

MEETING NOTES

SOUTH CAROLINA ELECTRIC & GAS COMPANY **Rare, Threatened and Endangered Species TWC Meeting**

March 1, 2016

Final KMK 03-28-16

ATTENDEES:

Bill Argentieri (SCE&G)
Ray Ammarell (SCE&G)
Brandon Stutts (SCE&G)
Caleb Gaston (SCE&G)
Tom McCoy (USFWS)
Fritz Rohde (NOAA)
Bill Marshall (SCDNR)

Rusty Wenerick (SCDHEC)
David Eargle (SCDHEC)
Bill Stangler (Congaree Riverkeeper)
Henry Mealing (Kleinschmidt)
Shane Boring (Kleinschmidt)
Kelly Kirven (Kleinschmidt)
Jared Porter (Kleinschmidt)

These notes serve as a summary of the major points presented during the meeting and are not intended to be a transcript or analysis of the meeting.

The objective of the meeting was to review several reports that were issued to the TWC summarizing five studies that were completed during 2015, including the Rare, Threatened and Endangered Desktop Assessment, the American Eel Abundance Study, the Rocky Shoals Spider Lily Study, the Broad River Spiny Crayfish Study, and the Monticello Reservoir Mussel Survey. A brief PowerPoint presentation was prepared summarizing the methods and results of each study. This presentation is attached to the end of these notes. A second meeting objective was to identify any Protection, Mitigation, and Enhancement (PM&E) measures associated with the study issues for possible inclusion in the Settlement Agreement.

RTE Desktop Assessment

Henry said this report was originally issued in 2014, but after additional input from the USFWS, the report was revised and reissued in the late fall of 2015. The bald eagle is known to occur within the Project boundary, and SCE&G will continue to work with SCDNR on monitoring this species. There are also several fish that are known to occur within the Project boundary that will be further addressed through the IFIM study.

Bill Stangler said that the report has wording that suggests SCE&G is “likely to consult” with agencies on blueback herring and asked if there was a reason why they would not consult. This wording will be changed to remove “likely.” He also asked if striped bass and sturgeon spawning would be addressed during any additional studies. Henry said yes, striped bass will be looked at during the IFIM study, and both species will be studied further as part of the ongoing Downstream Flow Fluctuation investigation.

Bill Marshall said that SCDNR has noted that robust redhorse are known to occur in the Monticello Reservoir. He said that the SCDNR may have some concerns about entrainment impacts if it passed into that reservoir through the pumpback operations. Henry said that it probably did get there through pumpback operations at Fairfield, and that there may be mortality, but there is also survival. This may be something that will need to be addressed further as fish passage becomes an issue in the future.

Bill M. also said that a new State Wildlife Action Plan was completed last year, so the report may need to be updated to reflect those changes. Tom McCoy said that the official status of several of the species had also changed since the report was issued. These should be updated for the Draft and Final License Application. An addendum to the report will be prepared to address these changes. Bill M. and Tom M. were asked to send their recommended updates/edits to Kleinschmidt.

American Eel Abundance Report

Jared gave the group a summary of the American eel study that was completed in the spring and fall of 2015. Henry stated that Mark Cantrell with the USFWS accompanied Kleinschmidt and SCE&G on a site visit to help pick sites for installing the eel ramps. Jared noted that the ramps did not catch any eels or any other species and the fyke net didn't catch any eels either, although it did catch a wide variety of other species, including fish, crayfish and turtles. One backpack electrofishing effort did result in the collection of one American eel. The eel was a yellow eel; no elvers were found. These results are similar to the results of additional studies conducted by Ron Ahle with SCDNR.

Fritz asked what type of substrate was used on the eel ramps and Jared said Enkamat. Fritz pointed out that if the yellow eel life stage is what is located below the Project, Enkamat may not have been the best substrate. Henry agreed and said that during study plan development, everyone expected that elvers would be the dominant life stage of eel in the area, instead of the larger yellow eels. Henry said that based on the information collected during this study and the SCDNR study, future studies and fish passage should focus on the collection of larger eels. Fritz agreed and said he would send the group some additional information regarding eel passage.

Tom said that periodic monitoring as a PM&E measure in the new license might be a good idea. The group agreed that doing surveys on a 5-10 year basis, or when initiated by a pre-determined trigger, could be part of the Settlement Agreement. Henry said this could be tied into the fish passage requirements as described in the Accord Agreement. Tom said he would send the group some information on the triggers used for eel passage at the Wateree Project. Bill A. said that additional American eel studies could be initiated when a percentage of a trigger number is hit, similar to how fish passage study and design for American shad and blueback herring is set up in the Accord Agreement.

Fritz said that of the three methodologies used in the study, the only effective one was backpack electrofishing. He asked that the backpack electrofishing be replicated in the spring of 2016 to verify that yellow eels are the life stage of eel that are dominant below the Parr Shoals dam. This way, when additional studies are warranted, methodology can be targeted toward the collection of yellow eels. SCE&G agreed to do an additional year of backpack electrofishing downstream of the dam. Three sampling events will be scheduled during late March, mid-April and mid-May and the results will be issued as an addendum to the American Eel Abundance Report.

Rocky Shoals Spider Lily (RSSL) Report

Shane gave the group a summary of the RSSL study, and said that populations of the plant were concentrated around the top of Bookman Shoals and the top of Frost Shoals. Bill Stangler asked for clarification on the green polygons shown in the report. Shane said that the polygons were drawn around large population clusters of the plants. Henry said that transect elevation data is also being collected in some of the RSSL areas as part of the IFIM study.

Henry asked Bill S. if there was something specific that he wanted to see coming out of relicensing. Bill said that he would like to see something similar to what was done during the Columbia relicensing, such as long term monitoring and possible restoration efforts. If restoration isn't feasible in the Broad River downstream of the Project, it could be done elsewhere in the basin. Bill said that currently there is less usage in this stretch of the river, so the plant is less visible here than it is below Columbia. There is less human predation, but this could change if additional access is created downstream of Parr. Bill A stated that as part of the Saluda Project, SCE&G is a supporting member of the team that currently monitors the RSSL population below Columbia dam. SCE&G could carry this forward for consideration for the Parr Settlement Agreement – but more specific information will need to be added to the PM&E measure.

Broad River Spiny Crayfish Report

Jared gave an overview of the Broad River Spiny Crayfish study and said that Byron Hamstead (USFWS) accompanied Kleinschmidt staff to identify specific study areas for deploying crayfish traps. Jared said that ultimately, the traps did not collect any crayfish, but they did collect several fish species. He noted that the fyke net used during the American Eel Abundance Study collected many crayfish, but none of these were identified as the Broad River spiny crayfish. He noted that the traps were out during the months of September and October, and while flows were unusually high during October, which may have created unfavorable conditions for crayfish, the month of September was a typical month and provided prime conditions for crayfish.

Bill S. noted that the fyke net was deployed during spring and fall of 2015, and since crayfish were caught in the fyke net, asked if the timing was off during the crayfish study. Maybe the crayfish study should have occurred during the spring. Jared said that the study was planned for fall based on recommendations from Arnie Eversole and to make identification easier. He also noted that crayfish were also caught during the fall months in the fyke net.

Henry mentioned that during study plan development, Byron Hamstead noted that he did not believe any Broad River spiny crayfish were present in the study area, but he wanted the study to help verify this assumption.

Monticello Freshwater Mussel Survey Report

Shane gave an overview of the Monticello Freshwater Mussel survey and said that the study was conducted by Three Oaks during September and November in Monticello Reservoir and the Recreation Lake. No live mussels were found in the Recreation Lake and six species were found in Monticello Reservoir. David Eargle said that one of the species found in the reservoir, the Carolina creekshell, was unexpected, since it had never been identified in that area before. David stated that

the genetic testing would be less than \$1,000 based on discussions with Tim Savage (Three Oaks). He asked if genetics could be run on the samples collected, just to verify if that was the correct species, or if it was actually a similar species known to occur in the area. SCE&G agreed to contact Tim and have the additional testing completed on the samples. David said that knowing the correct identification wouldn't have any effect on Project operations, but it would be good information to know.

David said that he was curious as to why no mussels were found in the Recreation Lake. Ray said that there are racks on the intakes and fish cannot pass back and forth from the Recreation Lake and Monticello Reservoir. Upon initial filling, the Recreation Lake was treated with rotenone and stocked with fish. It is likely that mussels never had the opportunity to get established in that body of water.

David identified a few typos in the Three Oaks report and said he would send these over to Kleinschmidt to address.

Protection, Mitigation and Enhancement Measures

Several general PM&E measures were identified during the meeting, and are listed below. These should be developed with more detail through input from TWC members and will be considered as the relicensing process moves forward and a Settlement Agreement is developed.

- Periodic monitoring/studies for American eels throughout the term of the new license – possibly every 5-10 years, or based on a trigger system, similar to the triggers established in the Accord Agreement
- Establish long term monitoring of the Rocky Shoals Spider Lily populations located downstream of Parr Dam and upstream of Columbia Dam (similar to the monitoring already taking place downstream of Columbia Dam) – Possible restoration efforts for the species – Possible public outreach and education efforts (could tie into the education and outreach already established for the Columbia Project)

Action items identified during the meeting are listed below.

ACTION ITEMS:

- SCDNR and USFWS will send updates/edits for RT&E Desktop Assessment.
- Fritz will send Fish Passage Primer, which includes information on eel passage, to group.
- SCE&G and Kleinschmidt will perform 3 additional backpack electrofishing sessions during the spring of 2016 for American eels downstream of Parr Dam.
- David will send comments/edits for the Monticello Freshwater Mussel Survey Report to Kleinschmidt.
- Kleinschmidt will work with Three Oaks to get genetic testing done on mussel samples that are thought to be Carolina creekshell.

Rare Threatened and Endangered Species Desktop Assessment

Methods and Materials

- Objective- Identify RTE species potentially occurring in the Project vicinity
- Project Vicinity- Project Boundary and downstream reach of Broad River influenced by the Project
- USFWS and SCDNR county-level listings for Newberry, Fairfield, and Richland counties reviewed to find listed or at-risk species that may occur in study area
- Species on 2008 Birds of Conservation Concern list included for review
- Ten species considered priority species in the SCDNR Comprehensive Wildlife Conservation Strategy included for review

Results

- Some of the species reviewed may occur in the Project boundary
- Impacts are unlikely
- Species present in Project boundary not protected by state or federal law
- Of the 13 state and federally listed/protected species, only the bald eagle likely occurs in the study area regularly
- Fish species classified as SCDNR priority conservation species documented in study area
- Fish habitat requirements assessed further in IFIM Study

American Eel Abundance Report



Materials and Methods

- Objective- Characterize the abundance and distribution of American eels downstream of Parr Shoals Dam
- Two traps (3 ramps) set at base of dam near the west bank
- One trap (two ramps) set near powerhouse on east bank
- Fished from March 2-June 12 and October 9-November 16
- Fyke net set in west channel from March 2-June 12, and October 9-November 16
- Four backpack electrofishing efforts

Results

- One yellow eel collected over four total electrofishing efforts
- No elvers collected in traps or fyke net
- Ramp traps fished for a total of 3,428 hours
- Downtime associated with low leakage flows and flooding



Rocky Shoals Spider Lily Study Report



Materials and Methods

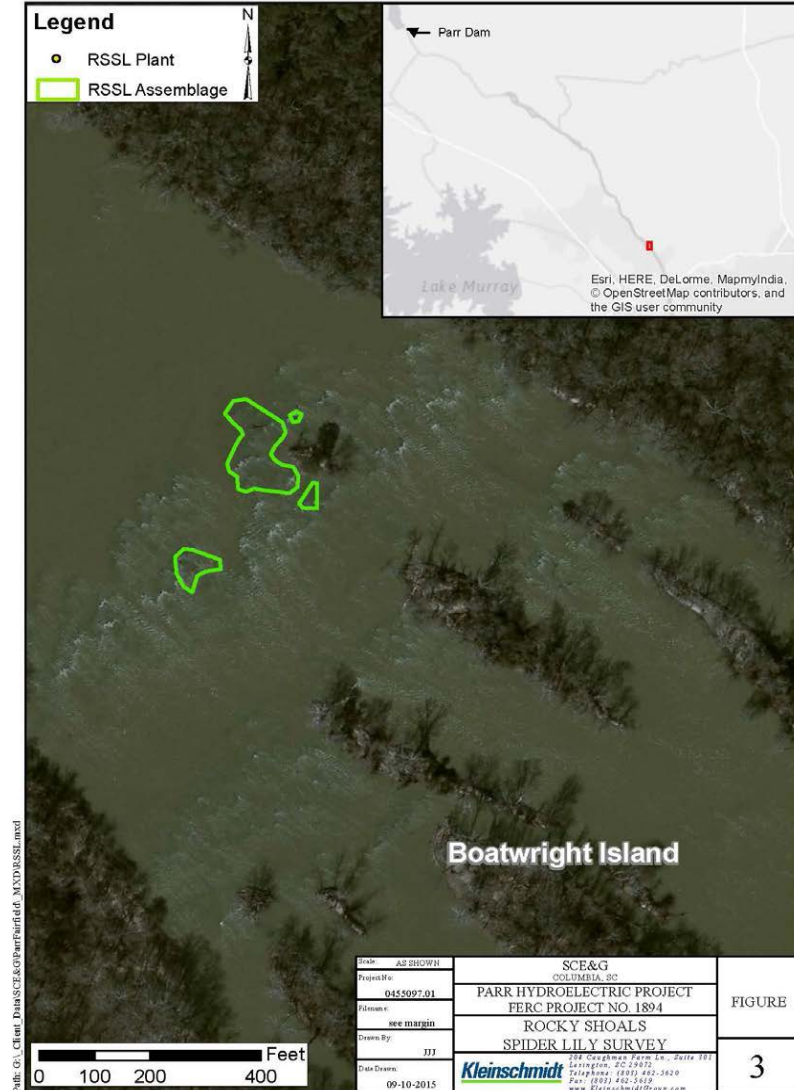
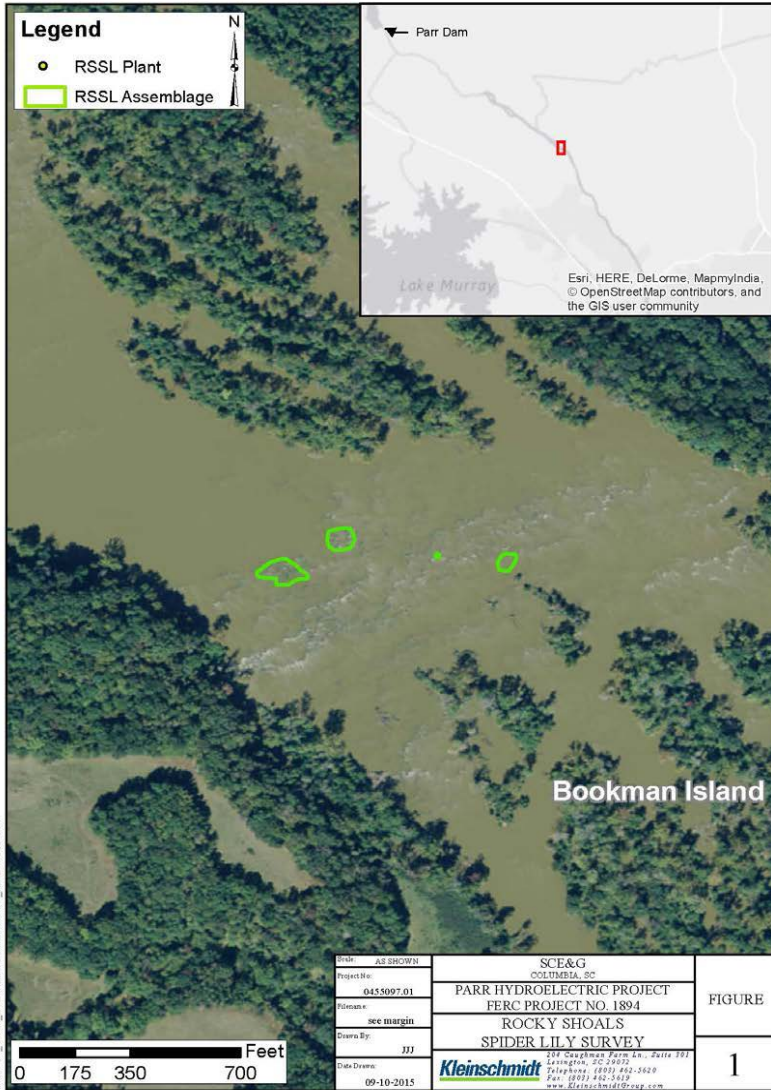
- Objective: Assess abundance and spatial distribution of RSSL between Parr Shoals Dam and Frost Shoals
- Crews floated Broad River between Parr Shoals Dam and Boatwright Island
- Study conducted during May 26-27(height of flowering season)
- Plants or clusters documented using handheld GPS
- Clusters of plants measured for length and width

Results

- 81 plants or clumps of plants documented
- Occurrences were limited to Bookman Shoals and Frost Shoals
- Majority of plants located on bedrock ledges, in water depths of 0-30 inches
- Basal areas ranged from 0.05 m²- 20,000 m²



Locations of RSSL



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Source: Kleinschmidt, ESRI

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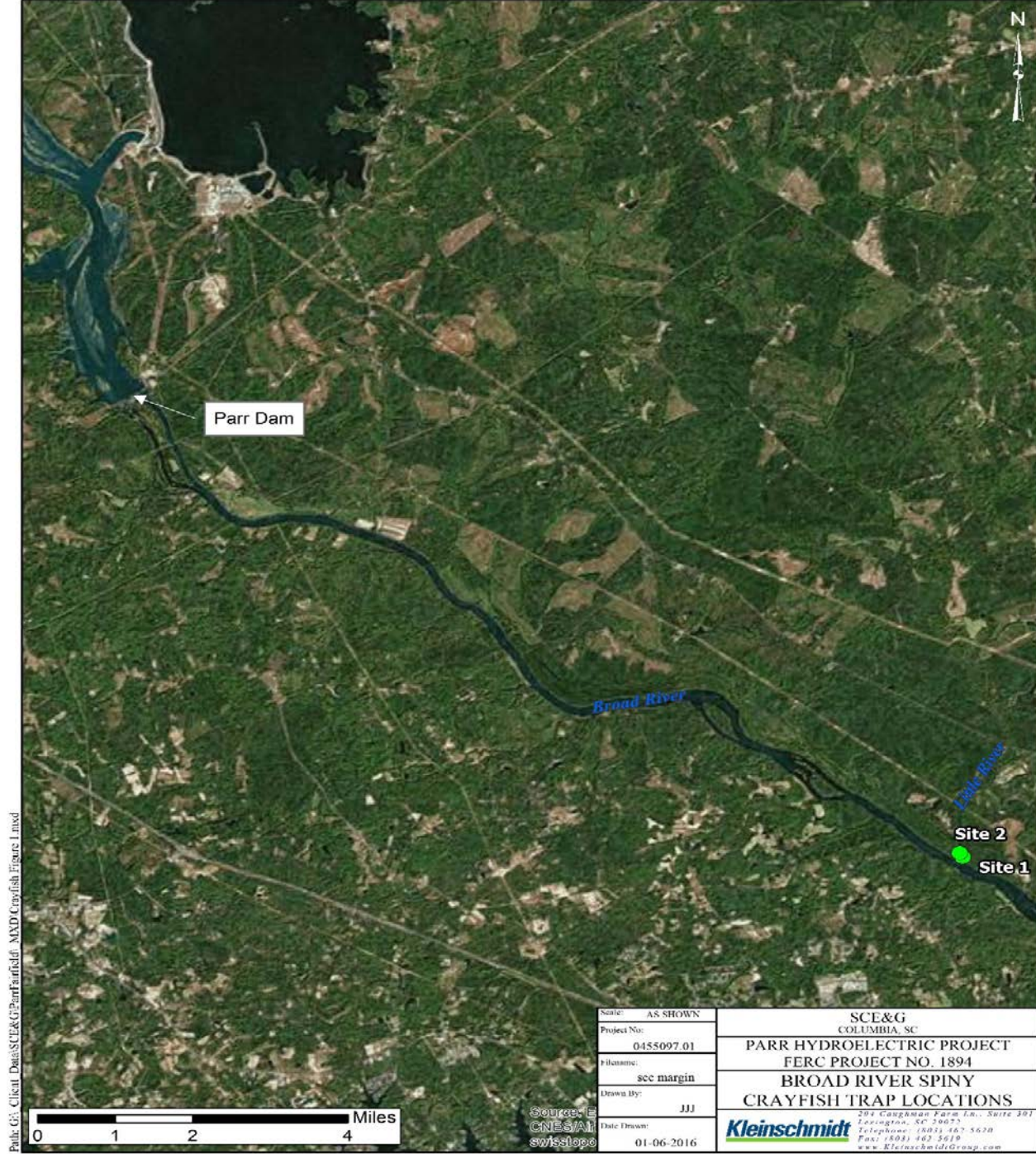
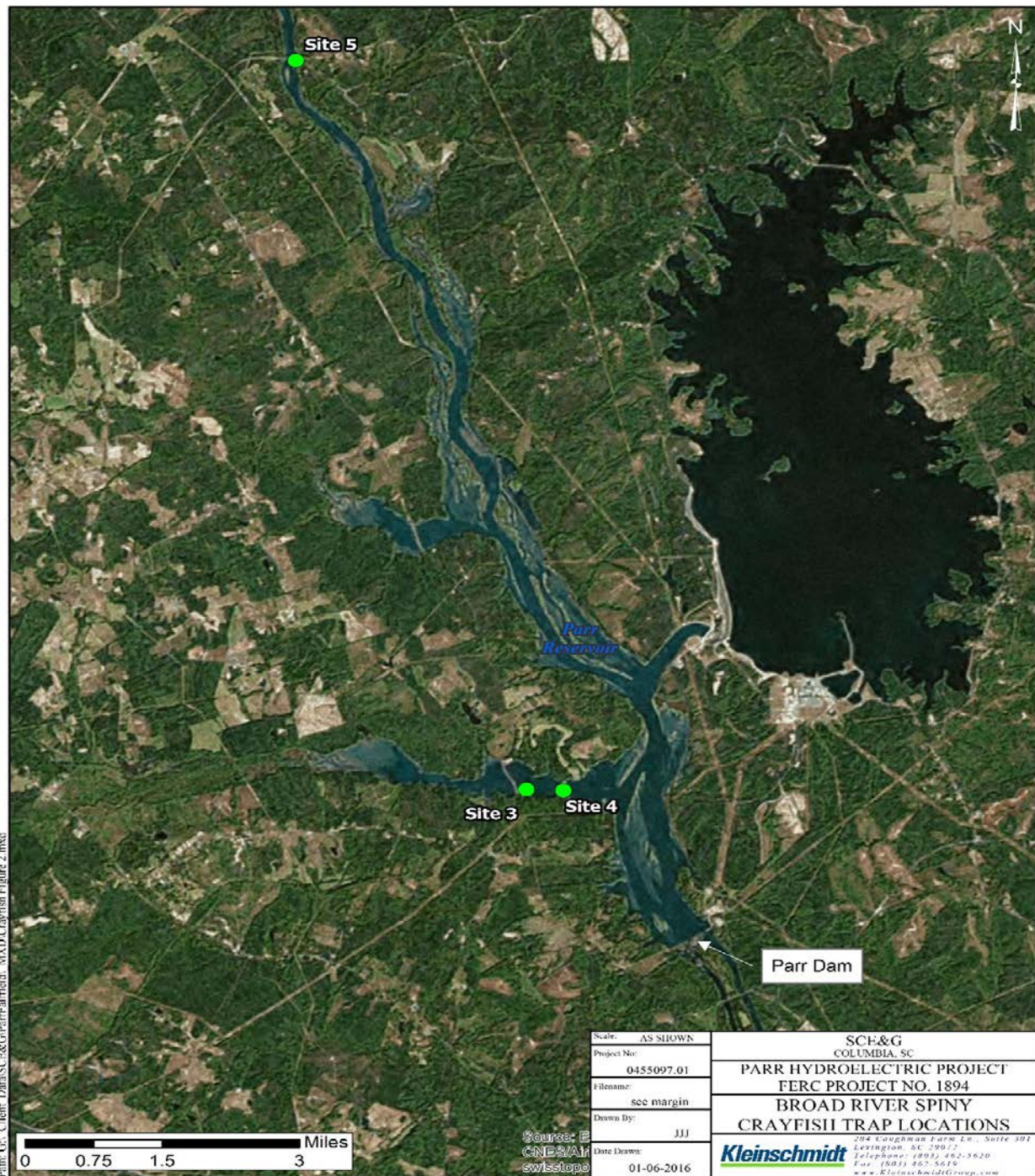
Source: Kleinschmidt, ESRI

Broad River Spiny Crayfish Study Report



Objectives, Methods, and Materials

- Study Objective- Assess the presence of the Broad River Spiny Crayfish in Parr Shoals Reservoir and in the Broad River Downstream of Parr Shoals Dam
- Study site determinations w/ USFWS
- Double entry traps wire mesh crayfish traps baited, set, and regularly checked at 3 sites (September-October 2015)
 1. Broad river at the Hwy 34 bridge
 2. Cannon's Creek arm of Parr Shoals Reservoir
 3. Confluence of Little River and Broad River, downstream of Parr Shoals Dam



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Results

- Water temperatures ranged from 12-28°C for duration of study
- Traps fished for a total of 9,996 hours
- No crayfish collected
- Traps collected small sunfish throughout study



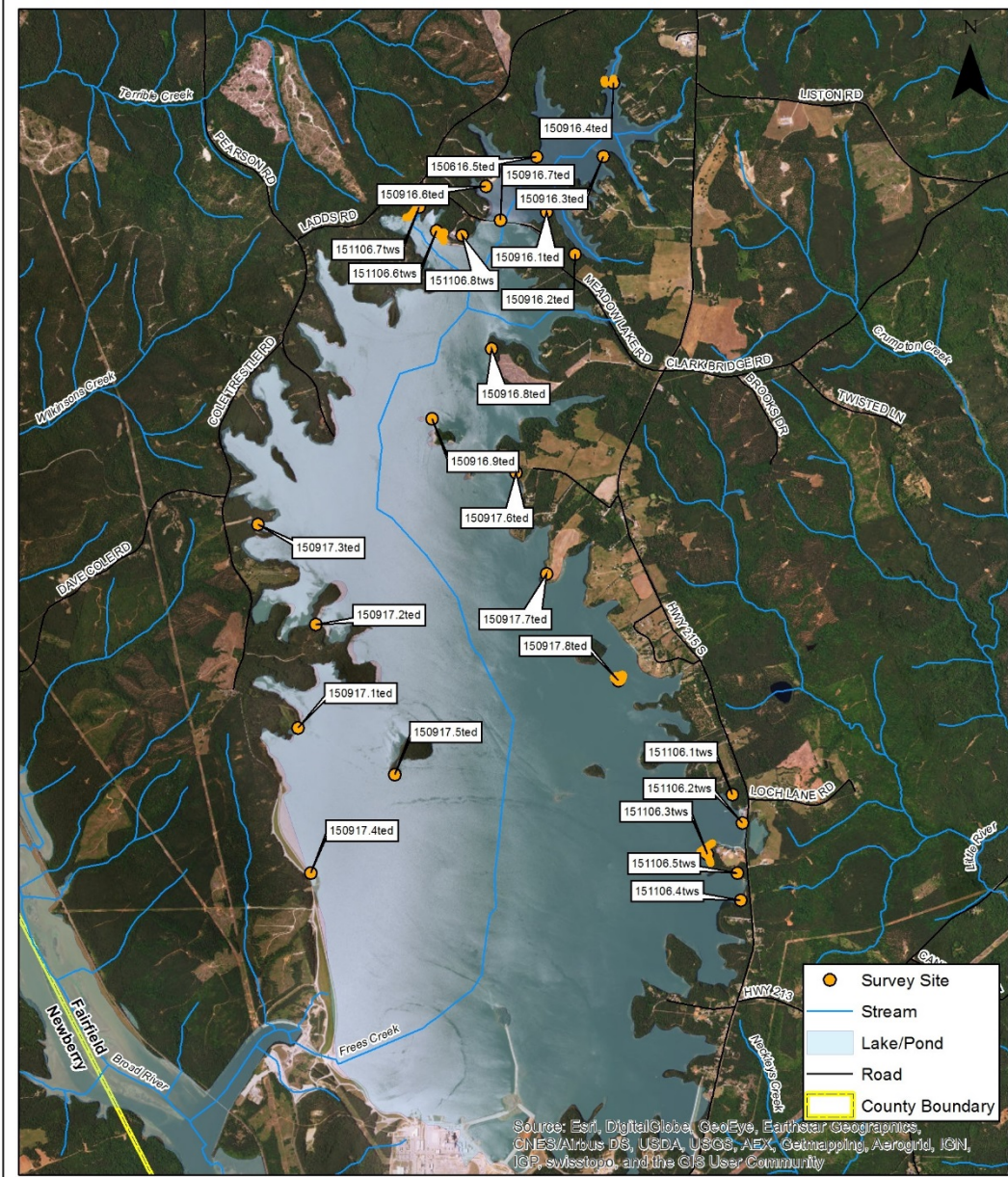
Monticello Freshwater Mussel Survey Report



Methods and Materials

- Surveys conducted by Tim Savidge (Three Oaks/Catena) on September 16-17 and November 6, 2015
- 25 sites surveyed via SCUBA and snorkeling
- Surveyors worked from shoreline habitats towards deeper water
- All mussels identified, enumerated, and returned to substrate





Prepared For:
Kleinschmidt

Freshwater Mussel Survey
Monticello Reservoir
 Fairfield County, South Carolina

Date: December 2015
 Scale: 0 1,000 2,000 Feet
 Job No.: 3396
 Drawn By: KMS
 Checked By: TS

Figure
1

Results

- Six species documented: Carolina Lance (moderate priority), Eastern Floater, Florida Pondhorn, Paper Pondshell, Eastern Creekshell (moderate priority), Carolina Creekshell (highest priority)
- Relic shell material (Paper Pondshell) found in rec lake
- Reproduction appears to occur for at least 5 species
- Federally protected species (Carolina Heelsplitter and Savannah Liliput) unlikely to occur in Monticello Reservoir and are not known from the Broad River Basin.

