

ROCKY SHOALS SPIDER LILY (*HYMENOCALLIS CORONARIA*) STUDY PLAN

PARR HYDROELECTRIC PROJECT
(FERC No. 1894)

Prepared for:

**South Carolina Electric & Gas Company
Cayce, South Carolina**

Prepared by:

Kleinschmidt

Lexington, South Carolina
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1.0 INTRODUCTION

The Parr Fairfield Hydroelectric Project (FERC No. 1894) (“Parr Fairfield Project” or “Project”), owned and operated by the South Carolina Electric & Gas Company (“SCE&G” or “Licensee”), is seeking a new license from the Federal Energy Regulatory Commission (“FERC”), as their current license is set to expire on June 30, 2020. The Parr Fairfield Project consists of two developments, including the Parr Hydro Development and the Fairfield Pumped Storage Development, located in Fairfield and Newberry Counties, South Carolina.

The Project is currently involved in a relicensing process which involves cooperation and collaboration between SCE&G as licensee and a variety of stakeholders including state and federal resource agencies, state and local government, non-governmental organizations (NGO), and interested individuals. The collaboration and cooperation is essential to the identification and treatment of operational, economic, and environmental issues associated with a new operating license for the Project. SCE&G has established several Technical Working Committees (TWCs) with members from among the interested stakeholders with the objective of achieving consensus regarding the identification and proper treatment of these issues in the context of a new license. A Rare, Threatened & Endangered Species TWC (“RT&E TWC” or “TWC”) was formed to address potential RT&E related issues associated with the Project. It is comprised of stakeholders including the U.S. Fish and Wildlife Service (“USFWS”), the National Marine Fisheries Service (“NMFS”), the South Carolina Department of Health and Environmental Control (“SCDHEC”) and the South Carolina Department of Natural Resources (“SCDNR”), among others. During issues scoping, the TWC identified a South Carolina state species of concern, the Rocky Shoals Spider Lily (*Hymenocallis coronaria*) as occurring in the Broad River, downstream of the Parr Shoals Dam (Parr Dam). TWC members requested a survey to document the presence of this species in reaches downstream of the Project Area.

2.0 RELEVANT LIFE HISTORY INFORMATION

The Rocky Shoals Spider Lily (*Hymenocallis coronaria*), a recognized species of concern for South Carolina, is an aquatic, perennial flowering plant easily identified by its large white flowers. The plant develops from a bulb and grows to be approximately 3 feet tall. *H. coronaria* requires a specialized habitat of swift, shallow flowing water over rocks and direct sunlight (Davenport, 2007). The Broad River downstream of the Parr Dam contains shoal areas which provide the necessary habitat for this species. During winter months, plant bulbs and seeds stay buried in the rocky riverbed until May, when leaves begin to emerge above the water surface. During this time, flower stalks begin to develop and the short blooming season occurs from mid-May through June (Davenport, 2007).

3.0 STUDY OBJECTIVES

The objective of this study is to assess the status of *H. coronaria* within the area of Project influence by identifying and documenting all populations in the portion of the Broad River from Parr Dam extending to and including Frost Shoals, near Boatwright Island.

4.0 GEOGRAPHIC AND TEMPORAL SCOPE

As the life history information indicates, *H. coronaria* populations may occur at various shoals along the Broad River downstream of the Parr Dam. For this reason, the survey area will include the stretch of the Broad River downstream of the Parr Dam extending to and including Frost Shoals, near Boatwright Island. The survey reach is depicted in yellow in Figure 1.

The study will occur during the flowering season over two to three days in May or June, depending on flows and weather.

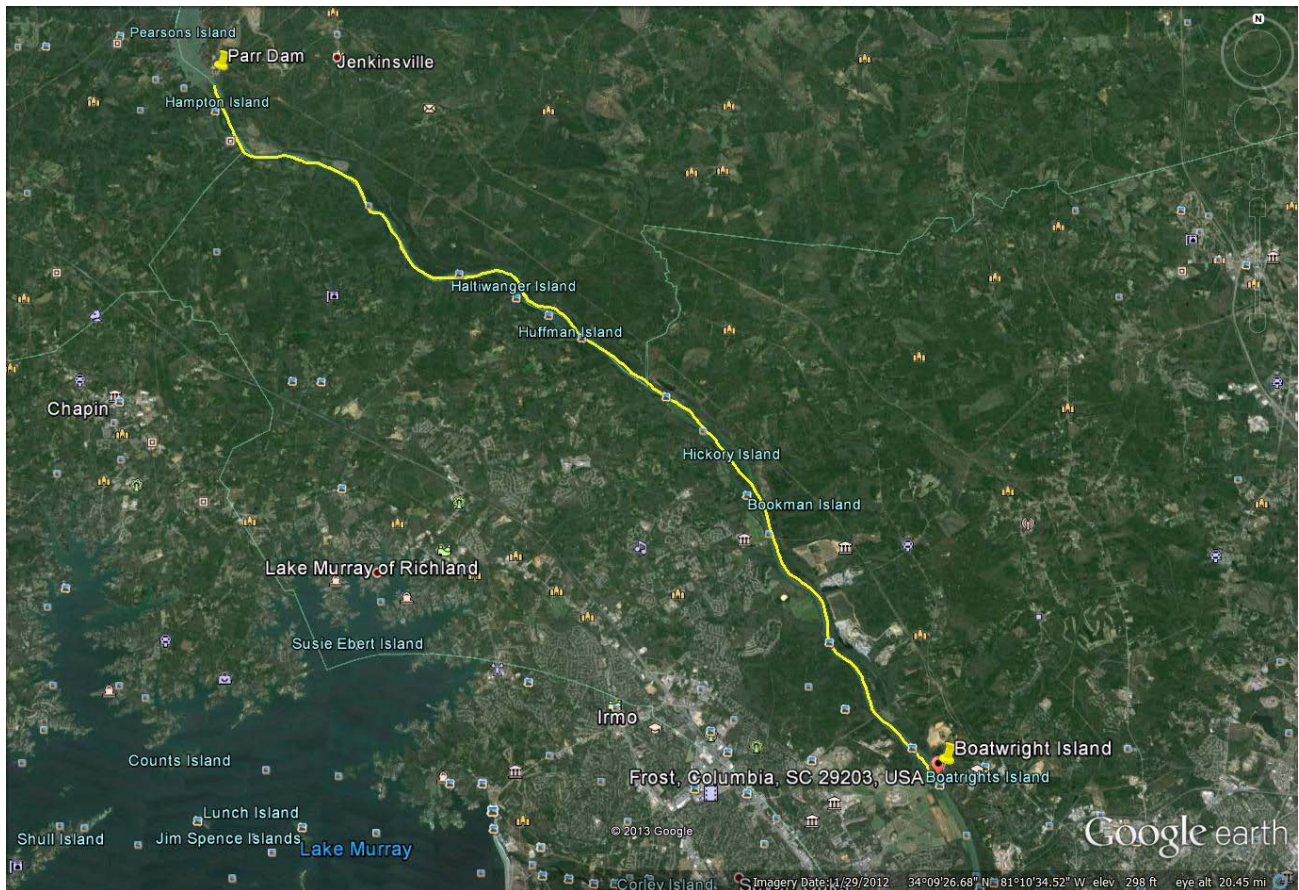


FIGURE 1 ROCKY SHOALS SPIDER LILY SURVEY REACH

5.0 COLLECTION METHODS AND ANALYSIS

The survey will take place during the flowering season of the *H. coronaria*, which occurs from late spring to early summer. A survey crew(s) will deploy in kayaks or canoes at the base of the Parr Dam and paddle downstream, observing the area for populations of *H. coronaria*. The main stem river channel, side channel areas and island complexes will be thoroughly surveyed. The crew(s) will paddle approximately halfway down the survey reach on Day 1. The group will then reconvene at the take-out location from Day 1 on Day 2 and paddle the remainder of the study area. When populations are sighted, the crew will document the exact location of the plants using GPS. The basal area of plants or clumps of plants will be measured and recorded. Elevation data for documented plants or clumps of plants will be obtained either during this survey or during the IFIM Survey.

6.0 SCHEDULE

It is anticipated that data collection will occur in the spring of 2015. Due to the variability in flows and meteorologic conditions, the exact survey dates will be determined at a later date and announced two weeks in advance to the TWC members. If 2015 has extensive high flow conditions that would not allow for an effective assessment, the study will be postponed until the spring of 2016.

Within 90 days of the close of field work, a final report summarizing the study findings will be issued. Study methodology, duration and timing may be adjusted based on consultation with resource agencies and interested stakeholders.

7.0 USE OF STUDY RESULTS

Study results will be used as an information resource during the discussion of relicensing issues and developing potential Protection, Mitigation and Enhancement measures with the SCDNR, SCDHEC, USFWS, RT&E TWC, and other relicensing stakeholders.

8.0 REFERENCES

Davenport, L. J. (2007). "Cahaba Lily." *The Encyclopedia of Alabama*. [Online] URL: <http://www.encyclopediaofalabama.org/face/Article.jsp?id=h-967>. Accessed August 7, 2013.