

2011

An Assessment of the Bald Eagle and Great Blue Heron Breeding Populations Along High Rock, Tuckertown, Narrows, and Falls Reservoirs in Central North Carolina: 2011 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: 2011 BREEDING SEASON**



A COOPERATIVE PROJECT BY:
ALCOA POWER GENERATING INC.
&
CENTER FOR CONSERVATION BIOLOGY
COLLEGE OF WILLIAM AND MARY

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January, 2012

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Cover Photo: Great Blue Herons and Double-crested Cormorants share a nest tree.
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 136 pairs as of 2008.

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 2011 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 2011 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 16 March 2011.

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 3 May 2011.

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

Three Bald Eagle territories were observed to be occupied on High Rock Reservoir during 2011 surveys. The territory on upper Abbott's Creek had a single nest (DA-09-01). This nest contained a single chick early in the season but had been damaged during the spring and the chick appeared to have been lost. The territory on the upper end of High Rock Reservoir between Smith Grove and Trading Ford also had a single nest. Both previous nests within this territory were completely gone. The large white oak containing nest DA-01-01 was dead but the nest was active. The new nest (RO-10-01) in the territory between St. Matthews Church and Panther Creek had a bird attending but was not productive. The older nest (RO-02-01) had been reduced to a 1/3 remnant.

NEST: DA-01-01

Nest Code	County	Topo Quad	Active Territory	Active Nest	Chicks Produced
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. The nest tree is recessed within the tree cluster such that it is difficult to observe the nest except from directly above. Nest is likely visible from the water within adjacent cove.

Nesting Activity

Bird Activity – On 16 March, 2011 an adult was observed on the nest feeding 2 small chicks. Chicks were less than 7 days old. On 3 May, 2011 2 chicks were standing in nest and one adult was perched in the crown of the nest tree.

Nest Condition – Nest structure is of moderate size. On 16 March, 2011 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.

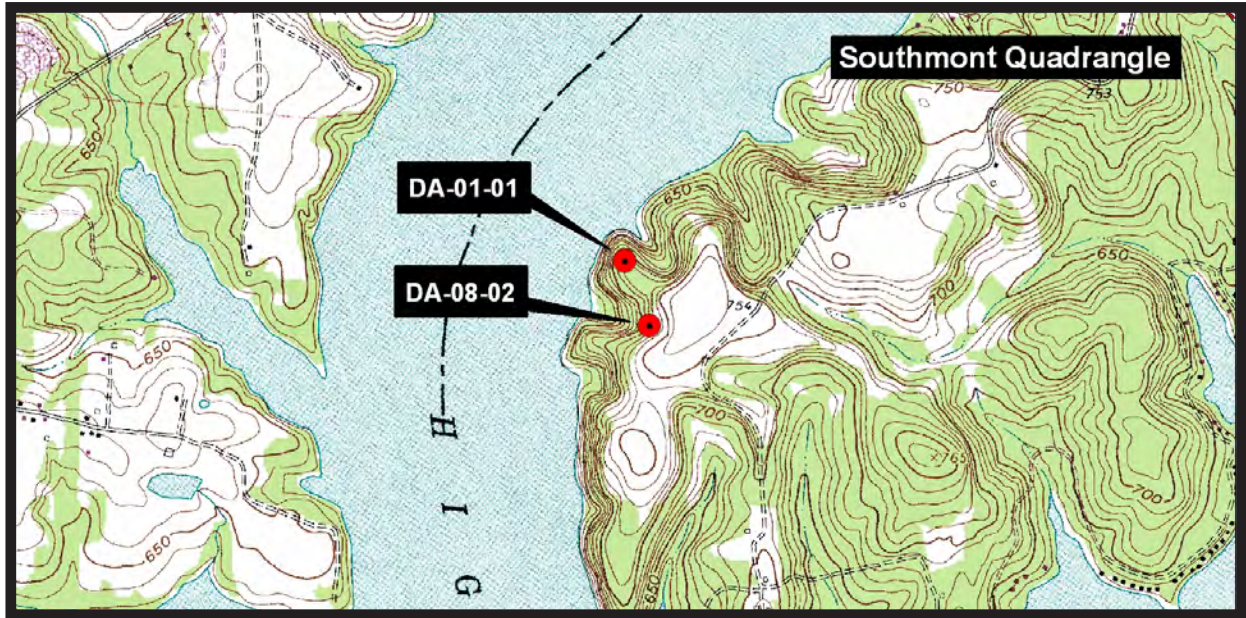
Nest Position – Nest is positioned in a deep stable crotch. Nest tree is on a knoll and in a supercanopy position above surrounding trees. Nest tree is in a commanding position on the landscape. Nest has large deciduous crown above such that sky exposure is <20%.

Substrate Condition – During the second flight in 2009, it appeared that the tree had been hit by lightning and was dying. During the first flight of 2011 the tree was clearly dead and had lost many branches from the crown.

Potential Disturbance

Nest is easily visible before leaf out. However, after leaves emerge, nest has a good visual buffer on all sides. 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 considerable buffer on upland side. Disturbance potential appears to be limited.

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



Aerial photos of nest DA-01-01 (photo 2011; B. Watts)



NEST: DA-09-01

Nest Code	County	Topo Quad	Active Territory	Active Nest	Chicks Produced
DA-09-01	Davidson	Southmont	Y	Y	0

Nest Location

This nest was located along the shoreline of Abbotts Creek east of the community of Cotton Grove and southwest of nest DA-08-01. The nest tree was isolated within a recently cleared area and was likely left because of the nest. The tree is near a new logging road. It may be visible from NC Route 3 and from the water.

Nesting Activity

Bird Activity – On 16 March, 2011 1 chick approximately 28 days old was observed in the nest and a single adult was perched in the nest tree. The second adult was not observed. On 3 May, 2011 the nest had been damaged in a spring storm and no birds were present. Given the age of the chick during the first flight it could not have fledged before the nest was damaged.

Nest Condition – The nest was built on lateral limbs surrounding a single leader. The nest was of moderate size for this limb configuration. On 16 March, 2011 the nest was in good structural condition with a well-formed but shallow cup and had a fresh lining. On 3 May, 2011 the nest had suffered wind damage and was hanging at an angle with nest material visible below the crotch. No chicks were present.

Nest Substrate

Substrate Type – Nest was built in a thin loblolly pine tree. The tree was isolated within a recent clearcut as if it had been left due to the nest. The tree appeared to be in good condition.

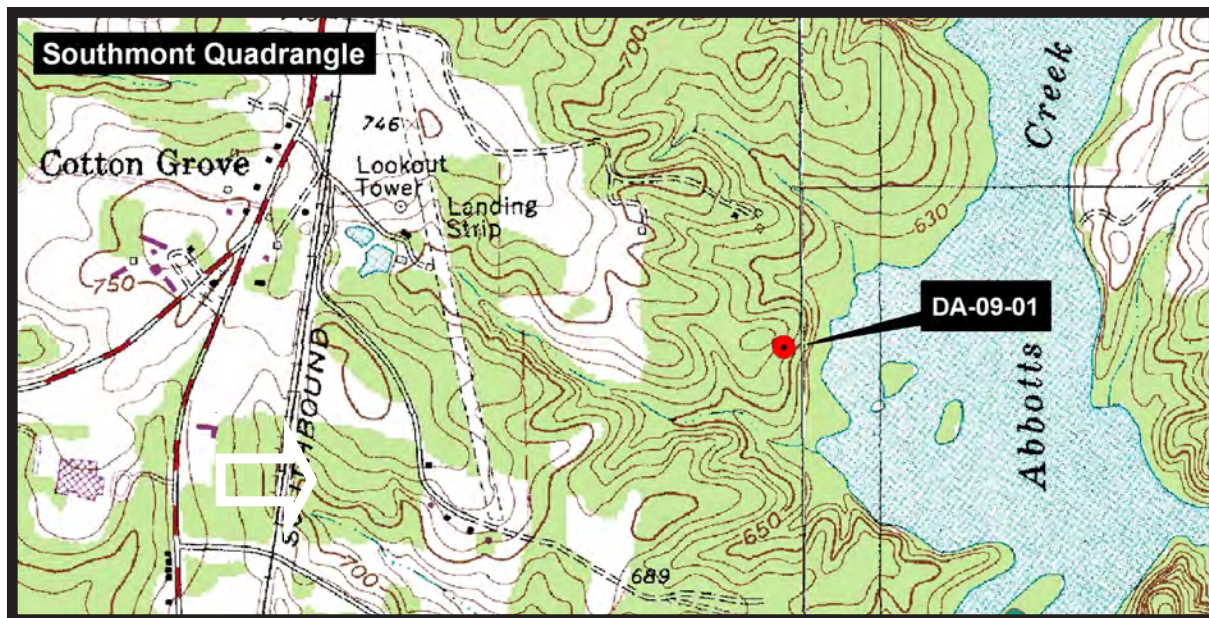
Nest Position – The nest was built on a whirl of lateral limbs around a single leader. The nest was under a full canopy such that sky exposure was less than 20%.

Substrate Condition – Nest tree was in good condition. Because of clearing of surrounding trees it may be subject to wind throw in the future.

Potential Disturbance

The nest is isolated within a recent clearcut and is accessible by a new logging road. There was no evidence of ongoing logging activity when flights were flown. The nest is likely visible from the water and from North Carolina Route 3.

Map location of Bald Eagle nest DA-09-01.



Aerial photos of nest DA-09-01 (photos 2011; B. Watts)



NEST: RO-02-01

Nest Code	County	Topo Quad	Active Territory	Active Nest	Chicks Produced
RO-02-01	Rowan	Gold Hill	Y	N	-----

Nest Location

This nest was located within a clearcut along the south shoreline of High Rock Reservoir between St. Matthews Church and Panther Creek and north of Bringle Ferry Road. The tree was isolated within a regenerating clearcut. The tree may not be visible from the water due to a pine buffer along the shoreline. The tree was first documented to be used for nesting in 2002 was later blown out and rebuilt in 2009.

Nesting Activity

Bird Activity – On 16 March, 2011 there were no birds present around the nest and the nest had not been worked. Birds were present across the clearcut in the 2010 nest with chicks.

Nest Condition – The nest had been reduced to a 1/3 remnant and there was no obvious new work.

Nest Substrate

Substrate Type – Nest was built in an isolated loblolly pine tree. The tree was isolated within a young regenerating pine stand. The tree appeared to be in good condition.

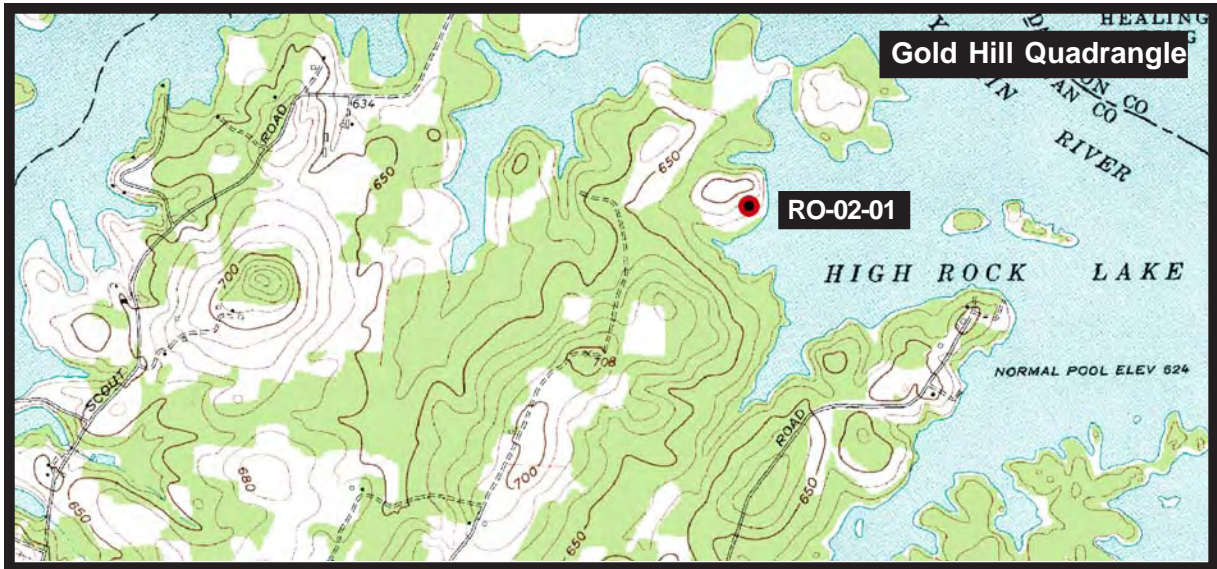
Nest Position – The nest was built on the surface of a pine crown where the crown had received some previous damage. There was no overhanging canopy such that the nest had 100% sky exposure.

Substrate Condition – Nest tree was in good condition.

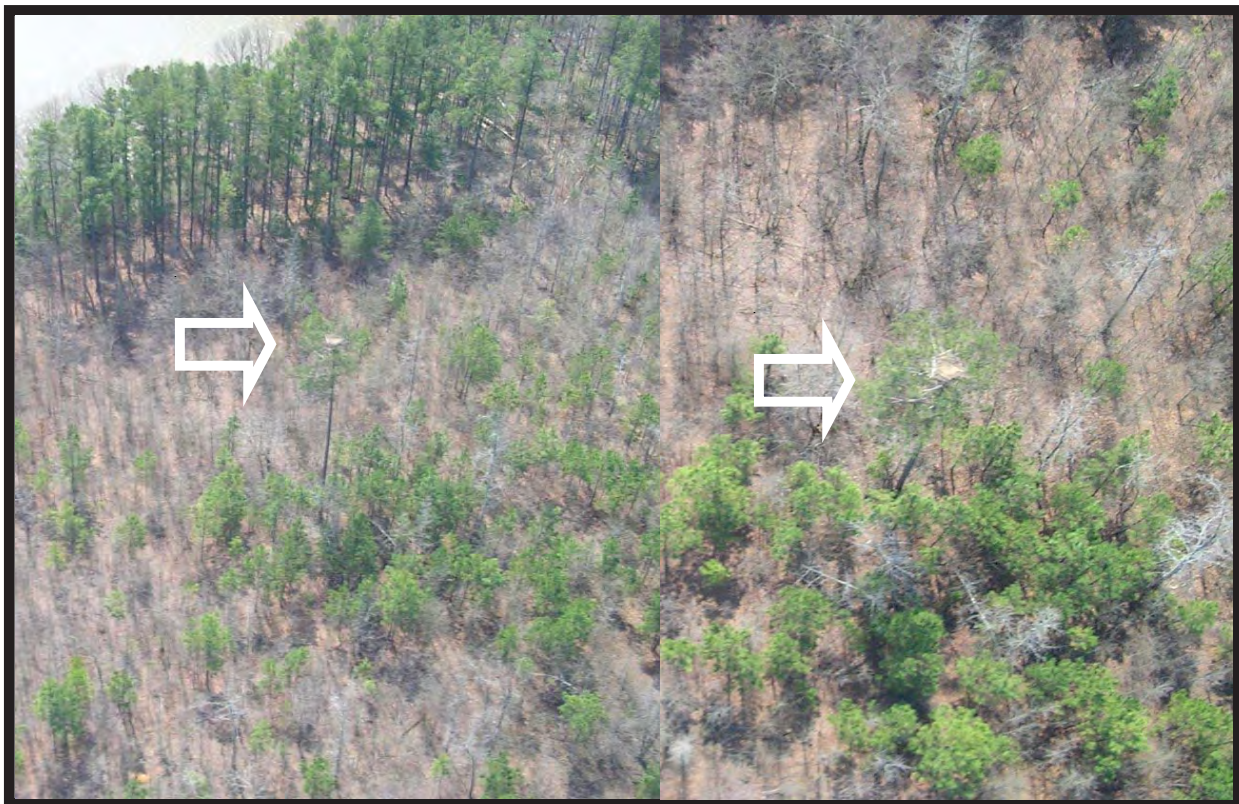
Potential Disturbance

The nest tree was isolated in a fairly recent clearcut. 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-02-01.



Aerial photos of nest RO-02-01 (photo 2009; B. Watts)



NEST: RO-10-01

Nest Code	County	Topo Quad	Active Territory	Active Nest	Chicks Produced
RO-10-01	Rowan	Gold Hill	Y	Y	0

Nest Location

This nest was located along the edge of a clearcut within a buffer strip of loblolly pines between the clearcut and the water. The nest is between St. Matthews Church and Panther Creek northwest and across the clearcut from 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 16 March, 2011 there was a single adult on the nest incubating. On 3 May, 2011 no birds were present and the nest was empty. Breeding attempt failed.

Nest Condition – On 16 March, 2011 the nest was in good structural condition and had a well-developed cup and lining. On 3 May, 2011 the nest was still in good condition and did not appear to have sustained any wind damage.

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,

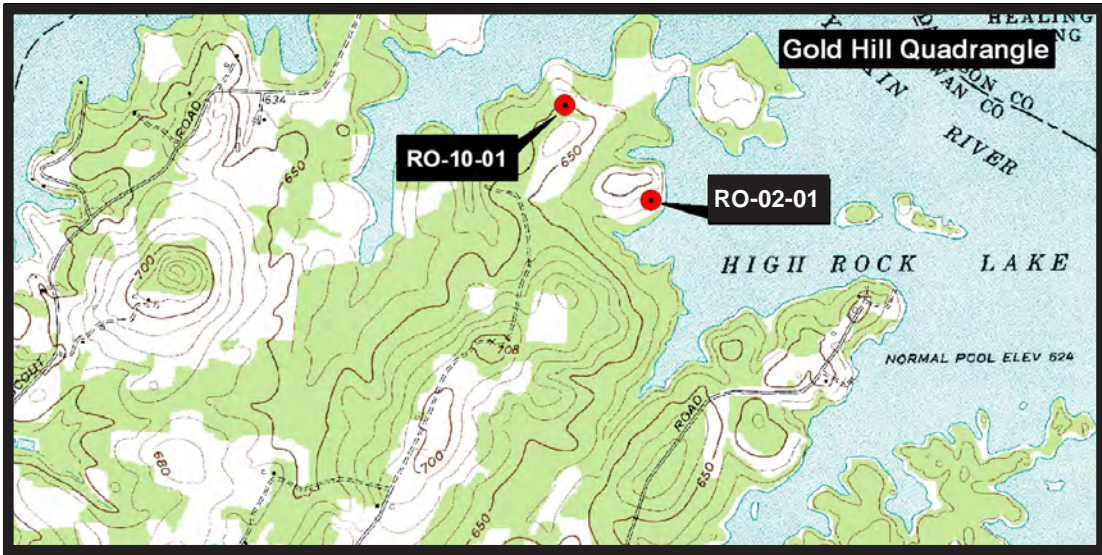
Nest Position – The nest was built in a top crotch of a young loblolly pine. Although the nest was near the crown, it was shaded with only 30-40% sky exposure.

Substrate Condition – Nest tree was in good condition.

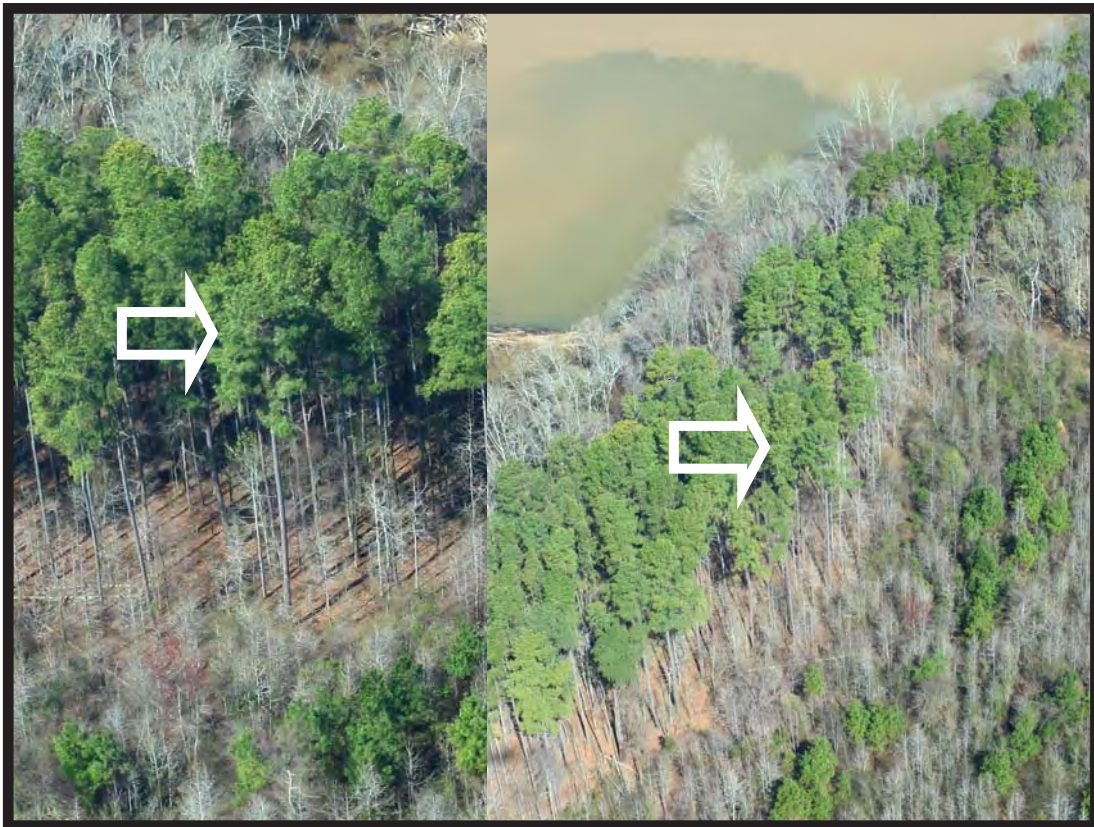
Potential Disturbance

The nest tree was along the edge of a fairly recent clearcut. 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 photos of nest RO-10-01 (photo 2010; B. Watts)



Great Blue Herons/Great Egrets

Eight 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 ninth colony that was active in 2006 and 2007 was not active. Colony size ranged from 6 to 240 pairs. Total population estimate for this reservoir was 497 breeding pairs. For the eighth 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 48 breeding pairs.

GBH-01

Code	County	Topo Quad	Pairs
GBH-01	Davidson	Southmont	56 Great Blue Heron

Description

This Great Blue Heron 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 16 March, 2011, 56 pairs of Great Blue Herons were counted with 50% incubating and the remainder building. No Great Egrets were detected in the colony on either 16 March or 3 May, 2011. Over the past four years the island has become a significant roost site for Double-crested Cormorants.

Map location of Great Blue Heron colony GBH-01



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



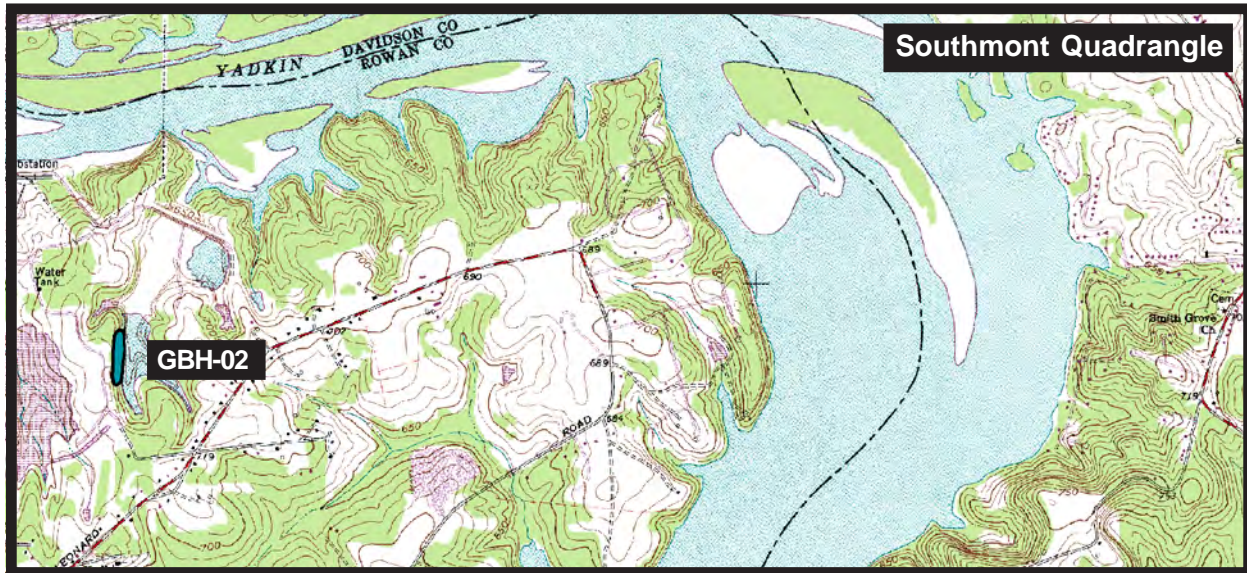
GBH-02

Code	County	Topo Quad	Pairs
GBH-02	Rowan	Southmont	240 GBHE, 48 GREG

Description

This mixed Great Blue Heron and Great Egret 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 16 March, 2011 75% of Great Blue Herons were incubating and the remaining 25% were building nests. Great Egrets were nesting in the core of the subcolony occupying the pure pine stand. On 16 March, 2011 4 egret pairs were present within the colony. On 3 May, 2011 48 pairs were incubating.

Map location of Great Blue Heron and Great Egret Colony Colony GBH-02



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



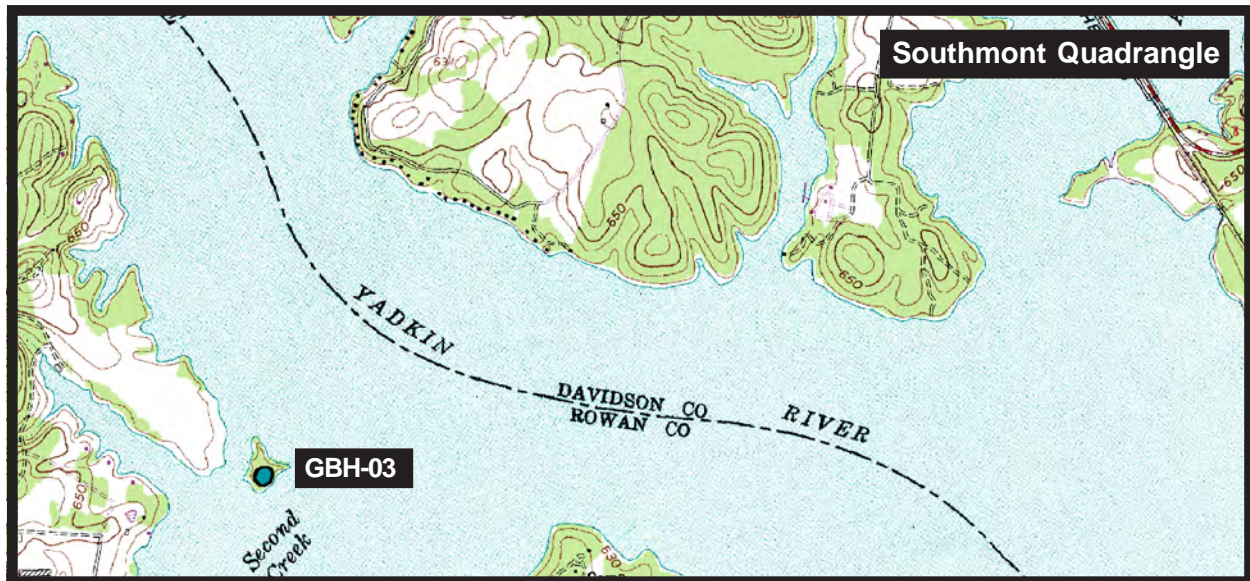
GBH-03

Code	County	Topo Quad	Pairs
GBH-03	Rowan	Southmont	58 Great Blue Heron

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. 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 to 75 nests in 2008 to 87 nests in 2009, 92 nests in 2010, and 58 nests in 2011. On 16 March, 2011 90% of pairs were incubating and 10% 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

Code	County	Topo Quad	Pairs
GBH-06	Rowan	Southmont	55 Great Blue Heron

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 16 March 2011 there were 55 nesting pairs present compared to 58 pairs in 2010, 55 pairs in 2009, 59 pairs in 2008, 68 pairs in 2007, 73 pairs in 2006. An estimated 70% were incubating and 30% were building nests.

Map location of Great Blue Heron colony GBH-06



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

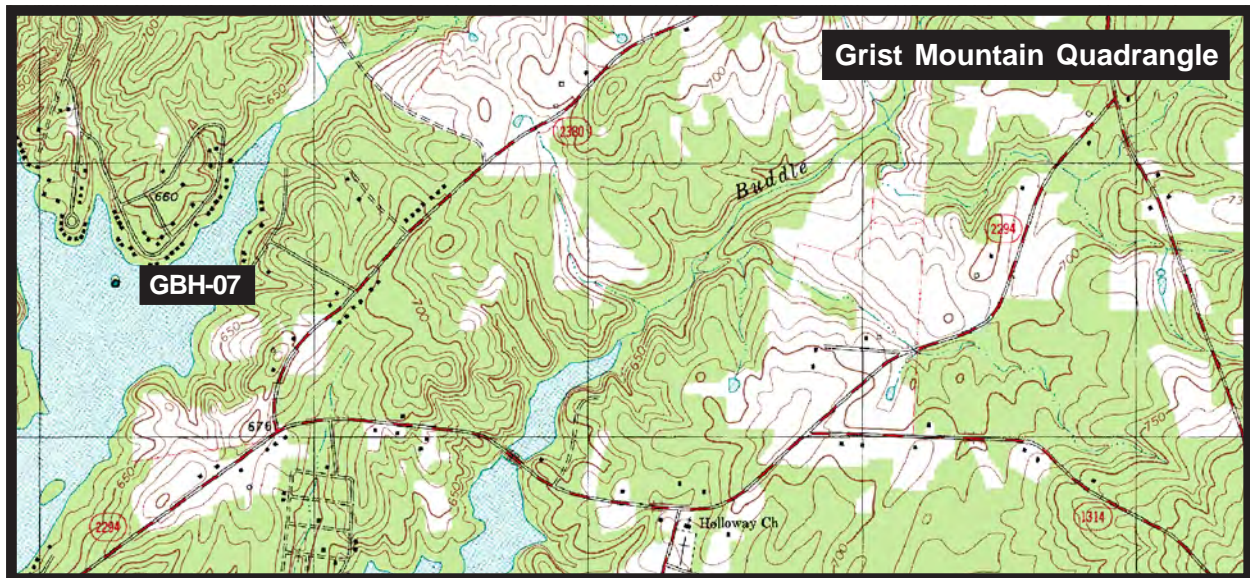


GBH-07

Code	County	Topo Quad	Pairs
GBH-07	Rowan	Grist Mountain	42 Great Blue Heron

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 16 March 2010 there were 42 pairs nesting on the island. An estimated 60% of pairs were incubating.

Map location of Great Blue Heron colony GBH-07

Aerial view of Great Blue Heron colony GBH-07 (Photo 2011; B. Watts)



GBH-10

Code	County	Topo Quad	Pairs
GBH-10	Davidson	Southmont	0

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 16 March and later on 3 May, 2011 no birds or nests were remaining in this site.

Map location of Great Blue Heron colony GBH-10.



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



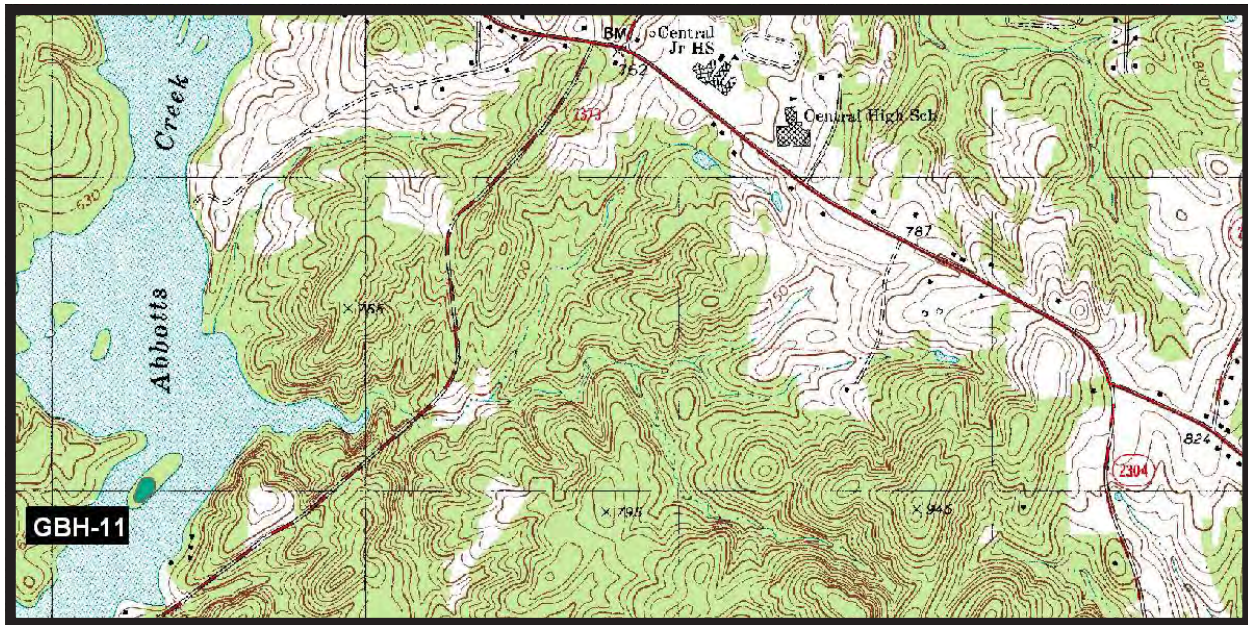
GBH-11

Code	County	Topo Quad	Pairs
GBH-11	Davidson	Grist Mountain	28 Great Blue Heron

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 16 March 2011 there were 28 pairs nesting on the island. An estimated 60% of pairs were incubating and the remainder were building.

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)

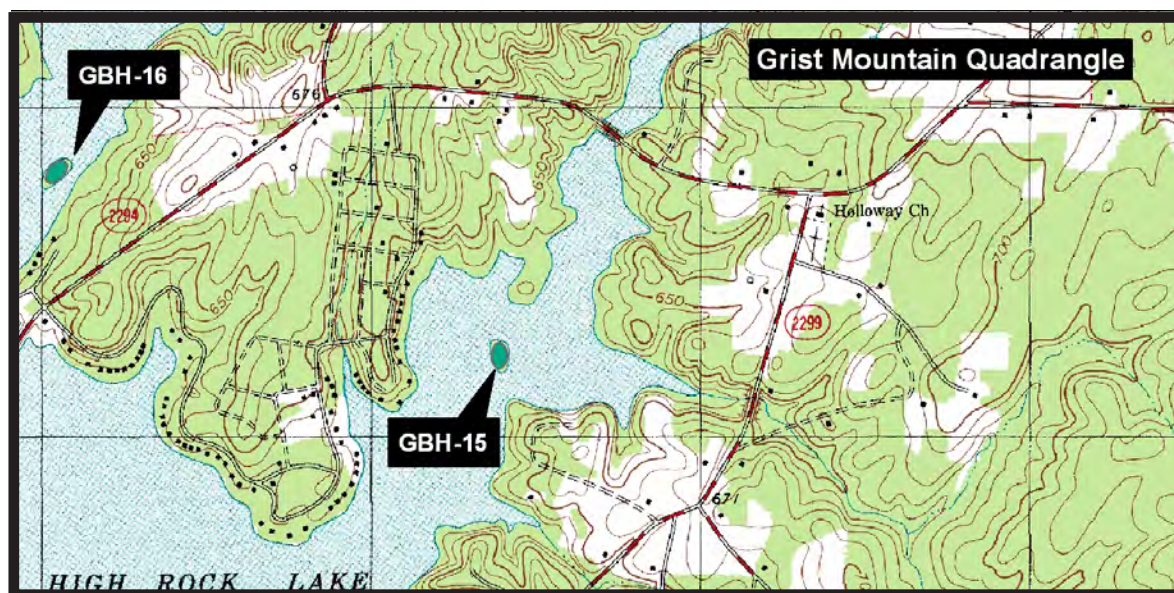
GBH-15

Code	County	Topo Quad	Pairs
GBH-15	Davidson	Grist Mountain	6 Great Blue Heron

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 16 March 2011 there were 6 pairs nesting on the island. All pairs were building.

Map location of Great Blue Heron colony GBH-15.



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



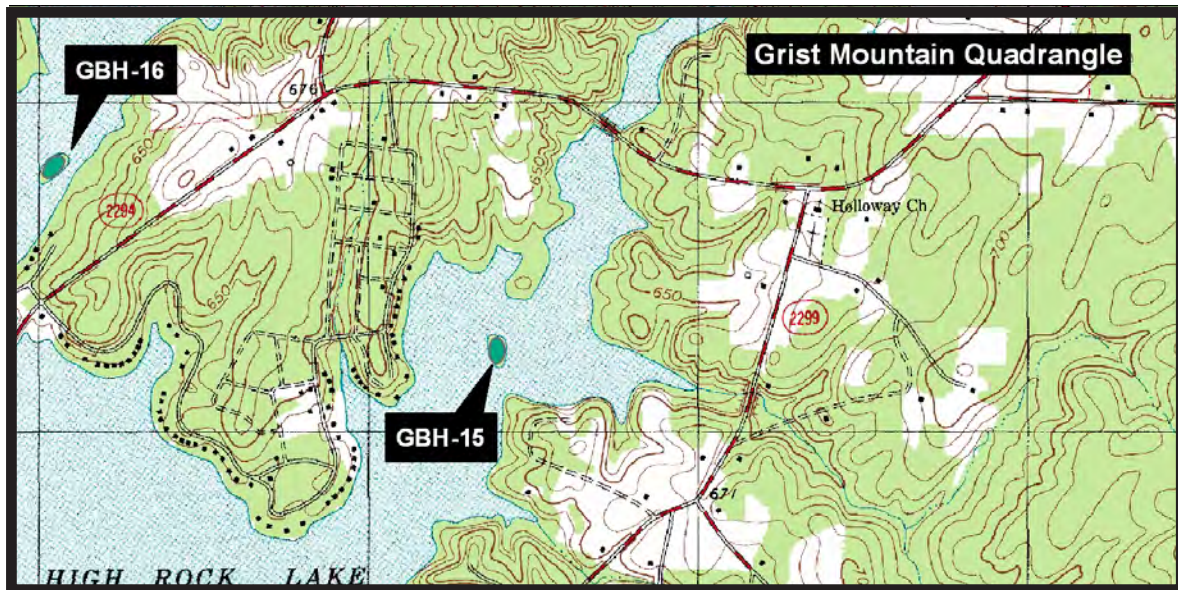
GBH-16

Code	County	Topo Quad	Pairs
GBH-16	Davidson	Grist Mountain	12 Great Blue Heron

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 16 March 2011 there were 12 pairs nesting on the island. All pairs were incubating.

Map location of Great Blue Heron colony GBH-16.



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



Tuckertown Reservoir

Bald Eagles

A single Bald Eagle territory was occupied within the Tuckertown Reservoir system for the tenth year. The old nest (RO-02-02) was absent but the 2010 nest (DA-10-01) was active.

NEST: RO-02-02

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

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 – No birds were observed in the vicinity of the nest on either 16 March or 3 May, 2011. The nest had been completely blown out with no remnant remaining.

Nest Condition – The nest was damaged in a wind storm in 2008. On 16 March, 2011 the nest was completely absent.

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.

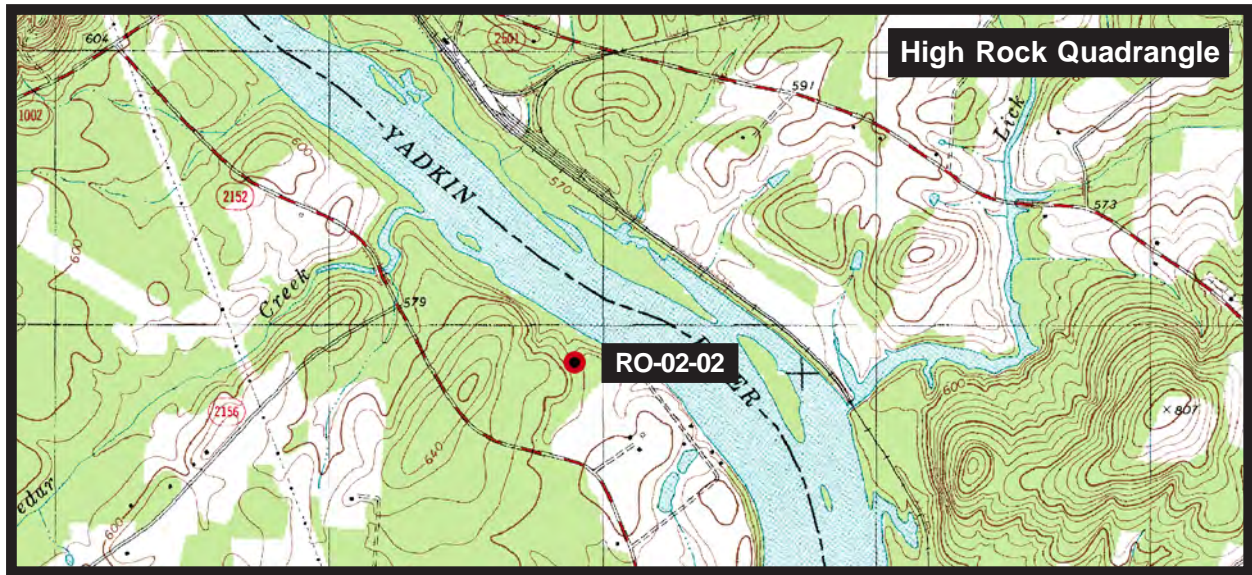
Nest Position – Nest was positioned in a top crotch deep below the crown. This configuration is the most common and apparently most stable position for eagle nests. Nest was under large crown with less than 20% sky exposure.

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)



NEST: DA-10-01

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

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 – An adult was perched in the nest tree and 3 chicks approximately 28 days old were in the nest on 16 March, 2011. On 3 May, 2011 3 chicks were in the nest and an adult was perched along the shoreline.

Nest Condition – The nest was shallow, consistent with a first-year nest but was in good structural condition. On 16 March, 2011 the nest had a visible lining and 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.

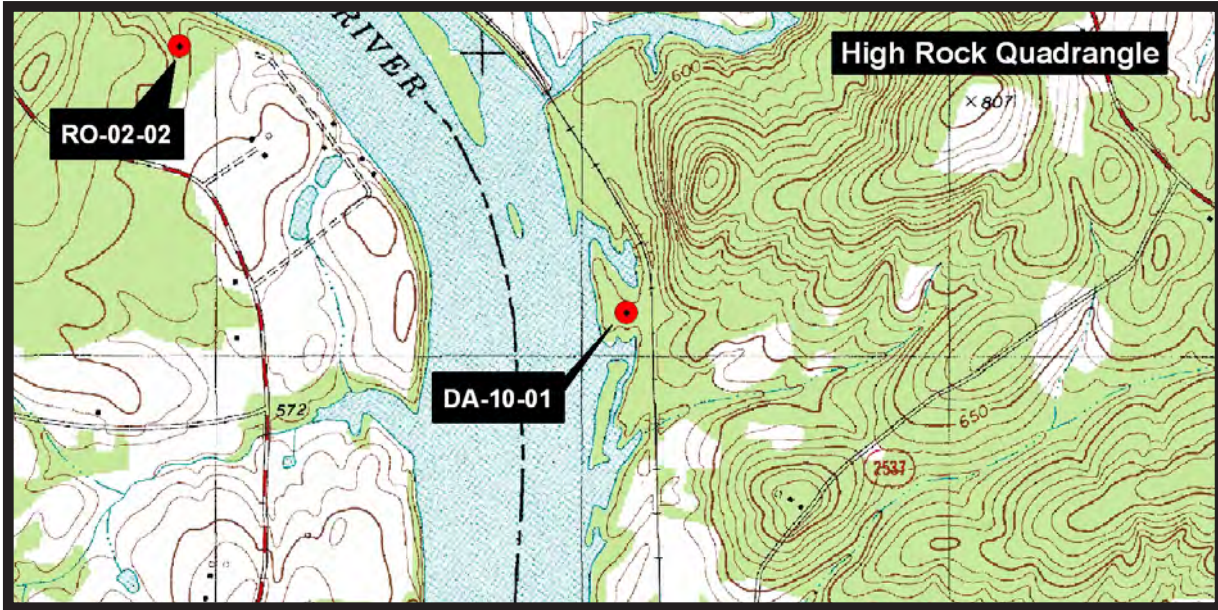
Nest Position – Nest was positioned on side limbs up against the main trunk and down below the crown. Nest had greater than 50% sky exposure.

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

Potential Disturbance

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 view of Bald Eagle nest DA-10-01 (Photo 2011; 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. Total population estimate for this reservoir is 180 pairs of Great Blue Herons and 22 pairs of Great Egrets.

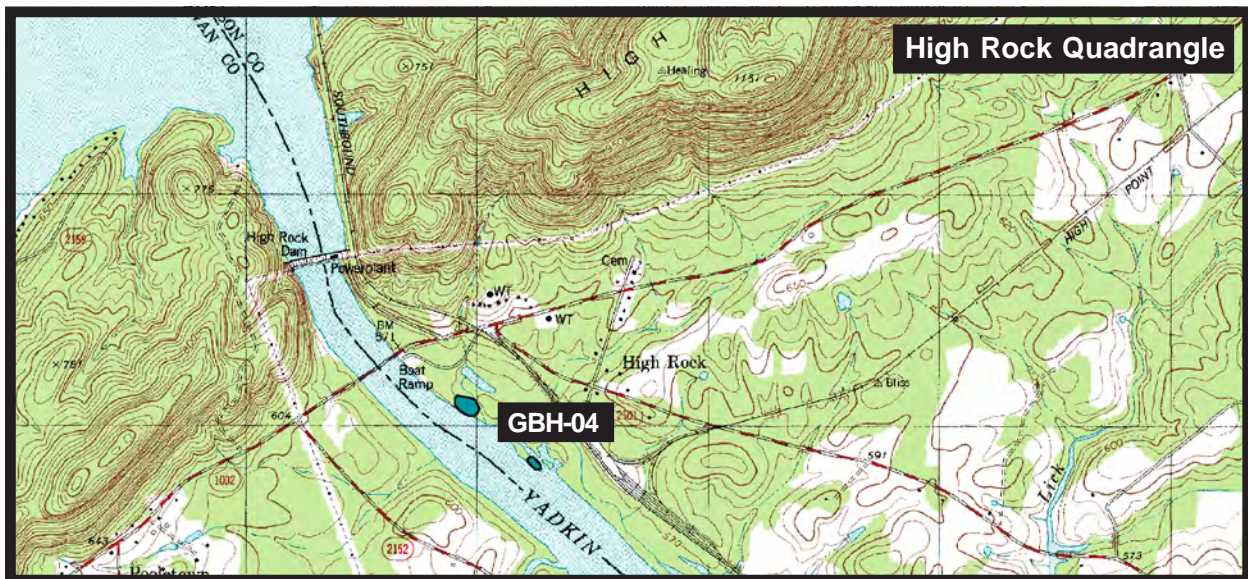
GBH-04

Code	County	Topo Quad	Pairs
GBH-04	Davidson	High Rock	180 GRHE, 22 GREG

Description

This mixed Great Blue Heron and Great Egret 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 145 pairs of Great Blue Herons and 22 pairs of Great Egrets and was within the pines along the shoreline. The second sub-colony was on the island and contained 35 pairs of Great Blue Herons. On 16 March 2011 80% of Great Blue Herons were incubating and no pairs of Great Egrets were present. On 3 May, 2011 22 pairs of Great Egrets were incubating.

Map location of Great Blue Heron colony GBH-04



Aerial view of location of Great Blue heron colony GBH-04 (Photo 2011: B. Watts)



Narrows Reservoir

Bald Eagles

Two Bald Eagle nests were located along the shoreline of Narrows Reservoir including 1 on Uwharrie National Forest and 1 just Northeast of Tuckertown Dam.

MO-03-01

Nest Code	County	Topo Quad	Active Territory	Active Nest	Chicks Produced
MO-03-01	Montgomery	Badin	Y	Y	1

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 16 March, 2011 a single adult was standing on an empty nest. On 3 May, 2011 an adult was attending a single chick estimated to be 12 days old. It is likely that this pair made an early attempt that failed and then recycled to produce a late chick.

Nest Condition – Nest structure is of moderate size and similar in appearance to 2005 -2010. On 16 March, 2011 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.

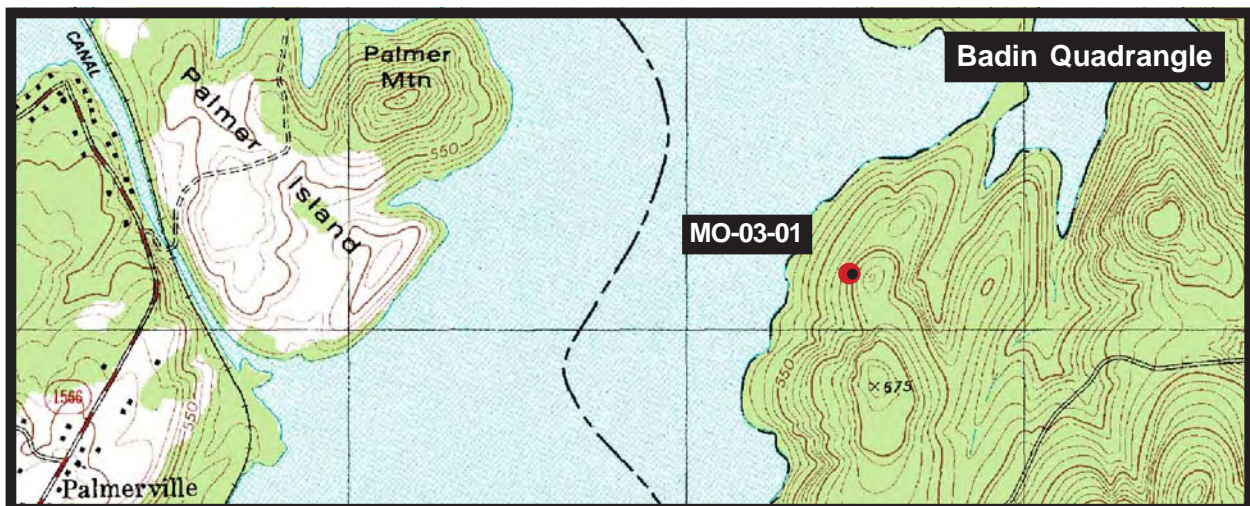
Nest Position – Nest is positioned on a lateral limb up against the trunk. Crown limbs are fairly sparse such that sky exposure was 70%.

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 nest MO-03-01 (Photos 2011: B. Watts)



NEST: MO-11-01

Nest Code	County	Topo Quad	Active Territory	Active Nest	Chicks Produced
MO-11-01	Montgomery	New London	Y	N	-----

Nest Location

This nest was located within a thinned stand of old pine northeast of the Tuckertown Dam. The nest tree is on high ground above the reservoir but below and east of the main bluff. The tree is not likely visible from the water but may be reached from a dirt road.

Nesting Activity

Bird Activity – On 16 March, 2011 there was a single adult along the shoreline but no birds attending the nest. No birds were detected on 3 May, 2011.

Nest Condition – On 16 March, 2011 the nest was in fair structural condition and had a well-developed cup but poor lining. On 3 May, 2011 the nest was unchanged with no additional work.

Nest Substrate

Substrate Type – Nest was built in a loblolly pine that was isolated within a scattered stand. The tree and nest had good crown access from all sides.

Nest Position – The nest was built on a lateral array of limbs against the primary leader. The nest was low in the tree but had about 50% sky exposure.

Substrate Condition – Nest tree was in good condition.

Potential Disturbance

The nest tree was in a stand of older loblollies that had been thinned. The site is not visible from the water. There is a dirt road running through the stand that would provide access to the tree. It is not clear if the nest is visible from that road.

Map location of Bald Eagle nest MO-11-01.



Aerial photos of nest MO-11-01 (photo 2011; B. Watts)



Great Blue Herons/Great Egrets

Four colonies of breeding Great Blue Herons were detected within Narrows Reservoir during 2011. This includes two colonies on islands at the confluence of Beaverdam and Reynolds Creeks and a third on an island between Graveyard Island and Palmer Island and the fourth on an island northeast of Graveyard Island. Total population estimate for this reservoir was 296 pairs. For the third year, Great Egrets were discovered nesting on this reservoir. Five Great Egret pairs nested within GBH-05. For the second time within the entire reservoir system 83 Double-crested Cormorants were found nesting in GBH 8.

GBH-05

Code	County	Topo Quad	Pairs
GBH-05	Montgomery	Badin	185 GRHE, 5 GREG

Description

This mixed Great Blue Heron and Great Egret 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 185 pairs of Great Blue Herons and 5 pairs of Great Egrets. On 16 March, 2011 approximately 90% of Great Blue Heron pairs were incubating and 2 Great Egret pairs were building. On 3 May, 2011 5 pairs of Great Egrets were incubating within the colony.

Map location of Great Blue Heron colony GBH-05



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



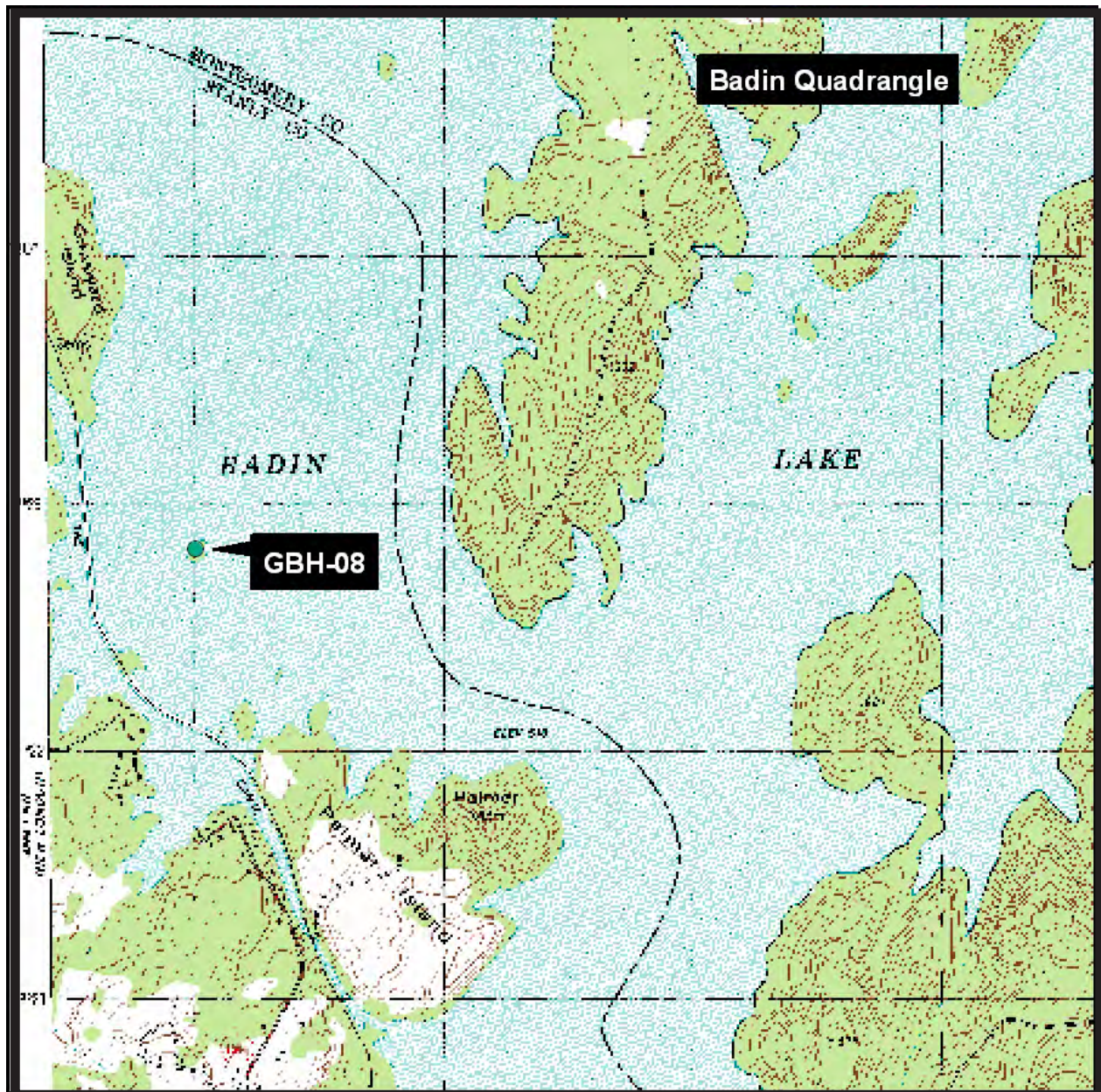
GBH-08

Code	County	Topo Quad	Pairs
GBH-08	Stanly	Badin	95 GRHE, 83 DCCO

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 16 March 2011 50% of pairs were incubating and remaining were building. On 3 May, 2011 83 pairs of Double-crested Cormorants were found nesting within the colony. All pairs were incubating.

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



Aerial views of Great Blue Heron and Double-crested Cormorant colony GBH-08 (Photos 2011: B. Watts)



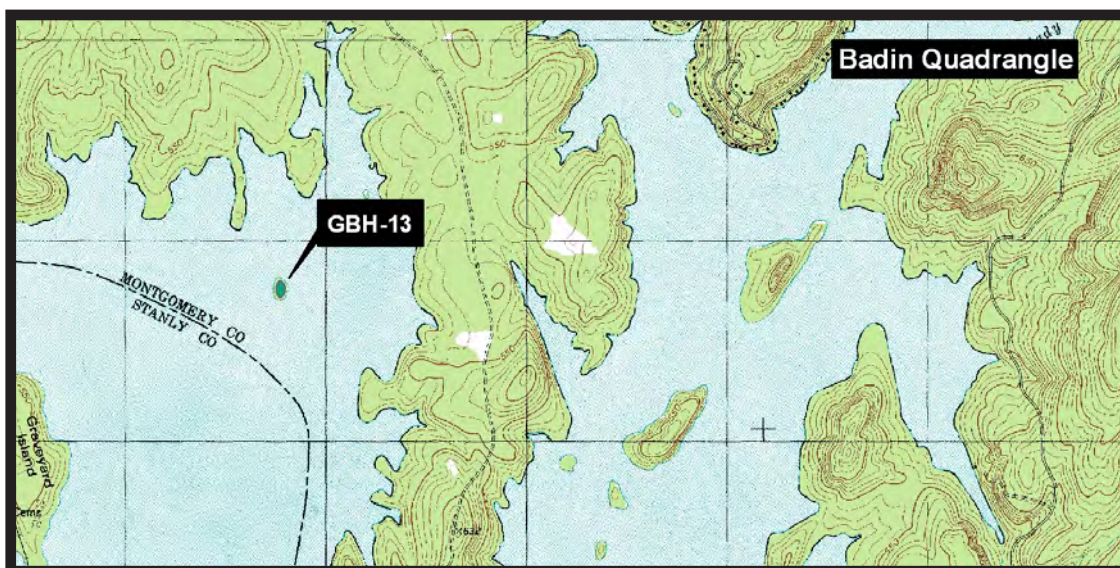
GBH-13

Code	County	Topo Quad	Pairs
GBH-13	Stanly	Badin	6 Great Blue Heron

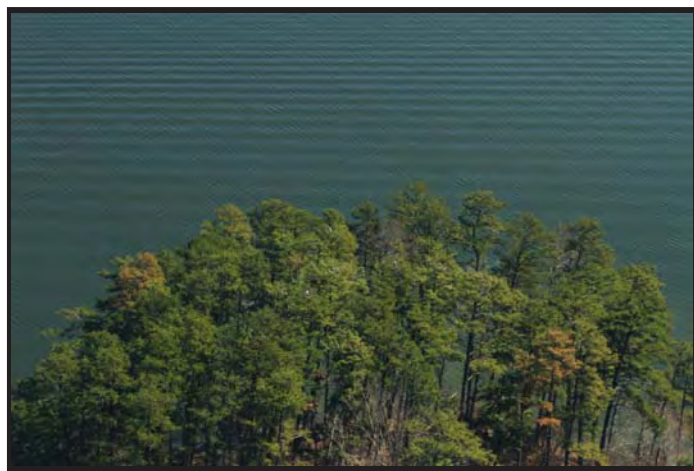
Description

This Great Blue Heron 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 16 March 2011 all pairs were building.

Map location of Great Blue Heron colony GBH-13.



Aerial view of Great Blue Heron colony GBH-13 (Photo 2011: B. Watts)



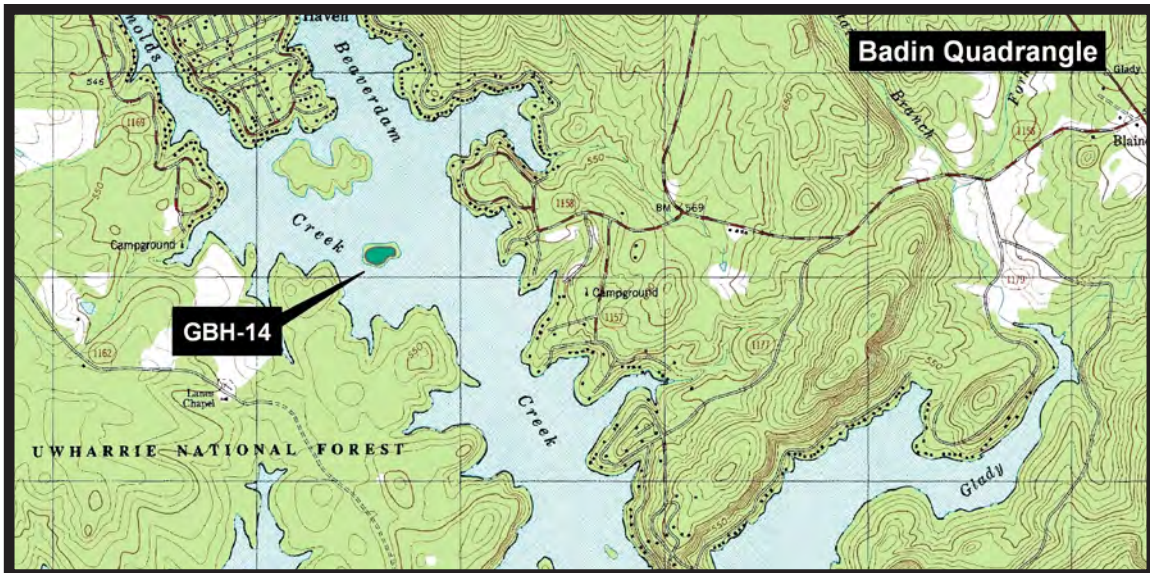
GBH-14

Code	County	Topo Quad	Pairs
GBH-14	Montgomery	Badin	10 Great Blue Heron

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 but in two clusters. On 16 March 2011 50% of pairs were incubating.

Map location of Great Blue Heron colony GBH-14.



Aerial view of Great Blue Heron colony GBH-14 (Photo 2009: B. Watts)



Falls Reservoir

Bald Eagles

Two Bald Eagle nests were present along this waterway during 2011. The nest (ST-07-01) in a white oak below the dam was completely gone. The replacement nest (ST-08-01) was present but not used. The newer nest (ST-10-01) was active.

NEST: ST-08-01

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

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 16 March and 3 May, 2011 no birds were associated with this nest.

Nest Condition – On 16 March, 2011 this nest was present but had been reduced to 1/2 size. There was no recent maintenance activity apparent.

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.

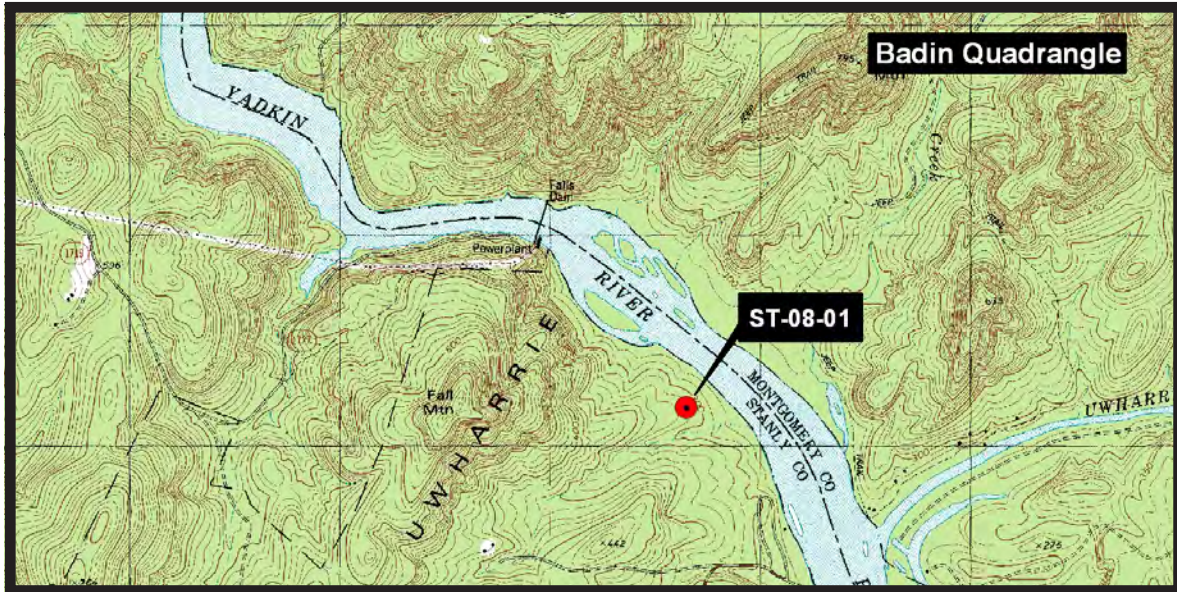
Nest Position – The nest was built in a deep crotch in a very low position under the tree crown. The nest surface likely had only 10-20% sky exposure due to its low position.

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.



Two different aerial views of nest ST-08-01 (photo 2008, 2011: B. Watts).



NEST: ST-10-01

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 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 16 March, 2011 an adult was standing on the nest with 2 chicks approximately 14 days old. On 3 May, 2011 2 chicks were in the nest and a single adult was perched in the tree crown.

Nest Condition – On 16 March, 2011 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 in a cluster of similar sized trees.

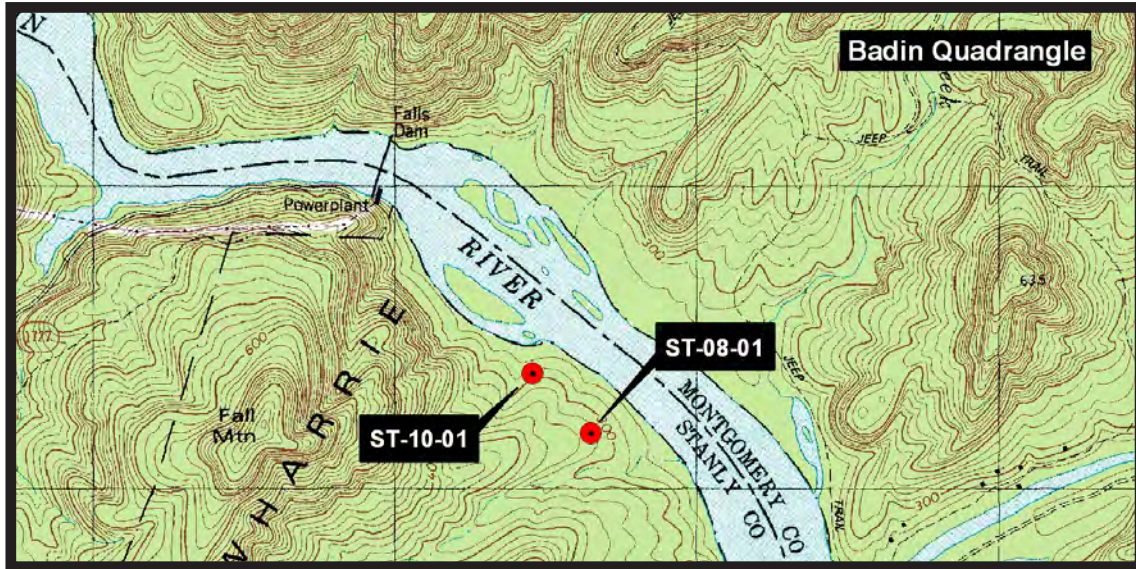
Nest Position – The nest was built in a spray of limbs surrounding a single-leader top. The nest surface had less than 30% sky exposure.

Substrate Condition – The nest tree was in good condition.

Potential Disturbance

Nest tree was protected by a forest buffer on all sides. The nest is close to the water and may be visible during the winter. Even so, 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. Nesting habitat is fairly limited on this waterway. The small forested islands located on the upper reach are the most likely location for future breeding. However, potential for colonization appears limited.

Bald Eagle nest summary (2001-2011).

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