

MEETING NOTES

**SOUTH CAROLINA ELECTRIC & GAS COMPANY
SALUDA HYDRO PROJECT RELICENSING
CONFERENCE CALL WITH NMFS REGARDING STURGEON MITIGATION**

*Via Conference Call
January 20, 2009*

Final-CSB-03272009

ATTENDEES:

Bill Argentieri, SCE&G	Alan Stuart, Kleinschmidt Associates
Bill Post, SCDNR	Prescott Brownell, NMFS
Shane Boring, Kleinschmidt Associates	Jeni Hand, Kleinschmidt Associates
Steve Summer, SCANA Services	Milton Quattlebaum, SCANA Services

ACTION ITEMS:

- Adapt the *Shortnose Sturgeon Monitoring and Adaptive Recovery Program* developed by NMFS into a mitigation program document for inclusion in the Relicensing Settlement Agreement
..... Kleinschmidt/SCE&G

NEXT MEETING

To be determined

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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.

Shane Boring opened the call at 9:00, noting that the purpose of the conference call was to discuss the *Shortnose Sturgeon Monitoring and Adaptive Recovery Program* (Attachment A), which had been developed by NMFS and SCDNR and distributed via e-mail to the group on 16 January 2009. It was noted that the document was developed in fulfillment of Prescott's commitment from the 17 October 2008 Fish and Wildlife Technical Working Committee meeting to develop a list of PM&E measures and studies that NMFS feels should be implemented relative to sturgeon under a new FERC license for Saluda.

Prescott noted that the document was developed with much assistance from SCDNR (Bill Post) and enquired as to whether the group had questions or comments. Alan Stuart noted that most of the recommended studies (most notably Study I - "Sturgeon Movement and Behavior") appear similar to those already being discussed as part of the Santee Basin Diadromous Fish Accord (ACCORD), and that conducting those as part of separate mitigation program for Saluda would likely be redundant and not cost-effective. Prescott noted that FERC is likely to expect proposed PM&E measures specific to the Saluda Project, and the recommended sturgeon program was developed with this in mind. Alan and Bill A. enquired as to whether NMFS would be amiable to SCE&G developing some sort of "Sturgeon Protection, Mitigation and Enhancement (PM&E) Program" that would serve as a means of recommending the NMFS-recommended studies to the ACCORD Board for implementation under the ACCORD. Prescott noted that this would be a good approach, and including the Program in the settlement agreement and PM&E measures would help FERC develop the new license terms and help the ESA consultation process as well. Alan noted that the initial phase of the ACCORD includes a 5-year period during which sturgeon studies were slated to occur and proposed that language be included stating that SCE&G will consult with NMFS following this 5-year period (at a minimum) to determine whether the Project-specific objectives had been met. The group was in agreement that this was an acceptable approach.

In regards to recommended Study II (Temperature and Water Quality), Bill A. noted that SCE&G had funded a significant study of temperature in the lower Saluda (LSR) and Congaree over the past 2 yrs, and enquired as to why that study would not meet the study objectives of NMFS. Prescott indicated that temperature regimes could be affected (most likely improved) by implementation of the proposed minimum flows and that there needed to be a way to monitor those changes, and identify non-mandatory practical measures that could be implemented within the constraints of project operations.

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After discussion, it was determined that SCE&G would develop a Sturgeon PM&E Program, as discussed above. The program will include a commitment that SCE&G will recommend that Studies I and II be completed as part of the ACCORD process. If they are not completed as part of the ACCORD, SCE&G will consult directly with NMFS to ensure that the objectives of these studies are met outside of the ACCORD process. Further, it was agreed that Studies III and IV would be implemented at which point shortnose or Atlantic sturgeon are documented in the LSR, and areas of the upper Congaree that are affected by the Saluda Project. Similar to studies I and II, Studies III and IV would be implemented through the ACCORD process or independently in consultation with the NMFS, SCDNR and USFWS.

Kleinschmidt staff were tasked with adapting the NMFS document into a draft Sturgeon PM&E Program document. Bill A. reiterated that the purpose of such a program would be to serve as mitigation for the Project and that it was SCE&G's intent to include any such program in the Saluda Settlement Agreement.

The conference call adjourned at approximately 10:00 AM.

ATTACHMENT A

PROPOSED SHORTNOSE STURGEON MONITORING AND ADAPTIVE RECOVERY
PROGRAM

DEVELOPED BY NMFS AND DISTRIBUTED TO MEETING GROUP VIA E-MAIL 16
JANUARY 2009

**DIADROMOUS FISH PROTECTION, MITIGATION AND ENHANCEMENT
MEASURES
SALUDA HYDROELECTRIC PROJECT**

SHORTNOSE STURGEON MONITORING AND ADAPTIVE RECOVERY PROGRAM

**- PROPOSAL -
November 17, 2008**

BACKGROUND

This draft proposal was prepared by National Marine Fisheries Service (NMFS) in coordination with South Carolina Department of Natural Resources (DNR) for South Carolina Electric & Gas Company and the Saluda Relicensing Team. The proposal was provided to relicensing stakeholders for review on November 20, 2008. This proposal is intended to be included in development of a relicensing settlement agreement for the Saluda Project's aquatic resource protection, mitigation and enhancement measures (PM&E). Revisions may be considered during the settlement discussions to better integrate proposed studies into an overall plan for aquatic resource PM&E measures. NMFS intends to consider the proposed measures in development of the relicensing settlement agreement and recommendations to FERC pursuant to Section 10(j), and in resolution of consultation pursuant to the Endangered Species Act.

PROJECT EFFECTS ON STURGEON AND OTHER DIADROMOUS SPECIES

Construction and operation of the Saluda Project since its construction in the 1930's has resulted in blockage of access to many river miles of former spawning and maturation habitats above the Lake Murray Dam, permanent loss of riverine habitat by reservoir inundation, and alteration of natural flows, temperature, and dissolved oxygen in the lower Saluda and Congaree Rivers (Columbia Shoals). Hypolimnetic flows from the Lake Murray Dam have depressed seasonal ambient dissolved oxygen levels and temperatures in the lower Saluda River for decades, potentially playing a role in the observed absence of diadromous species including sturgeon, striped bass, American shad, and American eel. In recent years dissolved oxygen levels in the Saluda have been substantially improved through installation of turbine runner hub baffles and changes in hydro operations. Because of the lower ambient temperatures in the lake Murray Dam flow releases, trout were introduced in the 1960's to provide a "put and take" fishery which has become popular and of economic importance to the public and state fishery management objectives for the Saluda River. Active management of the Saluda River as a cold water fishery for trout provides significant public fishery benefits, and reduces habitat suitability for potential restoration of natural resident aquatic species and migratory diadromous fish.

Development of practical actions for mitigation of continuing project effects on diadromous species is limited by the size and depth of the Lake Murray Dam and reservoir, limited options for effective fish passage, hydropower generation operations, and established management of the lower Saluda River for a cold water trout fishery.

RECOMMENDED STURGEON MONITORING AND RECOVERY PROGRAM

To promote protection and recovery of sturgeon in remaining accessible habitats in the Broad, Saluda and Congaree Rivers, the following integrated studies and an adaptive management program are recommended, and may be included in a sturgeon protection plan:

I. Sturgeon behavior and movements.

Purpose: Monitor sturgeon behavior and movements to improve understanding of habitat use patterns in response to river flow regulation, short term and seasonal temperature and dissolved oxygen variations, and availability of suitable habitat in the Saluda, lower Broad, and Congaree Rivers. Improved understanding of factors limiting recovery of sturgeon and other diadromous species is expected to support practical adaptive management actions.

Methods: Conduct a long term telemetry study to monitor movements of sturgeon in the Congaree, lower Broad, and Saluda Rivers, in concert with other telemetry studies in the Santee River Basin. This objective will be achieved by using a receiver array system already in place and in use ([Figure 1](#)). Study budget should include funding for the Biologist and Technician and supply monies to purchase transmitters ([Table 1](#)). Recommendations would be for a 10-year study with annual review of study findings and assessment of factors affecting sturgeon recovery.



Figure 1: Receiver Array System Currently in Use

II. Temperature and Water Quality Monitoring Study.

Purpose: Establish a temperature and water quality monitoring program to help develop a better understanding of physical habitat factors potentially affecting movements, migrations, spawning, and recovery of sturgeon and other diadromous and resident species of special management interest. Study area should include the Saluda River, lower Broad River, and the Congaree River.

Methods: Establish an array of temperature and water chemistry monitoring stations located throughout the study area to allow for automated data collection and analysis. Data analysis should help identify annual and seasonal variations in temperature throughout the study area using GIS spatial analysis tools. Funding should include purchasing dataloggers and project personnel ([Table 1](#)). An initial 10-year study should be planned for with annual review of study findings and assessment of environmental factors actually or potentially affecting sturgeon recovery.

III. Habitat Characterization Study.

Purpose: Integrate the findings of Studies I and II with a detailed physical habitat study to identify characterize, and map habitats in the Saluda, lower Broad, and Congaree Rivers to provide support for a long term sturgeon recovery program in the Santee River Basin. Identify potential critical habitats and limiting factors.

Approach/Methods: Conduct a field study to characterize, classify, and map important habitat components in the study area including substrate type, depth/velocity characteristics, location of point source discharges, seasonal temperature and dissolved oxygen distribution, etc. Plan for a one-year initial physical habitat characterization study, with provisions to adapt the habitat characterization based on findings of studies I and II.

IV. Adaptive Management Study for Sturgeon Recovery.

Purpose: Integrate the findings of studies I-III to identify Saluda Project-specific effects and limiting factors, and other limiting factors affecting sturgeon recovery in the study area. Identify practical beneficial actions that can be undertaken to contribute positively to recovery of sturgeon in the Santee River Basin.

Approach: Establish a sturgeon technical advisory team to collaboratively participate in design and conduct of the proposed sturgeon study program, and to develop practical management and recovery actions. The technical advisory team would seek to integrate studies conducted and/or funded by S.C. Electric & Gas Company with other studies in order to develop sound and practical actions.

Table 1: Estimated Costs for 2010

STURGEON STUDIES	
PERSONNEL	
Biologist II-6 months	17,250
Technician II - 12.0 months	21,000
Fringe	11,475
Indirect	11,253
Travel	5,000
Supplies	38,000
Misc.	5,000
Total	108,978

Budget Justification, 2010:

Personnel – Biologist II and Tech. II employees including fringe and indirect for field sampling.

Travel – Vehicle mileage for field work.

Supplies – 30 Vemco transmitters and shipping charges; 100 dataloggers plus associated software.

Miscellaneous – Equipment maintenance, long distance calls, and supplies.