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MANAGEMENT PLANS FOR SIGNIFICANT PLANT AND WILDLIFE HABITAT AREAS OF MARYLAND'S WESTERN SHORE: CHARLES COUNTY

APPENDIX B TO

FINAL REPORT

SUBMITTED TO:

Coastal Resources Division
Tidewater Administration

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Forest, Park and Wildlife Service
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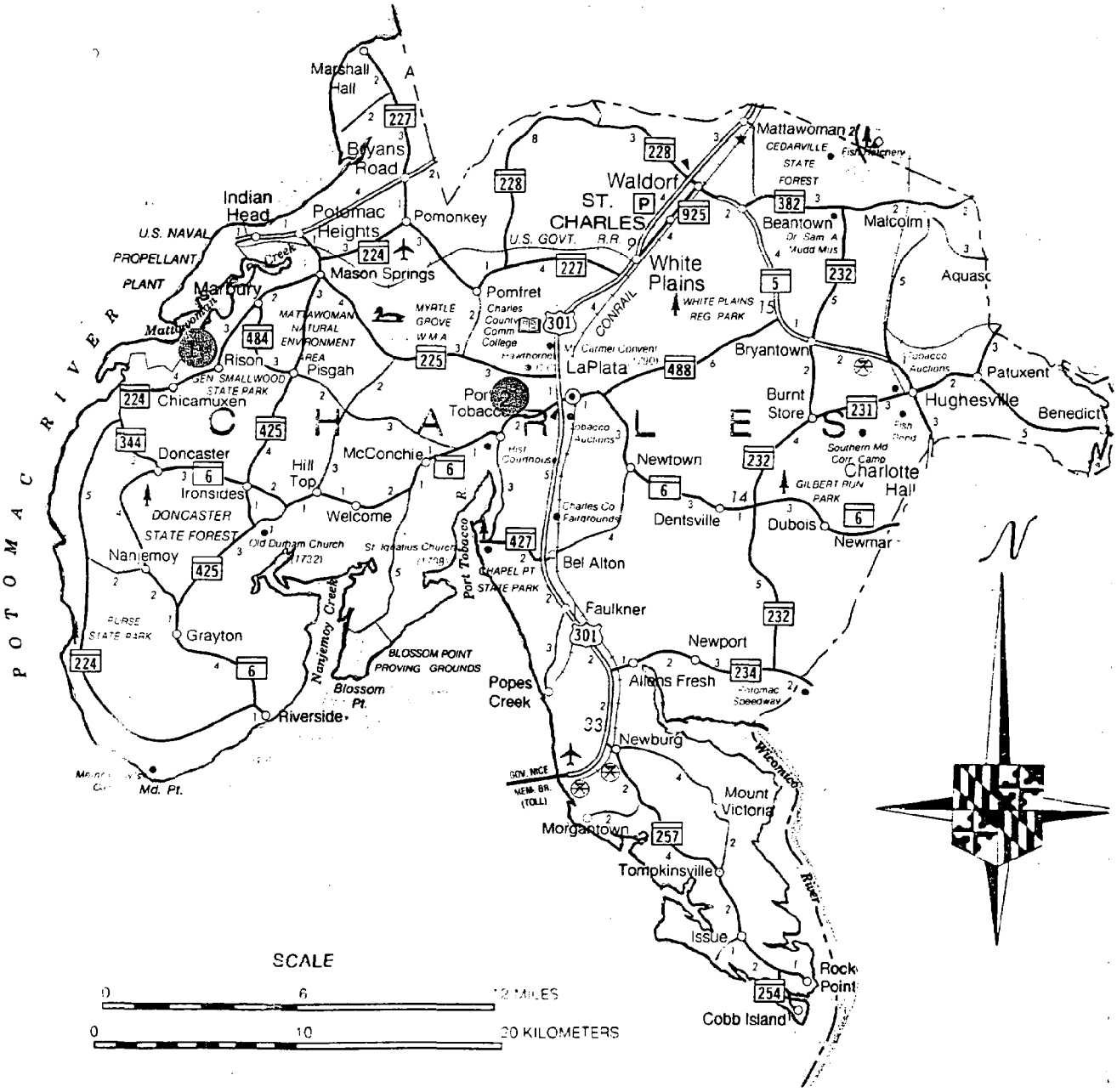
CHARLES COUNTY



= Locations of Protection Areas of significant habitat. Sites are numbered in order from north to south.

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CHARLES COUNTY: Protection Area Locations

Protection Area	Site # on County Map
Indian Head Ravine	1
Port Tobacco Run	2

PROTECTION AREA SUMMARY

Protection Area Name: Port Tobacco Run

County: Charles USGS Quad: Port Tobacco

SUMMARY OF ECOLOGICAL SIGNIFICANCE:

This Red Maple-River Birch forest supports a large, vigorous population of a plant species which is rare in Maryland. This population is one of six known populations in Maryland, five of which occur in Charles County.

Populations of this species in Maryland represent the northeastern limit of the species' range. Because these outlying populations must adapt to environmental conditions which are extreme for the species, they often contain a higher degree of genetic variability. Protection of these outlying populations insures that the species will have sufficient genetic variability to respond to environmental change and survive.

The rare species and its codominant, Yellow Corydalis, thrive in less acidic soils than those typically found on the Coastal Plain. The reduced acidity of the soil may be attributed to Miocene shall deposits in the substrate, brought to the surface by stream erosion. These circumneutral soils may support other plant species uncommon to the Coastal Plain.

OTHER VALUES AND SIGNIFICANCE:

This Red Maple-River Birch floodplain forest additionally provides habitat for forest interior dwelling birds, amphibians, and reptiles. The Barred Owl, a forest interior dwelling bird, was heard calling in this forest during its breeding season. One of the preferred habitats of this species is mixed floodplain forest and it often nests in the cavities of maple trees.

Protection of the forested area would also buffer Port Tobacco Run from sediment and chemical runoff from upland farm fields.

THREATS AND MANAGEMENT NEEDS:

Threats

Although this rare species population is exceptionally large, the limited number of populations in Maryland indicates that the species may have highly specific habitat requirements. It appears to thrive on the periodic disturbance provided by flooding, but may be vulnerable to other forms of disturbance.

Since it is an annual species, its population size and distribution within the floodplain forest may fluctuate dramatically. The best sites for seedling germination and survival may also vary with annual changes in hydrologic regime. A large continuous span of floodplain forest is particularly essential for this annual species because it allows the population to migrate to the best sites.

Any fragmentation of the floodplain forest could prevent this population from migrating to safe sites. Fragmentation may also encourage the invasion of non-native weedy species. Any modification of the frequency or quantity of flooding or water quality may limit the size and distribution of this rare species population.

Management Needs

Logging or other clearing of the forest should not occur within the secondary protection boundary. Maintain floodplain forest hydrologic regime and water quality.

Research should focus on determining what unique parameters of these floodplain forests allow the rare species to thrive at the northeastern limit of its range.

BOUNDARY RECOMMENDATIONS:

The protection area boundary contains the rare species population and contiguous floodplain forest on both sides of Port Tobacco Run. It encompasses actual as well as potential habitat, since the distribution of annual populations is known to fluctuate dramatically.

SITE DESCRIPTION SUMMARY:

A 97-acre Red Maple-River Birch floodplain forest with an understory of Pawpaw and Spicebush is the focus of this protection area summary. Yellow Corydalis, Thyme-leaved Speedwell, Common Chickweed, and the rare species are codominants in the ground cover of this forest.

The large, vigorous population of the rare species occurs primarily in canopy gaps within 400 feet of the stream. The northern boundary of the population is marked by a residential development. To the south, as the stream widens and forms channels, swamp forests and marshes replace the floodplain forest. The rare species population does not extend into these habitat types.

The protection area is bordered on the east and west by farm fields. Numerous horse trails transect the forest, running parallel and perpendicular to the stream. Non-native weedy species have invaded the forest at the edge of the farm fields.

Prepared by: Ann M. Rossheim

Date: September 1989

PROTECTION AREA SUMMARY

Protection Area Name: Indian Head Ravine

County: Charles USGS Quad: Indian Head

SUMMARY OF ECOLOGICAL SIGNIFICANCE:

The steep slopes of this ravine support an unusual forest community more characteristic of the Piedmont than the Southern Upper Coastal Plain. The Tulip Tree-Black Gum-Red Maple Forest of the slopes has received little recent disturbance. The lush herbaceous layer includes a species known from no other location on the Coastal Plain. This species is abundant on the lower slopes and stream banks. Several other herbaceous species found here are uncommon on the Coastal Plain. While the soil is gravelly with a high quartz content, the unusual composition of the vegetation indicates that it is much less acidic than most soils of this region.

OTHER VALUES AND SIGNIFICANCE:

Further survey of this unusually rich ravine may reveal the presence of additional rare species that were not identifiable at the time of our field visit. The spring wildflower display is luxuriant on the lower slopes and stream banks.

THREATS AND MANAGEMENT NEEDS:

Threats

The most immediate threat to this area is the possibility of logging on the uplands. Opening the forest canopy would encourage invasion by non-native, weedy species that may out-compete the uncommon species and alter the natural character of the area. Logging the steep slopes of the ravine would physically destroy the native vegetation, promote soil erosion, and compromise water quality.

A trash dump on the uplands at the western edge of the protection area may be introducing pollutants into the seep and stream below.

Management Needs

All logging within the protection area boundary should be avoided. Water quality, especially in the seep and stream below

the trash dump, should be monitored regularly. Cleanup of the dump area may become necessary.

BOUNDARY RECOMMENDATIONS:

The protection area boundary encompasses the stream/ravine complex and adjacent uplands as buffer. All known populations of uncommon coastal plain species are included within the proposed boundary.

SITE DESCRIPTION SUMMARY:

This 100-acre protection area is a complex of streams and ravines separated by upland ridges. The forest is dominated by Tulip Tree and Red Maple in the moist ravines, and by oaks on the drier uplands. Many small seeps feeding into the streams support lush populations of herbs and shrubs. Some of these, including Foamflower, Puttyroot Orchid, Pennywort, Slender Toothwort, and Showy Orchis are uncommon on the Coastal Plain. The stream is of medium gradient and has cut through the gravelly soil to create steep-sided ravines with a narrow floodplain. The degree of relief in this landscape is unusual on the coastal plain.

Areas surrounding the protection area contrast sharply with the lush, natural beauty of this ravine. Buildings, old gravel pits, and a road border the protection area on the east. A trash dump, fields, and buildings are located to the west. A paved road lined with private residences occurs directly to the south.

Prepared by: Richard H. Wiegand

Date: September 1989

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