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Surveys of Nesting Bald Eagles and Great Blue Herons on MTC Fort Pickett 2008-2010

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SURVEYS OF NESTING BALD EAGLE AND GREAT BLUE HERONS ON MTC FORT PICKETT 2008-2010

Final report submitted to
Virginia Department of Military Affairs
Virginia Army National Guard Environmental Department

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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.

Table of Contents

Background

Fort Pickett is a 40,000 acre military installation in south central Virginia primarily used by the Virginia Army National Guard to train military personnel and units. The property has not been regularly surveyed for breeding eagles. There is one known active Bald Eagle nest on the installation. The Bald Eagle was removed from the federal Endangered Species List in 2007 but remains protected by the Bald and Golden Eagle Protection Act (16 U.S.C. 668-668c) and Migratory Bird Treaty Act (16 U.S.C. 703-712). In addition, the species is listed as a State Threatened species in Virginia (VA Code §§ 29.1-563 – 570). This study addresses the Army's need to document eagle nests to inform management practices and avoid conflicts with training and range activities.

Objectives

The objectives of the survey on MTC Fort Pickett were

1. To use aerial surveying to document the status, distribution and productivity of nesting Bald Eagles;
2. To determine the status and distribution of breeding Great Blue Herons.

Study Area

Fort Pickett is located in Nottoway, Dinwiddie, and Brunswick counties in south central Virginia. The base is bisected by the Nottoway River on the south end and also includes 13 other water bodies ranging from 25 to 384 acres: Twin Lakes, Lewis Pond, Engineer Bridge, Floyd Pond, Wonju Pond, Beaver Trail Pond, Butterwood Pond, Dearing Pond, Birchin Lake, Tommeheton Lake, Winterling Pond, Reservation Pond, and the Reservoir.

Methods

Bald Eagles

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. Detected nests were plotted on 7.5 min topographic maps, assigned a unique alphanumeric code, and plotted in ArcGIS 9.3 (Figure 3). 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. Following national conventions (USFWS 2007), a breeding territory was considered "occupied" if a pair of birds was observed in association with the nest and there was evidence of recent nest maintenance (e.g., well-formed cup, fresh lining, and structural

maintenance). Nests were considered "active" if a bird was observed in an incubating posture or if eggs or young were detected in the nest. A "productive" nest has young present until fledging age (11-14 weeks old).

Productivity Survey - Airspace conflicts with range activities precluded conducting the productivity survey by plane. Ground observations were conducted to count and age eagle nestlings before fledging.

Figure 1. Army staff evaluate nest tree for breeding activity during productivity surveys.

Figure 2. Eagle nest in Loblolly Pine tree on Hurricane Branch, NO-08-01.

Great Blue Herons

All breeding colonies of herons observed during the aerial survey were documented and mapped on 7.5 min topographic maps in 2008. Nests were counted and breeding stage recorded. Airspace restrictions did not allow for heron surveys in 2009 and 2010.

Results

Bald Eagles

Of the three known historic nests, only the nest on Hurricane Branch was documented as present and occupied during the study (Fig. 3). The two historic nests on the east side of the base along the Nottoway River (TA 48 and TA55) were not found on the survey. The nest on Hurricane Branch, coded NO-08-01, produced one chick in 2008 (Fig. 4, Table 1). The nest was occupied by 2 adults early in the 2009 breeding season (per comm. A. Haynes) but a breeding attempt was not documented. Observers on the aerial survey in April 2010 documented an empty nest that showed recent use (fresh grass lining in nest cup). This suggests the nest had eggs earlier in the season but was later abandoned for unknown reasons.

Table 1. Summary of Bald Eagle survey results at MTC Fort Pickett. Coordinates in UTM NAD 83 Zone 17N.

Nest	Year	Territory Occupied	Territory Active	No. Chicks	X	Y
NO-08-01	2008	Y	Y	1	773097.68	4098892.81
NO-08-01	2009	Y	N	0	773097.68	4098892.81
NO-08-01	2010	Y	Y	0	773097.68	4098892.81

Great Blue Herons

Heron colonies were only surveyed in 2008 because of tight air restrictions around active ranges. Two colonies were documented in the early stages of nest building (Fig. 3, 5-6; Table 2).

Table 2. Great Blue Heron Colonies surveyed on March 23, 2008. Coordinates in UTM NAD 83 Zone 17N.

Colony	Waterbody	No. Pairs	Breeding Stage	X	Y
GBH-01	Tommeheton Creek	8	Nest Building	775519.96	4108366.80
GBH-02	Hurricane Branch	6	Nest Building	769955.07	4102600.49

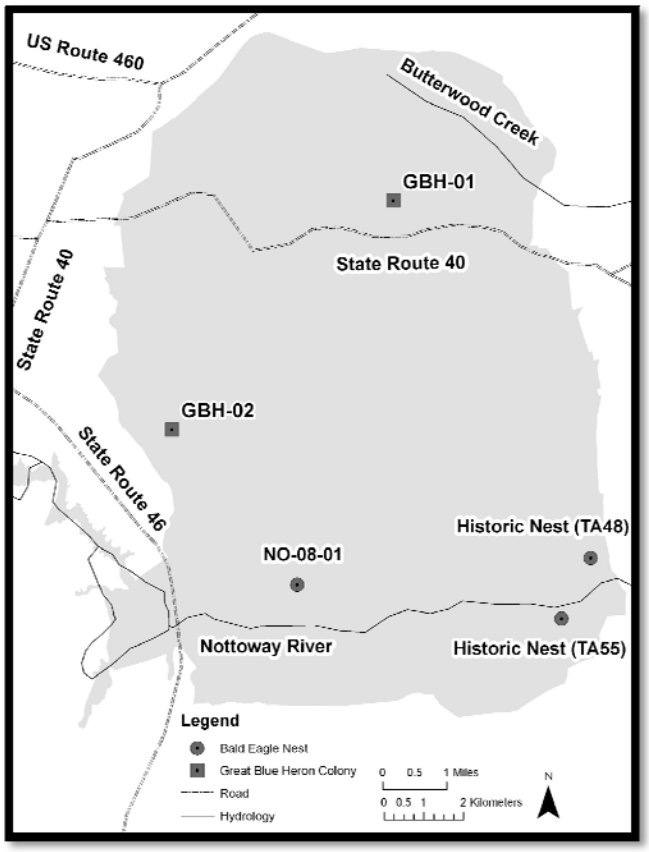

Figure 3. Map of Bald Eagle Nests and Great Blue Heron Colonies on MTC Fort Pickett.

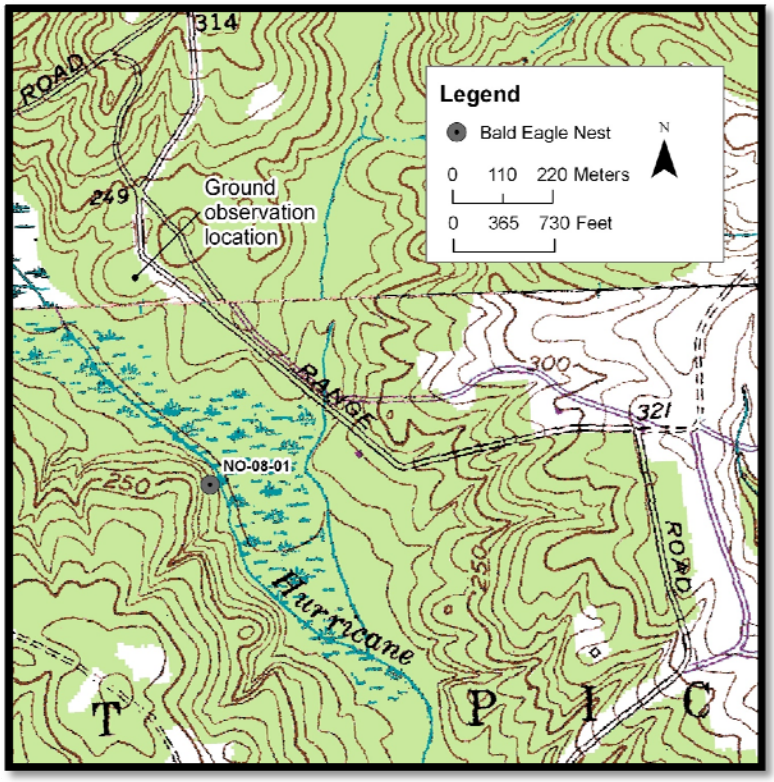

Figure 4. Bald Eagle nest on Hurricane Branch, Nottoway County, VA.

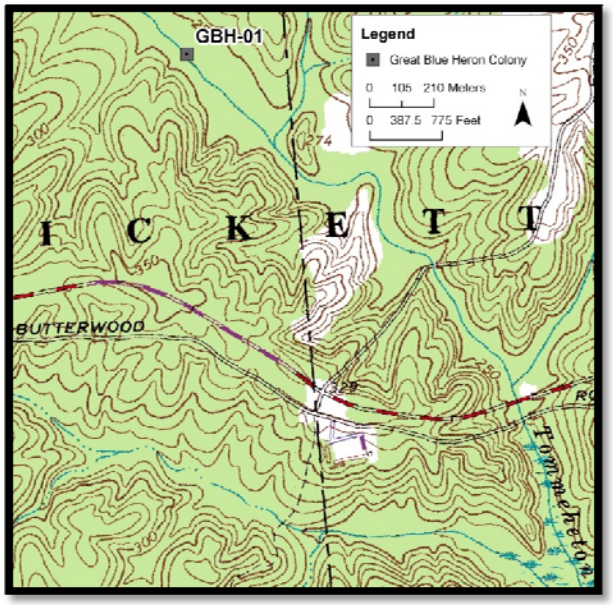

Figure 5. Great Blue Heron colony on Tommeheton Creek, Dinwiddie County, VA.

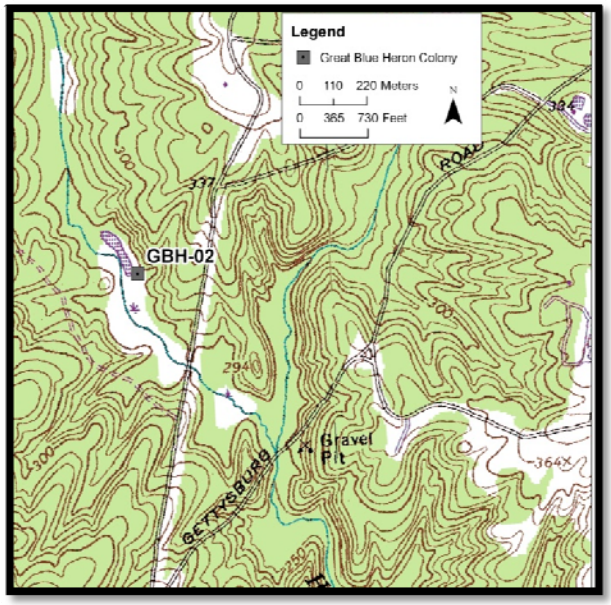

Figure 6. Great Blue Heron colony on Hurricane Branch, Nottoway County, VA.

Discussion

Fort Pickett currently supports only one breeding pair of Bald Eagles. Limited foraging and nesting habitat is available on the property. The habitat at Fort Pickett will likely only support one or two breeding pairs. The nest on Hurricane Branch is in a relatively secluded section of the base buffered from road disturbance by trees and topography. The nest failures in 2009 and 2010 may have been caused by strong winds and low temperatures associated with late snow storms in February and March. Nest failures related to the storms were documented in other areas of the state. Other pairs were able to lay a second clutch of eggs and some abandoned the nest until the next breeding season. We expect the pair at Hurricane Branch to return to the nest territory in Fall 2010 to prepare for the next breeding season.

Two small Great Blue Heron colonies were documented on Hurricane Branch and Tommeheton Creek. No management concerns were discussed relative to this species on Fort Pickett.

Acknowledgements

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