

# Post Point Heron Colony

## 2013 Monitoring - Annual Report

*prepared for:*

**The City of Bellingham  
Department of Public Works**

2221 Pacific Street  
Bellingham, WA 98226



*prepared by:*

**Ann Eissinger  
NAHKEETA NORTHWEST WILDLIFE SERVICES**

PO Box 176  
Bow, WA 98232  
(360) 770-6012  
[nahkeetanw@gmail.com](mailto:nahkeetanw@gmail.com)



# Table of Contents

	<u>Page</u>
Executive Summary	1
Introduction	2
Heron Habitat and Utilization	5
Foraging Habitat	8
Post Point Waste Water Treatment Plant Expansion	9
General Monitoring	11
Monitoring Results	12
Early Season	13
Mid-Season	14
Late Season	15
Breeding Chronology	15
Productivity	16
Foraging Observations	16
Disturbance	18
Bald Eagle and other predators	19
Other Disturbance	22
Nest Survey and Mapping	23
Colony Dynamics	26
Management and Stewardship	27
Conclusion	28

## FIGURES

Figure 1 - Post Point Heron Colony Location	4
Figure 2 - Post Point Heron Colony 2013 Map Update	7
Figure 3 – Bald Eagle Nest Location	21
Figure 4 - Post Point Heron Colony 2013 Nest Tree Map	25
Figure 5 - Post Point Heron Colony Trend	26

## TABLE

Table 1 – Post Point/Marine Park Foraging Results	17
Table 2 – Post Point Annual Nest Count	24

## ATTACHMENT

- 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, on the nearshore bluff southwest of the Post Point Wastewater Treatment Facility. The colony is located on City owned property situated between the waste water 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, grassland 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 bluff 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.

Beginning in 2012, the Post Point Wastewater Treatment Facility, adjacent to the heron colony, has been under a major expansion that will continue to June 2014. The related construction, addition of several large structures and associated activities resulted in significant noise, disturbance, changes to the landscape and some loss of buffer between the colony and facility. A construction project of this size, within 100+ feet of an active heron colony is unprecedented. Given that sound abatement, screening or other mitigating measures were not possible due to the scale and proximity of the construction to the colony, concern for the viability of the herons nesting colony and reproduction were shared by all stakeholders. As a result, intensive monitoring of the colony was employed, and close, on-going communication between project manager and biologist was maintained.

The results of the 2013 Post Point Great Blue Heron Colony Annual Monitoring are detailed in this annual update. Monitoring of the site spanned 6 months and included 50 site visits through the nesting season. Between February and July the herons reoccupied the colony, nested and fledged young. It was a particularly successful year considering the construction related disturbance throughout the nesting season.

A total of 17 nests were active in 2013, the same as 2012. In the past, from 2000 to 2007, the heron colony had grown and expanded annually at a rate of approximately 35%. In 2007 the colony declined approximately 27% from 2006 which was followed by colony abandonment in 2008 and 2009 due to Bald Eagle depredation. Bald Eagle incursions continued in 2010 and 2011, however the herons successfully nested and fledged young. Eagle depredation did not occur in 2012 and only minor incidences were reported in 2013. As a result the colony has remained active, and productive through 2013.

## INTRODUCTION

The Post Point Great Blue Heron Colony Annual Report details the 2013 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 requiring the protection of both the herons and their habitat. Heron colonies are sensitive to human disturbance, requiring special management to maintain their stability and productivity, see WDFW 2012 update: <http://wdfw.wa.gov/publications/01371/wdfw01371.pdf>

Due to the sensitivity of the Post Point Great Blue Heron Colony and its uniqueness, the City of Bellingham Public Works has supported the conservation of the 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 expansion of the Post Point Wastewater Treatment Plant and subsequent landscape changes and infringement of buffers, the original management plan requires updating.

The expansion of the PPWTP during 2012-2014, presented unprecedented levels of construction related noise, equipment use and human activity observed in such close proximity to an active heron colony. As a result, monitoring of the herons and their colony was intensified in order to adjust construction activities if needed.

Monitoring of the Post Point heron colony includes three primary components: general monitoring, focusing on colony activity, breeding chronology, predation and disturbance; productivity, which focuses on nestling numbers and fledgling success; and nest survey updating the number of nests, nest trees utilized during the breeding season and assess overall forest health. Heron foraging observations are also made to document feeding activity. Monitoring usually spans six months, but may vary. In addition, Bald Eagles are also monitored if active in the vicinity of the heron colony. Due to nearby construction, heron behavior and any disturbance during nesting is closely watched.

Implementation of monitoring, 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 years experience monitoring Great Blue Herons and is expert in heron ecology, behavior, colony dynamics and stewardship. Her 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 2006-2007 prepared for the Puget Sound Nearshore Partnership is available online at: [http://pugetsoundnearshore.org/technical\\_reports.htm](http://pugetsoundnearshore.org/technical_reports.htm) 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.

Detailed weekly monitoring updates and progress reports submitted to the City of Bellingham document the heron's nesting activity and any observed disturbances. The point of contact for this project includes the City of Bellingham Department of Public Works Post Point Waste Water Treatment Plant Operations Supervisor, Larry Bateman, and Post Point Waste Water Treatment Plant Expansion Project Manager, Freeman Anthony, P.E.

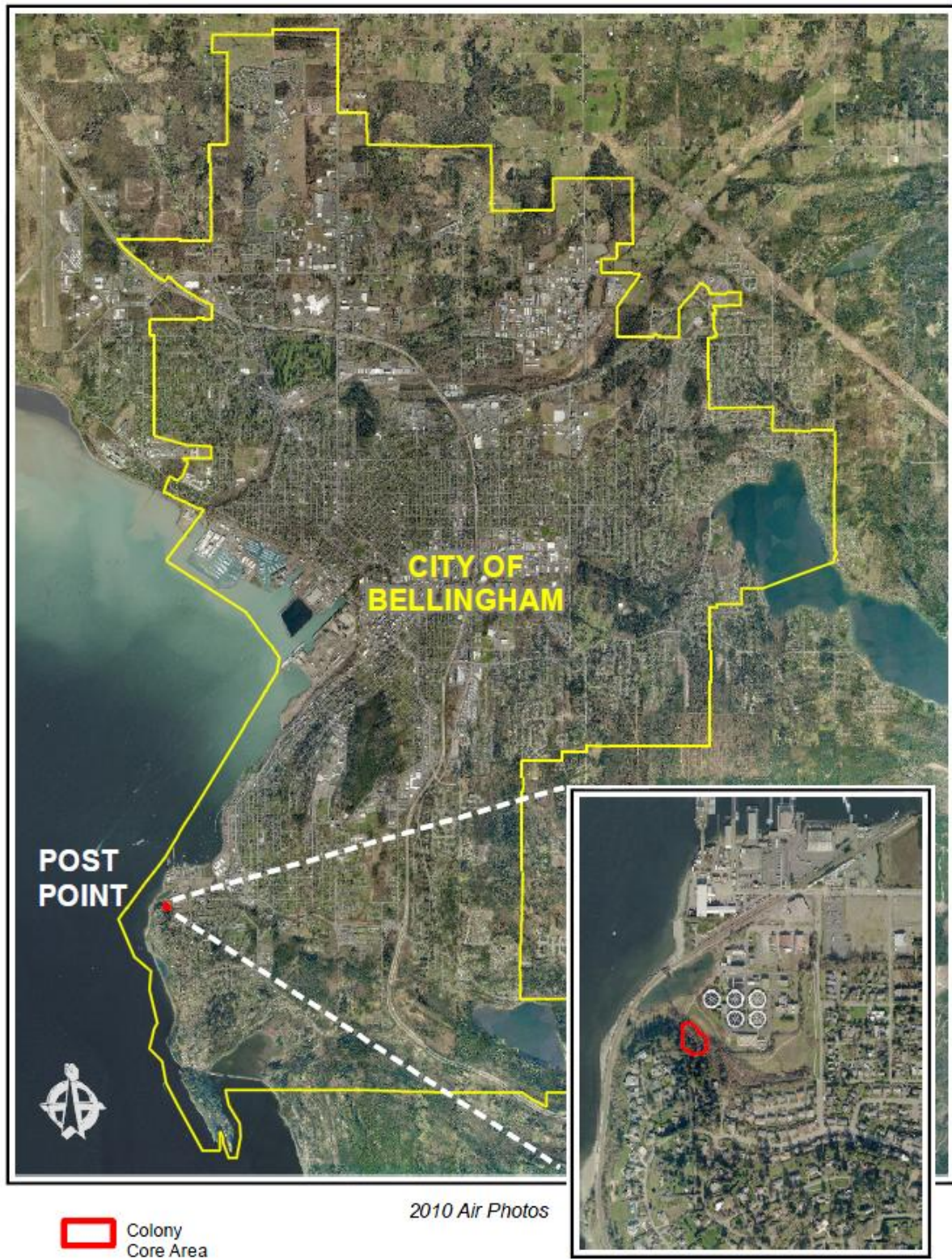


A Fritzberg 2013





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 bluffs of Post Point. This forest habitat provided protection from prevailing winds and weather, with the exception of wintery northeasters. This site occupied 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 colony along Chuckanut Drive and the following year settled in the bluff forest at Post Point to nest. The heron colony has been present and active since 2000.

Up to 2012, habitat and conditions have remained stable, with some improvements 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 adjacent to the heron colony and associated habitats. With the plant expansion, the immediate wet meadow habitat was lost and the footprint of the PPWTP was expanded, including a large permanent clarifier structure built about 100 feet from the nearest nest within the colony. In addition to the structure, additional fencing, and a public trail is planned within this 100 foot buffer strip.

The habitats utilized by the herons of Post Point include upland mixed forest, nearshore bluff, marine estuary, shoreline, intertidal and 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 fallow field, marine shoreline, protected lagoon, estuary and intertidal area with eelgrass meadows.

The upland forest where the nest colony is located is situated along a historic shoreline bluff. The bluff line allows the herons 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 alder and maple. 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 adjacent to the heron colony at Post Point, 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 has also serves as a fledging site for young heron exploring outside the colony. Although these habitats have been identified as important to the herons, the expansion of the Post Point Wastewater Treatment Plant and construction of a new clarifier will remove approximately 8,300 square feet of wetland habitat and part of that is existing wet meadow or field (Figure 2). Mitigation for lost wetland and meadow habitat is described in the Post Point Waste Water Treatment Plant Expansion Mitigation Plan:

<http://www.cob.org/documents/pw/utilities/ppwwtp/pp-wwtp-mitigation-plan-june-2011.pdf>

In previous years, the heron's use of the Post Point Waste Water Treatment Facility has been unique. Herons have utilized the top of the clarifiers during staging and occasionally during the breeding season, fledging and winter roosting. However, in 2012 and 2013, no heron utilized the clarifiers.



## Post Point Heron Habitat Before and After New Clarifier



October 2009 AE

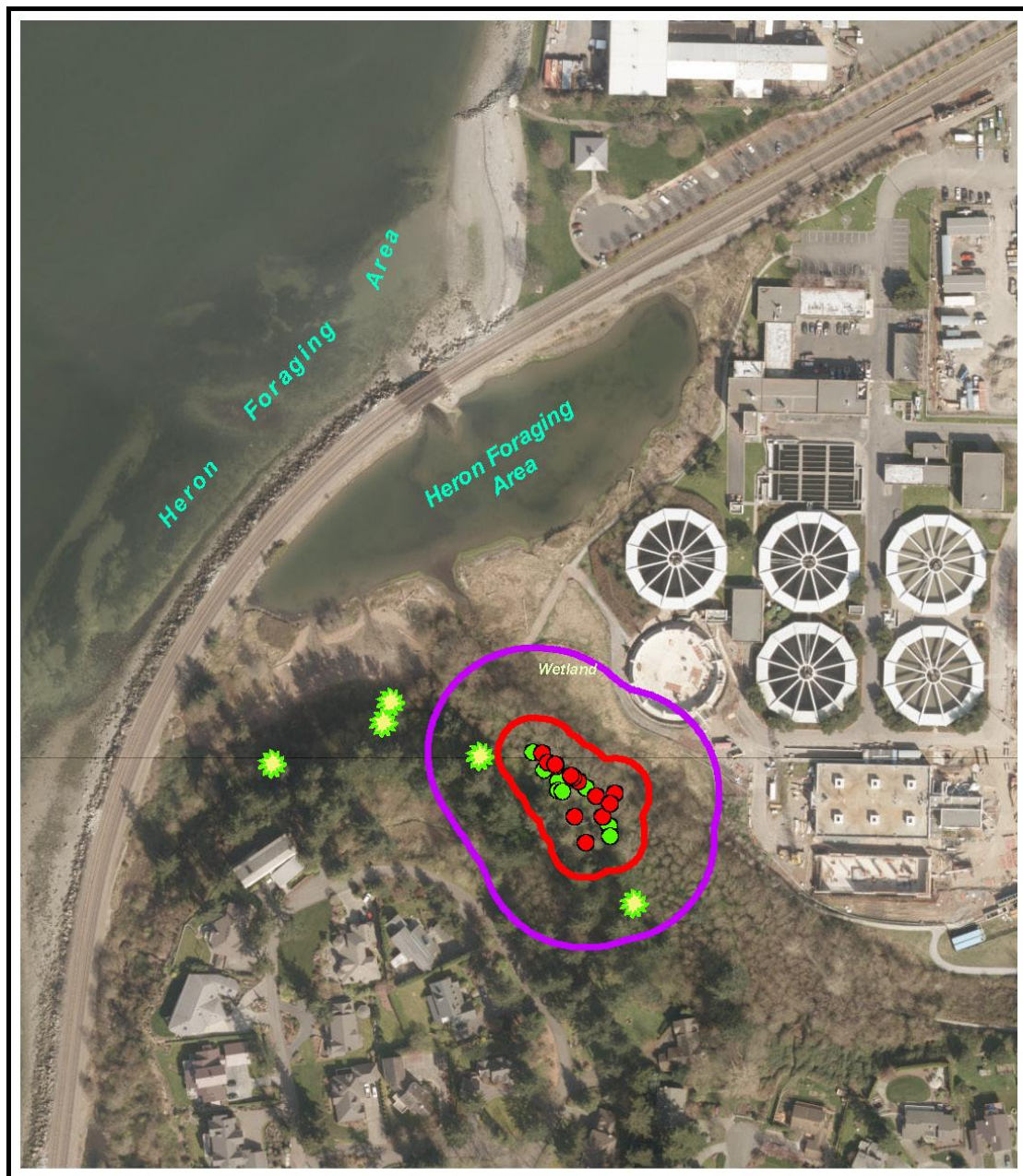


December 2013 TD



Figure 2: Colony Map 2013 Update (note new structures)

## POST POINT HERON COLONY 2013



**KEY:**

● 2013 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

## 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. Due to environmental changes and human use patterns, the foraging area survey needs to be repeated in 2014.

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 amphibians and fish as prey.



Heron foraging in eelgrass at Post Point



Fledglings at Post Point Lagoon 6/28/2013 TD

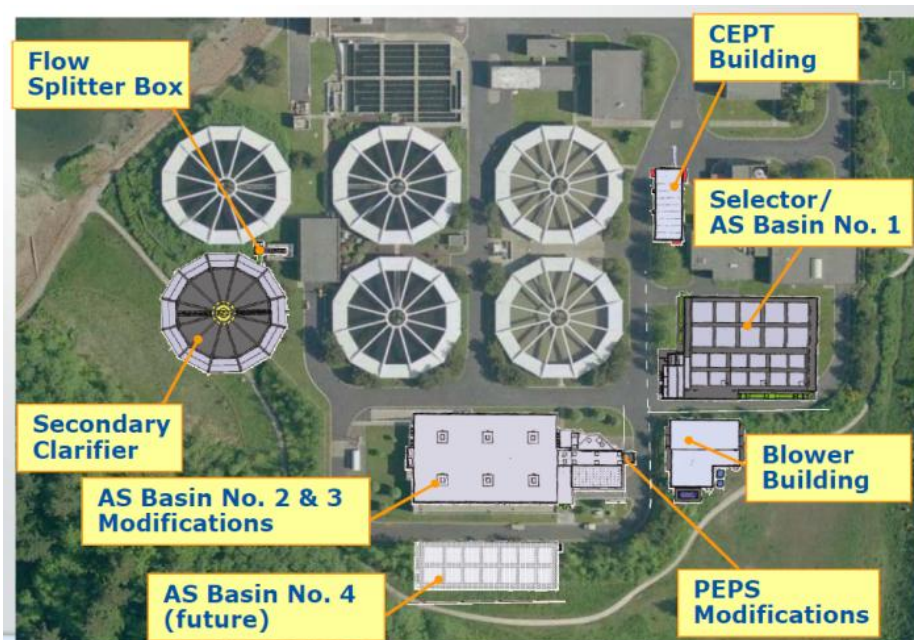


## POST POINT WASTEWATER TREATMENT PLANT (PPWTP) EXPANSION

The City of Bellingham Public Works Department is in the process of expanding the Post Point Waste Water Plant (PPWTP). The Post Point facility has provided secondary treatment of waste water since 1993. Due to the city's population growth, the plant reached its capacity requiring expansion in order to maintain operations to federal and state standards. The expansion project is planned for a two year construction period. The project started in July 2012 and will continue to July 2014. Detailed project information is available online:

<http://www.cob.org/government/departments/pw/projects/wastewater-treatment-improvements.aspx>

**Post Point  
Waste Water Plant  
Expansion Plan  
Layout**



The PPWTP expansion dominated activities at Post Point in 2013. The project included construction on 4.4 acres along the south and southeast side of the facility, adjacent to the heron colony. With the construction of four large concrete structures, numerous pieces of equipment running simultaneously and a daily workforce of 30-80 personnel, this project constituted major industrial construction.

A construction project of this magnitude in close proximity to an active Great Blue Heron Colony during the breeding season is unprecedented. Major construction activity occurred between 100-800 feet in direct line of sight from the colony, with no screening or shielding, exposing the herons to continuous noise, equipment use and human activity.

The project was well underway at the time the heron nesting season was about to start in February 2013. The most potentially disturbing part of the project was the construction of a secondary clarifier within 100-200 feet of the colony. Most of the work on the clarifier super structure and walls was completed in February and March 2013, at the same time herons were returning to the colony. The remaining work, for the most part was conducted inside the walls, until mid-June when backfilling of the structure was completed. All work was outside the 100 foot buffer during the heron's nesting season.

In addition to the clarifier, three other large concrete structures were constructed. In addition to a variety of heavy construction equipment used on site, two large cranes, extending 80 to 100 feet in the air were also used. During the course of the season cranes were moved around the site, and at times were situated within 200 feet of the colony. In early June the large crane was removed and smaller cranes were used as needed.

As a major construction project, permitting involved environmental review and mitigation, the details of which are online: <http://www.cob.org/government/departments/pw/projects/wwtp-permits.aspx>

Guidelines for protection of the heron colony included a timing restriction beginning February 1, which required a 100 foot construction setback from the colony, and monitoring of the colony. No sound measurements were required or limits recommended, nor were there any equipment restrictions. As a result, the on-site biological monitoring was intensified with an emphasis on using the heron's behavioral changes as the primary measure of disturbance and maintaining close communication with the project manager. Weekly results were provided to Freeman Anthony, Project Manager and Larry Bateman, PPWTP Supervisor. In addition, real-time communication was used if any issue arose related to the construction and herons.



PPWTP Expansion: with large crane near heron colony 3/14/2013. TD



## 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 includes early season, breeding/nesting and foraging. Post-season monitoring takes place following the fledging of young from nests and include foraging observations, colony checks, nest counts and map 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 2013 monitoring of the Post Point heron colony began January 31 and ended July 21, 2013. Due to the PPWTP construction, the monitoring schedule was intensified and the number of site visits was increased. The frequency of visits was twice weekly for a total of 50 site visits during the nesting season.

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. Results for the season are then assembled in an annual report.

In addition to the primary monitoring objectives, observations were made and recorded to gauge construction related responses by the heron, and to define any disturbance to individuals or the colony. Heron behavior in and out of the colony was closely observed, as well as nesting activity and success. Potential construction related disturbance included noise, large equipment in use near the colony, human activity and aerial cranes. No sound measurements were specified, so a general range was recorded during each visit.

In addition to the Great Blue Heron, Bald Eagles (*Haliaeetus leucocephalus*) were monitored for their potential nesting activity, presence near the colony and predation on herons. Also, all vertebrate species identified in the vicinity of the colony are recorded. No new species were identified in 2013.



Tami DuBow monitoring on site 2013

## 2013 MONITORING RESULTS

### Early Season Assessment

The winter of 2012-2013, was overall relatively normal and lacked damaging storm events as reported by the Office of the Washington State Climatologist. However, Puget Sound received 2-5 inches more precipitation than normal October – December and drier than normal January-March. No major winter storm events were reported and no storm damage was observed in the Post Point heron colony nest stand, resulting in nests and nest trees remaining intact from 2012.

As of January 31, 2013, 17 nest structures remained in the colony, and no winter storm damage was noted. No heron were observed in the colony, however 8-10 adult heron were roosting in a fir tree immediately west of the nesting area.



**Heron Roost west of nesting area**

Photo by Alan Fitzberg

With cranes, heavy equipment and crews on the ground, PPWTP construction was in full swing, including building of the secondary clarifier the edge of which is 100 feet from the heron colony. As of February 1, 2013, work inside the 100 foot buffer ceased, however the framing and pouring of the clarifier walls continued outside the buffer, including the use of one large 100' crane.

The heron colony reoccupation was delayed. The combination of construction disturbance coupled with some unsettled weather likely played a role. In previous years, herons would be in the colony in early February; however the herons appeared to have dispersed during most of February this year, and although a few remained in the vicinity, none were in the colony. In past years, during this early season period, heron were also often observed utilizing the Post Point Water Treatment Plant clarifiers for staging, but again, the heron were not present this year.



Construction crane next to heron colony 3/1/2013 TD

### **Colony Reoccupation Late February-March**

Heron were first observed in the nesting area February 26, 2013. A total of 16 heron were observed, with 10 nests occupied. Follow up site visits confirmed the colony occupancy. With the onset of the breeding season, herons engaged in pairing, courtship, stick gathering and nest enhancement. The Post Point heron colony was occupied and nesting had commenced from this date forward for the 2013 season.

### **Early Season Breeding and Nesting March-April**

Great Blue Herons at Post Point settled into their nesting activities in March with the completion of courtship within the first week of the month. A total of 10 nests were occupied with paired adults. The heron seemed somewhat tolerant of the noise and construction activity, yet their activity at the nests was difficult to interpret, with birds frequently coming and going from the colony. However, the second week of March at least three nests appeared to have started egg laying. Egg laying requires 5-6 days to complete. Then, similar to 2012 and 2011, by the third week of March, most occupied nests had an adult heron in a horizontal position either egg laying or incubating.

With eggs in the nest, the colony becomes a target for predators. On March 22, a possible eagle incursion was reported and that may have removed some of the eggs and temporarily disturbed the colony.

By the first of April, 14 nests, of the 16 nests visible, were occupied by heron pairs. Incubation was also well underway, with at least 13 nests incubating. Construction near the heron colony continued, but was buffered somewhat by concrete walls that had been completed at the nearest structure to the colony. By the end of the month two additional pairs had moved into the colony for a total of 16 occupied nests, similar to 2012. At this point all available visible nests were occupied and active.



With early incubation starting March 23, first hatching was expected the week of April 21. As of April 28, no young had been heard and activity in the colony remained much the same, with heron incubating eggs in nests. Noise from construction may have obscured the sound of young in the nest, or eagle activity in March may have caused the loss of the earliest eggs and thus delayed hatching. The heron continued to sit on their nests as rainy unsettled weather continued through April. By the end of April activity in the colony continued, without sounds of hatching, yet the heron were likely brooding young and staying close to the nest due to the cool, wet weather at the end of the month.



### **Mid-Season Monitoring May-June**

The mid-season period at the Post Point heron colony began with cool unsettled conditions which quickly changed to warm dry weather, with temperatures reaching the mid 70's° F, 15 ° above average. Lush leaf growth on the nest trees, obscured visibility of some nests from early season observation points, so adjustments were made.

Certain adult heron, were observed standing at their nests, a behavioral sign of young hatching in late April, and by early May young were confirmed. A visit to the site on a Sunday, when the construction site was quiet, aided in detecting the sounds of young in the nest. The hatching and brooding of young continued uneventfully into May, and the rearing of young continued through June. Rearing of young requires 8 weeks prior to fledging. By the first of June many heron adults were no longer staying at their nests, but instead feeding or roosting nearby.



One early fledged young was observed June 10 (9 days earlier than 2012). It is not known if this juvenal fell out of the nest, was startled and prematurely fledged, or was even ready to fly. Based on the earlier dates of incubation and hatching, the onset of fledging was not expected for another week. Rearing requires an eight week period from hatching, and this is followed by 1-2 weeks in which the young may linger near the colony, to feed, roost and orient themselves prior to dispersal. By June 21, fledging in the colony was well underway, about ten days earlier than 2012.

### **Late-Season Monitoring July**

The late-season period at the Post Point heron colony this year was short. The heron young were fledging the last week of June and first week of July. As of July 13 only 4 nests remained active, with a total of 7 young in nests and 1 nearby. By July 21 all young had fledged, and dispersed from the colony, or in the case of the late nest, the young did not survive to fledging. Reports of Bald Eagle activity near the heron colony the week of the July 15 may explain the fate of the young heron in the late nest. Therefore, the 2013 heron nesting season was completed by July 21. In previous years, 2011 and 2012, fledging continued into August

### **Post Point Heron Nesting Chronology Summary 2013**

- **February:** some heron in roost trees west of colony.
- **Early March:** reoccupation of the colony, nest repair, courtship.
- **Mid-March:** onset of nesting, egg laying and early incubation
- **April:** incubation, late arrivals to colony.
- **May:** hatching, brooding of young.
- **June:** rearing, fledging begin.
- **July:** fledging peak week of July 1, fledging and dispersal completed by July 21.

The total duration of the nesting period at Post Point in 2013 was 19 weeks.

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.

**Post Point heron nest with 4 young –  
5 weeks old**

Photo by Alan Fritzberg



## 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, and is particularly important this year given that the colony is being subjected to significant disturbance from nearby construction activities and has not fully rebounded from colony failures in 2008-2009 and subsequent nest reduction.

The Post Point herons successfully produced young in 2013. The colony's success in 2013 is based, in part, on the lack of predatory incursions. With construction nearby, productivity was watched closely through the season. Herons lay four to five eggs per nest and may fledge a maximum of five young, but normally fledge one to three young per nest.

In 2013, young were successfully fledged. Based on multiple observations of the 16 active and visible nests of the 17 total, all were productive and fledged young. Of these nests a total of 40 young were counted, and at least two young were known to have died in July. The young per nest averaged 2.37. Only one nest was not visible and not included in the productivity count. The average for 2012 was 2.4 young per nest. In both 2010 and 2011 an average of 3 young per nest was documented. Although the 2012 and 2013 the number of young is lower, these results are within the regional norm and reflect good health and success on the part of the herons and locally viable food sources.

## FORAGING OBSERVATIONS

Basic foraging surveys are conducted near the colony by the monitoring biologist during each nesting season. Documentation of heron numbers at foraging grounds and feeding habits are recorded. Prey species, if identified, are also documented. Foraging area preferences vary and are likely based on tides, currents and favorable habitat access, seasonal prey availability, and other conditions including waves and disturbance factors.

### Herons foraging in eelgrass near Marine Park

Photos by Alan Fritzberg 2010



The Post Point/Marine Park shoreline is the closest feeding area to the Post Point heron colony. In the past this shoreline has been used frequently, even daily for foraging, however in 2013 use of this area appeared to be reduced. Shoreline observations made at each site visit during the 2013 season were recorded. Of a 50 total site visits during the 2013 season, 23 were during favorable foraging periods, based on tidal stage for Post Point. Of these 23 favorable foraging visits, 11 visits, less than half, resulted in herons observed along the shoreline, with the number of heron ranging from 1-12. The table below provides results by month.

**Table 1: 2013 Foraging Survey Summary by month**

<b>Month</b>	<b># Site Visits w/ Favorable Foraging</b>	<b># Site Visits w/ Herons Observed</b>	<b># Heron Observed on Shoreline per Visit</b>
Feb	1	0	0
March	5	2	1,1
April	4	4	0
May	4	4	1,4
June	8	6	5,4,3,1,12,6
July	1	1	10

The heron's use of the Post Point shoreline is limited by tidal stage (exposed intertidal area), 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 current condition and size of the eelgrass area is not known. The foraging area at Post Point and Marine Park is limited, 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 peaks in June and July.

Adult herons are regularly observed flying across Bellingham Bay to access foraging areas at Portage Bay and the Nooksack River estuary. During the 2013 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 peak rearing period (June/July) heron concentrations at Post Point increase during favorable tides. In addition to adults, young heron utilize the Post Point/Marine Park shoreline for feeding and the Post Point Lagoon for both foraging and loafing.

In an effort to limit encounters between heron and human, 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. Visible signage this year was lacking. One sign on the railroad trestle remained, but no shoreline signs were posted this year. Citizens, 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 in 2014 to be effective for all users of the beach and shoreline areas.

## **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 result in 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.

### **Construction and Associated Disturbance**

The expansion of the Post Point Wastewater Treatment Plant, beginning in 2012 and continuing into 2014, is by far the greatest source of human disturbance the heron colony has ever been subjected to, particularly as peak construction coincided with the heron nesting season in 2013. The expansion project is situated adjacent to the colony, in direct line of site, with a limited physical buffer, and no screening nor shielding from noise or visual activity. This project is described as a major industrial project on a 4.4 acre area, including construction of 4 new large concrete structures, plus infrastructure, utilizing multiple pieces of heavy equipment, large crews 30-80, tall cranes, dump trucks etc., all operating simultaneously for 8+ hours 5-6 days per week. The only quiet periods were at night and Sundays. However, there was some night work under lights and a few Sundays.

Noise levels near the colony related to construction were at times extreme. The construction noise was considered a potential disturbance to the herons throughout the season, and increasing as the season progressed. With longer work hours and an added work day, noise and machinery were increased. In the absence of formal noise monitoring using sound level meters, the biologist in the field noted general noise levels per site visit. Noise levels were recorded at the base of the colony's northeast edge at ground level

Noise levels range from low, medium and high and were recorded on the data sheet. Of 22 site visits during construction between March and May, the noise level results were: High=7, Medium=11, Low=4. Between May and July (end of nesting season) during 22 site visits the noise levels were: High=13, Medium=5, Low=4 (note that low levels were on Sundays or non-work days). The total result were High=20, Medium=16, Low=8, indicating a high level of noise 45% of the monitoring visits.

During the course of 26 weeks of monitoring and 50 site visits total, the observable indicators of construction related disturbance was the lack of staging early in the season, the lack of normal roosting and loafing aggregations of heron within the colony, and the heron's flight avoidance of cranes. The lack of regular Bald Eagle activity may also have been influenced by the construction.

Another notable change in behavior was the abbreviated nesting season. Normally, herons at this site are in the colony nesting over a period of 21 to 25 weeks. In 2013, the heron were in the colony only 19 weeks total. The foreshortened nesting season was likely a result of construction related disturbance. This is further substantiated by post fledging site visits at which time no heron were observed in or near the colony or associated habitats.



## **Bald Eagles and Other Predators**

Bald Eagles pose one of the greatest threats to the success of heron reproduction by disturbing colonies, eating unhatched eggs and preying on young heron. During each monitoring visit to and in the vicinity of the heronry, 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 two friendly Crow nests on the perimeter of the colony and all coexisted effectively, with resident Crows mobbing any potential predator that came close including Bald Eagles.

A mature pair of Bald Eagles, particularly the male, is commonly observed in the vicinity of the heron colony every nesting season and regularly perches in a dominate Douglas Fir directly above the colony. However, this year the eagle was scarce and on a few occasions it was noticeably disturbed by the construction and/or mobbed by crows. This season eagles were infrequent in the vicinity of the heron colony, unlike nearly daily sightings as in previous years. Both eagles were absent for much of the breeding season with the male observed perched in his "regular" roost or nearby only about 40% of the time. During the early season the resident eagle was acting disturbed and unable to settle in his regular perch near the heron colony. Noise levels from construction and human activities related to the construction were both very high. No sign of eagle nesting was visible within the vicinity of Post Point.

Bald Eagle disturbance in the heron colony was reported twice during the nesting season at Post Point. The first report was just after eggs were laid and incubation was underway. The eagle incursion was isolated to a single report of an eagle entering the colony. This incursion could have resulted in the loss of some eggs, since no young had hatched. However, no nests showed evidence of predation or abandonment and the colony as a whole seemed normal. The second report was late in the season, second week of July, occurring just as the last young were fledging. The abrupt end of the season may be explained by eagle incursions. All young leaving the colony, at least one young found dead under the nest, and another hanging from a nest, are good indicators that a major disturbance had occurred. No other reports were made.

Bald Eagle incursions in the heron colony, particularly during hatching and soon after, have become predictable over the past several years. 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-laid eggs. In 2012 and 2013, the colony was spared serious eagle depredation, with only two minor incidents reported.



**Adult Bald Eagle attacking Great Blue Heron nest in Stanley Park, Vancouver B.C.**

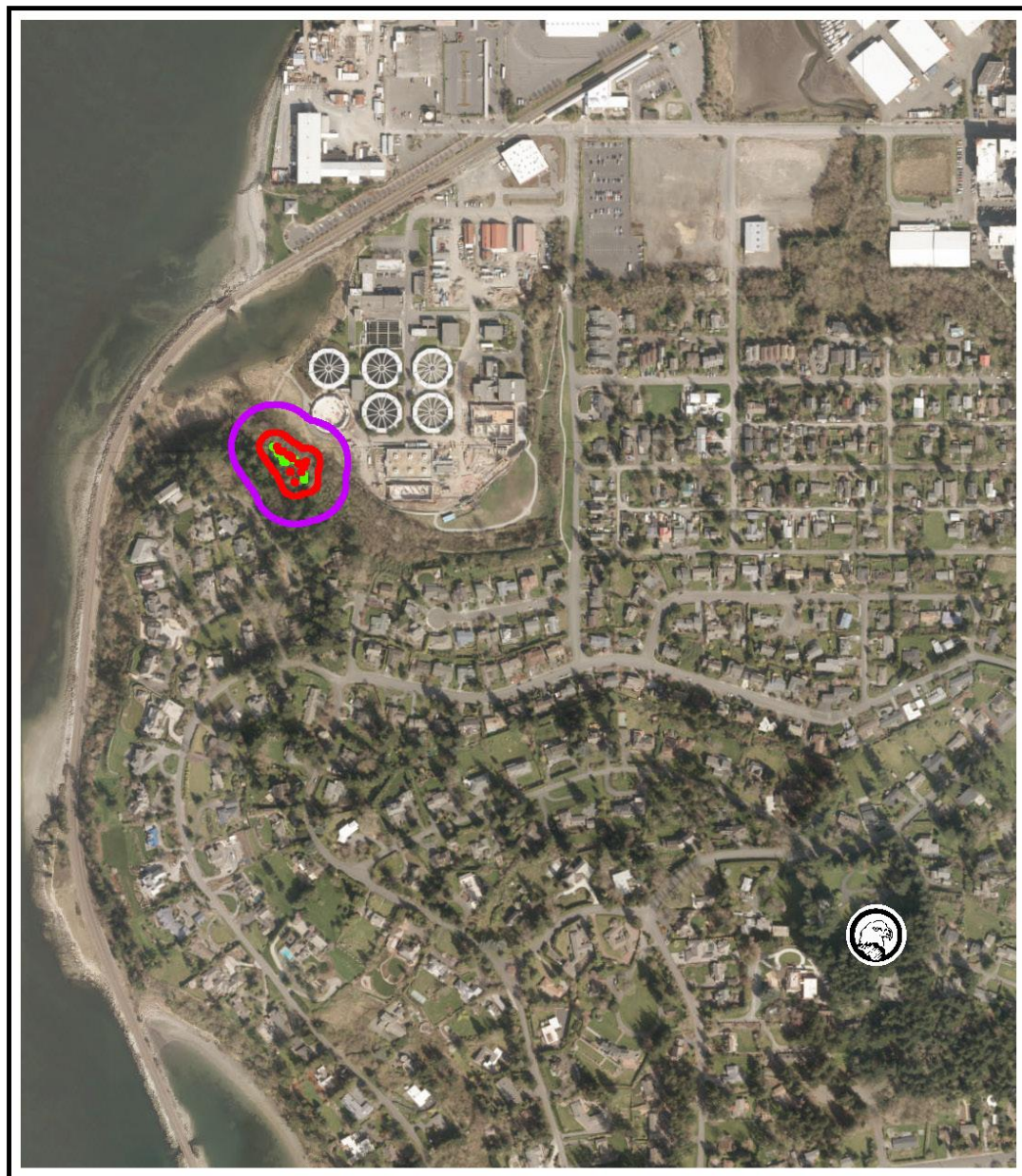
The issue with eagles raiding heron nests is not isolated to Post Point. It is known to occur throughout the Salish Sea. As Bald Eagle populations have recovered since their low numbers in the 1960's and 70's, their primary prey species have declined, including coastal salmon, herring and seabird/seaduck populations. As a result, eagles have resorted to preying on heron and other large bird colonies. This season, many colony monitors around Puget Sound were reporting eagle depredation, in one case, so severe it caused the colony to abandon the site 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 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.

In 2006, a Bald Eagle nest was identified near the Post Point heron colony and recorded by the Washington Department of Fish and Wildlife's Region 6 Bald Eagle Specialist Julie Stofel. This nest has not been active in recent years, however eagles continue to frequent Post Point. In late 2013 an active Bald Eagle nest was reported in Edgemoor, located approximately ½ mile south east of the heron colony. This nest was reported to be active for the past 5 years and would explain the persistence of adult eagles in the area of Post Point, but no active nesting in the vicinity. The new nest location relative to Post Point is illustrated in Figure 3.

Figure 3: Bald Eagle Nest Location and Heron Colony

## POST POINT HERON COLONY 2013



**KEY:**

• 2013 Active  
Nest Trees

• Previous Nest Trees



Colony Core Area



100ft Non-Disturbance  
Buffer



Bald Eagle Nest Location



0 250 500  
Feet

March 2013 Air Photo  
City of Bellingham



## **Other Disturbance**

2013 disturbance at foraging areas was observed once, with people walking too close to the herons in the nearshore. Heron using the shoreline of Marine Park and Post Point are vulnerable to people, dogs and water-sports enthusiasts utilizing this area. An effort was made to monitor heron/human interactions during the annual Ski to Sea Race, which finishes at Marine Park. No significant disturbance was noted during a brief survey.

The pedestrian trail and off-lease dog area located below the heron colony is closed and most of the buffer area dominated by wet meadow was also closed and fenced off. Part of the area has become part of the PPWTP expansion. The off leash area and trail to the east remained open, but has no impact on herons due to distance and screening.

A persistent pedestrian trail, illegally constructed in 2009 from the Shorewood neighborhood, is situated along the east side of the colony, through the forest understory. Despite signage and fencing the trail continues to be used by a few local residents. The trail was slightly rerouted away from the heron colony, but remains too close for public use.

Every Memorial Day weekend, the Ski to Sea Race, an international competitive event, finishes at Marine Park and stages associated festivities in Fairhaven. As a result, the Post Point, Marine Park areas are inundated with people, temporary structures and equipment on race day. For the previous three years, 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 colony, but indicated that the event had disturbed and displaced a few foraging herons in 2010. High tide prevented any conflict in 2011. In 2012, no observations were made during race day. This year 2013, a visit was made during race day and no conflicts were observed.



Marine Park beach looking south – Ski to Sea finish line. May 26, 2013. TD



## NEST SURVEY & MAPPING UPDATE

The annual nest count is the standard method for determining the number of nests within a heron colony. Autumn allows maximum viewing of the whole heronry, following leaf drop, and provides the 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 4).



For 2013 the autumn nest count was conducted December 1. Results from this count are a total of 14 nest trees with 18 nests present. Of these nests, at least one nest that was not active, and two others were marginal based on size and condition. However, during nesting, a total of 17 nests were observed to be active at some point during the nesting season, with 16 nests tracked for most of the season, although a few nests were disassembled and new nests built, the total number remained the same through the season. One nest located in a Big Leaf Maple was not visible during monitoring.

During the annual nest count, each nest tree is tagged or existing tags are read, and tree condition is noted. New nest trees were recorded and tagged. The number and size of nests are recorded as well as the presence of egg shell, remains or blown down nests. A database of nests and nest trees is maintained and updated annually. No new nest trees were used this year. All of the active nest trees were alder and one maple.

In review of previous years (Table 2), 19 nests were active in 2004, two of which may not have supported young. In October 2005, a total of 31 nests counted in 10 nest trees, of which 13 nests were new for that year. In 2006 a new high of 37 nests were recorded. The 2007 nest total of 27 nests represented the first decline in breeding numbers since the colony established in 2000. In 2008 and 2009 all active nests failed, with 17 in 2008 and 11 in 2009. In 2010, the colony rebounded with 13 active nests, all of which fledged young. In 2011, a total of 16 nests were active and 2012, 17 were active.

A colony map update was completed in December 2013, by Chris Behee, GIS Specialist for the City of Bellingham. The colony maps (Figures 2-3) 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 new 2013 aerials and show the new buildings at the Post Point Wastewater Treatment Plant.

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. Due to new construction at the PPWTP the placement of a new clarifier is now partly inside this buffer.

The colony has changed little since 2012. The 2013 maps illustrate tree #561 became inactive and trees #100 and #596 are now active. No change to the colony size, configuration or perimeter occurred between 2012 and 2013.

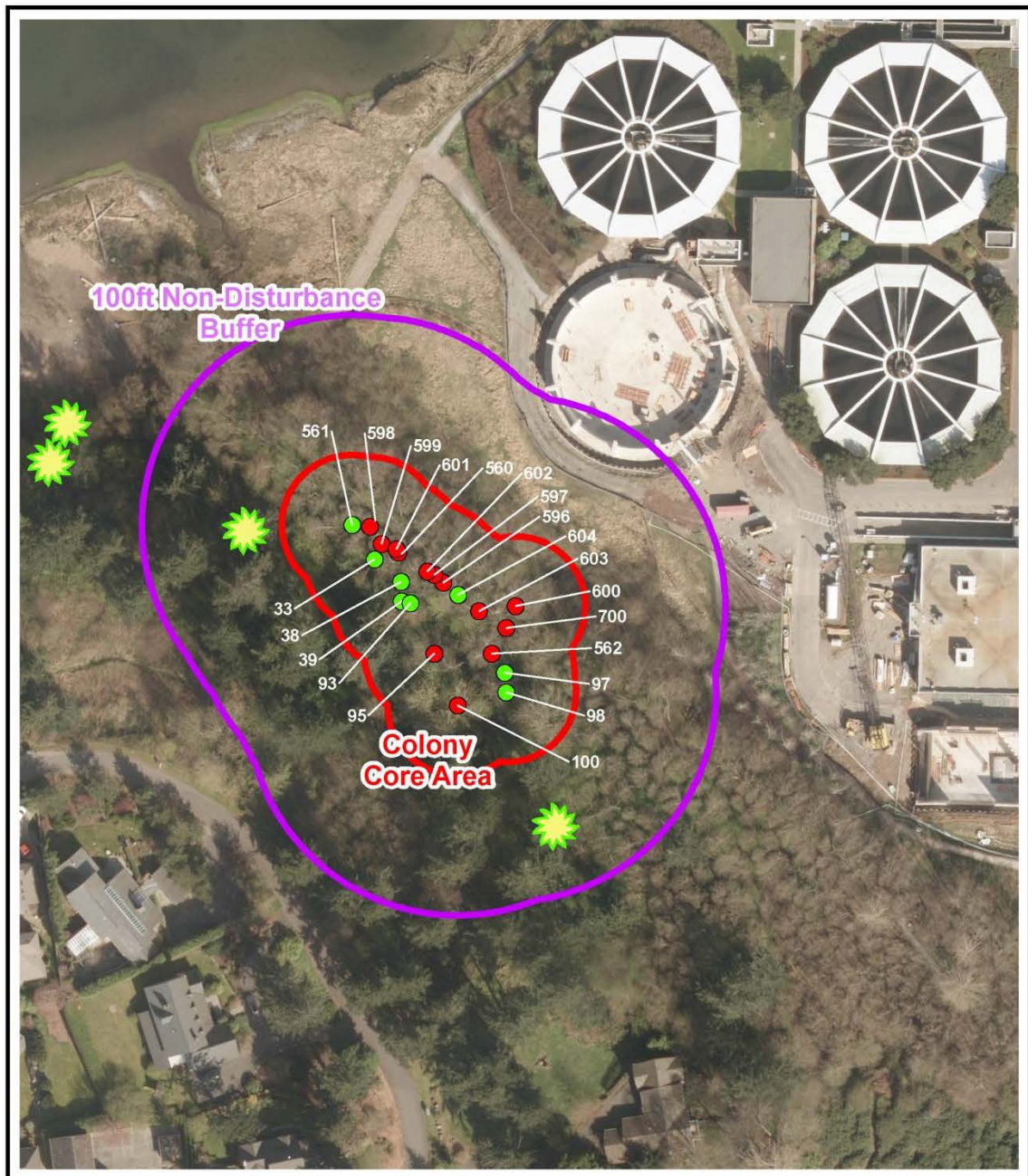
The following is a summary of nests and nest trees since 2000.

**Table 2: 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	9	-37%
2009	11 active at onset 9 active nesting	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

Figure 4: Colony Map 2013 Update (new PPWTP structures visible)

## POST POINT HERON COLONY 2013



### KEY:

- 2013 Active Nest Trees
- Previous Nest Trees



Roost Trees



March 2013 Air Photo  
City of Bellingham

0 50 100  
Feet

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



## COLONY DYNAMICS

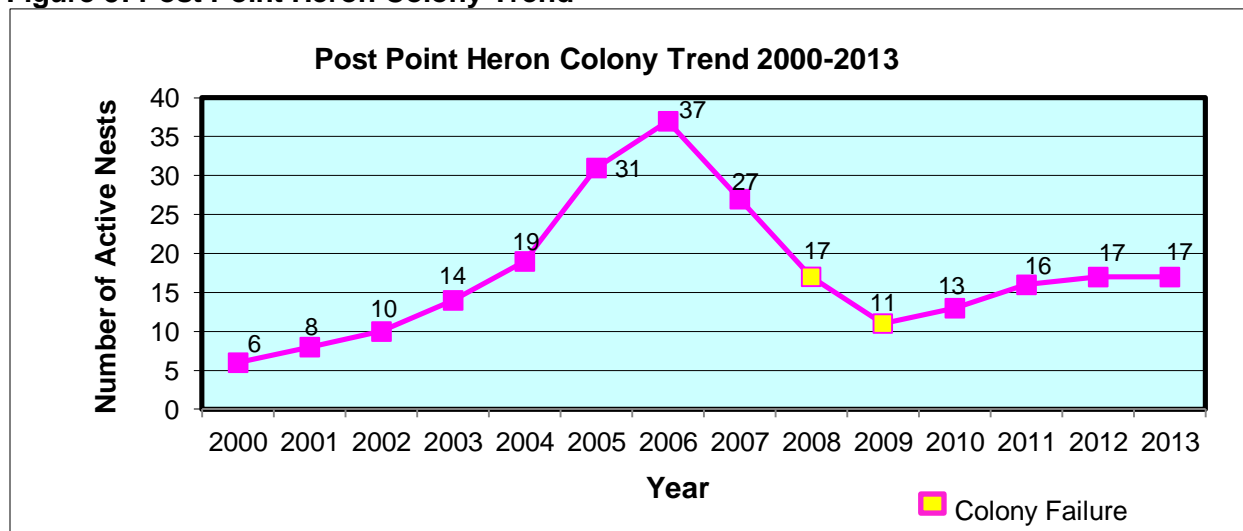
The Post Point Heron Colony experienced growth in its first six years, then for unknown reasons declined, failed and then rebounded in 2010. Between 2000 and 2006, the colony expanded from 6 to 37 nests. During this period the growth rate was approximately 36% annually. In 2007 the colony declined and that trend continued through 2009. Although the colony was active in 2008 and 2009, the colony 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.

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 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. 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.

As of 2013, the colony appears to have leveled out in terms of nest numbers and productivity. Although some nests were disassembled and others assembled during the course of the season, the net result was similar to 2012.

**Figure 5: 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 14 seasons. During this time, the heron colony has grown, declined, abandoned and rebounded and has produced young for 12 out of the 14 years. The continued management and stewardship is vital to maintaining this important wildlife area in the City of Bellingham.

With the Post Point Wastewater Treatment Plant Expansion continuing into 2014, on-going monitoring of the heron colony is important, along with a careful evaluation of remaining habitat and enhancements. In order to reduce further disturbance of the herons, maintenance of a secure buffer between the new clarifier and the heron colony is needed until the end of the 2014 nesting season. In addition, public education, signage and outreach would be useful to inform the public and user groups about herons feeding along the shoreline and keep interactions between herons people and dogs to a minimum.

Recommendations for 2014 management and stewardship of the Post Point Great Blue Heron Colony are as follows:

1. Continue intensive monitoring until the PPWTP construction is fully completed.
2. Record any disturbance as evidenced by behavioral response by the heron to construction activities and report to Project Manager immediately.
3. Work with the PPWTP Project Manager and contractor during construction to inform the process and reduce impacts to herons and other wildlife.
4. Limit disturbance of as much associated upland habitat around the colony as possible.
5. Create enhanced vegetated buffers and purchase adjacent undeveloped upland if possible.
6. Maintain closure of the public trail between clarifier and colony until the 2014 nesting season is completed.
7. 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.
8. Collaborate with other agencies or institutions to survey foraging sites around Bellingham Bay and document heron prey species and concentrations in foraging areas.
9. Conduct outreach and education to the user groups of the Post Point and Marine Park shoreline including: kayakers, kiteboarders, shellfish gatherers, Bellingham Parks and Ski to Sea organizers.
10. Monitor Bald Eagle activity near the colony.
11. Request that the City of Bellingham install and maintain a webcam in the colony for on-going education and monitoring.

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 construction and changes to the heron habitat, this management plan requires updating, assuming the heron remain nesting at their current location. It is recommended that an update be completed in 2015.

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 to inform them of sensitive heron feeding areas and the role they can play to protect these areas for herons and other wildlife.

## **CONCLUSION**

In 2013 the Post Point Great Blue Heron Colony has succeeded in producing young and contributing to the perpetuation of this species in the Salish Sea. Although no actual growth occurred in the colony, the fact that the herons successfully nested during a major industrial construction project adjacent to the heronry is unprecedented.

Due to the Post Point Wastewater Treatment Plant expansion project, monitoring of the heron colony was intensified. Monitoring started in February and ended in July, during which time Nahkeeta Northwest monitored the colony and foraging area, recorded all observations and reported to the City of Bellingham. In order to gauge disturbance, the heron's behavior was watched closely and data collected. A total of 50 monitoring visits were made in 2013, 23 detailed weekly reports issued and 2 progress reports were submitted. This Annual Report provides the final summary of the 2013 heron nesting season and results of all monitoring activities.

The Post Point herons returned to the colony in late February and nested through June with final fledging in early July. The herons appeared to nest normally, except for a condensed nesting period. The only setbacks for the herons was a delayed reoccupation of the colony, possibly related to construction disturbance and 2 eagle incursions, otherwise, the heron colony fared well and successfully produced and fledged young. The heron, in 2013, occupied 14 nest trees and a total of 17 active nests. Active nests supported an average of 2.37 young per nest, within the normal range of this region. Heron young and adults dispersed from the colony following nesting/fledging in early July.

The Post Point Great Blue Heron Colony has proved resilient this year and will require continued close observation and conservation. With the continuation of the Post Point Wastewater Treatment Plant expansion into 2014, intensified monitoring will also continue beginning February 1, 2014. Every effort has been made to inform the construction process, to reduce impacts where possible, and communicate with both project managers and the public. Through these measures, together with close monitoring, it is hoped that the heron colony will continue its success.

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. 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 (2013 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
-



**Heron Flyover**  
Photo by Mike Hamilton