

2018

An assessment of the Bald Eagle and Great Blue Heron breeding populations along High Rock, Tuckertown, Narrows, and Falls Reservoirs in central North Carolina: 2018 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: 2018 BREEDING SEASON



**THE CENTER FOR CONSERVATION BIOLOGY
AT THE COLLEGE OF WILLIAM AND MARY
& VIRGINIA COMMONWEALTH UNIVERSITY**

**AN ASSESSMENT OF THE BALD EAGLE AND GREAT BLUE HERON BREEDING
POPULATIONS ALONG HIGH ROCK, TUCKERTOWN, NARROWS, AND FALLS
RESERVOIRS IN CENTRAL NORTH CAROLINA: 2018 BREEDING SEASON**

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Cover Photo: Two chicks with adult at nest DA-01-01. Bart Paxton 2016.



The Center for Conservation Biology is an organization dedicated to discovering innovative solutions to environmental problems that are both scientifically sound and practical within today's social context. Our philosophy has been to use a general systems approach to locate critical information needs and to plot a deliberate course of action to reach what we believe are essential information endpoints.

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Background and Context

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

Work conducted by The Center for Conservation Biology in 1995 and 1996 at the 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 2018 survey follow (a summary of all eagle nesting activity since 2001 and Great Blue Heron/Great Egret/Double-crested Cormorant nesting activity since 2001 is provided at the end of this report).

Objectives

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

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

METHODS

Bald Eagle Survey Coverage:

Waterways covered by the Bald Eagle survey of 2018 included the four Yadkin Project reservoirs:

- 1) High Rock Reservoir, 2) Tuckertown Reservoir, 3) Narrows Reservoir (Badin Lake), 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 (Badin Dam). The survey of Falls Reservoir included the waterway between Narrows Dam to 1 KM below Falls Dam.

Bald Eagle Nest Survey:

All major waterways and tributaries associated with the study system were surveyed for breeding Bald Eagles. A high-wing Cessna 172 aircraft was used to systematically overfly the land surface at an altitude of approximately 100 m to detect eagle nests. Flights were flown between the shoreline and 1 km inland to cover the most probable breeding locations for Bald Eagles. All nests detected were plotted on recent aerial imagery using GPS enabled tablet computers and given a unique alpha-numeric code. Each nest was examined to determine its structural condition, the type and condition of nest tree, and the condition of the surrounding landscape. The areas were searched for Bald Eagles and all detections were recorded. The Bald Eagle nest survey was conducted on 16 March 2018.

Bald Eagle Productivity Survey:

All active Bald Eagle nests were rechecked to determine productivity. A Cessna 172 aircraft was used to fly low over nests to allow observers to examine nest contents and determine structural condition. The number of eaglets present was recorded along with their approximate ages. Observations of all Bald Eagles detected were recorded. The Bald Eagle productivity survey was conducted on 20 April 2018.

Great Blue Heron Survey:

Breeding colonies of Great Blue Herons detected during survey flights were mapped and recorded. Colony locations were plotted on recent aerial imagery using GPS enabled tablet computers. Colonies were examined for size, substrate use, and breeding stage. If an accurate estimate was not possible by observation or photographic review, colony size estimates were rounded off using a graded scale as follows. A total count was made for colonies < 20 pairs. Estimates for colonies > 20 pairs were rounded off using a graded scale: nearest 5 for < 50, nearest 10 for 50– 200, nearest 25 for 200–450. These surveys were conducted on 16 March and 20 April 2018.

RESULTS:

High Rock Reservoir

Bald Eagles

Four Bald Eagle territories were observed to be occupied on High Rock Reservoir during 2018 surveys. These territories consisted of 3 previously known nests and 1 new nest (RO-18-01) in a newly discovered territory on the southern point of land at the mouth of Second Creek. Nest RO-18-01 was brooding small chicks on the productivity flight and is in very close proximity (850m northwest) to the active nest RO-10-01. Nest RO-10-01 is located between St. Matthews Church and Panther Creek and had adult brooding at least 1 small chick. As in 2017, nest DA-01-01, in a large dead white oak was active, with an incubating adult on the initial flight but had failed by the time of the productivity flight. Nest RO-10-01 is located between St. Matthews Church and Panther Creek and contained 2 chicks, approximately 6 weeks old, on the productivity flight. Two 6 weeks old chicks were observed in nest DA-17-01 during the productivity flight. Nest DA-17-02, within the territory of the pair currently using DA-17-01, remains a remnant nest.

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

Nest Location

This nest is located along the north shoreline almost due east of Trading Ford at 35.694205, -80.328. The nest tree is positioned on a bluff above the reservoir in a large dead white oak tree. Nest is likely visible from the water from within the adjacent cove.

Nesting Activity

Bird Activity – On 16 March 2018, an adult was observed on the nest tree with 2 eggs in the nest cup. On 20 April 2018, no adults or chicks were observed, indicating a nest failure.

Nest Condition – Nest structure is of moderate-large size. On both 16 March and 20 April 2018, the nest appeared in good condition.

Nest Substrate

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

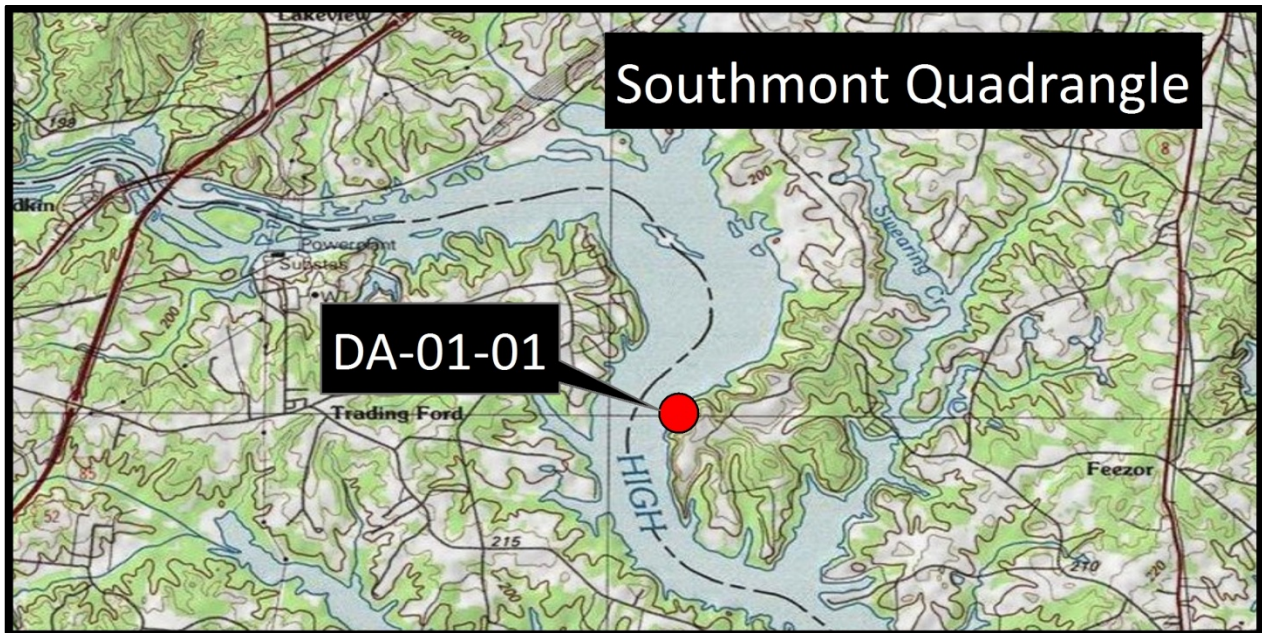
Nest Position – Nest is positioned in a deep stable crotch. Nest tree is on a knoll and in a supercanopy position above surrounding trees. Nest tree is in a commanding position on the landscape. Nest formerly had a deciduous crown, but now is fully exposed.

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

Potential Disturbance

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

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



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



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

Nest Location

This nest is located along the edge of a clear-cut within a buffer strip of loblolly pines between the clear-cut and the water at 35.622103, -80.271114. The nest is between St. Matthews Church and Panther Creek, northwest and across the clear-cut from the former territory RO-02-01. The tree may not be visible from the water due to a pine buffer along the shoreline and there are no public roads near this site.

Nesting Activity

Bird Activity – On 16 March 2018, an adult was observed incubating. On 20 April 2018, 2 chicks approximately 6 weeks old were observed in the nest.

Nest Condition – On both 16 March and 20 April 2018, the nest appeared in good condition.

Nest Substrate

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

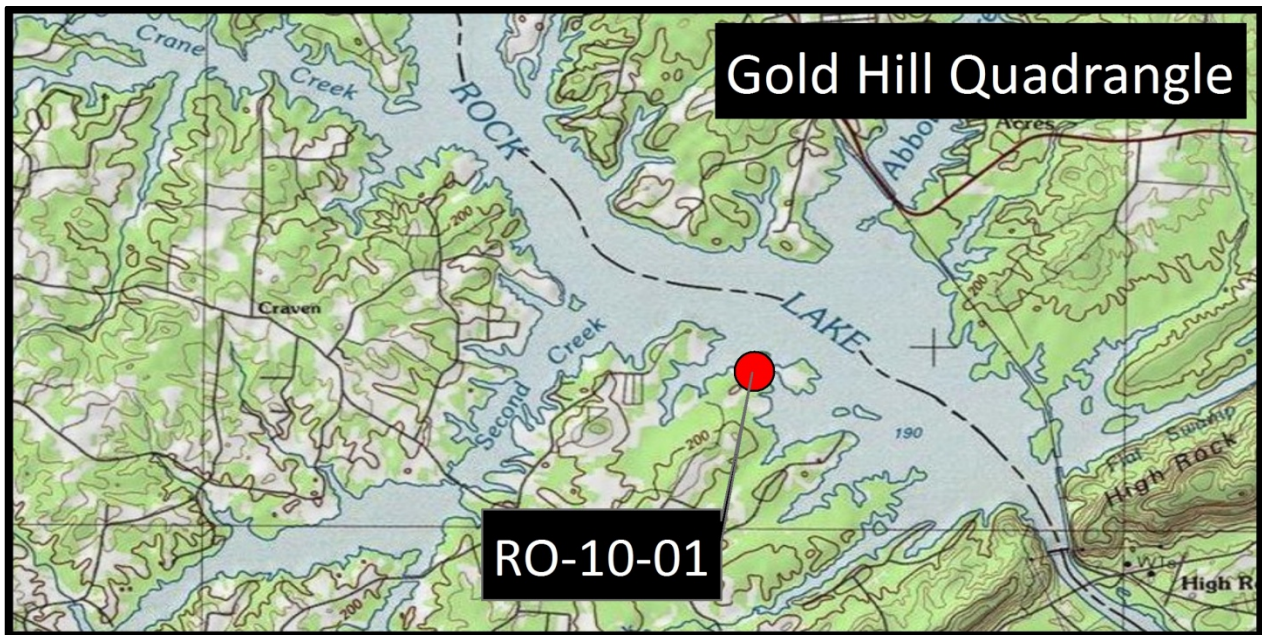
Nest Position – The nest was built in a top crotch of a young loblolly pine. Although the nest was near the crown, it was shaded with only 30-40% sky exposure.

Substrate Condition – Nest tree was in good condition.

Potential Disturbance

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

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



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



Nest Code	County	Topo Quad	Active Territory	Active Nest	Chicks Produced
DA-17-01	Davidson	Grist Mountain	Y	Y	2

Nest Location

This nest is located in an oak on the wooded bluff of the east shoreline of Abbotts Creek, near the mouth of a small tributary at 35.730622, -80.240623. The nest is located approximately 75 meters NNE of the house off of Old Mountain Road.

Nesting Activity

Bird Activity – On 16 March 2018, an adult was observed incubating. On 20 April 2018, 2 chicks approximately 6 weeks old were observed in the nest.

Nest Condition – On both 16 March and 20 April 2018, the nest appeared in good condition.

Nest Substrate

Substrate Type – Nest was built in a mature oak tree. The tree was positioned on a well wooded bluff of the east shoreline of Abbotts Creek, near the mouth of a small tributary

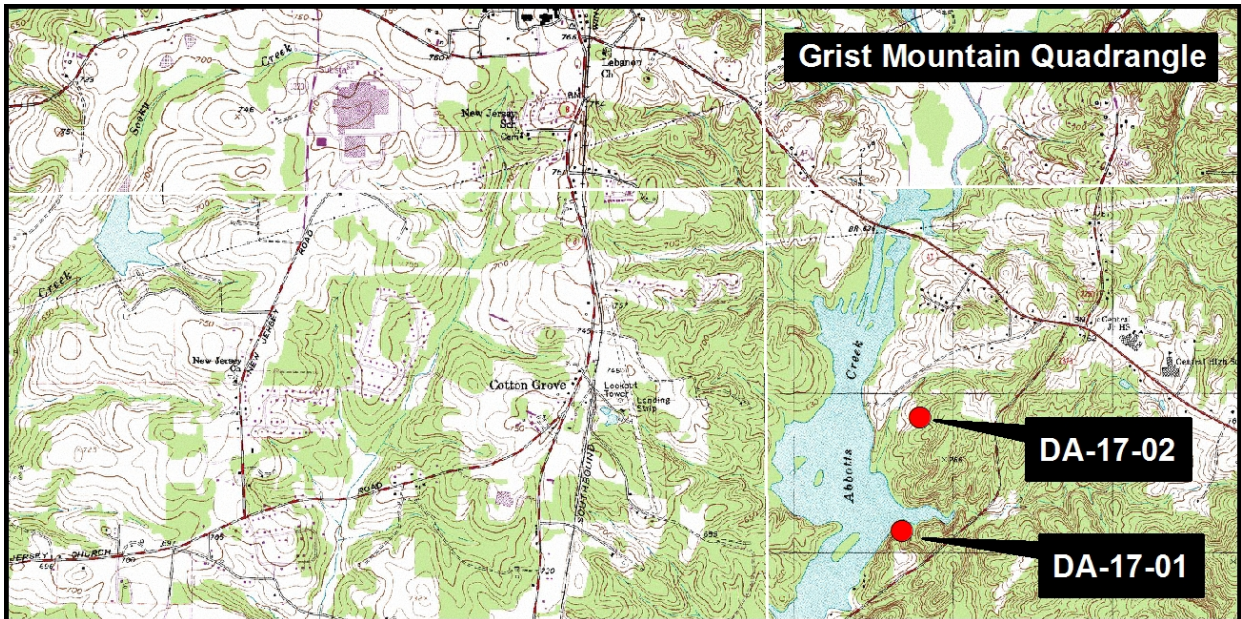
Nest Position – The nest was built the main crotch of a mature oak. Visibility into the nest is greatly reduced after leaf out.

Substrate Condition – Nest tree was in good condition.

Potential Disturbance

While most likely visible from the water prior to leaf out, access to the nest would be limited due to the steep bank. The most likely disturbance issue would be the existing house located approximately 75 meters south of the nest.

Map location of Bald Eagle nest DA-17-01.



Aerial photo of nest DA-17-01 (photo 2017. B. Paxton)



Nest Code	County	Topo Quad	Active Territory	Active Nest	Chicks Produced
DA-17-02	Davidson	Grist Mountain	Y	N	N/A

Nest Location

This nest is located in an oak on the edge of a recent clear cut on the east side of Abbotts Creek, approximately 700m north of DA-17-01 at 35.737014, -80.239248.

Nesting Activity

Bird Activity – No birds were observed at the nest on either flight. This nest is most likely a nest previously used by the pair currently occupying nest DA-17-01.

Nest Condition – On both 16 March and 20 April 2018, the nest appeared in poor condition, with just remnants of nest material remaining.

Nest Substrate

Substrate Type – Nest was built in a mature oak tree. The tree was positioned on the north edge of a recent clear cut on the east side of Abbotts Creek,

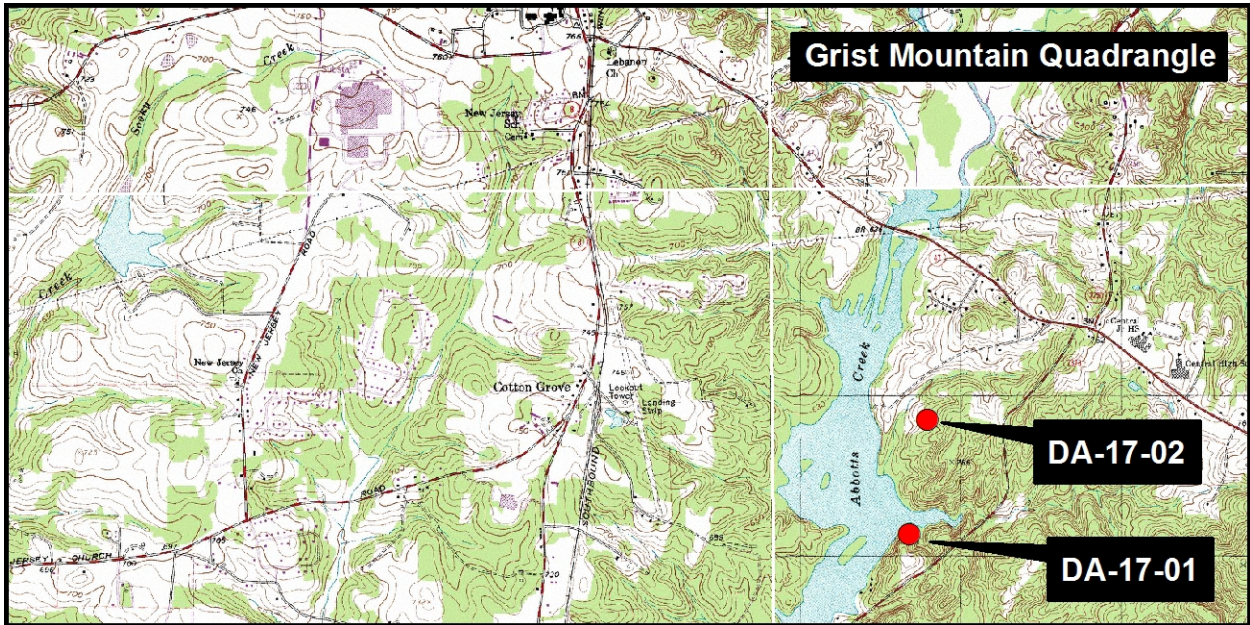
Nest Position – The nest was built the main crotch of a mature oak. Visibility into this nest would be greatly reduced after leaf out. The position and location of this nest within a hardwood forest block prevented detection prior to timbering activities.

Substrate Condition – Nest tree was in good condition.

Potential Disturbance

This nest was located in what used to be a large hardwood block of forest and would not have been visible from roads or water. Disturbance due to timbering activities likely caused this pair to move to the current DA-17-01 nest.

Map location of Bald Eagle nest DA-17-02.



Aerial photo of nest DA-17-02 (photo 2017. B. Paxton)



Nest Code	County	Topo Quad	Active Territory	Active Nest	Chicks Produced
RO-18-01	Rowan	Southmont	Y	Y	≥1

Nest Location

This new nest is located in a young tall pine on the shore of a point land at the southern mouth of Second Creek, north of a newly cleared lane off of Scout Road at coordinates 35.62685, -80.27739. This new nest is approximately 850m northeast of RO-10-01.

Nesting Activity

Bird Activity – An adult was observed incubating on 16 March 2018. On 20 April 2018 an adult was observed in a brooding posture indicating at least one small chick present.

Nest Condition – On both 16 March and 20 April 2018, the nest appeared in good condition.

Nest Substrate

Substrate Type – Nest was built in a tall, thin, young pine tree. The tree was positioned midway between the shore and a newly cleared lane off of Scout Road.

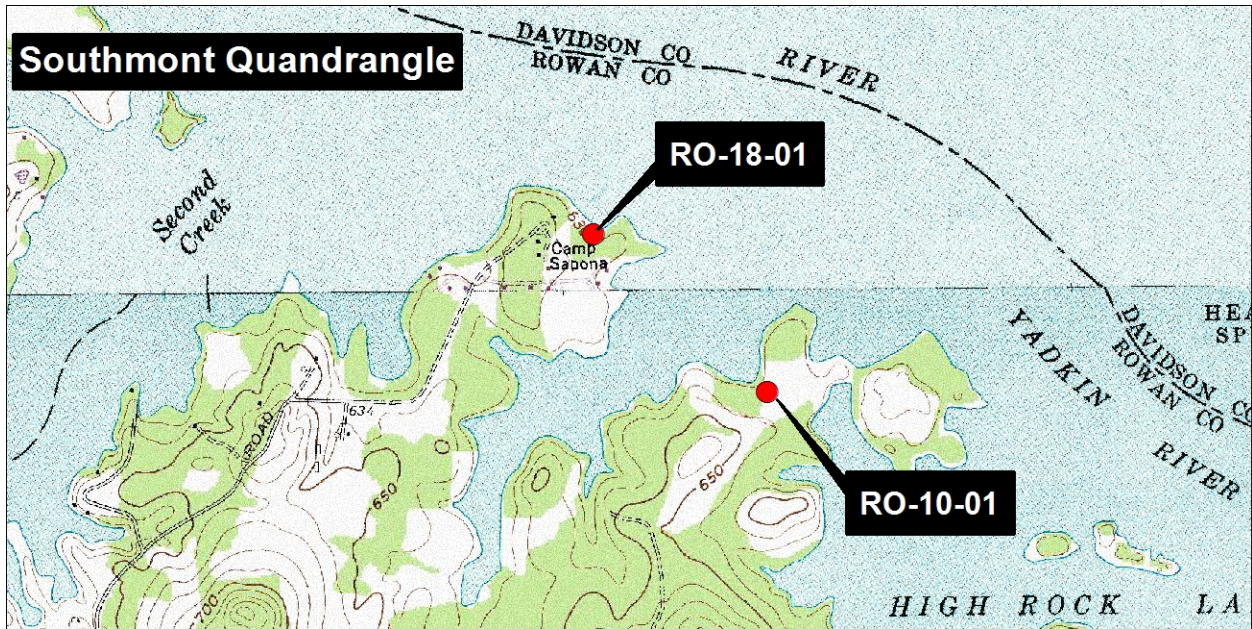
Nest Position – The nest was built high in the crotch of a tall, thin, young pine tree. Visibility into this nest is good from certain angles, but thick young canopy also obscures it from some angles.

Substrate Condition – Nest tree was in good condition.

Potential Disturbance

The nest is located midway between the shore and a newly cleared lane off of Scout Road. The nest is likely visible from both the water and the houses on Boating Terrace. The nest could be accessed by either water or road.

Map location of Bald Eagle nest RO-18-01.



Aerial photo of nest RO-18-01 (photo 2018. B. Paxton)



Great Blue Herons/Great Egrets

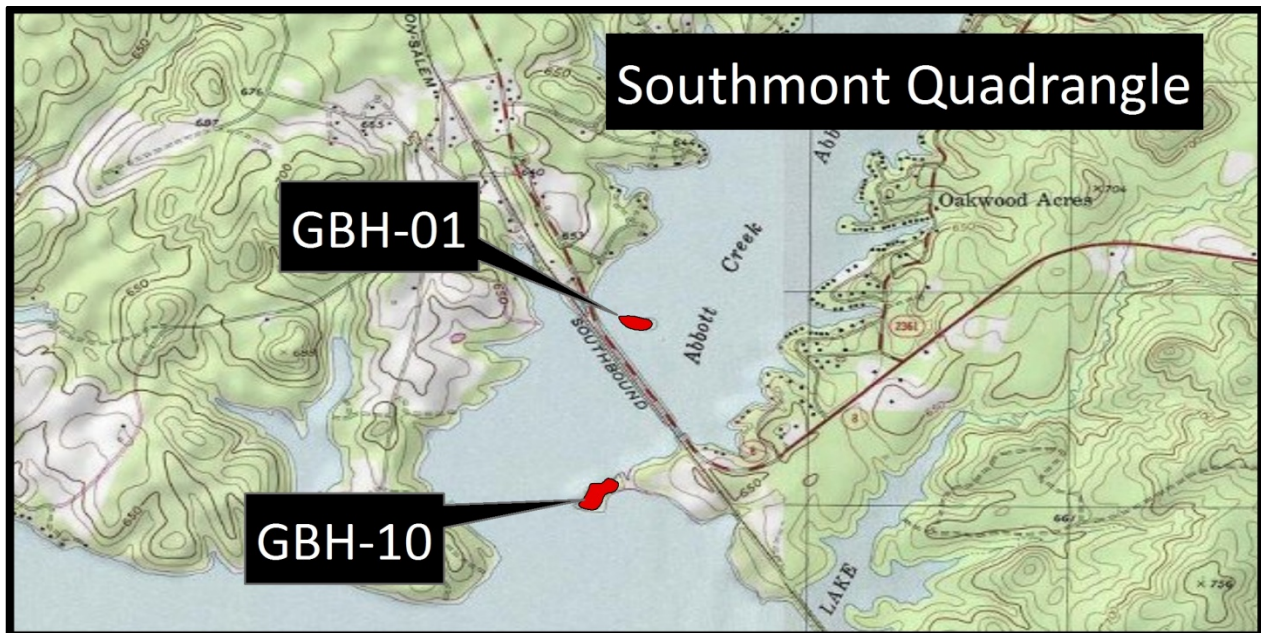
Thirteen active breeding colonies of Great Blue Herons (GBHE) were detected on High Rock Reservoir in 2018. The number of breeding pairs within the larger colonies remained relatively stable in 2018. The total population estimate for this reservoir was 292 pairs with a range between 5 and 110 Great Blue Heron pair per colony. Forty-five pairs of Great Egrets (GREG) were found nesting on the reservoir during the surveys of 2018, nesting in colony GBH-02.

Code	County	Topo Quad	Pairs
GBH-01	Davidson	Southmont	20 GBHE

GBH-01 Colony Description

This Great Blue Heron colony was located on a small island, near the Route 8 bridge, at the mouth of Abbotts Creek. The island supports a mixed stand of loblolly pines and hardwoods. Nests were built in both pines and hardwoods. On 16 March 2018, 20 pairs of Great Blue Herons were counted building, laying and incubating. The island has become a significant roost site for Double-crested Cormorants in recent years.

Map location of Great Blue Heron colony GBH-01.



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



Code	County	Topo Quad	Pairs
GBH-02	Rowan	Southmont	110 GBHE, 45 GREG

GBH-02 Colony Description

This colony was located along the western edge of the Duke Power settling ponds just north of the intersection of Leonard Road and Long Ferry Road. The pond was bordered with a mixed stand of hardwoods and pines. A larger stand dominated by loblolly pines was positioned further from the pond edge. Nests were built along the pond margin in both the mixed stand of hardwoods and the pure pine stand. Nest distribution continues to be restricted due to partial harvest of the pine stand in 2002. On 16 March 2018, 110 Great Blue Herons pairs were building, laying and incubating. On 20 April 2018 45 pairs of Great Egrets were observed nesting in this colony, with about 50 percent incubating and 50 percent egg laying.

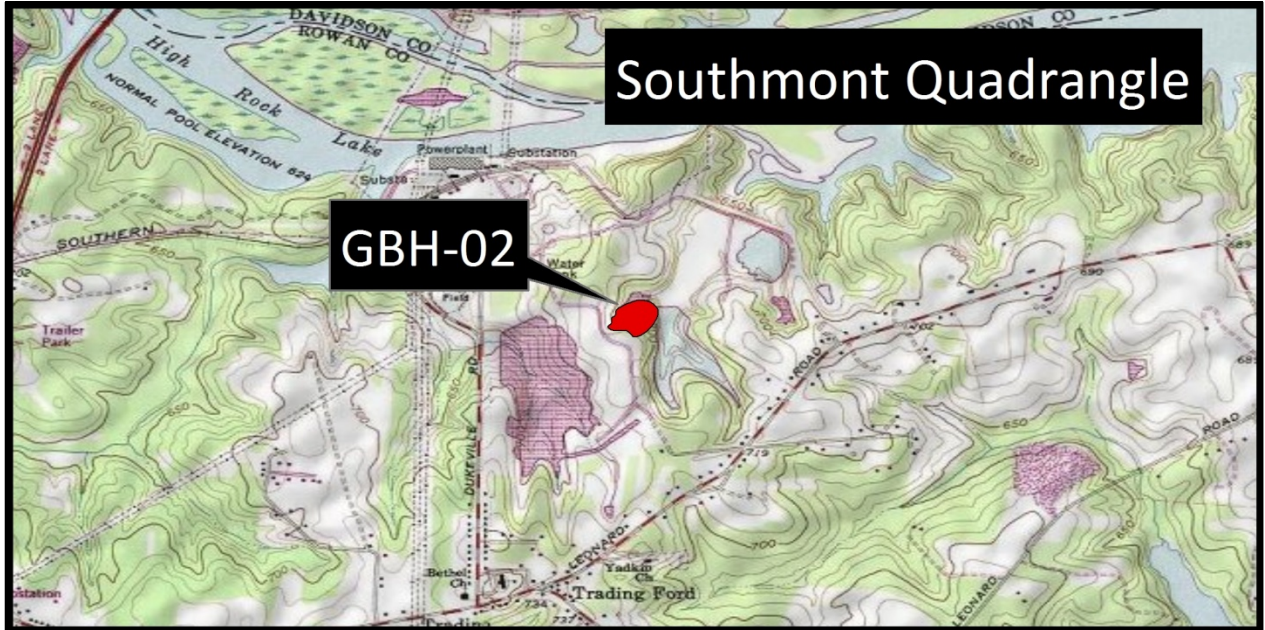
Code	County	Topo Quad	Pairs
GBH-03	Rowan	Southmont	5

GBH-03 Colony Description

This Great Blue Heron colony was located on a small, forested island in the mouth of Second Creek. The island is forested with a middle-aged loblolly pine stand. On 16 March 2018, 5 pairs

of Great Blue Herons pairs were laying and incubating This island is now used as a major Double-crested Cormorant roost.

Map location of Great Blue Heron colony GBH-02.



Aerial view of the western portion of Great Blue Heron colony GBH-02 (Photo 2016; B Paxton).



Code	County	Topo Quad	Pairs
GBH-06	Rowan	Southmont	50 GBHE

GBH-06 Colony Description

This Great Blue Heron colony is located on a small forested island within Swearing Creek just above the Linwood Southmont Road Bridge. The island is forested with a middle-aged pine stand. On 16 March 2018, there were 50 nesting pairs present, building, laying and incubating. This island is increasingly being used as a Double-crested Cormorant roost.

Code	County	Topo Quad	Pairs
GBH-07	Rowan	Grist Mountain	12GBHE

GBH-07 Description

This Great Blue Heron colony is located on a small forested island within Abbots 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 23 March 2018, there were 12 pairs nesting on the island, with 100% of the pairs incubating or brooding.

Code	County	Topo Quad	Pairs
GBH-10	Davidson	Southmont	0 GBHE

GBH-10 Colony Description

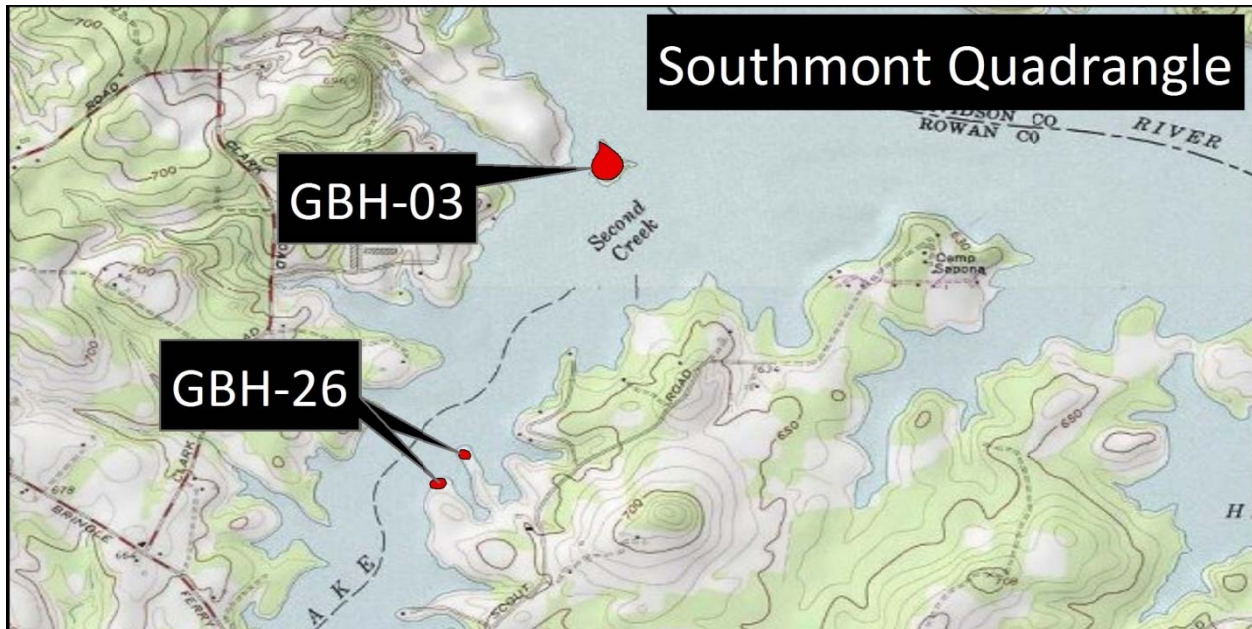
This Great Blue Heron colony was located on a small forested peninsula that forms the southeastern mouth of Abbots Creek. The site was forested with a mix of pine and hardwood. On 16 March 2018, no pairs of Great Blue Herons were detected on this island. This colony has not been active in the last 4 years.

Code	County	Topo Quad	Pairs
GBH-11	Davidson	Grist Mountain	25 GBHE

GBH-11 Colony Description

This Great Blue Heron colony was located on a small forested island in Abbots Creek. The site was forested with a mix of pine and hardwood. On 16 March 2018, there were 25 pairs nesting on the island, building, laying and incubating.

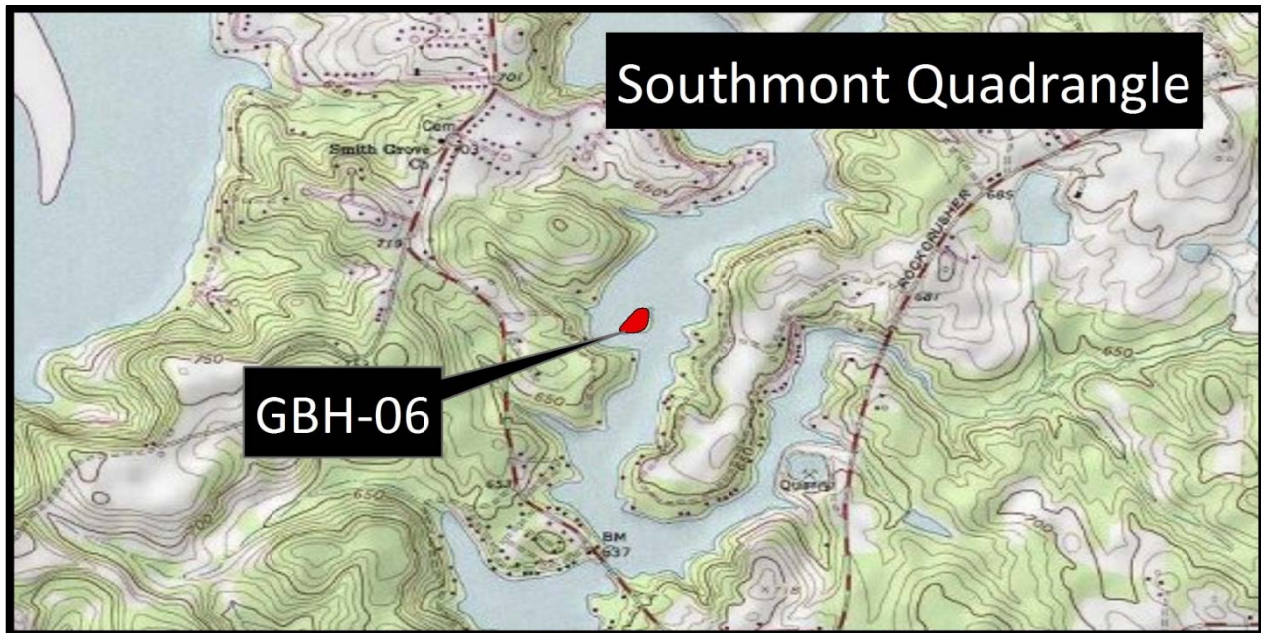
Map location of Great Blue Heron colonies GBH-03 and GBH-26.



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



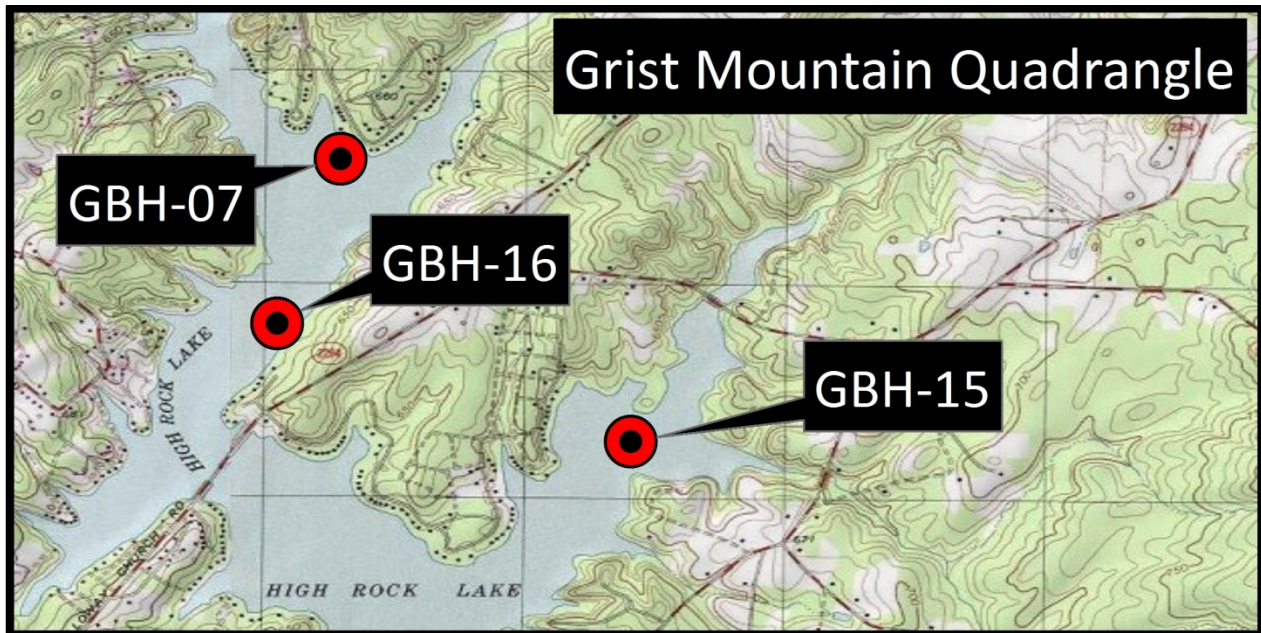
Map location of Great Blue Heron colony GBH-06.



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



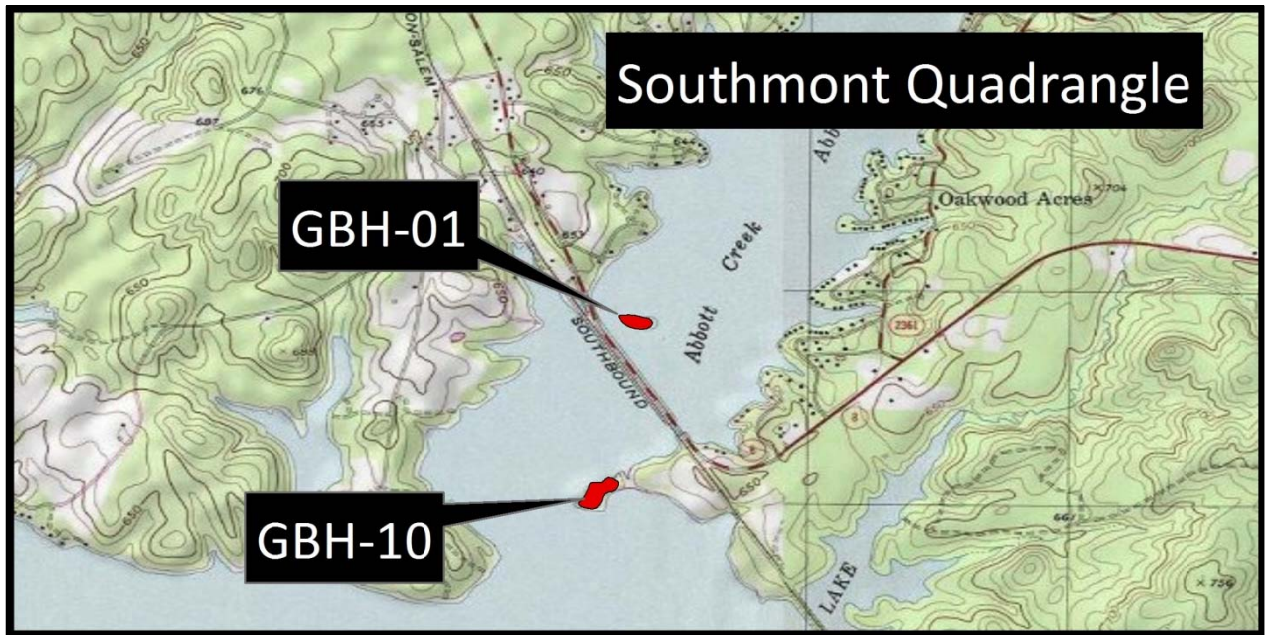
Map location of Great Blue Heron colony GBH-07.



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



Map location of Great Blue Heron colony GBH-10.



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



Map location of Great Blue Heron colony GBH-11.



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



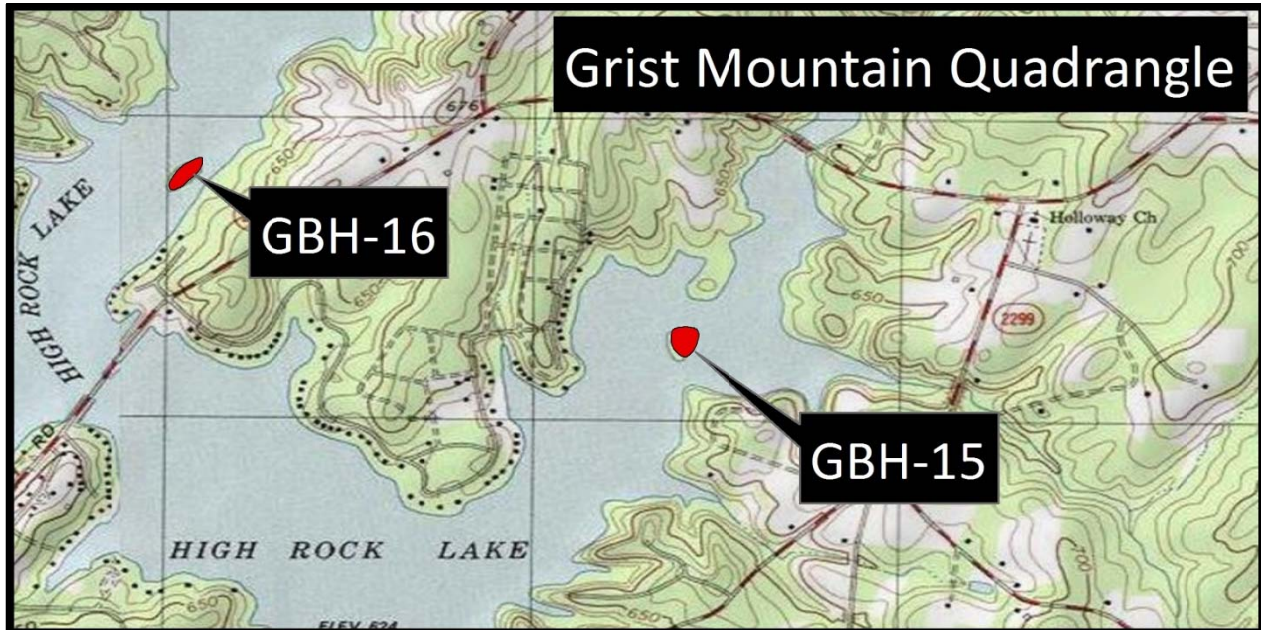
Code	County	Topo Quad	Pairs
GBH-15	Davidson	Grist Mountain	6

GBH-15 Colony Description

This Great Blue Heron colony was located on a small forested island in Abbotts Creek, southwest of Holloway Church. The site was forested with a mix of pine and hardwood. After

being inactive for 2 years, this colony was again found to be active in 2016. On 16 March 2018, 6 breeding pairs were observed in the laying and incubation stage.

Map location of Great Blue Heron colony GBH-15.



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

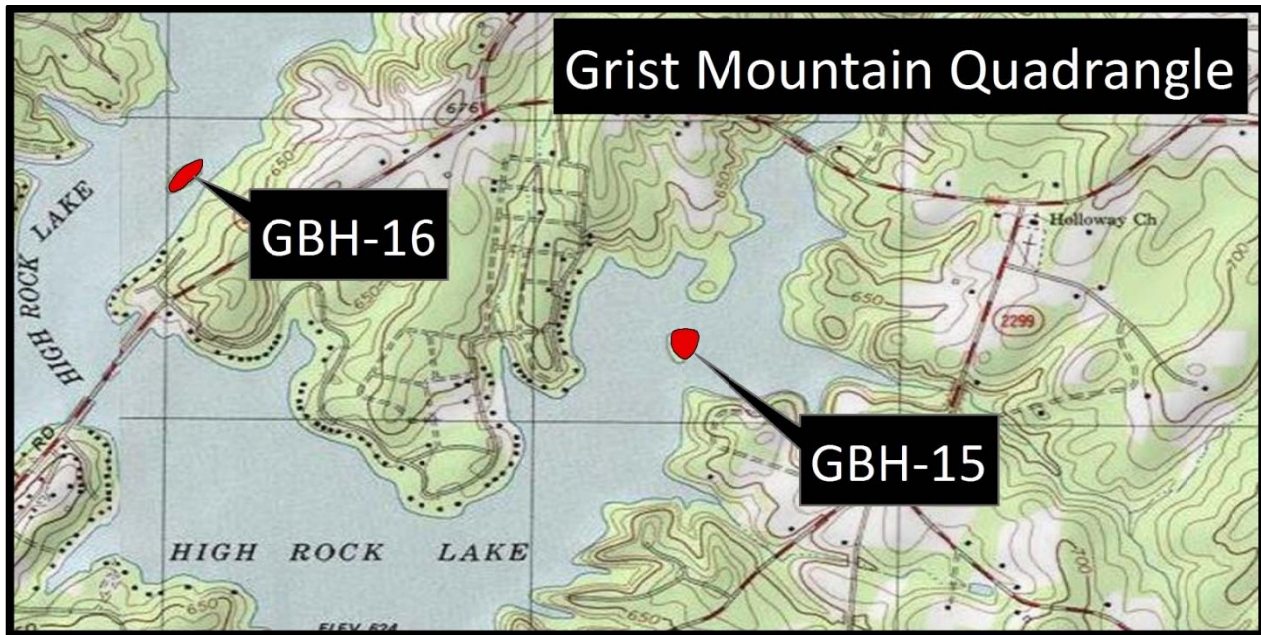


Code	County	Topo Quad	Pairs
GBH-16	Davidson	Grist Mountain	7 GBHE

GBH-16 Colony Description

This Great Blue Heron colony was located on a small forested island in Abbotts Creek. The site was forested with a mix of pine and hardwood. On 16 March 2018, there were 7 pairs nesting on the island, all of which were in the laying or incubation stage.

Map location of Great Blue Heron colony GBH-16.



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

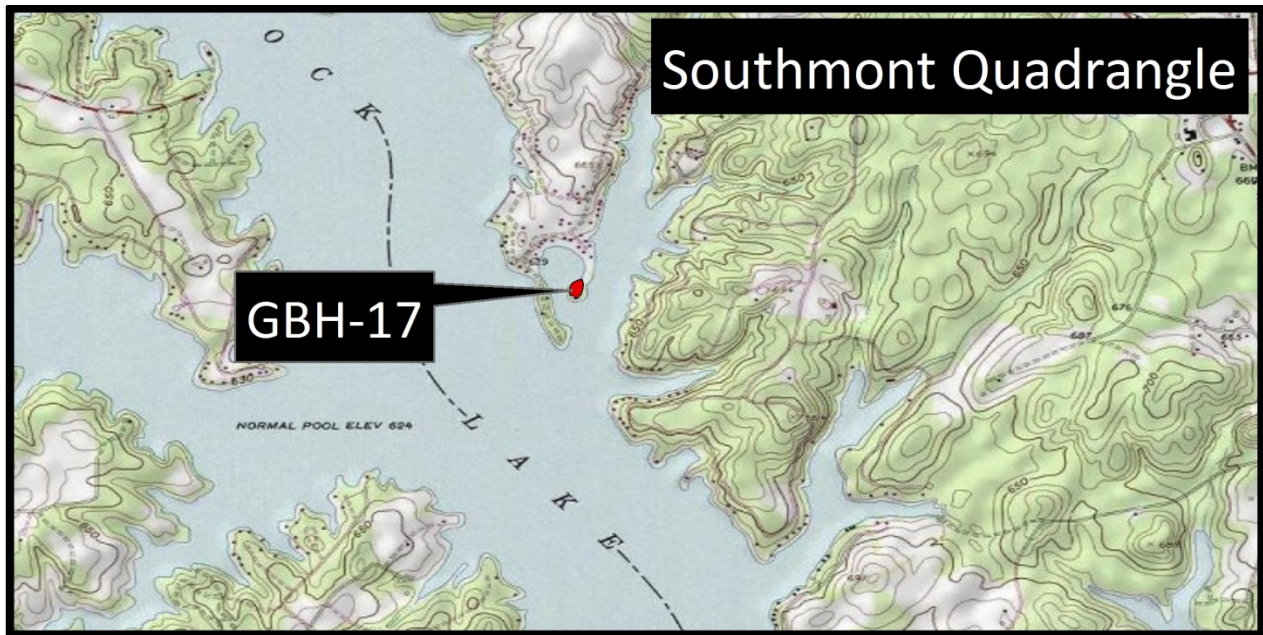


Code	County	Topo Quad	Pairs
GBH-17	Davidson	Southmont	0 GBHE

GBH-17 Colony Description

This Great Blue Heron colony was located in a patch of forested land along Abbotts Creek, south of Southmont. The patch of forest is comprised of middle-aged pines. On 16 March 2018, this colony was found to be abandoned with no active nests.

Map location of Great Blue Heron colony GBH-17.

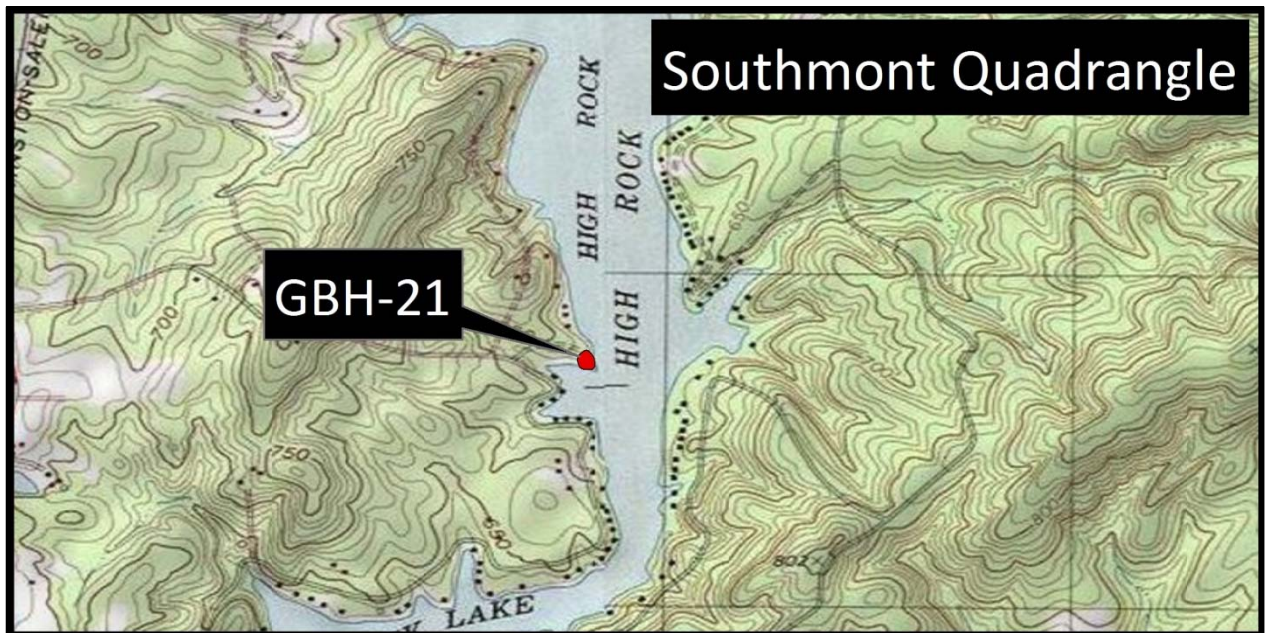


Code	County	Topo Quad	Pairs
GBH-21	Davidson	Southmont	7 GBHE

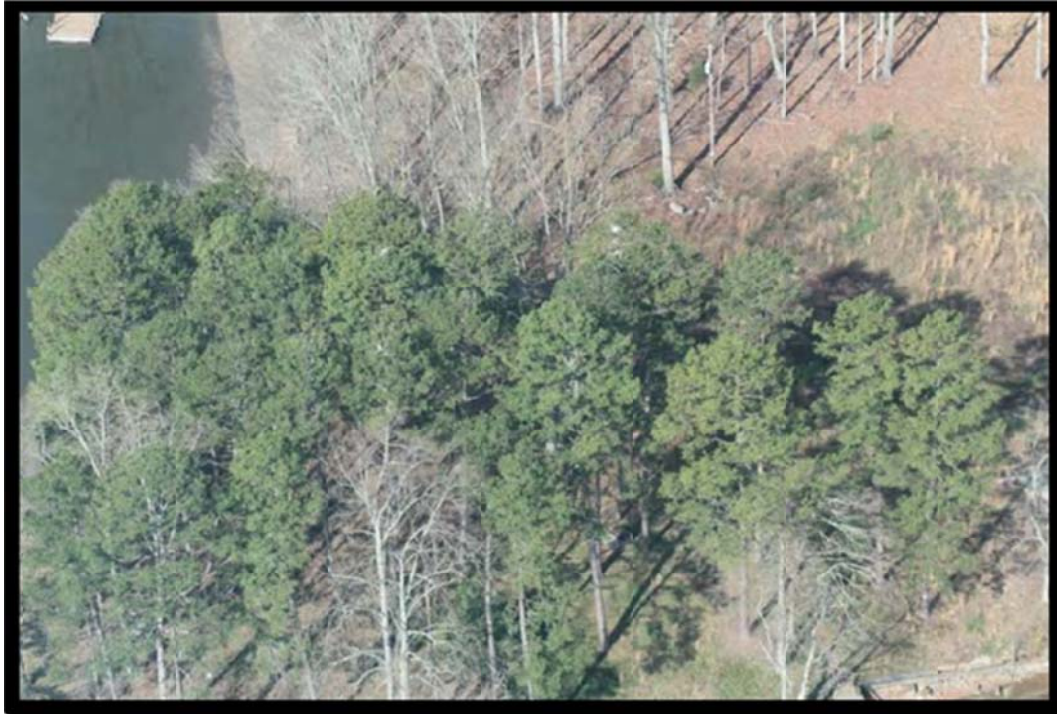
GBH-21 Colony Description

This Great Blue Heron colony is located in a patch of forested land along Abbotts Creek at the end of Fern Creek Drive, northeast of Feezor. The patch of forest is comprised of middle-aged pines. This colony was not active in 2017, but on 16 March 2018, 7 pairs of herons were observed laying and incubating.

Map location of Great Blue Heron colony GBH-21.



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



Code	County	Topo Quad	Pairs
GBH-23	Davidson	Grist Mountain	12 GBHE

GBH-23 Colony Description

This Great Blue Heron colony is located in a patch of forested land along Flat Swamp Creek, northeast of High Rock. The patch of forest is comprised of middle-aged pines. On 16 March 2018, there were 12 nesting pairs present, all of which were in the laying or incubation stage.

Map location of Great Blue Heron colony GBH-23.

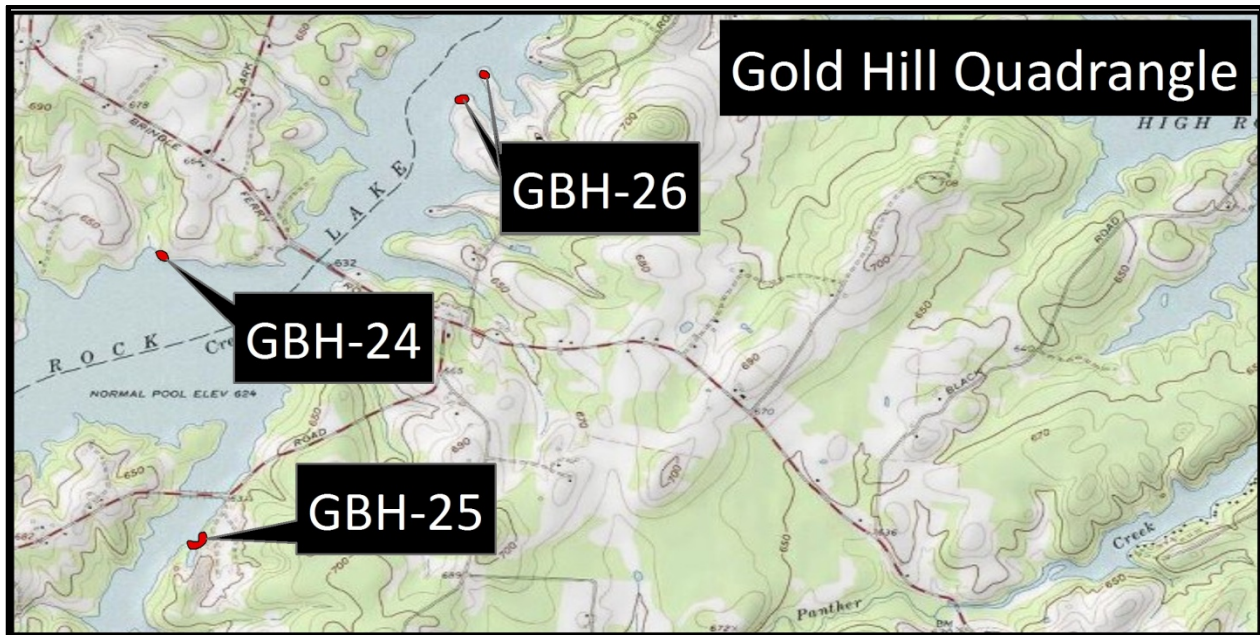


Code	County	Topo Quad	Pairs
GBH-24	Rowan	Gold Hill	15 GBHE
GBH-25	Rowan	Gold Hill	0 GBHE
GBH-26	Rowan	Gold Hill	10 GBHE

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

These Great Blue Heron colonies are located along the wooded edge of Second Creek. All three patches of forest are comprised of middle-aged pines. On 16 March 2018, there were 15 nesting pairs present at GBH-24 and 10 pairs at GBH-26. No active nests were observed at GBH-25. All of the pairs at colonies GBH-24 and GBH-26 were laying and incubating.

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



Code	County	Topo Quad	Pairs
GBH-28	Davidson	Gold Hill	0 GBHE

GBH-28 Colony Description

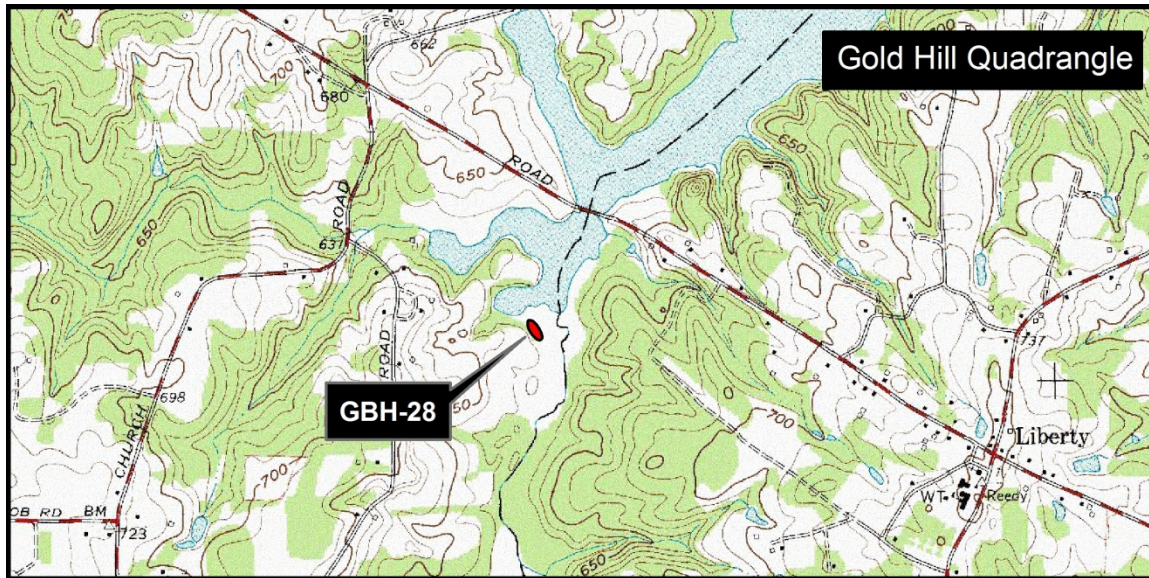
This Great Blue Heron colony was located in a forested patch near the mouth of Branch Creek. The patch of forest is comprised of middle-aged pines. On 16 March 2018, there were no nesting pairs present; this colony has not been active for 4 years.

Code	County	Topo Quad	Pairs
GBH-30	Davidson	Gold Hill	8 GBHE

GBH-30 Colony Description

This Great Blue Heron colony, discovered in 2016, is located in a forested peninsula on the north shore of Flat Swamp Creek. The patch of forest on the peninsula is comprised of middle-aged pines. On 16 March 2018, there were 5 nesting pairs present, all were laying and incubating.

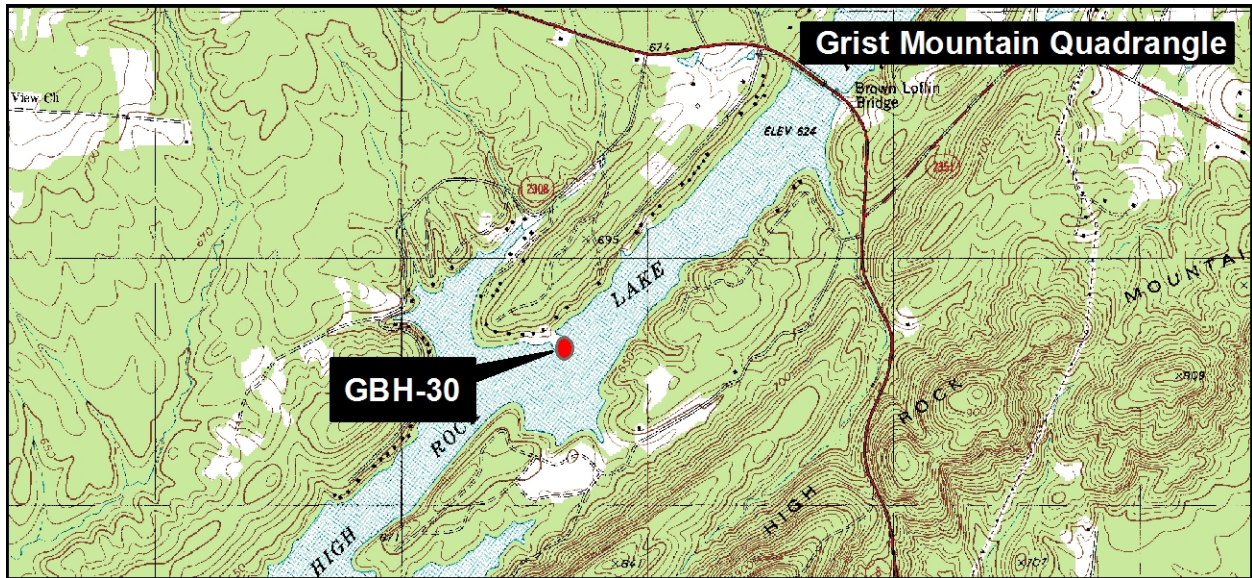
Map location of Great Blue Heron colony GBH-28.



Aerial view of Great Blue Heron colony GBH-28 (2014; B. Paxton).



Map location of Great Blue Heron colony GBH-30.



Aerial view of Great Blue Heron colony GBH-30 (2016; B. Paxton).



Aerial view of Great Blue Heron colony GBH-35 (2018; B. Paxton).



Tuckertown Reservoir

Bald Eagles

Two Bald Eagle territories were occupied within the Tuckertown Reservoir system. Nest DA-10-01 was active in 2018 but failed to produce chicks. Nest RO-17-01 remained inactive. Nest DA-17-03 was observed to have 2 chicks approximately 4 weeks old on 20 April 2018.

Nest Code	County	Topo Quad	Active Territory	Active Nest	Chicks Produced
DA-10-01	Davidson	High Rock	Y	Y	0

Nest Location

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

Nesting Activity

Bird Activity – On 16 March 2018, the nest was observed in good condition with an adult incubating. On 20 April 2018, the nest was found to be empty with no sign of the adults nearby.

Nest Condition – The nest in general was in good structural condition, a few sticks continue to hang from the front of the nest.

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.

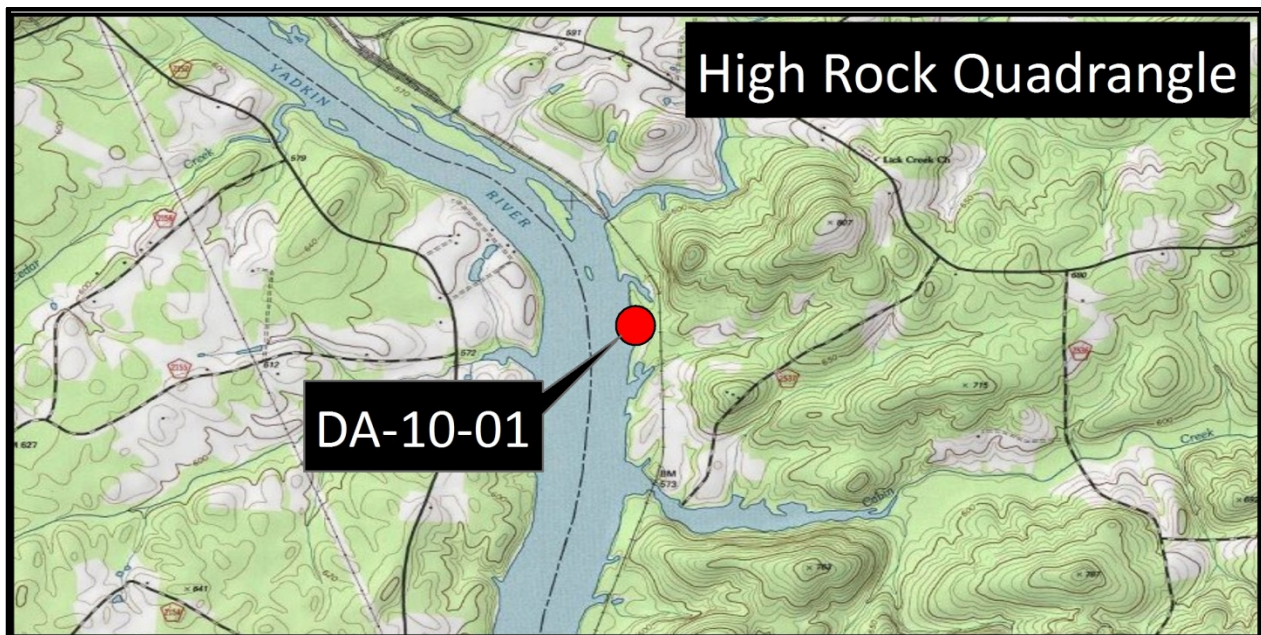
Nest Position – Nest is positioned on side limbs up against the main trunk and down below the crown. Nest had greater than 50% sky exposure.

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

Potential Disturbance

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

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



Aerial photo of nest DA-10-01 (photo 2016; B. Paxton).



Nest Code	County	Topo Quad	Active Territory	Active Nest	Chicks Produced
DA-17-03	Davidson	High Rock	Y	Y	2

Nest Location

This nest is located along the east shoreline of Tuckertown Reservoir, downstream from the mouth of Cabin Creek. The nest tree is within a buffer strip of loblolly pines between railroad tracks and the water. The nest is likely visible from the water and from the railroad.

Nesting Activity

Bird Activity – On 16 March 2018, the nest was observed in good condition with an adult incubating. On 20 April 2018, 2 chicks approximately 4 weeks old were observed in the nest.

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

Nest Substrate

Substrate Type – Nest was built in a loblolly pine. Nest tree was in a narrow pine buffer between the railroad tracks and the water.

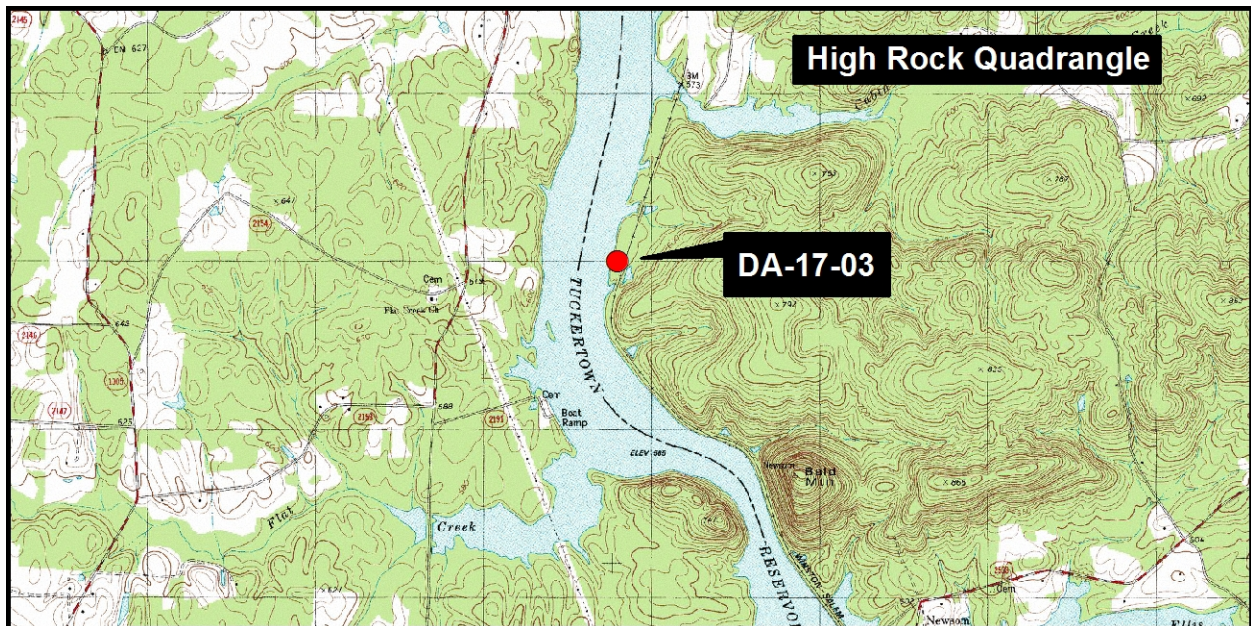
Nest Position – Nest was positioned on side limbs up against the main trunk and down below the crown. Nest had greater than 50% sky exposure.

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

Potential Disturbance

The nest is likely visible from the water and the railroad tracks, and would be most accessible from the water side. The land is not near easy road access, disturbance potential appears limited.

Map location of Bald Eagle nest DA-17-03.



Aerial photo of nest DA-17-03 (photo 2017; B. Paxton).



Nest Code	County	Topo Quad	Active Territory	Active Nest	Chicks Produced
RO-17-01	Rowan	High Rock	Y	N	N/A

Nest Location

This nest is located along the southwest shoreline of Tuckertown Reservoir, between the mouth of Cedar Creek and Splendor View Road. The nest tree is within a thinned block of loblolly pines between River Road and the reservoir. The nest is not likely visible from the water or from the road.

Nesting Activity

Bird Activity – On both 16 March and 20 April 2018, the nest was observed in fair condition with no birds present and no fresh work. This nest is less than 1.5 km NW of DA-10-01 and may be an alternate nest built by this pair.

Nest Condition – The nest in general was in fair structural condition.

Nest Substrate

Substrate Type – Nest was built in a loblolly pine. The nest tree is within a thinned block of loblolly pines between River Road and the reservoir.

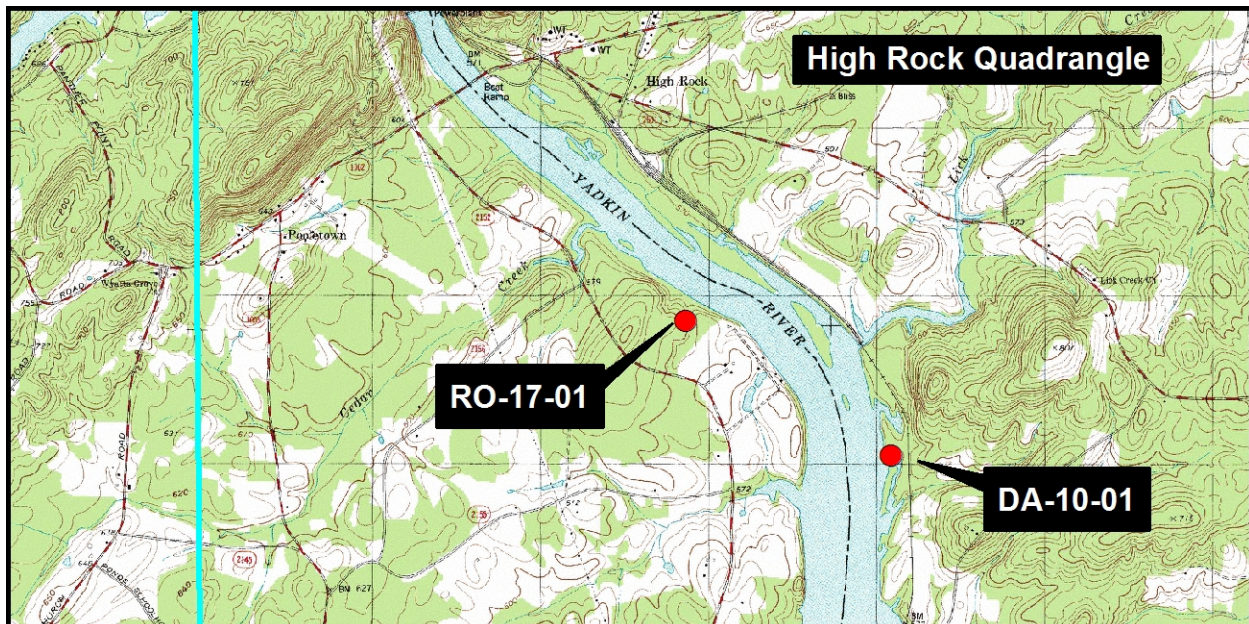
Nest Position – Nest was positioned on side limbs up against the main trunk and down below the crown. Nest had greater than 50% sky exposure.

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

Potential Disturbance

The nest is not likely visible from the water or roads, disturbance potential appears minimal.

Map location of Bald Eagle nest RO-17-01.



Aerial photo of nest RO-17-01 (photo 2017; B. Paxton).



Great Blue Herons/Great Egrets

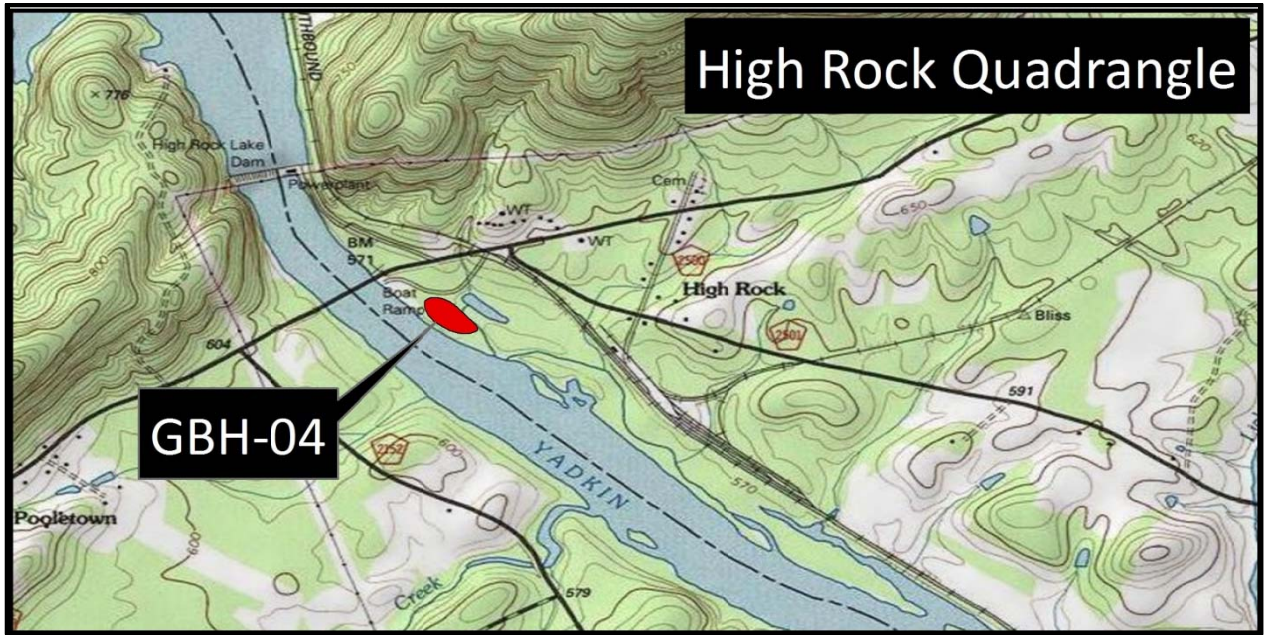
Two colonies of breeding Great Blue Herons were detected on Tuckertown Reservoir on islands just below the High Rock Dam. The total population estimate for this reservoir is 80 pairs of Great Blue Herons and 20 pairs of Great Egrets.

Code	County	Topo Quad	Pairs
GBH-04	Davidson	High Rock	70 GBHE, 20 GREG

GBH-04 Colony Description

This mixed Great Blue Heron and Great Egret colony is located on a small forested island and the adjacent forested shoreline just below the High Rock Dam. This island is long and linear, and contains a mixed stand of hardwoods and pines. The adjacent shoreline is pine-dominated. On 16 March 2018, 70 pairs of Great Blue Herons were observed laying, and incubating. On 20 April 2018, 20 pairs Great Egrets were present laying and incubating.

Map location of Great Blue Heron colony GBH-04



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

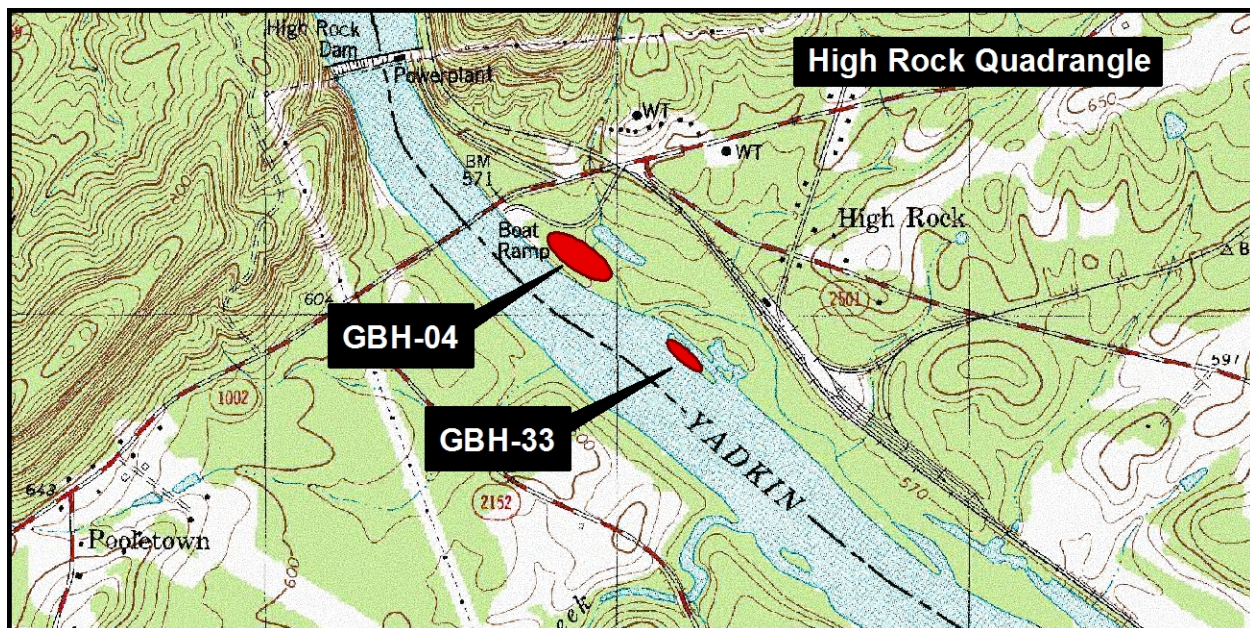


Code	County	Topo Quad	Pairs
GBH-33	Davidson	High Rock	10 GBHE

GBH-33 Colony Description

This Great Blue Heron colony is located on a small forested island directly downstream from GBH-04. This island is long and linear, and consists mainly of pines. The adjacent shoreline is mixed pine and hardwoods. On 16 March 2018, 10 pairs of Great Blue Herons were observed laying, and incubating.

Map location of Great Blue Heron colony GBH-33



Aerial view of Great Blue Heron colony GBH-33 (photo 2017, B. Paxton).



Narrows Reservoir

Bald Eagles

Three active Bald Eagle nests were located along the shoreline of Narrows Reservoir. Two previously known nests and a new replacement for nest MO-17-02 which was found to be inactive and damaged this year. An additional new inactive nest was located that appears to have been overlooked on previous flights.

Nest Code	County	Topo Quad	Active Territory	Active Nest	Chicks Produced
MO-03-01	Montgomery	Badin	Y	Y	3 chicks

Nest Location

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

Nesting Activity

Bird Activity – On 16 March 2018 an adult was observed on the nest with 3 chicks approximately 1 week old. On 20 April 2018, 3 large chicks, approximately 7 weeks old, were observed standing in the nest.

Nest Condition – Nest structure was observed to be good. Damage observed last year, during the productivity flight, had been repaired.

Nest Substrate

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

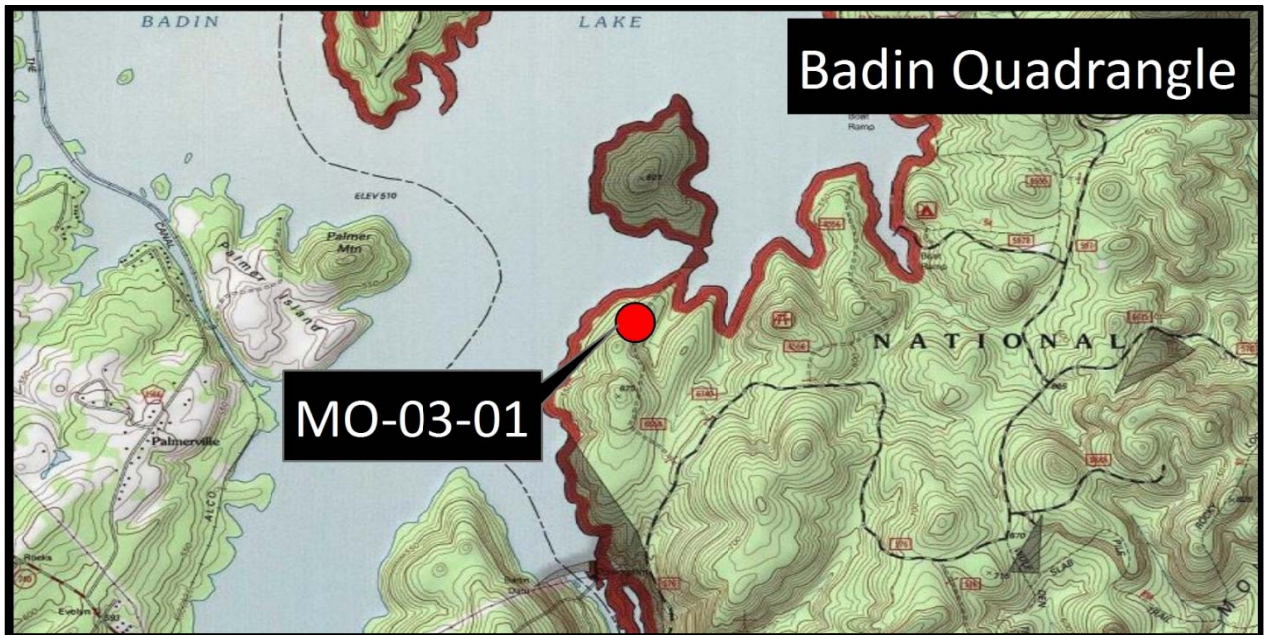
Nest Position – Nest is positioned on a lateral limb up against the trunk. Crown limbs are fairly sparse such that sky exposure was 70%.

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 the shoreline, but may be seen and accessed from nearby logging road.

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



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



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

Nest Location

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

Nesting Activity

Bird Activity – On 16 March 2018, an adult was observed on the nest incubating. On 20 April 2018 3 large chicks, approximately 6 weeks old were observed in the nest.

Nest Condition – The nest was in good structural condition and had a well-developed cup and lining.

Nest Substrate

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

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

Substrate Condition – Nest tree was in good condition.

Potential Disturbance

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

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



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



Nest Code	County	Topo Quad	Active Territory	Active Nest	Chicks Produced
MO-13-01	Montgomery	Badin	N	N	-

Nest Location

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

Nesting Activity

Bird Activity – No eagle activity was observed in the vicinity of the nest on 16 March 2018, or 20 April 2018.

Nest Condition – This nest is now absent.

Nest Substrate

Substrate Type – Nest was in a supercanopy loblolly pine tree.

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

Substrate Condition – Nest tree is in good condition.

Potential Disturbance

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

Nest Code	County	Topo Quad	Active Territory	Active Nest	Chicks Produced
MO-13-02	Montgomery	Badin	Y	N	-

Nest Location

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

Nesting Activity

Bird Activity – On both 16 March 2018 and 20 April 2018, no adults were observed in the vicinity of the nest site.

Nest Condition – Nest is absent. The nest was found to be missing during the productivity flight of 2016.

Nest Substrate

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

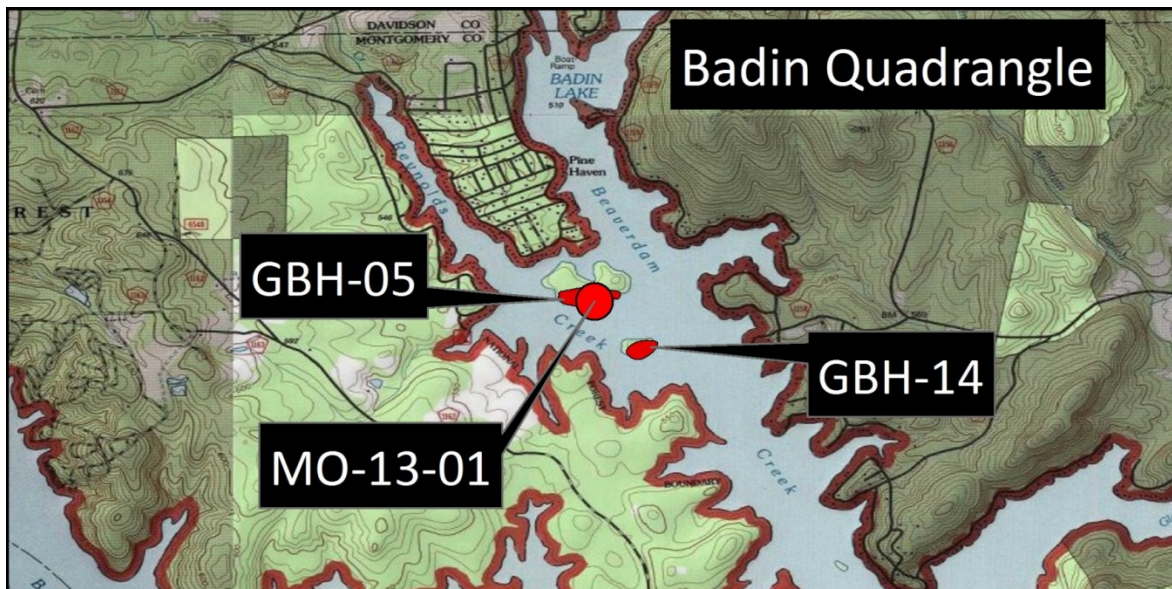
Nest Position – Nest was positioned in a stable crotch at the top of the tree. Nest was shaded and has approximately 25% sky exposure.

Substrate Condition – Nest tree is in good condition.

Potential Disturbance

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

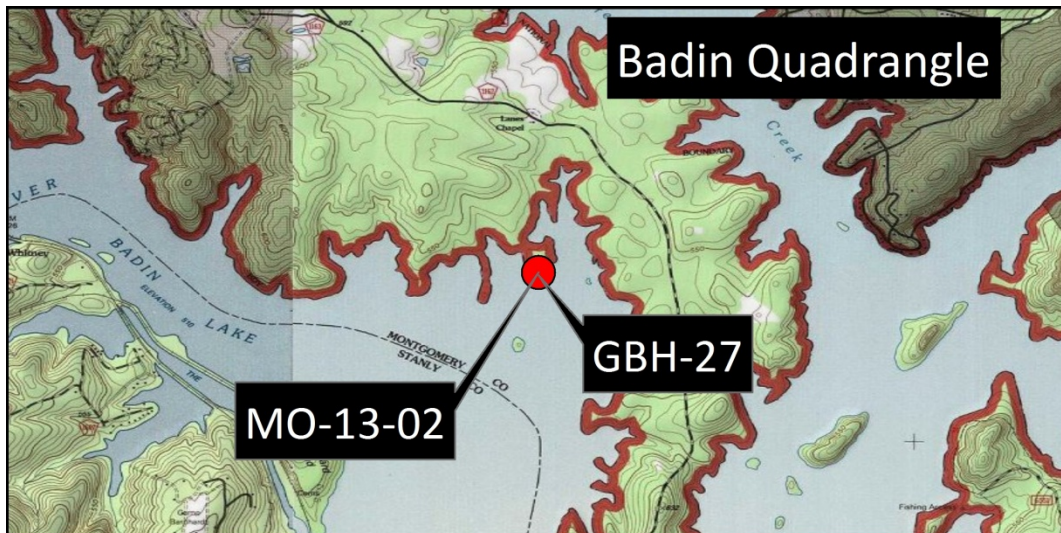
Map location of Bald Eagle nest MO-13-01.



Aerial photo of nest MO-13-01 (photo 2016; B. Paxton)



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



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



Nest Code	County	Topo Quad	Active Territory	Active Nest	Chicks Produced
MO-17-02	Montgomery	Badin	Y	N	-

Nest Location

This nest is located on the southeast edge of a recent clearcut, in close proximity to a small industrial facility and Lanes Chapel Rd. This nest is most likely occupied by the eagle pair that used to occupy the now absent MO-13-02.

Nesting Activity

Bird Activity – On 16 March 2018 this nest was found to be damaged with no adults in the immediate vicinity.

Nest Condition – The nest is damaged with a considerable amount of residual nest material remaining.

Nest Substrate

Substrate Type – Nest was built in a large loblolly pine tree at the edge of a recent clearcut. The nest is in close proximity to a small industrial facility and Lanes Chapel Rd.

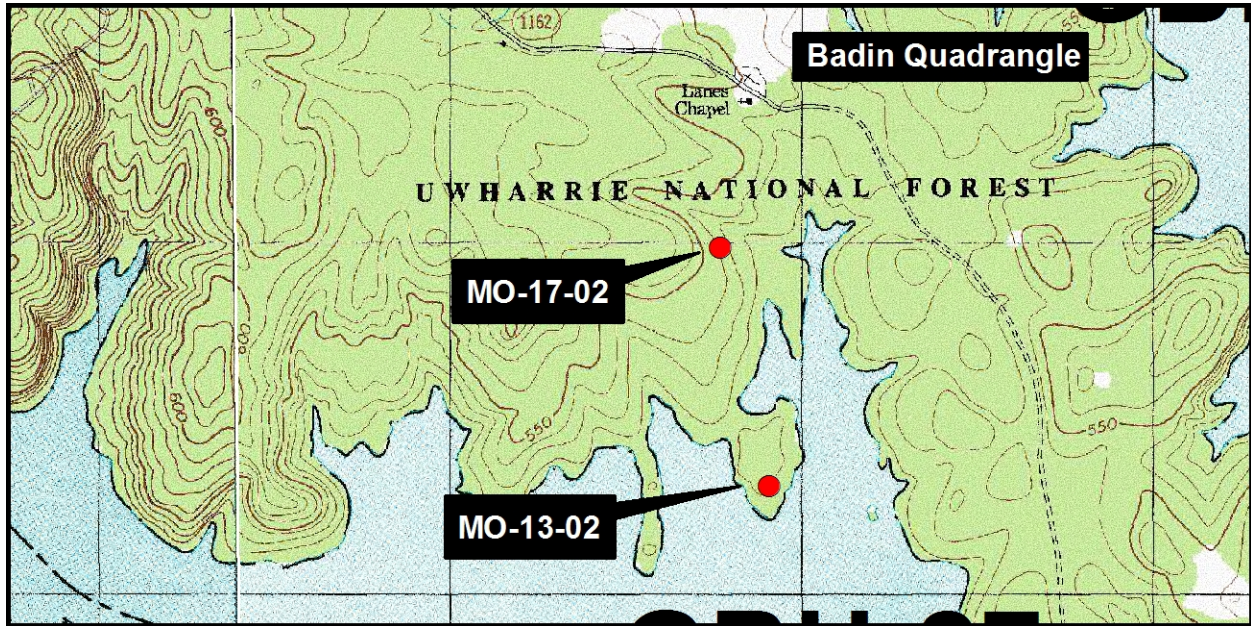
Nest Position – Nest was positioned in a stable crotch at the top of the tree. Nest was shaded and has approximately 75% sky exposure.

Substrate Condition – Nest tree is in good condition.

Potential Disturbance

The nest appears to be visible from the industrial facility, less than 100m to the northeast. The nest would be easily accessible from Lanes Chapel Road or by trails near the nest.

Map location of Bald Eagle nest MO-17-02.



Aerial photo of nest MO-17-02 (photo 2017; B. Paxton)



Nest Code	County	Topo Quad	Active Territory	Active Nest	Chicks Produced
MO-18-02	Montgomery	Badin	N	N	-

Nest Location

This nest is located on the south shore of a cove on the north shore of Narrows Reservoir, northeast of Whitney. This is an older nest that had been overlooked on previous flights. The majority of the nest was present but it had obviously not been maintained in 2018.

Nesting Activity

Bird Activity – No eagle activity was observed at this nest.

Nest Condition – This is older nest is in fair condition.

Nest Substrate

Substrate Type – Nest was built in a large pine tree on the north shore of a cove on the north shore of Narrows Reservoir, northeast of Whitney.

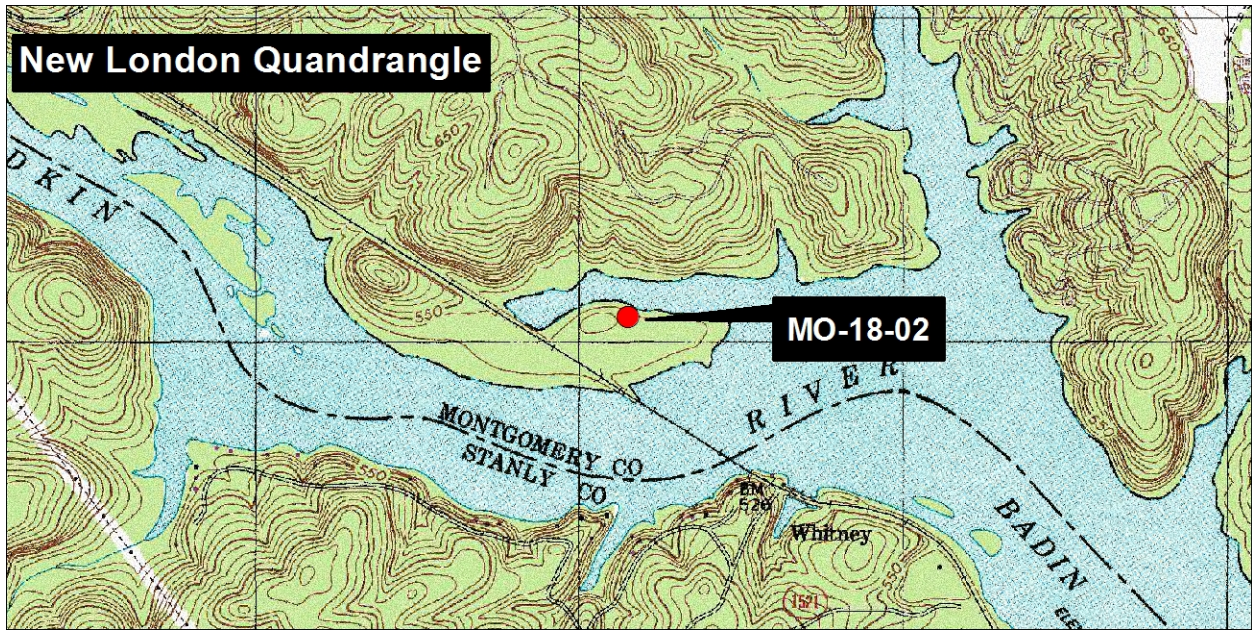
Nest Position – Nest was positioned on a lateral branch high in the tree facing to the north. Considerable canopy over the nest but the nest was open to the north with approximately 50% sky exposure.

Substrate Condition – Nest tree is in good condition.

Potential Disturbance

The nest is very close to the shore of the cove, and would be visible from the water. Disturbance from boaters would be possible.

Map location of Bald Eagle nest MO-18-02.



Aerial photo of nest MO-18-02 (photo 2018; B. Paxton)



Nest Code	County	Topo Quad	Active Territory	Active Nest	Chicks Produced
MO-18-03	Montgomery	Badin	Y	Y	1

Nest Location

This nest is located on the south edge of a recent clearcut, on the west side of Summerlake Drive, in very close proximity to a house. This nest is most likely occupied by the eagle pair that used to occupy the now absent MO-13-02 and the damaged nest MO-17-02.

Nesting Activity

Bird Activity – On 20 April 2018 an adult was observed on the nest with a single 3 week old chick.

Nest Condition – This is a freshly constructed nest and in good condition.

Nest Substrate

Substrate Type – Nest was built in a large loblolly pine tree at the edge of a recent clearcut. The nest is in close proximity to a house at the end of Summerlake Drive.

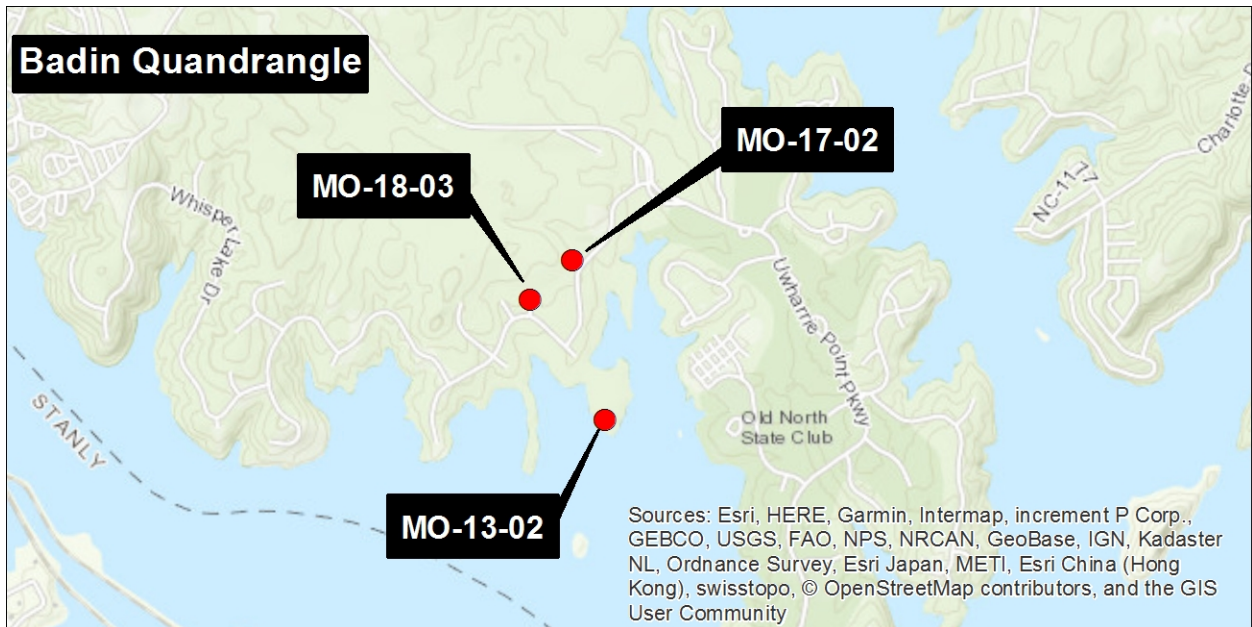
Nest Position – Nest was positioned in a stable crotch at the top of the tree. Nest was quite open and has approximately 75% sky exposure.

Substrate Condition – Nest tree is in good condition.

Potential Disturbance

The nest is very near Summerlake Drive and would be visible from the road. Disturbance would be likely from the road. However, this is most likely a replacement nest for nest MO-17-02, which was also built near human activity. This pair seems to be acclimated to some level of human disturbance.

Map location of Bald Eagle nest MO-18-03.



Aerial photo of nest MO-18-03 (photo 2018; B. Paxton)



Great Blue Herons/Double-crested Cormorants

Eight active colonies of breeding Great Blue Herons were detected within Narrows Reservoir during the 2018 survey. The total population estimate of Great Blue Heron pairs for this reservoir in 2018 was 266 pairs, an 18% increase over 2017. Two colonies of Double-crested Cormorants, totaling 170 pairs, were found associated with heron colonies GBH-08 and GBH-14.

Code	County	Topo Quad	Pairs
GBH-05	Montgomery	Badin	150 GBHE

GBH-05 Colony Description

This Great Blue Heron colony was located on a small forested island near the Pine Haven residential development at the confluence of Beaverdam and Reynolds Creeks. The drainage is highly developed in this area with considerable boat traffic. The island supports a middle-aged stand of loblolly pines with numerous canopy gaps. Nests were built throughout the stand. The colony was estimated to contain 150 pairs of Great Blue Herons. On 16 March 2018 all pairs were laying and incubating.

Code	County	Topo Quad	Pairs
GBH-08	Stanly	Badin	8 GBHE, 45 DCCO

GBH-08 Colony Description

This Great Blue Heron 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 2018, 8 pairs of Great Blue Herons were observed, and 100% of those were laying and incubating. On 20 April 2018 45 pairs of Double-crested Cormorants were observed building, laying and incubating.

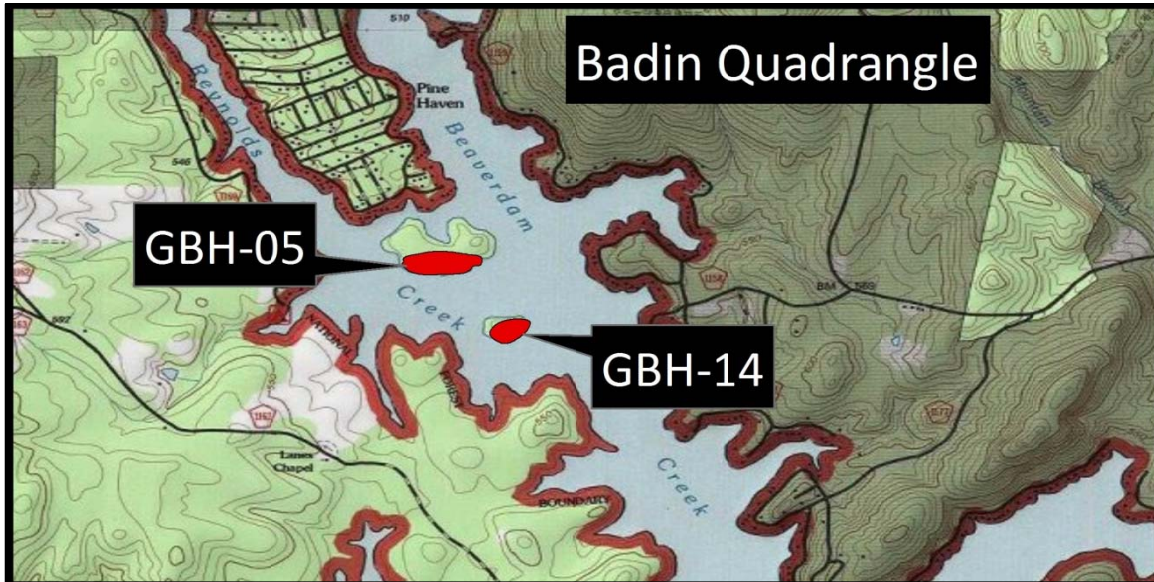
Code	County	Topo Quad	Pairs
GBH-14	Montgomery	Badin	40 GBHE, 125 DCCO

GBH-14 Colony Description

This Great Blue Heron colony was located on a small forested island within the confluence of Reynolds and Beaverdam Creeks. The island is well isolated from the shoreline. The forest was dominated by loblolly pines. Nests were scattered across the island in two clusters. Recently the island has lost many trees due to wind. On 16 March 2018, 40 pairs were observed, all pairs

were laying and incubating. On 20 April 2018, 125 pairs of Double-crested Cormorants were observed building, laying and incubating.

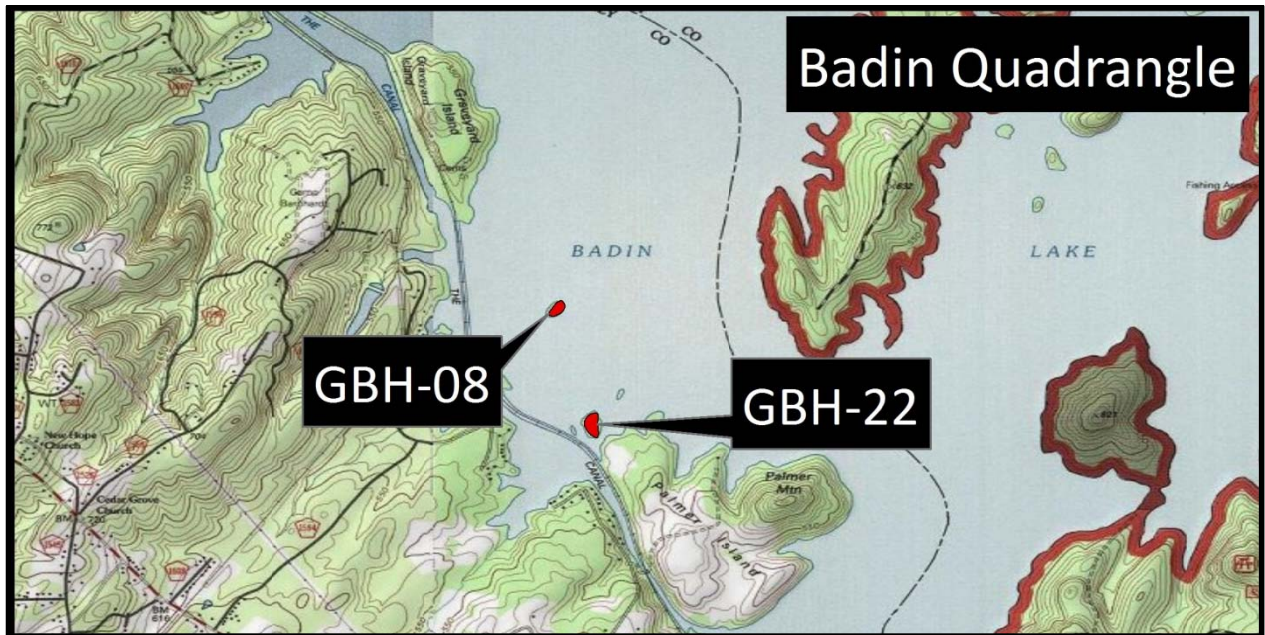
Map location of Great Blue Heron colony GBH-05.



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



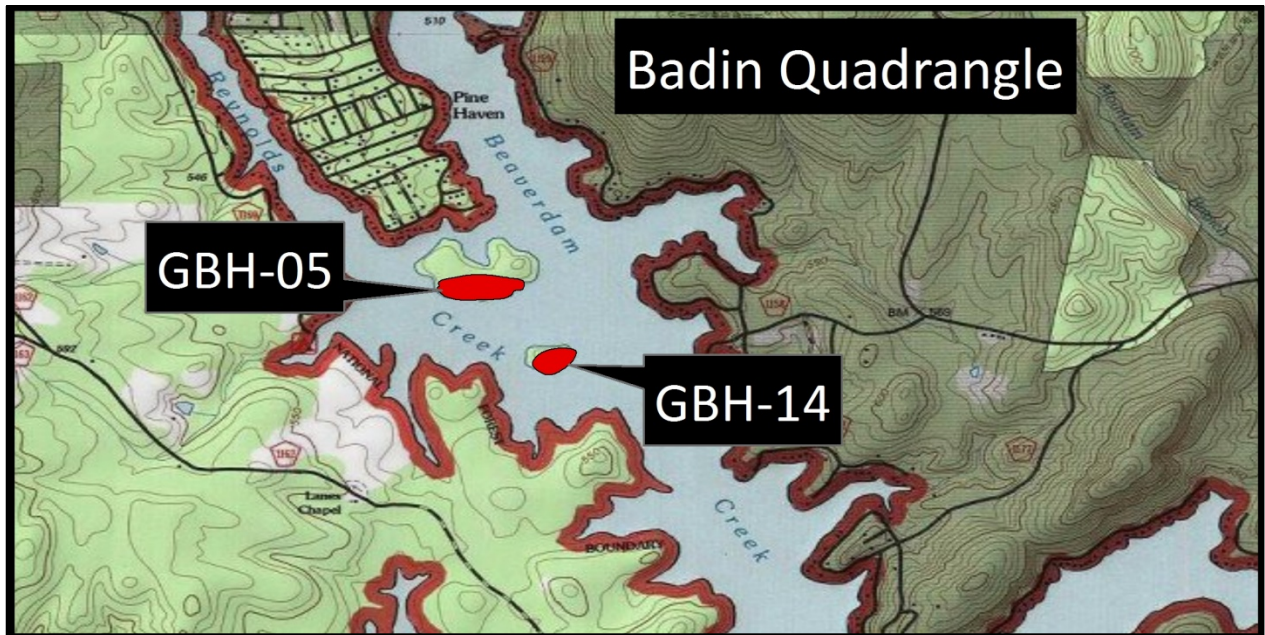
Map location of Great Blue Heron colony GBH-08.



Aerial picture of Great Blue Heron colony GBH-08 (photo 2011, B. Watts).



Map location of Great Blue Heron colony GBH-14.



Aerial picture of Great Blue Heron colony GBH-14 (photo 2014, B. Paxton).

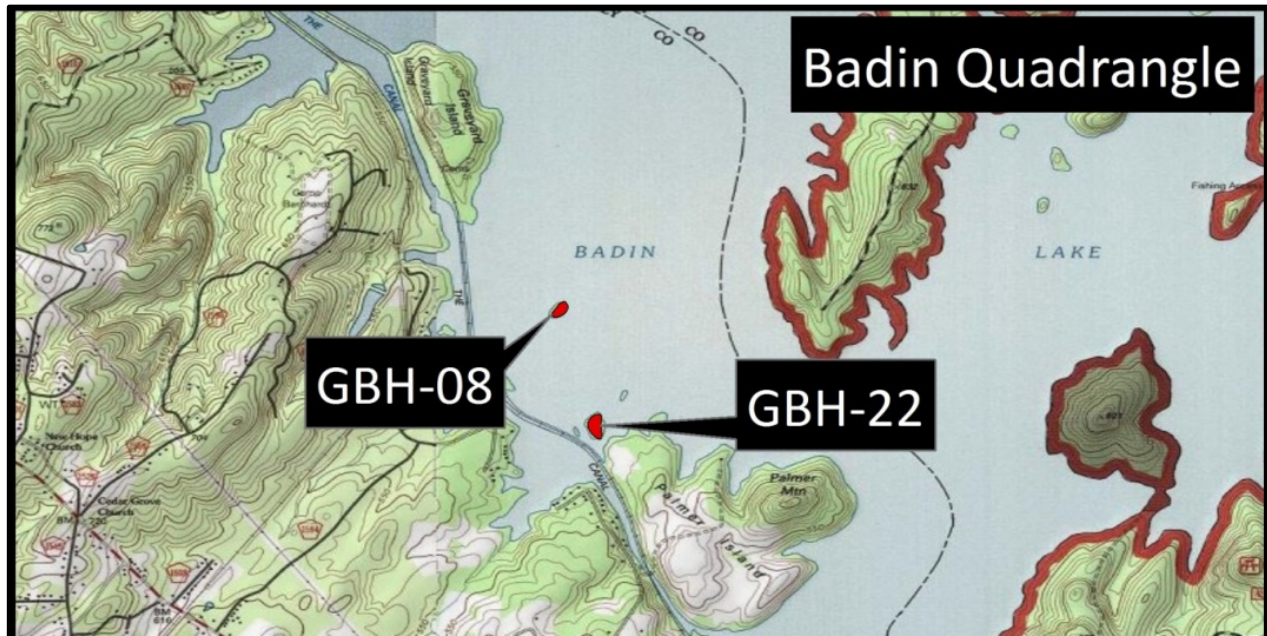


Code	County	Topo Quad	Pairs
GBH-22	Stanly	Badin	20 GBHE

GBH-22 Colony Description

This Great Blue Heron colony is located in a patch of forested land along Badin Lake on the northwest corner of Palmer Island. On 16 March 2018, there were 20 nesting pairs present laying and incubating.

Map location of Great Blue Heron colony GBH-22.

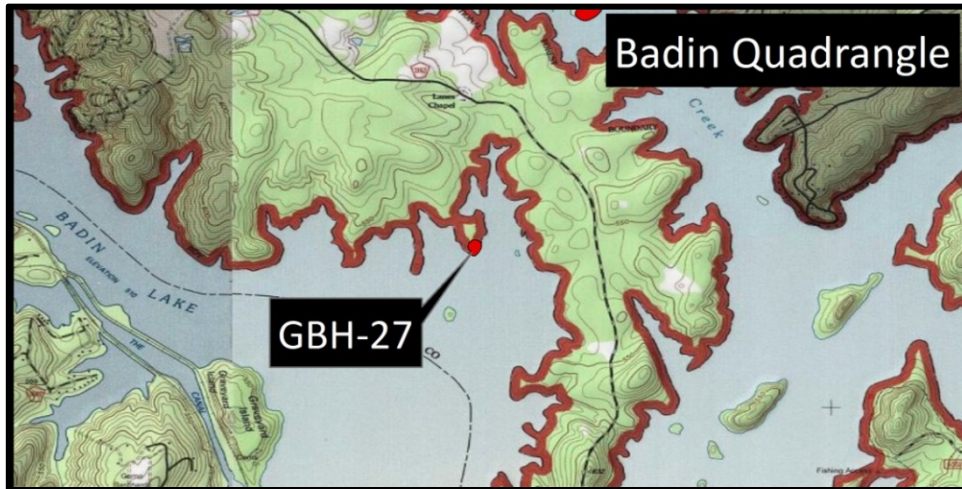


Code	County	Topo Quad	Pairs
GBH-27	Stanly	Badin	30 GBHE

GBH-27 Colony Description

This Great Blue Heron colony is located in a patch of forested land along Badin Lake, south of Lanes Chapel. Bald Eagle nest MO-13-02 was located within this colony. On 16 March 2018, there were 30 nesting pairs present, with all pairs laying and incubating.

Map location of Great Blue Heron colony GBH-27.

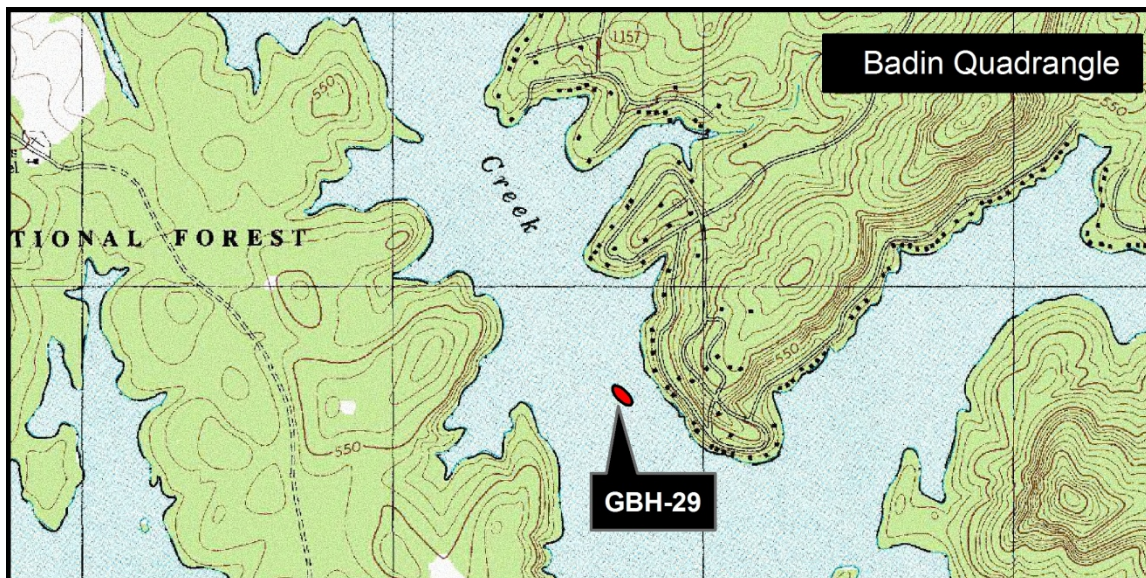


Code	County	Topo Quad	Pairs
GBH-29	Montgomery	Badin	8 GBHE

GBH-29 Colony Description

This Great Blue Heron colony is located on a small forested island near the confluence of Glady and Beaverdam Creeks. The island is well isolated from the shoreline. The forest was dominated by loblolly pines with mixed hardwoods. On 16 March 2018, there were 8 nesting pairs present, all pairs were laying and incubating.

Map location of Great Blue Heron colony GBH-29.



Aerial picture of Great Blue Heron colony GBH-29 (photo 2014, B. Paxton).



Code	County	Topo Quad	Pairs
GBH-31	Montgomery	New London	5 GBHE

GBH-31 Colony Description

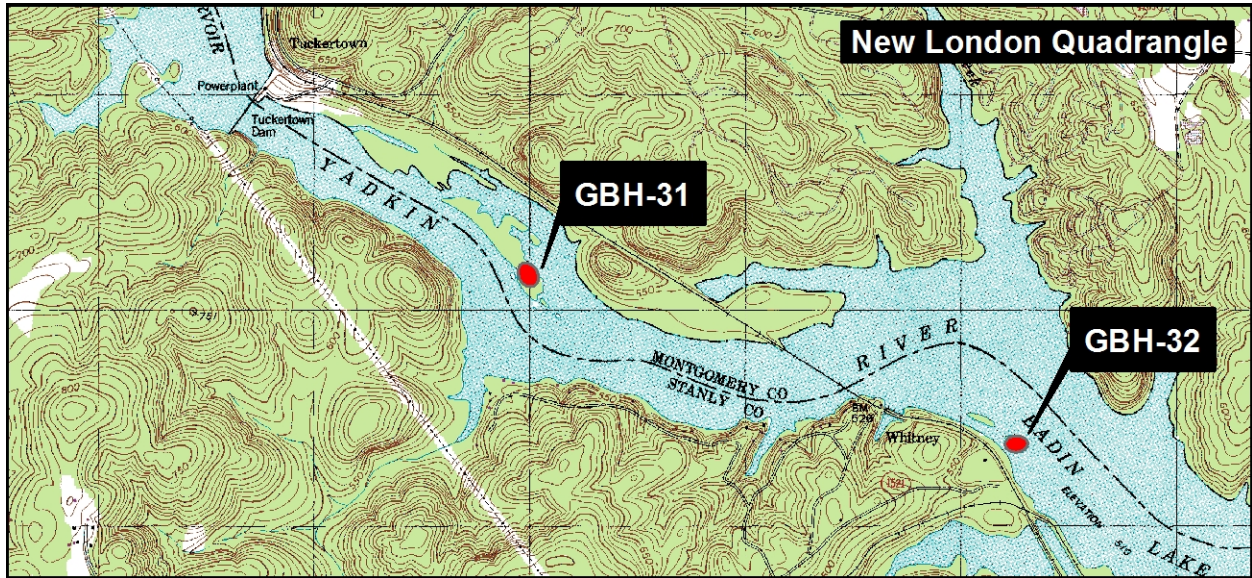
This Great Blue Heron colony was located on a forested island downstream of the Tuckertown Dam. The island is isolated from the shoreline. The forest was dominated by flooded hardwood trees. On 16 March 2018 5 pairs of Great Blue herons were observed laying and incubating.

Code	County	Topo Quad	Pairs
GBH-32	Stanley	New London	5 GBHE

GBH-32 Colony Description

This Great Blue Heron colony was located on a small forested island off of the southern shore of the main stem of the reservoir, south of the mouth of Garr Creek. The island is well isolated from the shoreline. The forest is mainly composed of hardwood trees with a few taller pines. On 16 March 2018, 5 pairs of herons were observed nesting in the taller pines. All pairs were laying and incubating.

Map location of Great Blue Heron colony GBH-31 and GBH-32



Aerial picture of Great Blue Heron colony GBH-31 (photo 2016, B. Paxton).



Aerial picture of Great Blue Heron colony GBH-32 (photo 2016, B. Paxton).



Falls Reservoir

Bald Eagles

One new active Bald Eagle nest (MO-18-01) was present along this waterway during the 2018 survey. The remnants of nest ST-08-01 are now absent and nest ST-10-01 was severely damaged.

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

Nest Location

This now absent nest was located within a stand of mixed pine-hardwood forest near the shoreline on Morrow Mountain State Park. The nest tree is just north of an active parking lot. The nest was in a forest stand with buffers on all sides. The nest was likely visible during the

winter months from both the water and the parking lot. While used by a Great-horned Owl in 2013 this nest is now absent.

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

Nest Location

This nest is located within a stand of mixed pine-hardwood forest near the shoreline on Morrow Mountain State Park. The nest tree is southeast of ST-08-01. The nest is 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 both 16 March and 20 April 2018, no eagle activity was observed at this nest.

Nest Condition – This nest was severely damaged, with most of the structure falling out of the nest tree. A small remnant amount of nest material is still visible.

Nest Substrate

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

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

Substrate Condition – The nest tree was in good condition.

Potential Disturbance

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

Nest Code	County	Topo Quad	Active Territory	Active Nest	Chicks Produced
MO-17-01	Montgomery	Badin	N	N	-

Nest Location

This nest is located on the steep east shore of Falls Reservoir, in a sparse stand of pines surrounded by hardwoods. The nest is located within the Uwharrie National Forest directly adjacent to FS road 576 (Moccasin Creek Rd).

Nesting Activity

Bird Activity – On both 16 March and 20 April 2018, no eagle activity was observed.

Nest Condition – This nest is still in good condition, but it is obvious that it has not been maintained.

Nest Substrate

Substrate Type – The nest was built high in the canopy of a pine within a sparse patch of similar sized pines, surrounded by hardwoods.

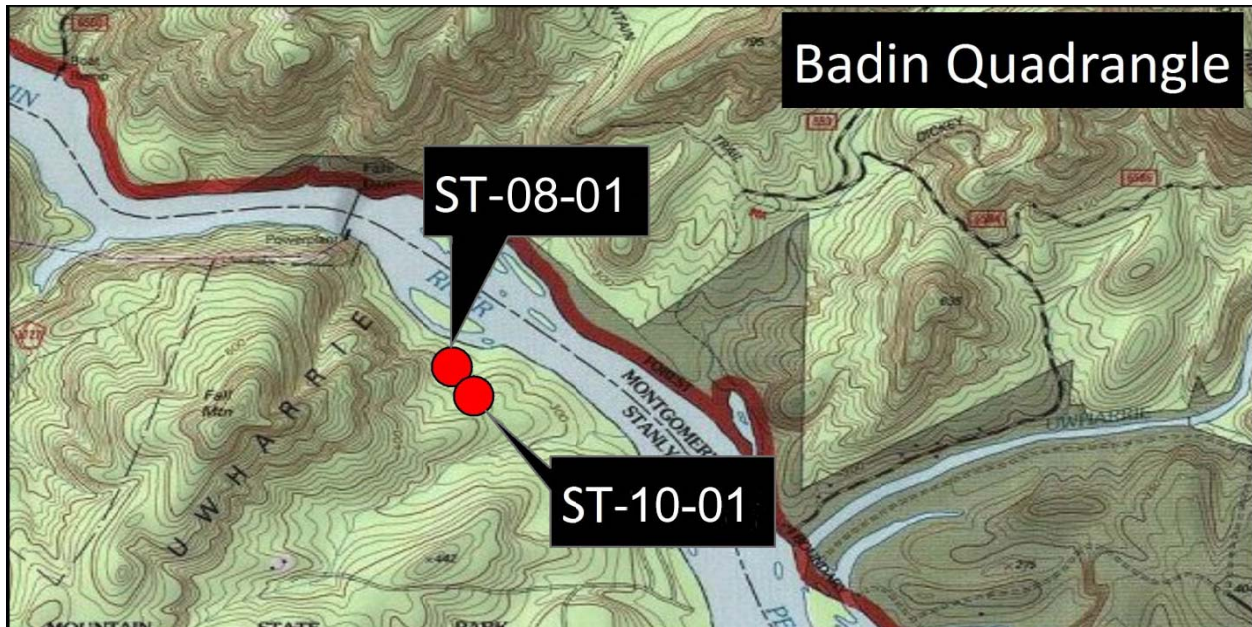
Nest Position – The nest was built on high branches on the east side of the tree. The nest surface had approximately 50% sky exposure.

Substrate Condition – The nest tree was in good condition.

Potential Disturbance

Nest tree is directly adjacent to FS road 576 (Moccasin Creek Rd) very near what appears to be a pull off. This road is open at certain time of the year as part of an ATV/Jeep trail. Disturbance is likely if this trail is used for recreation during the breeding season.

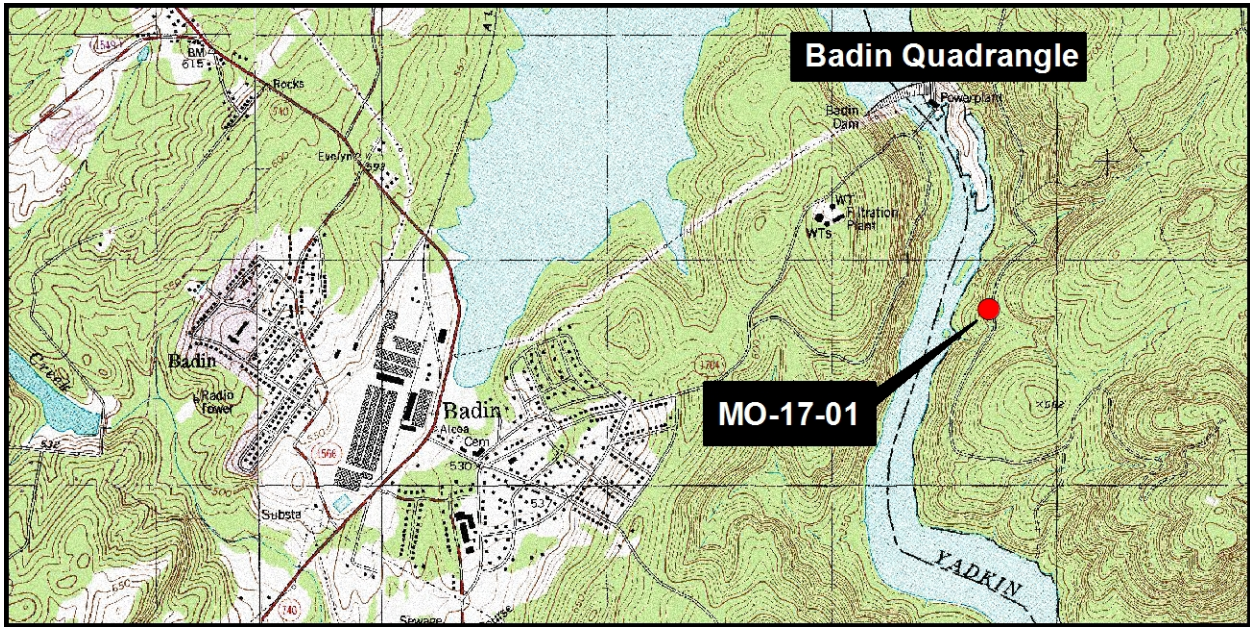
Map location of Bald Eagle nest ST-10-01.



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



Map location of Bald Eagle nest MO-17-01.



Aerial view of nest MO-17-01 (photo 2017: B. Paxton).



Nest Code	County	Topo Quad	Active Territory	Active Nest	Chicks Produced
MO-18-01	Montgomery	Badin	Y	Y	0

Nest Location

This new nest is located on the forested steep east shore of Falls Reservoir, between the spillway of Narrows Dam and FS road 576 (Moccasin Creek Rd). This nest is a possible replacement nest for the now inactive nest MO-17-01.

Nesting Activity

Bird Activity – On 16 March 2018 an adult was observed incubating. On 20 April 2018 this nest was observed to be empty with no eagle activity in the immediate vicinity.

Nest Condition – This nest is in good condition.

Nest Substrate

Substrate Type – The nest was built high in the canopy of an older pine within a patch of mixed pine and hardwoods.

Nest Position – The nest was built in a high crook with dense branches above. The nest surface had approximately 50% sky exposure.

Substrate Condition – The nest tree was in good condition.

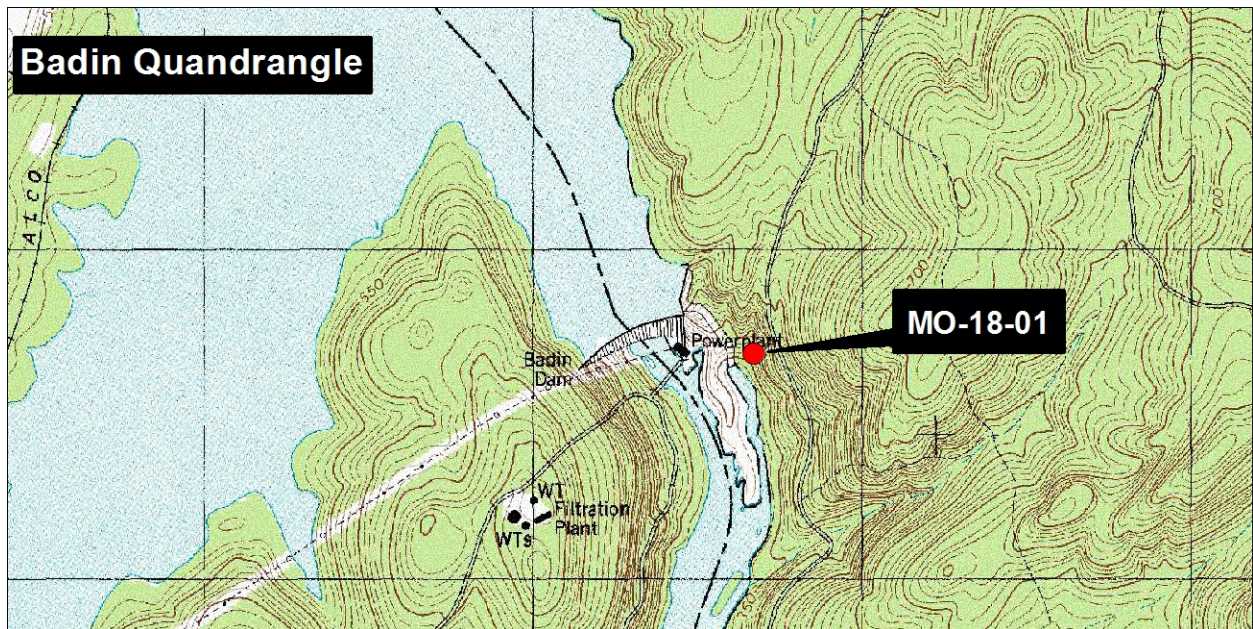
Potential Disturbance

Nest tree is located between the spillway of Narrows Dam and FS road 576 (Moccasin Creek Rd). This road is open at certain times of the year as part of an ATV/Jeep trail. It is unlikely that this nest would be visible from Moccasin Creek Rd. at any time other than completed leaf off. This nest could be accessed by Moccasin Creek Rd., but disturbance seems unlikely.

Great Blue Heron

A single Great Blue Heron colony was detected on the upper section of Falls Reservoir, directly below the dam. The colony was located on rocky peninsula on the east shore line just below the dam. Nests were located in both hardwoods and pines which were sparse on the peninsula.

Map location of Bald Eagle nest MO-18-01.



Aerial view of nest MO-18-01 (photo 2017: B. Paxton).

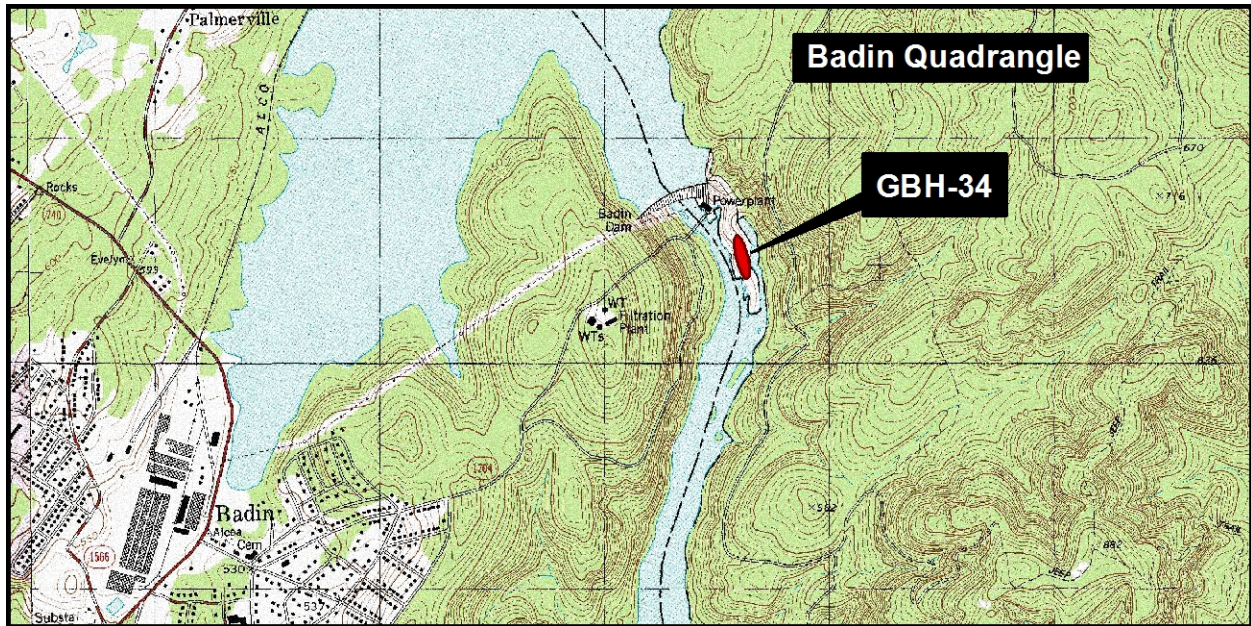


Code	County	Topo Quad	Pairs
GBH-34	Montgomery	Badin	6 GBHE

GBH-34 Colony Description

This Great Blue Heron colony is located on a small, rocky, sparsely forested peninsula directly below Badin Dam, on the east shoreline. On 16 March 2018, 6 pairs of herons were observed nesting in both pines and hardwoods.

Map location of Great Blue Heron colony GBH-34



Aerial picture of Great Blue Heron colony GBH-34 (photo 2017, B. Paxton).



Bald Eagle nest summary (2001-2010).

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

Bald Eagle nest summary (2011-2018).

Nest Code	2011	2012	2013	2014	2015	2016	2017	2018
DA-01-01	2 chicks	2 chicks	2 chicks	3 chicks	1 chick	2 chicks	0 Chicks	0 Chicks
ST-01-01	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent
ST-01-02	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent
RO-02-01	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent
RO-02-02	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent
MO-03-01	1 chick	0 chicks	2 chicks	2 chicks	2 chicks	2 chicks	2 Chicks	3 chicks
RO-04-01	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent
MO-06-01	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent
DA-07-01	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent
ST-07-01	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent
RO-08-01	Not used	Not used	Absent	Absent	Absent	Absent	Absent	Absent
DA-08-01	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent
DA-08-02	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent
ST-08-01	Not used	Remnant	GHOW	Absent	Absent	Absent	Absent	Absent
DA-09-01	0 chicks	1 chick	Absent	Absent	Absent	Absent	Absent	Absent
DA-10-01	3 chicks	0 chicks	3 chicks	1 chick	0 chicks	0 chicks	2 Chicks	0 chicks
RO-10-01	0 chicks	2 chicks	2 chicks	1 chick	2 chicks	2 chicks	≥1 Chick	2 chicks
ST-10-01	2 chicks	1 or 2 chicks	2 chicks	2 chicks	2 chicks	2 chicks	Inactive/ Damaged	Remnant
MO-11-01	Not used	Absent	Absent	Absent	Absent	Absent	Absent	Absent
ST-12-01		2 chicks	3 chicks	2 chicks	2 chicks	3 chicks	3 Chicks	3 Chicks
MO-13-01			1 chick	1 chick	3 chicks	Remnant	Absent	Absent
MO-13-02			2 chicks	2 chicks	0 chicks	Absent	Absent	Absent
DA-17-01							2 Chicks	2 Chicks
DA-17-02							Inactive	Remnant
DA-17-03							2 Chicks	2 Chicks
RO-17-01							Inactive	Inactive
MO-17-01							2 Chicks	Inactive
MO-17-02							2 Chicks	Remnant
RO-18-01								≥1 Chick
MO-18-01								0 chicks
MO-18-02								Inactive
MO-18-03								1 chick

Recent Great Blue Heron (GBHE)/Great Egret (GREG) and Double-crested Cormorant (DCCO) colony summary (high count in first or second flight, 2008-2018)

Colony Code	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
GBH-01	52 GBHE	57 GBHE	43 GBHE	56 GBHE	29 GBHE	35 GBHE	26 GBHE	25 GBHE	26 GBHE	22 GBHE	20 GBHE
GBH-02	380 GBHE, 32 GREG	270 GBHE, 28 GREG	255 GBHE, 38 GREG	240 GBHE, 48 GREG	240 GBHE, 55 GREG	210 GBHE, 63 GREG	85 GBHE	145 GBHE, 42 GREG	102 GBHE, 41 GREG	110 GBHE, 40 GREG	110 GBHE, 45 GREG
GBH-03	75 GBHE	87 GBHE	92 GBHE	58 GBHE	7 GBHE	5 GBHE	0	0	0	0	5 GBHE
GBH-04	135 GBHE	158 GBHE, 3 GREG	145 GBHE, 19 GREG	180 GBHE, 22 GREG	215 GBHE, 18 GREG	220 GBHE, 45 GREG	45 GBHE, 1 GREG	95 GBHE, 23 GREG	55 GBHE, 19 GREG	65 GBHE, 15 GREG	70 GBHE, 20 GREG
GBH-05	220 GBHE	195 GBHE, 2 GREG	225 GBHE, 7 GREG	185 GBHE, 5 GREG	185 GBHE, 5 GREG	165 GBHE, 1 GREG	125 GBHE	95 GBHE	105 GBHE	140 GBHE	150 GBHE
GBH-06	59 GBHE	55 GBHE	58 GBHE	55 GBHE	48 GBHE, 3 GREG	42 GBHE	37 GBHE	45 GBHE	42 GBHE	50 GBHE	50 GBHE
GBH-07	34 GBHE	42 GBHE	48 GBHE	42 GBHE	45 GBHE	45 GBHE	15 GBHE	24 GBHE	22 GBHE	22 GBHE	12 GBHE
GBH-08	76 GBHE	82 GBHE	75 GBHE, 32 DCCO	95 GBHE, 83 DCCO	25 GBHE, 215 DCCO	12 GBHE, 155 DCCO	2 GBHE	2 GBHE, 90 DCCO	24 GBHE, 65 DCCO	4 GBHE	8 GBHE, 45 DCCO
GBH-10	0	0	0	0	26 GBHE	35 GBHE	8 GBHE	0 (old unoccupied)	0	0	0
GBH-11	12 GBHE	16 GBHE	17 GBHE	28 GBHE	31 GBHE, 2 GREG	35 GBHE	24 GBHE	27 GBHE	26 GBHE	26 GBHE	25 GBHE
GBH-13	8 GBHE	7 GBHE	3 GBHE	6 GBHE	5 GBHE	Colony abandoned	Colony abandoned	Colony abandoned	Colony abandoned	Colony abandoned	Colony abandoned
GBH-14		21 GBHE	18 GBHE	10 GBHE	22 GBHE	25 GBHE	6 GBHE	4 GBHE, 100 DCCO	35 GBHE, 80 DCCO	20 GBHE, 90 DCCO	40 GBHE, 125 DCCO
GBH-15			6 GBHE	6 GBHE	12 GBHE	8 GBHE	0	0	4 GBHE	6 GBHE	6 GBHE
GBH-16			10 GBHE	12 GBHE	18 GBHE	26 GBHE	6 GBHE	8 GBHE	8 GBHE	8 GBHE	7 GBHE
GBH-17					18 GBHE	24 GBHE	11 GBHE	15 GBHE	13 GBHE	16 GBHE	0
GBH-21					7 GBHE	5 GBHE	4 GBHE	2 GBHE	2 GBHE	0	7 GBHE
GBH-22					12 GBHE	23 GBHE, 8 DCCO	12 GBHE	10 GBHE, 80 DCCO	8 GBHE, 105 DCCO	12 GBHE, 90 DCCO	20 GBHE
GBH-23						4 GBHE	5 GBHE	5 GBHE	7 GBHE	8 GBHE	12 GBHE
GBH-24						3 GBHE	9 GBHE	14 GBHE	15 GBHE	20 GBHE	15 GBHE
GBH-25						10 GBHE	0	0	0	0	0
GBH-26						11 GBHE	4 GBHE	5 GBHE	3 GBHE	2 GBHE	10 GBHE
GBH-27						16 GBHE	65 GBHE	62 GBHE	70 GBHE	45 GBHE	30 GBHE
GBH-28							2 GBHE	0 (1 old unoccupied)	0	0	0
GBH-29							10 GBHE	3 GBHE	0	2 GBHE	8 GBHE
GBH-30									2 GBHE	5 GBHE	8 GBHE
GBH-31									3 GBHE	0	5 GBHE
GBH-32									2 GBHE	2 GBHE	5 GBHE
GBH-33										12 GBHE	10 GBHE
GBH-34										6 GBHE	6 GBHE
GBH-35											15 GBHE

Historic Great Blue Heron (GBHE)/Great Egret (GREG) and Double-crested Cormorant (DCCO) colony summary (high count in first or second flight, 2001-2007)

Colony Code	2001	2002	2003	2004	2005	2006	2007
GBH-01	11 GBHE	21 GBHE	43 GBHE	43 GBHE	44 GBHE	48 GBHE	54 GBHE, 1 GREG
GBH-02	425 GBHE	480 GBHE	310 GBHE	440 GBHE, 15 GREG	380 GBHE, 15 GREG	320 GBHE, 2 GREG	340 GBHE, 26 GREG
GBH-03	5 GBHE	21 GBHE	38 GBHE	33 GBHE	52 GBHE	55 GBHE	73 GBHE
GBH-04	7 GBHE	19 GBHE	60 GBHE	75 GBHE	90 GBHE	83 GBHE	95 GBHE
GBH-05	150 GBHE	140 GBHE	185 GBHE	110 GBHE	180 GBHE	145 GBHE	180 GBHE
GBH-06		5 GBHE	45 GBHE	44 GBHE	52 GBHE	73 GBHE	68 GBHE
GBH-07		1 GBHE	1 GBHE	4 GBHE	8 GBHE	8 GBHE	34 GBHE
GBH-08				8 GBHE	38 GBHE	63 GBHE	58 GBHE
GBH-10					6 GBHE	6 GBHE	10 GBHE
GBH-11					4 GBHE	5 GBHE	8 GBHE