

2013

## **An assessment of the bald eagle and great blue heron breeding populations along High Rock, Tuckertown, Narrows, and Falls Reservoirs in central North Carolina: 2013 breeding season**

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**AN ASSESSMENT OF THE BALD EAGLE AND GREAT BLUE HERON BREEDING POPULATIONS ALONG HIGH ROCK, TUCKERTOWN, NARROWS, AND FALLS RESERVOIRS IN CENTRAL NORTH CAROLINA: 2013 BREEDING SEASON**



**A Cooperative Project by: ALCOA POWER GENERATING INC. & CENTER FOR CONSERVATION BIOLOGY COLLEGE OF WILLIAM AND MARY & VIRGINIA COMMONWEALTH UNIVERSITY**

**AN ASSESSMENT OF THE BALD EAGLE AND GREAT BLUE HERON BREEDING  
POPULATIONS ALONG HIGH ROCK, TUCKERTOWN, NARROWS, AND FALLS  
RESERVOIRS IN CENTRAL NORTH CAROLINA: 2013 BREEDING SEASON**

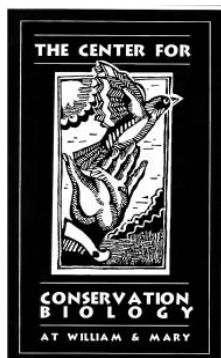
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**Cover Photo:** Eagle on nest, Bart Paxton 2013.



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## **Background and Context**

Historically, the Bald Eagle was a common breeding species along major river systems, lakes and coastal areas throughout much of North America. The widespread use of persistent pesticides for crop management in the region resulted in dramatic declines over a 30-40 year period. By the late 1960's, most breeding populations were decimated by eggshell thinning and associated low productivity. Concern for these populations prompted the elevation of the Bald Eagle to endangered status and led to a national effort to restore historic populations. Since the nationwide ban on many persistent pesticides in 1972, eagle populations have experienced gradual recoveries in productivity and total numbers. The state of North Carolina has seen an increase from no breeding pairs in the late 1960s to approximately 60 pairs as of 2005.

Work conducted by The Center for Conservation Biology in 1995 and 1996 at Alcoa Power Generating Inc.'s (APGI) Yadkin Project (FERC #2197) identified areas of consistent use by eagles in inland areas of North Carolina and suggested that nesting activity should be anticipated in the Yadkin-Pee Dee River basin. A survey of this system in 2001 provided confirmation of these suggestions. Since that survey, annual efforts to monitor this population have continued. Results of the 2013 survey follow (a summary of all eagle and Great Blue Heron/Great Egret nesting activity since 2001 is provided at the end of this report).

## **Objectives**

The objectives of the annual eagle survey on Yadkin Project reservoirs are:

- 1) To document the status, distribution and productivity of nesting pairs in association with the Yadkin reservoirs and associated river corridors.
- 2) To increase our understanding of Bald Eagle natural history in interior regions of North Carolina.
- 3) To determine the status and distribution of breeding Great Blue Herons (and associated Great Egrets and Double-crested Cormorants) within the Yadkin Project reservoirs.

## **METHODS**

### **Bald Eagle Survey Coverage:**

Waterways covered by the Bald Eagle survey of 2013 included the four Yadkin Project reservoirs:

- 1) High Rock Reservoir, 2) Tuckertown Reservoir, 3) Narrows Reservoir, and 4) Falls Reservoir. The survey of High Rock Reservoir included the waterways between, and the mouth of, Grants Creek above I85 and the High Rock Reservoir Dam. The survey of Tuckertown Reservoir included waterways between the High Rock Reservoir Dam and the Tuckertown Dam. The



survey of Narrows Reservoir included the waterways between Tuckertown Dam and Narrows Dam. The survey of Falls Reservoir included the waterway between Narrows Dam and Falls Dam.

### **Bald Eagle Nest Survey:**

All major waterways and tributaries associated with the study system were surveyed for breeding Bald Eagles. A high-wing Cessna 172 aircraft was used to systematically overfly the land surface at an altitude of approximately 100 m to detect eagle nests. Flights were flown between the shoreline and 1 km inland to cover the most probable breeding locations for Bald Eagles. All nests detected were plotted on 7.5 min topographic maps and given a unique alpha-numeric code. Each nest was examined to determine its structural condition, the type and condition of nest tree, and the condition of the surrounding landscape. The areas were searched for Bald Eagles and all detections were recorded. The Bald Eagle nest survey was conducted on 29 March 2013.

### **Bald Eagle Productivity Survey:**

All active Bald Eagle nests were rechecked to determine productivity. A Cessna 172 aircraft was used to fly low over nests to allow observers to examine nest contents and determine structural condition. The number of eaglets present was recorded along with their approximate ages. Observations of all Bald Eagles detected were recorded. The Bald Eagle productivity survey was conducted on 28 April 2013.

### **Great Blue Heron Survey:**

Breeding colonies of Great Blue Herons detected during survey flights were mapped and recorded. Colony locations were plotted on 7.5 min topographic quadrangles. Colonies were examined for size, substrate use, and breeding stage. Colony size estimates were rounded off using a graded scale as follows. A total count was made for colonies < 20 pairs. Estimates for colonies > 20 pairs were rounded off using a graded scale: nearest 5 for < 50, nearest 10 for 50–200, nearest 25 for 200–450. These surveys were conducted on 29 March and 28 April 2013.

## **RESULTS:**

### **High Rock Reservoir**

#### **Bald Eagles**

Three Bald Eagle territories and two nests were observed to be occupied on High Rock Reservoir during 2013 surveys. The territory on upper Abbott's Creek (DA-09-01) had adults present with no nest in the area. The former nest tree was damaged and the nest was absent.

The large white oak containing nest DA-01-01 was dead but the nest was active and this nest produced 2 chicks. The nest RO-10-01 is located between St. Matthews Church and Panther Creek and produced 2 chicks. The older nest of this pair (RO-02-01) is absent.

<b>Nest Code</b>	<b>County</b>	<b>Topo Quad</b>	<b>Active Territory</b>	<b>Active Nest</b>	<b>Chicks Produced</b>
DA-01-01	Davidson	Southmont	Y	Y	2

**Nest Location**

This nest is located along the north shoreline almost due east of Trading Ford. The nest tree is positioned on a bluff above the reservoir in a large white oak tree. Nest is likely visible from the water from within the adjacent cove.

**Nesting Activity**

*Bird Activity* – On 29 March 2013, an adult was observed brooding two chicks (age 12 days). On 28 April 2013, two large chicks were observed standing in the nest.

*Nest Condition* – Nest structure is of moderate size. On 29 March 2013, the nest was observed to have a deep cup that was well lined.

**Nest Substrate**

*Substrate Type* – Nest was built in a large white oak tree.

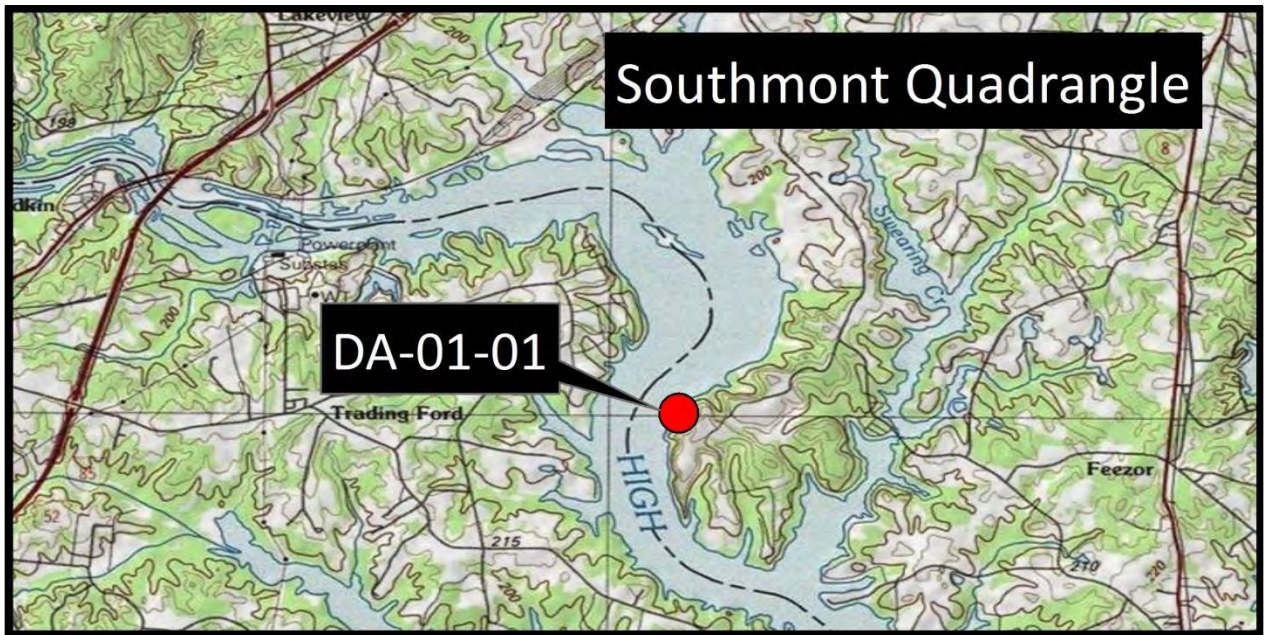
*Nest Position* – Nest is positioned in a deep stable crotch. Nest tree is on a knoll and in a supercanopy position above surrounding trees. Nest tree is in a commanding position on the landscape. Nest formerly had a deciduous crown, but now is fully exposed.

*Substrate Condition* – During the second flight in 2009, it appeared that the tree had been hit by lightning and was dying. The tree is now dead and has lost many branches from the crown.

**Potential Disturbance**

Nest is easily visible and in a dead tree. Nest tree is set back from shoreline such that disturbance from water should not be significant. Nest tree is in a fairly remote location with a buffer on the upland side. Disturbance potential appears to be limited.

**Map location of Bald Eagle nest DA-01-01.**



**Aerial photo of nest DA-01-01 (photo 2012; B. Watts)**





<b>Nest Code</b>	<b>County</b>	<b>Topo Quad</b>	<b>Active Territory</b>	<b>Active Nest</b>	<b>Chicks Produced</b>
RO-10-01	Rowan	Gold Hill	Y	Y	2

**Nest Location**

This nest was located along the edge of a clear-cut within a buffer strip of loblolly pines between the clear-cut and the water. The nest is between St. Matthews Church and Panther Creek, northwest and across the clear-cut from the former territory RO-02-01. The tree may not be visible from the water due to a pine buffer along the shoreline and there are no public roads near this site.

**Nesting Activity**

*Bird Activity* – On 29 March 2013, there were two chicks (age 22 days) and a two adults near the nest (feeding). On 28 April 2013, two large chicks were observed within the nest.

*Nest Condition* – On 29 March 2013, the nest was in good structural condition and had a well-developed cup and lining. On 28 April 2013, the nest was still in good condition and did not appear to have sustained any damage during the season.

**Nest Substrate**

*Substrate Type* – Nest was built in a relatively young loblolly pine tree. The tree was positioned along the edge of a pine buffer between a regenerating pine stand and the water. Access into the nest was clearly from the upland side.

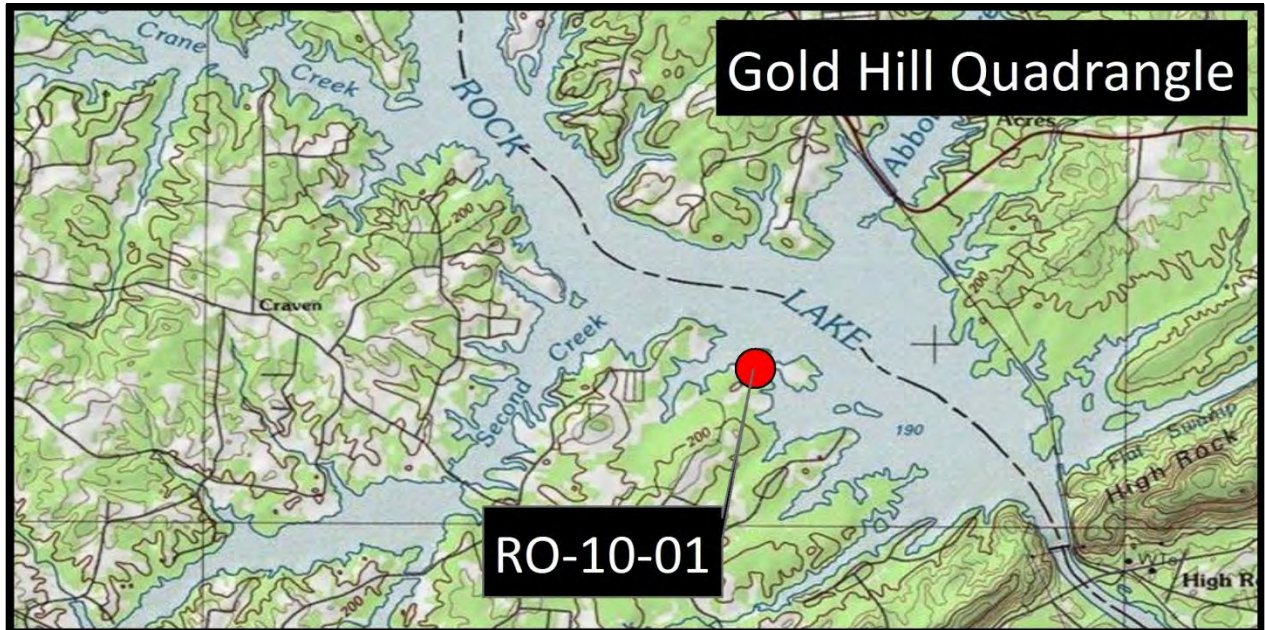
*Nest Position* – The nest was built in a top crotch of a young loblolly pine. Although the nest was near the crown, it was shaded with only 30-40% sky exposure.

*Substrate Condition* – Nest tree was in good condition.

**Potential Disturbance**

The nest tree was along the edge of a fairly recent clear-cut. The site is remote from human disturbance. There is no road access into the site and it is unlikely that the nest is visible from the water due to a tree buffer along the shoreline.

**Map location of Bald Eagle nest RO-10-01.**



**Aerial photo of nest RO-10-01 (photo 2013. B. Paxton)**





## Great Blue Herons/Great Egrets

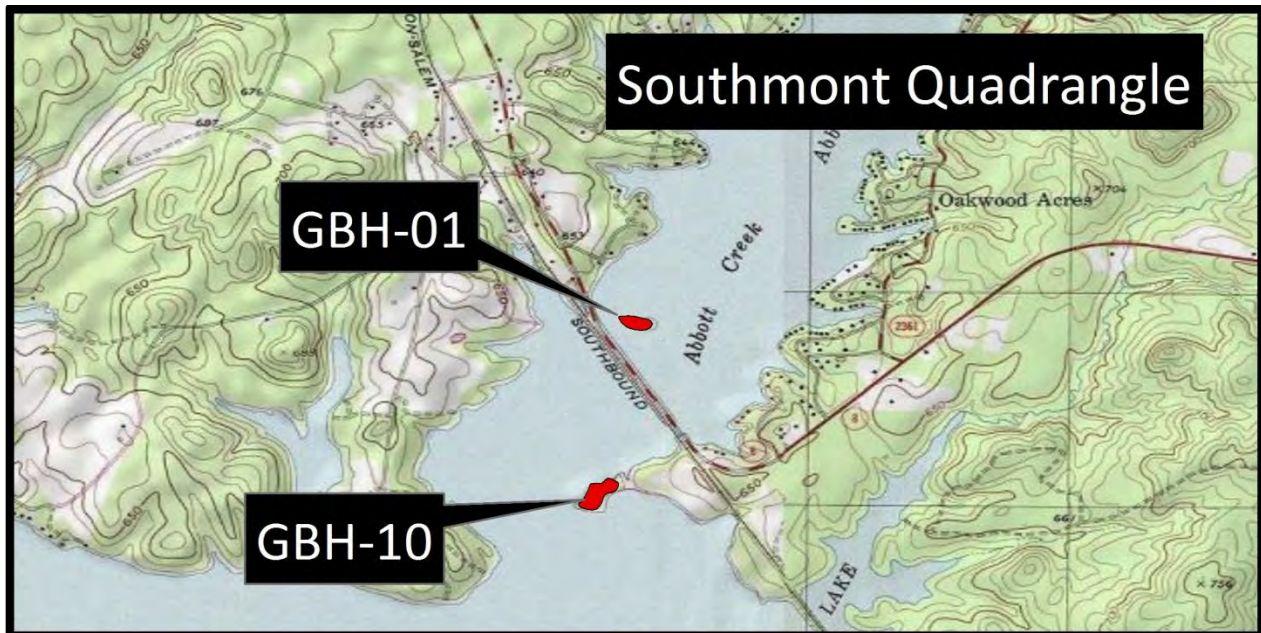
Fifteen breeding colonies of Great Blue Herons (GBHE) were detected on High Rock Reservoir. Colony size ranged from 3 to 210 pairs. Total population estimate for this reservoir was 498 breeding pairs. Great Egrets (GREG) were also found nesting on the reservoir within the largest colony of Great Blue Herons on the settling pond north of the intersection of Leonard Road and Long Ferry Road. Total population estimate for Great Egrets in the colony (GBH-02) was 63 breeding pairs.

Code	County	Topo Quad	Pairs
GBH-01	Davidson	Southmont	35 GBHE

### GBH-01 Colony Description

This Great Blue Heron colony was located on a small island near the Route 8 bridge at the mouth of Abbotts Creek. The island supports a mixed stand of loblolly pines and hardwoods. Nests were built in both pines and hardwoods. On 29 March 2013, 35 pairs of Great Blue Herons were counted with 100% incubating. No Great Egrets were detected in the colony on either 29 March or 28 April 2013. The island has become a significant roost site for Double-crested Cormorants in recent years.

### *Map location of Great Blue Heron colony GBH-01.*



**Aerial view of Great Blue Heron colony GBH-01 (Photo 2011; B. Watts).**



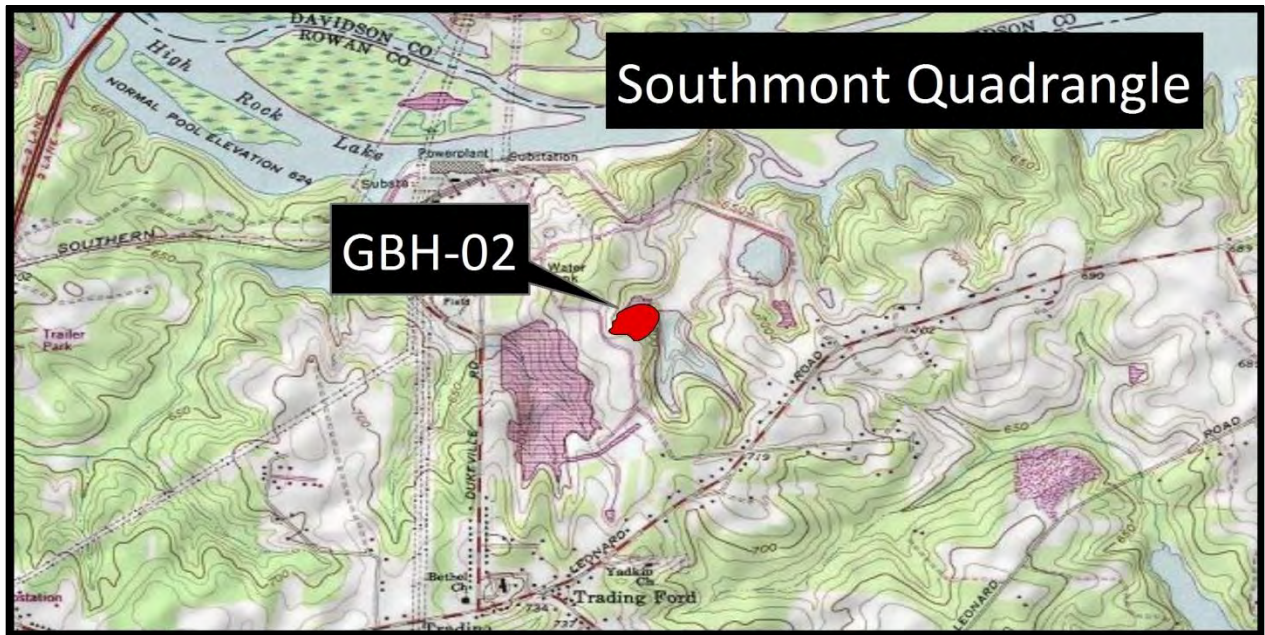
<b>Code</b>	<b>County</b>	<b>Topo Quad</b>	<b>Pairs</b>
GBH-02	Rowan	Southmont	210 GBHE, 63 GREG

**GBH-02 Colony Description**

This mixed Great Blue Heron and Great Egret colony was located along the western edge of the Duke Power settling ponds just north of the intersection of Leonard Road and Long Ferry Road. The pond was bordered with a mixed stand of hardwoods and pines. A larger stand dominated by loblolly pines was positioned further from the pond edge. Nests were built along the pond margin in both the mixed stand of hardwoods and the pure pine stand. Nest distribution continues to be restricted due to partial harvest of the pine stand in 2002. On 29 March 2013, 100% of Great Blue Herons were incubating. Great Egrets were nesting in the core of the subcolony occupying the loblolly pine stand. On 29 March 2013, 8 egret pairs were present within the colony. On 28 April 2013, 63 pairs were present, 100% of which were incubating.



**Map location of Great Blue Heron colony GBH-02.**



**Aerial view of the western portion of Great Blue Heron colony GBH-02 (Photo 2011; B. Watts).**



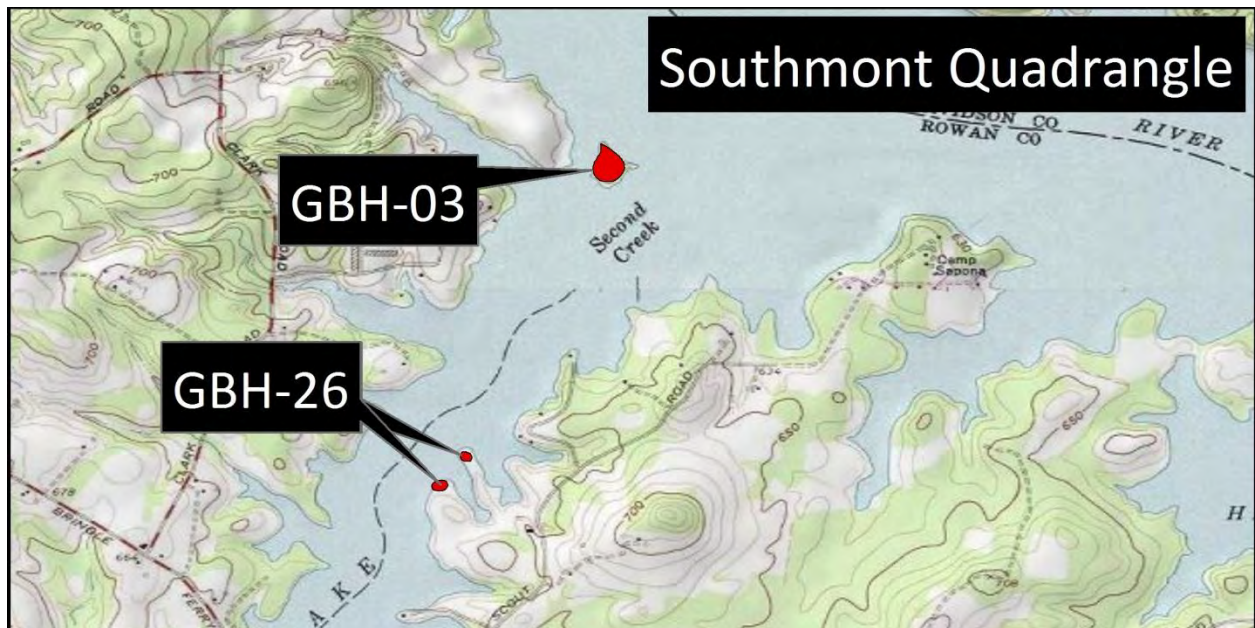


Code	County	Topo Quad	Pairs
GBH-03	Rowan	Southmont	5 GBHE

**GBH-03 Colony Description**

This Great Blue Heron colony was located on a small, forested island in the mouth of Second Creek. The island was forested with a middle-aged loblolly pine stand. On 29 March 2013, no Great Blue Herons were detected. On 28 April 2013, 5 pairs were detected, with 100% of them incubating.

***Map location of Great Blue Heron colonies GBH-03 and GBH-26.***



*Aerial view of Great Blue Heron colony GBH-03 (Photo 2006, B. Watts).*

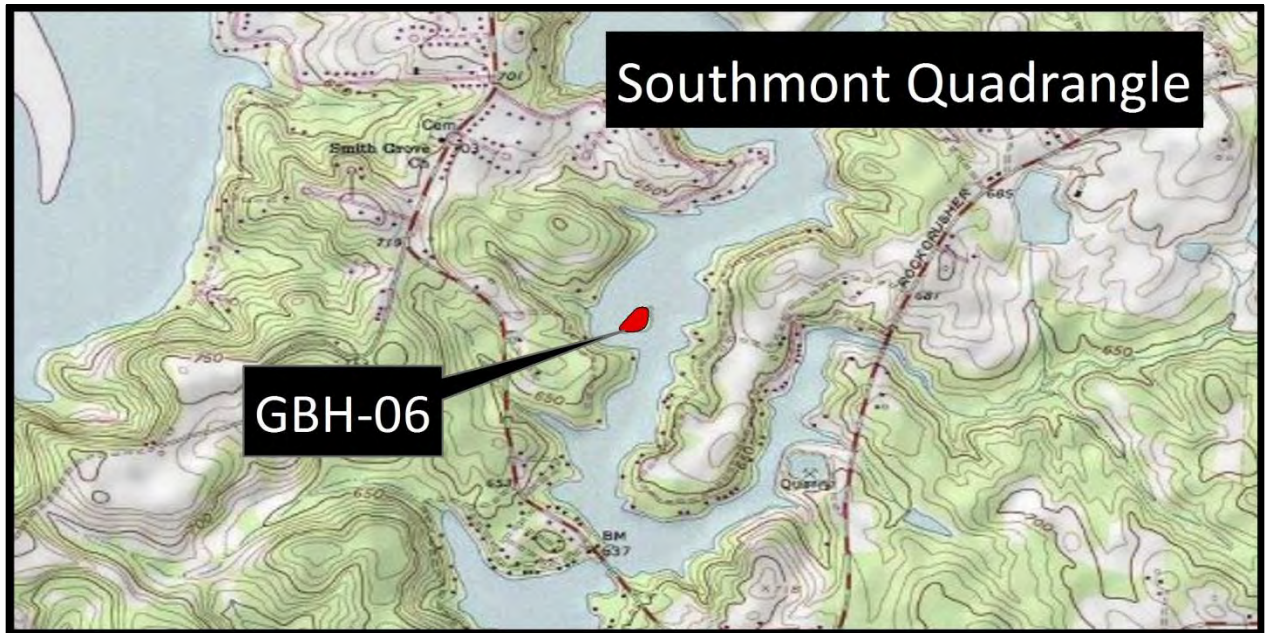


<b>Code</b>	<b>County</b>	<b>Topo Quad</b>	<b>Pairs</b>
GBH-06	Rowan	Southmont	42 GBHE

**GBH-06 Colony Description**

This Great Blue Heron colony is located on a small forested island within Swearing Creek just above the Linwood Southmont Road bridge. The island is forested with a middle-aged pine stand. On 29 March 2013, there were 42 nesting pairs present, 100% of which were in the incubation stage.

*Map location of Great Blue Heron colony GBH-06.*



*Aerial view of Great Blue Heron colony GBH-06 (Photo 2011; B. Watts).*



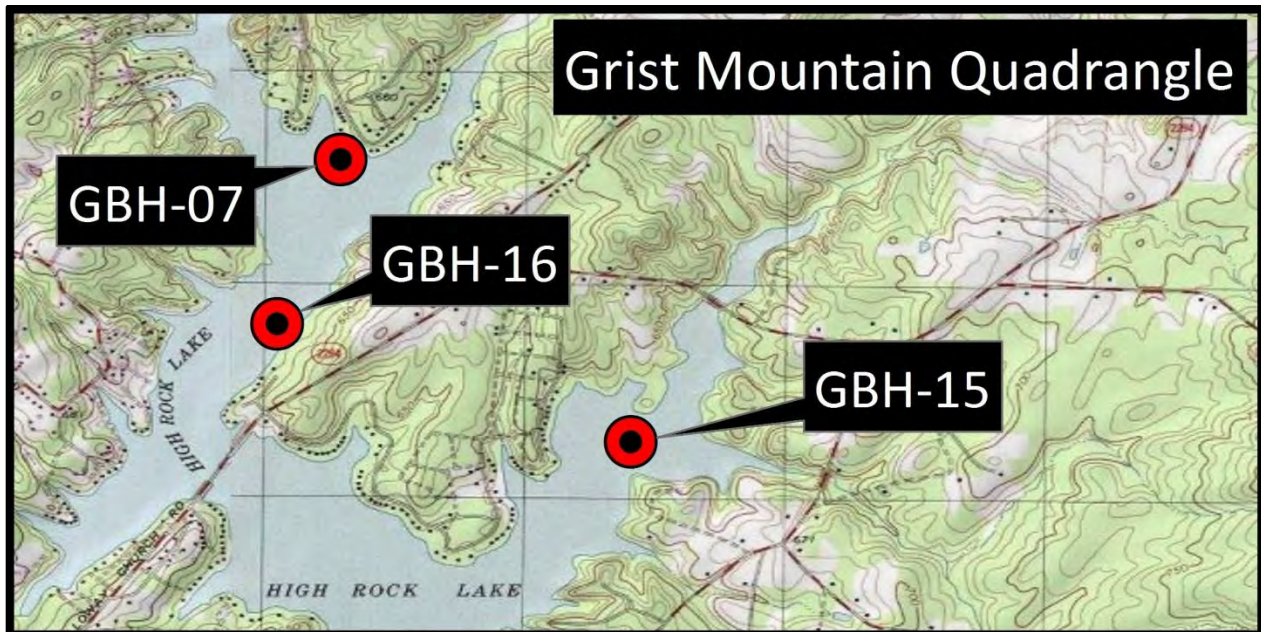


Code	County	Topo Quad	Pairs
GBH-07	Rowan	Grist Mountain	45 Great Blue Heron

**GBH-07 Description**

This Great Blue Heron colony was located on a small forested island within Abbotts Creek off shore of a small development at the end of Route 2373. The island was forested with a mix of pine and hardwood. On 29 March 2013, there were 45 pairs nesting on the island, with 100% of the pairs incubating.

***Map location of Great Blue Heron colony GBH-07.***



*Aerial view of Great Blue Heron colony GBH-07 (Photo 2013; B. Paxton).*



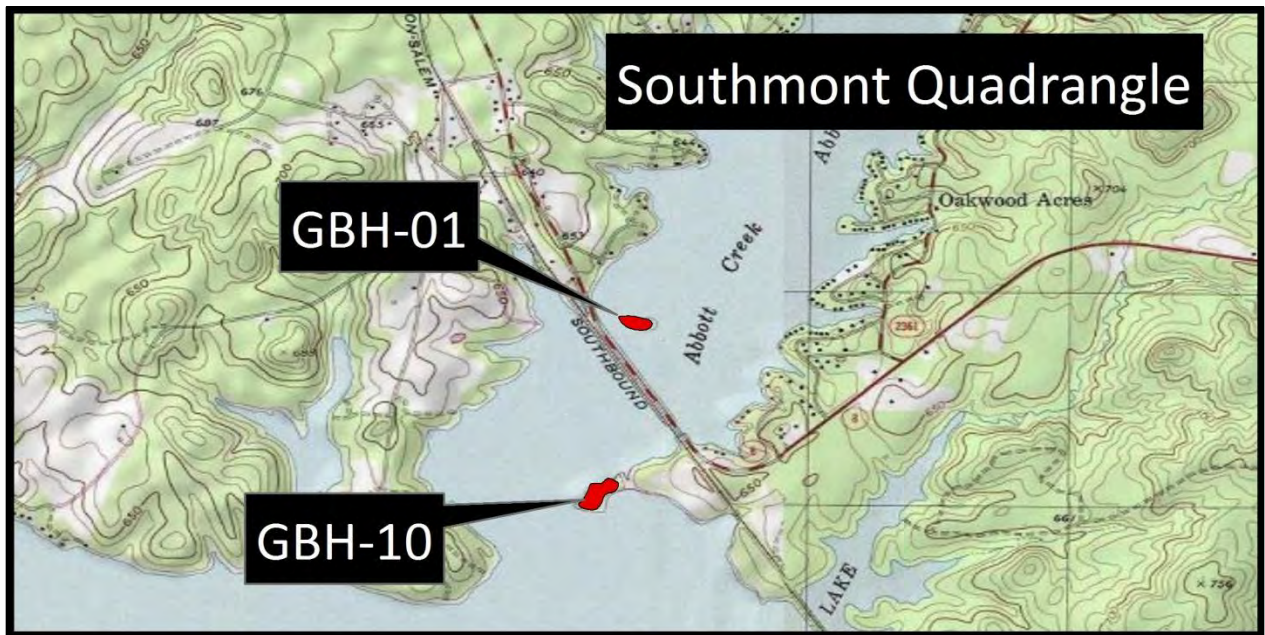
<b>Code</b>	<b>County</b>	<b>Topo Quad</b>	<b>Pairs</b>
GBH-10	Davidson	Southmont	35 Great Blue Heron

**GBH-10 Colony Description**

This Great Blue Heron colony was located on a small forested peninsula that forms the southeastern mouth of Abbotts Creek. The site was forested with a mix of pine and hardwood. On 29 March 2013, 35 pairs of Great Blue Herons were detected on this island. An estimated 80% were incubating and 20% had already hatched.



*Map location of Great Blue Heron colony GBH-10.*



*Aerial view of Great Blue Heron colony GBH-10 (Photo 2006, B. Watts).*



Code	County	Topo Quad	Pairs
GBH-11	Davidson	Grist Mountain	35 Great Blue Heron

**GBH-11 Colony Description**

This Great Blue Heron colony was located on a small forested island in Abbotts Creek. The site was forested with a mix of pine and hardwood. On 29 March 2013, there were 35 pairs nesting on the island. 100% of those pairs were in the incubation stage.

***Map location of Great Blue Heron colony GBH-11.***



***Aerial view of the southern portion of Great Blue Heron colony GBH-11 (Photo 2011; B. Watts).***





Code	County	Topo Quad	Pairs
GBH-15	Davidson	Grist Mountain	8 Great Blue Heron

**GBH-15 Colony Description**

This Great Blue Heron colony was located on a small forested island in Abbotts Creek, southwest of Holloway Church. The site was forested with a mix of pine and hardwood. On 29 March 2013, there were 8 pairs nesting on the island. All of those pairs were in the incubation stage.

***Map location of Great Blue Heron colony GBH-15.***



***Aerial view of Great Blue Heron colony GBH-15 (Photo 2010; B. Watts).***

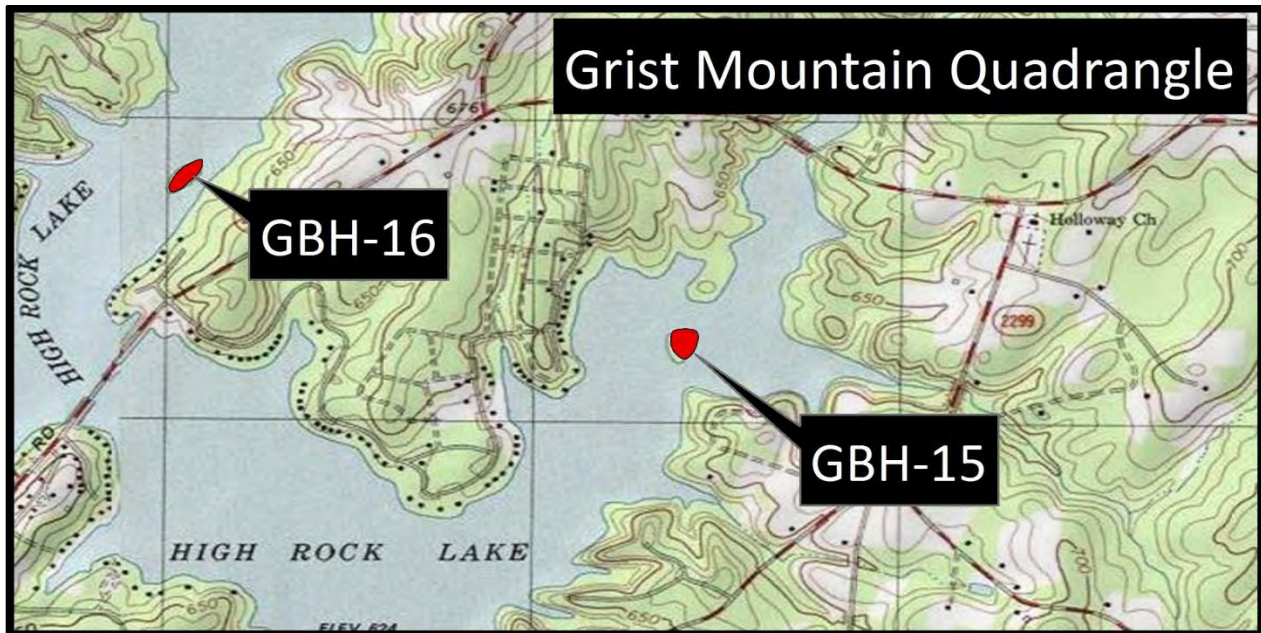


Code	County	Topo Quad	Pairs
GBH-16	Davidson	Grist Mountain	26 Great Blue Heron

**GBH-16 Colony Description**

This Great Blue Heron colony was located on a small forested island in Abbotts Creek. The site was forested with a mix of pine and hardwood. On 29 March 2013, there were 26 pairs nesting on the island, all of which were in the incubation stage.

***Map location of Great Blue Heron colony GBH-16.***



***Aerial view of Great Blue Heron colony GBH-16 (Photo 2010; B. Watts).***



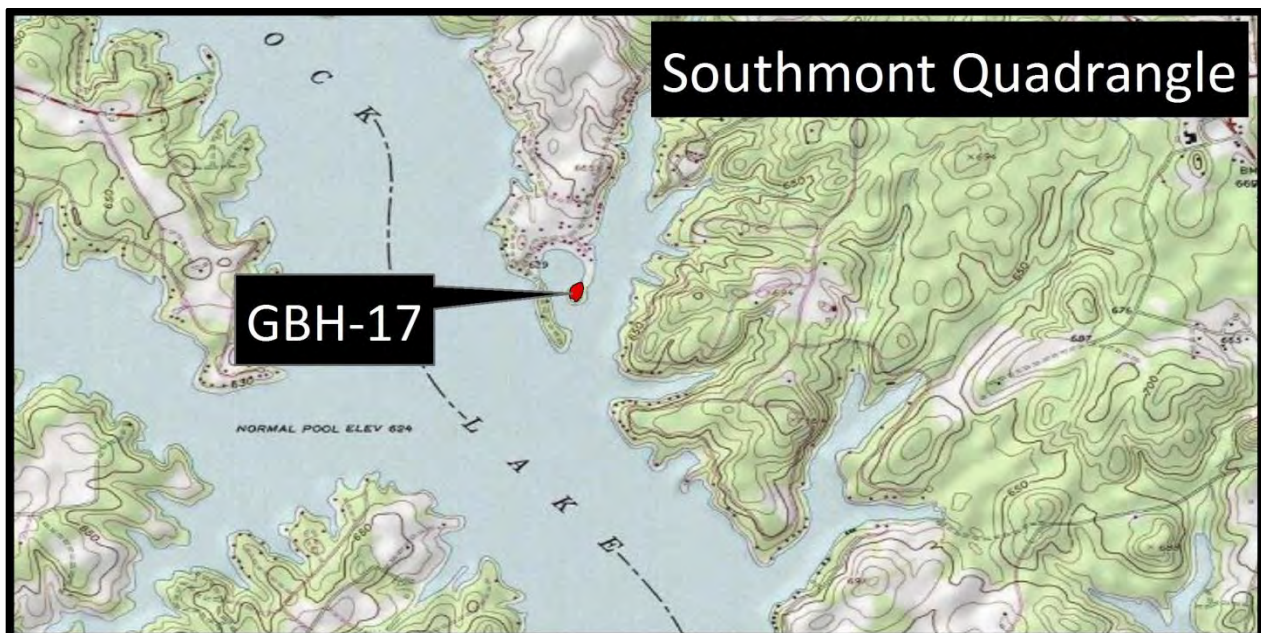


Code	County	Topo Quad	Pairs
GBH-17	Davidson	Southmont	24 Great Blue Heron

**GBH-17 Colony Description**

This Great Blue Heron colony is located in a patch of forested land along Abbotts Creek, south of Southmont. The patch of forest is comprised of middle-aged pines. On 29 March 2013, there were 24 nesting pairs present. All of the nesting pairs were in the incubation stage.

*Map location of Great Blue Heron colony GBH-17.*

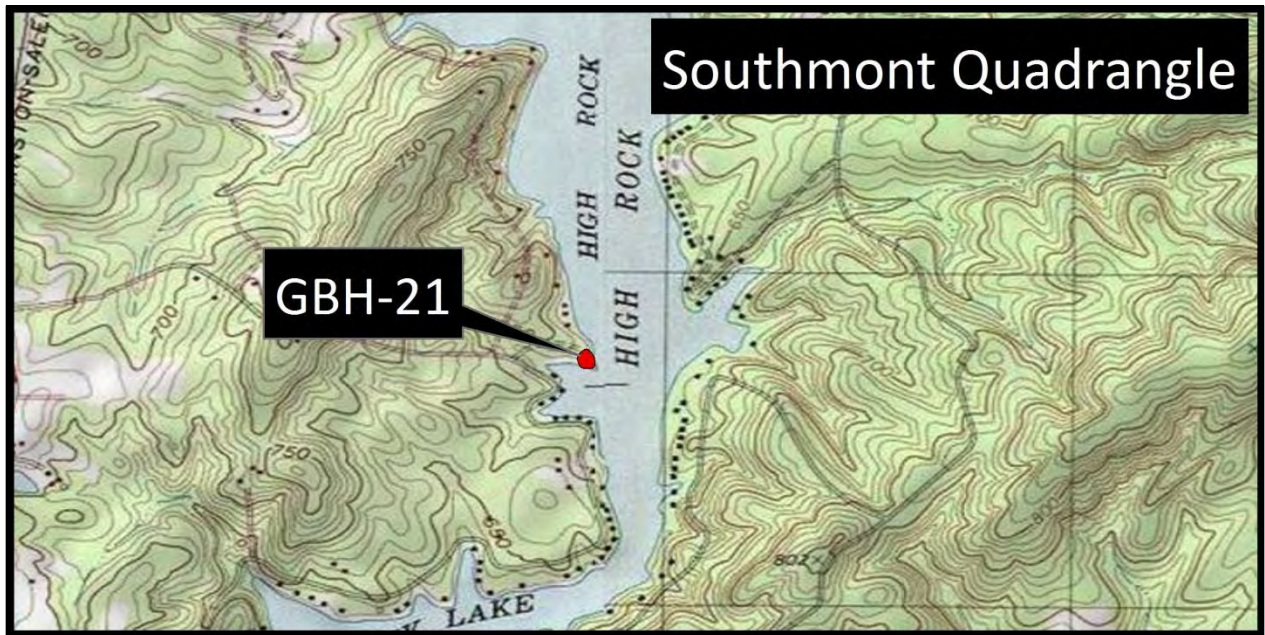


Code	County	Topo Quad	Pairs
GBH-21	Davidson	Grist Mountain	5 Great Blue Heron

**GBH-21 Colony Description**

This Great Blue Heron colony is located in a patch of forested land along Abbotts Creek at the end of Fern Creek Drive, northeast of Feezor. The patch of forest is comprised of middle-aged pines. On 29 March 2013, there were 5 nesting pairs present, all of which were in the incubation stage.

*Map location of Great Blue Heron colony GBH-21.*



*Aerial view of Great Blue Heron colony GBH-21 (2012; B. Watts).*





Code	County	Topo Quad	Pairs
GBH-23	Davidson	Grist Mountain	4 Great Blue Heron

**GBH-23 Colony Description**

This Great Blue Heron colony is located in a patch of forested land along Flat Swamp Creek, northeast of High Rock. The patch of forest is comprised of middle-aged pines. On 29 March 2013, there were 4 nesting pairs present, all of which were in the incubation stage.

***Map location of Great Blue Heron colony GBH-23.***



Code	County	Topo Quad	Pairs
GBH-24	Rowan	Gold Hill	3 Great Blue Heron
GBH-25	Rowan	Gold Hill	10 Great Blue Heron
GBH-26	Rowan	Gold Hill	11 Great Blue Heron

**GBH-24, GBH-25, and GBH-26 Colony Descriptions**

These Great Blue Heron colonies are located along the wooded edge of Second Creek. All three patches of forest are comprised of middle-aged pines. On 29 March 2013, there were 3 nesting pairs present at GBH-24, 10 at GBH-25 and 11 at GBH-26. All of the pairs were incubating at GBH-24 and GBH-26, and 3 were incubating (30%) and 7 were building (70%) at GBH-25.

Map location of Great Blue Heron colony GBH-24, GBH-25, and GBH-26.



**Tuckertown Reservoir**

**Bald Eagles**

A single Bald Eagle territory was occupied within the Tuckertown Reservoir system. The nest (RO-02-02) was absent, but the nest found nearby in 2010 (DA-10-01) was active.

Nest Code	County	Topo Quad	Active Territory	Active Nest	Chicks Produced
DA-10-01	Davidson	High Rock	Y	Y	3 chicks

**Nest Location**

This nest was located along the east shoreline between Lick and Cabin Creeks. The nest tree is within a buffer strip of loblolly pines between a regenerating pine stand and the water. The nest is likely visible from the water and from the railroad.

**Nesting Activity**

*Bird Activity* – On 29 March 2013, two adults were seen on the nest brooding three chicks (age 35 days). On 28 April 2013, three large chicks were seen in the nest.

*Nest Condition* – The nest was in good structural condition.



### **Nest Substrate**

*Substrate Type* – Nest was built in a loblolly pine. Nest tree was on the landward edge of a pine buffer between a regenerating pine stand and the water.

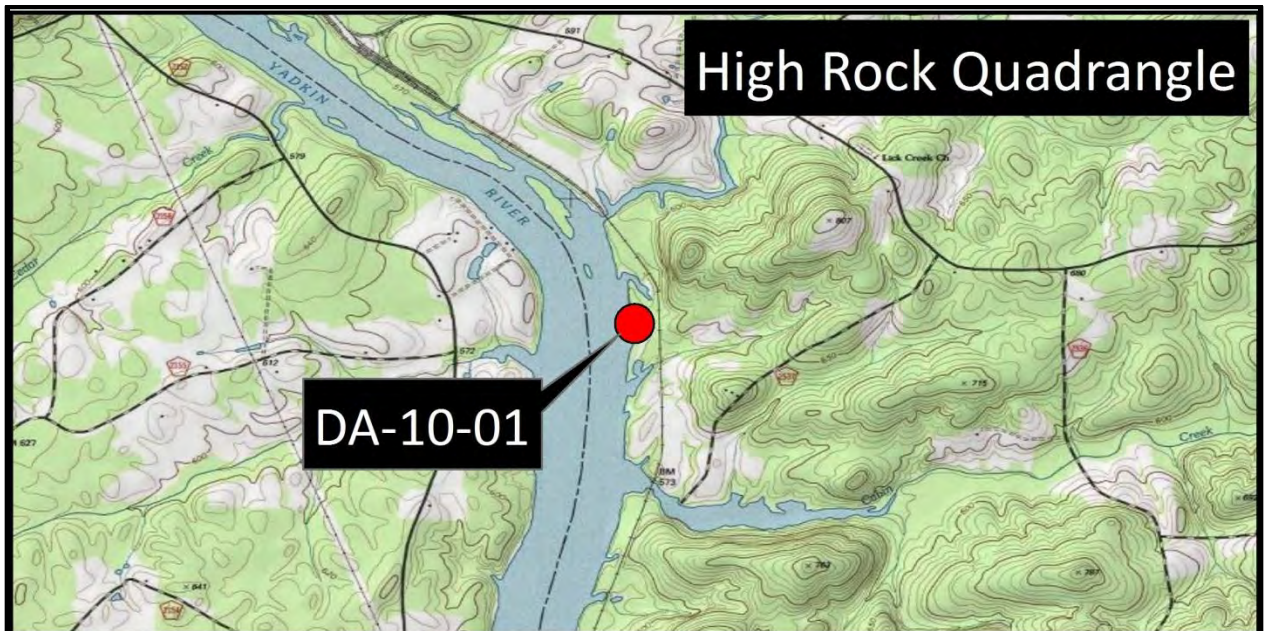
*Nest Position* – Nest was positioned on side limbs up against the main trunk and down below the crown. Nest had greater than 50% sky exposure.

*Substrate Condition* – Nest tree appeared to be in good condition with no evidence of crown damage.

### **Potential Disturbance**

The nest may be visible from the water and the railroad tracks. Nest would be most accessible from the water side. The land is not near easy road access. Disturbance potential appears to be limited.

***Map location of Bald Eagle nest DA-10-01.***





*Aerial photo of nest DA-10-01 (photo 2012; B. Watts).*



**Great Blue Herons/Great Egrets**

A single colony of breeding Great Blue Herons was detected on Tuckertown Reservoir on an island just below the High Rock Dam. The total population estimate for this reservoir is 220 pairs of Great Blue Herons and 45 pairs of Great Egrets.

<b>Code</b>	<b>County</b>	<b>Topo Quad</b>	<b>Pairs</b>
GBH-04	Davidson	High Rock	220 GBHE, 45 GREG

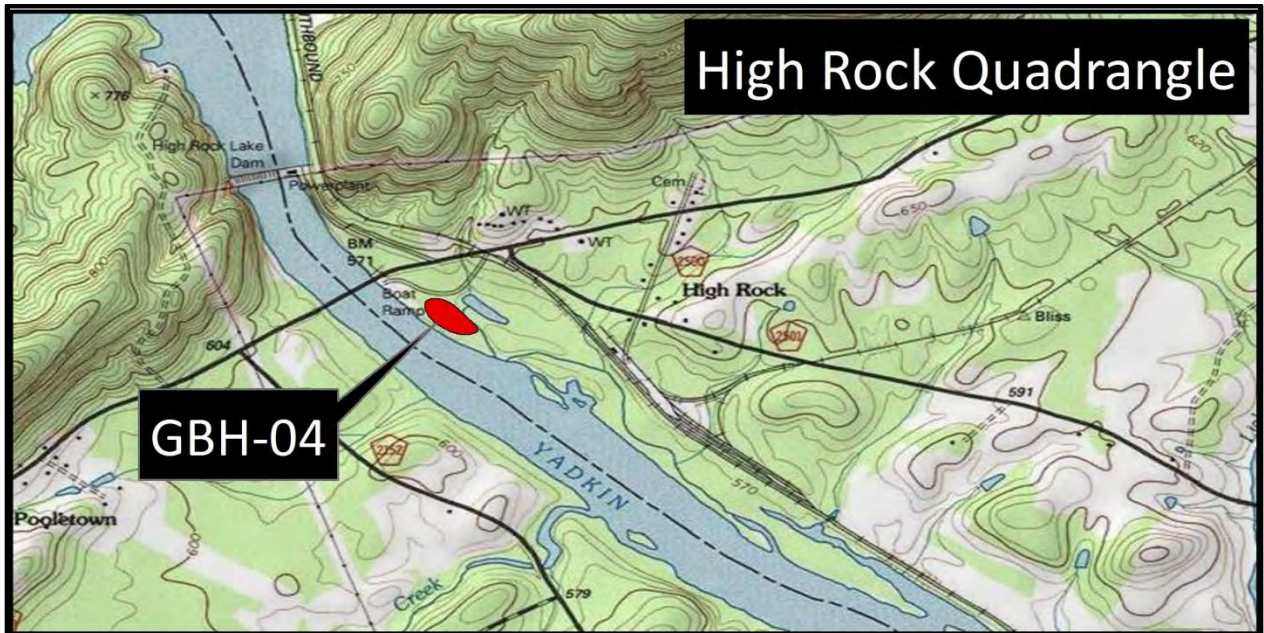
**GBH-04 Colony Description**

This mixed Great Blue Heron and Great Egret colony is located on a small forested island and the adjacent forested shoreline just below the High Rock Dam. This island is long and linear, and contains a mixed stand of hardwoods and pines. The adjacent shoreline is pine-dominated. The

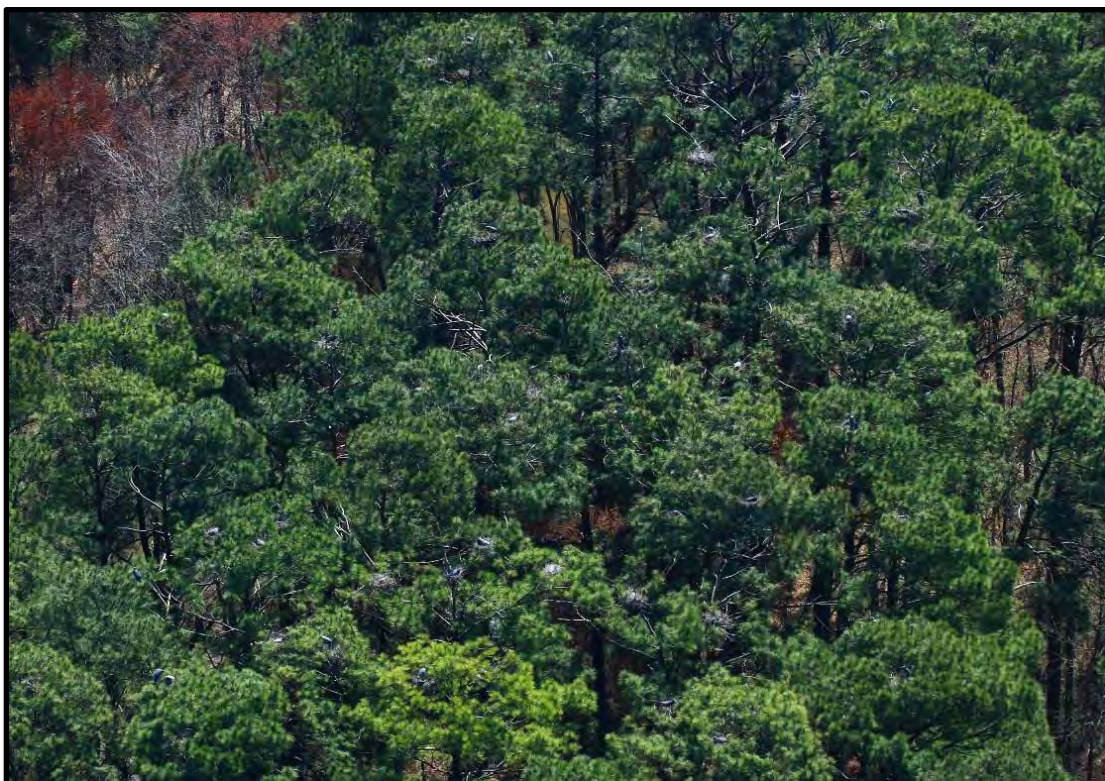


colony is now restricted to use of the hardwood trees along the pond, whereas in previous years the colony used pine trees as well. On 29 March 2013, 220 pairs of Great Blue Herons were observed incubating and 9 pairs of Great Egrets were present (all in nest building stage). On 28 April 2013, 45 pairs of Great Egrets were incubating.

**Map location of Great Blue Heron colony GBH-04**



**Aerial view of Great Blue Heron colony GBH-04 (photo 2011, B. Watts).**



## Narrows Reservoir

### Bald Eagles

Four active Bald Eagle nests were located along the shoreline of Narrows Reservoir, including two new nests in 2013 (MO-13-01 and MO-13-02).

Nest Code	County	Topo Quad	Active Territory	Active Nest	Chicks Produced
MO-03-01	Montgomery	Badin	Y	Y	2 chicks

#### Nest Location

This nest was located along a bluff set back from the shoreline on Uwharrie National Forest. The nest tree is within a scattered stand of supercanopy trees. The nest does not appear to be visible from the water along the shoreline but may be visible from logging road 6558.

#### Nesting Activity

*Bird Activity* – On 29 March 2013, 2 chicks were observed in the nest (age 10-14 days). On 28 April 2013, two large chicks were observed in the nest.

*Nest Condition* – Nest structure is of moderate size. On 29 March 2013, the nest was in good structural condition and had a well-formed cup and fresh lining.

#### Nest Substrate

*Substrate Type* – The nest was built in a live loblolly pine.

*Nest Position* – Nest is positioned on a lateral limb up against the trunk. Crown limbs are fairly sparse such that sky exposure was 70%.

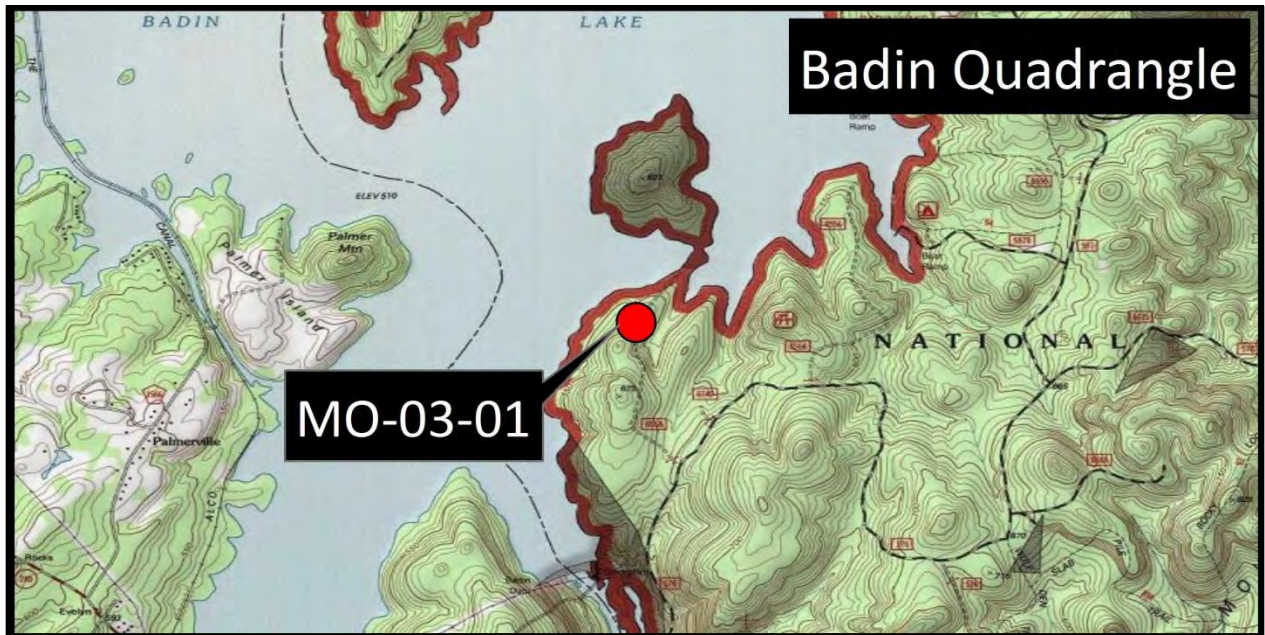
*Substrate Condition* – Nest tree appeared to be in relatively good condition.

#### Potential Disturbance

Nest tree was protected by a visual buffer of scattered trees. It does not appear to be visible from shoreline, but may be seen and accessed from nearby logging road.



**Map location of Bald Eagle nest MO-03-01.**



**Aerial view of Bald Eagle nest MO-03-01 (photo 2011, B. Watts).**



<b>Nest Code</b>	<b>County</b>	<b>Topo Quad</b>	<b>Active Territory</b>	<b>Active Nest</b>	<b>Chicks Produced</b>
ST-12-01	Stanly	New London	Y	Y	3 chicks

**Nest Location**

This nest was located near a power line right-of-way southeast of Tuckertown Dam. The tree may not be visible from the water due to a pine buffer along the shoreline and there are no public roads near this site.

**Nesting Activity**

*Bird Activity* – On 29 March 2013, there were three chicks (approximately 30 days) in the nest and no adults present. On 28 April 2013, there were three large chicks within the nest.

*Nest Condition* – On 29 March 2013, the nest was in good structural condition and had a well-developed cup and lining. On 28 April 2013, the nest was still in good condition.

**Nest Substrate**

*Substrate Type* – Nest was built in a loblolly pine tree. The tree is positioned along a power line corridor.

*Nest Position* – The nest was built in a top crotch of a loblolly pine. Although the nest was near the crown, it was shaded with only 30-40% sky exposure.

*Substrate Condition* – Nest tree was in good condition.

**Potential Disturbance**

The nest tree was along a power line corridor. The site is remote from human disturbance. There is no road access into the site and it is unlikely that the nest is visible from the water due to a tree buffer along the shoreline.



**Map location of Bald Eagle nest ST-12-01.**



**Aerial view of Bald Eagle nest ST-12-01 (photo 2013, B. Paxton).**





<b>Nest Code</b>	<b>County</b>	<b>Topo Quad</b>	<b>Active Territory</b>	<b>Active Nest</b>	<b>Chicks Produced</b>
MO-13-01	Montgomery	Badin	Y	Y	1 chick

**Nest Location**

This eagle nest is located on a small forested island near the Pine Haven residential development at the confluence of Beaverdam and Reynolds Creeks. The nest is located within the mixed Great Blue Heron and Great Egret colony on the island (GBH-05).

**Nesting Activity**

*Bird Activity* – On 29 March 2013, there was one chick (age 40 days) and a single adult on the nest. On 28 April 2013, there was one large chick observed within the nest.

*Nest Condition* – On 29 March 2013, the nest was in good structural condition and had a well-developed cup and lining. On 28 April 2013, the nest was still in good condition and did not appear to have sustained any damage during the season.

**Nest Substrate**

*Substrate Type* – Nest is in a supercanopy loblolly pine tree.

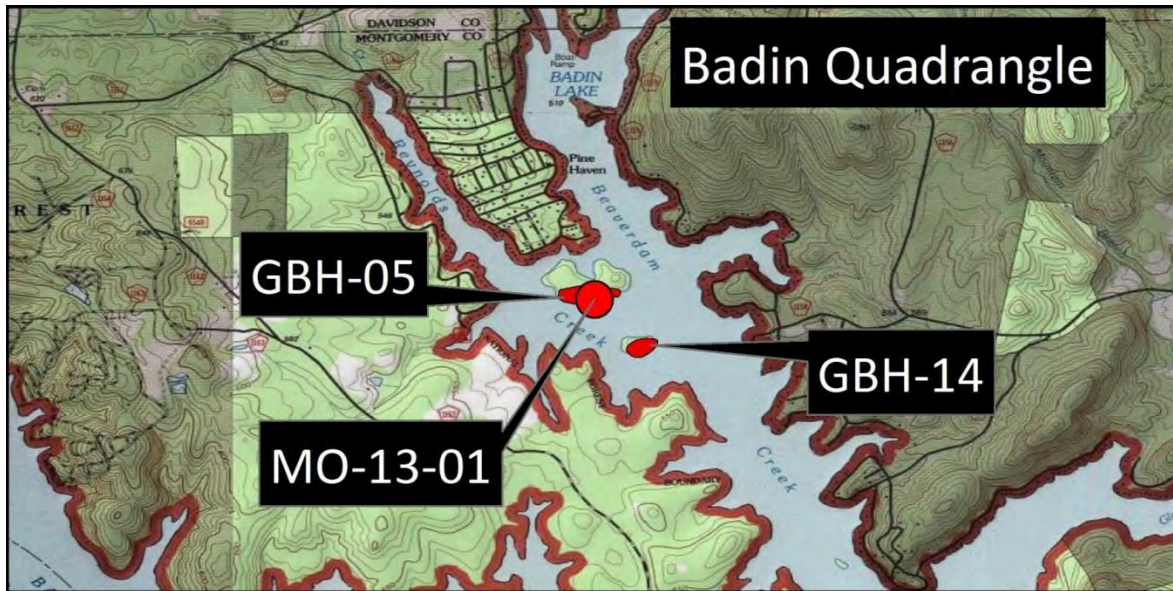
*Nest Position* – Nest is positioned in a high stable crotch. Nest is exposed with 70% sky exposure.

*Substrate Condition* – Nest tree is in good condition.

**Potential Disturbance**

The drainage is highly developed in this area with considerable boat traffic. Nest is exposed and boat traffic has the potential to disturb this nest.

**Map location of Bald Eagle nest MO-13-01.**



**Aerial photo of nest MO-13-01 (photo 2013; B. Paxton)**





<b>Nest Code</b>	<b>County</b>	<b>Topo Quad</b>	<b>Active Territory</b>	<b>Active Nest</b>	<b>Chicks Produced</b>
MO-13-02	Montgomery	Badin	Y	Y	2 chicks

**Nest Location**

This nest is located in a relatively undeveloped section of mixed hardwood-pine forest, just south of Lanes Chapel. The new Great Blue Heron colony GBH-27 is located in the same forest as this new eagle nest.

**Nesting Activity**

*Bird Activity* – On 29 March 2013, there were two chicks (age 12 days) and an adult brooding the chicks. On 28 April 2013, two large chicks were observed within the nest.

*Nest Condition* – On 29 March 2013, the nest was in good structural condition and had a well-developed cup and lining. On 28 April 2013, the nest was still in good condition and did not appear to have sustained any damage during the season.

**Nest Substrate**

*Substrate Type* – Nest is built in a large supercanopy loblolly pine tree. Nest is surrounded by a Great Blue Heron colony (GBH-27).

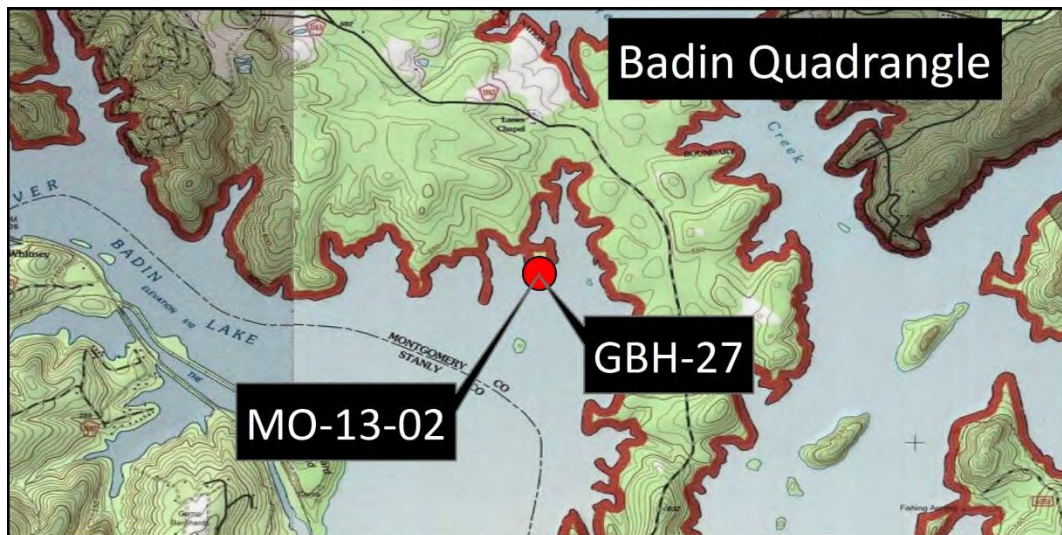
*Nest Position* – Nest is positioned in a stable crotch at the top of the tree. Nest is shaded and has approximately 25% sky exposure.

*Substrate Condition* – Nest tree is in good condition.

**Potential Disturbance**

The nest appears to be in a relatively undisturbed portion of the lake. There are no nearby developments and the possibility of human disturbance at this site appears to be low.

**Map location of Bald Eagle nest MO-13-02.**



**Aerial photo of nest MO-13-02 (photo 2013, B. Paxton)**



### **Great Blue Herons and Great Egrets**

Five colonies of breeding Great Blue Herons were detected within Narrows Reservoir during the 2013 survey. Total population estimate for this reservoir was 241 pairs. One pair of Great Egrets was observed nesting on the reservoir. A total of 163 pairs of Double-crested Cormorants were found nesting on the reservoir in 2013.

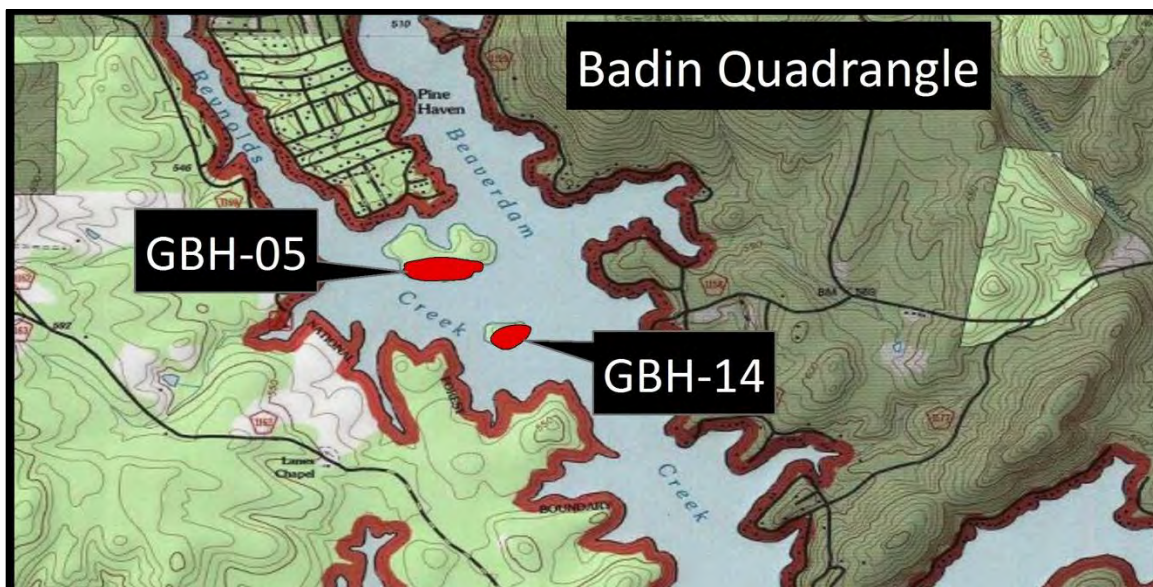


Code	County	Topo Quad	Pairs
GBH-05	Montgomery	Badin	165 GBHE, 1 GREG

**GBH-05 Colony Description**

This Great Blue Heron colony was located on a small forested island near the Pine Haven residential development at the confluence of Beaverdam and Reynolds Creeks. The drainage is highly developed in this area with considerable boat traffic. The island supports a middle-aged stand of loblolly pines with numerous canopy gaps. Nests were built throughout the stand. The colony was estimated to contain 165 pairs of Great Blue Herons and 1 pair of Great Egrets. On 29 March 2013, approximately 80% of Great Blue Heron pairs were incubating and 20% had hatched. On 28 April 2013, 1 pair of Great Egrets was observed building a nest within the colony.

***Map location of Great Blue Heron colony GBH-05.***



*Aerial picture of Great Blue Heron colony GBH-05 (photo 2006, B. Watts).*



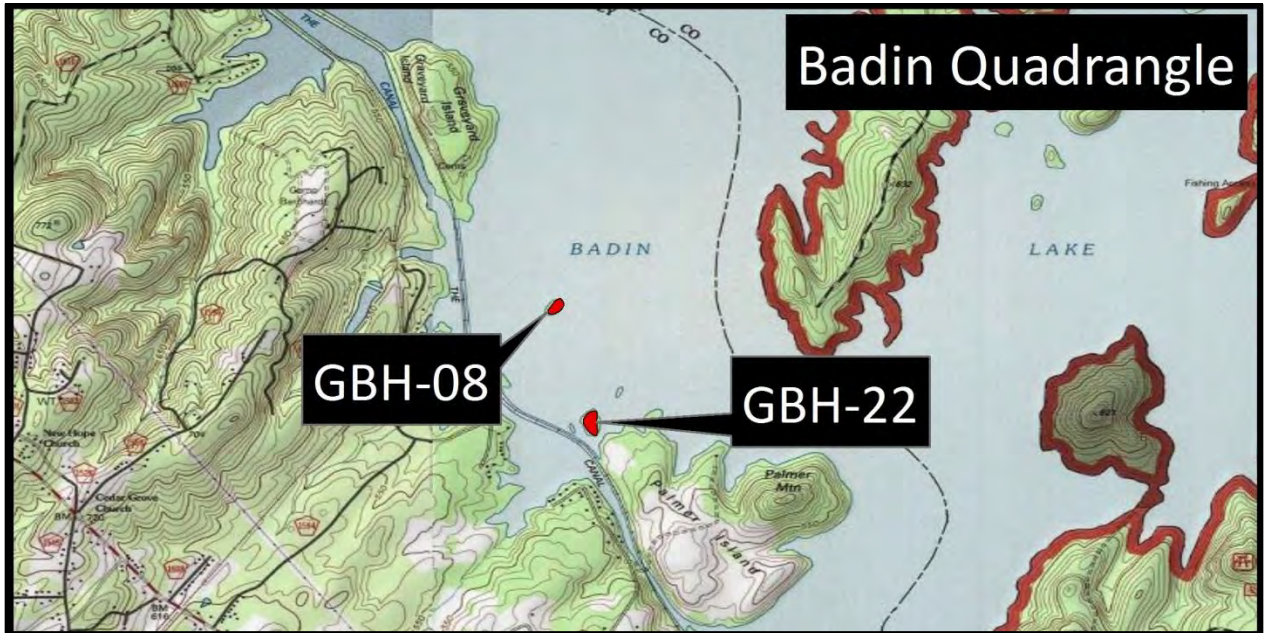
Code	County	Topo Quad	Pairs
GBH-08	Stanly	Badin	12 GBHE, 155 DCCO

**GBH-08 Colony Description**

This mixed Great Blue Heron and Double-crested Cormorant colony was located on a small forested island along the western shoreline of Badin Lake between Graveyard Island and Palmer Island. The island is well isolated from shoreline but subject to regular boat traffic. Nests were scattered in loblolly pines throughout the center of the island. On 29 March 2013, 4 pairs of Great Blue Herons were observed, and 100% of those were incubating. A total of sixty Double-crested Cormorants were observed in the nest building stage. On 28 April 2013, 12 pairs of Great Blue Herons were observed, 75% incubating and 25% had hatched. All 155 pairs of Double-crested Cormorants were incubating.



**Map location of Great Blue Heron and double-crested cormorant colony GBH-08.**



**Aerial picture of Great Blue Heron and double-crested cormorant colony GBH-08 (photo 2011, B. Watts).**

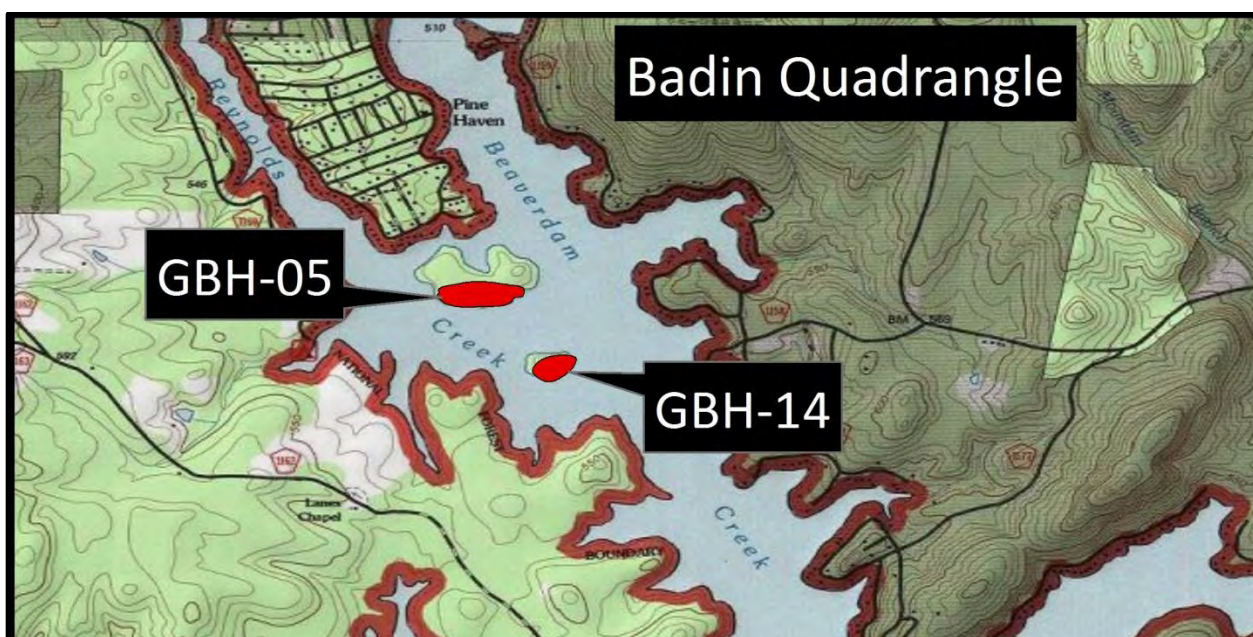


Code	County	Topo Quad	Pairs
GBH-14	Montgomery	Badin	25 Great Blue Heron

**GBH-14 Colony Description**

This Great Blue Heron colony was located on a small forested island within the confluence of Reynolds and Beaverdam Creeks. The island is well isolated from the shoreline. The forest was dominated by loblolly pines. Nests were scattered across the island in two clusters. On 29 March 2013, 100% of pairs were incubating.

***Map location of Great Blue Heron colony GBH-14.***



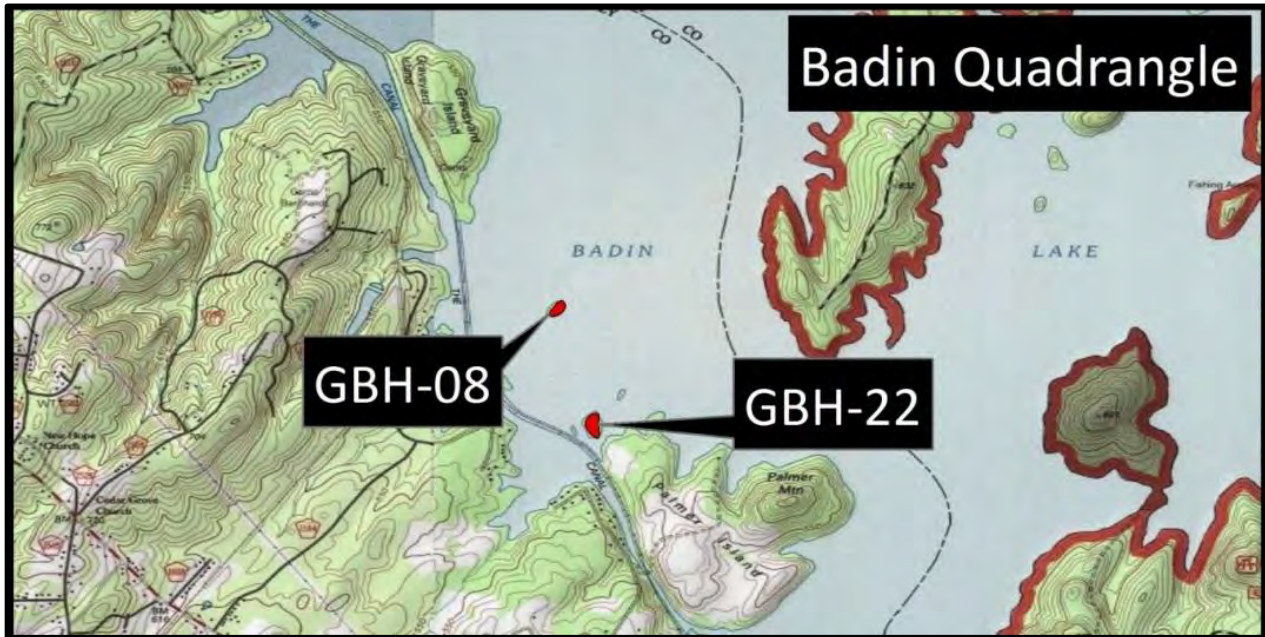
Code	County	Topo Quad	Pairs
GBH-22	Stanly	Badin	23 GBHE, 8 DCCO

**GBH-22 Colony Description**

This Great Blue Heron colony is located in a patch of forested land along Badin Lake on the northwest corner of Palmer Island. On 29 March 2013, there were 23 nesting pairs present, 50% in the incubation stage and 50% had hatched. Eight pairs of Double-crested Cormorants were observed building nests on 29 March 2013.



**Map location of Great Blue Heron colony GBH-22.**

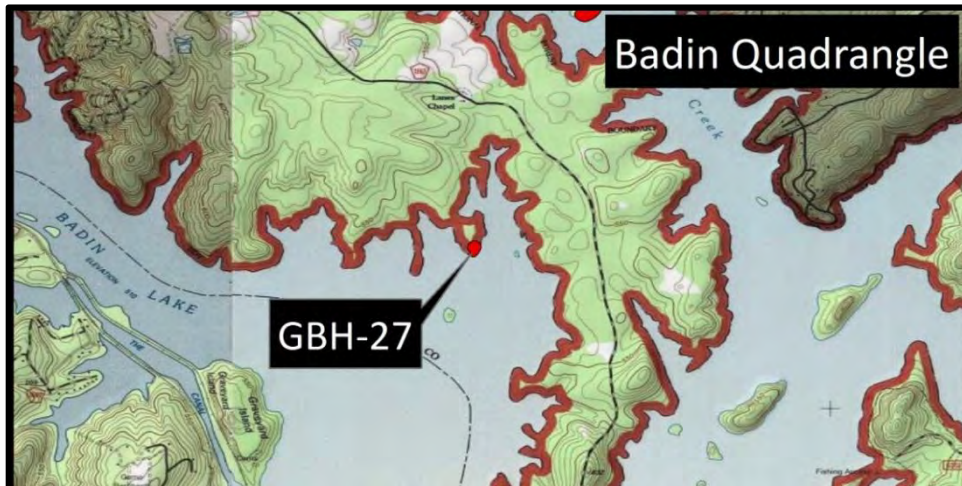


Code	County	Topo Quad	Pairs
GBH-27	Stanly	Badin	16 Great Blue Heron

**GBH-27 Colony Description**

This Great Blue Heron colony is located in a patch of forested land along Badin Lake, south of Lanes Chapel. The new Bald Eagle nest MO-13-02 is located within this colony. On 29 March 2013, there were 8 nesting pairs present, 100% in the incubation stage. On 28 April 2013, 16 Great Blue Heron pairs were observed, 50% in the incubation stage and 50% had hatched.

**Map location of Great Blue Heron colony GBH-27.**



## Falls Reservoir

### Bald Eagles

One Bald Eagle nest was present along this waterway during the 2013 survey. The remnants of nest ST-08-01 were being used by a Great Horned Owl. The nest (ST-10-01) was active.

Nest Code	County	Topo Quad	Active Territory	Active Nest	Chicks Produced
ST-08-01	Stanly	Badin	N	N	---

#### Nest Location

This remnant nest was located within a stand of mixed pine-hardwood forest near the shoreline on Morrow Mountain State Park. The nest tree is just north of an active parking lot. The nest was in a forest stand with buffers on all sides. The nest is likely visible during the winter months from both the water and the parking lot. See map of ST-08-01 below with ST-10-01.

#### Nesting Activity

*Bird Activity* – On 29 March 2013, a Great Horned Owl was observed on the remnant nest.

*Nest Condition* – On 28 April 2013, no activity was recorded on the remnant nest.

Nest Code	County	Topo Quad	Active Territory	Active Nest	Chicks Produced
ST-10-01	Stanly	Badin	Y	Y	2

#### Nest Location

This nest was located within a stand of mixed pine-hardwood forest near the shoreline on Morrow Mountain State Park. The nest tree is northwest of ST-08-01. The nest was in a forest stand with buffers on all sides. The nest is likely visible during the winter months from both the water and the parking lot.

#### Nesting Activity

*Bird Activity* – On 29 March 2013, an adult was near the nest that had 2 chicks approximately 36 days old. On 28 April 2013, two large chicks were observed in the nest.

*Nest Condition* – On 29 March 2013, this nest was in good structural condition with a well-formed cup and lining. The nest was of moderate size.



**Nest Substrate**

*Substrate Type* – The nest was built in a supercanopy loblolly pine within a cluster of similar sized trees.

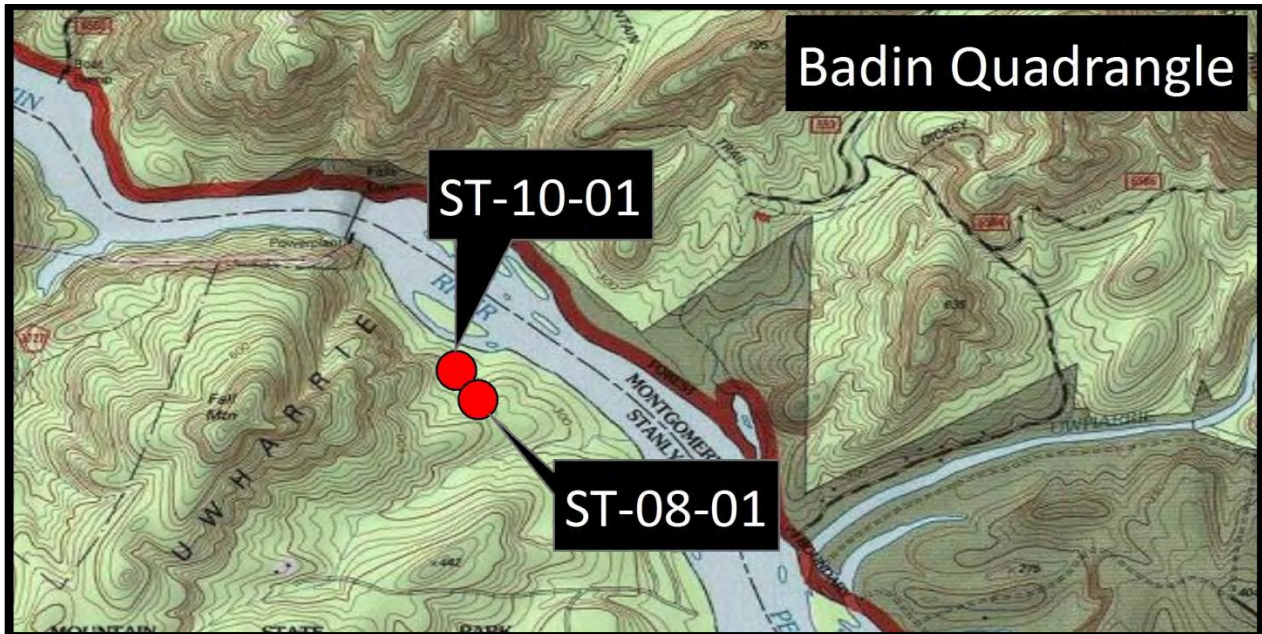
*Nest Position* – The nest was built in a spray of limbs surrounding a single-leader top. The nest surface had less than 30% sky exposure.

*Substrate Condition* – The nest tree was in good condition.

**Potential Disturbance**

Nest tree is protected by a forest buffer on all sides. The nest is close to the water and may be visible during the winter. Given the location, potential for human disturbance seems low.

**Map location of Bald Eagle nest ST-10-01.**



*Aerial view of nest ST-10-01 (photo 2011: B. Watts).*



### **Great Blue Heron**

No Great Blue Heron colonies were detected on Falls Reservoir. The small forested islands located on the upper reach are the most likely location for future breeding sites. However, potential for colonization appears limited.



### Bald Eagle nest summary (2001-2013).

Nest Code	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
DA-01-01	1 chick	2 chicks	1 chick	Not used	Not used	Absent	Absent	Absent	2 chicks	2 chicks	2 chicks	2 chicks	2 chicks
ST-01-01	2 chicks	Not used	Not used	Not used	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent
ST-01-02	Not used	Not used	Not used	Not used	Not used	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent
RO-02-01		Lost/storm	Absent	Absent	Absent	Absent	Absent	Absent	Rebuilt	Not used	Absent	Absent	Absent
RO-02-02		0 chicks	1 chick	1 chick	2 chicks	2 chicks	3 chicks	0 chicks	Not used	Not used	Absent	Absent	Absent
MO-03-01			1 chick	1 chick	1 chick	Not used	2 chicks	2 chicks	2 chicks	2 chicks	1 chick	0 chicks	2 chicks
RO-04-01				2 chicks	2 chicks	0 chicks	2 chicks	Absent	Absent	Absent	Absent	Absent	Absent
MO-06-01						Not used	Not used	Absent	Absent	Absent	Absent	Absent	Absent
DA-07-01							0 chicks	Absent	Absent	Absent	Absent	Absent	Absent
ST-07-01							2 chicks	Not used	Not used	Absent	Absent	Absent	Absent
RO-08-01								Not used	Not used	Not used	Not used	Not used	Absent
DA-08-01								0 chicks	Not used	Absent	Absent	Absent	Absent
DA-08-02								0 chicks	Not used	Absent	Absent	Absent	Absent
ST-08-01								0 chicks	0 chicks	Not used	Not used	Partial nest present	GHOW using nest
DA-09-01									1 chick	0 chicks	0 chicks	1 chick	Absent
DA-10-01										2 chicks	3 chicks	0 chicks	3 chicks
RO-10-01										0 chicks	0 chicks	2 chicks	2 chicks
ST-10-01										0 chicks	2 chicks	1 or 2 chicks	2 chicks
MO-11-01											Not used	Absent	Absent
ST-12-01												2 chicks	3 chicks
MO-13-01													1 chick
MO-13-02													2 chicks

Great Blue Heron/Great Egret and Double-crested Cormorant colony summary (high count in first or second flight, 2001-2013).

Colony Code	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
GBH-01	11 GBHE	21 GBHE	43 GBHE	43 GBHE	44 GBHE	48 GBHE	54 GBHE, 1 GREG	52 GBHE	57 GBHE	43 GBHE	56 GBHE	29 GBHE	35 GBHE
GBH-02	425 GBHE	480 GBHE	310 GBHE	440 GBHE, 15 GREG	380 GBHE, 15 GREG	320 GBHE, 2 GREG	340 GBHE, 26 GREG	380 GBHE, 32 GREG	270 GBHE, 28 GREG	255 GBHE, 38 GREG	240 GBHE, 48 GREG	240 GBHE, 55 GREG	210 GBHE, 63 GREG
GBH-03	5 GBHE	21 GBHE	38 GBHE	33 GBHE	52 GBHE	55 GBHE	73 GBHE	75 GBHE	87 GBHE	92 GBHE	58 GBHE	7 GBHE	5 GBHE
GBH-04	7 GBHE	19 GBHE	60 GBHE	75 GBHE	90 GBHE	83 GBHE	95 GBHE	135 GBHE	158 GBHE, 3 GREG	145 GBHE, 19 GREG	180 GBHE, 22 GREG	215 GBHE, 18 GREG	220 GBHE, 45 GREG
GBH-05	150 GBHE	140 GBHE	185 GBHE	110 GBHE	180 GBHE	145 GBHE	180 GBHE	220 GBHE	195 GBHE, 2 GREG	225 GBHE, 7 GREG	185 GBHE, 5 GREG	185 GBHE, 5 GREG	165 GBHE, 1 GREG
GBH-06		5 GBHE	45 GBHE	44 GBHE	52 GBHE	73 GBHE	68 GBHE	59 GBHE	55 GBHE	58 GBHE	55 GBHE	48 GBHE, 3 GREG	42 GBHE
GBH-07		1 GBHE	1 GBHE	4 GBHE	8 GBHE	8 GBHE	34 GBHE	34 GBHE	42 GBHE	48 GBHE	42 GBHE	45 GBHE	45 GBHE
GBH-08				8 GBHE	38 GBHE	63 GBHE	58 GBHE	76 GBHE	82 GBHE	75 GBHE, 32 DCCO	95 GBHE, 83 DCCO	25 GBHE, 215 DCCO	12 GBHE, 155 DCCO
GBH-10					6 GBHE	6 GBHE	10 GBHE	0	0	0	0	26 GBHE	35 GBHE
GBH-11					4 GBHE	5 GBHE	8 GBHE	12 GBHE	16 GBHE	17 GBHE	28 GBHE	31 GBHE, 2 GREG	35 GBHE
GBH-13								8 GBHE	7 GBHE	3 GBHE	6 GBHE	5 GBHE	Colony abandoned
GBH-14									21 GBHE	18 GBHE	10 GBHE	22 GBHE	25 GBHE
GBH-15										6 GBHE	6 GBHE	12 GBHE	8 GBHE
GBH-16										10 GBHE	12 GBHE	18 GBHE	26 GBHE
GBH-17												18 GBHE	24 GBHE
GBH-21												7 GBHE	5 GBHE
GBH-22												12 GBHE	23 GBHE, 8 DCCO
GBH-23													4 GBHE
GBH-24													3 GBHE
GBH-25													10 GBHE
GBH-26													11 GBHE
GBH-27													16 GBHE