

2008

## An assessment of the Bald Eagle and Great Blue Heron populations along High Rock, Tuckertown, Narrows, and Falls Reservoirs in central North Carolina: 2008 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: 2008 BREEDING SEASON**



A COOPERATIVE PROJECT BY:

**ALCOA POWER GENERATING INC.  
&  
CENTER FOR CONSERVATION BIOLOGY  
COLLEGE OF WILLIAM AND MARY**

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**Final Report**

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**Cover Photo:** Bald Eagle nestling. Photo by Bryan Watts

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## **BACKGROUND**

### **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 1960s, most breeding populations had been 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, many populations have experienced gradual recoveries in both 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 2003.

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 2008 survey follow (a summary of all eagle nesting activity since 2001 is provided at the end of this report).

### **Objectives**

The objectives of the eagle survey on Yadkin Project reservoirs were 1) to document the status, distribution and productivity of nesting pairs in association with the Yadkin reservoirs and associated river corridors and 2) to increase our understanding of Bald Eagle natural history in interior regions of North Carolina. A third objective was to determine the status and distribution of breeding Great Blue Herons along the system of reservoirs.

## **METHODS**

### **Waterways**

Waterways covered by the Bald Eagle survey of 2008 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 to systematically move between the shoreline and a distance of approximately 1 km 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. In addition to recording all nests detected, the area was searched for Bald Eagles. All eagles detected within the survey area were recorded. The survey was conducted on 26 March 2008.

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. The number of eaglets present was recorded along with their approximate ages. Each nest was also examined to determine its structural condition. Observations of all Bald Eagles detected were recorded. The survey was conducted on 6 May 2008.

## **Great Blue Herons**

All 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.

## **SURVEY FINDINGS**

### **High Rock Reservoir**

#### **Bald Eagles**

Two Bald Eagle territories were observed to be active on High Rock Reservoir during 2008 surveys. The territory on upper Abbott's Creek had a single nest. The original nest (DA-07-01) on an island that supported a Great Blue Heron colony (GBH-11) was in a thin tree that had blown down. A new nest (DA-08-01) was located in a hardwood on the shoreline and was active. The territory on the upper end of High Rock Reservoir between Smith Grove and Trading Ford also lost the active nest from 2007. Nest RO-04-01 had been blown out since the spring of 2007. Two new nests were located within this territory. A nest in a loblolly pine (RO-08-01) near Long Ferry Road was constructed but not completed. A nest in a tulip poplar tree across the water (DA-08-02) was completed and active. This nest was near the original nest for this territory (DA-01-01).

**NEST: RO-04-01**

<b>Nest Code</b>	<b>County</b>	<b>Topo Quad</b>	<b>Active Territory</b>	<b>Active Nest</b>	<b>Chicks Produced</b>
RO-04-01	Rowan	Southmont	Y	N	-----

Nest Location

This nest was located along a creek feeding into a small embayment almost due east of the intersection of Goodman Lake Road and Long Ferry Road. The nest was on the west side of the reservoir and southwest of the previous nest DA-01-01. The nest tree is positioned on the outer edge of a streamside forest buffer adjacent to a young regenerating pine stand. The tree does not appear to be visible from the water.

Nesting Activity

*Bird Activity* – On 26 March, 2008 no birds were present in this location. The nest had been blown out of the tree with no remnant remaining. The tree was in good condition. Two replacement nests were located within this territory (RO-08-01 and DA-08-02).

*Nest Condition* – Absent

Nest Substrate

*Substrate Type* – Loblolly pine in a supercanopy position at the edge of a regenerating pine stand.

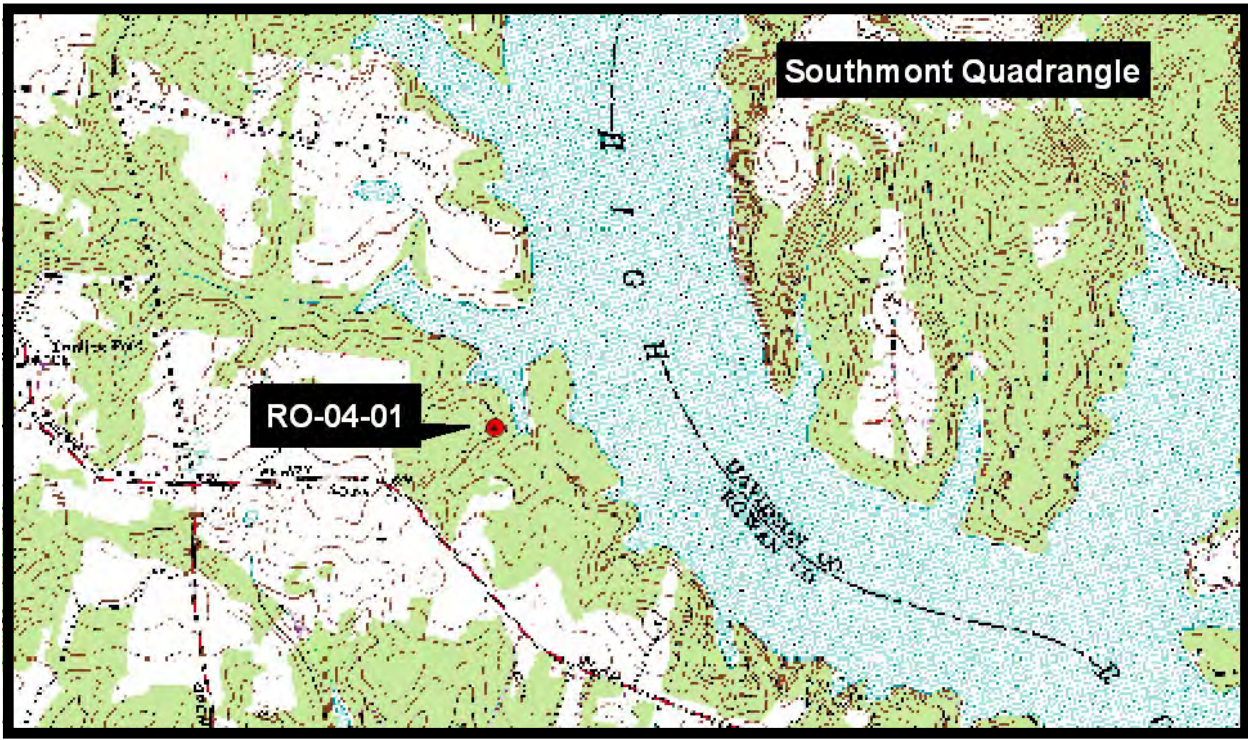
*Nest Position* – Absent.

*Substrate Condition* – Nest tree appears to be in good health with no significant crown damage.

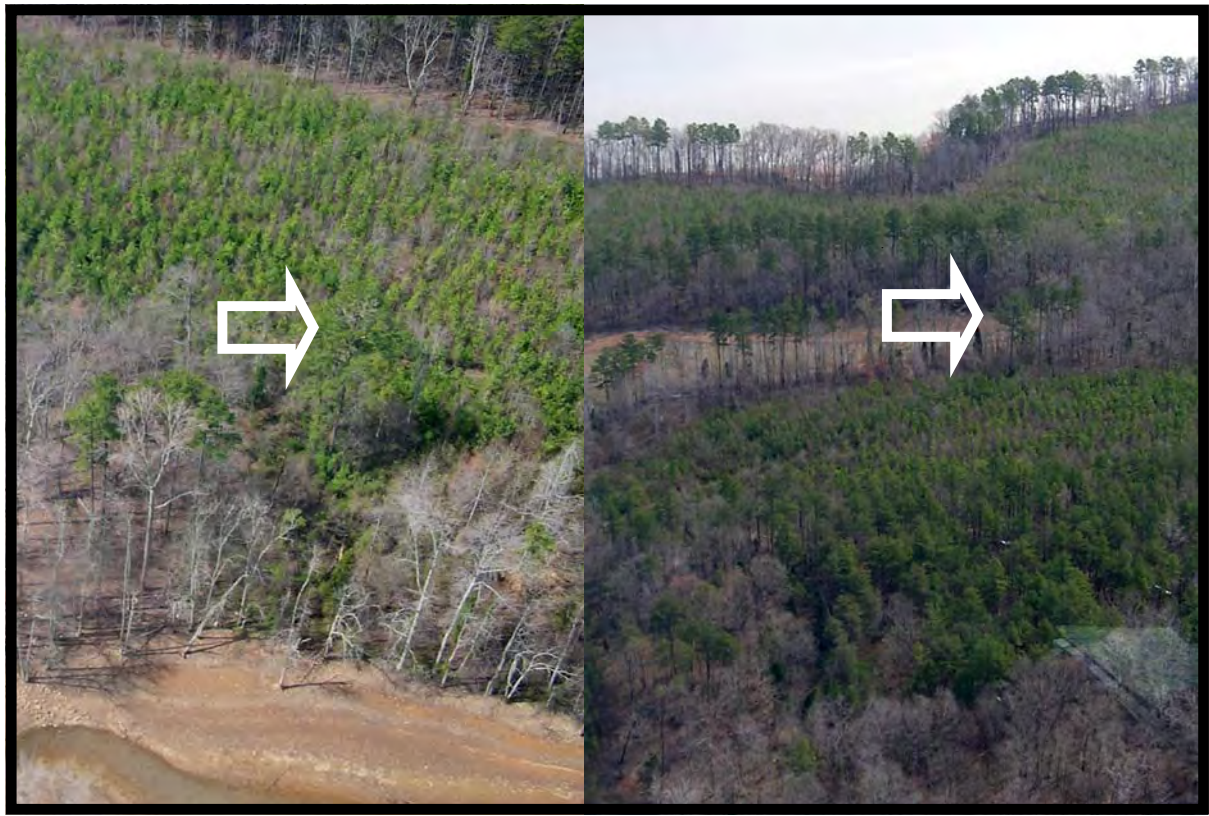
Potential Disturbance

Nest site appears to be protected by a visual buffer from the reservoir and is isolated across a regenerating stand from road access. Potential for disturbance is limited at this site.

Map location of Bald Eagle nest RO-04-01.



Aerial photos of nest RO-04-01 (photo 2006; B. Watts)





**NEST: RO-08-01**

<b>Nest Code</b>	<b>County</b>	<b>Topo Quad</b>	<b>Active Territory</b>	<b>Active Nest</b>	<b>Chicks Produced</b>
RO-08-01	Rowan	Southmont	Y	N	-----

Nest Location

This nest was located along a creek feeding into a small embayment almost due east of the intersection of Goodman Lake Road and Long Ferry Road. The nest is positioned almost due south and within 150 m of previous nest RO-04-01 and along the same tree line. The line of trees is surrounded by regenerating pine stand. Nest is very near end of residential road and must be visible from nearby houses.  
young regenerating pine stand. The tree does not appear to be visible from the water.

Nesting Activity

*Bird Activity* – On 26 March, 2008 no birds were present in this location. The nest had been built since the spring survey in May of 2007. Birds were present in the territory associated with second replacement nest (DA-08-02) on east side of reservoir.

*Nest Condition* – Nest is shallow but in good structural condition. Outer stick construction appears complete but no lining has been added. First-year nest that was not completed with lining.

Nest Substrate

*Substrate Type* – Loblolly pine in a supercanopy position at the edge of a regenerating pine stand.

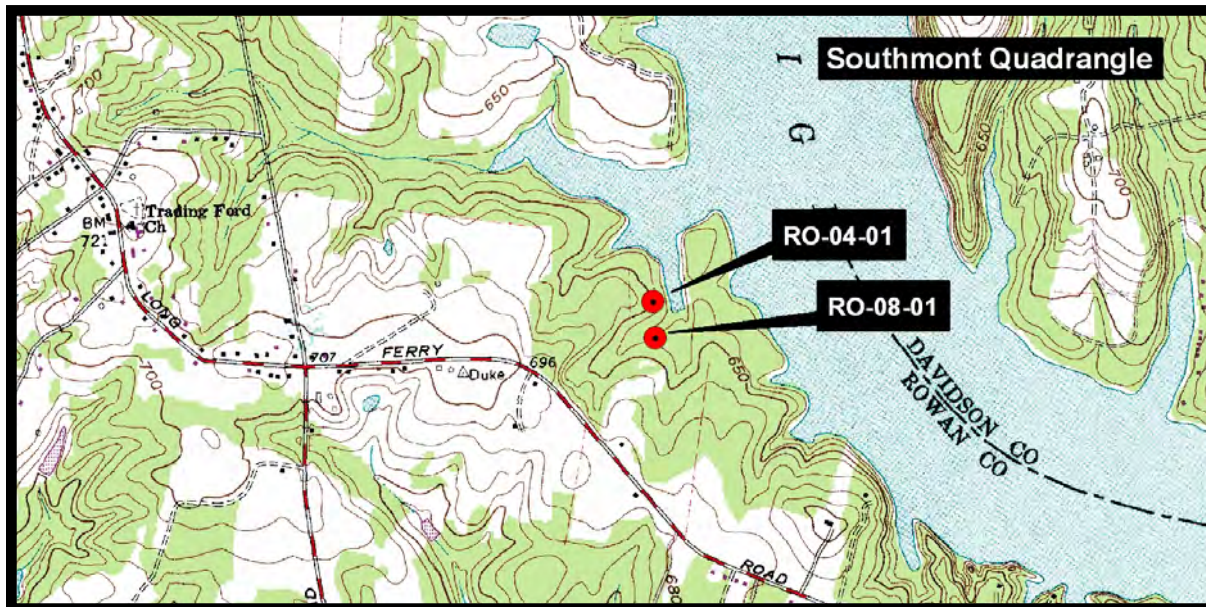
*Nest Position* – Nest is positioned in upper top crotch and very tight up against crown limbs.

*Substrate Condition* – Nest tree appears to be in good health with no significant crown damage.

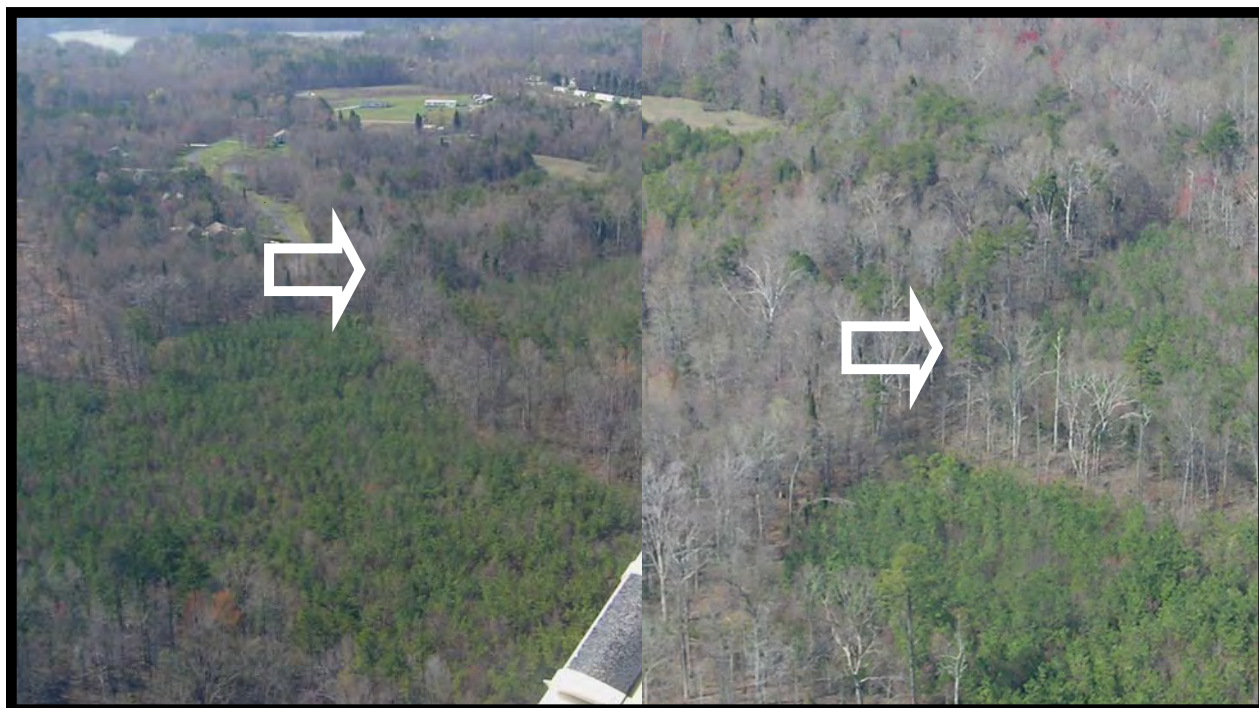
Potential Disturbance

Nest is very close to end of residential road with houses. This nest appears to be visible to houses and very close to residential activity. Disturbance may have prompted the birds to move across the reservoir and to construct a second nest.

Map location of Bald Eagle nest RO-08-01.



Aerial photos of nest RO-08-01 (photo 2008; B. Watts)



**NEST: DA-08-02**

<b>Nest Code</b>	<b>County</b>	<b>Topo Quad</b>	<b>Active Territory</b>	<b>Active Nest</b>	<b>Chicks Produced</b>
DA-08-02	Davidson	Southmont	Y	Y	0

Nest Location

This nest was located along a steep embankment within a hardwood stand. The hard wood stand is between a farmfield and the reservoir southwest of Smith Grove. The nest must be visible from both the water and the farm during the winter months but is likely not visible after leaf on.

Nesting Activity

*Bird Activity* – On 26 March, 2008 an adult bird was incubating on the nest. A second adult was perched in the large white oak that previously supported nest DA-01-01. The nest had been built since the spring survey in May of 2007. On 6 May, 2008 the nest was empty and the adults were not observed.

*Nest Condition* – Nest is shallow but in good structural condition. Outer stick construction was complete and the nest was fully lined. This was a very small nest and appeared to possibly be a hurry-up nest that may have followed the loss of RO-04-01 and abandonment of RO-08-01.

Nest Substrate

*Substrate Type* – Nest was built in a large, supercanopy tulip poplar.

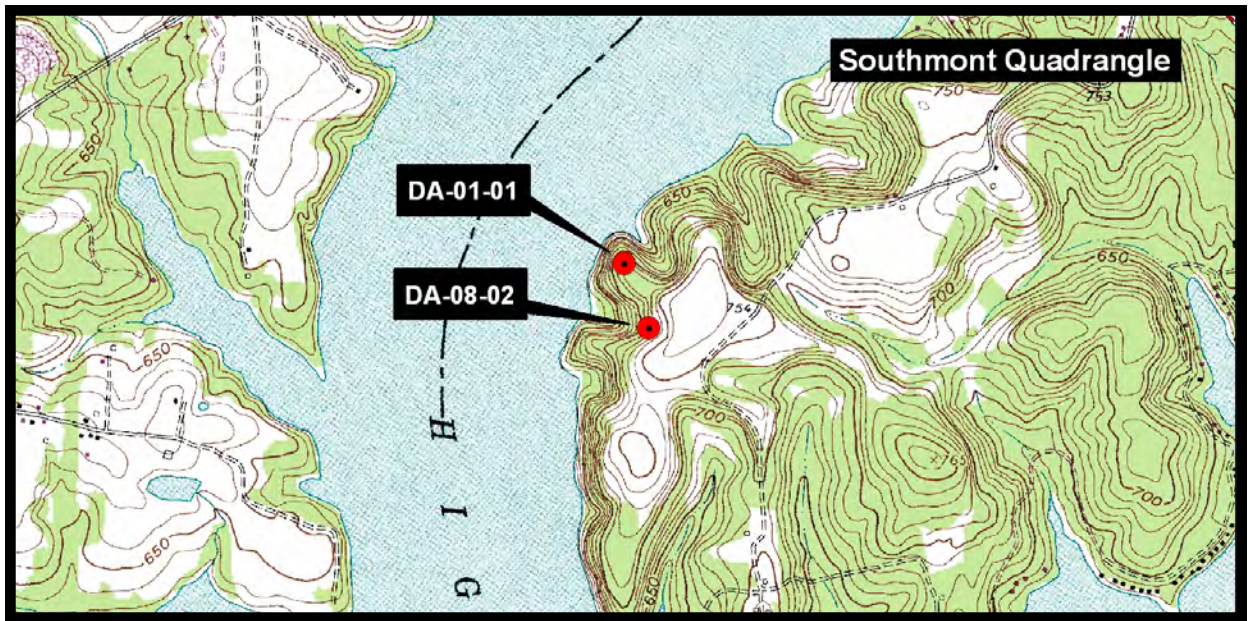
*Nest Position* – Nest is positioned in upper top of tree. Crotch is wide and fairly close to crown perimeter.

*Substrate Condition* – Nest tree appears to be in good health with no significant crown damage.

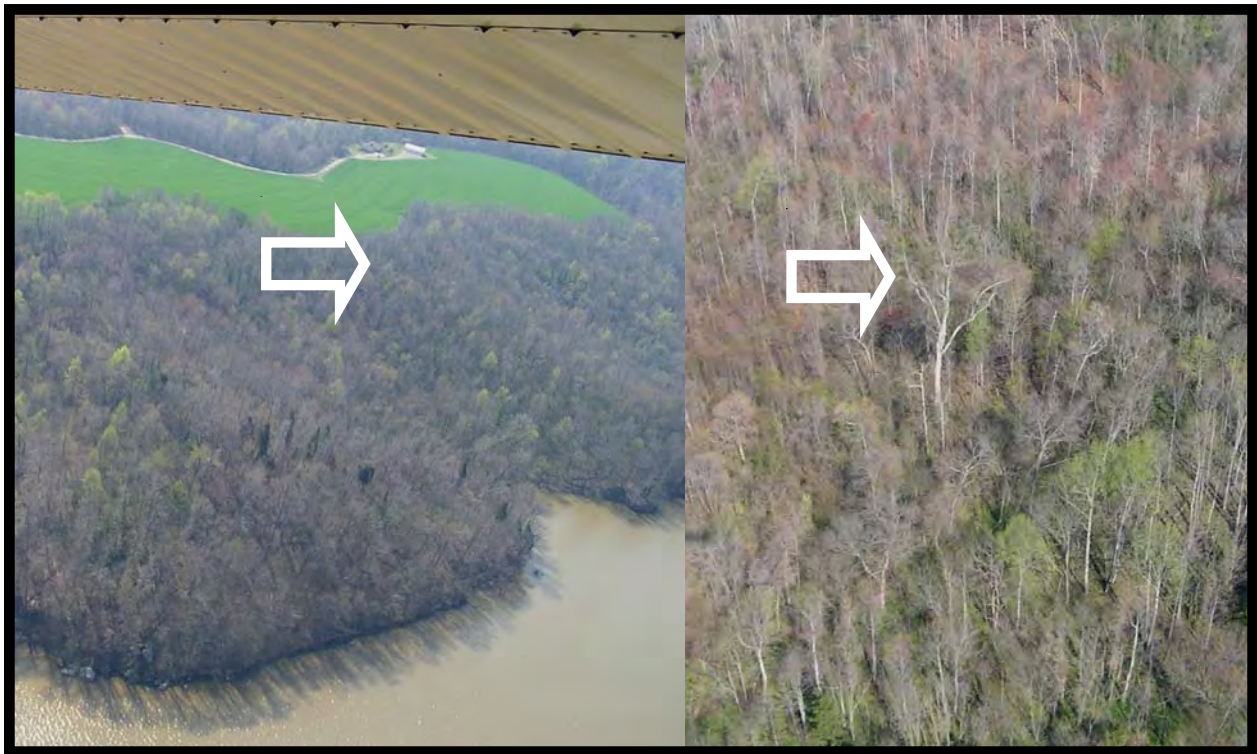
Potential Disturbance

This nest is within a band of forest along a hillside next to the water. The nest is protected from the waterway by a buffer of trees. The nest is more accessible from the adjacent farm field where it is easily visible during the winter months. The nest is away from roads and houses. Human disturbance to this site is likely very limited.

Map location of Bald Eagle nest DA-08-02.



Aerial photos of nest DA-08-02 (photo 2008; B. Watts)



**NEST: DA-07-01**

<b>Nest Code</b>	<b>County</b>	<b>Topo Quad</b>	<b>Active Territory</b>	<b>Active Nest</b>	<b>Chicks Produced</b>
DA-07-01	Davidson	Grist Mounth	Y	N	-----

Nest Location

This nest was located on a small island on the upper reach of Abbotts Creek. The nest was positioned on the north end of the island just outside the boundary of Great Blue Heron colony GBH-11. This nest was visible from the water and likely visible from houses along the shoreline.

Nesting Activity

*Bird Activity* – On 26 March, 2008 both adults were observed within the near area but not associated with this nest or the island. Birds were associated with replacement nest DA-08-01.

*Nest Condition* – Both nest and nest tree were blown down. On 26 March, 2008 the nest tree could be seen from the air leaning over on the ground with a portion of the nest remaining in the top crotch.

Nest Substrate

*Substrate Type* – Nest was built in a small, spindly hardwood. The tree is on the lower limit of size for eagles and it is not likely that it will be used for any length of time. The upper portion of the tree appeared vulnerable to windthrow. The tree was along the midline of a narrow island and toward the north end. The tree was not elevated above the surrounding trees but of near equal height.

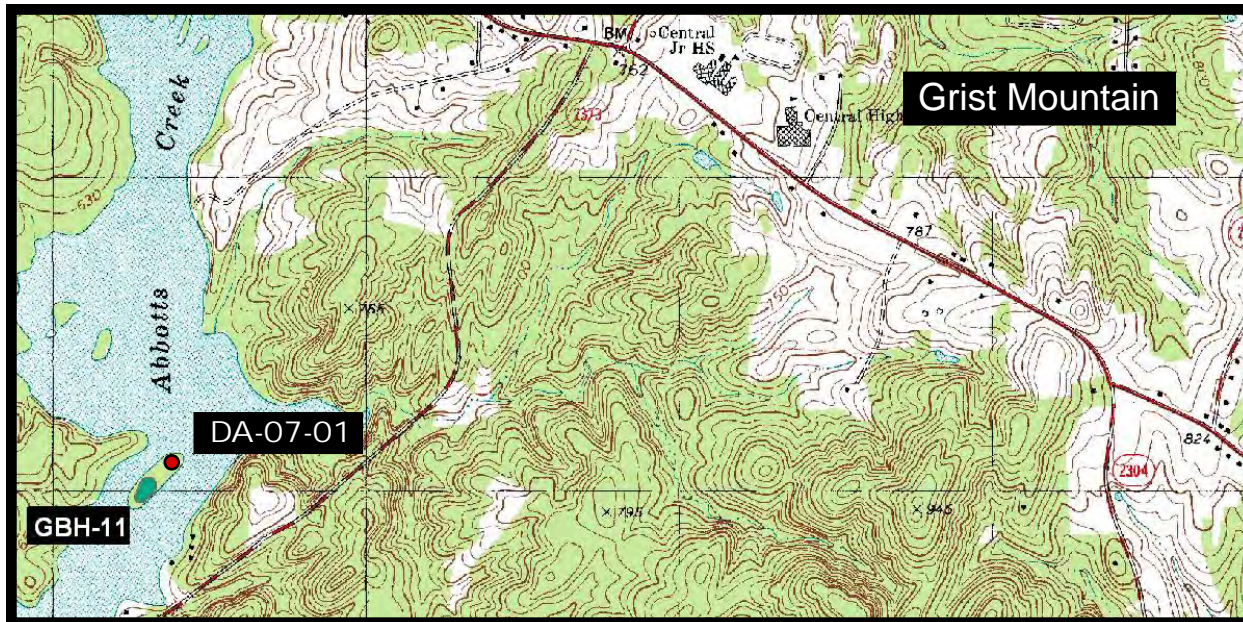
*Nest Position* – Nest was built in the top crotch of the tree. The crotch was small which will limit nest expansion. The nest was situated in a terminal position on the tree with sky exposure of 100%. Nest is built in a stable, triple-prong top crotch. Nest has a moderate crown above but sky exposure is more than 50%.

*Substrate Condition* – Blown down.

Potential Disturbance

Potential for disturbance is limited at this site due to isolation from the mainland. The nest is visible from the water and likely from houses along the shoreline.

Map location of Bald Eagle nest DA-07-01.



Aerial photos of nest DA-07-01 (photo 2007; B. Watts)



**NEST: DA-08-01**

<b>Nest Code</b>	<b>County</b>	<b>Topo Quad</b>	<b>Active Territory</b>	<b>Active Nest</b>	<b>Chicks Produced</b>
DA-08-01	Davidson	Grist Mounth	Y	Y	0

Nest Location

This nest was located along the shoreline of Abbotts Creek near the Route 47 bridge. The nest tree was within a small patch of forest at the end of a long agricultural field. The nest tree was set back approximately 30-40 m from both the waters edge and the field edge. The nest is likely visible from the water and from Route 47 during the winter months. It is not likely visible during the summer months due to leaves.

Nesting Activity

*Bird Activity* – On 26 March, 2008 an adult was incubating on the nest and the second adult was perched along the shoreline downstream of the nest site. On 6 May, 2008 the nest was empty and no adults were present.

*Nest Condition* – The nest was in good structural condition and had a full lining. However, the nest was small and shallow. The nest may have been constructed late in the winter depending on the timing that nest DA-07-01 was blown down.

Nest Substrate

*Substrate Type* – Nest was built in a hardwood withn a patch of hardwoods along the shoreline of Abbotts Creek. The tree was only slightly supercanopy above surrounding trees. The tree appeared to be in good condition.

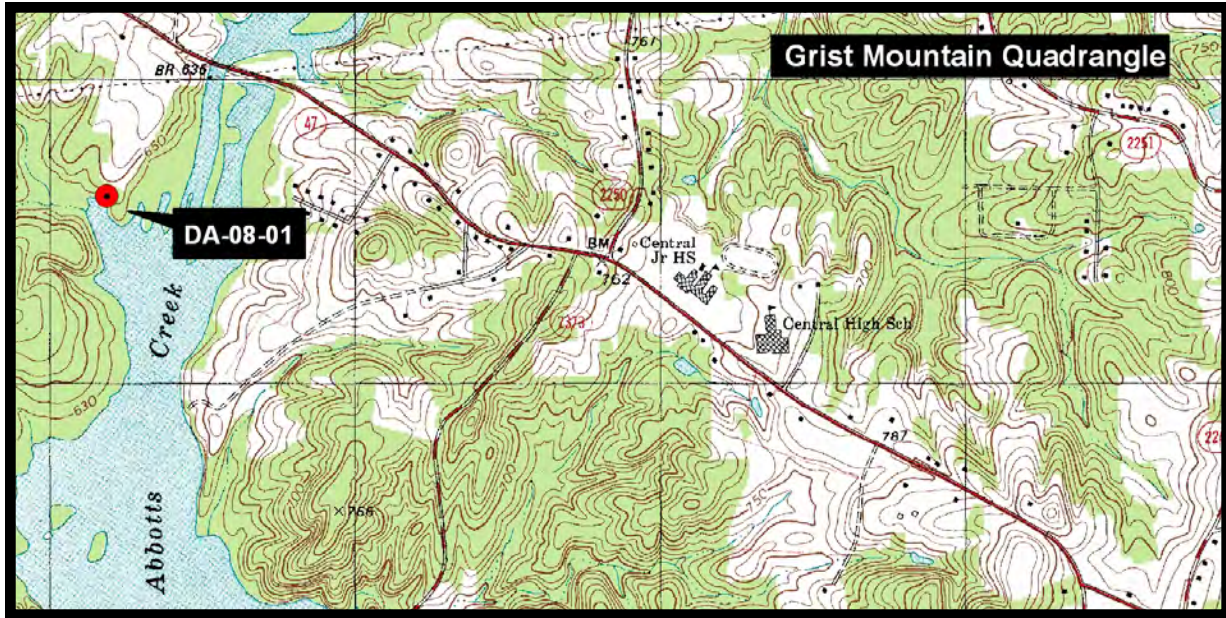
*Nest Position* – The nest was built in the top crotch of the hardwood. The crotch was terminal in the tree and positioned near the upper crown such that sky exposure was likelly greater than 50%.

*Substrate Condition* – Tree appeared to be in good condition.

Potential Disturbance

Potential for disturbance is limited at this site due to isolation from human activity. The nest tree is fairly close to the shoreline but it is not clear that the water is navigable into the adjacent cove. The tree is close to the edge of a winter wheat field but is fairly distant and remote from the roadway.

Map location of Bald Eagle nest DA-08-01.



Aerial photos of nest DA-08-01 (photo 2008; B. Watts)





## Great Blue Herons/Great Egrets

Six breeding colonies of Great Blue Herons were detected on High Rock Reservoir. All but 1 of these colonies were located on small, forested islands isolated from the shoreline. A seventh colony that was active in 2006 and 2007 was not active. Colony size ranged from 12 to 380 pairs. Total population estimate for this reservoir was 612 breeding pairs. For the fifth year in a row, Great Egrets were found nesting on the reservoir. Pairs were mixed in with 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 was 32 breeding pairs.

### GBH-01

Code	County	Topo Quad	Pairs
GBH-01	Davidson	Southmont	52 GBHE

#### Description

This colony was located on a small island near the Route 8 bridge in 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 26 March, 2008 52 pairs of Great Blue Herons were counted with 15% incubating and the remainder building. No Great Egrets were detected in the colony on either 26 March or 6 May, 2008.

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



*Aerial view of Great Blue Heron colony GBH-01 (Photo 2006; B. Watts).*



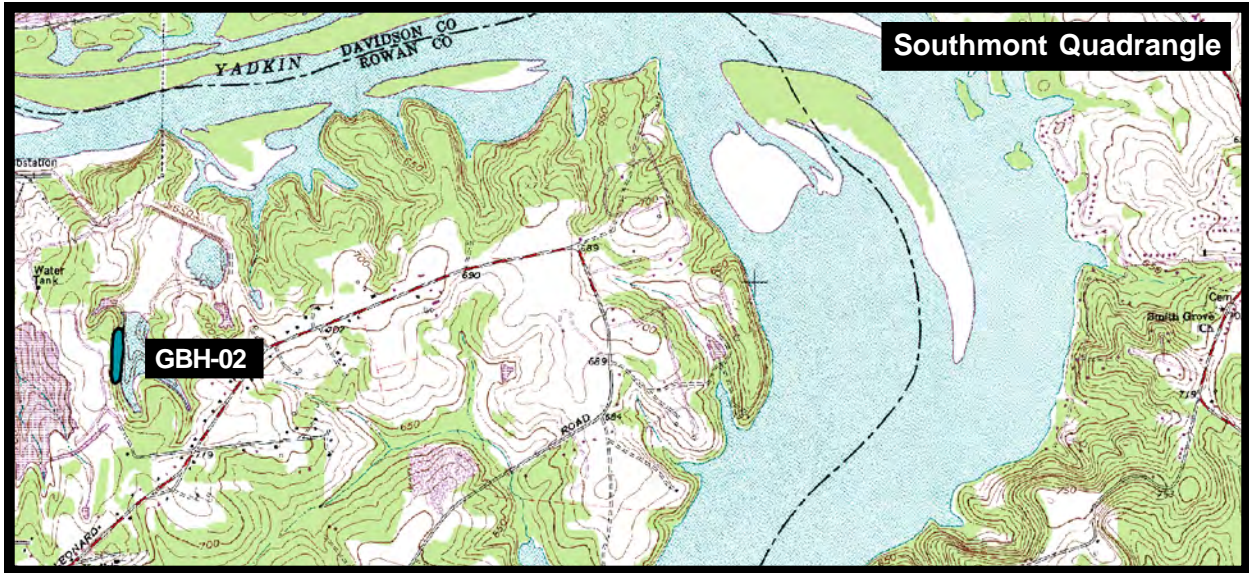
## GBH-02

Code	County	Topo Quad	Pairs
GBH-02	Rowan	Southmont	380 GBHE, 32 GREG

### Description

This colony was located along the western edge of one of Duke Power's settling ponds just north of the intersection of Leonard Road and Long Ferry Road. The pond was lined with a mixed stand of hardwoods and pines. A larger stand of pure loblollies was positioned further from the pond edge. Nests were built along the pond margin in both hardwoods and pines and throughout the pure pine stand. Nest distribution continued to be more restricted as in 2003 due to partial harvest of pine stand in 2002. On 26 March, 2008 20% of Great Blue Herons were incubating and the remaining 80% were building nests. Great Egrets were nesting in the core of the subcolony occupying the pure pine stand. On 26 March, 2008 no egret pairs were present within the colony. On 6 May, 2008 32 pairs 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 2006; B. Watts)



**GBH-03**

Code	County	Topo Quad	Pairs
GBH-03	Rowan	Southmont	75

Description

This 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. This colony changed from 21 nests in 2002 to 38 nests in 2003 to 33 nests in 2004 to 52 nests in 2005 to 55 nests in 2006 to 73 in 2007 and 75 nests in 2008. On 26 March, 2008 30% of pairs were incubating and 70% were building nests.

*Map location of Great Blue Heron colony GBH-03*

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



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



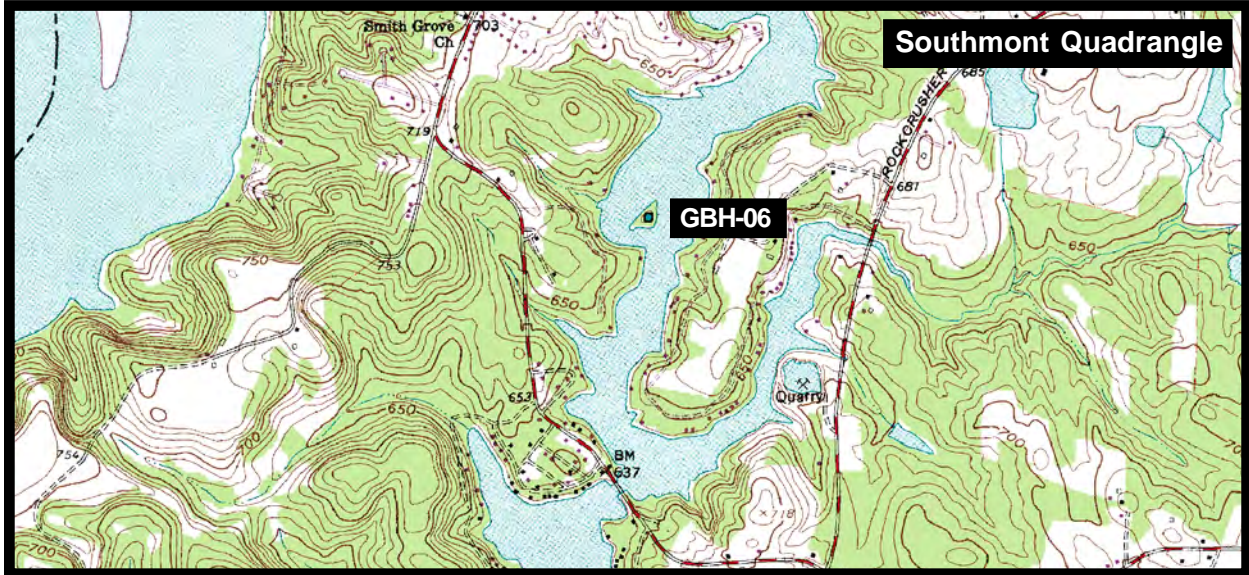
### **GBH-06**

<b>Code</b>	<b>County</b>	<b>Topo Quad</b>	<b>Pairs</b>
GBH-06	Rowan	Southmont	59

#### Description

This 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 26 March 2008 there were 59 nesting pairs present compared to 68 pairs in 2007, 73 pairs in 2006 and 52 pairs in 2005. An estimated 15% were incubating and 85% were building nests.

Map location of Great Blue Heron colony GBH-06



Aerial view of Great Blue Heron colony GBH-06 (Photo 2006; B. Watts)

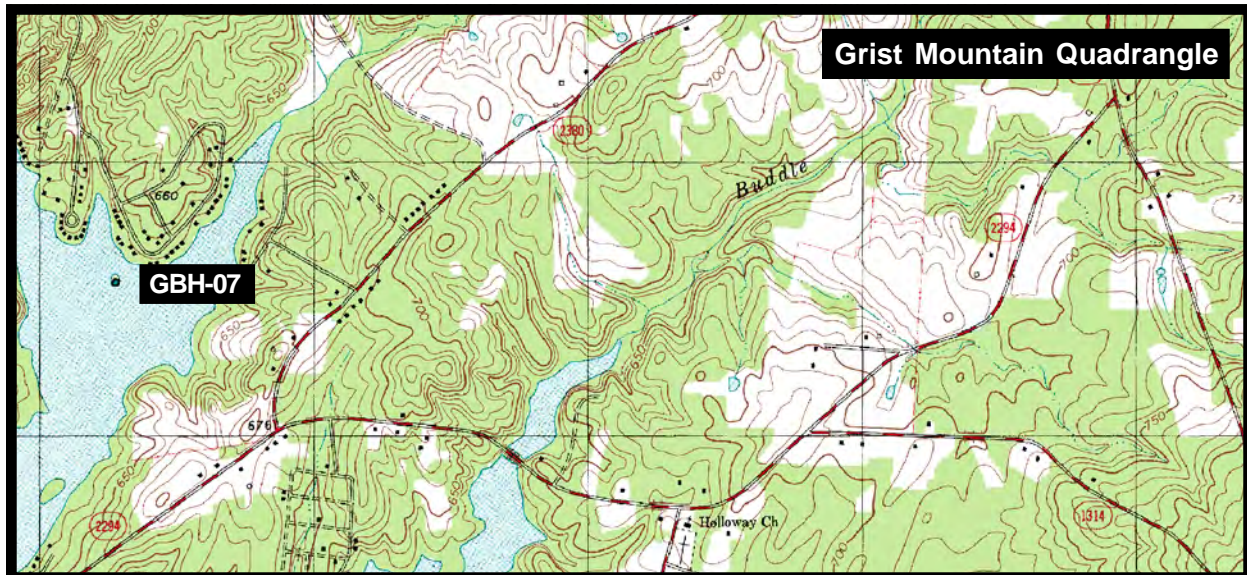


**GBH-07**

Code	County	Topo Quad	Pairs
GBH-07	Rowan	Grist Mountain	34

Description

This 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 26 March 2008 there were 34 pairs nesting on the island. An estimated 25% of pairs were incubating and 75% were building.

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

*Aerial view of Great Blue Heron colony GBH-07* (Photo 2006; B. Watts)



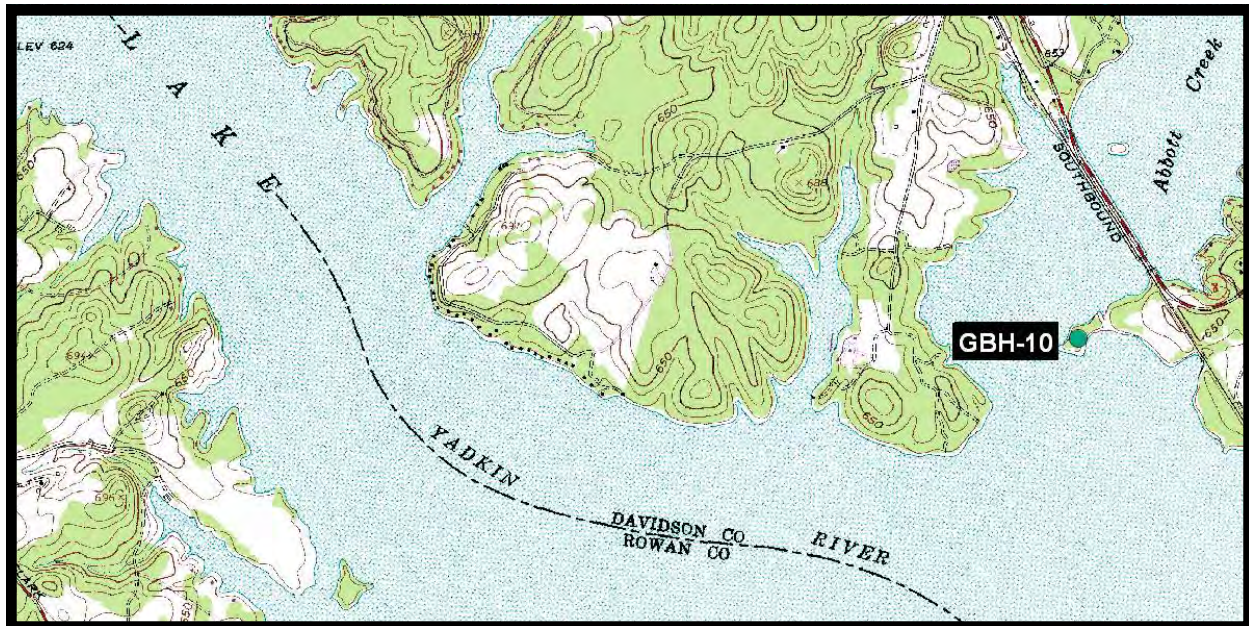
**GBH-10**

Code	County	Topo Quad	Pairs
GBH-10	Davidson	Southmont	0

Description

This 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 26 March and later on 6 May, 2008 nests could be seen in the colony area but no birds were present.

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



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





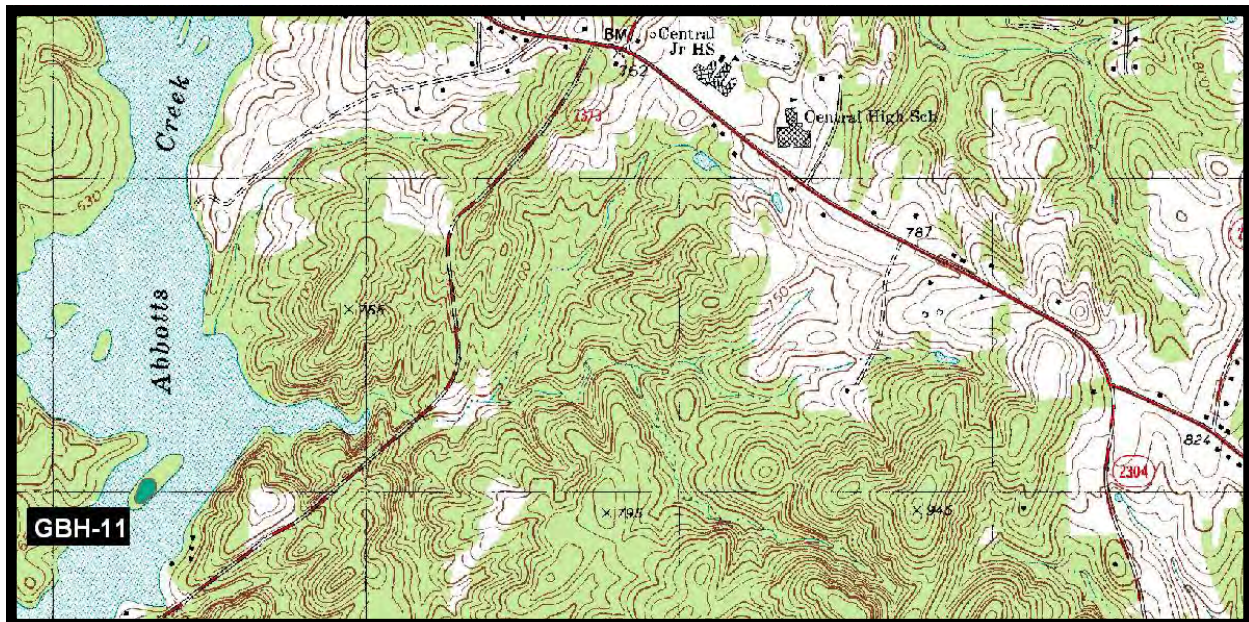
**GBH-11**

Code	County	Topo Quad	Pairs
GBH-11	Davidson	Grist Mountain	12

Description

This colony was located on a small forested island in Abbotts Creek . The site was forested with a mix of pine and hardwood. On 26 March 2008 there were 12 pairs nesting on the island. Two pairs were incubating and 10 were building.

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



*Aerial view of Great Blue Heron colony GBH-11 (Photo 2006; B. Watts)*



## Tuckertown Reservoir

### Bald Eagles

A single Bald Eagle nest was observed within the Tuckertown Reservoir system for the seventh year. The nest was located within the upper section just downstream of the High Rock Dam.

#### NEST: RO-02-02

Nest Code	County	Topo Quad	Active Territory	Active Nest	Chicks Produced
RO-02-02	Rowan	High Rock	Y	Y	0

#### Nest Location

This nest was located along the south shoreline just down from Cedar Creek. The nest tree is isolated within a recently clearcut area of private land above a farm. The tree is set back from the shoreline with a buffer strip of trees between the nest tree and the shoreline. The nest is not likely visible from the water due to tree buffer. The nest is likely visible from route 2152.

#### Nesting Activity

*Bird Activity* – On 26 March, 2008 a single adult was perched on a limb above the nest with 1 chick approximately 20 days old. On 6 May 2008 the nest was empty and no adults were present. The nest had sustained severe damage with about half of the surface missing. Based on these observations, it appears that the nesting attempt failed.

*Nest Condition* – Nest structure was of moderate size and appeared to be the same size as when observed over the past few years. On 26 March, 2008 the nest was in good structural condition but the surface was flat and the lining was incomplete. On 6 May, 2008 the nest was partially missing and appeared to have sustained wind damage.

#### Nest Substrate

*Substrate Type* – Nest was built in an isolated loblolly pine. Nest tree was a specimen loblolly in an ideal condition to be used for a nest tree.

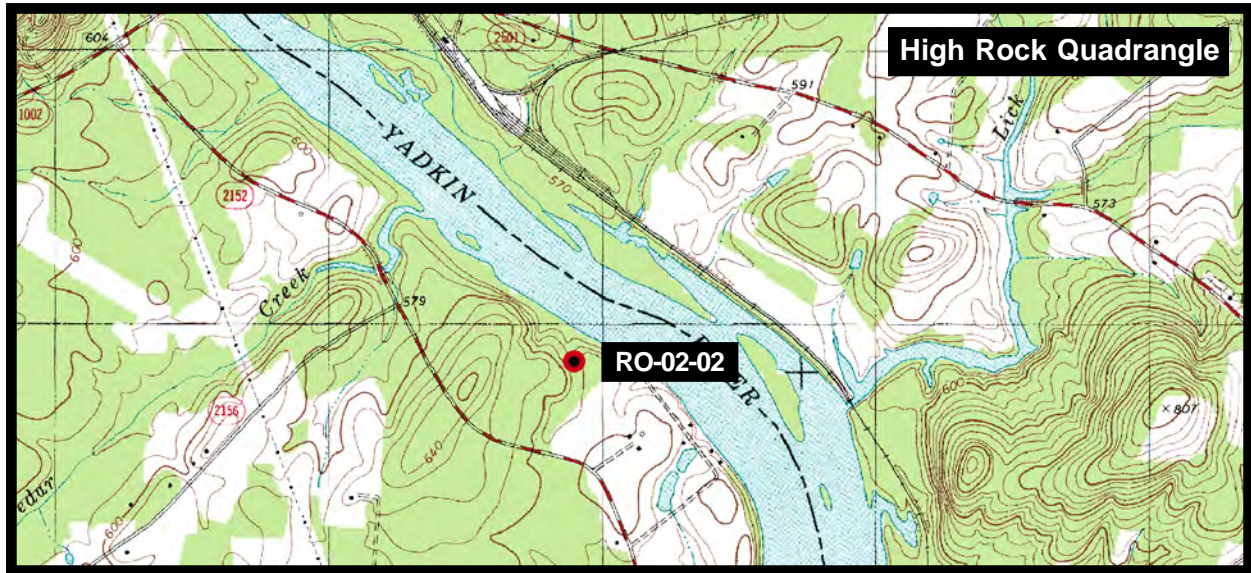
*Nest Position* – Nest was positioned in a top crotch deep below the crown. This configuration is the most common and apparently most stable position for eagle nests. Nest was under large crown with less than 20% sky exposure.

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

#### Potential Disturbance

Nest tree is in a fairly remote location with a considerable buffer on upland side and tree buffer on water side. Disturbance potential appears to be limited.

Map location of Bald Eagle nest RO-02-02



Aerial view of location of Bald Eagle nest RO-02-02 (Photo 2007: B. Watts)



## Great Blue Herons

A single colony of breeding Great Blue Herons was detected on Tuckertown Reservoir on an island just below the High Rock Dam. Total population estimate for this reservoir is 135 pairs.

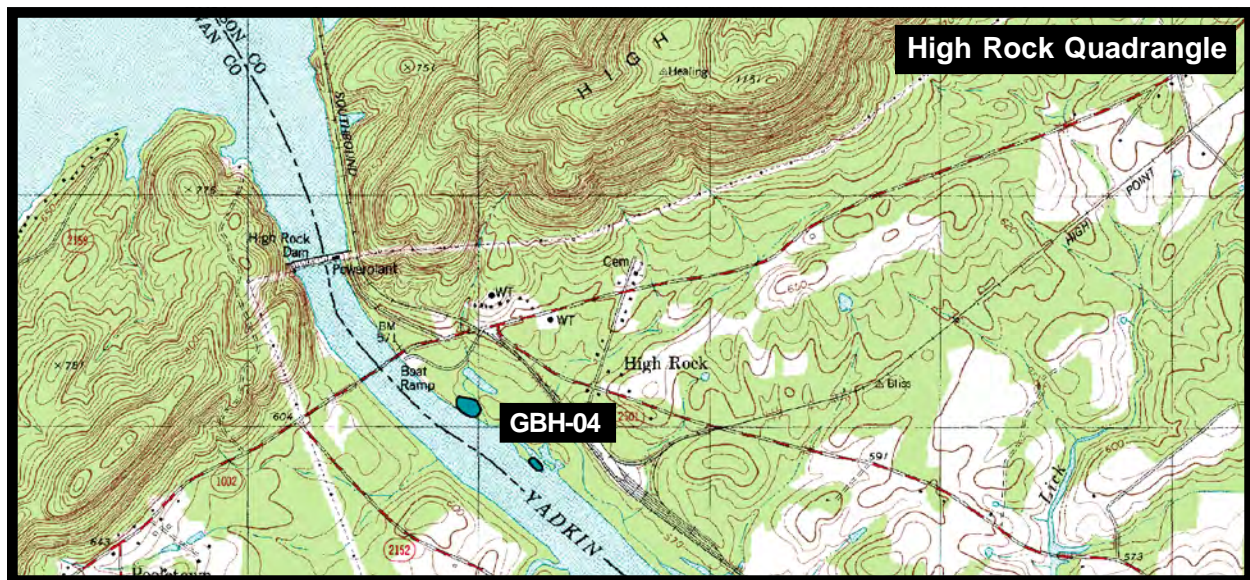
### GBH-04

Code	County	Topo Quad	Pairs
GBH-04	Davidson	High Rock	135

### Description

This colony was 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. There were 2 sub-colonies within this location. The larger sub-colony contained 110 pairs and was within the pines along the shoreline. The second sub-colony was on the island and contained 25 pairs. On 26 March 2008 approximately 25% of pairs were incubating and 75% were building nests.

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



*Aerial view of location of Great Blue heron colony GBH-04* (Photo 2006: B. Watts)



### **Narrows Reservoir**

#### **Bald Eagles**

One Bald Eagle nest was located along the shoreline of Narrows Reservoir. The nest (MO-06-01) located near MO-03-01 was absent.

#### **MO-03-01**

<b>Nest Code</b>	<b>County</b>	<b>Topo Quad</b>	<b>Active Territory</b>	<b>Active Nest</b>	<b>Chicks Produced</b>
MO-03-01	Montgomery	Badin	Y	Y	2

#### 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 26 March, 2008 2 chicks approximately 42 days old were standing on the nest surface and no adult was observed. On 6 May, 2008 the nest was empty. One young of the year was observed perched near the dam and the birds were assumed to have fledged.

*Nest Condition* – Nest structure is of moderate size and similar in appearance to 2005 -2007. On 26 March, 2008 the nest was in good structural condition, had a well-formed cup and fresh lining. The nest showed clear signs of recent work.

### Nest Substrate

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

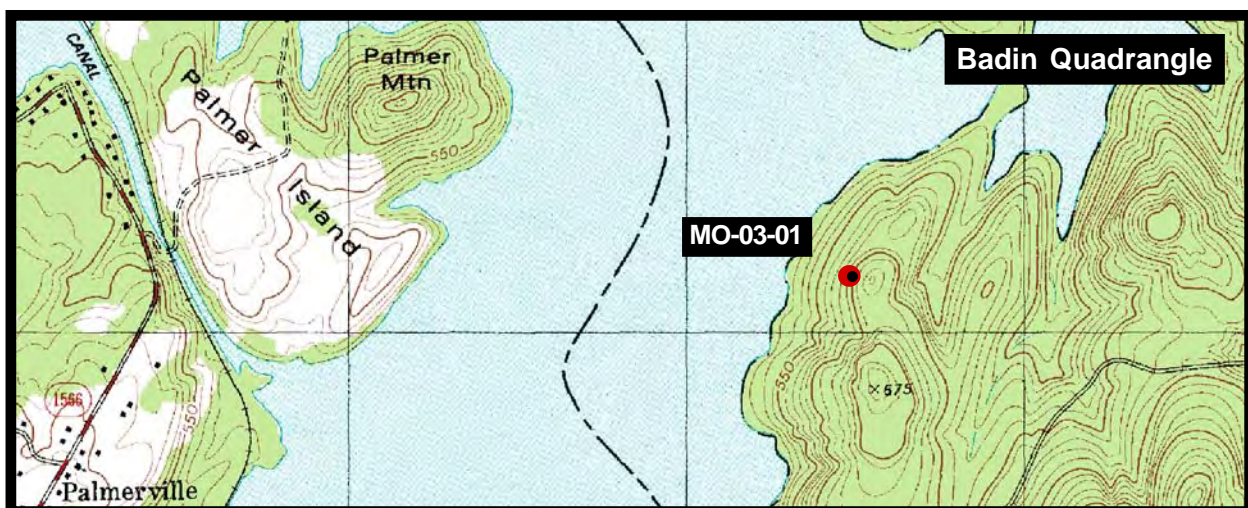
*Nest Position* – Nest is positioned on a lateral limb up against the trunk. Crown limbs are fairly sparse such that sky exposure was 70%.

*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 photo showing location of Bald Eagle nests MO-03-01 (l) and MO-06-01 (r). (Photos 2006: B. Watts)



### MO-06-01

Nest Code	County	Topo Quad	Active Territory	Active Nest	Chicks Produced
MO-06-01	Montgomery	Badin	Y	N	-----

#### 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* – During the 2008 breeding season the active nest within this territory was MO-03-01. On 26 March, 2008 nest MO-06-01 was absent and no birds were associated with the tree.

*Nest Condition* – Absent.

### Nest Substrate

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

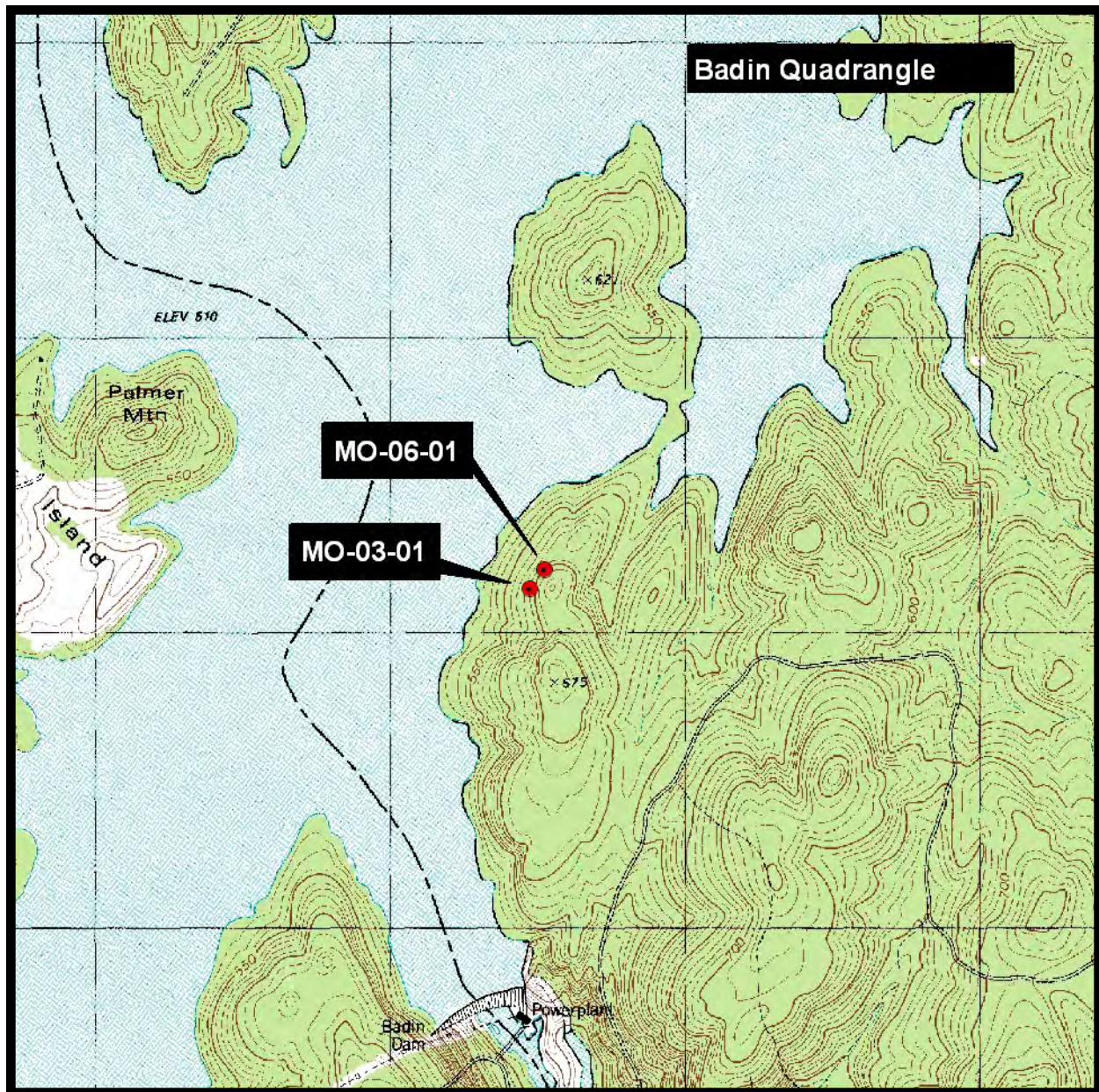
*Nest Position* – Nest Absent.

*Substrate Condition* – Nest tree appeared to be in very 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 and MO-06-01.*





## Great Blue Herons

Three colonies of breeding Great Blue Herons were detected within Narrows Reservoir during 2008. This includes one colony on an island at the confluence of Beaverdam and Reynolds Creeks and a second on an island between Graveyard Island and Palmer Island and the third on an island northeast of Graveyard Island. Total population estimate for this reservoir was 304 pairs.

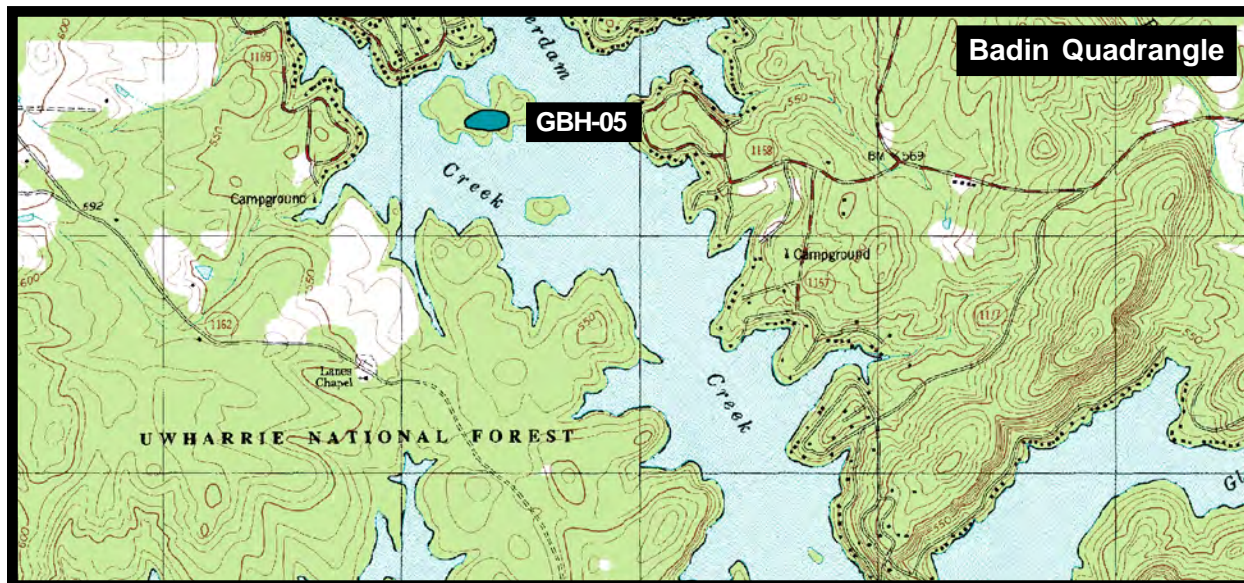
### GBH-05

Code	County	Topo Quad	Pairs
GBH-05	Montgomery	Badin	220

### Description

This 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-age stand of loblolly pines that has numerous canopy gaps. Nests were built throughout the stand. The colony was estimated to contain 220 pairs compared to 180 pairs in 2007 and 180, 140, 185, 110 and 145 pairs in 2002, 2003, 2004, 2005, and 2006 respectively. An increasing number of pine trees within the stand are now dead. On 26 March, 2008 approximately 40% of pairs were incubating and the remaining pairs were building.

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



*Aerial views of Great Blue Heron colony GBH-05 (Photos 2006: B. Watts)*



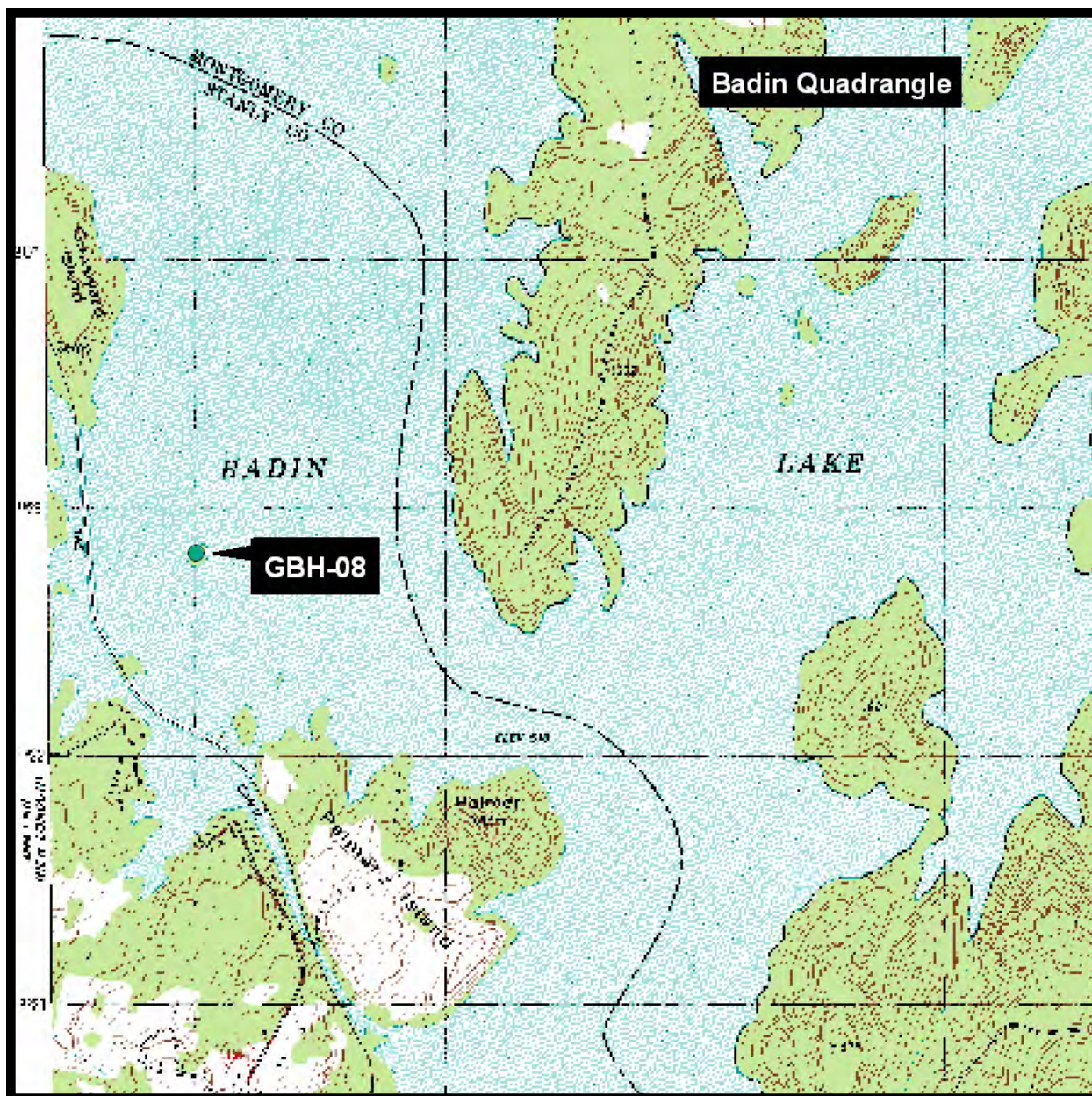
**GBH-08**

Code	County	Topo Quad	Pairs
GBH-08	Stanly	Badin	76

Description

This 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 26 March 2008 30% of pairs were incubating and remaining were building.

*Map location of Great Blue Heron colony GBH-08.*



*Aerial views of Great Blue Heron colony GBH-08 (Photos 2006: B. Watts)*



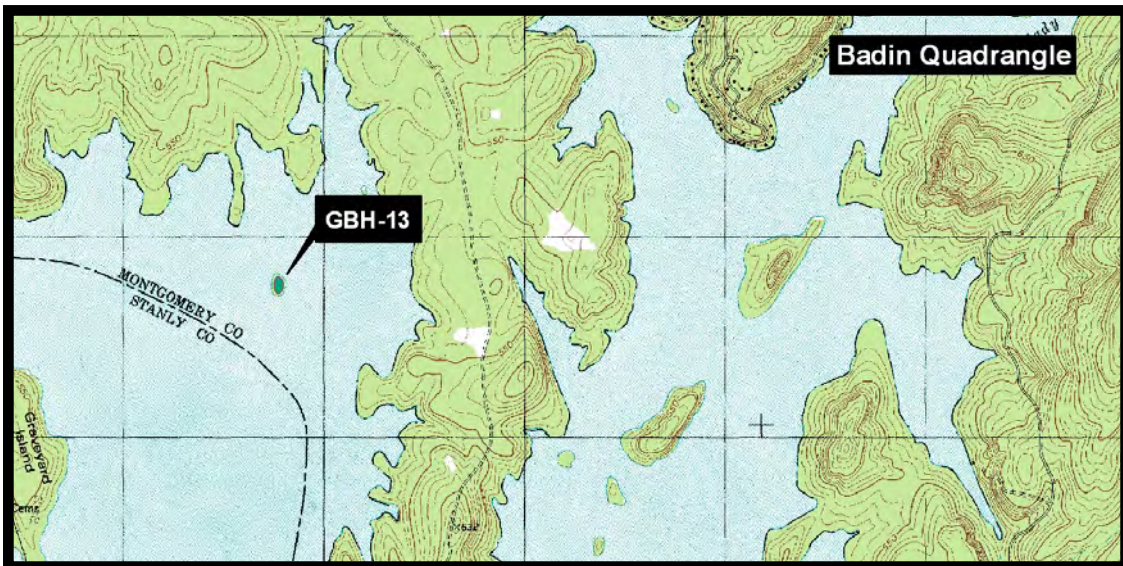
**GBH-13**

Code	County	Topo Quad	Pairs
GBH-13	Stanly	Badin	8

Description

This colony was located on a small forested island near the eastern shoreline of Badin Lake and northeast of Graveyard Island. The island is well isolated from shoreline. The forest was a mix of hardwoods and loblolly pines. Nests were scattered in loblolly pines throughout the center of the island. On 26 March 2008 all pairs were incubating. This island is also the location of a roost of Double-crested Cormorants.

*Map location of Great Blue Heron colony GBH-13.*



*Aerial view of Great Blue Heron colony GBH-13 (Photo 2008: B. Watts)*



## Falls Reservoir

### Bald Eagles

Two Bald Eagle nests were present along this waterway during 2008. One nest (ST-07-01) was located along an unnamed stream southeast of Badin and between routes 1704 and 1719. A second nest was located downstream on Morrow Mountain State Park. Due to the small size of this waterway, it is unlikely that more than one eagle pair could be accommodated.

#### NEST: ST-07-01

Nest Code	County	Topo Quad	Active Territory	Active Nest	Chicks Produced
ST-07-01	Stanly	Badin	Y	N	-----

#### Nest Location

The Bald Eagle nest within Falls Reservoir was located southeast of the community of Badin along an unnamed stream between routes 1704 and 1719. The nest was located within a stand of older oaks along a ravine. The nest has an extensive forest buffer on all sides and is not likely visible from any access points.

#### Nesting Activity

*Bird Activity* – On 26 March, 2008 no birds were detected within the nest area. The nest had a raccoon burrow within the center of the surface, a likely cause of abandonment. The active nest within this territory appears to be a replacement nest (ST-08-01).

*Nest Condition* – On 26 March, 2008 this nest was in good structural condition with no lining. The nest had a raccoon burrow in the center. The nest was of moderate size and similar to 2007.

#### Nest Substrate

*Substrate Type* – The nest was built in a live white oak tree. The tree was one of many older oaks in the forest stand. The tree was not supercanopy over the remaining stand but was even with other trees.

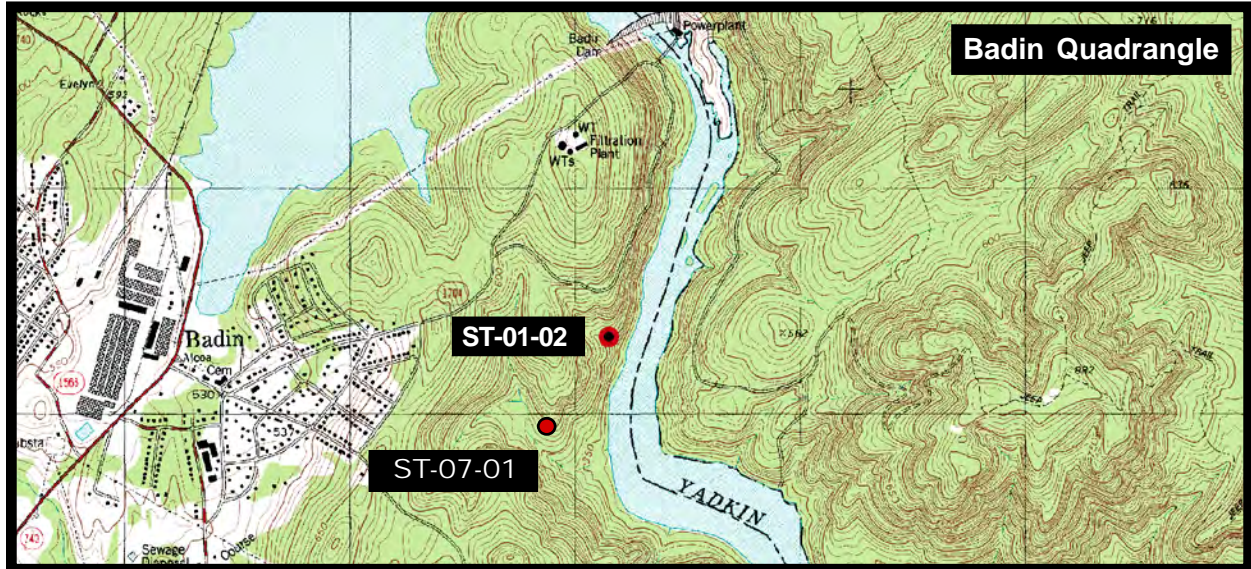
*Nest Position* – The nest was built in a deep crotch in a very low position under the tree crown. The extremely low position coupled with leaf out in May made the nest extremely difficult to see into during the second flight. Several passes were made in an attempt to view the nest surface.

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

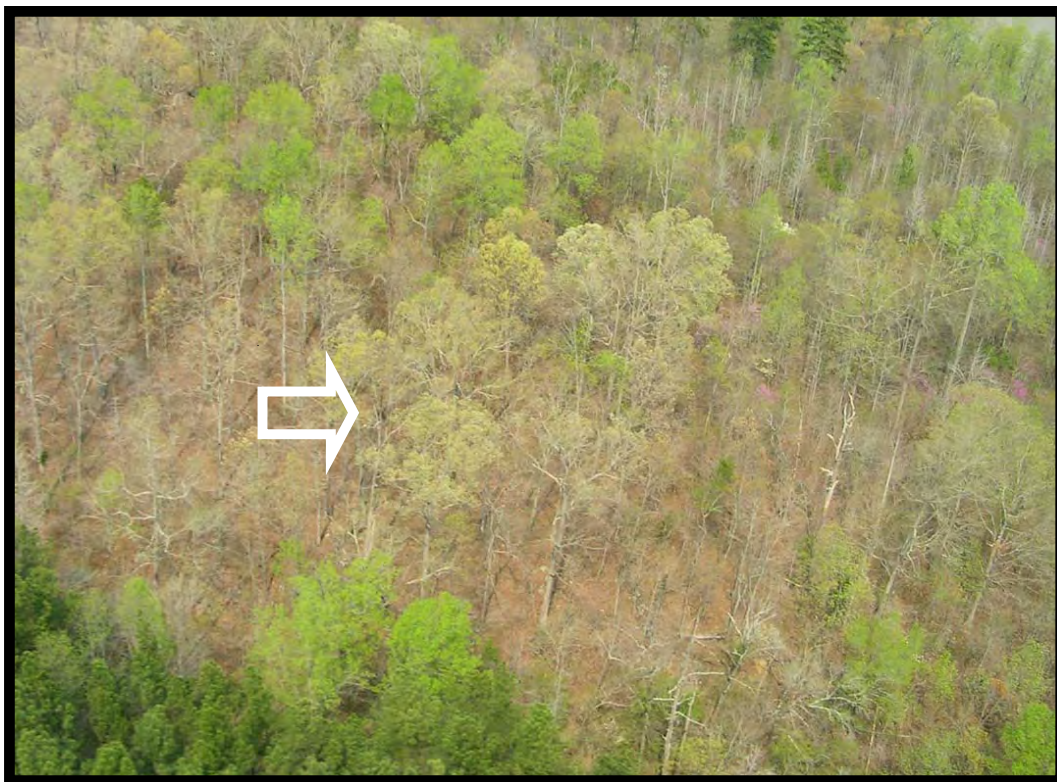
### Potential Disturbance

Nest tree was protected by a visual and structural buffer on all sides. Location is fairly remote and access is somewhat difficult from nearby roadway. Disturbance potential appears to be very limited.

### *Map location of Bald Eagle nest ST-07-01*



### *Aerial view of location of Bald Eagle nest ST-07-01 (Photo 2007: B. Watts)*



**NEST: ST-08-01**

<b>Nest Code</b>	<b>County</b>	<b>Topo Quad</b>	<b>Active Territory</b>	<b>Active Nest</b>	<b>Chicks Produced</b>
ST-08-01	Stanly	Badin	Y	Y	0

Nest Location

This nest was located within a stand of mixed 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.

Nesting Activity

*Bird Activity* – On 26 March, 2008 an adult was incubating and the second bird was not observed. On 6 May, 2008 the nest was empty and no adults were present.

*Nest Condition* – On 26 March, 2008 this nest was in good structural condition with a well-formed cup and lining. The nest was relatively shallow and appeared to be a first year nest.

Nest Substrate

*Substrate Type* – The nest was built in a supercanopy loblolly pine. The tree was one of several scattered older pines supercanopy over hardwoods.

*Nest Position* – The nest was built in a deep crotch in a very low position under the tree crown. The nest surface likely had only 10-20% sky exposure due to its low position.

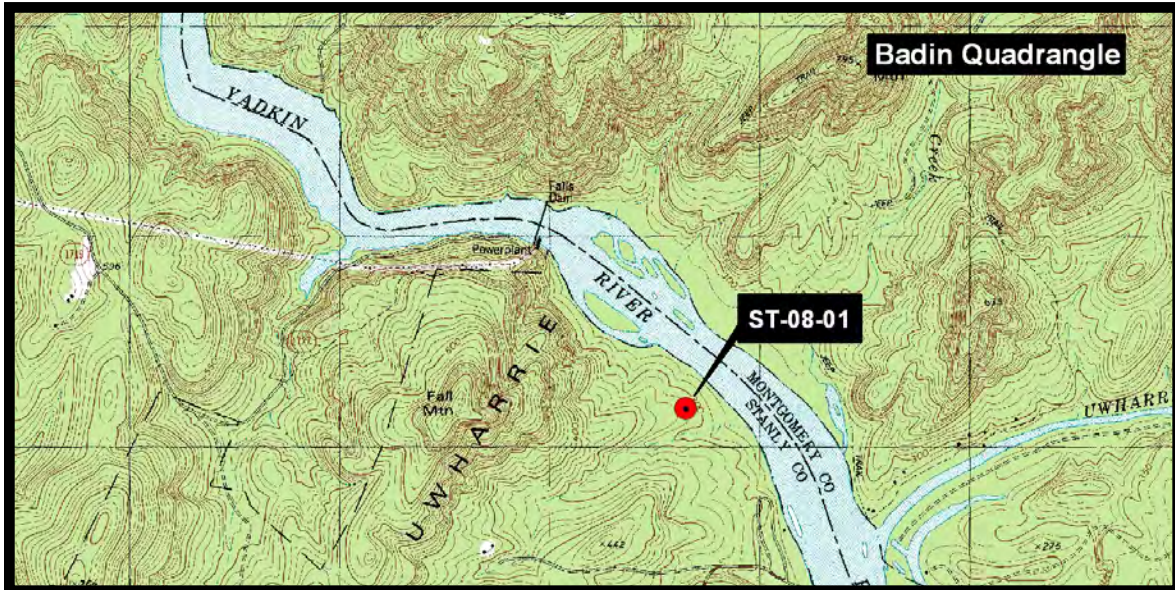
*Substrate Condition* – The nest tree was in good condition.

Potential Disturbance

Nest tree was protected by a forest buffer on all sides. However, the nest is likely visible from both the parking lot and the water during winter and from the water during summer. The nest is fairly close to a public parking lot that appears to receive considerable use. There is potential for human disturbance at this site.



Map location of Bald Eagle nest ST-08-01.



Aerial photos of nest ST-08-01 (photo 2008: B. Watts).



