nest rebuilding and courtship ensued.

By the end of March the colony was saturated – all available nests occupied - with 24 nests active. Heron courtship, copulation and egg laying was documented March 22 and incubation of at least one nest had commenced by the end of April.

Egg Laying and Incubation

Egg laying and the onset of incubation occurs following courtship and usually takes place in late March.

In 2017, the herons started laying eggs March 22 and continued into April. By the second week of April, additional heron pairs had arrived and built new nests. A total of 30 nests were occupied with egg-laying or the onset of incubation occurring at 20 nests, or 66% of the total active nests. During the last 2 weeks of April, 3 additional nests were built and occupied increasing the total number of active nests to 33. Egg laying requires approximately 5 to 7 days and incubation requires 28 days to hatching. So, for the remainder of April the nesting pairs continued to enhance their nests, lay eggs and incubate.



Hatching and Rearing

May is the month of hatching young and the onset of the eight-week long rearing period. On May 3, young were heard in the colony and about 15-16 pairs were thought to have young in the nest. Since eggs hatch asynchronously, the hatching continues and young are brooded while unhatched eggs are incubated. Although 4-5 eggs are laid in each clutch, normally only a portion of these produce young that survive to fledging age.

May continued with the new nests hatching young later and others rearing their young which requires 8 weeks. During this time, young are restricted to the nest and are completely dependent on both parents for all food and liquids. The young will start out with sparse downy fuzz, and need brooding by a parent for warmth and protection. Adults also provide shading of young when necessary. At four weeks of age the young are large enough to be on their own in the nest, so both parents may be away from the nest foraging for food. Over the eight weeks of rearing, young will grow feathers, including a full set of flight feathers, and will reach adult size.

On May 23, 2017 a wind storm hit the area with localized wind speeds exceeding 50 mph. This storm caused significant damage to the March Point heron colony (the largest colony in the Salish Sea) where several trees were broken off and many nests were lost. As a result many young – over 22 chicks were dead and 6 were sent to Wolf Hollow on San Juan Island Rehabilitation Center for rearing.

At Post Point no storm damage was reported. It is likely that the location of the colony is protected from strong south/west winds due to topography and large trees above the colony. The only known mortality in the colony was reported on May 31 with one dead young suspended in a tree, likely as a result of falling out of its nest, but no nests had fallen and no trees were damaged.

By the end of May, there were 34 active nests in the colony.

Fledging

Fledging of young from the colony usually begins with individuals walking up limbs near their nests, then taking test flights around the colony or nearby. When young actually leave the colony they may return following feeding or disperse from the colony.

Fledging of young from the colony began June 28. Not all young fledge at the same time, however, between July 12 and 19 over 70% of the active nests fledged all or remaining young, with both young and adults dispersing from the colony. By July 26, only 4 nests in the colony remained active.



Young heron in the nest about 6 weeks old

In late July, 2 new nests were discovered. One new nest was discovered within the heron colony July 26, it had been obscured by foliage. Another new nest was also found on the grounds of the PPWTP.



Young Green Heron near nest at Marine Park 2016. Photo by Joe Meche



Young Green Heron rescued from PPWTP grounds 8/8/2017. Photo by Karl Lowry

The nest located on the grounds of the PPWTP was discovered following one of five heron young fell out of the nest. This nest, located in a Sweet Gum tree, was originally assumed to be another Great Blue Heron nest, however it belonged to a pair of Green Heron (*Butorides virescens*). Green heron are known to nest nearby at Marine Park.

The young Green Heron that fell out of the nest was approximately 4-5 weeks old and was rescued by Karl Lowry, Plant Supervisor who then transported it to Whatcom Wildlife Rescue on August 8, 2017. The other young from the nest eventually fledged, the nest was empty by August 22. The rescued youngster was released back into the wild on September 2, 2017 by Whatcom Wildlife Rescue staff.

The monitoring season concluded August 22, 2017 with one late nest still active, containing one young.

Post Point Heron Nesting Chronology Summary 2017

Early February: harsh winter weather continues including snow – no herons in colony.

Mid-Late Feb: herons in colony Feb. 22 – March 15.

March 8: herons absent from colony.

March 15: colony reoccupation with nest selection, pairing, courtship, nest enhancement, onset of nesting, egg-laying and some incubation.

April: late arrivals to colony, nest enhancement, egg laying and onset of incubation. Early hatching April 26.

May: hatching, brooding and rearing of young.

June: rearing, early fledging begin late June.

July: peak fledging July 12-19, fledging continue through July.

August: 2 new late nests remain occupied, nesting season completed after August 22.

The total duration of the nesting period at Post Point in 2017 was 17-18 weeks for most nests, but extended to 23+ weeks for 4 late nests. Previously the nesting period in 2016 was about 22 weeks, which does not include the initial 2 week occupancy, followed by the 2 week desertion of the colony in February. Prior nesting periods were 25 weeks in 2015, 22 weeks in 2014 and 19 weeks in 2013.

In addition to the seasonal chronology, a historic chronology was developed for this colony. The historic chronology outlines the annual colony activity, nest count results and other pertinent occurrences for each consecutive year. The historic chronology is included as an addendum to this report.



PRODUCTIVITY

The productivity of the visible nests within the heron colony is monitored annually and measured during on-site visits prior to fledging. Productivity within the colony is an important indicator of the health of the colony. Herons lay four to five eggs per nest and may fledge a maximum of five young, but normally fledge two to three young per nest.

The Post Point herons successfully produced young from 35 nests in 2017, which is 11 more successful nests than 2016. The colony's success over the past 4 years is notable and the lack of known predatory incursions is likely a beneficial factor. Based on season-long weekly observations of the colony and tracking of the active nests, a total of 89 young were counted in 2017, 33 more than 2016.

The number of active nests changed during the season. By late March the colony's existing nests had been saturated. In April and May more heron joined the colony increasing the number of total nests to 35 by the end of the season. The addition of 9 more nests (nesting pairs) in 2017 may be related to newly mature young returning to the colony to breed for the first time, or possibly adults relocating from other colonies, or some combination of the two.

Of the total 35 successful nests, a total of 2.5 young per nest were recorded for the 2017 season.

Table 1: Post Point Productivity 2013-2017

Year	No. active nests	No. successful nests	No. young	No. young per nest
2017	35	35	89	2.5
2016	29	24	56	2.3
2015	25	24	67	2.8
2014	21	21	54+/-2	2.57
2013	17	16	40	2.5

In prior years (below) the productivity was based on a sample of clearly viewed nests and their young. Results from three of these years are provided in the following table.

Table 2: Post Point 3 Year Productivity 2010-2012

Year	No. active nests	No. nests sampled	No. young/sample	No. young per nest
2012	17	10	24	2.4
2011	16	14	42	3
2010	13	13	39	3

Based on research of heron colonies in the Strait of Georgia (The Great Blue Heron by Butler, 1997), productivity averaged 2.5 young per nest. The Post Point levels of productivity have met or exceeded that average with the exception of 2016. The 2017 results meet the regional norm. Productivity is a good measure of health, fitness and adequate food for a heron colony.

One major contributor to productivity and the success of the heron's reproduction each year is food supply. Herons depend on live prey from marine and fresh water systems, and terrestrial areas. Although the heron's prey species are known, no local data exists for these species, their occurrence, seasonality, distribution, or abundance. A local assessment is needed to better define feeding areas, seasonality, and the prey available in each of those areas.

FORAGING OBSERVATIONS

Basic foraging surveys are conducted near the Post Point heron colony by the monitoring biologist during each nesting season. Documentation of heron numbers at the most immediate foraging grounds and feeding habits are recorded, however, the herons are known to fly several miles in search for food. Foraging area preferences vary and are likely based on tides, currents and favorable habitat access, seasonal prey availability, water temperature, and other conditions including waves and disturbance factors.

Hérons foraging in eelgrass near Marine Park

Photos by Alan Fritzberg 2010



The Post Point/Marine Park shoreline is the nearest feeding area to the Post Point heron colony (Figure 4). This shoreline is used frequently during favorable tides and even daily for foraging during the peak nesting season. Shoreline observations made at each site visit during the 2017 season were recorded. Of a 27 total site visits during the 2017 season, 14 were during favorable foraging periods, based on tidal stage for Post Point. Of these favorable foraging visits, 7 resulted in herons observed foraging along the marine shoreline or the lagoon. The tables below provide foraging results by month for years 2015-2017.

Table 3: 2017 Foraging Survey Summary by month

Month 2017	# site visits w/ favorable foraging	# site visits w/ herons observed	# heron observed on Marine Park shoreline per visit	# heron observed at post point lagoon per visit
Feb	0	0	0	0
March	2	1	0,1	0
April	2	0	0	0
May	3	3	1,1,4	0
June	4	1	0,1,0,0	0
July	2	1	2,0	1
August	1	1	1	0
TOTAL	14	7	11	1

Table 4: 2016 Foraging Survey Summary by month

Month 2016	# site visits w/ favorable foraging	# site visits w/ herons observed	# heron observed on Marine Park shoreline per visit	# heron observed at post point lagoon per visit
Feb	0	0	0	0
March	2	0	0	0
April	2	0	0	0
May	4	2	3,0,0,5	0
June	4	3	3,6,6,0	0
July	3	2	4,0,1	0
August	1	0	0	0
TOTAL	16	7	28	0

Table 5: 2015 Foraging Survey Summary by month

Month 2015	# site visits w/ favorable foraging	# site visits w/ herons observed	# heron observed on Marine Park shoreline per visit	# heron observed at post point lagoon per visit
Feb	1	0	0	0
March	5	0	0	0
April	3	0	0	0
May	2	2	1,4	0
June	5	3	1,2,1	0
July	3	3	1,1	1
TOTAL	19	8	11	1

The heron's use of the Post Point shoreline is limited by tidal stage (exposed intertidal area and water depth), prey availability, wave conditions and human activity. Eelgrass, which grows in the intertidal area, provides habitat for most of the heron's marine prey species. Eelgrass meadows are light sensitive and regenerate every year, with maximum growth in May or June. The foraging area at Post Point and Marine Park is limited due to substrate and gradient, so use of this area by herons coincides with the eelgrass growth cycle, abundance of prey, and increased need by the herons to feed young, which normally peaks from late May through June, during the last stages of rearing young.

Adult herons are also regularly observed flying across Bellingham Bay to access foraging areas at Portage Bay and the Nooksack River estuary. During the 2017 season, heron flights from the colony were frequently observed to these locales, indicating their use as primary foraging areas. Chuckanut Bay is also thought to be used, but has not been surveyed in recent years. During the heron's rearing period, following hatching, heron concentrations at Post Point increase during favorable tides.

Foraging observations for 2017 were considerably lower than previous years. The total number of heron observed during any single visit ranged from 1-4 in 2017, less than 2015 or 2016. The total number of herons observed also dropped. Heron numbers were low at Marine Park and only one heron was observed utilizing Post Point lagoon. The two possible explanations for this apparent reduced use of Marine Park shoreline and the nearby lagoon is a decline of prey and/or human disturbance.

Disturbance at or near the foraging areas occur frequently and are related to various sources, including people and dogs on the beach, trains, boats and boat wakes and predators. In an effort to limit encounters between heron and human, human related disturbances or dogs, the City of Bellingham, has in the past posted signs to alert shoreline users at Marine Park to the sensitivity of the eelgrass and lagoon areas and requested that people not disturb herons. However, signage is no longer posted. Citizens, recreationalists, and in some cases educational groups, utilizing the shoreline continue to walk toward herons in the intertidal area, and subsequently flush heron from feeding areas. Kayakers also use the area, but appear to provide a wide berth around herons if present. It is recommended that new signage be designed and strategically placed at Marine Park to be effective for all users of the beach and shoreline areas.

Other potential disturbances are railroad related noise, construction and increased frequency of rail traffic.

In 2016, individuals flying drones were observed at Marine Park. Drones were also used in this area in 2017. Drones are considered a source of intentional harassment by WDFW if flown in sensitive areas such as heron colonies or their feeding areas when herons are present.



Mike Hamilton photo

DISTURBANCE

Disturbances to Salish Sea heron colonies may range from predators, human activities and/or intrusion into the colony, cutting of nest trees or nearby timber harvest, development, to low-flying air craft (manned and unmanned), adverse weather, and toxins. Any natural or unnatural cause of stress, changes in normal behavior, or flushing from nests, roosts or feeding grounds is considered a disturbance. In some cases, intentional human-caused disturbance would be considered harassment and could be an enforceable offense. Repeated disturbances may result in, reduced food intake, reduced productivity or reproductive failure. Disturbances over time may cause the nesting colony to fragment, abandon or relocate.

One objective of on-site monitoring is to record all disturbances, including those observed and reported by other sources. Outside reports are followed up on in the field. Any loss of heron, young or eggs, or repeated disturbance to the colony or feeding area is taken very seriously, and remedies to counter the disturbance are explored and implemented where possible.

Unfortunately, weekly monitoring is usually inadequate to witness disturbances in real-time, so monitoring is supplemented by reporting by neighbors, citizens and PPWTP staff.

With the completion of the Post Point Wastewater Treatment Plant expansion in 2014, close attention was paid to the heron's response to the alteration of habitat, new clarifier and associated public trail, both located within 100 feet of the colony. Over the past three years, no disturbance or negative reaction by the herons has been noted.

During the 2017 heron nesting season, no direct disturbances were observed or reported.



Resident Bald Eagle pair near heron colony.

Photo by Jack and Sandi Starr 2/10/14

Bald Eagles and Other Predators

Bald Eagles *Haliaeetus leucocephalus* pose one of the greatest threats to the success of heron reproduction by disturbing colonies, eating unhatched eggs, and both preying on young heron and flushing flightless young out of nests. More aggressive eagles also threaten and prey on adult herons. During each monitoring visit to and in the vicinity of the heron colony, observations are made of potential predators, such as Bald Eagles, Red-tailed Hawks, Crows and Ravens.

Only Bald Eagles have been known to directly disturb or prey on the Post Point herons. Crows have been known to enter the colony following Bald Eagle incursions, presumably to scavenge on the spoils. Great Horned Owls may use heron nests, but not prey on herons.

Bald Eagles are common near the Post Point heron colony. One or occasionally 2 eagles may be seen regularly perched above the colony in a large Douglas Fir or to the west also in a large fir. The most common occurrence is the mature male eagle, which seems to favor this particular perch above the colony with its view over the bay. The eagle's presence in the big fir does not disturb the herons.

A mature pair of Bald Eagles, once nested near the heron colony, but has relocated to a nest site to Hawthorn Rd. approximately ½ mile southeast of the colony. The new nest location relative to Post Point is illustrated in Figure 5. This nest site was active in 2016, however only one eagle was observed at the nest tree early in the season. Following regular visits to the nest tree, no nesting was observed and no young were produced in 2017.

Bald Eagles were scarce this season, similar to 2016 and 2015. One young Bald Eagle, likely a yearling, was observed in the vicinity of the colony twice in late March and early April. One adult Bald Eagle was later observed regularly perched in the tall Douglas fir near the heron colony from late May to mid July. No eagle incursions were observed or reported in the heron colony.

The Hawthorne Road Bald Eagle nest was checked regularly. Although one eagle was observed in the nest tree once, all other site visits resulted in no eagles at the nest tree or in the vicinity. It is concluded that the Hawthorn nest was vacant and nonproductive this season.

The lack of Bald Eagles near the heron colony is favorable for the herons, but is also unusual. Bald Eagles have been common and present at Post Point since the colony was established over 18 years ago. However, eagles have become less common over the past 3 years.

The status of Bald Eagles in this region is not known, due to the discontinuation of Bald Eagle monitoring by WDFW about 10 years ago. Due to the success of the Bald Eagle population and its rebound following near extinction in certain parts of their range, the species was delisted from the Federal Endangered Species Act in 2007, followed by down listing to “Sensitive” in Washington State in 2008. However, Bald Eagles and their nests, remain protected under the Bald and Golden Eagle Protection Act (federal), and under the Washington State Bald Eagle Protection Rules (WAC 232-12-292) and local Critical Area guidelines.

The illustrated aerial photograph below Figure 5 provides the location of the nearest known Bald Eagle nest in proximity to the Post Point heron colony.

Figure 5: Bald Eagle Nest Location and Heron Colony

POST POINT HERON COLONY 2017



Other Disturbance

For the 2017 nesting season, no significant disturbances in the colony or at the foraging areas were observed by the biologist or reported. However, there is always some human/heron interaction along the shoreline at Marine Park and possibly in other foraging areas. Herons using the shoreline of Marine Park and Post Point are vulnerable to people, dogs and water-sports enthusiasts utilizing this area. It is difficult to determine the impact these interactions have on the herons, however, with greater public education serious impacts can be avoided.

Every Memorial Day weekend, the Ski to Sea Race, an international competitive event, finishes at Marine Park and stages associated festivities in Fairhaven. This multi-leg relay race event involves 350 teams and 1000 volunteers. As a result, the Post Point, Marine Park area is inundated with people, temporary structures and equipment on race day.

A disturbance to herons foraging along the shoreline at Marine Park during Ski to Sea is possible due to the sea kayak leg ending on the beach of Marine Park, and hundreds of race-day fans watching from the shoreline. However, direct disturbance to herons is dependent on tidal stage and access to the intertidal area for feeding.

In past years, 2015 and 2014, the low or favorable tide was in the morning, prior to the race finisher's arrival. With higher tides in the afternoon and early evening, conflicts between heron and race-goers were avoided. In 2016 and 2017, the optimal tide for heron foraging occurred in the afternoon, during the time of race activity. In previous years Tami DuBow, monitoring biologist, was on-site to make observations and record any disturbances to herons, but no direct conflicts were observed due to the fact that most herons were bypassing the Marine Park area and flying to other locales for feeding. The high level of activity and number of people on the shoreline during Ski to Sea likely deter heron from utilizing this area for the day. In 2017 no observations were made during Ski to Sea.



Ski to Sea Finish at Marine Park 2017 photo courtesy of the Bellingham Herald

Other Species

During the course of the monitoring season, species occurring in the nest stand and in the vicinity are identified and noted. Although no new species were reported in 2017, Green Heron (*Butorides virescens*) were discovered nesting near the Great Blue Heron colony within the PPWTP grounds. In previous years Green Herons were observed flying by the heron colony, foraging at Padden Creek Lagoon and in June 2016, two active nests with 4 young each were documented in trees at Marine Park.

The new Green Heron nest was described earlier in this report.

Green Heron are related to Great Blue Heron, but much smaller and have a rich velvet-green back, dark crown, streaked-chestnut neck and yellow legs. The Green Heron nests in trees near water and requires about 2 months for a nesting cycle unlike the Great Blue Heron that requires nearly 4 months to reproduce. Their eggs are similar to great blues, but smaller.

Little is known about Green Heron in this area due to their secretive nature. Similar to the Great Blue Heron, Green Heron are a Washington State Monitor Species, but do not have defined management directives. This report and photos are valuable documentation of this unusual species in Bellingham.



Adult Green Heron at Marine Park, Bellingham - Photos by Joe Meche 2016

NEST SURVEY & MAPPING UPDATE

The annual nest count is the standard method for determining the number of nests within a heron colony. Autumn, following leaf drop, allows maximum viewing of the whole heronry, and most accurate nest count. In colonies that were not fully utilized, a simple count of nests at the end of a breeding season can misrepresent actual numbers of active or successful nests, so colony monitoring during the nesting season is an essential complement.

A record of nest tree locations and nest numbers per tree is also made and updated in the autumn of each year. All nest trees are assessed, tagged and then added to a database of nest trees present in the colony. A map, illustrating the nest trees and locations in the heronry, is updated annually (Figure 6).

The total number of active nests in 2017 was 35. The 35 nests were situated in 18 nest trees. Nesting concentration in certain trees has increased with single trees holding 3-6 nests each. Overall, 8 trees held 26 nests or 74% of the total nests in the colony. This concentration increases the density of the core nesting area. All active nest trees are red alder.

During each annual nest count, each nest tree is tagged or existing tags are read, and tree condition is noted. New nest trees are located with GPS, recorded and tagged. The number and size of nests are recorded as well as the presence of egg shell, remains or blown down nests. All information is recorded in a database.

In review of previous years (Table 6), the colony started in 2000 with 6 nests in 5 nest trees and grew for the next 6 years to a high in 2006 of 37 nests.

In 2007 the colony declined slightly, followed by two years of complete colony failure. The failures of 2008-2009 were mid-season following the reoccupation and nesting of the herons. This was likely due to Bald Eagle depredation.

Following two failed nesting seasons, in 2010, the colony rebounded with 13 active nests, all of which fledged young and the colony has gradually grown since that time to the current 35 active nests, with the successful fledging of young each season.

In 2017, the colony grew 20% from 2016, and the total nest number is just 2 less than the colony's all time high of 37 nests in 2006.



The following is a summary of nests and nest trees since 2000.

Table 6: Post Point Heron Colony Annual Nest Count

Year	Total number of nests	Total number of nest trees	Percentage change (# of nests)
2000	6	5	----
2001	8 estimated	6 estimated	+33%
2002	10	6	+25%
2003	14	8	+40%
2004	19	10	+36%
2005	31	10	+63%
2006	37	15	+19%
2007	27	12	-27%
2008	17 active but failed mid-season	9	-37%
2009	11 active but failed mid-season	8	-35%
2010	13 active	9	+44%
2011	16 active, 1 not active	12	+23%
2012	17 active, 1 not active	13	+6%
2013	17 active, 1 not active	14	0
2014	21 active – all active	14	+23%
2015	25 active -24 successfully fledge young	15	+19%
2016	29 active – 24 successfully fledge young	16	+16%
2017	35 active and successful	18	+20%

Colony Mapping

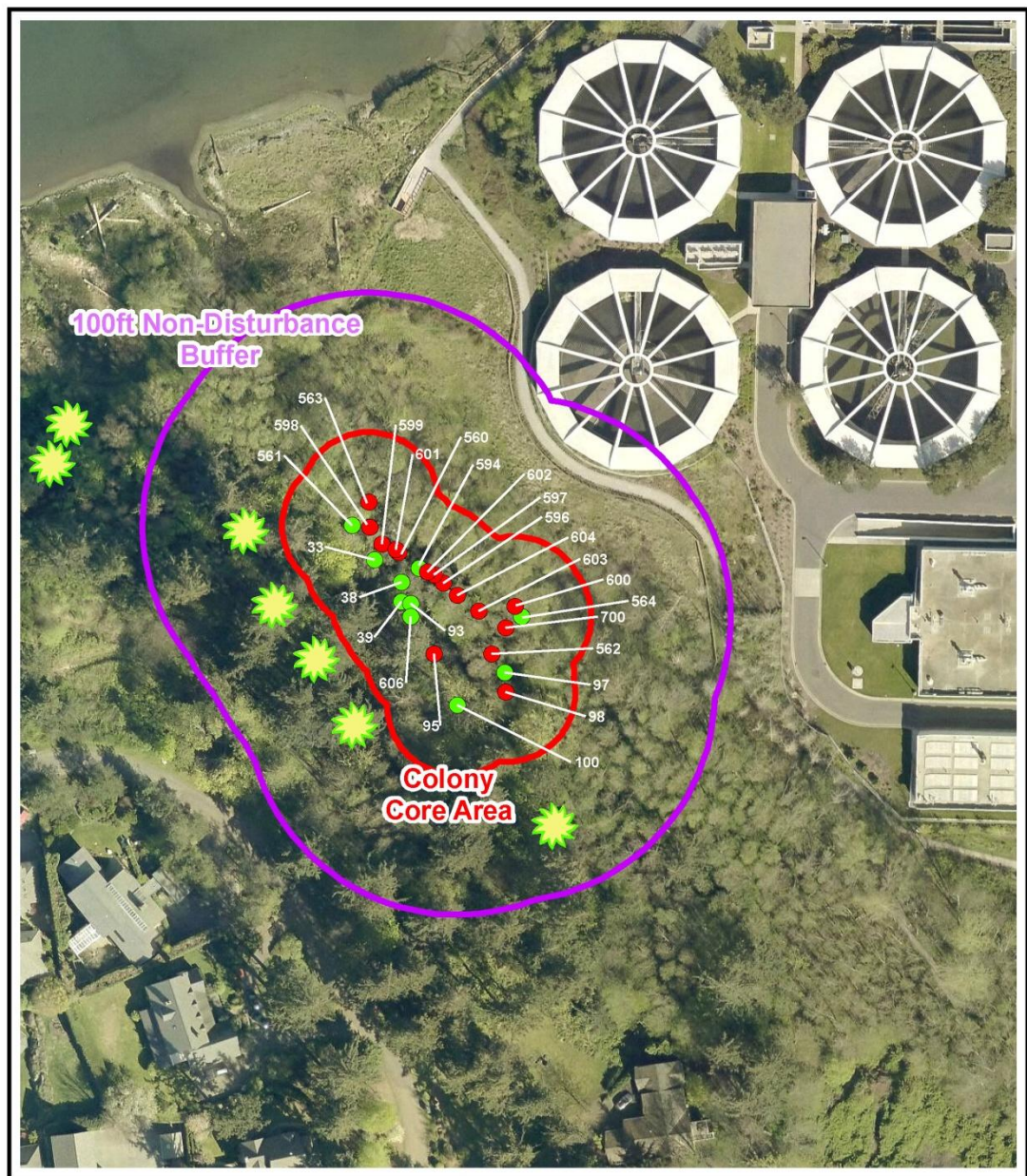
A colony map update was completed in November 2017, by Chris Behee, GIS Specialist for the City of Bellingham. The detailed colony map (Figure 6) illustrates the colony, its location on the landscape, the core area, nest tree location and nest tree number. The base used for the colony maps is the most recent 2016 aerials.

The 2017 colony map (Figure 6) illustrates all nest trees in the colony, including those used in past years (green) and those active in 2017 (red). The colony perimeter was adjusted to accommodate the new nest trees.

The colony core area, as indicated on the map, constitutes the actual nesting area, and is calculated 50 feet laterally from the base of the outermost nest trees. This core area accommodates the variance in tree canopy and varied nest locations within that canopy area. GPS readings of each tree are taken at the base of the main stem. The core area is about 1 acre in size, but may vary year to year. A 100 foot buffer measured from the core area is illustrated as the non-disturbance area around the colony. This buffer was created as the minimum no-entry/ no disturbance area during the breeding season (2003 Post Point Heron Colony Management Plan). This buffer however does not represent or conform to current WDFW buffer or setback requirements for construction or development.

Figure 6: Colony Map 2017 Detail

POST POINT HERON COLONY 2017



KEY:

- 2017 Active Nest Trees
- Previous Nest Trees



Roost Trees



April 2016 Air Photo
City of Bellingham

0 50 100
Feet

Note: All tagged tree locations were re-surveyed in January 2013 by PW Survey Staff. Additional trees since 2013 located by field verification and triangulation between previously-mapped trees.

COLONY DYNAMICS

Looking back, the Post Point Heron Colony experienced growth in its first six years, then for unknown reasons declined, failed, and then rebounded in 2010. Between 2000 and 2006, the colony expanded from 6 to 37 nests. During this period the growth rate was approximately 36% annually. In 2007 the colony declined and that trend continued through 2009. Although the colony was active in 2008 and 2009, adult heron abandoned the colony and failed to fledge young. In 2010, the colony rebounded and in 2011 and 2012 the colony continued to be successful with incremental growth. However in 2013 no change occurred. Following 7 years of instability, in 2014 the colony began incremental growth. As of 2017, the colony has nearly rebounded to its historic high number of active nests from 2006.

The early growth of the colony indicated the annual influx of new breeding adults and likely return of previous fledglings to breed once reaching maturity (2-3 years of age). Based on 2005 fledging numbers, the predicted return of 30 young breeders did not occur, instead approximately 20 heron failed to return to the colony to breed in 2007. In 2008, the return of adult heron to the colony was only half of the previous year and that repeated in 2009. The decline in breeding numbers in 2007 was likely related, in part, to high mortality resulting from harsh conditions and hurricane force winds experienced during 2006-2007 winter months, as well as other environmental stressors impacting heron fitness and survival. Declines and failures in 2008-2009 were related in-part to depredation by Bald Eagles, but other factors were also likely involved, including weather, water temperature, prey availability, and adult heron health/fitness. Known declines at other colonies in the Salish Sea were also reported in 2008 and reflect the need for region-wide reporting and tracking of colonies.

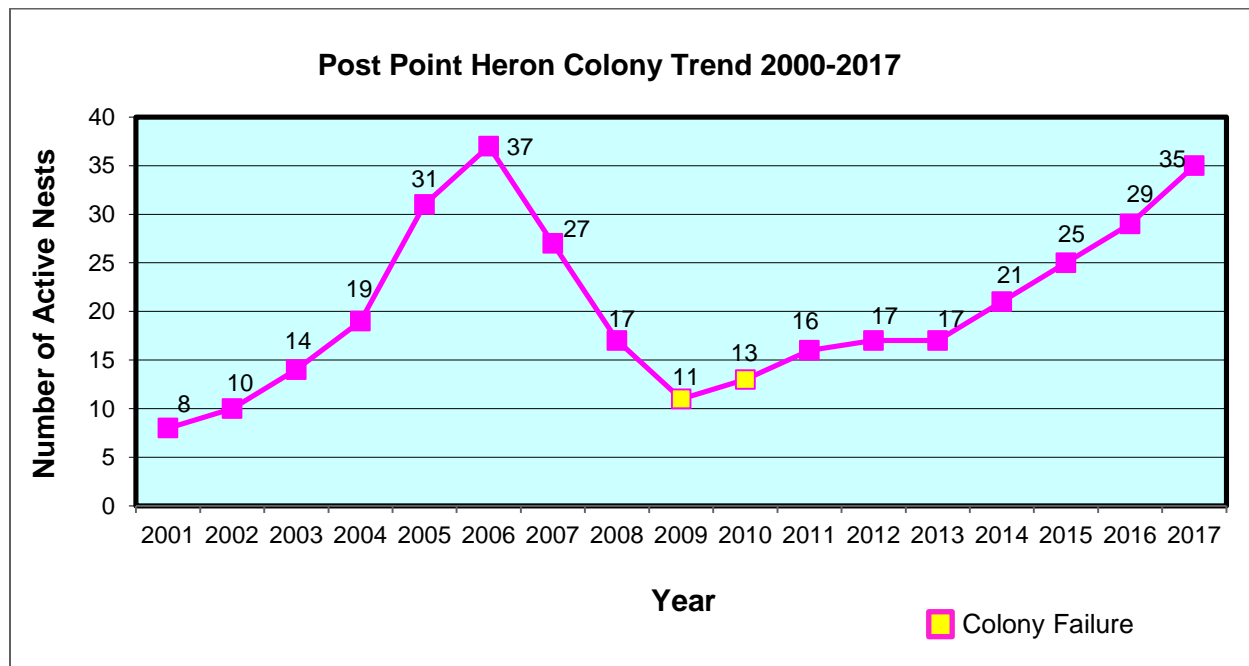
2010 to 2012 marked a positive rebound for the Post Point heron colony. A minor increase in the number of nests and successful fledging of young proved to be an important turn around for the colony. The lack of Bald Eagle incursions during the 2010 season contributed to the nesting success. The mid-season loss of viable eggs and young from eagle depredation in 2011 was expected to be devastating to an already stressed colony, however, the colony rebounded with a second nesting attempt and successfully fledged young from all active nests. With no depredation or other problems in 2012, the colony stabilized and produced young.

In 2013 through mid-2014, the nearby PPWTP construction, increased noise and large scale landscape changes and general human disturbance. Declines at the colony were expected. Instead, the colony maintained productivity during both seasons and fledged young in condensed nesting seasons. Growth in the colony in 2014 was slight but promising.

Both 2015 and 2016 proved to be a successful with growth, high productivity and successful fledging of young. Starting from a mild winter, the herons returned and nested in larger numbers than the past 8-9 years. The lack of construction disturbance and absence of Bald Eagle depredation proved favorable for the herons. As a result the heron colony grew by 19% in 2015 and 16% in 2016 and new nest trees were also utilized. Higher productivity in 2015 with 2.8 young per nest was also promising; however productivity in 2016 fell to 2.3 young per nest.

This year, 2017, the colony grew by 20% with the addition of 6 new nests, totaling 35 active nests above the 29 nests in 2016. All nests produced young, resulting in 2.5 young per nest productivity. Overall the 2017 heron nesting season was successful and notable in terms of growth and productivity. Unfortunately other colonies did not fare as well in 2017. The nearby heron colony at Samish Island completely abandoned mid-season, and the March Point colony suffered severe losses from a storm event.

Figure 7: Post Point Heron Colony Trend



MANAGEMENT AND STEWARDSHIP

The Post Point Heron Colony was established in 2000. Herons have occupied and nested at this site for 18 seasons. During this time, the heron colony has grown, declined, abandoned and rebounded and has produced young for 15 out of the 18 years. The continued management and stewardship is vital to maintaining this critical wildlife area in the City of Bellingham.

With the Post Point Wastewater Treatment Plant Expansion completed, a new clarifier and public trail are now located less than 100 feet from the nest area. In addition to a new built environment in close proximity of the heron colony, the expanded habitat around the lagoon and reduced public access provides important buffer to the west. Above the colony to the south, the habitat remains intact to Shorewood Dr., providing vital screening and wind protection.

Recommendations for 2018 management and stewardship of the Post Point Great Blue Heron Colony are as follows:

- Continue routine annual monitoring of the Post Point Heron Colony.
- Record and report any disturbance to herons in the colony or foraging areas.
- Limit disturbance to, or loss of, associated forest and upland habitat around the colony.
- Purchase or permanently protect additional forest buffer and habitat area associated with the colony, particularly vital buffer above the colony to Shorewood Dr.
- Protect the Post Point nearshore foraging habitat from human recreational disturbance by posting educational signage at Marine Park during nesting season - including the lagoon and outer shoreline intertidal and eelgrass area.

- Repeat a comprehensive foraging survey around Bellingham Bay and Chuckanut Bay to document current heron foraging areas.
- Monitor Bald Eagle activity near the colony.
- Request that the City of Bellingham install and maintain a webcam in the colony for on-going education and future monitoring.
- Define the Post Point Heron Colony as a no-fly-zone for drones.
- Update Post Point Heron Colony Management Plan

In 2003, the Post Point Heron Colony Management Plan was prepared for the City of Bellingham. The plan provided background information, regulatory overview, status of the colony and recommendations. However, this plan is now outdated due to changes over time, and does not reflect WDFW management guidelines or CAO requirements. Given the age of the management plan and more recent 2012-2014 PPWTP construction and changes to the heron habitat, this management plan requires updating.

An assessment of foraging areas and documentation of prey species and seasonal occurrence is needed to better understand their relationship with the heron colony. No survey of nearshore heron prey species in Puget Sound has been made and is needed to understand the heron/prey dynamic. Documentation of prey concentrations would also help direct conservation of foraging areas. Continued observation of foraging areas during the breeding season is also essential due to the dependence of the colony's success on these areas.

In addition, inclusion or support for regional heron colony monitoring would contribute significantly to the understanding, determination of trends and tracking of the heron population as a whole. With this additional information, individual heron colony fluctuations and effects on nearby colonies can be better understood and tracked over time.

With the growing use of drones, by both professionals and the general public, has created an urgent need for public agencies to set rules of use and define areas where drones should be restricted. Heron colonies, such as Post Point, are vulnerable to disturbance by drones and their use should be restricted in these areas. It is requested that the City of Bellingham establish a drone no-fly-zone around the Post Point heron colony.

The City of Bellingham's cooperation in efforts to educate and inform the public particularly for neighbors, shoreline user groups, and Sea to Ski organizers is needed as an on-going effort to inform users and user groups of sensitive heron habitat, and the role they can play to protect these areas for herons and other wildlife.

CONCLUSION

This Annual Report provides the final summary of the 2017 heron nesting season and results of all monitoring activities. A total of 27 monitoring visits were made to the colony this season.

In 2017 the Post Point Great Blue Heron Colony has succeeded in producing young and contributing to the perpetuation of this species in the Salish Sea. For the 18th season, the heron's return, growth, and productivity are testament to the heron's tenacity and high site fidelity.

The Post Point herons returned to the colony later than normal in 2017 due to severe winter conditions and snow in February. The herons were unsettled until mid-March at which time they reoccupied the colony and began nesting in earnest.

The 2017 nesting season, from mid-March, proceeded into August without disturbance or disruption. The Post Point heron occupied 18 nest trees and a total of 35 active nests. Active nests supported a total of 88 young, averaging 2.5 young per nest, which is the normal range for this region. The majority of the heron, adults and young, dispersed from the colony between July 12-19, with 4 nests fledging young in late July and 2 nests remaining active into August. Overall the 2017 was a success for the Post Point heron colony.

Nahkeeta Northwest would like to extend our gratitude to the City of Bellingham for supporting the conservation of the Post Point Great Blue Heron Colony and the individuals that have supported monitoring of the colony site. We would like to extend a special thanks to Karl Lowry, the PPWTP Supervisor, who has gone out of his way to support our efforts and help the herons.

We would also like to express a special thank you to Chris Behee, GIS Specialist with the City of Bellingham, for providing his expertise in mapping the colony and nest locations and creating accurate updated maps. We greatly appreciate photographs of the Post Point herons provided by Alan Fritzberg and others by Mike Hamilton, Joe Meche and the Starr Family. Finally, we acknowledge the support of neighbors and citizens who shared useful information related to the herons and heronry.



Photo by Alan Fritzberg

ATTACHMENTS

Post Point Great Blue Heron Colony Annual Chronology



Inside the Post Point Heronry

Photo by A. Eissinger

Post Point Great Blue Heron Colony

Colony Chronology (2017 update)

Pre 1999:

- Post Point bluff utilized by herons for roosting and possible nesting
- Post Point Lagoon and nearby shoreline utilized for foraging

1999

- Neighbors report heron nesting activity at Post Point (1-2 nests unconfirmed)
- Chuckanut heron colony abandon from Heron Estates
- Herons reported attempting to build nests in cottonwood north of Viewcrest, nesting attempt failed

2000

- Herons establish nesting colony in present location at Post Point
- Total 6 nests in 5 trees and successfully fledge young

2001

- Herons continue to nest at Post Point (no data available - 8 nests estimated)
- Pedestrian trail moved away from base of colony to 111 feet northeast

2002

- Herons continue to nest at Post Point increasing to 10 nests in 6 trees
- 66% growth from 2000 (estimated 25% annual growth from 2001)

2003

- Herons nesting at Post Point increase to 14 nests in 8 nest trees
- 133% growth from 2000 (40% annual growth from 2002)

2004

- Herons successfully nesting at Post Point for 5th year with 19 nests in 10 nest trees
- 216% growth from 2000 (36% annual growth from 2003)

2005

- Herons successfully nesting at Post Point for 6th year.
 - 56-58 breeding adults.
 - Staging reported February 11 with nesting commencing February 23.
 - Hatching confirmed April 19
 - Nesting/fledging completed August 26.
 - 28 week breeding cycle.
 - Productivity: mean 2.5 young per nest = estimated 77 young fledged
 - Total of 31 nests in 10 nest trees (including 1 blown down nest)
 - 416% growth from 2000 (63% annual growth from 2004)
 - Average growth rate = 39.4% annually over 5 years.
-

2006

- Herons successfully nesting at Post Point for 7th year.
- 72-74 breeding adults.
- Staging reported March 1 with nesting commencing March 15.
- Hatching confirmed May 3
- Nesting/fledging completed August 11.
- 23 week breeding cycle.
- Productivity: mean 2.6 young per nest = estimated 91 young fledged
- Total of 37 nests in 15 nest trees
- 19% annual growth from 2005
- Average growth rate = 36% annually over 6 years.

2007

- Winter storm damage: loss of 5 trees and 7 nests
- Herons successfully nesting at Post Point for 8th year.
- ~54 breeding adults.
- Colony reoccupied Feb. 18
- Incubation started March 12
- Hatching confirmed April 26
- Nesting/fledging completed July 26.
- 22 week breeding cycle.
- Productivity: mean 2.6 young per nest = estimated 70 young fledged
- Total of 27 nests in 12 nest trees
- 27% nesting decline from 2006
- Average growth rate = 35% annually over 7 years.

2008

- Herons return to nest at Post Point for 9th year.
- Colony reoccupied March 6
- ~34 breeding adults
- Incubation started March 15
- First hatching confirmed April 26
- Early nests failed late-May
- Second nesting attempt June
- Colony failure late-June
- Colony abandonment confirmed July 1 – no young fledged
- Total of 17 nests in 9 nest trees
- 37% nesting decline from 2007 – no productivity

2009

- Herons return to nest at Post Point for 10th year.
 - Colony reoccupied March 6
 - ~18 breeding adults - 11 nests active (2 unable to attract mates)
 - Incubation started April 1
 - First hatching confirmed May 3
 - Bald Eagle depredation observed May 27
 - 2-3 nests remain active May 29
 - Colony abandonment confirmed June 12 – no young fledged
 - Total of 9 nests utilized in 8 nest trees
 - 35% nesting decline from 2008 – no productivity
-

2010

- Herons return to nest at Post Point for 11th year.
- Staging Feb 5
- Colony reoccupied March 6
- 22 breeding adults – 13 nests active (max. 15 nests visible)
- Incubation started March 19
- First hatching confirmed April 27
- Productivity ~3 young/nest
- No Bald Eagle depredation observed or reported
- Fledging late June – early July, fledging complete July 12
- Total of 13 active nests utilized in 9 nest trees
- 2 added nests, positive change from 2008-09 – 100% change in nest productivity!

2011

- Herons return to nest at Post Point for 12th year.
- Staging in colony February 10 – 5 nests occupied by single adult
- Winter storm and snow force heron out of colony February 25
- Staging on clarifiers March 3
- Colony reoccupied March 7 – 7 nests occupied
- Early Incubation started March 19
- Total 16 nests active (max. 17 nests visible) April 9
- Bald Eagle incursions April 26-27 eggs and young viability lost
- Re-nesting begins May 1 – 16 nests remain occupied
- Egg laying/incubation underway May 5
- No Bald Eagle incursions observed or reported
- First hatching confirmed June 1
- Rearing June/July
- Productivity ~3 young/nest
- Fledging late July – early August, fledging complete August 14 (one month later than 2010)
- Total of 16 active nests utilized in 13 nest trees (2 new nest trees)
- 3 added nests, positive change from 2010 = +23%

2012

- Herons return to nest at Post Point for 13th season.
 - Staging in colony February 3-22, w/ 1-5 nests occupied by single adults
 - Winter storm and snow force most heron out of colony February 29
 - Colony reoccupied March 3 – 7 nests occupied, 15 nests visible
 - Pairing, courtship begin March 8
 - Incubation started March 23
 - Total 16 nests active (max. 11 nests visible) April
 - Possible Bald Eagle incursion April 25, no impact observed
 - Late April – very poor weather obscuring views and extending brooding
 - First hatching approximately May 1
 - Rearing May-June
 - First fledglings observed June 26
 - Productivity ~2.4 young/nest
 - Total of 17 active nests utilized in 13 nest trees (2 new nest trees)
 - 3 added nests, positive change from 2011 = +6%
-

2013

- Post Point Waste Water Treatment Facility expansion underway, construction occurring 100+ feet from colony edge.
- Herons return to nest at Post Point for 14th season.
- Staging in fir tree west of colony 8-10 herons Feb 1.
- Colony Reoccupation: February 26, w/ 10 nests occupied by single adults.
- Pairing, courtship begin March 1.
- Onset of egg laying/incubation March 14.
- Bald Eagle incursion March 22, possible egg loss 1-3 nests impacted.
- Total 16 nests active April.
- First hatching approximately April 15.
- Rearing April-May-June
- First fledgling observed June 10, most fledging June 25-July 10.
- Productivity 2.37 young/nest
- Total of 17 active nests utilized in 14 nest trees

2014

- Post Point Waste Water Treatment Facility expansion construction continued, occurring 100+ feet from colony edge, plus a new trail <100 feet.
- Herons return to nest at Post Point for 15th season.
- Colony Reoccupation: February 20-26, w/ 4-9 nests occupied.
- Late winter storm – heron abandon site
- March 3, heron begin to reoccupy colony
- Pairing, courtship begin March 15, 11 nests occupied.
- Early egg laying/incubation March 17 (2 nests only).
- Available nests saturated (17 nests occupied) March 27
- Onset of egg laying/incubation 10+ nests April 1
- New nest added – total 21 active nests April 17
- First hatching approximately April 21.
- Rearing late April-May-June
- PPWTP Expansion Completed June 1
- First fledgling observed June 11, most fledging July 1-15.
- Season End August 1
- Productivity 2.5 young/nest
- Total of 21 active nests utilized in 14 nest trees (1 new nest tree)
- 4 new nests, positive change from 2013 = 24%

2015

- Herons return to nest at Post Point for 16th season.
 - Colony Reoccupation: February 9, w/ 11 nests occupied.
 - Pairing, courtship begin February 15 (one month earlier than 2014), 11 nests occupied.
 - Early egg laying/incubation March 16 (5 nests), 20 nests occupied.
 - Onset of incubation March 29.
 - New nests added – April – May, total nests 25.
 - First hatching approximately April 12.
 - Rearing April-May-June-July
 - Peak fledgling June 27-July 9.
 - All young fledged July 9, except 3 nests. Final nest fledged after Aug. 2.
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- Productivity 2.8 young/nest
- Total of 25 active nests utilized in 15 nest trees (1 new nest tree)
- Positive change from 2014 = 19%

2016

- Herons return to nest at Post Point for 17th season.
- Heron return to colony January 30, and then leave abruptly mid-February.
- Colony Reoccupation: March 2 w/ 11 nests occupied.
- Pairing, courtship begin March 11, 17 nests occupied.
- Early egg laying/incubation March 23 (3 nests), 19 nests occupied.
- Onset of incubation March 30.
- New nests added – April, total active nests 29.
- First hatching approximately April 21.
- Rearing late April-May-June-July
- Peak fledgling July 1-July 9.
- All young fledged July 15, except 3 nests. Final nests fledge July 17-23.
- Productivity 2.3 young/nest
- Total of 29 active nests utilized in 16 nest trees (2 new nest trees) – 24 nests successful in fledging young
- Positive change from 2015 = 16%

2017

- Herons return to nest at Post Point for 18th season.
 - Heron return to colony delayed due to extended winter and snow in February
 - Heron present in colony Feb 22 and March 1 – no nesting
 - Herons absent from colony – March 8
 - Colony Reoccupation, pairing and courtship: March 15 – 23 heron w/ 18 nests occupied.
 - Early egg laying/poss. Incubation(1 nest) March 22 (same as 2016), 24 nests occupied.
 - Onset of incubation - 20 nests as of April 12, 30 nests occupied.
 - New nests added – April, total active nests =33.
 - First hatching April 26-May 3.
 - Rearing May-June-July (2 nests into Aug) – 2 new nest obs, total active nests =35
 - Peak fledgling July 12-July 19.
 - All young fledged July 26, except 5 nests. Final nests fledge July 29-Aug 6 except one late nest.
 - Productivity 2.5 young/nest
 - Total of 35 active nests utilized in 18 nest trees
 - Positive change from 2016 = +20%
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Heron Flyover
Photo by Mike Hamilton