

# Post Point Heron Colony

## 2015 Monitoring - Annual Report

*prepared for:*

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Post Point Great Blue Heron Colony Annual Chronology

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## 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 2015 Post Point Great Blue Heron Colony Annual Monitoring are detailed in this annual update. Monitoring of the site spanned 6 months and included 28 site visits through the nesting season. Between early February and early August, the herons reoccupied the colony, nested, hatched and reared young to fledging. It was a particularly successful year with growth of the colony and good productivity.

A total of 25 nests were active in 2015, an increase of 4 nests, or 19% from 2014. The same number of nests was added in 2014. With the completion of the Post Point Wastewater Treatment Plant Expansion Project, in June 2014, the north side of the colony has become relatively quiet again, however with new structures and a trail nearby it was not clear how the herons would respond. No other major construction project or major disturbances were noted. Bald Eagle presence around the colony was also peaceful this season, with no incursions in the colony reported. With disturbances minimized, the colony appeared to have responded favorably both in growth and productivity this season.

## INTRODUCTION

The Post Point Great Blue Heron Colony Annual Report details the 2015 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 heronry is the only known heron nesting site in the City of Bellingham and is considered a sensitive breeding habitat area. The colony is small, yet unique within the city and has been strategically important to 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 near heron colonies.

The City of Bellingham Public Works has supported the conservation of the Post Point Great Blue Heron Colony site by developing a management plan (2003), establishing a scientific baseline (2005) and sustaining professional monitoring of the colony, which has been ongoing since 2005. However, due to the 2014 completion of the Post Point Wastewater Treatment Plant expansion, resulting in subsequent major landscape changes and infringement of buffers, the original management plan (2003) has become obsolete and requires updating.

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 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 2015, 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.

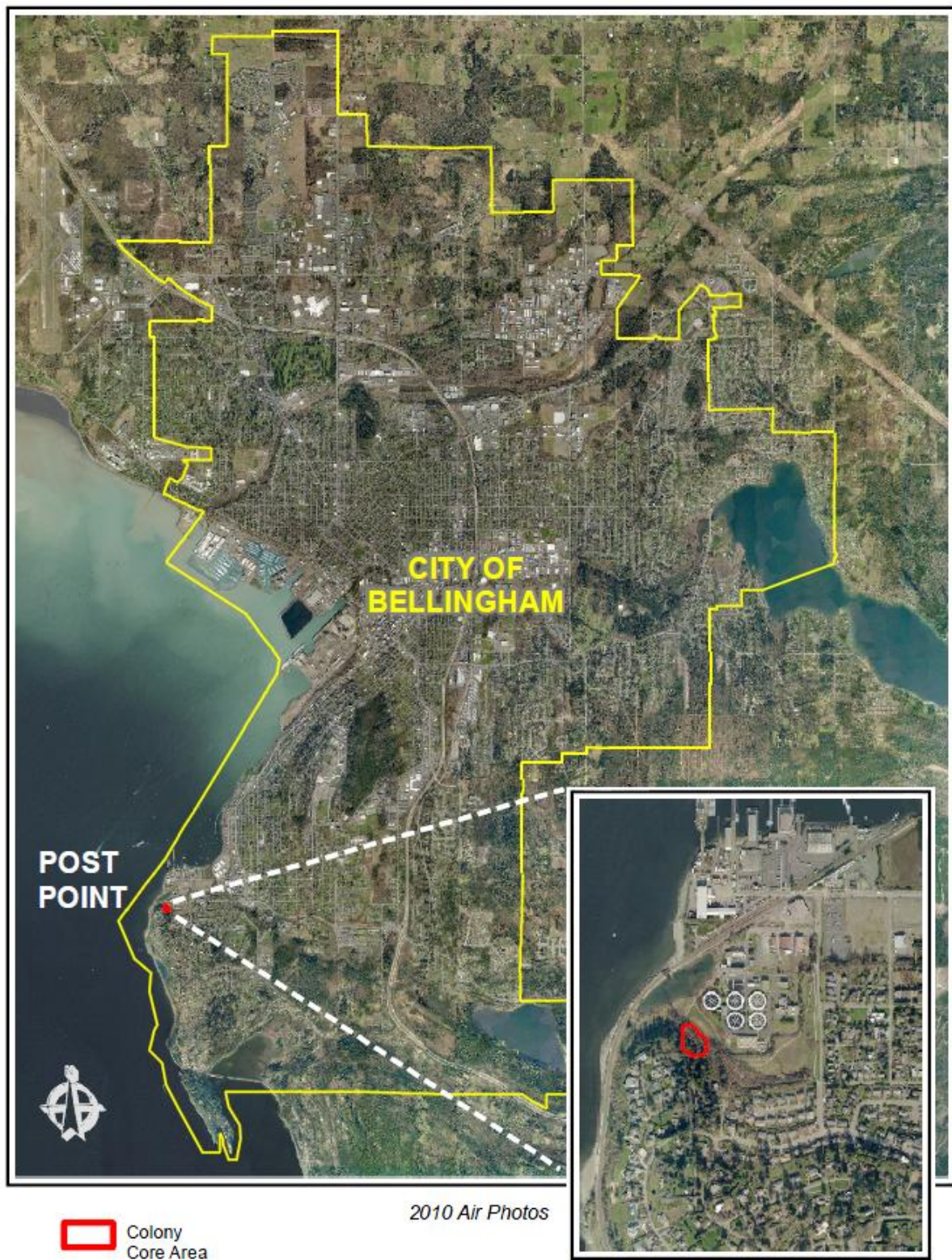
Ms. Eissinger is also the author of the 2003 Post Point Heron Colony Management Plan and 2005 Post Point Heron Colony Baseline Study prepared for the City of Bellingham, Department of Public Works. In addition, the Biologist has assisted in the development of interpretive displays and public education 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 the 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, Larry Bateman.





Figure 1  
Post Point Heron Colony Location



## 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

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 from passive human recreation, and to expand estuarine habitat in the nearby lagoon. However, following the 2012 nesting season, the City of Bellingham began the expansion of the Post Point Wastewater Treatment Plant (PPWT) adjacent to the heron colony and associated habitats. With the plant expansion, the immediate wet meadow habitat was greatly reduced as the footprint of the PPWTP was expanded, including a large permanent clarifier structure built just over 100 feet from the nesting colony. In addition to the structure, 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 the only barriers between the trail and nesting area.

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 is situated along the nearshore bluff at Post Point and provides the structural substrate for seasonal nesting and year-round roosting. Within close proximity of the colony are small patches of grassy fallow field, marine shoreline, protected lagoon, estuary and intertidal area with eelgrass meadows.

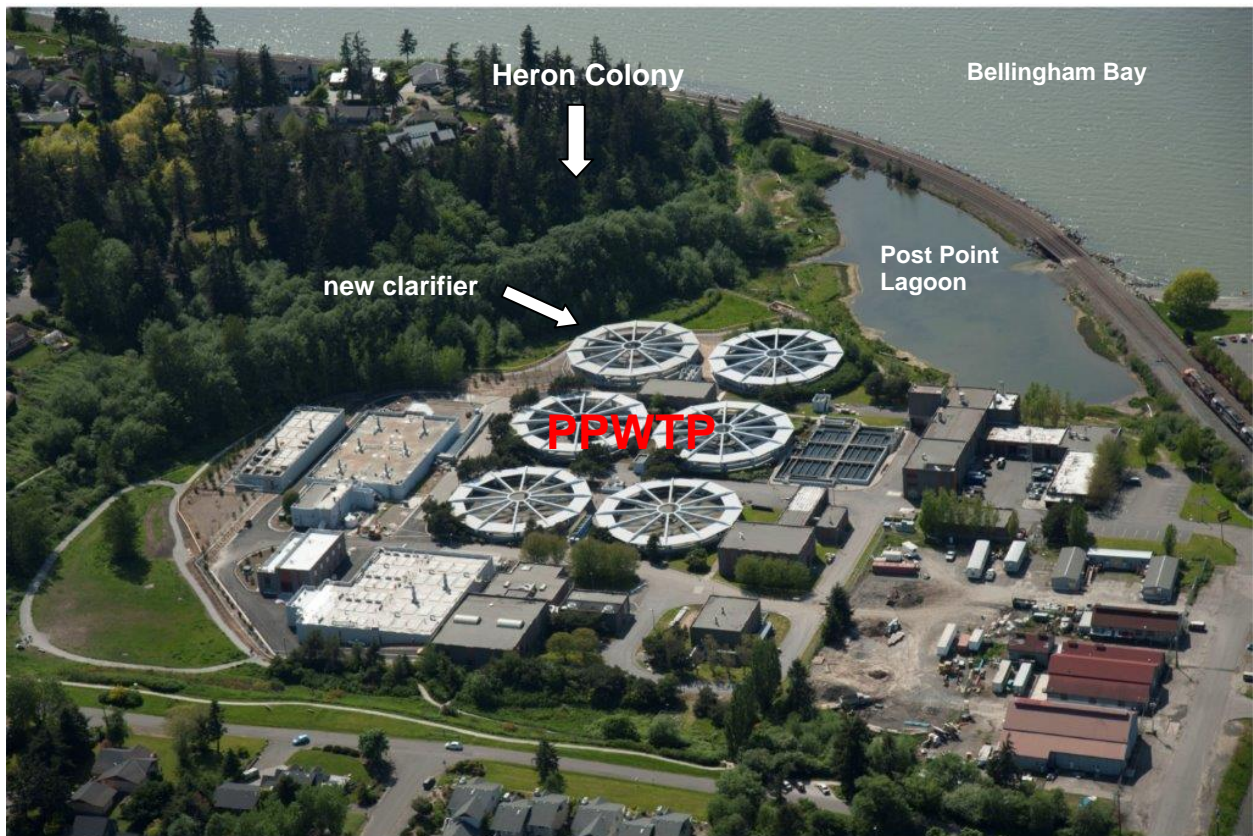
The upland forest, where heron nesting occurs, is situated along a historic shoreline bluff and bluff toe. The bluff line allows the heron separation and elevation above the shoreline park and nearby municipal facilities. The forest is mixed second growth containing mature conifer and deciduous trees. The tree species utilized by the herons for nesting have in the past included Pacific paper birch (*Betula papyrifera*), big-leaf maple (*Acer macrophyllum*) and red alder (*Alnus rubra*). The nest stand is dominated by alder and Douglas fir (*Pseudotsuga menziesii*). Many of the old nest trees are mature and have died or blown over during the past ten years. As a result, the current nesting only occurs in red alder. Douglas fir trees define the bluff and provide a critical overstory 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 near 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 the 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. Although these habitats were identified as important to the herons, 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.



The heron's use of the Post Point Wastewater Treatment Plant 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 and 2014, and was likely due to the PPWTP expansion and related construction activities in and around the facility. However, in early 2015 herons were once again observed roosting on the clarifiers.

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

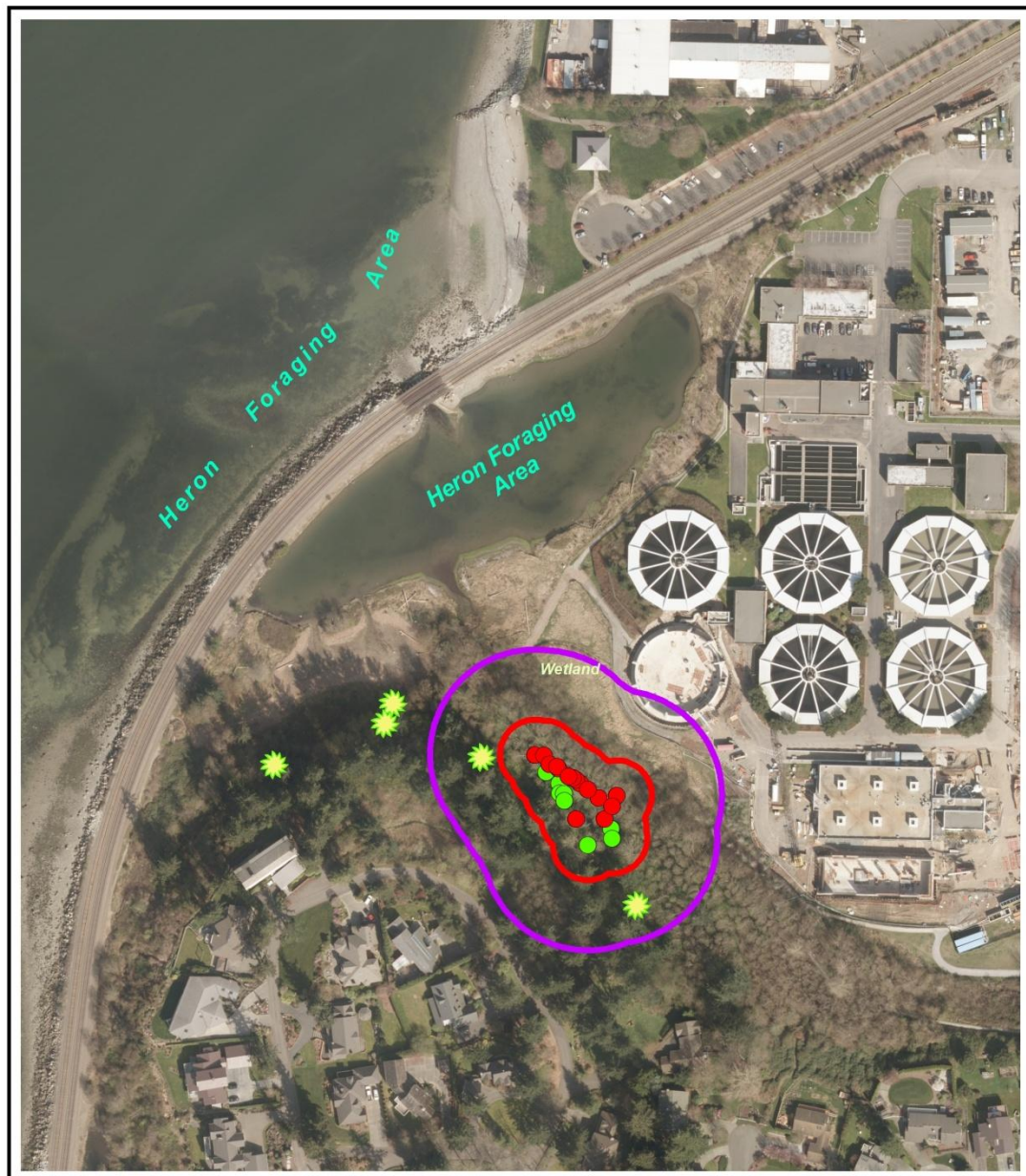


Completed Expansion June 2014 COB Photo



Figure 3

## POST POINT HERON COLONY 2015



**KEY:**

- 2015 Active Nest Trees
- Previous Nest Trees
- ★ Roost Trees

- Colony Core Area
- 100ft Non-Disturbance Buffer



March 2013 Air Photo  
City of Bellingham

0 100 200  
Feet

## Railroad

Separating the Post Point uplands and lagoon from Bellingham Bay is a man-made causeway built for railroad use. 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. It was built along the shoreline and over-water in places using wooden trestles. Most of the wood trestles were replaced by rock riprap in the early to mid-1900's leaving only the Chuckanut Bay trestle locally and a few short bridges to allow tidal waters to continue to flow to and from the larger shoreline lagoons, including Post Point Lagoon. Other smaller lagoons were cut off permanently.

## 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 with abundant native eelgrass (*Zostera marina*) where prey species 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 and wet meadows mentioned earlier, and freshwater systems including streams, wetlands, lakes and estuaries, which are important for small mammals, amphibians and 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 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.



**Heron foraging  
in eelgrass at  
Post Point**

## GENERAL MONITORING

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 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 2015 monitoring of the Post Point heron colony began February 1 and ended August 2. 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 approximately 6 months, but can vary. In the event that nests fail and herons lay a second clutch of eggs, and subsequently rear those young, the season can be extended by 3 to 4 weeks. In contrast, the 2013 season was condensed to just slightly over 5 months.

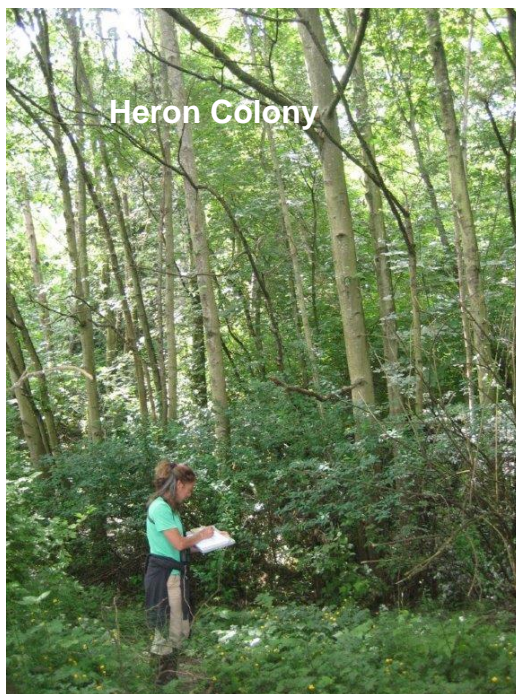
In addition to monitoring the actual nesting period, monitoring also includes preseason or early assessment to document the condition of the colony and habitat prior to the heron's arrival, post-season assessment and nest count to document the colony condition count nests following the nesting season. 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.

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 monitored for their potential nesting activity, presence near the colony, and possible depredation of, or disturbance to herons.

Also, all vertebrate species identified in the vicinity of the colony are recorded. One new species was identified in 2015. A Peregrine Falcon *Falco peregrinus* was observed near the heron colony on one occasion in mid-March.



Tami DuBow monitoring on site 2013 and 2014

## 2015 MONITORING RESULTS

For this report monitoring is divided into 4 phases: Early Season, Colony Reoccupation and Early Nesting, 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.

The winter of 2014-2015 was warmer than normal, with record-breaking high temperatures. A mid-December wind storm caused some damage in the Bellingham/Skagit area, however no notable storm damage was observed in the Post Point heron colony. Precipitation in western Washington was near normal according to the Office of the Washington State Climatologist. As a result, snow was sparse in the Cascades and Olympics during the winter. A warmer than normal year was predicted ahead primarily due to a strong El Nino event in the Pacific. As predicted the spring and summer was significantly hotter and drier than average.



## **Early Season Assessment**

Due to a mild winter the heron colony was not damaged by storms or wind. In early February 2015, a total of 19 nest structures remained in the colony from the 20 nests present at the end of 2014. The colony was visited weekly, beginning February 1. Herons were present staging in the area, including on human structures at the Post Point Wastewater Treatment Plant on February 1, 2015.

## **Colony Reoccupation, Courtship and Nesting**

The first herons, totaling 17, arrived in the colony by February 9. At that time, 10 nests were occupied by individuals or pairs, while some herons were just roosting or interacting. Nest enhancement, building and courtship all started and continued through February and into March as heron reoccupied the colony. In early March new herons arrived and over the course of the month the number of active nests doubled and the colony became saturated. Some new nest structures were built. A total of 20 nests were active by mid March.

## **Egg Laying and Incubation**

By the second week of March, the herons were starting to breed and lay eggs. Heron lay 4-5 eggs and it takes 4 to 5 days, sometimes up to 1 week to lay a complete clutch. Incubation can begin immediately or after a few eggs are laid. The onset of incubation appeared to begin the second week of March this season. With incubation requiring 28 days, hatching was expected to begin mid-April. By the end of March, most of the 20 active nests had adult heron incubating eggs.



Adult heron incubating eggs

Late comers to the colony included 3 pairs which started nesting in April and one pair in early May. The total number of active nests reached 25 with these late arrivals. These nests were incubating while other nests were hatching young.

## **Hatching and Rearing**

Although April is usually a quiet month in the colony with incubating as the primary activity, with the early onset of incubation, hatching was expected to begin the second week of April (2 weeks earlier than normal). On April 12, the first young were heard in the nests and the onset of hatching had begun. One week later, nearly all the nests had hatchings, so brooding and early rearing of young had begun.

Rearing of young requires 8 weeks in the nest. 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.

At the end of May, one nest containing large young had fallen apart and disappeared. The fate of the young was not determined. The loss of this nest reduced the total number of active nests to 24.



With the hatching and rearing of young in the colony well underway the week of April 20, the expected fledging period was determined to be mid to late June.

### **Fledging**

Close monitoring of the heron nestlings in the colony indicated that early fledging of young was detected the third week of June with more young gradually leaving nests toward the end of June. By the end of June, 9 of the original 25 active nests had fledged young, of those, 5 nests had fledged all of their young.

Fledging of young continued into July, and seemed to have been drawn out period. Peak fledging occurred between June 20 and July 9 and was estimated to be the first week of July. By July 9, 80% of the nests had fledged their young, with only 5 nests remaining active. Monitoring of the colony continued to August 2, with 2 nests remaining active. The two late nests likely fledged by mid-August, based on hatching dates.



**Young heron about 6 weeks old**

## Post Point Heron Nesting Chronology Summary 2015

**February to Early March:** heron began to return, and occupy the colony and nests.

**Mid-March:** pairing, courtship, nest enhancement, onset of nesting, egg laying and early incubation the last week of March.

**April:** incubation, late arrivals to colony, early hatching in late April.

**May:** hatching, brooding of young.

**June:** rearing, fledging begin late June.

**July:** fledging peak first week of July, fledging continue to July 9.

**Mid-July:** 2 nests remain occupied to the end of July.

**August:** August 2, end of season - fledging and dispersal completed.

The total duration of the nesting period at Post Point in 2015 was 25 weeks, compared to 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.



**Heron gathering nest material at Post Point**  
A Fritzberg 2013



## 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 in 2015. The colony's growth and success over the past 2 years is notable and the lack of known predatory incursions is likely a beneficial factor.

In 2015, young were successfully fledged. Based season-long weekly observations of the colony and tracking the 25 active nests, accounted for a total of 67 young. One nest fell apart mid-season and the young were likely lost. This is the second year in a row that a nest disintegrated with young in it. Usually adult herons are very fastidious about their nest structure and contents, continually adding to it during the first month or two of nesting season creating a very strong structure. Of the 24 successful nests, a total of 2.8 young per nest were recorded for the 2015 season.

Table 1: Post Point 3 Year Productivity 2013-2015

Year	No. active nests	No. successful nests	No. young	No. young per nest
2015	25	24	67	2.8
2014	21	21	54+/-2	2.57
2013	17	16	40	2.5

In prior years 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 exceeded that average. It is assumed that these results are within or above the regional norm and reflect good health and success on the part of the herons and locally viable food sources.

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. Study 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 2). 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 2015 season were recorded. Of a 28 total site visits during the 2015 season, 19 were during favorable foraging periods, based on tidal stage for Post Point. Of these favorable foraging visits, 8 resulted in herons observed foraging along the marine shoreline or the lagoon. The total number of heron observed during any single visit ranged from 1 to 4 in 2015 as compared to 1 to 11 in 2014. The tables below provides foraging results by month for both 2015 and 2014.

**Table 3: 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

**Table 4: 2014 Foraging Survey Summary by month**

Month 2014	# 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	5	2	0	1,2
March	3	1	2	0
April	9	5	2,1,1,6	1
May	8	6	1,5,1,8,11	1
June	8	5	5,5,6	2,1
July	3	2	2	1

Note: early July (peak fledging) surveys were not completed.

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 in June and July, 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 2015 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 2015 were sparse. Heron numbers were low at Marine Park and nearly nonexistent at Post Point lagoon. Compared to 2014, foraging numbers and occurrence during high-demand months were also low. There is no explanation for this apparent lack of use of Marine Park shoreline and the nearby lagoon.

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 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.



Mike Hamilton photo

## **DISTURBANCE**

Disturbances to Salish Sea heron colonies may range from predators, human activities and/or intrusion, to low-flying air craft, and bad weather. Any natural or unnatural cause of stress, changes in normal behavior or flushing from nests, roosts or feeding grounds is considered a disturbance. 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. 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.

With the completion of the Post Point Wastewater Treatment Plant expansion in 2014, close attention was paid to the heron's response to the new clarifier and associated trail, both located within 100 feet of the colony. However no disturbance or negative reaction by the herons was noted this season.

During the 2015 heron nesting season, no significant 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, however this year the nest stand had at least one friendly Crow nest on the perimeter of the colony and all coexisted effectively, with resident Crows mobbing any potential predator that came close including Bald Eagles.

Bald Eagles are common near the Post Point heron colony. One or occasionally 2 eagles can be seen regularly perched above the colony in a large Douglas Fir or to the west also in a 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 4. This nest site is active and the eagles produced at least one young in 2015, which was observed by the biologist through the month of June.

In 2015 bald eagles were observed during 19 of the 28 site visits near the heron colony. Most of the sightings were of one adult eagle perched in the large fir near the colony, however occasionally there were 2 adults (the pair), a sub-adult or also eagle fly-overs. On one occasion an adult was packing prey from the shoreline and flying toward its nest south of the colony. Of these observations, no eagles were observed disturbing herons or entering the colony. The eagles behavior in 2015 was similar to that observed in 2014.



In the past, Bald Eagle incursions in the heron colony, particularly during hatching and soon after, were predictable. In 2008 and 2009 the herons experienced severe depredation by Bald Eagles, to the point of abandoning the colony at mid-season. A pair of Bald Eagles nesting near the colony may have contributed to the depredation of the herons in order to feed their young, however immature eagles were observed at the same time. Remarkably, the colony rebounded in 2010 and experienced no eagle incursions, but the colony size had been greatly reduced. In 2011, Bald Eagle depredation of the Post Point heron colony recurred, repeatedly over a few days with the loss eggs and young, however the heron remained in the colony and re-layed eggs. In 2012 and 2013, the colony was spared serious eagle depredation, with only two minor incidents reported. In 2014, the lack of incursions and predator pressure on the heron colony by eagles, was likely due to resident eagle pair's failed nesting and lack of young to feed.

The issue with eagles raiding heron nests is not isolated to Post Point. It is known to occur throughout the Salish Sea. As Bald Eagle populations have recovered since their low numbers in the 1960's and 70's, their primary prey species have declined, including coastal salmon, herring and seabird/seaduck populations. Consequently, eagles have resorted to preying on heron and other large bird colonies. Every year, colony observers around the Salish Sea report eagle depredation, and in some cases, causing herons to abandon their nests for the year.

Due to the success of the Bald Eagle population, 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.

Figure 4: Bald Eagle Nest Location and Heron Colony

## POST POINT HERON COLONY 2015



## **Other Disturbance**

For the 2015 nesting season, no disturbances in the colony or at the foraging areas were observed or reported. However, there is always some human/heron interaction along the shoreline at Marine Park. 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.

In the past a biologist has made site visits during the weekend to document the heron's response to race activities. The results of these observations were negative for disturbance to the nesting colony due to distance from the event and screening.

Public access near the colony was prohibited in 2013-2014 due to trail closures during the PPWTP construction. However in 2015, race organizers proposed a leg of the race to utilize the trail next to the heron colony which was constructed in 2014 and passes approximately 60 feet from the nearest heron nest. As a Critical Area, designated by the City of Bellingham, the race route was not allowed due to human disturbance during the peak of nesting.

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. For the past two years, 2015 and 2014, the low or favorable tide was in the morning, prior to the race finishers arrival. With higher tides in the afternoon and early evening, conflicts between heron and race-goers were avoided. In 2016 however, the optimal tide for the herons will occur at the same time racers are arriving at Post Point.



**Ski to Sea - sea kayak finish at Marine Park 2015**



## 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 5).

For this year, the autumn nest count was conducted later than usual, December 3, 2015. As a result, one quarter of the nests tracked during the nesting season were missing and likely blown out of their trees, nests on the ground were noted. Several wind storms struck northwest Washington in October and November which likely caused the loss of nests.

The total number of nests in 2015 was 25. All nests were active. One nest fell apart during the nesting season and disappeared along with its young. A total of 15 nest trees were recorded with one new nest tree this season. All of the active nest trees are alder.

During the 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 5), the colony started in 2000 with 6 nests in 5 nest trees and grew for the next 6 years to a high 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 25 active nests, with the successful fledging of young each season.





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

**Table 5: 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	15	+19%

## Colony Mapping

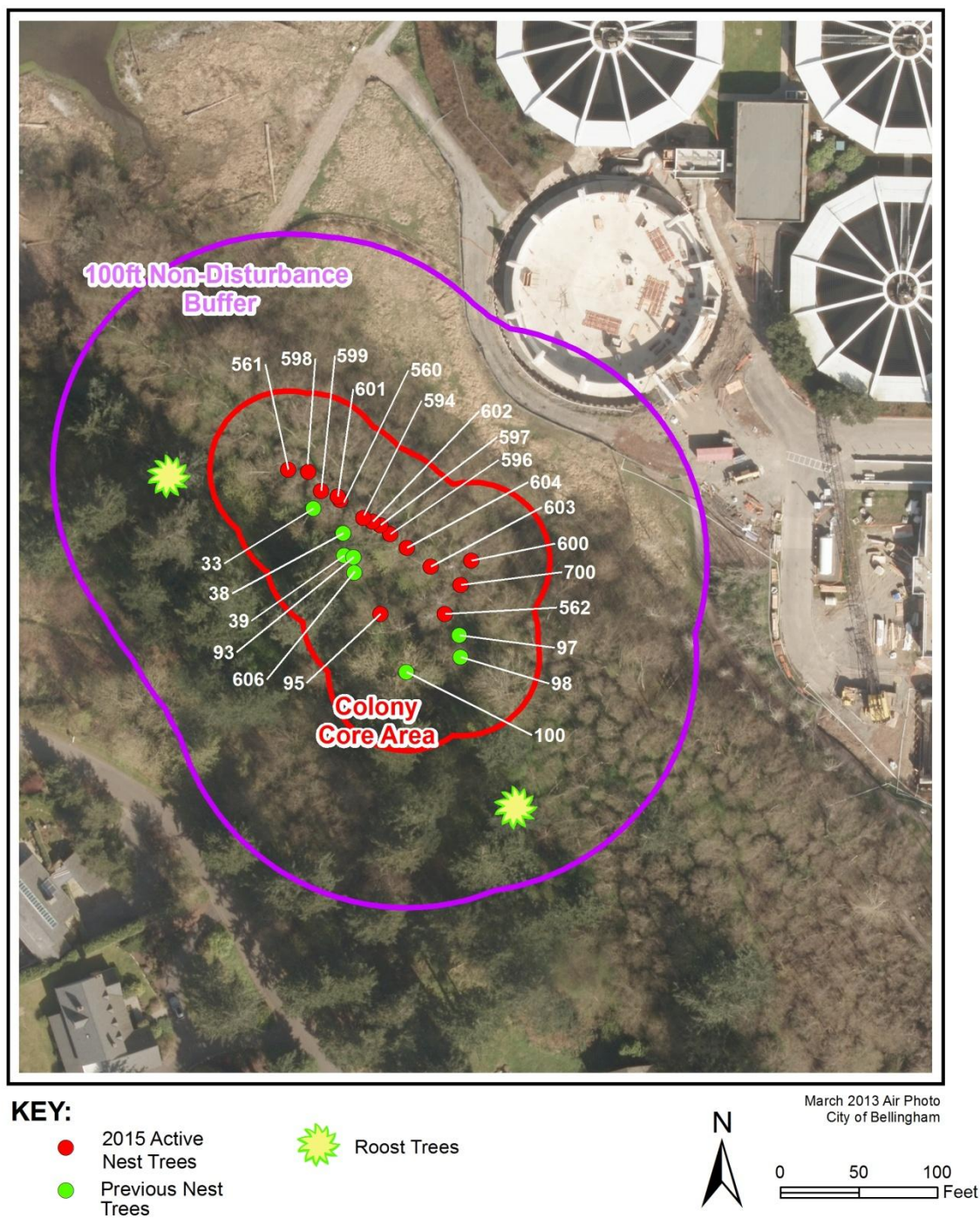
A colony map update was completed in December 2015, by Chris Behee, GIS Specialist for the City of Bellingham. The colony maps (Figures 3 & 5) illustrate the colony, its location on the landscape, the core area, nest tree location and number of nests per tree. The base used for these maps are 2013 aerials that show construction still underway at the Post Point Wastewater Treatment Plant, which is now completed.

The colony core area, as indicated on the maps, constitutes the actual nesting area and is calculated 50 feet laterally from the base of the outermost nest trees. This allows for variance in tree canopy and varied nest locations. GPS readings of each tree are taken at its base. The core area is about 1 acre in size. A 100 foot buffer 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 also represents an area in which the colony could move over time. However, due to new construction at the PPWTP and the placement of a new clarifier and associated trail inside the buffer, there is little room to expand north.

The colony has changed little in density since 2012. However, several nest trees shifted in use between 2013 and 2014. Of the 14 trees used for nesting in 2013, only 8 nest trees, or about half, were reused in 2014. Little change occurred between 2014 and 2015 with only the addition of one new nest tree. The 2015 map (figure 5) illustrate all nest trees in the colony and those active in 2015. Little change to the configuration or perimeter occurred between 2012 and 2015.

**Figure 5: Colony Map 2015 Update** (2013 aerial note new clarifier under construction)

## POST POINT HERON COLONY 2015



Note: All tagged tree locations were re-surveyed in January 2013 by PW Survey Staff.

## 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 the colony is growing again with substantial growth and successful fledging of young in both 2014 and 2015.

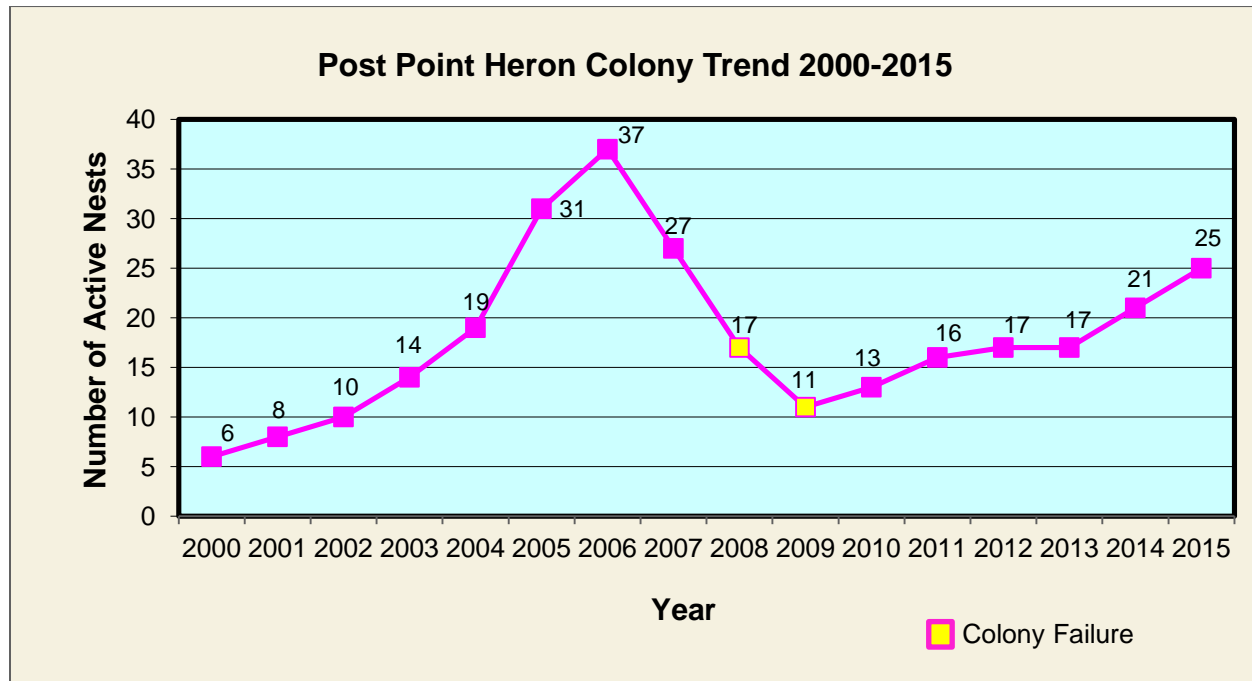
The early growth of the colony indicated the annual influx of new breeding adults and likely return of previous fledglings to breed once reaching maturity (2-3 years of age). Based on 2005 fledging numbers, the predicted return of 30 young breeders did not occur, instead approximately 20 heron failed 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 showed promise.

This year 2015, proved to be a successful year 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 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 exhibited higher productivity at 2.8 young per nest.

**Figure 6: 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 16 seasons. During this time, the heron colony has grown, declined, abandoned and rebounded and has produced young for 14 out of the 16 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 built landscape, changed habitats in the immediate vicinity of the colony, and new public trail within approximately 80 feet from the nearest nest, close monitoring of the heron colony is vital. In addition, public education, signage and outreach will be important tools to inform the public and user groups about herons feeding along the shoreline and keep interactions between herons, people, and dogs to a minimum.



**New interpretive and viewing platform  
located between lagoon and heron colony (in  
background)**  
TD 2014



Recommendations for 2016 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.
- 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.
- 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. This plan is now outdated. Given the 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 can be better understood and tracked over time.

The City of Bellingham's cooperation in efforts to education and inform the public particularly for neighbors, shoreline user groups, and Sea to Ski organizers is needed as a continued 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 2015 heron nesting season and results of all monitoring activities. A total of 28 monitoring visits were made to the colony this season.

The Post Point herons returned to the colony in early February and reoccupied the colony that month. The herons nested into July, with peak fledging of young occurring the last week of June and first week of July. The herons appeared to nest normally, without observed or reported disturbances. The Post Point heron, in 2015, occupied 15 nest trees and a total of 25 active nests, with one nest failing due to structural deficiency. Active nests supported a total of 67 young, averaging 2.8 young per nest, which is above the normal range for this region. Heron adults and young dispersed from the colony by August 2, with the exception of one late nest that had not yet fledged.

In 2015 the Post Point Great Blue Heron Colony has succeeded in producing young and contributing to the perpetuation of this species in the Salish Sea. Following two years of major construction near the colony, the herons return, growth and productivity is testament to the heron's tenacity and high site fidelity.

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 including: Larry Bateman and the staff of the Post Point Waste Water Treatment Facility, and Freeman Anthony, P.E. PPWTP Project Engineer.

We would also like to express a special thank you to Chris Behee, GIS Specialist with the City of Bellingham, for providing nest locations, mapping and excellent updated maps for this report. We greatly appreciate photographs of the Post Point herons provided by Alan Fritzberg and others by Mike Hamilton, and the eagle photo from the Starr Family. Finally, we acknowledge the support of neighbors 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 (2015 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 5<sup>th</sup> 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 6<sup>th</sup> 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 7<sup>th</sup> 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 8<sup>th</sup> 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 9<sup>th</sup> 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 10<sup>th</sup> 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 11<sup>th</sup> 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 12<sup>th</sup> 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 13<sup>th</sup> 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 14<sup>th</sup> 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 15<sup>th</sup> 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 16<sup>th</sup> 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.
-



- Productivity 2.8 young/nest
- Total of 25 active nests utilized in 15 nest trees (1 new nest tree)
- Positive change from 2014 = 19%



**Heron Flyover**  
Photo by Mike Hamilton