PROGRAMMATIC BIOLOGICAL EVALUATION FOR WOOD STORK IN ASSOCIATION WITH NCDOT PROJECTS IN DIVISIONS 1-8

THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

ENVIRONMENT ANALYSIS UNIT

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I. BACKGROUND

The purpose of this consultation is to evaluate the potential effects that may affect, but are not likely to adversely affect (NLAA) the federally Threatened wood stork (*Mycteria americana*). This consultation evaluates the potential effects of wood stork from certain proposed North Carolina Department of Transportation (NCDOT) projects with a federal nexus in NCDOT Divisions 1-8. The NCDOT, in cooperation with the USFWS, proposes these guidelines containing conservation measures that the USFWS has deemed acceptable to concur with a NLAA determination for the wood stork when implemented on projects subject to consultation under Section 7 of the ESA. Therefore, this document will serve as a programmatic informal consultation. This programmatic informal consultation only covers effects of proposed projects on the wood stork and only applies if NCDOT voluntarily agrees to implement the conservation measures identified in this Programmatic Concurrence request. Additional consultation is required for projects with the potential to affect other listed species. In addition, any activities not included in this consultation will be subject to separate Section 7(a)(2) consultation.

This consultation evaluates the potential effects to the wood stork from all proposed NCDOT Division-planned and central office-planned projects with a federal nexus in NCDOT Divisions 1-8 that are scheduled to be under construction during a ten-year period (July 1, 2021 – June 30, 2031). Therefore, the proposed Programmatic Action consist of projects included in NCDOT's 2020-2029 State Transportation Improvement Program (STIP) and future versions of the STIP or projects carried out by NCDOT Divisions.

NCDOT derives their statutory authority via North Carolina General Statutes (NCGS) 143B – 345 and 346 and FHWA derives their statutory authority via 49 US Code (USC) 104. USACE derives their statutory authority via Section 10 of the Rivers and Harbors Act of 1899 (33 USC 403) and Section 404 of the Clean Water Act (33 USC 1344). Potential effects to wood stork as a result of NCDOT project construction must be evaluated.

II. LIFE HISTORY OF THE WOOD STORK

The wood stork is a large, long-legged wading bird with white plumage and black primary and secondary wing feathers and black tail. Adults possess a blackish colored scaly bald head and neck. The legs are also dark except for dull pink feet. The bill is also blackish in color. Immature storks (to about age 3) differ from adults in that their bills are yellowish and there are varying amounts of dusky feathers on the head and neck.

Wood storks typically construct their nests in medium to tall trees that occur in stands located either in swamps or on islands surrounded by relatively broad expanses of open water. In many areas, bald cypress and red mangrove trees are preferred. During the nonbreeding season or while foraging, wood storks occur in a wide variety of wetland habitats, including freshwater marshes and stock ponds, shallow, seasonally flooded roadside or agricultural ditches, narrow tidal creeks or shallow tidal pools, managed impoundments, and depressions in cypress heads and swamp sloughs. The wood stork's diet primarily consists of small fish and minnows (≤ 6 inches in length) and feeds by probing shallow water with a partially open bill that quickly snaps shut when prey is

encountered. Because of their specialized feeding behavior, the most attractive feeding areas are swamp or marsh depressions where fish become concentrated during dry periods.

III. DISTRIBUTION AND STATUS OF THE WOOD STORK

Wood storks are largely Spring/Summer migrants to NC (although winter observations have occurred) and known to occur in several coastal NC counties. Records indicate that they have been breeding in North Carolina since 2005. Currently, they are listed in Bladen, Brunswick, Columbus, Duplin, Robeson, and Sampson Counties.

USFWS listing of the wood stork as an endangered species was published in the Federal Register in February 1984. Subsequently, the species status was reclassified from endangered to threatened in July 2014. Current threats to the wood stork are discussed in detail in the Wood Stork Revised Recovery Plan (USFWS 1997) and the 5-Year Review (USFWS 2007).

IV. DESCRIPTION OF REGULATORY ACTIVITIES COVERED

The activities listed below can broadly be categorized as bridge/culvert replacements and safety/mobility enhancement projects. For new location and extensive widening projects (dual to multi-lane), NCDOT will consult with the USFWS under separate consultation. For purposes of this consultation, activities were divided into three categories: In-Water, Land-Based and Post Construction. Each category was broken down into a list of potential activities and subactivities. The activities are the mechanisms through which project categories have potential to affect wood stork. These categories and activities were used to consider possible effects to wood stork in eastern North Carolina's Programmatic Action Area. Some activities described in one of these categories may take place in other categories.

In-Water Work

<u>Bridge/Culvert Construction and Repair</u>

Many of NCDOT's traditional bridge replacement projects take as little as nine months, and low-impact bridges can be completed in as little as three to six months. Culvert replacements are typically even shorter in duration. Installation of new bridges may require the installation of an on-site detour bridge when the new bridge is to be constructed on the same alignment as the existing bridge. However, off-site detours are utilized when practical. Some replacement bridges are built adjacent to the existing bridge while traffic is maintained on the old bridge. Occasionally, half of the new bridge is constructed adjacent to the old bridge and acts as the detour bridge while the original bridge is removed.

In-water work may take place during many activities associated with bridge construction including superstructure construction when a temporary in-stream work pad may be necessary to stage a crane to set girders or other parts of the superstructure. Best Management Practices (BMPs) are used to protect water quality during in-water work (NCDOT 2003). Special BMPs apply in High Quality Waters, Outstanding Resource Waters, regulated riparian buffers, and in N.C. Carolina Coastal Area Management Act counties (NCDOT 2003).

Culvert Specific Activities

Many of the same activities employed during bridge replacements are also employed when replacing culverts. Due to their nature, culverts typically require stream flow to be re-routed either through an excavated temporary channel, diversion pipe, temporary culvert, or through another barrel of the culvert. This work may include work area isolation; stream diversion; dewatering; excavation for pipe trenches, ditch creation and stream relocation; culvert jacking or drilling; laying pipe and covering them; constructing headwalls on the outlet side of flow diversion; installing armoring; and restoring flow.

Culvert Cleaning/Repair

This activity and subactivities listed include smaller-diameter culvert replacements (less than three feet in diameter). Cross culverts, which convey water from one side of the highway to the other, can be blocked or clogged by debris, sediment, beaver deposited materials, vegetation, or slide materials. Occasionally scour within the system can result in blocking the culvert with rock or gravel. Blocked culverts can result in flooding over the roadway, or in severe cases, the culvert and the roadway can blow out. Regular removal of debris, vegetation, and sediment will help eliminate the problem.

- divert flow, dewater as previously described
- clean culvert
- install culvert liner (complete or invert)
- patch repair (metal or concrete, coat and seal)
- headwall or outfall repair (concrete work or riprap installation)
- repair joints (band installation, inject grout)
- line with shotcrete or gunnite
- sandblast/repaint/recoat

Bank Stabilization/Flood Damage/Scour Repair

Bank stabilization repair is the result of natural changes in river or stream morphology over time. These activities normally involve protection of the highway and associated infrastructure such as bridge approaches/abutments and culverts. Typically, this includes the placement of riprap on the stream bank when the vegetated cover is not sufficient to prevent erosion.

Drainage Improvements

Slope and ditch repair involves regrading ditches and slopes to the appropriate contour and filling in or repairing sides of the ditches where necessary. Each construction project has an associated staging area which contains the construction company job site headquarters, parking, equipment, and materials storage, refueling tanks, etc. Activities and subactivities listed in this category include all work necessary to maintain roadside ditches and channels, cross culverts, catch basins and inlets, and detention/retention basins.

This type of work frequently requires a Nationwide permit from the USACE which establishes a Federal nexus when Federal funding is not utilized. Roadside ditches are affected by the accumulation of sediments, debris, vehicles that leave the roadway, and slides. Regular maintenance is required to remove built up sediments, debris or blockages, re-slope the sides, and maintain capacity. Removal of newly constructed beaver dams is often necessary when the dams

affect the effectiveness of storm drainage facilities. Catch basins and inlets and retention facilities are part of the storm drain system of the highway. These are designed to trap sediments and liquids, as well as require regular cleaning. Material is removed by manual clearing methods or by using a vacuum truck. Solids are stored on NCDOT property, tested, and then disposed of at an approved disposal facility or recycled as fill material if suitable. Regular cleaning improves water quality and minimizes sediments that enter the natural stream systems.

- clean and reshape ditches (remove vegetation, sediment, debris)
- culvert repair work (as previously described
- clean catch basins/inlets (manually or vacuum truck)
- remove beaver dams from culvert ends
- remove sediment from retention/detention facilities
- dispose of debris and vegetation

Land-Based Work

Safety projects are designed to improve the safety of the highway system and not to add capacity. These include signal and illumination improvements, sign installation, installation of sidewalks, tree removal from the clear zone, guard rail installation, railroad grade separation, and alignment modifications. Alignment modifications may include adding auxiliary lanes (e.g. truck climbing and acceleration lanes), channelization (turn lanes), or on and off ramp extensions, or realigning an intersection to improve the sight distance.

Mobility improvement projects are designed to improve traffic operations and/or capacity on existing roadways. Typical projects include construction of high occupancy vehicle (HOV) lanes in urban areas, reconstructing existing interchanges, adding additional lanes, and sidewalk, curb and shoulder construction. Overpass, bridge and culvert replacement and widening may occur as part of a mobility improvement project. Most mobility improvement projects generally occur in heavily developed urban areas. Many of these projects affect very little undeveloped or undisturbed property and many occur in the existing ROW in heavily urbanized areas.

Land-based Sub-activities

The following actives may be associated with both the previously described in-water and land-based activities.

<u>Tree Clearing and Grubbing</u>

Tree clearing and clearing of other vegetation will be performed to prepare the project area for construction activities. Clearing generally takes place within pre-marked areas in the project area necessary for construction purposes. Clearing consists of cutting and removing above ground vegetation such as grasses, brush, and trees; removing downed timber and other vegetative debris; and salvaging marketable timber. Grubbing will follow clearing operations to remove any remaining surface vegetation, roots, and buried debris. Clearing typically requires less ground disturbance than grubbing.

Clearing and grubbing will be required prior to earthwork to remove vegetative and other debris from work areas so that design specifications (e.g., for compaction, installation of erosion control

devices, etc.) can be met. Trees, stumps, and large roots will be removed from excavation areas to a depth sufficient to prevent such objectionable material from becoming mixed with the material being incorporated in the embankment. All extraneous matter will be removed and disposed of in project fill or in designated waste areas on or off-site by chipping, burying, or other methods of proper disposal, including burning. Various methods and equipment will be used for this work.

Clearing and grubbing takes place within right-of-way (ROW) limits but may also occur in temporary/permanent construction easements and in utility easements used to assemble and store the construction vehicles that are too large to travel on the highway in one piece (e.g., haul trucks, earthmovers, large dozers, large excavators, backhoes, etc.). These areas are also used to store supplies (erosion control materials, steel rebar and mesh, small diameter culverts, traffic signs and posts, office trailers, etc.).

Earthwork

Earthwork is all earth moving activities that will occur for road, bridge, and interchange construction, access road construction/relocation, utility placement and relocation, construction of drainage structures, and preparation of staging, maintenance, waste, and borrow areas. Earthmoving activities will include excavating (cutting), filling, ditching, backfilling, grading, embankment construction, auguring, disking, ripping, grading, leveling, borrowing and wasting of materials and any other earth-moving work required in the construction of the project. Earthmoving equipment to be used includes haul trucks, dozers, excavators, scrapers, and backhoes.

Earthwork may be conducted as part of the preparation of staging areas, bridge approaches, alignments, embankments, fills, backfills, foundations, toe trenches, road grades, temporary access road construction, utility relocation, stormwater treatment, ditch construction and stabilization, streambank stabilization, landscaping, restoration, and mitigation.

Installation of Erosion and Sediment Control Best Management Practices (BMPs)

This work includes the installation of erosion control devices including silt fences, check dams, sediment basins, coir fiber matting, and temporary seeding.

Utility Relocation

Utility relocation or placement can involve both above and below-ground work, including tree clearing, mowing, trenching, open cut, and horizontal or directional boring. When water, sewer, electric, or gas lines need to be relocated, these impacts are typically accounted for during project planning and permitting.

Offsite Use Areas

Waste and borrow areas that are used to dispose of and obtain materials for earthwork, are also subject to clearing and grubbing, but the contractor is responsible for addressing federally listed threatened and endangered species issues per NCDOT standard specifications.

Post-Construction Activities

In addition to temporary BMPs used during construction, NCDOT implements a post-construction stormwater program in accordance with the Department's National Pollutant Discharge

Elimination System (NPDES) permit. Post-construction structural BMPs are permanent controls that treat stormwater runoff from stabilized drainage areas to protect water quality, reduce pollutant loading, and minimize post-construction impacts to water quality (NCDOT 2014a and NCDOT 2014b). Because post-construction BMPs are permanent, they require a long-term maintenance commitment to function as designed.

Post-construction activities include the following subactivities:

- temporary BMP removal (silt fencing, check dams, sediment basin)
- fence installation (if required)
- landscaping/beautification/site stabilization
- reforestation

V. PROGRAMMATIC ACTION AREA

The action area is defined as "all areas to be affected directly or indirectly by the federal action and not merely the immediate area involved in the action" (50 CFR §402.02). Delineating the action area is necessary for the federal action agency to obtain a list of species and critical habitats that may occur in that area, which necessarily precedes any subsequent analyses of the effects of the action to particular species or critical habitats.

The Action Area for this consultation is the location of individual prospective projects within the 59 eastern most counties of North Carolina contained in NCDOT Divisions 1-8 and is hereafter referred to as the "Programmatic Action Area". The Programmatic Action Area includes all counties under the USFWS Raleigh Field Office's jurisdiction. North Carolina counties within the Programmatic Action Area are listed by NCDOT Division in Table 1 below.

Table 1. NCDOT Divisions and Counties within Programmatic Action Area

Division One	Bertie, Camden, Chowan, Currituck, Dare, Gates, Hertford, Hyde, Martin, Northampton, Pasquotank, Perquimans, Tyrrell, Washington
Division Two	Beaufort, Carteret, Craven, Greene, Jones, Lenoir, Pamlico, Pitt
Division Three	Brunswick, Duplin, New Hanover, Onslow, Pender, Sampson
Division Four	Edgecombe, Halifax, Johnson, Nash, Wayne, Wilson
Division Five	Durham, Franklin, Granville, Person, Vance, Wake, Warren
Division Six	Bladen, Columbus, Cumberland, Harnett, Robeson
Division Seven	Alamance, Caswell, Guilford, Orange, Rockingham
Division Eight	Chatham, Hoke, Lee, Montgomery Moore, Randolph, Richmond, Scotland

VI. CONSERVATION MEASURES

In Bladen, Brunswick, Columbus, Duplin, Robeson, and Sampson Counties, NCDOT will commit to surveying each individual project with a federal nexus for the presence of wood storks and their foraging and nesting habitat during the timeframe of April 15 – July 15 and documenting the findings in the appropriate NEPA/SEPA documentation or 404 Permit Application (surveys remain valid for a period of two years from the date of survey). Surveying outside the April 15 – July 15 timeframe will be acceptable if the project occurs entirely within existing NCDOT right-

of-way and work will occur outside the reproductive season of April 15 – July 15. If a survey determines that a project is within "line-of-sight" of roost/nest sites or foraging areas, NCDOT will consult with the USFWS under separate consultation.

VII. EFFECTS

NCDOT has determined the activities listed in Section IV have a low probability of affecting the wood stork for the following reasons:

1) Due to the uncommon nature of the species in NC, likelihood of presence at any site is very low.
2) Most potential effects would be temporary in nature (e.g., potential disturbance to foraging storks or temporarily precluding a site from being used for foraging).
3) There is no shortage of foraging habitat.
4) The only potential for take of the species would be where nests are present or large feeding congregations are present (e.g., Sunset Beach area).
5) All other potential effects are insignificant and/or discountable.

VIII. CONCLUSIONS

Based on the NCDOT's intent to follow USFWS guidance and carry out the conservation measures as described in Section V, the NCDOT has determined that implementation of actions covered under this document **"may affect, but are not likely to adversely affect"** the wood stork.

The NCDOT requests that the USFWS review our findings and determinations stated in this request and provide a programmatic letter of concurrence. If necessary, the NCDOT will initiate site-specific consultation with the USFWS Raleigh Field Office on activities not included in this evaluation or if there is additional site-specific information to suggest alternative conservation measures.

IX. LITERATURE CITED

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