

Action: Shoreline Habitat Survey

Prerequisite Actions: N/A

Action Description:

Conduct survey of shoreline habitat to determine impacts, if any, of drawdowns on aquatic habitats.

Applicable Hydro Projects/Developments:

Nantahala (2692), Thorpe (Glenville-2686), Cedar Cliff (2698), Bear Creek (2698), Tennessee Creek (2698) and Wolf Creek

I. Objective

The objectives of this study are: (1) develop shoreline habitat classifications for the applicable reservoirs, (2) map the littoral shoreline habitat of each reservoir, based upon the classifications developed in objective 1 and (3) evaluate any project-related impacts on aquatic habitat identified in mapping study.

II. Basis

The basis for this study is contained in 18CFR4.51, under basic information about project operational impacts and the evaluation of such impacts on aquatic habitat/biota.

III. Geographic and Temporal Scope

Aquatic habitat surveys will be conducted in the near-shore, littoral areas of the respective project reservoirs. Surveys will be designed to identify critical shoreline habitat requiring protection over the period of the new license.

IV. Approach and Analysis

Aquatic habitat surveys will be conducted primarily to identify critical spawning and nursery habitat for reservoir fishes. The aquatic habitat surveys will be conducted through a two-phase approach. The first phase will involve an initial identification of shoreline features and exposed lakebed from an examination of aerial photography. The second phase will involve ground surveys for actual mapping and quantification of the various habitat types. The aerial photography that will be used for the initial phase is currently being generated for the GIS Database study. Two late winter/early spring flights and one fall flight have been scheduled. The initial spring flight and the fall flight will cover all NPL projects, while the second spring flight will cover only Lakes Glenville and Nantahala. The additional spring flight is being conducted to photograph Lakes Glenville and Nantahala under higher lake levels. The resulting photographs will be used to delineate general shoreline habitat and features as the basis for identifying areas of focus for the ground surveys.

Additionally, information collected by the NCWRC on spawning times and temperatures for largemouth bass in several of the Nantahala reservoirs will provide valuable information to assist in determining spring lake levels that are conducive to the protection of spawning habitat for this and other warmwater species.

During late spring/early summer 2001, members of the Technical Leadership Team (TLT) will visit each reservoir and develop the habitat classification categories that will be used for the second phase of the study. The habitat survey will be similar to the shoreline habitat typing and mapping conducted for the Catawba-Wateree Shoreline Management Plan. The primary constraint to conducting the ground surveys will be the availability of aerial photographs. Since the final photographs will not be produced until after the fall flight, ground surveys will not begin until fall aerial photographs are available for review. The first ground surveys will be conducted on the East Fork reservoirs, Wolf Creek, Tennessee Creek, Bear Creek and Cedar Cliff. Although fall is typically the period of lowest lake levels for NPL reservoirs, the East Fork reservoirs experience minimal water level fluctuations, and fall lake levels should be sufficiently high to permit mapping of littoral habitat within these reservoirs. Since Lakes Glenville and Nantahala exhibit the greatest water level fluctuations, fall will not be a suitable time to map littoral shoreline habitat, since the water levels will be considerably lower than they would be during the critical spring spawning period. Accordingly, it would be difficult to determine potential habitat relative to where water levels would normally be during the spring. To address this problem, the ground surveys on Lakes Glenville and Nantahala will be conducted during spring 2002. Activities under this study will also be coordinated with the inventory and mapping of riparian habitat under the Botanical Survey.

V. Schedules and Required Conditions

Shoreline habitat classifications will be determined from site visits conducted during the spring and summer 2001. The habitat inventories for the East Fork reservoirs will be conducted in fall 2001, and the habitat inventories for Lakes Glenville and Nantahala will be conducted during the spring 2002. Aerial photography reviews will be conducted during 2001, as photographs become available.

VI. Results

The results of the study will be used to determine the type and quantity of littoral habitat within the respective reservoirs and the potential impacts of water level fluctuations on that habitat. Additionally, results of this study may be used for considerations of rule curve revisions under the Rule Curve Evaluation study.

VII. Participants

	Organization	Name	Phone #	E-Mail
Duke Power Lead	Duke Power	Duane Harrell	(704) 875-5453	rdharrel@duke-energy.com

Agency Contacts	NC Wildlife Resources Commission	Chris Goudreau	(828) 652-4360	goudrecj@wnclink.com
	US Fish and Wildlife Service	Mark Cantrell	(828) 258-3939 Ext. 227	mark_a_cantrell@fws.gov
	US Forest Service	Donley Hill	(828) 257-4212	donleyhill@fs.fed.us
	US Forest Service	Ray Johns	(828) 257-4859	rayjohns@fs.fed.us
	NC Department of Environ., Health, and N.R.	Steve Reed	(919) 715-5424	steven.reed@ncmail.net
Duke Supporting Consultant	TBD			
Other Participants	Friends of Lake Glenville	Marty Jones	(828) 743-3654	realtorjones@prodigy.net

VIII. Expected Benefits

The expected benefit of this study is to provide data for decision-making relative to the establishment of reasonable rule curves for the applicable NPL reservoirs.

IX. List of Attachments

N/A

X. List of References

N/A