

Action name: Botanical Survey

Prerequisite Actions: none

Action Description:

Inventory, classify, and map plant communities, including PETS* plant species, within the project boundary or potentially affected by project operations.

**PETS is used in this document as a catch- all term for proposed/ threatened/ endangered species, regional sensitive species, Forest Service concern species, and species of concern flora regardless of the specific administrative listings used by the US Forest Service, US Fish and Wildlife Service, and NC Natural Heritage.*

Applicable Hydro Projects/Developments:

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

I. Objectives

The objectives of this study are:

- (1) Classify and map riparian habitat associated with project reservoirs. Surveys will be focused on projects with storage reservoirs.
- (2) Survey and inventory respective storage reservoir project lands for PETS plant species and evaluate any potential project-related impacts on these species.
- (3) Conduct a field survey for bryophytes in the Dismal Creek area.
- (4) Conduct a PETS* and an exotic species field survey of the penstock area above the Nantahala powerhouse.

II. Basis

The bases for this study are contained in 18CFR4.51 under basic information requirements for the identification of project-related botanical resources and requirements for the identification of proposed, endangered, threatened and species of concern plants in the vicinity of the projects.

III. Geographic and Temporal Scope

See Section IV.

IV. Approach and Analysis

The surveys of botanical communities and PETS plant species will be conducted as follows:

- (a) Riparian areas of the reservoirs, within the project boundary, and project lands impacted by hydro operations will first be evaluated using a combination of aerial photographs, land use classifications, geologic/soil maps, or other large scale representations to identify critical habitats. In classifying habitat, natural communities will be described following Schafale and Weakley (1990) *Classification of the Natural Communities of North Carolina*.
- (b) Surveys will be conducted on respective project lands and non-project lands potentially impacted by project operations and requiring protection over the period of the new

license. In preparation for the on-the-ground surveys, PETS records for the specific county a property is located in, as well as adjacent counties, will be consulted.

- (c) PETS plant records will be overlaid on the habitat-type maps providing a guide to areas where PETS species have been documented and this will serve as a focus for PETS field inventories. This same procedure will be followed in inventorying the Dismal Creek area bryophyte occurrences. In the evaluation of PETS species, not only will the county records of known occurrence be consulted, but adjacent county listings will also be examined to increase the awareness of PETS species that could be in the area, but have not been previously documented.
- (d) The exotic species survey of the 1,991 ft. penstock corridor above the Nantahala powerhouse will concentrate on the following plants: Japanese Grass (*Microstegium vimineum*), Japanese honeysuckle (*Lonicera japonica*), Kudzu (*Pueraria lobata*), Chinese privet (*Ligustrum sinense*), Multiflora Rose (*Rosa multiflora*), Oriental Bittersweet (*Celastrus orbiculatus*), Princess Tree (*Paulownia tomentosa*), Cinnamon vine (*Dioscorea oppositifolia*), Japanese Spiraea (*Spiraea japonica*), Eulalia (*Miscanthus sinensis*), *Albizia julibrissim*, Autumn Olive (*Eleagnus umbellata*), Japanese Barberry (*Berberis thunbergii*), *Reynoutria japonica*, and *Adlumnia fungosa*.

V. Schedules and Required Conditions

The field work will be completed by 1 November 2001¹. A draft report will be available by the end of April 2002. The final report will be generated by the end of July, 2002.

¹ In botanical surveys it may be necessary to re-visit the location of some plant species in the spring/summer following the year they were identified. This is necessary to positively identify the plant using its diagnostic flowering parts.

VI. Results

The results of this survey will provide basic, required information on the occurrence of PETS* species within the vicinity of the project.

VII. Participants

	Organization	Name	Phone #	E-Mail
NP&L Lead	Duke Power Company	Gene Vaughan	(704) 875-5240	gevaugh@duke-energy.com
Agency Contacts	NC Wildlife Resources Commission	Chris McGrath	(828) 683-0671	mcgrathc1@mind-spring.com
	US Fish and Wildlife Service	Mark Cantrell	(828) 258-3939 Ext. 227	mark_a_cantrell@fws.gov
	US Forest Service	Gary Kaufmann		kauffman@macon.main.nc.us

NP&L Supporting Consultant	Terra Incognita	L.L. Gaddy, Ph.D.	803-765-9976	Terrainc@innova.net
Other Participants	N/A			

VIII.Expected Benefits

The expected benefit of these studies is to provide basic descriptive information on the riparian plant communities associated with these projects. See Section IV for site specific study benefits.

IX. List of Attachments

None

X. List of References

None