Progress Energy

Serial: NPD-NRC-2009-169
August 19, 2009

U.S. Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, D.C. 20555-0001

SHEARON HARRIS NUCLEAR POWER PLANT UNITS 2 AND 3
DOCKET NUMBERS 52-022 AND 52-023
SUPPLEMENTAL INFORMATION – 2009 BUCKHORN CREEK / CAPE FEAR RIVER FISH SURVEY

Ladies and Gentlemen:

In recent discussion with the NRC Staff, it was noted that the staff would like to see the results of a fish survey that Progress Energy conducted of fish species in Buckhorn Creek below Harris Lake and along the shoreline of the Cape Fear River near the mouth of Buckhorn Creek. The purpose of this letter is to submit the attached survey results as requested.

If you have any questions, or need additional information, please contact Bob Kitchen at (919) 546-6992 or me at (919) 546-6107.

I declare under penalty of perjury that the foregoing is true and correct.

Executed on August 19, 2009.

Sincerely,

Garry D. Miller
General Manager
Nuclear Plant Development

Attachment

cc: Mr. Brian Hughes, U.S. NRC Project Manager
Dr. Donald Palmrose, U.S. NRC Environmental Project Manager
U.S. NRC Resident Inspector, SHNPP Unit 1
U.S. NRC Region II, Regional Administrator

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ASSESSMENT OF THE FISH COMMUNITY IN BUCKHORN CREEK AND THE CAPE FEAR RIVER

During the week of July 6, 2009, Progress Energy Carolinas, Inc personnel conducted a survey of fish species in Buckhorn Creek below Harris Lake and along the shoreline of the Cape Fear River near the mouth of Buckhorn Creek. The survey was conducted to determine species composition and relative abundance data for the fish communities at the aforementioned locations. Neither Buckhorn Creek nor this portion of the Cape Fear River have been sampled since studies conducted from 1973-1981. Results of this study will address environmental questions associated with the combined license application for the Harris Advanced Reactor Units 2 and 3 and provide necessary information to assess results of instream flow studies and formulate reasonable instream flow recommendations.

Biologists with the North Carolina Wildlife Resources Commission, the U. S. Fish and Wildlife Service, HDR/DTA, and the North Carolina Museum of Natural Sciences also participated over the three-day sampling event. Backpack electrofishing was conducted at 600 ft. long stations and followed the N.C. Division of Water Quality's Standard Operating Procedures for the Stream Fish Community Assessment program. This method provides an index of biotic integrity (IBI) that quantitatively ranks the health of the fish community. Water quality (i.e., temperature, dissolved oxygen, pH, conductivity, and turbidity) and flow data was recorded. The study locations were stratified into three sampling areas correlated with the upper, middle, and lower reaches of Buckhorn Creek between the Harris Lake dam and the confluence of the Cape Fear River. Three stations were also located in the braided shoreline along the Cape Fear River just upstream of the mouth of Buckhorn Creek. Sampling stations were selected based upon a visual assessment of habitat and results of the habitat mapping conducted to support instream flow studies.

Twenty eight fish species were collected from Buckhorn Creek and nineteen species were collected from the Cape Fear River (Table 1). No rare, threatened, or endangered species were collected. Samples from both the creek and the river were dominated by minnows (Cyprinidae) and sunfishes (Centrarchidae). The dominant minnow species collected were swallowtail shiner, satinfin shiner, whitefin shiner, white shiner, and sandbar shiner. The dominant sunfish species collected were redbreast sunfish and bluegill. The lack of native bullhead and madtom catfishes in the river compared to the creek was likely related to the abundance of predaceous flathead catfish residing in the river. American eel was collected from both locations. Multiple size classes of fish species were evident at both locations indicating successful reproduction. Final results including the IBI scores for Buckhorn Creek should be available near the end of this year.

Table 1: Fish species collected from Buckhorn Creek and the Cape Fear River with backpack electrofishing sampling, July 6-8, 2009

Scientific name[+]	Common name	Buckhorn Creek	Cape Fear River
Amiidae	**bowfins**		
Amia calva	bowfin	0	1
Angullidae	**eels**		
Anguilla rostrata	American eel	54	39
Esocidae	**pikes**		
Esox niger	chain pickerel	1	0
Cyprinidae	**minnows**		
Nocomis leptocephalus	bluehead chub	15	9
Cyprinella nivea	whitefin shiner	6	65
C. analostana	satinfin shiner	0	96
Notemigonus crysoleucas	golden shiner	1	0
N. petersoni	coastal shiner	23	0
N.amoenus	comely shiner	0	4
N. procne	swallowtail shiner	197	0
N.albeolus	white shiner	65	1
N.scepticus	sandbar shiner	3	44
Semotilus atromaculatus	creek chub	28	0
Catostomidae	**suckers**		
Erimyzon oblongus	creek chubsucker	6	0
Ictaluridae	**bullhead catfishes**		
Ictalurus punctatus	channel catfish	0	6
A. platycephalus	flat bullhead	7	0
A. brunneus	snail bullhead	40	0
A. natalis	yellow bullhead	2	0
Noturus insignis	margined madtom	18	0
N. gyrinus	tadpole madtom	12	0
Pylodictus olivaris	flathead catfish	0	21
Aphredoderidae	**pirate perches**		
Aphredoderus sayanus	pirate perch	61	0
Fudulidae	**killifishes**		
Fundulus rathbuni	speckled killifish	7	1
Poeciliidae	**livebearers**		
Gambusia holbrooki	Eastern mosquitofish	146	0
Centrarchidae	**sunfishes**		
Lepomis auritus	redbreast sunfish	284	178
L. cyanellus	green sunfish	7	7
L. gibbosus	pumpkinseed	5	1
L. gulosus	warmouth	13	0
L. macrochirus	bluegill	133	78
L. microlophus	redear sunfish	22	0
Micropterus salmoides	largemouth bass	15	2
M. punctulatus	spotted bass	0	57
Percidae			
Etheostoma olmstedi	tessalated darter	118	4
Percina crassa	piedmont darter	18	3
Total number		**1,307**	**617**
Total species		**28**	**19**