

**MAPPING SPECIES OF CONCERN ON TRANSMISSION RIGHTS-OF-WAY
USING GIS TECHNIQUES
(ABSTRACT)**

by

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Environmental Field Services personnel conducted a species of concern survey of all transmission line Rights-of-Way (ROW) statewide where the Department of Natural Resources Natural Heritage Inventory showed species of concern records within 0.25 miles of Georgia Power Company transmission lines. The majority of the species being surveyed for were plants because they are not mobile and they are directly affected by our ROW maintenance activities.

This survey grew out of concern for species of concern that were known to occur on our ROWs and how our maintenance programs might be affecting them. GPC has partnered with the GA DNR to set aside certain known areas of our ROWs as Special Management Areas. Some of our ongoing maintenance activities were known to have affected species in these areas and it was determined that gaining additional knowledge of the locations of species of concern on our ROWs could enhance the survival of the species and also identify areas where special maintenance measures should be undertaken. It was also an opportunity to further partner with DNR in an exchange of data and demonstrate environmentally proactive management practices.

The principal animal species encountered as a part of the survey were the Gopher Tortoise and the Eastern Indigo Snake (which resides in Gopher Tortoise burrows). This survey has now completed its third field season. Historical record locations were updated, new records added, and all locations mapped using GPS. Approximately 95% of the locations that were determined necessary to field check have been verified. To date 175 sites have been visited and verified. At these 175 sites, 71 species locations were confirmed including 45 previously unreported. The remaining 104 sites were confirmed for the reported species not being present on GPC ROWs and therefore not a maintenance concern. A report is being prepared that will include data summaries, ROW management recommendations for areas where species are present, location maps, and other pertinent data. ArcView GIS is being utilized to classify and process the information and produce necessary maps. This information will be utilized for transmission ROW maintenance and has also been provided to the Natural Heritage Inventory to update their database. The survey may be repeated at some point in the future, depending on maintenance concerns and funding.

A REPORT ON THE VALIDATION OF PROTECTED PLANT AND ANIMAL SPECIES RECORDS ON GEORGIA POWER COMPANY TRANSMISSION RIGHTS OF WAY CORRIDORS

The purpose of the survey/study is to validate records of protected plant and animal species locations on Georgia Power Company rights of way; evaluate the impacts of routine maintenance and develop recommendations to protect the species and its habitat for Georgia Power Company's transmission maintenance program.

Methods and Procedures:

Southern GIS developed a series of street and quad maps for each county in Georgia. Transmission lines were included with detail that allowed each transmission structure to be located by its structure identification number. The Georgia Natural Heritage Inventory provided Georgia Power with its database of location precision points (location records) of protected animals, plants and communities. This data was entered into the maps file and resulted in 1,185 points within ¼ mile of a transmission line in 139 Georgia Counties.

All 1,185 points were not considered. The survey was limited to terrestrial plants, ecological communities and sedentary critical habitats such as caves, rookeries, nests and burrows. Aquatic invertebrates, fish and mammals were not considered as line maintenance has little if any impacts on stream habitats. Any species record within 400-500 feet of a line was selected to be field surveyed. If habitat were not likely to occur on the line (i.e. an aquatic plant on an upland site) the record would not be field surveyed. Both state and federal listed species were considered in this study and given equal field effort although federal listed species were given greater management and protection concern. After this screening 142 of the 1,185 precision points were selected for field survey.

Field surveys consist of visiting the location, preferably during the flowering season when plants would be more readily detectable and trying to locate the species. If the species was found; a field sheet was completed and the location recorded using a GPS system. An effort was made at each site to evaluate the overall condition of the population and to develop recommendations for future maintenance practices. If the species was not found; such was noted along with possible reasons why it was not found. Any new record for a species was recorded on a field sheet, GPSed and entered into the data bank.

Although overstory plant species are not likely to be found on rights of ways; their locations were also considered due to possible impacts of side clearing on the margins of the right of way.

A field sheet was completed at each site regardless of whether the species was found or not. The exact location of a single plant or the area of a colony of plants was recorded with a GPS. If a species was not found in its record location; a reference point, usually a tower or point on a road, was recorded with the GPS.

Data from Southwest Georgia (Plant Farley) and Plant Hatch vicinity was gathered by Tetra-Tech for re-license studies are included also.

The data is being assembled at Georgia Power Company Environmental Laboratory at Smyrna Georgia. Georgia Natural Heritage Inventory is sent our field data periodically while Georgia Power Transmission Maintenance is notified as soon as possible of new

Federal Protected Plant locations for immediate action if necessary. Other records within the report will be sent to Transmission Maintenance.

Only Georgia Power Company maintained lines are considered in this study. It does not include Georgia Power distribution lines or the transmission lines of any other companies with service territory in Georgia.

Results and Discussion:

The survey has resulted to date in 55 locations with maintenance concerns: 7 major concerns, 14 some concerns and 34 minor concerns.

The seven Major Concern locations are all Federal protected species. Five of these 7 locations are new records; two of which (Red-cockaded woodpecker and eastern indigo snake) were purely happenstance when live animals were observed by Breece and Guill in the field.

Likewise, in the Some Concern and Minor Concern categories, 33 of the 48 location points are new locations. This high percentage (70%) of new records is probably because the rights of way are near optimum habitat, and often the only habitat, for gopher tortoise and the species of pitcherplants. The 19 gopher tortoise and 10 pitcherplant locations together account for 62% of all new locations.

Gopher tortoise dens, hooded pitcherplants and yellow flytraps are common to fairly common on proper habitat within their range of distribution in Georgia.

EXECUTIVE SUMMARY

A preliminary computer survey of Georgia Natural Heritage Inventory locations of 1185 protected plants/animals (as of Nov 1997) disclosed 142 locations close enough to Georgia Power Company rights of way to visual survey for potential impacts from normal vegetation management (mowing, herbicide applications and side clearing).

Visual observations of the 142 sites resulted in additional new locations that were noted and considered. A total of 178 sites, including new records from Tetra Tech along with new records made by Georgia Power, were field surveyed and evaluated. Tetra-Tech locations were evaluated by LL Gaddy. Fifty-five maintenance impact evaluations were determined due to the presence of a state or federal protected species or its habitat. In some cases a single field note covered more than one species location when several locations were very together.

The 55 evaluations of locations with potential impacts were evaluated and categorized as:

MAJOR CONCERN: A Federal listed species (Harperella, Hairy Rattleweed, Eastern Indigo Snake et. al.) being found on the right of way. Transmission Maintenance should be aware of these locations and modify maintenance methods to minimize or eliminate impacts.

SOME CONCERN: Large or significant population of a State listed species found on the line; also optimum habitat (pitcherplant bog) so that the likelihood of its occurrence is high. Transmission Maintenance should be aware of these locations but only minor (if any) modification of clearing methods is required.

MINOR CONCERN: Species and/or habitat may or may not be found on the line. The location appears to be insignificant to overall population. Normal clearing methods will have little or no negative impact on populations if the species is found on the line.

Gopher tortoise burrows and pitcherplant bogs comprised to majority of the locations. Both appear to be fairly common on rights of way in their range of distribution. As both require early growth succession or open areas, maintained rights of way create habitat. In the beginning of the survey, a single active tortoise burrow or 2 or 3 clumps of pitcherplants were considered "Major Concerns" or "Some Concern". However, after surveying more locations, it became apparent that both tortoise dens and pitcherplant bogs were so common (particularly hooded pitcherplants and yellow flytraps) that only significant pitcherplant bogs and gopher tortoise colonies (4 active burrows or more) were considered to be of "Some Concern". Since neither is Federally protected, none were considered to be of "Major Concern" with the exception of a gopher den where a Federal protected eastern indigo snake was found and even this may be over concern.

The reason for the low level on concern with pitcherplants and gopher tortoises is that mowing mimics the affects of burning which is one of the ecological requirement for maintaing bogs for pitcherplants and upland areas for gopher tortoises. This is equally true for most of the species found on rights of way because only a species adapted to the condition is likely to be found there.

The locations with concerns are listed by county and identified by Field Note Number:

MAJOR CONCERNS (8):

<u>SPECIES</u>	<u>FIELD#/GPC#</u>	<u>COUNTY</u>
Harparella (<u>COMMENTS:</u> This population is the only record of this plant in Georgia and is considered a lost population, last seen several decades ago. Recommend avoiding widespread use of herbicide, control of overstory)	#123/#633	Dooley
Coosa Barbara Buttons	#177/New	Floyd
Coosa Barbara Buttons (<u>COMMENTS:</u> These 2 small isolated populations are major concerns because of their Federal protected status. Recommend maintenance during dormant season/July-March)	#30/#860	Floyd
Smooth Purple Coneflower (<u>COMMENTS:</u> The Plant was not found, however habitat is still available and area should be searched during flowering season).	#168/#49	Stephens
Red-cockaded Woodpecker (<u>COMMENTS:</u> Visually seen in den tree, 50 feet from line. No maintenance recommendations)	#2/New	Appling
Eastern indigo snake (<u>COMMENTS:</u> Observed at gopher tortoise (Field note#5). Although the species is Federal endangered, nothing can be done for this specific site other than noting the location of the den.	#6/New	Appling
Hairy rattleweed (<u>COMMENTS:</u> Approximately 75 plants)	#64/New	Brantley
Hairy rattleweed (<u>COMMENTS:</u> 2 plants on a Okeefenokee EMC line, adjacent to Georgia Power line)	#69/New	Brantley

SOME CONCERN (14):

<u>SPECIES</u>	<u>FIELD#/GPC#</u>	<u>COUNTY</u>	<u>COMMENT</u>
Gopher Tortoise	#120/New	Emanuel	6 active dens
Yellow-flytrap	#31/New	Bulloch	30-35 clumps, special management area.
Purple pitcherplant	#38/#927	Tattnall	Manassas bog, State Special management area. Damaged by 4-wheelers.
Gopher tortoise	#110/#1142	Tattnall	4 active dens
Purple pitcherplant	#34/New	Evans	Bog area
Gopher tortoise	#39/New	Evans	4 active burrows 2 tortoises seen
Gopher tortoise	#156/New Tetra-Tech	Worth	17 active dens in 2 groups
Gopher tortoise	#153/New Tetra-Tech	Early	6 active dens
Gopher tortoise	#151/New Tetra-Tech	Early	36 active dens in 3 groups
Gopher tortoise	#160/New Tetra-Tech	Baker	7 active dens
Gopher tortoise	#155/New Tetra-Tech	Mitchell	9 active dens
Gopher tortoise	#162/New Tetra-tech	Decatur	16 active dens
Sweet pitcherplant	#43/#32	Richmond	Healthy population, consider For Special Management area
Grit-beard tongue	#104/#1031	Appling	50 clumps on right of way

MINOR CONCERN (34):

<u>SPECIES</u>	<u>FIELD#/GPC#</u>	<u>COUNTY</u>	<u>COMMENT</u>
Yellow flytrap	#8/New	Berriens	Plants in poor condition
Gopher tortoise	#14/New	Lowndes	1 active den
Granite outcrop	#44/#521	Columbia	7 locations in near vicinity Adjacent to active quarry
Gopher tortoise	#1/#792	Appling	4 active dens, near Moody tract
Gopher tortoise	#3/New	Appling	3 active dens
Pickering morning-glory	#51/#922	Talbot	Area threatened by road widening project
Sweet pitcherplant	#48/#1165	Talbot	2 clumps
Gopher tortoise	#49/New	Talbot	1 den
Atlantic white cedar	#53/#1037	Taylor	On right of way margin
Atlantic white cedar	#55/New	Taylor	On right of way margin
Sweet pitcherplant	#137/#897	Marion	3 clumps
Arkansas oak	#139/#462	Marion	On right of way margin
Gopher tortoise	#138/New	Marion	1 den
Arkansas oak	#140/#724	Webster	On right of way margin
Gopher tortoise	#141/New	Webster	1 den
Hooded pitcherplant	#157/New Tetra-Tech	Worth	3 populations, Highway 33
Yellow flytrap	#158/New Tetra-Tech	Worth	Highway 33

Gopher tortoise	#152/New Tetra-Tech	Early	3 active dens
Gopher tortoise	#161/New Tetra-Tech	Baker	2 active dens
Gopher tortoise	#159/New Tetra-Tech	Seminole	3 active dens
Gopher tortoise	#164/New Tetra-Tech	Decatur	4 active dens
Gopher tortoise	#166/New Tetra-Tech	Decatur	2 active dens
Yellow flytrap	#111/New	Coffee	5 clumps
Yellow flytrap	#176/New	Bacon	3 clumps
Gopher tortoise	#106/New	Jeff Davis	1 active den
Yellow Flytrap	#105/New	Jeff Davis	2 clumps
Hooded Pitcherplant	#67/New	Brantley	6-8 clumps
Yellow flytrap	#122/New	Emanuel	3 clumps
Granite Outcrop	#22/#217	Douglas	
Pipewort	#99/#720	Gwinnett	Habitat available
Pipewort	#100/#84	Gwinnett	Habitat available
Granite Outcrop	#45/New	Heard	Good pool area
Granite Outcrop	#102/#s71l,980,955	Walton	Good outcrop/pools
Granite Outcrop	#103/#s1033,969,228	Walton	Good outcrop/pools
Blue Wild Indigo	#29/#1113	Floyd	20-25 clumps

It should be realized that new records are being added to The Heritage Inventory list of protected plants daily just as some invalid or outdated records are being removed. This

report is by no means the final result and should be updated periodically in order remain valid.

Maintenance recommendations were developed for each habitat type and are presented.