

**Yadkin Project (FERC No. 2197)
Rare, Threatened and Endangered (RTE) Species Survey
Final Study Plan
June, 2003**

Background

Alcoa Power Generating Inc. (APGI) is the licensee for the Yadkin Hydroelectric Project. The Yadkin Project is currently licensed by the Federal Energy Regulatory Commission (FERC) as Project No. 2197. This license expires in 2008 and APGI must file a new license application with FERC on or before April 30, 2006 to continue operation of the Project.

The Yadkin Project consists of four reservoirs, dams, and powerhouses (High Rock, Tuckertown, Narrows, and Falls) located on a 38-mile stretch of the Yadkin River in central North Carolina. The Project generates electricity to support the power needs of Alcoa's Badin Works, to support its other aluminum operations, or is sold on the open market.

As part of the relicensing process, APGI prepared and distributed, in September 2002, an Initial Consultation Document (ICD), which provides a general overview of the Project. Agencies, municipalities, non-governmental organizations and members of the public were given an opportunity to review the ICD and identify information and studies that are needed to address relicensing issues. To further assist in the identification of issues and data/study needs, APGI has formed several Issue Advisory Groups (IAGs) to advise APGI on resource issues throughout the relicensing process. IAGs will also have the opportunity to review and comment on Draft Study Plans. This Draft Study Plan has been developed in response to comments on the ICD and through discussions with the Wetlands, Wildlife and Botanical IAG, to provide additional necessary information for consideration in the relicensing process.

Overview

To address concerns over potential impacts of Project operations on RTE species a comprehensive survey for terrestrial and aquatic species is needed, particularly in light of the numerous new occurrences (post 1990) of listed species that have been documented in the Yadkin Project vicinity. Accordingly, an inventory will be conducted of federal and state-listed RTE, and US Forest Service sensitive and concern terrestrial and aquatic plants and wildlife potentially impacted by continued Yadkin Project operations. The study area will include reservoir and tailwater shorelines, tributaries mouths (at the confluence with the Project reservoirs), remnant riverine habitats (the upper end of High Rock) and other Project lands, including the transmission line corridors and areas around the dams and powerhouses. The inventory will be a focused effort that will be conducted at known locations and habitats of species of concern that could be affected by Project operations. Previous survey work done by Natural Heritage Program and by other contractors will serve as a starting point for this study and will be used to help identify the focus species.

Issues

The following issues were raised during initial consultation regarding rare, threatened and endangered species at the Yadkin Project:

- Current status of RTE species of terrestrial and aquatic plants and wildlife at the Yadkin Project that could be affected by Project operations.

Objectives

On March 13, and April 25, 2003 the Wetlands, Wildlife and Botanical IAG met and discussed objectives for the RTE species survey. Over the course of those discussions the following objectives were identified for the study.

- Determine the RTE species¹ that may occur in the Project area and that may be affected by Project operations, and conduct focused field searches for those species.
- Evaluate potential effects of Project operations on RTE species of concern and their habitats.

Geographic Extent

- The study area will include reservoir and tailwater shorelines, tributaries mouths (at the confluence with the Project reservoirs), remnant riverine habitats (the upper end of High Rock) and other Project lands, including the Narrows and Falls transmission line corridors and areas around the dams and powerhouses. However, species searches will focus on older known locations (pre 1990) and potential habitats of RTE species that may be affected by Project operations at each of the four reservoirs. (Searching occurrence locations of RTE species documented post 1990 is not always considered necessary; it is the occurrences that are several decades or more old that are most in need of verification).

Methods

- Review existing information regarding RTE species in the Yadkin Project area from such sources as the Natural Heritage Program surveys for the five counties (Stanly, Montgomery, Davidson, Rowan and Davie) surrounding the reservoirs, the Natural Areas Inventory for Yadkin River (Baranski, 1993) and the inventories conducted for Yadkin by Dames and Moore during the period 1995–1997.
- Prepare a candidate list of RTE species for more detailed evaluation under this study. The candidate list will include RTE species that are known to occur or that could potentially occur in the habitats that could be affected by Yadkin Project operations. Confer with the Wetlands, Wildlife and Botanical IAG in preparing this list.
- Prepare a plan and schedule for conducting RTE species field surveys for certain “candidate list” species that are determined to be of particular concern at the Yadkin Project. Survey methods and schedule will be species specific based on times the various species are likely to be most identifiable or in evidence in the Yadkin Project area.
- Select appropriate, representative field survey locations based on known locations and the habitat preferences of each of the candidate species. For reservoirs the study area will

¹ RTE aquatic species, including fish and mussels, will be evaluated as part of the fish and aquatic studies being conducted by Yadkin under the guidance of the Fish and Aquatics IAG. For this study the RTE species will include vascular plants, birds, mammals, amphibians, reptiles, terrestrial insects and dragonflies and other odonates.

include a band 200 feet wide along the shorelines at specific locations and the transmission lines will include the cleared transmission line corridor and a band 50 feet to either side of the cleared corridor.

- Confer with local natural resource experts and IAG members to refine survey techniques and during startup of the field work to assist in the initial search efforts.

Following are the general kinds of survey techniques that might be used:

- a. Visual searches for listed plant species will be done at each representative location; listed aquatic plants will be searched for by boat.
 - b. Searches for the listed bird species will be done primarily by sight and sound sampling at the appropriate time of day at representative habitat locations. RTE bird species searches will be coordinated with, and may be conducted as part of, other migratory bird surveys being conducted by the Center for Conservation Biology.
 - c. Snakes and terrestrial phase amphibians will be searched for in likely places such as stumps, logs and debris piles at each representative location. Turtles will be looked for on basking surfaces in early morning hours and aquatic phase amphibians will be inventoried by dip netting at representative habitat locations.
 - d. Terrestrial insects will be surveyed using ultraviolet light traps and by observing them around populations of flowering plants or at bait as appropriate. Dragonflies and other odonates will be surveyed visually over open water and by netting.
 - e. Vernal pools will be sampled for listed species during spring.
- Conduct field searches for the candidate species; for reasons of cost effectiveness three 2-week surveys are planned at points during the growing season that are generally optimal for most species.
 - Identify opportunities to enhance conditions for species of concern and their habitats.
 - a. Change in operations
 - b. Habitat modifications/enhancements

Reporting

A draft study report will be prepared that will include the following information:

- Review of existing information on RTE species in the Project area.
- Discussion of the process used to prepare the list of candidate species including coordination with the IAG; description of the field survey plan and schedule and the process used to select the representative field survey locations.
- Description of all field survey techniques used.
- Documentation of coordination with local natural resource experts and IAG members to refine survey techniques; documentation of the search effort, weather and field conditions, etc.

- Table of candidate species, their RTE status and habitat preferences.
- Description of habitat characteristics at each of the representative field survey locations.
- Discussion of results of the RTE species search, species found, population size and condition, etc.
- Assessment of impacts of Project operations and facilities on RTE species and habitats.
- Discussion of opportunities to enhance conditions for species of concern and their habitats.

The draft report will be distributed to the IAG for review and comment, the comments addressed, and a final report prepared.

Schedule

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| ▪ Review of existing studies and information. | July–September 2003 |
| ▪ Meet with IAG to review list of RTE candidate species. | October 2003 |
| ▪ Prepare plan and schedule for conducting field surveys, select field survey locations. | November–December 2003 |
| ▪ Prepare descriptions of each of the field survey techniques, confer with local experts and IAG to refine survey techniques. | November–December 2003 |
| ▪ Set up logistics for doing the field surveys. | January–April 2004 |
| ▪ Conduct field searches for RTE species at survey locations. | May–August 2004 |
| ▪ Assess impacts of Project operation on RTE species. | August–September 2004 |
| ▪ Draft report | October 31, 2004 |
| ▪ Final report | December 31, 2004 |