JOHNSONBURG

COUNTY: Warren, Sussex

MUNICIPALITY: Frelinghuysen, Green Twps.

PHYSIOGRAPHIC PROVINCE: Ridge and Valley

QUAD: Tranquility

COORDINATES: Confidential

ACREAGE: Total area approximately 850 acres

OWNERSHIP: With the exception of 11 acres owned by the State of New Jersey, the entire tract is privately owned. The largest landholder appears to be Wildlife Preserves, Inc. (c/o Robert Perkins, Trustee, 154 E. Clinton Avenue, Tenefly, New Jersey 07670), a private conservation organization. Total area of the Wildlife Preserves property is 134 acres. Numerous other lots, varying from small to quite large, comprise the remainder of the tract. The small site owned by the State is part of the New Jersey Natural Areas System and is administered by the Department of Environmental Protection, Division of Parks and Forestry.

LAND USE: Use appears to be agricultural-recreational. Portions of the tract along Rts. 661 and 94 still support some agriculture and are planted in corn. The central area of marshes swamps and sometime steep ridges is mostly forested. The property of Wildlife Preserves, Inc. is tax exempt under the New Jersey Green Acres Program. Under this provision, the owner must allow free public access to the property for passive recreation or conservation purposes. The site is bordered to the northwest by a power transmission line right-of-way and to the south by a railroad right-of-way. Only unmarked trails provide access to interior portions; no roads traverse the area.

NATURAL RESOURCE ELEMENTS:

1. Plant Community Types: A systematic inventory of the community types at Johnsonburg has not been performed. However, habitats within the designated area are known to include a large pond (Mud Pond), herbaceous marsh, wooded swamps, water-filled sink holes, steep wooded limestone ridges and old fields (Snyder, 1983). Areas underlain by limestone are noteworthy for the high density of species they support. However, the variety of habitats at Johnsonburg contribute to an even higher diversity and it has been estimated that up to 500 native plant species may be found within the designated site (Snyder, 1983). Detailed examination of community composition and structure is needed.

2. Wildlife: No information appears to have been compiled on wildlife species at Johnsonburg. Local amateur biologists and wildlife enthusiasts may be the only existing secondary sources of information.

3. Rare Plants: The primary significance of the Johnsonburg area lies in its remarkable diversity of both rare and common plant species. At least 23 rare New Jersey plant species have been documented, making Johnsonburg possibly the most species-rich site in the entire state (Snyder, 1983). No species of national significance are currently known to exist there.

   The following list of species was compiled by Snyder (1983) and is arranged according to degree of rarity in New Jersey as determined by Snyder (1983). A general indication of the type of habitat is also provided.

Threatened and in need of immediate protection

Aplectrum hyemale	Putty-root	upland
Cypripedium reginae	Queen Ladies' Slipper	wetland-calcareous
Utricularia minor	Bladderwort	aquatic-calcareous
Aster junciformis	Rush Aster	wetland-calcareous
Kuhnia eupatorioides	False Boneset	upland

Threatened

Botrychium multifidum	Leathery Grapefern	upland
Oryzopsis asperifolia	White-fruited Mountain Rice	upland
Carex prairea	Prairie Sedge	wetland-calcareous
Coeloglossum viride var. virescens	Long-bracted Orchid	upland

Platanthera flava var. herbiola	Pale Green Orchid	wetland
Platanthera hookeri	Hooker's Orchid	upland
Salix serissima	Autumn Willow	wetland-calcareous
Clematis occidentalis	Purple Clematis	upland
Ranunculus flabellaris	Yellow Water Buttercup	aquatic-calcareous
Waldsteinia fragarioides	Barren Strawberry	upland-calcareous
Viola incognita	White Violet	upland-calcareous
Panax quinquefolius	Ginseng	upland-calcareous
Pyrola vivens var. convoluta	Greenish-flowered Pyrola	upland
Scutellaria nervosa	Veined Scullcap	wetland

Potentially Threatened

Lilium philadelphicum	Wood Lily	upland
Salix candida	Hoary Willow	wetland-calcareous
Ribes hirtellum	Low Wild Gooseberry	wetland
Rhamnus alnifolia	Buckthorn	wetland-calcareous

All of the above species are known to currently occur at Johnsonburg with the exception of Cypripedium reginae, Aster junciformis, Kuhnia eupatorioides, Platanthera flava var. herbiola, Pyrola virens var. convoluta and Scutellaria nervosa which were observed between 1950 and 1975, and Aplectrum hyemale which was observed prior to 1950 (Snyder, 1983).

Noteworthy is that many of these species are generally found in wet or moist calcareous habitats: the limestone geology at Johnsonburg provides ideal conditions for such species. Mud Pond is known to have once contained spagnum mats which supported acid-loving species of north Jersey bogs (Snyder, 1983).

4. Rare Wildlife: No information is currently available on use of the site by rare wildlife species.

5. Geological/Topographic Features: Johnsonburg is completely underlain by Kittatinny Limestone which forms outcrops in much of the upland portions of the site. These upland areas are characterized by crests and ridges with intervening valleys, and slopes range from 15 to 45 percent. The predominant upland soil type is Rock Outcrop-Wassaic Complex. Mud Pond and its drainage area to the south is composed of Carlisle Muck soils which are very poorly drained deep organic soils. Elevations range from about 580 to 800 feet. The site lies within the Pequest watershed, Delaware River drainage basin.

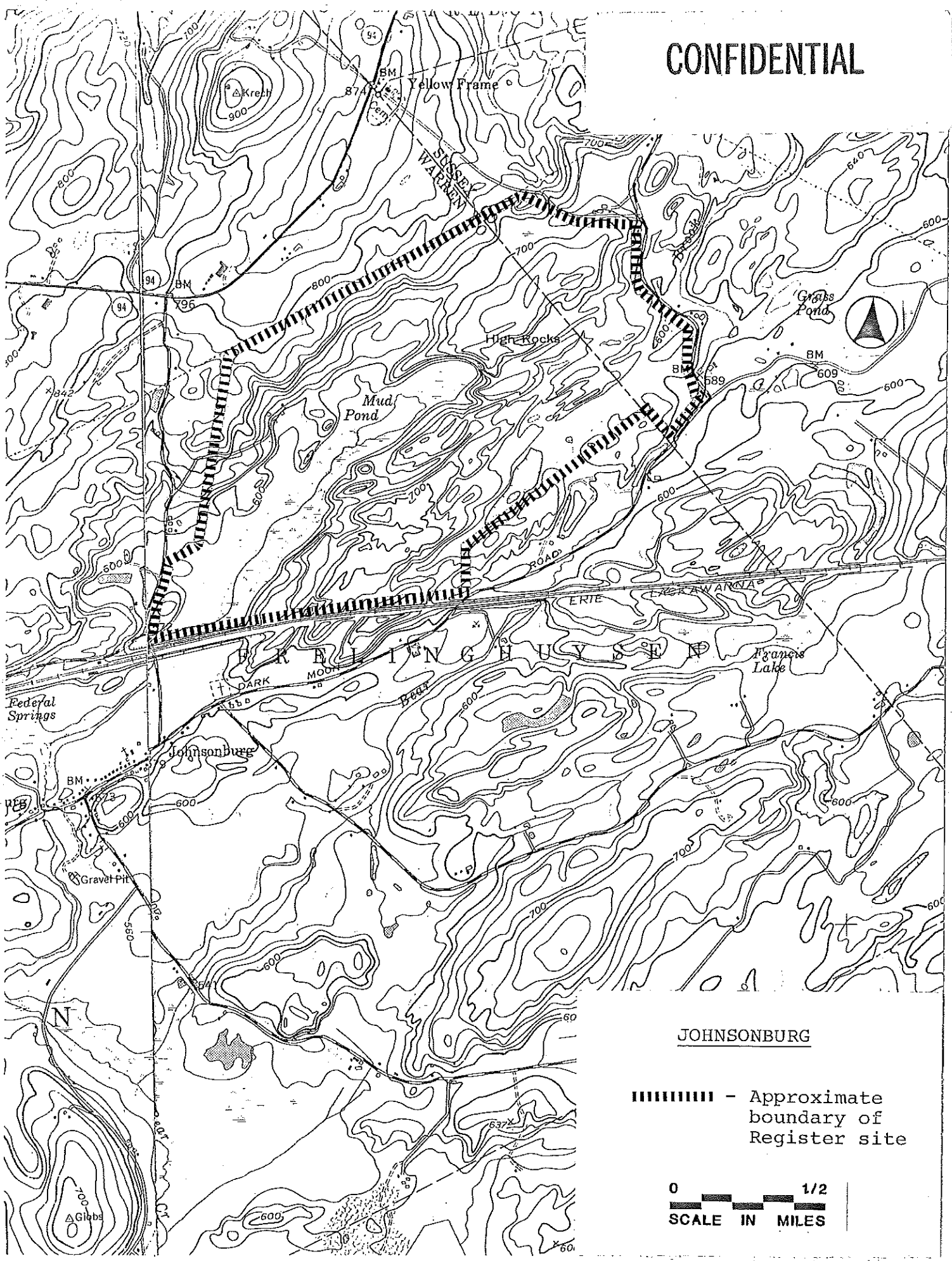
REASONS FOR INCLUSION OF AREA IN NATURAL AREAS REGISTER:

Johnsonburg may support the greatest number of threatened New Jersey plant species compared to any other site of compariable size in the State. At least 16 and up to 23 such species may still be extant here. This unique situation is partly attributable to a diversity of habitats and lack of disturbance. Thus, Johnsonburg represents a highly significant endangered species habitat. Additional research may indicate that Johnsonburg also contains significant representative ecosystems of New Jersey.

REFERENCES CITED:

Snyder, D.B. 1983. New Jersey's threatened plant species. Unpublished report prepared for the New Jersey Department of Environmental Protection.

CONFIDENTIAL



JOHNSONBURG

▮▮▮▮▮▮▮▮▮▮ - Approximate boundary of Register site

0 1/2
SCALE IN MILES