

# PRELIMINARY FIELD SURVEY OF THE 14-ACRE PCSB KLOSTERMAN ROAD SITE

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By

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### INTRODUCTION

The Pinellas County School Board (PCSB) purchased a 14-acre parcel of land in 1990 that is located on the north side of Klosterman Road in Tarpon Springs, Florida (Figure 1). The site is bordered on the north by the 76-acre Mariner Point Management Area, on the east by the Whispering Woods subdivision, on the west by single family homes and open lands and on the south by Klosterman Road. A preliminary field review of the site was conducted to determine the benefits of preserving the site as a native Sand Pine Scrub community. The WK Preservation Group (WKPG) is looking for the PCSB to offer the property for sale to the WKPG or to negotiate the preservation as an educational property that currently joins the Mariner Point Management Area to the north.

Over the past 50 years, the disturbance and fragmentation of the sand pine scrub community in Florida has been attributed to urban sprawl. In Brevard County alone, nearly 65+% of the scrub habitat has been lost to urban development. Humans are directly responsible for scrub habitat loss, fire suppression, habitat fragmentation and invasion by non-native species resulting in the loss of species diversity and many rare scrub species. Acquisition of critical habitat coupled with appropriate restoration and land management along with public education may provide an added level of protection for this valuable Florida resource.

Due to the uniqueness of this parcel within urban Pinellas county, the WKPG contacted Dr. Donald Richardson of Ecological Consultants, Inc. for a cursory field review of this imperiled scrub ecosystem.

#### SOILS

This 14-acre parcel supports only one soil type as follows (Figure 2):

 Astatula soils and urban land, 0 to 5 percent slopes (#4) – This soil occurs on broad upland ridges in excessively drained marine sands. The depth to the water table varies from 40 to 60 inches for most of the year. These soils often support sand pine scrub and longleaf pine-turkey oak sandhills.

### VEGETATION

The Florida scrub is an imperiled ecoregion of global importance due to its location and age in the landscape and its high degree of rare and endemic species. The central spine of the site supports Sand Pine Scrub (FLUCCS #413) vegetation that is maturing due to fire suppression (Figure 3). The elevations slope to both the east and west where longleaf pines and more maturing oaks dominates. Less than 1% of the original scrub within Pinellas county has been preserved making this an important potential acquisition for Pinellas county or private environmental groups.

The dominant overstory vegetation includes sand pine (*Pinus clausa*), longleaf pine (*Pinus palustris*), and live oak (*Quercus virginiana*). Other sub-canopy species include turkey oak (*Quercus laevis*), scattered red cedar (*Juniperus silicicola*), cabbage palm (*Sabal palmetto*), laurel oak (*Quercus laurifolia*), post oak (*Quercus stellata*), southern magnolia (*Magnolia grandiflora*), sand live oak (*Quercus geminata*), Carolina laurel cherry (*Prunus caroliniana*), carrotwood (*Cupaniopsis anacardioides*), umbrella tree (*Schefflera actinophylla*), and camphora tree (*Cinnamomum camphora*) (Table 1).

The shrub layer is dominated by a dense thicket of sand live oak, myrtle oak (*Quercus myrtifolia*), tallowwood (*Ximenia americana*), beauty berry (*Callicarpa americana*), rosemary (*Ceratiola ericoides*), saw palmetto (*Serenoa repens*), Brazilian pepper (*Schinus terebinthifolius*), and huckleberry (*Vaccinium myrsinites*).

The Florida Rosemary (*Ceratiola ericoides*) is a needle leaved, evergreen dioecious shrub found on dry, sandy soils on both coastal and inland sites in Florida (Figure 5). There is often only sparse vegetation surrounding mature rosemary shrubs. Field and laboratory studies have provided evidence that allelopathic activity may directly inhibit the germination of other species near mature individuals, often leading to bare patches of white sand. A few rosemary balds do occur in Pinellas county but due to fragmentation and urban sprawl most of these areas have been developed. The presence of one rosemary shrub may provide historical evidence of a much more diverse scrub.

The herbaceous layer supports a scattered ground cover which is restricted to sunny edges or gaps in the canopy (Figure 4). The most common associates include sky blue lupine (*Lupinus diffusus*), scrub frostweed (*Helianthemum nashii*), silkgrass (*Pityopsis graminifolia*), camphorweed (*Heterotheca subaxillaris*), scrub wiregrass (*Aristida gyrans*), *Dichanthelium sabulorum*, sawbrier (*Smilax auriculata*), pinweed (*Lechea deckertii*), ball moss (*Tillandsia recurvata*), wild pine (*Tillandsia utriculata*), rustweed (*Polypremum procumbens*), sensitive pea (*Cassia nictitans*), prickly pear cactus (*Opuntia humifusa*), gopher apple (*Licania michauxii*), wild grape (*Vitis munsoniana*), broomsedge grass (*Andropogon virginicus*), rattle-box (*Crotalaria pallida*), sneezeweed (*Helenium amarum*), hair sedge (*Bulbostylis ciliatifolia*), and several ground lichens.

The most common herbaceous species associated with formerly disturbed areas include beggar's tick (*Bidens alba*), ragweed (*Ambrosia artemisiifolia*), natal grass (*Rhynchelytrum repens*), *Sida cordifolia*, Mexican tea (*Chenopodium ambrosioides*), Caesar's weed (*Urena lobata*), guinea grass (*Panicum maximum*), rosary pea (*Abrus precatorius*), Boston fern (*Nephrolepis exaltata*), nutsedge (*Cyperus retrorsus*), St. Augustine grass (*Stenotaphrum secundatum*) and others. Most of the weedy or ruderal species occur along fence lines or old foot trails.

## LISTED FLORA

One listed plant species was observed for this site as follows (Figure 3):

1. Giant wild pine (Tillandsia utriculata) - Endangered, FDA.

No federally protected plant species were observed on this site during the field study. Giant wild pine plants are scattered throughout the oak canopy and many were observed on the ground.

#### **EXOTIC OR NUISANCE PLANT SPECIES**

Due to years of neglect and localized disturbances along the edges of the site, many exotic, nuisance, or ruderal species have invaded the scrub. The most common species include natal grass (*Rhynchelytrum repens*), rosary pea (*Abrus precatorius*), Boston fern (*Nephrolepis exaltata*), St. Augustine grass (*Stenotaphrum secundatum*), periwinkle (*Catharanthus roseus*), Brazilian pepper (*Schinus terebinthifolius*), eucalyptus (*Eucalyptus grandis*), umbrella tree (*Schefflera actinophylla*), carrotwood (*Cupaniopsis anacardioides*), and possibly others.

#### LISTED ANIMAL SPECIES

Only one protected animal species was identified for this site as follows (Figure 3):

1. Florida gopher tortoise (*Gopherus polyphemus*) – Threatened (FWC)

Gopher tortoise burrows were scattered throughout the central open scrub areas of the site. A preliminary estimate reveals at least 16 burrows; many which showed signs of activity. Any development of the site would require a gopher tortoise relocation permit from FWC.

Further studies would be required to better document the presence of protected plant or animal species for this site. The presence of the Florida gopher tortoise and possible other burrow commensals would require long-term management of this valuable resource.

#### SUMMARY

The Florida scrub is often considered a hotspot of biodiversity due to the high degree of endemism and the number of species restricted to only a few counties or fragments. The Pinellas County School Board site supports a good example of a relatively undisturbed scrub in urban Pinellas county. Preserve design often dictates that small, isolated set asides or preserves should be a minimum of 10 acres in order to reduce edge affect. It was obvious during this preliminary site visit that long-term management of this ecosystem would be required due to the lack of natural wildfires that have allowed many maturing scrub oaks to dominate the canopy. In contrast, many of the large sand pine have dropped seed over the years and many sapling or small sand pine were observed throughout. Several open gaps (Figures 4 & 6) in the matrix of scrub oaks support several pioneer herbaceous scrub species such as sky-blue lupine. One rosemary shrub, often a keystone species of ancient scrubs was located on site. Management of this one plant could lead to more germination of seeds within the soil seed bank.

This 14-acre scrub supports many open sandy gaps which may harbor endemic herbaceous scrub species that have been suppressed due to the lack of periodic fires. Today, these gaps support several gap species such as sky-blue lupine, scrub frostweed, silkgrass, prickly pear cactus and hair sedge. The preservation of this scrub as a local passive Pinellas County park or the addition to the 76-acre Mariner Point Management Area to the north would be beneficial to Pinellas County as a valuable natural resource. The WK Preservation Group is looking for the PCSB to negotiate the acquisition of this site is some preservation capacity in order to prevent development of this natural resource.

Table 1.Checklist of the vascular flora for the PSCB site.

### SCIENTIFIC NAME

COMMON NAME

#### Trees

Cinnamomum camphora Camphor tree Cupaniopsis anacardioides Carrotwood Eucalyptus grandis Eucalyptus Juniperus silicicola Red cedar Magnolia grandiflora Southern magnolia Pinus clausa Sand pine Pinus palustris Longleaf pine Prunus caroliniana Carolina laurel cherry Quercus geminata Sand live oak **Quercus** laevis Turkey oak Quercus myrtifolia Myrtle oak Quercus stellata Post oak Quercus virginiana Live oak Sabal palmetto Cabbage palm Schefflera actinophylla Umbrella tree Schinus terebinthifolius Brazilian pepper Shrubs Callicarna americana Reauty herry

Cumoupa amonoana	Deducty being
Ceratiola ericoides	Rosemary
Lyonia ferruginea	Fetterbush
Serenoa repens	Saw palmetto
Vaccinium myrsinites	Huckleberry
Ximenia americana	Tallowwood

### Herbs

Abrus precatorius Ambrosia artemisiifolia Andropogon virginicus Aristida beyrichiana Aristida gyrans Bidens alba Bulbostylis ciliatifolia Cassia nictitans Catharanthus roseus Chenopodium ambrosioides Cladonia spp. Cnidoscolus stimulosus Rosary pea Ragweed Broomsedge grass Wiregrass Scrub wiregrass Beggar's tick Hair sedge Sensitive pea Periwinkle Mexican tea Reindeer moss Stinging nettle Table 1.Checklist of the vascular flora for the PSCB site.

#### SCIENTIFIC NAME

## COMMON NAME

Crotalaria pallida Cyperus retrorsus Dichanthelium sabulorum Emelia japonica Eupatorium capillifolium Helenium amarum Helianthemum nashii Heterotheca subaxillaris Imperata cylindrica Indigofera hirsuta Lechea deckertii Licania michauxii Lupinus diffusus Nephrolepis exaltata Opuntia humifusa Panicum maximum Parthenocissus quinquefolia Phytolacca americana Pityopsis graminifolia Polypremum procumbens Rhynchelytrum repens Sida cordifolia Smilax auriculata Solidago microcephala Solidago stricta Spermacoce verticillata Stenotaphrum secundatum Tillandsia recurvata Tillandsia usneoides Tillandsia utriculata Urena lobata Vitis munsoniana

Rattle box Nutsedge Dogfennel Sneezeweed Frostweed Camphorweed Cogon grass Hairy indigo Pinweed Gopher apple Sky blue lupine Boston fern Prickly pear cactus Guinea grass Virginia creeper Pokeweed Silkgrass Rustweed Natal grass Fanpetals Sawbriar Goldenrod Shrubby false buttonweed St. Augustine grass Ball moss Spanish moss Wild pine Caesar's weed Wild grape



Figure 1. Location map for the PCSB site.

Figure 2. Soils map for the PCSB site.



Figure 3. Vegetation and Listed Species map for the PCSB site. [Legend: GT – Gopher tortoise burrow; CE – *Ceratiola ericoides*; TU – *Tillandsia utriculata*]





Figure 4. Typical open sandy gap for the PCSB site.



Figure 5. Rosemary shrub.



Figure 6. Typical gap showing oak scrub surrounding with sand pines in canopy.