

2010

An assessment of the Bald Eagle and Great Blue Heron breeding populations along High Rock , Tuckertown, Narrows, and Falls Reservoirs in central North Carolina: 2010 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: 2010 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

March, 2011

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Cover Photo: Bald Eagle chicks in nest. 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 2010 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 2010 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 27 March 2010.

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 26 May 2010.

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 2010 surveys. The territory on upper Abbott's Creek had a single nest. The nest built in 2008 in a hardwood along the shoreline (DA-08-01) was completely absent. The replacement nest (DA-09-01) was active early in the season but later damaged in a mid-Spring storm. The territory on the upper end of High Rock Reservoir between Smith Grove and Trading Ford also had a single nest. The nest built on the east side of the reservoir in 2008 (DA-08-02) was completely gone. The nest built on the west side of the reservoir (RO-08-01) had less than a 1/3 remnant remaining on the first flight and was absent by the second flight. The large white oak containing nest DA-01-01 had died but the nest was active. A new nest (RO-10-01) was constructed and active in the territory between St. Matthews Church and Panther Creek. The older nest (RO-02-01) was present but damaged.

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 27 March, 2010 an adult was observed on the nest closely brooding small chicks. Chicks appeared to be less than 7 days old. It was not possible to determine the number of chicks present. On 26 May, 2 chicks were standing in nest and one adult was perched along the shoreline.

Nest Condition – Nest structure is of moderate size. On 27 March, 2010 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.

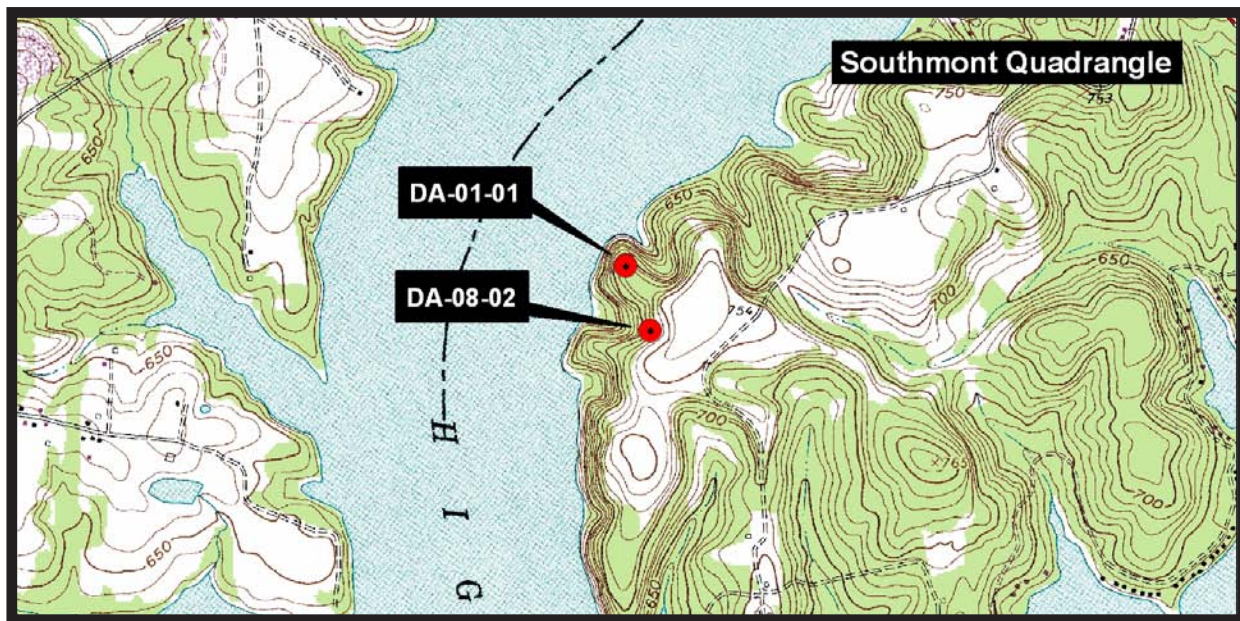
Nest Position – Nest is positioned in a deep stable crotch. Nest tree is on a knoll and in a supercanopy position above surrounding trees. Nest tree is in a commanding position on the landscape. Nest has large deciduous crown above such that sky exposure is <20%.

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 2010 it was clear that a large portion of the tree had died and the nest support limbs were dead with bark beginning to peel off.

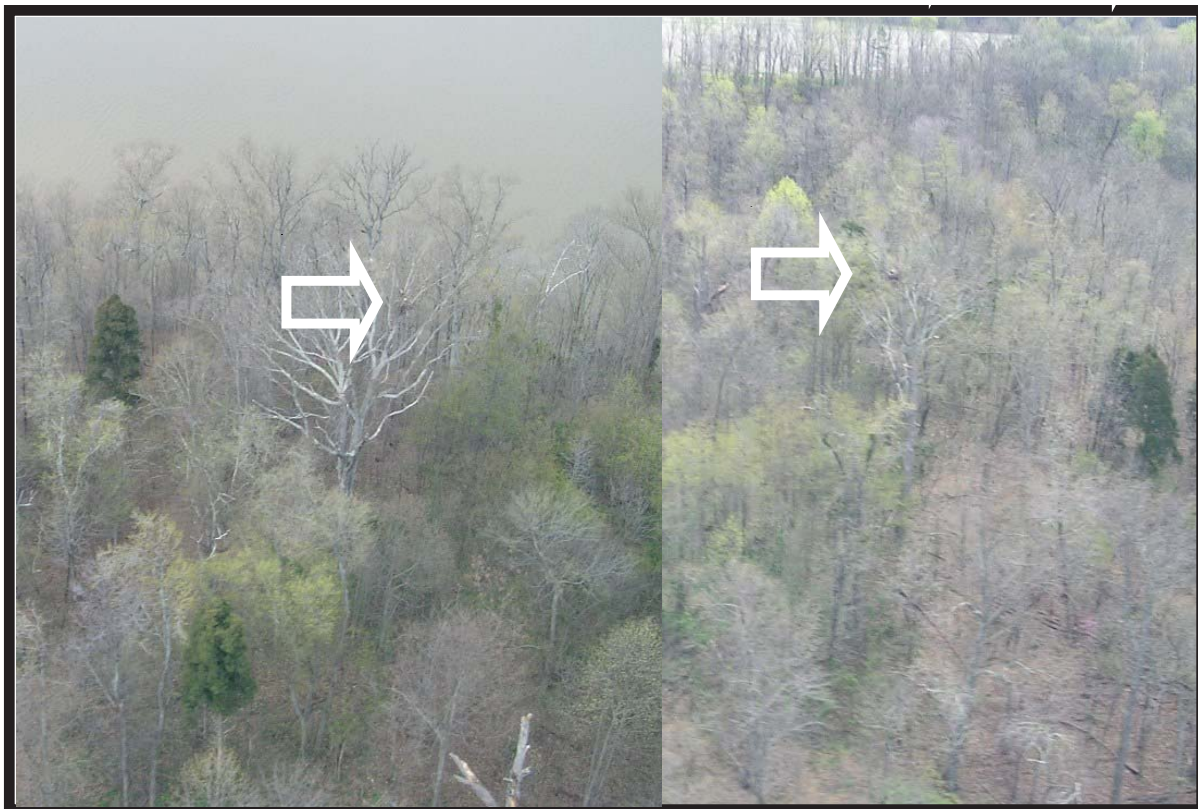
Potential Disturbance

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 2009; B. Watts)



NEST: RO-08-01

Nest Code	County	Topo Quad	Active Territory	Active Nest	Chicks Produced
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 was 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 was very near end of residential road and must be visible from nearby houses. The tree does not appear to be visible from the water.

Nesting Activity

Bird Activity – On 27 March, 2010 no birds were present in this location. The nest had not been worked on since the spring survey in March of 2008. Birds were present in the territory associated with nest (DA-01-01) on east side of reservoir.

Nest Condition – Nest had been damaged since the spring of 2008 and was only a 1/3 remnant. By the second flight on 26 May, 2010 this nest was absent.

Nest Substrate

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

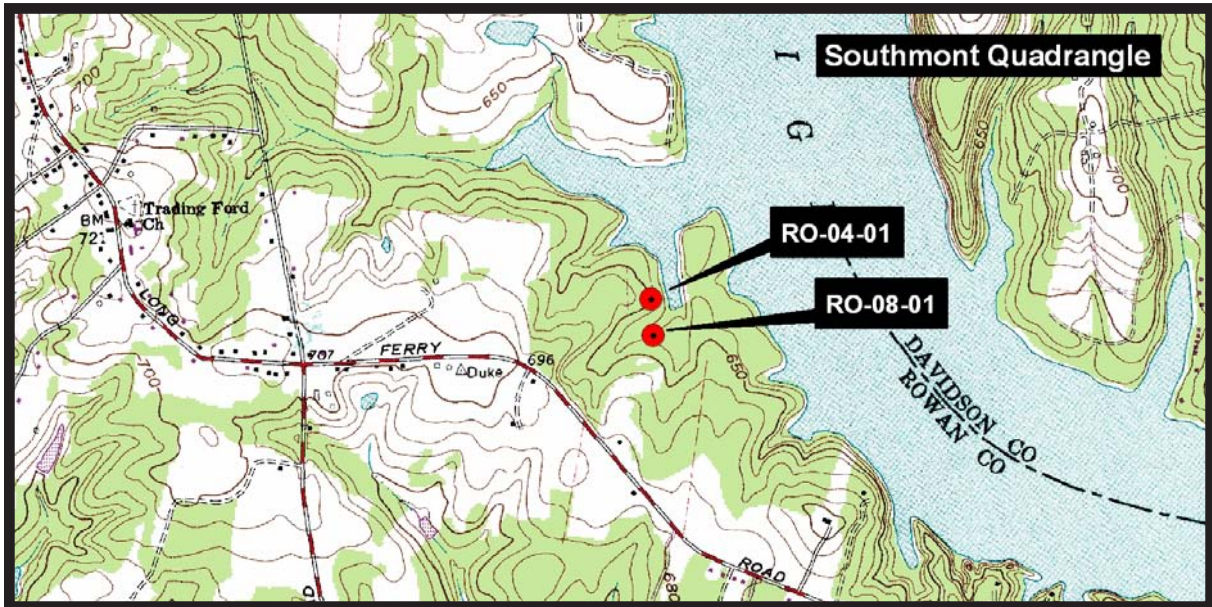
Nest Position – Nest was positioned in upper top crotch and very tight up against crown limbs.

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

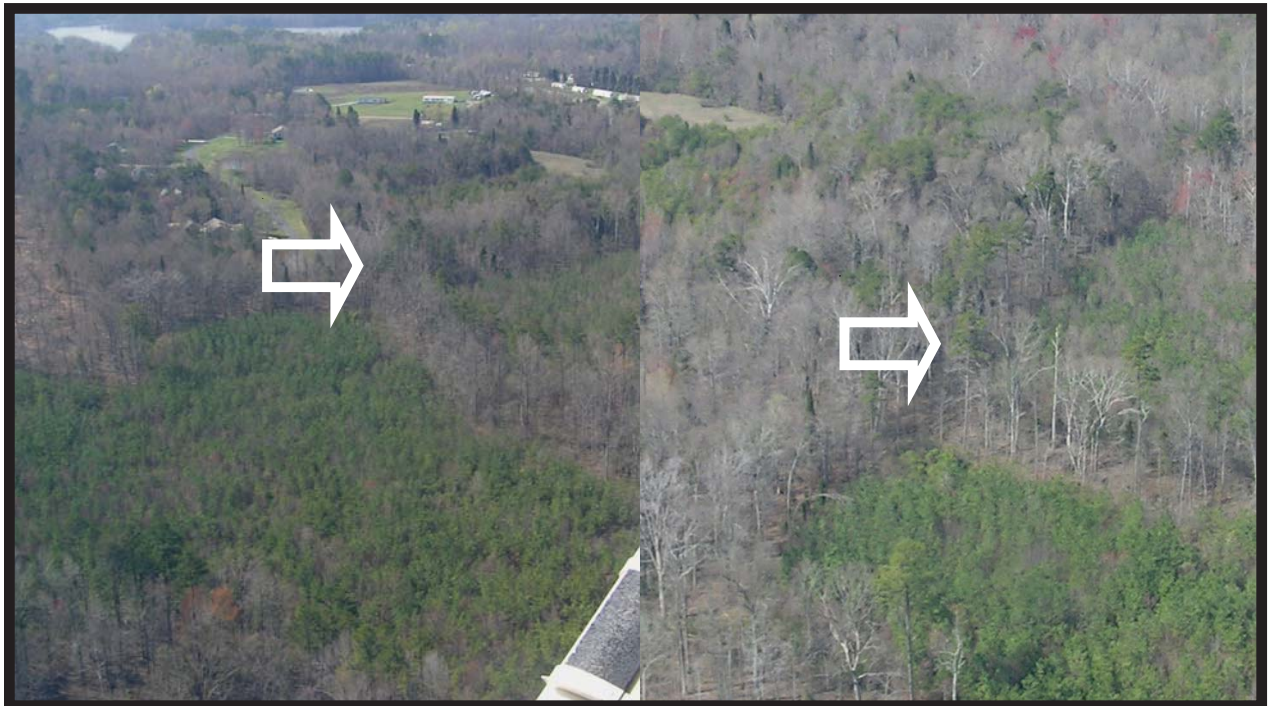
Potential Disturbance

Nest was very close to end of residential road with houses. This nest site 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

Nest Code	County	Topo Quad	Active Territory	Active Nest	Chicks Produced
DA-08-02	Davidson	Southmont	Y	N	-----

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 27 March, 2010 no birds were present around this nest. Birds were present within the territory in the nearby large white oak (DA-01-01) where they had chicks. This nest was completely absent with nothing remaining.

Nest Condition – Nest was absent.

Nest Substrate

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

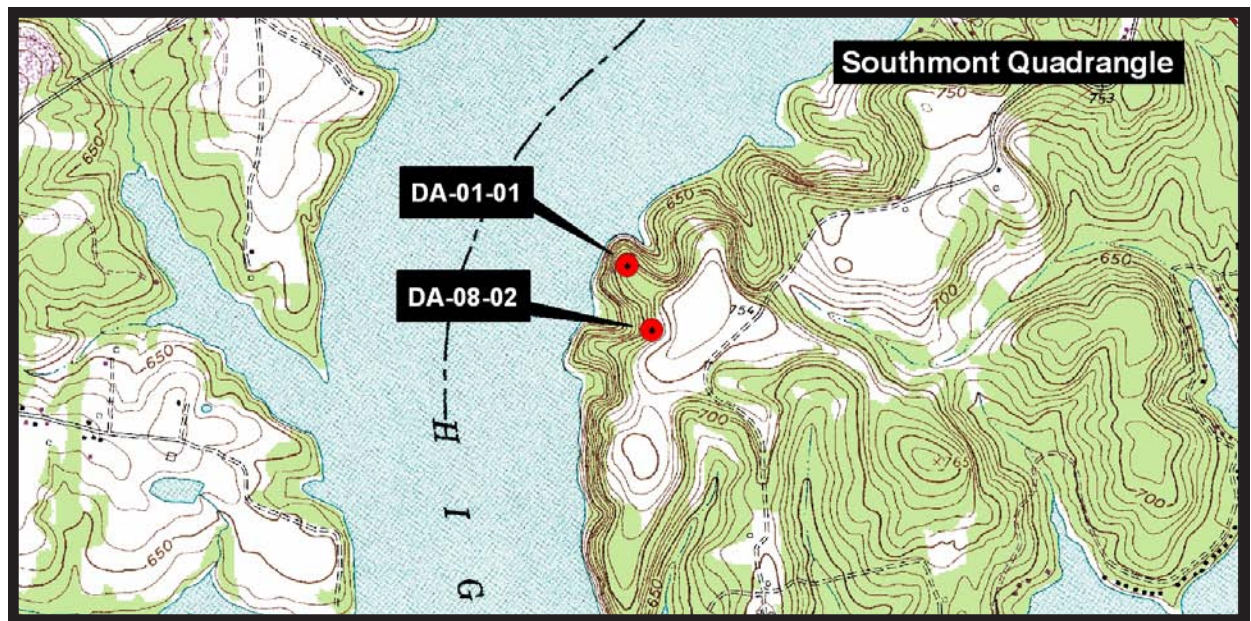
Nest Position – Nest was positioned in upper top of tree. Crotch was wide and fairly close to crown perimeter.

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

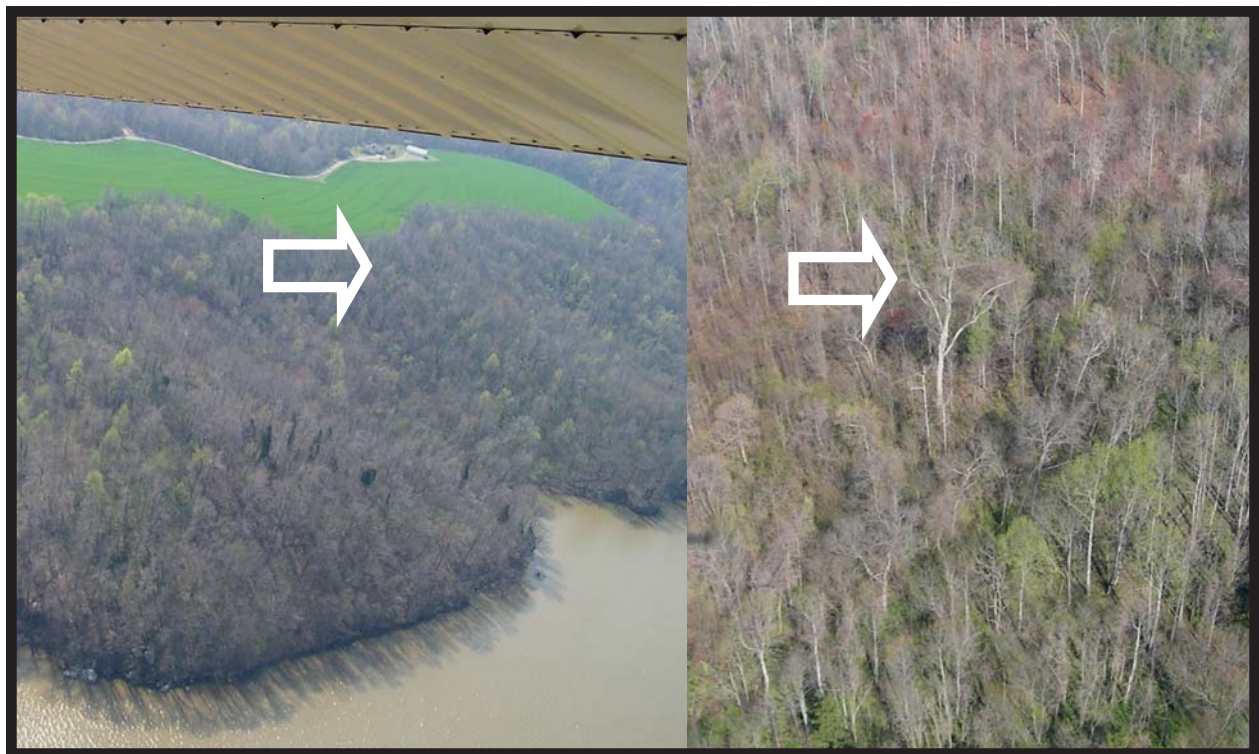
Potential Disturbance

This nest is within a band of forest along a hillside next to the water. The nest site is protected from the waterway by a buffer of trees. The nest was more accessible from the adjacent farm field where it was easily visible during the winter months. The nest was 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-08-01

Nest Code	County	Topo Quad	Active Territory	Active Nest	Chicks Produced
DA-08-01	Davidson	Grist Mountn	Y	N	-----

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 24 March, 2009 birds were in the area but not associated with this nest.

Nest Condition – The nest was damaged and had been reduced to a 1/4 remnant.

Nest Substrate

Substrate Type – Nest was built in a hardwood within 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.

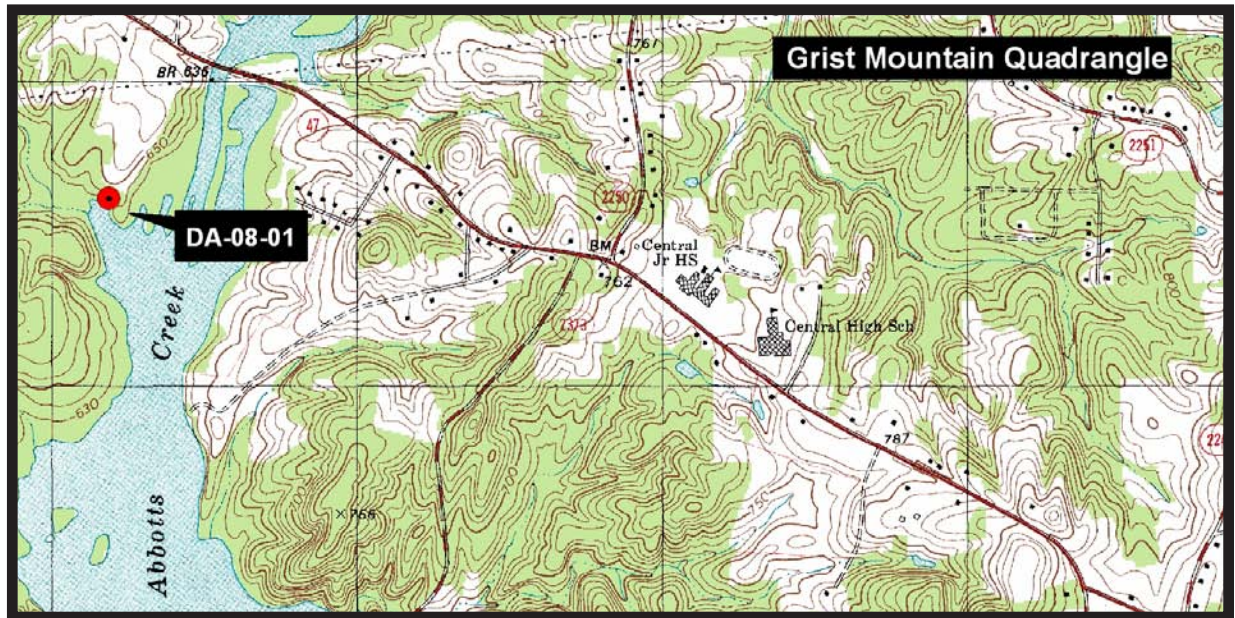
Nest Position – The nest was built in the top crotch of the hardwood. The crotch was terminal in the tree and positioned near the upper crown such that sky exposure was likely greater than 50%.

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)



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 27 March, 2010 an adult was brooding two chicks that appeared to be approximately 18 days old. The second adult was not observed. On 26 May, 2010 the nest was tilted and hanging. This is typical storm damage where the tree sways back and forth so violently that it dislodges the nest. No birds were present. Given the age of the chicks, they 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 shallow as expected with a first-year nest. On 27 March, 2010 the nest was in good structural condition with a well-formed but shallow cup and had a fresh lining. On 26 May, 2010 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.

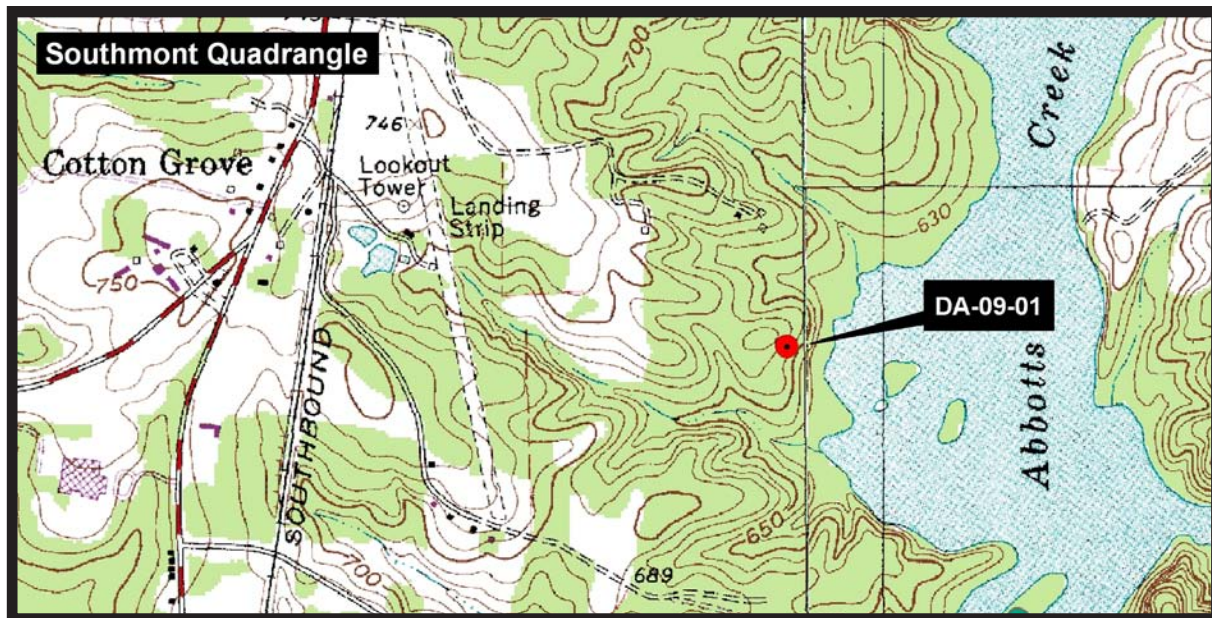
Nest Position – The nest was built on a whirl of lateral limbs around a single leader. The nest was under a full canopy such that sky exposure was less than 20%.

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 (photo 2009; 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 27 March, 2010 there were no birds present around the nest and the nest had not been worked. Birds were present across the clearcut in a new nest with chicks.

Nest Condition – The nest had not been worked and the lining from 2009 was mostly gone. The nest had a hole in the center. The hole appeared to be a structural failure rather than one created by raccoons. This nest is too shallow to provide a burrow for a raccoon.

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.

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 27 March, 2010 there was a single adult on the nest with 2 chicks approximately 16 days old. On 26 May, 2010 the nest had been damaged and no chicks were present. The chicks were too young to have fledged before the nest was damaged. The nest and surrounding limbs showed considerable whitewash indicating that the adults were likely roosting in the nest tree.

Nest Condition – The nest was shallow which is consistent with a first-year nest but on 27 March, 2010 had a well-developed cup and lining. On 26 May, 2010 the nest was tilted, broken over, and empty. The nest had clearly sustained 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,

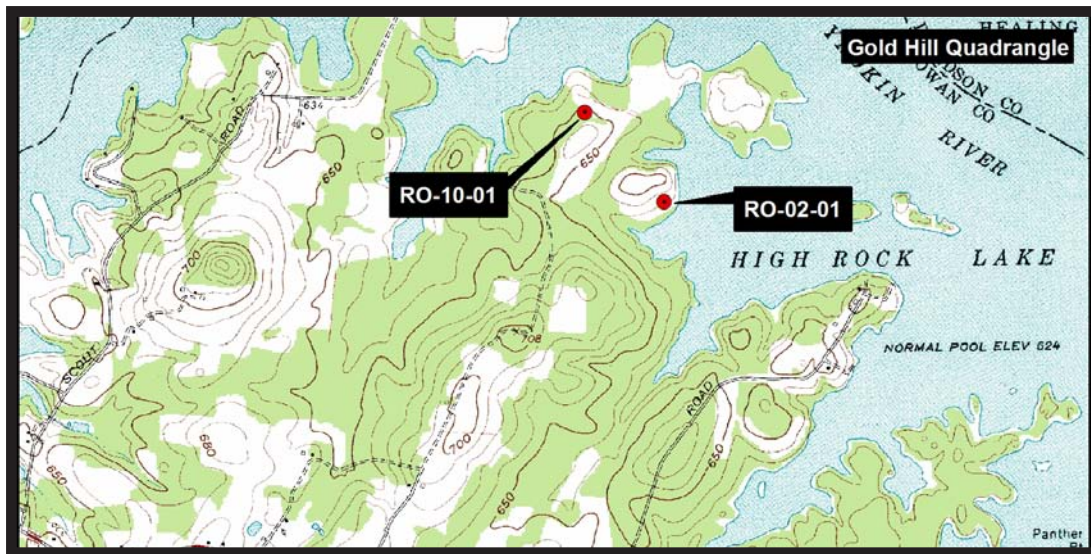
Nest Position – The nest was built in a top crotch of a young loblolly pine. Although the nest was near the crown, it was shaded with only 30-40% sky exposure.

Substrate Condition – Nest tree was in good condition.

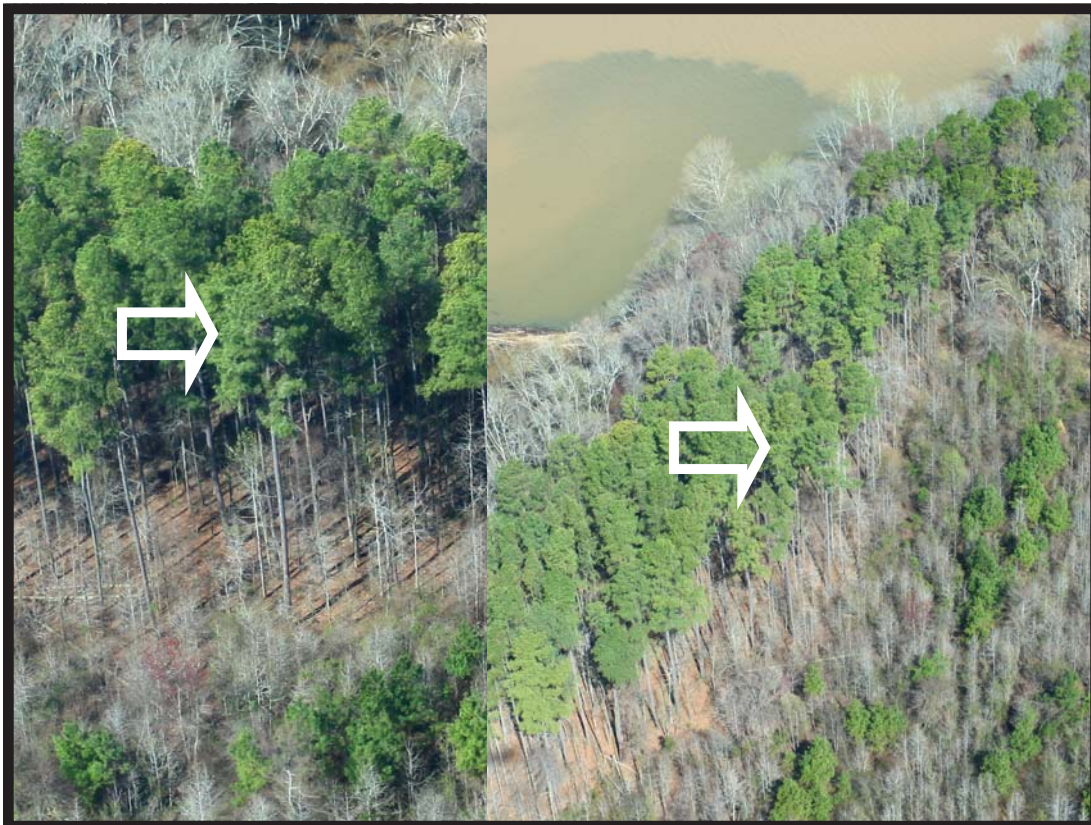
Potential Disturbance

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 (GBH-10) that was active in 2006 and 2007 was not active. Colony size ranged from 6 to 255 pairs. Total population estimate for this reservoir was 529 breeding pairs. For the seventh 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 38 breeding pairs.

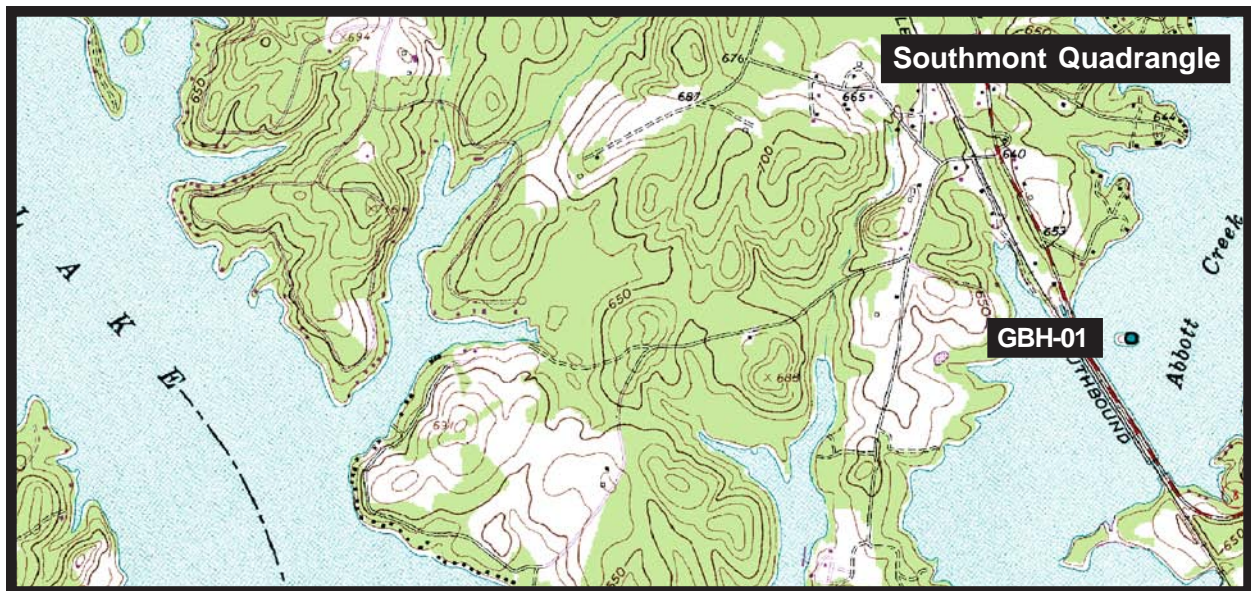
GBH-01

Code	County	Topo Quad	Pairs
GBH-01	Davidson	Southmont	43 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 27 March, 2010, 43 pairs of Great Blue Herons were counted with 90% incubating and the remainder building. No Great Egrets were detected in the colony on either 27 March or 26 May, 2010. 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 2010; B. Watts).



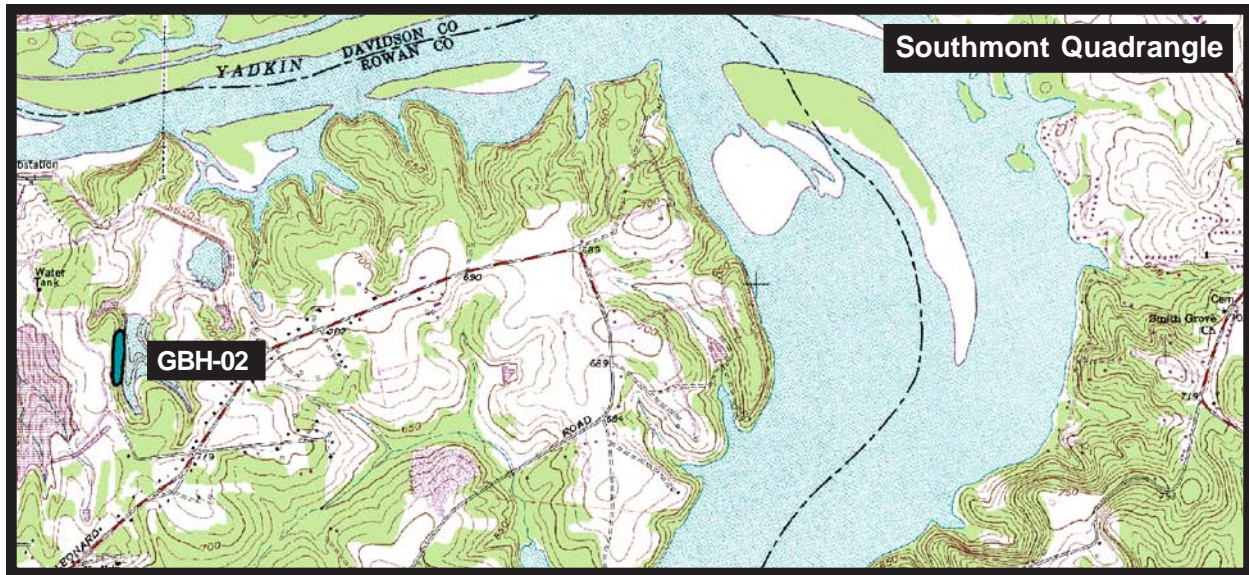
GBH-02

Code	County	Topo Quad	Pairs
GBH-02	Rowan	Southmont	255 GBHE, 38 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 27 March, 2010 90% of Great Blue Herons were incubating and the remaining 10% were building nests. Great Egrets were nesting in the core of the subcolony occupying the pure pine stand. On 27 March, 2010 3 egret pairs were present within the colony. On 26 May, 2010 38 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)

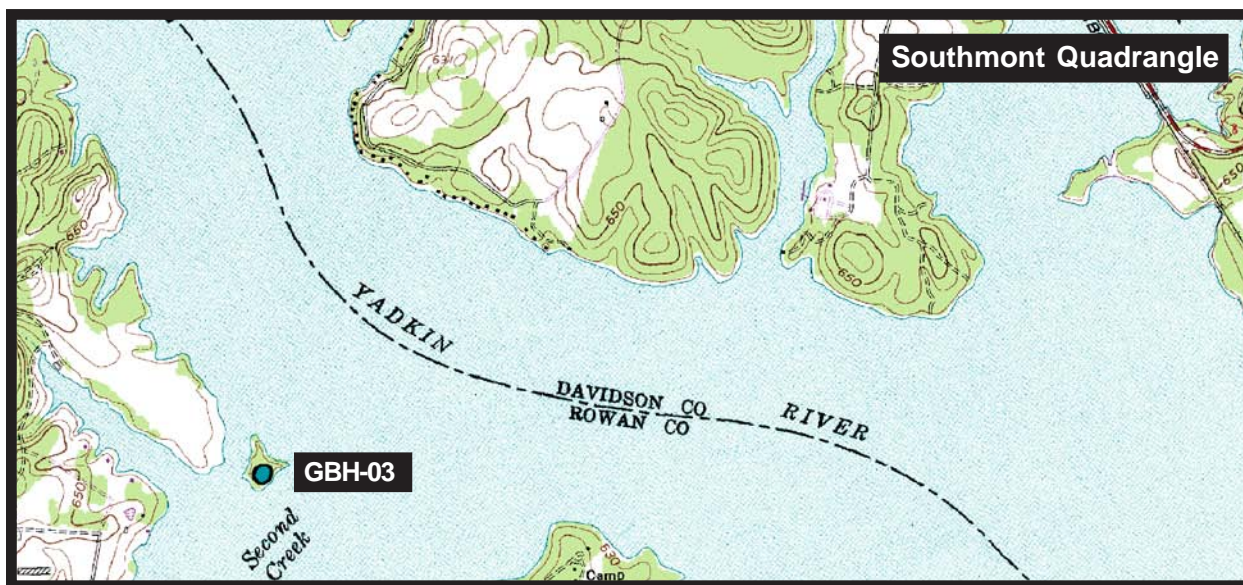


GBH-03

Code	County	Topo Quad	Pairs
GBH-03	Rowan	Southmont	92

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 to 75 nests in 2008 to 87 nests in 2009 and 92 nests in 2010. On 27 March, 2010 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	58

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 27 March 2010 there were 58 nesting pairs present compared to 55 pairs in 2009, 59 pairs in 2008, 68 pairs in 2007, 73 pairs in 2006. An estimated 90% were incubating and 10% 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	48

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 27 March 2010 there were 48 pairs nesting on the island. An estimated 100% of pairs were incubating.

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

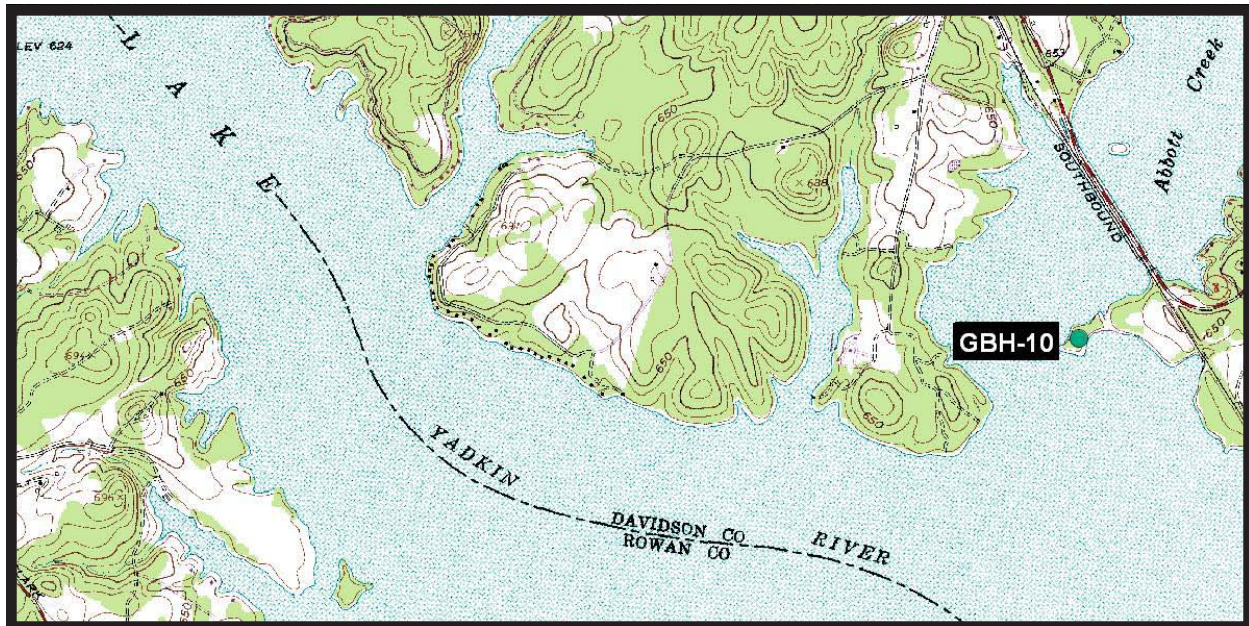
GBH-10

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 27 March and later on 26 May, 2010 no birds or nests were remaining in this site. The site has been abandoned for two years.

Map location of Great Blue Heron colony GBH-10.



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



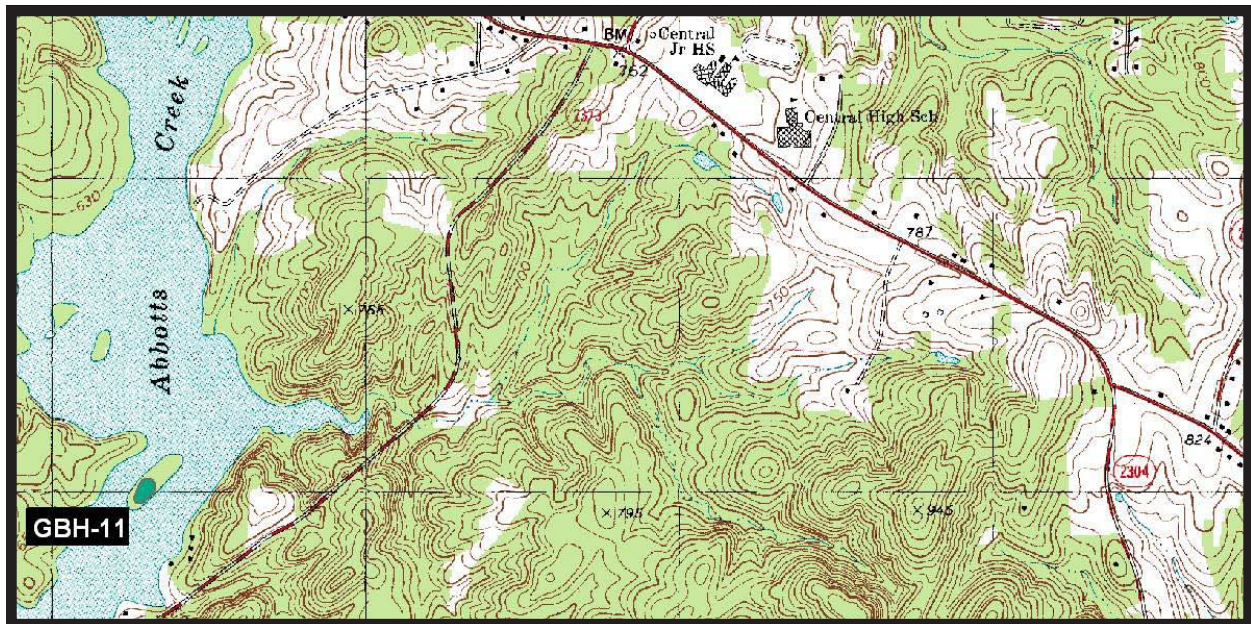
GBH-11

Code	County	Topo Quad	Pairs
GBH-11	Davidson	Grist Mountain	17

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 27 March 2010 there were 17 pairs nesting on the island. Thirteen pairs were incubating and 4 were building.

Map location of Great Blue Heron colony GBH-11.



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



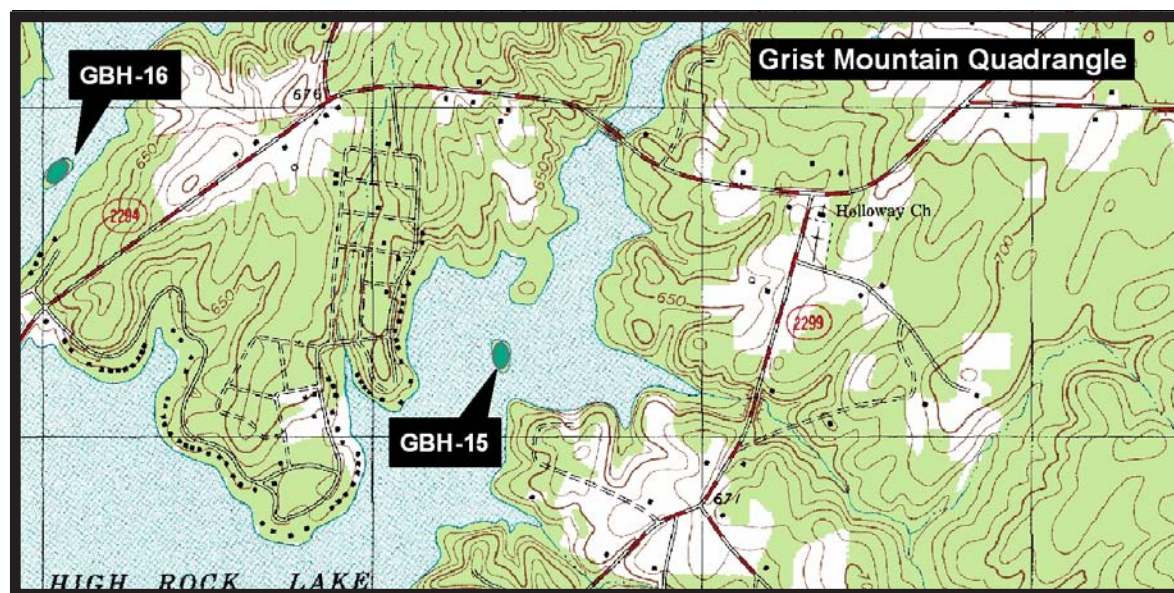
GBH-15

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

Description

This 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 27 March 2010 there were 6 pairs nesting on the island. All pairs were incubating.

Map location of Great Blue Heron colony GBH-15.



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



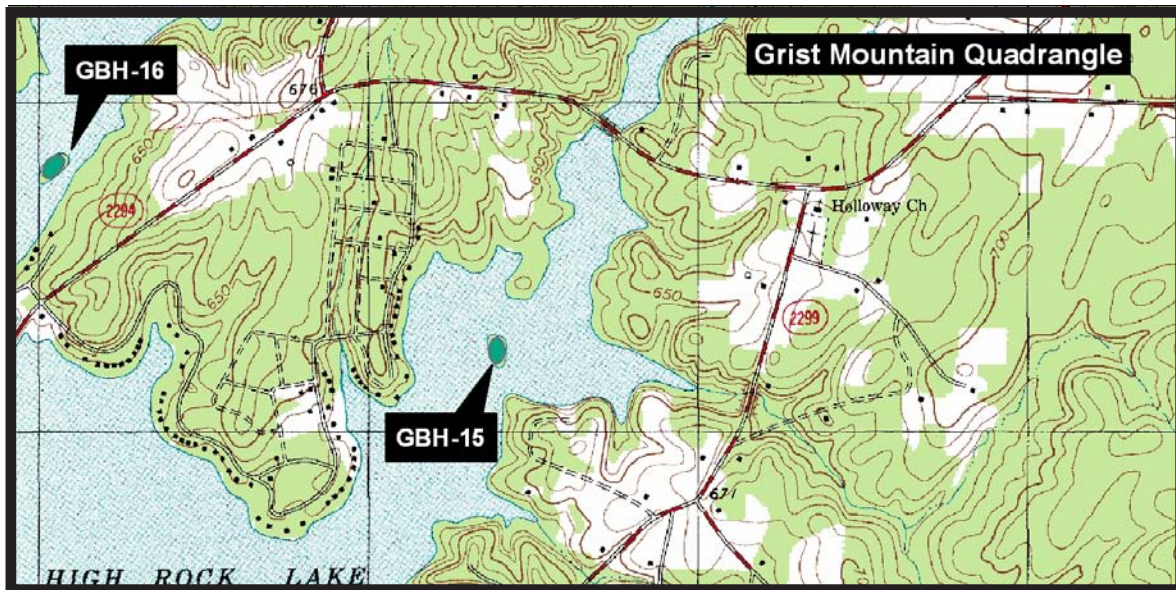
GBH-16

Code	County	Topo Quad	Pairs
GBH-16	Davidson	Grist Mountain	10

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 27 March 2010 there were 10 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 ninth year. The old nest (RO-02-02) was not used but a new nest (DA-10-01) was located along the north shoreline.

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 27 March or 26 May, 2010. In addition, there was no evidence of any maintenance activity on the nest. Birds were present on a new nest (DA-10-01) built across the waterway. This pair is presumed to have moved across the river.

Nest Condition – The nest was damaged in a wind storm in the spring of 2008. The nest does not appear to have had any maintenance since this time and has been reduced to a 1/3 remnant.

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.

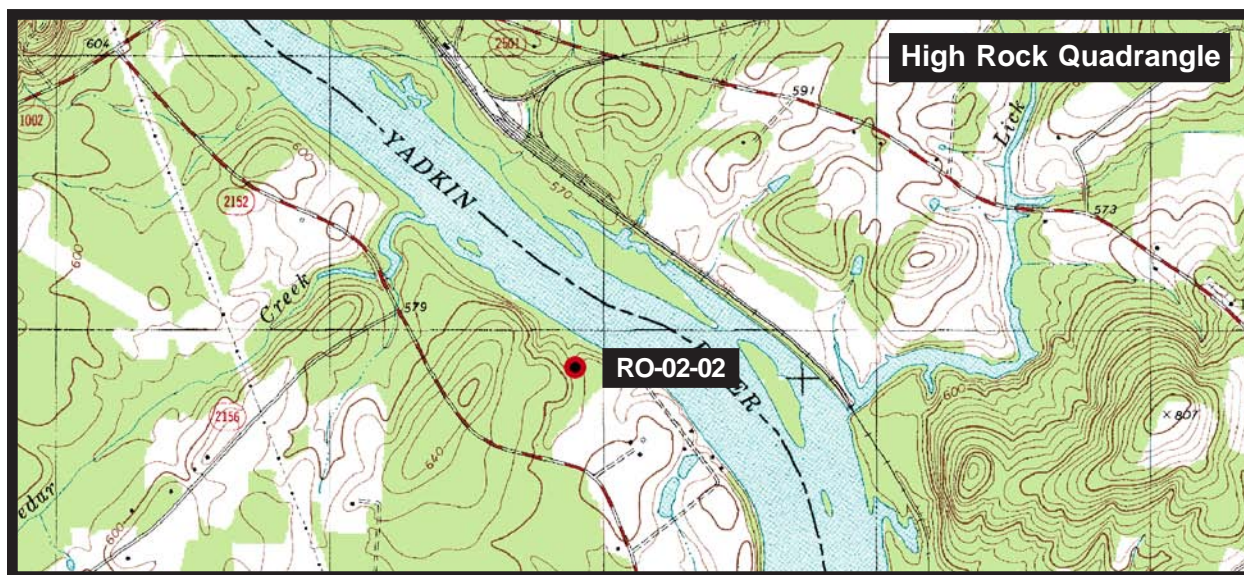
Nest Position – Nest was positioned in a top crotch deep below the crown. This configuration is the most common and apparently most stable position for eagle nests. Nest was under large crown with less than 20% sky exposure.

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	2

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 2 chicks approximately 26 days old were in the nest on 27 March, 2010. On 26 May, 2010 the nest was empty and 2 chicks were perched along the shoreline. The nestlings were assumed to have fledged successfully.

Nest Condition – The nest was shallow, consistent with a first-year nest but was in good structural condition. On 27 March, 2010 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.

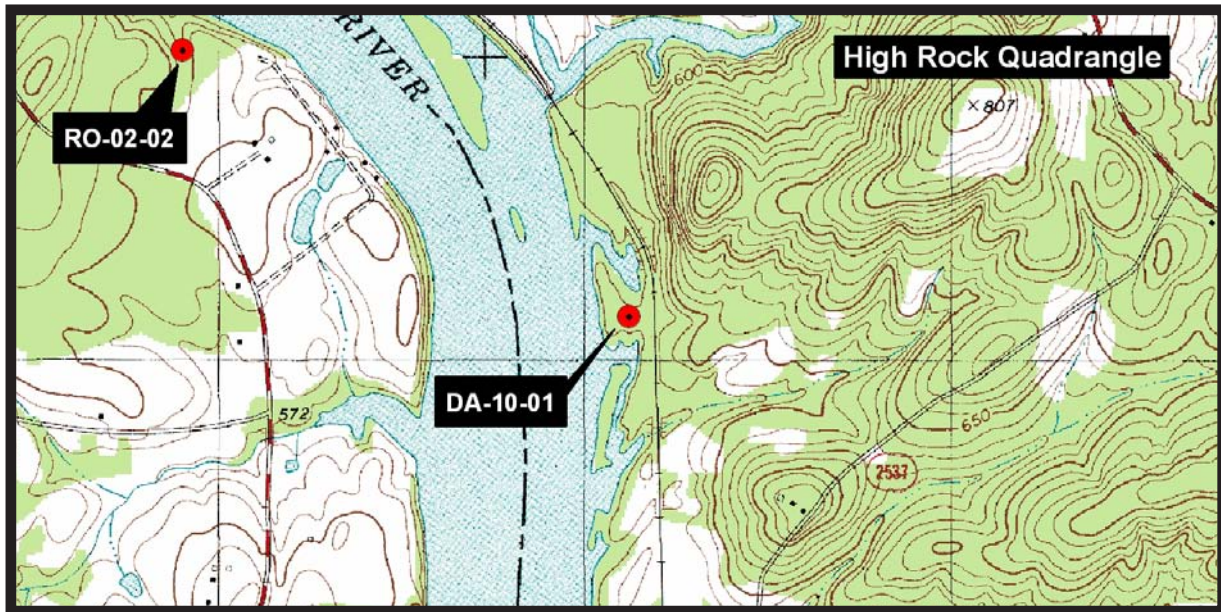
Nest Position – Nest was positioned on side limbs up against the main trunk and down below the crown. Nest had greater than 50% sky exposure.

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.



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 145 pairs. This colony also contained 19 pairs of Great Egrets.

GBH-04

Code	County	Topo Quad	Pairs
GBH-04	Davidson	High Rock	145 GRHE, 19 GREG

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 125 pairs of Great Blue Herons and 19 pairs of Great Egrets and was within the pines along the shoreline. The second sub-colony was on the island and contained 20 pairs of Great Blue Herons. On 27 March 2010 85% of Great Blue Herons were incubating and 2 pairs of Great Egrets were present and building. On 26 May, 2010 19 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 2006: B. Watts)



Narrows Reservoir

Bald Eagles

One Bald Eagle nest was located along the shoreline of Narrows Reservoir.

MO-03-01

Nest Code	County	Topo Quad	Active Territory	Active Nest	Chicks Produced
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 27 March, 2010 2 chicks approximately 45 days old were standing on the nest surface and no adult was observed. On 27 May, 2010 the nest was empty and the birds were assumed to have fledged. No adults were present.

Nest Condition – Nest structure is of moderate size and similar in appearance to 2005 -2009. On 27 March, 2010 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.

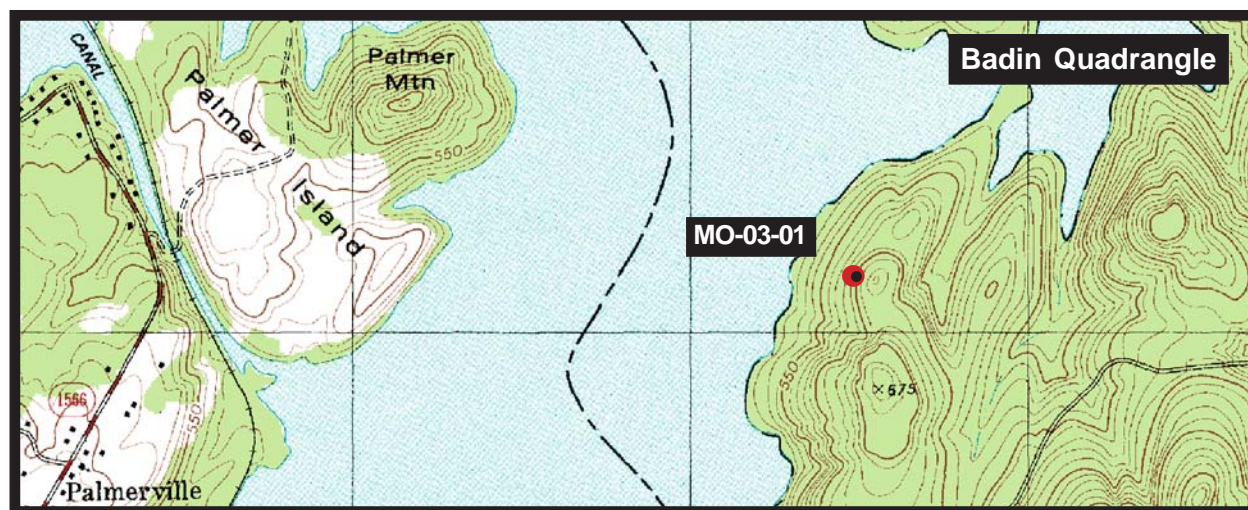
Nest Position – Nest is positioned on a lateral limb up against the trunk. Crown limbs are fairly sparse such that sky exposure was 70%.

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)



Great Blue Herons/Great Egrets

Four colonies of breeding Great Blue Herons were detected within Narrows Reservoir during 2010. 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 321 pairs. Seven Great Egret pairs nested within GBH-05. For the first time within the entire reservoir system 32 Double-crested Cormorants were found nesting in GBH 8.

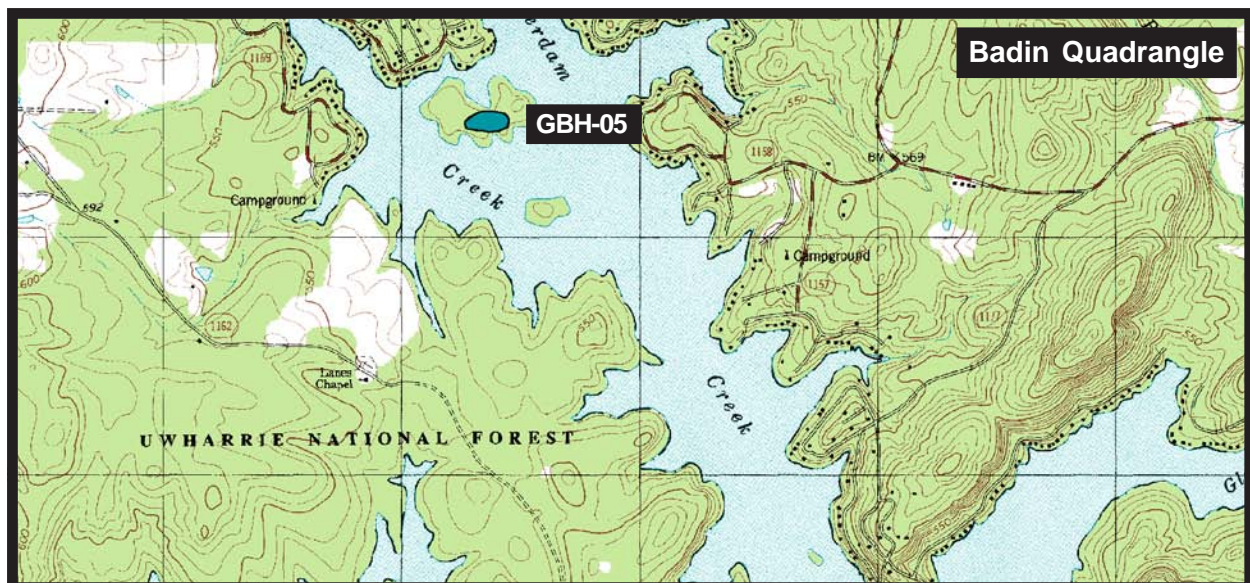
GBH-05

Code	County	Topo Quad	Pairs
GBH-05	Montgomery	Badin	225 GRHE, 7 GREG

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 225 pairs of Great Blue Herons and 7 pairs of Great Egrets. On 27 March, 2010 approximately 80% of Great Blue Heron pairs were incubating and 2 Great Egret pairs were building. On 27 May, 2010 7 pairs of Great Egrets were incubating within the colony.

Map location of Great Blue Heron colony GBH-05



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



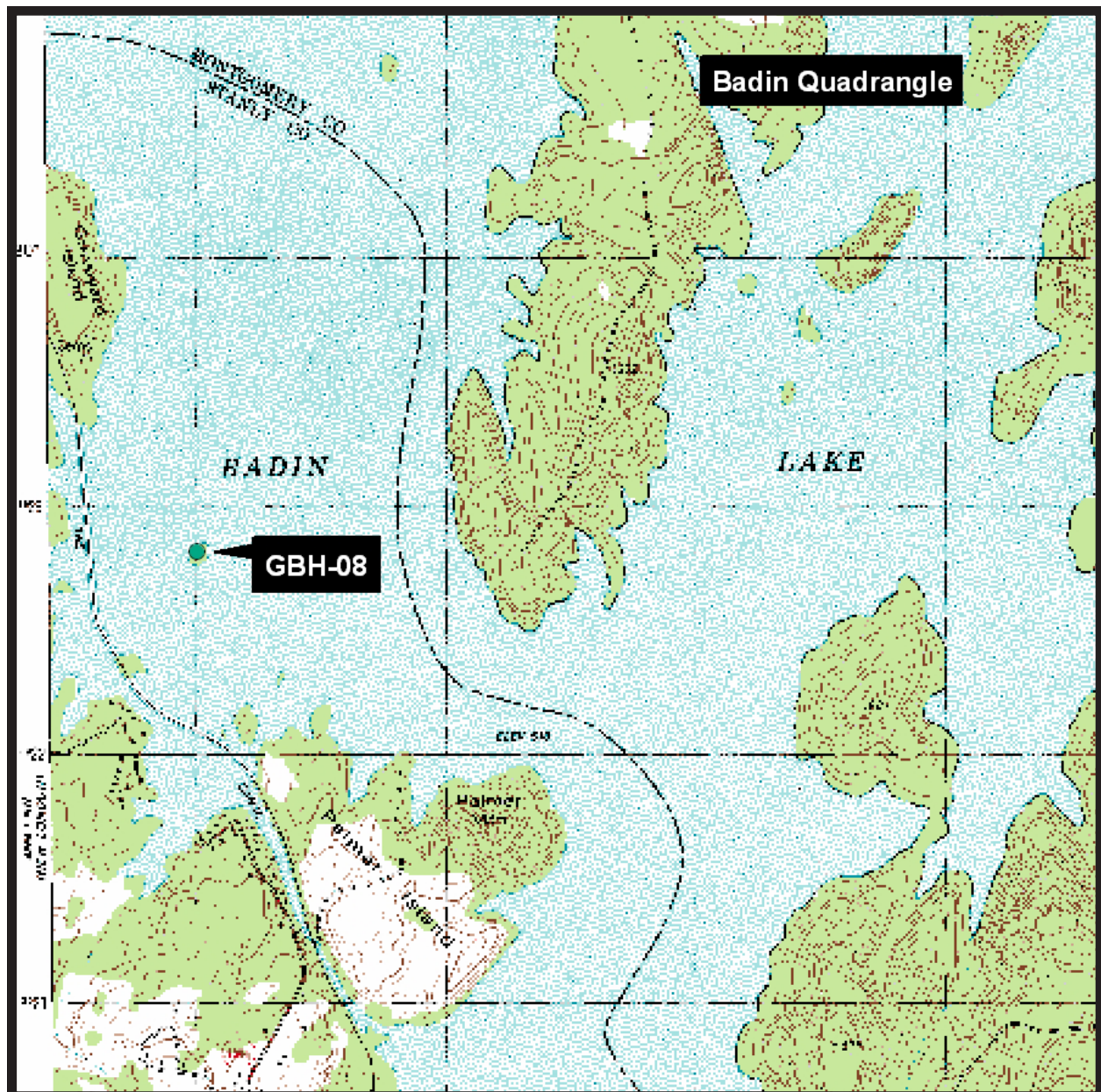
GBH-08

Code	County	Topo Quad	Pairs
GBH-08	Stanly	Badin	75 GRHE, 32 DCCO

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 27 March 2010 90% of pairs were incubating and remaining were building. On 26 May, 2010 32 pairs of Double-crested Cormorants were found nesting within the colony. All pairs were incubating.

Map location of Great Blue Heron colony GBH-08.



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



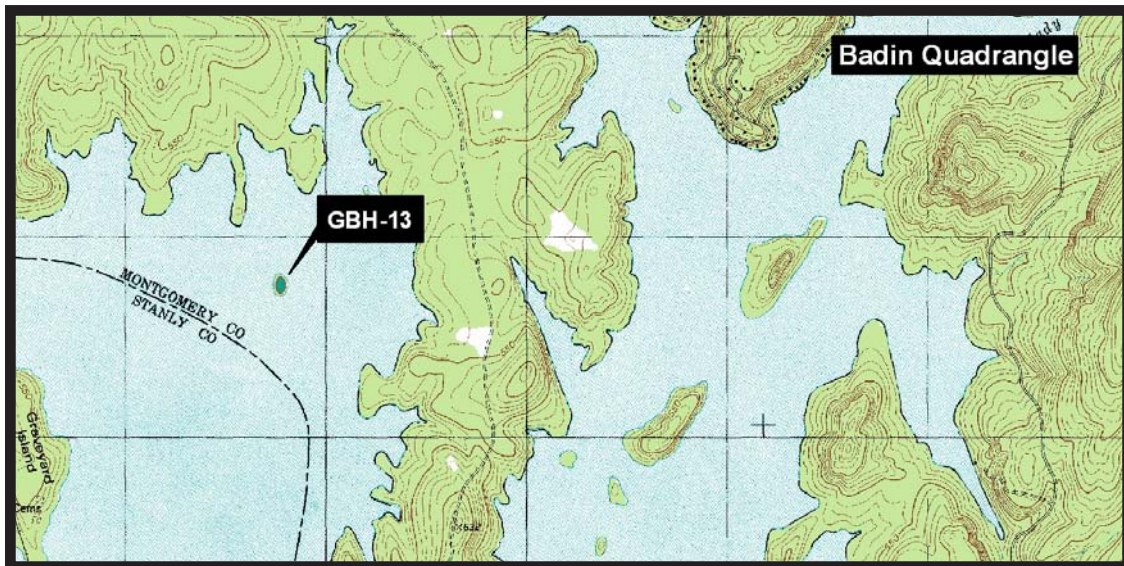
GBH-13

Code	County	Topo Quad	Pairs
GBH-13	Stanly	Badin	3

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 27 March 2010 all pairs were incubating.

Map location of Great Blue Heron colony GBH-13.



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



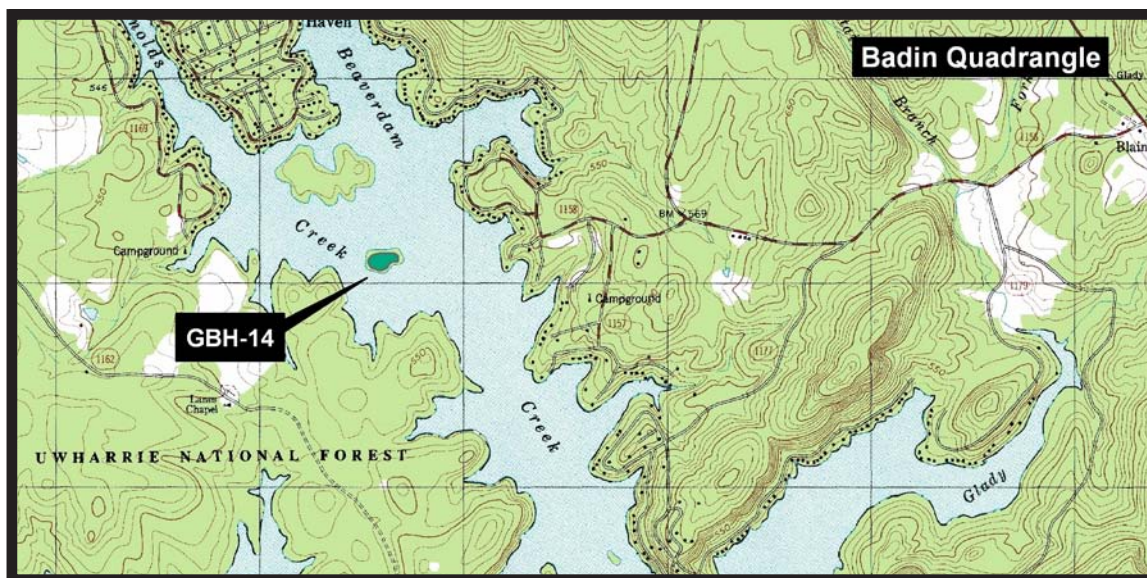
GBH-14

Code	County	Topo Quad	Pairs
GBH-14	Montgomery	Badin	18

Description

This 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 27 March 2010 80% 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 (representing a single breeding territory) were present along this waterway during 2010. 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. A new nest (ST-10-01) near the replacement was active.

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 27 March, 2010 no birds were detected within the nest area and the nest was completely gone. The active nest within this territory appears to be a replacement nest (ST-10-01).

Nest Condition – On 27 March, 2010 this nest was completely absent.

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.

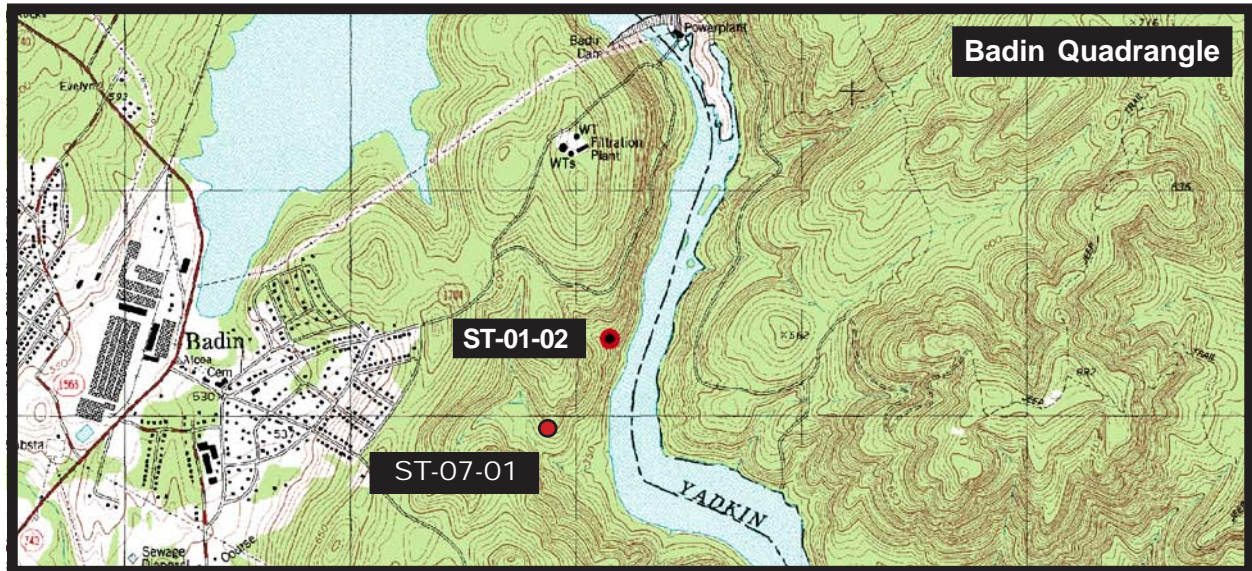
Nest Position – The nest was built in a deep crotch in a very low position under the tree crown.

Substrate Condition – The nest tree was in good condition.

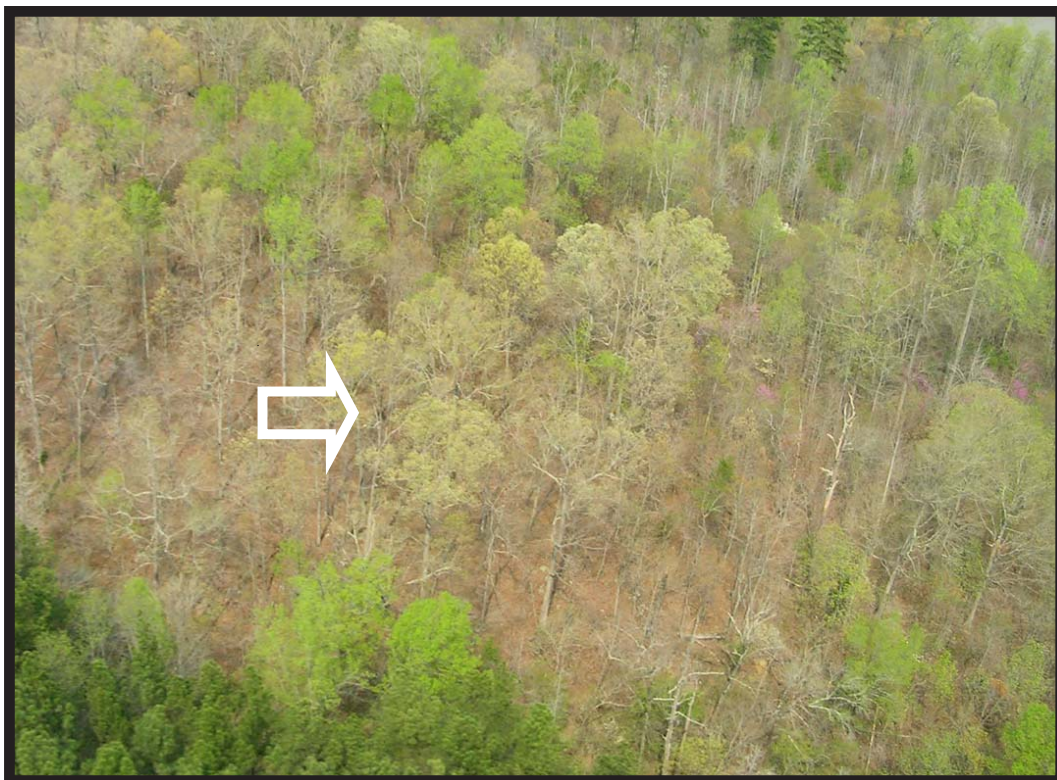
Potential Disturbance

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

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 27 March and 26 May, 2010 no birds were associated with this nest. The pair appears to have used the new nest ST-10-01 in 2010.

Nest Condition – On 27 March, 2010 this nest was in good structural condition and may have had some maintenance in the past year. The nest was of moderate size.

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.

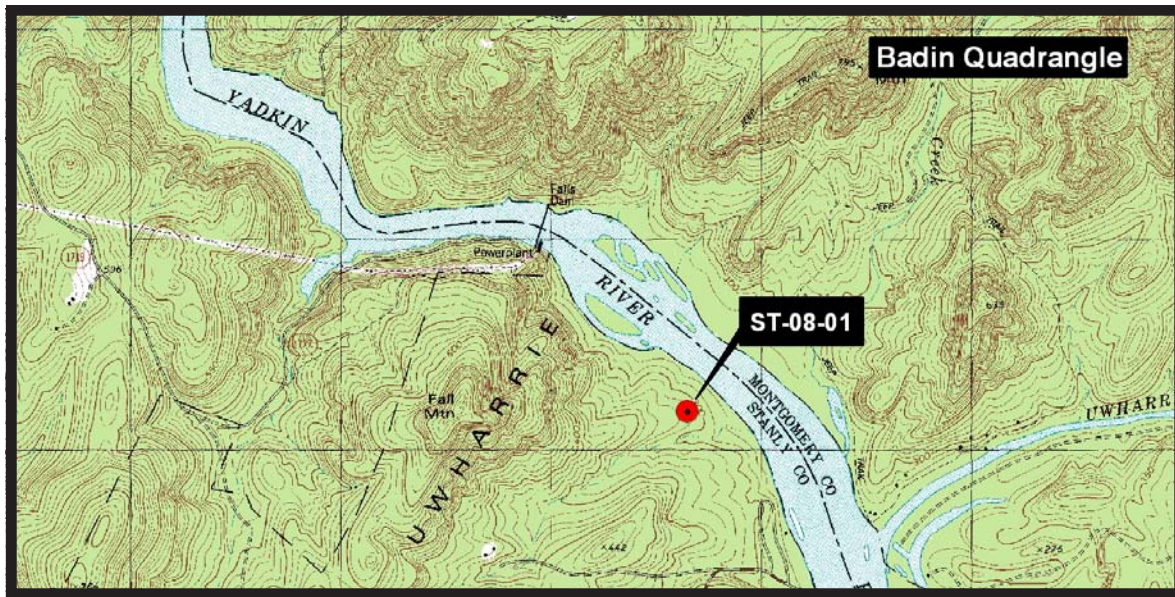
Nest Position – The nest was built in a deep crotch in a very low position under the tree crown. The nest surface likely had only 10-20% sky exposure due to its low position.

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: B. Watts).



NEST: ST-10-01

Nest Code	County	Topo Quad	Active Territory	Active Nest	Chicks Produced
ST-10-01	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 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 27 March, 2010 an adult was standing on the nest with 2 chicks approximately 20 days old. On 26 May, 2010 the nest was empty and no adults were attending. It does not appear that the chicks could have fledged by this date suggesting that the nesting attempt failed.

Nest Condition – On 27 March, 2010 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.

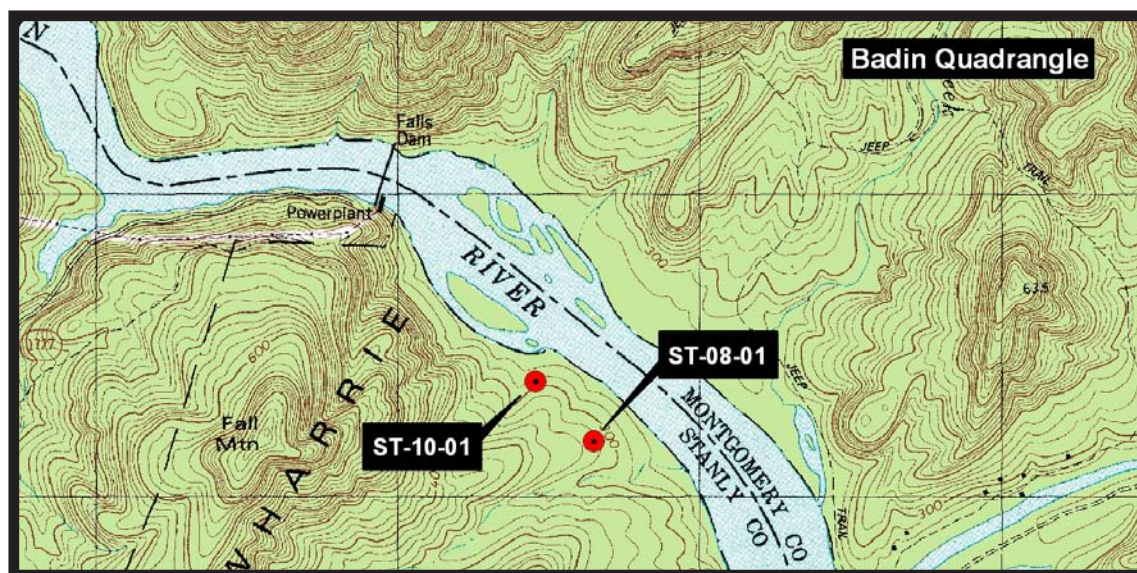
Nest Position – The nest was built in a spray of limbs surrounding a single-leader top. The nest surface had less than 30% sky exposure.

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 2010: 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.

