SCANA

Limited Aquatic Plant Survey of Monticello and Parr Reservoirs.

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12/9/2008

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1.0 Introduction

South Carolina Electric and Gas (SCE&G) has filed a license application with the Nuclear Regulatory Commission for the right to construct two new nuclear generating units. The new units will withdraw water from Monticello Reservoir and discharge cooling tower blowdown and other liquid waste into Parr Reservoir.

Monticello Reservoir and Parr Reservoir are located in Fairfield County, South Carolina. Monticello Reservoir is a 6,500 acre impoundment constructed on Frees Creek to provide cooling water for Virgil C. Summer Nuclear Station and the upper pool for the Fairfield Pumped Storage Facility (FPSF). Parr Reservoir is a 4,400 acre impoundment of the Broad River by the Parr Shoals Dam. Parr Reservoir is subject to daily fluctuations in level due to the operation of the FPSF.

An aquatic plant survey was conducted to establish baseline data on what species of aquatic plants are present in Parr Reservoir and Monticello Reservoir.

2.0 Methods

A survey of the aquatic plant community of Parr Reservoir was conducted on October 30, 2008. Sampling was conducted at 11 transect locations by slowly moving through the littoral zone and observing the plants present. A viewing tube was used to allow for observation in the shallow water. Deep water areas were sampled by pulling a sampling rake across the bottom.

A survey of Monticello Reservoir was conducted on November 6, 2008. Sampling was performed at 6 sites by slowly moving through the sample area. A viewing tube was used to allow for observation in the shallow water. Deep water areas were sampled by pulling a sampling rake across the bottom.

The locations of transects and sampling area were record with GPS (Table 1). Locations are displayed in Figures 1 & 2.

3.0 Results

11 different species of aquatic plants were observed at Parr Reservoir (Table 1). Alligator weed, *(Alternanthera philoxeroides)* and water primrose, *(Ludwigia uruguayensis)* were present at all locations. Bur-marigold, *(Bidens laveis)*, bulrush, *(Scripus ssp.),* coontail, *(Ceratophyllum demersum)*, lizard tail,*(Saururus cernuus)*, marsh pennywort, *(Hydrocotyle umbellate),* pickerel weed, *(Pontederia cordata),* and smartweed, *(Polgonum persicaria)* were observed in the shallow water at the majority of the sampling transects. Cattail*, (Typha latifolia),* and rushes, *(Juncus ssp)*. were

Observed growing at several of the sampling transects. No plants were collected from the deep water areas of the sampling transect.

No aquatic plants were observed growing in the shallow water of the six sampling locations at Monticello Reservoir. Stonewort, *(Nitella flexilis),* was collected from the deep water area at the public boat landing on the eastern shore of the reservoir. Plant species found at each transect for Monticello Reservoir are list in Table 2.

4.0 Observations

None of the plants found in Monticello and Parr Reservoirs are considered threaten or endangered by the state of South Carolina. All the aquatic plants present in Monticello and Parr Reservoirs are widely distributed throughout the Southeastern United States.

Figure 1. Sample Locations in Monticello and Parr Reservoirs.

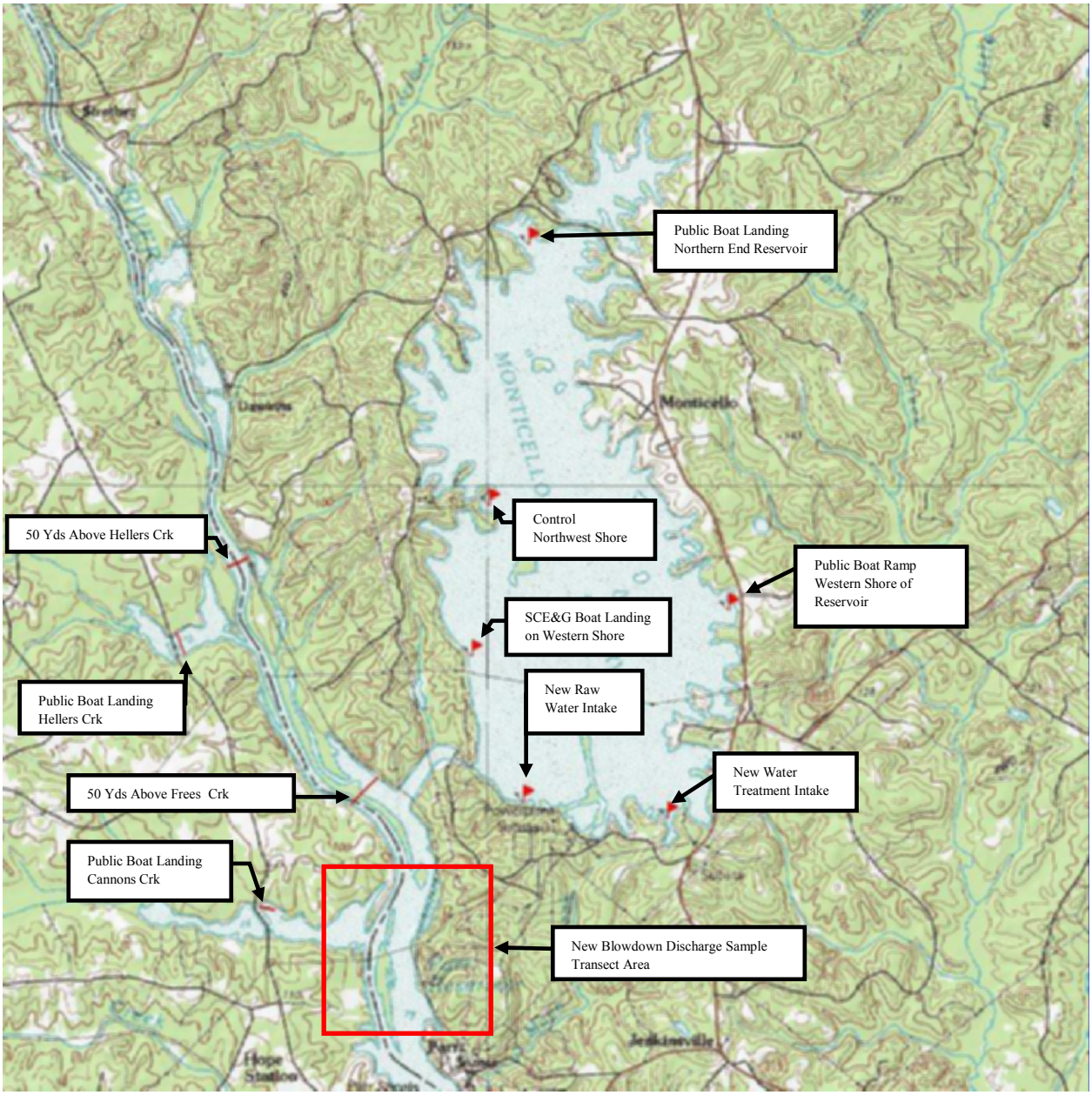

Figure 2. Enlarged View of New Blowdown Discharge Transect Area on Parr Reservoir.

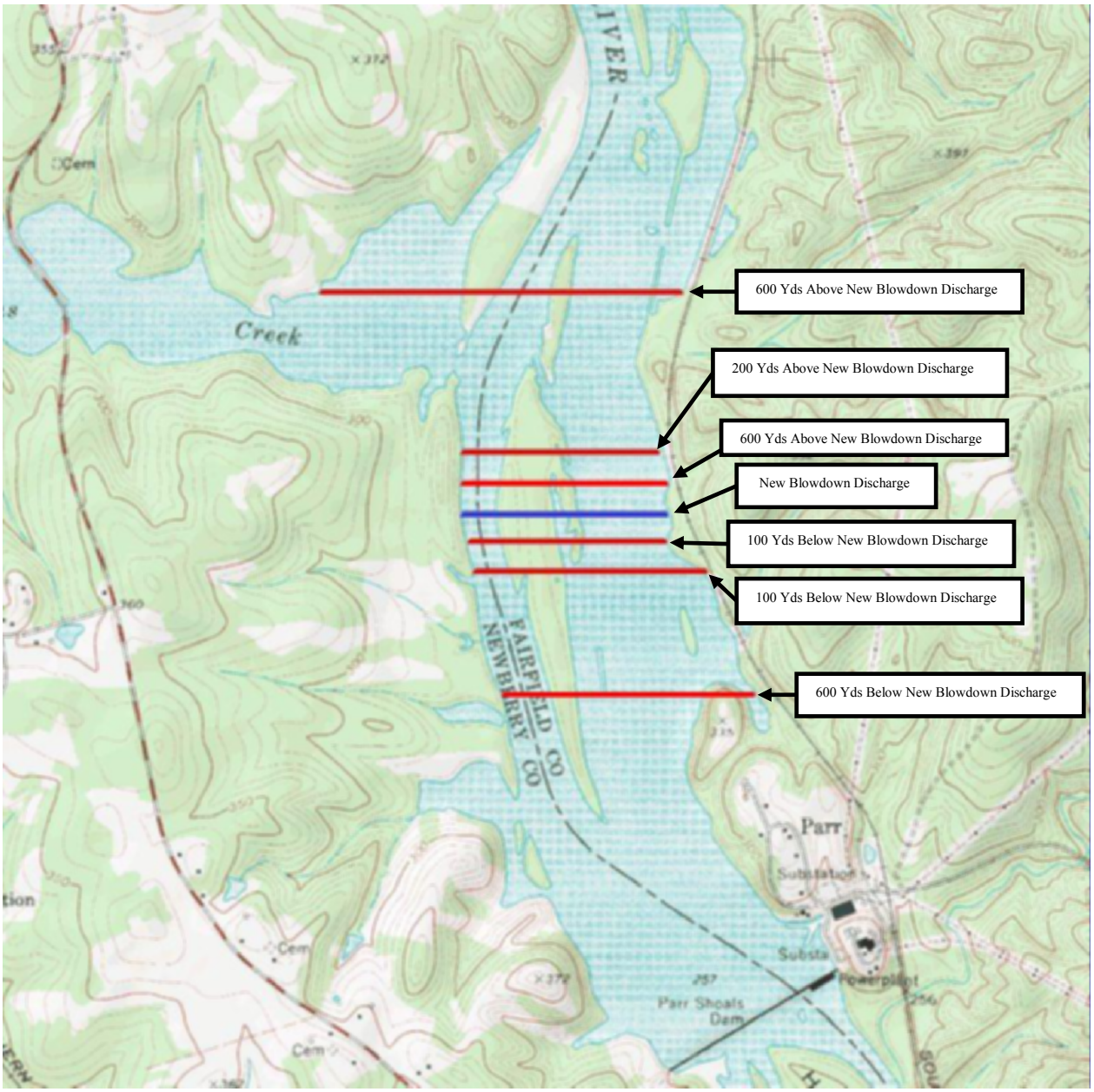

Table 1. GPS Locations for Transect on Parr Reservoir.

Location	Eastern Shore	Western Shore
600 Yards Above New Blowdown Discharges	N 34.28406° W 081.33674°	N 34.28413° W 081.35204°
200 Yards Above New Blowdown Discharge	N 34.28097° W 081.33779°	N 34.27967° W 081.34623°
100 Yards Above New Blowdown Discharge	N 34.27898° W 081.33765°	N 34.27826° W 081.34615°
New Blowdown Discharge	N 34.27706° W 081. 33714°	N 34.27589° W 081.34605°
100 Yards Below New Blowdown Discharge	N 34.27555° W 081.33664	N 34.27460° W081.34541°
200 Yards Below New Blowdown Discharge	N 34.27417° W 081.33556	N 34.27352° w 081.34553°
600 Yards Below New Blowdown Discharge	N 34.27050° W081.33568°	N 34.26894° W081.34412°

Table 2. Aquatic Plants Identified in Parr Reservoir.

Species	Public Boat Landing on Hellers Crk	50 Yds Above the Mouth of Hellers Crk	50 Yds Above the Mouth of Frees Crk	Public Boat Landing on Cannons Crk	600 Yds Above the New Cooling Tower Blowdown Location	200 Yds Above the New Cooling Tower Blowdown Location	100 Yds Above the New Cooling Tower Blowdown Location	New Cooling Tower Blowdown Location	100 Yds Below New Cooling Tower Blowdown Location	200 Yds Below New Cooling Tower Blowdown Location	600 Yds Below New Cooling Tower Blowdown Location
Alligatorweed	X	X	X	X	X	X	X	X	X	X	X
Bulrushes	X	X			X	X	X	X	X	X	
Bur-Marigold			X		X	X	X	X	X	X	X
Cattail	X				X		X		X	X	
Coontail					X	X	X	X		X	X
Lizard's Tail		X			X	X	X	X	X	X	X
Marsh Pennywort			X			X	X	X	X	X	
Pickerelweed	X		X			X	X	X	X	X	X
Rushes		X	X				X	X			
Smartweed	X			X	X	X	X	X	X	X	X
Water Primrose	X	X	X	X	X	X	X	X	X	X	X

Table 3. Aquatic Plants Identified in Monticello Reservoir

Species	New Raw Water Intake	New Water Treatment Intake	Public Boat Ramp Eastern Shore of Reservoir	Public Boat Landing Northern Shore of Reservoir	Control Northwestern Shore of Reservoir	SCE&G Boat Landing on Western Shore of Reservoir
Stonewort			X			