



University of Florida Conservation Area Land Management Plan  
**Natural Areas Teaching Lab - West**

## **Introduction**

The NATL-west Conservation Area is a 48.8-acre tract on the southwest corner of the main campus, backing up in places to both Archer Road and SW 34<sup>th</sup> Street. The primary use of the property is for the Natural Area Teaching Laboratory (NATL), an outdoor academic facility that serves more than 70 courses, offered by nine departments in four colleges. It is also used for special projects and short courses, and the Florida Museum of Natural History uses it for fieldwork with K-12 groups.

The 2000-2010 Campus Master Plan identified most of this area as Preservation Area 1 and, along with the 1987 Stormwater Master Plan, recommended that it be preserved for its potential hydrological sensitivity. Unlike other Conservation Areas, NATL-west already has a well-established management plan. Thus this Conservation Area land management plan will serve primarily as a duplication of the current plan at <http://natl.ifas.ufl.edu>, with the only real change being that it will be in the format common to the rest of the CALM plans.

Since 1994, concerned faculty and students have conducted research, restored native systems, removed invasive species, and demonstrated natural area management techniques in NATL-west. The Natural Area Advisory Committee (NAAC) is the advisory group that recommends management plans for this Conservation Area. According to the NAAC's operating policies, its mission is to "develop and help implement a plan to restore and maintain a variety of ecosystems in the University of Florida Natural Area and Teaching Laboratory (NATL) while maximizing the use of the area for teaching," and committee membership "will consist of at least one faculty member from each department or other unit making significant use of NATL, the Chair of the Lakes, Vegetation and Landscape [sic] Committee, and one or more student members representing organizations interesting in NATL" (<http://natl.ifas.ufl.edu/natlmgmt.htm#OpPolicies>).

### *Early history*

The earliest information about NATL-west's site is that it was purchased by the State of Florida in 1944. In that year, C. C. Richbourg and wife sold the State 192 acres in the southwest portion of section 12, township 10S, range 19E. The southwest portion of the parcel is now NATL-west.

### *Birth of NATL-west*

In May 1993, urbanization of areas north and east of what is now NATL-west stimulated the formation of a planning group, consisting of 15 persons who wanted the tract designated a "campus natural area and outdoor teaching laboratory." This group selected Dana Griffin (Botany), Joe Schaefer (Wildlife Ecology & Conservation), and Tom Walker (Entomology & Nematology) to draft a proposal to that effect. A draft was completed, circulated, and revised. The final proposal was endorsed by faculty in all departments that were likely users of the area and submitted to Campus Planning in July 1993. It was endorsed by the University Land-Use and Facilities Planning Committee in May 1994. With encouragement from IFAS Dean for Academic Programs Larry J. Connor, a Natural Area Advisory Committee, with members representing the principal users, was organized in September 1994. Its charge was to plan the development and management of NATL-west.

## **Natural Areas Inventory**

### Water Resources

According to watershed analysis work completed by Causseaux and Ellington and CH2MHill, the NATL-west Conservation Area lies within five depression basins. These studies indicate that the

majority of rainfall is retained on site, either recharging in place or moving downhill into small depressions and in at least one case draining into a sinkhole. However, during heavy rainfall events a large portion of the NATL-west drains towards SW 34<sup>th</sup> Street and ultimately empties into Hogtown Creek (Stormwater Master Plan, 1987, 2000).

Areas on the northeast side of the Conservation Area drain into a retention pond that has been named the Stormwater Ecological Enhancement Project (SEEP). The concept behind this retention pond that sets it apart from traditional wet retention is that it also is meant to serve as wildlife habitat. Thus, all factors of design have looked at maximizing habitat values, pollutant uptake and storage. The final significant hydrologic feature at the NATL-west is the sinkhole pond that drains a small area on the southeast corner of the Conservation Area. This sink receives most of its water from the Surge area, NATL-east and SW Archer Road. During large rainfall events the road between the NATL-west and NATL-east floods with water slowly draining into the sinkhole. Future stormwater improvements may be necessary on site with potential options including raising the elevation of the road, creating more storage in the Surge Wetland or by placement of a drainage well. Any stormwater improvements should be coordinated with the Department of Transportation, which is responsible for some of water entering the Conservation Areas.



NATL-west Sinkhole

### Natural Communities

NATL-west contains some of the most diverse natural communities on the main campus, ranging from a sinkhole pond to upland pine areas. The three major community types that exist on site include mesic flatwoods (upland pine), mesic / mixed upland hammock and old-field succession. There are a few smaller systems that are present around the Stormwater Ecological Enhancement Project (SEEP) retention pond and the sinkhole pond on the southern portion of the site.

Mesic flatwoods / upland-pine ecosystems occur on upland, well-drained sites. In its pristine state, it is dominated by widely spaced longleaf pines with few understory shrubs and a dense ground cover

of grasses and herbs. These systems depend on burning for their continuance. In large natural tracts, lightning-caused fires are frequent enough to maintain the ecosystem. However, in 1994 NATL-west's upland pine had not burned for decades, allowing hammock species to invade and nearly overwhelm the upland-pine species. Restoration is being largely accomplished by carefully controlled ground fires. One to two acres in both the public and academic-use-only areas will be left unburned to show the effects of totally eliminating fire from upland pine. During the course of restoration, methods of restoration and areas treated will be scheduled to maximize values for teaching and for demonstrating methods of restoration to those using the nature trails. Once restored, the upland pine will be maintained by burning approximately one fourth of its area each year. Burning at 3- to 6-year intervals should maintain the upland pine species, and doing some burning every year will allow students each year to see immediate and longer-term effects of burning. For the next several years, planned activities for this community type are to burn all the upland pine that is to be restored each winter or early spring and continue to plant longleaf pines and wire grass while avoiding regular spacing.

Mesic upland mixed forests are generally characterized as well-developed, closed-canopy forests of upland hardwoods on rolling hills. They often have limestone or phosphatic rock near the surface and occasionally as outcrops. Soils are generally sandy-clays or clayey sands with substantial organic and often calcareous components. Since this is a climax ecosystem it will require little management except to extirpate invasive exotic plants such as mimosa and *Ardisia*.

The old-field succession area is not a typical natural community, however, it is found all over the State in areas that are no longer farmed. At NATL-west, the process of tilling farmland and letting it naturally restore will be carried on indefinitely. The old-field area has been subdivided into five management units that are to be cleared and cultivated at 1-, 10-, and 40-year intervals. Plots with the same period of rotation will be cleared and tilled out of phase. For example, every five years one of the two 10-year plots will be tilled. The 1-year plot will not be tilled during years that one of the other four plots is tilled. The goal of this schedule is to exhibit five representative successional states at all times. Mature longleaf pines in the successional plots will not be cut. Dense stands of cogon grass will be eliminated by herbiciding and cultivation to allow normal succession. Future management of successional lots will be to start and re-start successional plots according to this schedule:

Plot A: 2012, 2022, etc.

Plot B: Every year that no other plot is started or re-started.

Plot C: 2040, 2080, 2120, etc.

Plot D: 2007, 2017, 2027, etc.

Plot E: 2020, 2060, 2100, etc.

Other ongoing activities will be the periodic clearing of debris around the sinkhole and adjacent pond and periodic maintenance of the SEEP retention area

### Plant Species

The following list of trees and shrubs has been documented on site: *Acer negundo* box elder, *Acer rubrum* red maple, *Albizia julibrissin* mimosa, *Amorpha fruticosa* leadplant, *Aralia spinosa* Devil's walking-stick, *Ardisia crenata* coral ardisia, *Asimina longifolia* pawpaw, *Asimina obovata?* flag pawpaw, *Asimina parviflora* pawpaw, *Baccharis halimifolia* saltbush, *Bumelia celastrina?* saffron-plum, *Bumelia tenax?* tough bumelia, *Callicarpa americana* French-mulberry, beautyberry, *Carpinus caroliniana* ironwood, *Carya glabra* pignut hickory, *Carya tomentosa* mockernut hickory, *Castanea pumila* chinquapin, *Celtis laevigata* sugarberry, *Cephalanthus occidentalis* buttonbush, *Cercis*

canadensis redbud, *Chionanthus virginicus* fringe tree, *Cinnamomum camphora* camphor tree, *Cornus asperifolia* rough-leaf cornel, *Cornus florida* flowering dogwood, *Crataegus marshallii* parsley haw, *Crataegus uniflora* one-flower haw, *Diospyros virginiana* persimmon, *Eriobotrya japonica*?, *Euonymus americanus* hearts-a-busting, *Fraxinus americana* white ash, *Hypericum galioides* St. John's-wort, *Hypericum hypericoides* St. Andrew's-cross, *Ilex vomitoria* yaupon, *Juniperus silicicola* southern red cedar, *Liquidambar styraciflua* sweetgum, *Lyonia fruticosa* fetterbush, *Magnolia grandiflora* southern magnolia, *Magnolia virginiana* sweet bay, *Morus rubra* red mulberry, *Myrica cerifera* wax myrtle, *Ostrya virginiana* hophornbeam, *Persea borbonia* red bay, *Pinus elliottii* slash pine, *Pinus glabra* spruce pine, *Pinus palustris* longleaf pine, *Pinus taeda* loblolly pine, *Prunus caroliniana* laurel cherry, *Prunus persica* peach, *Prunus serotina* black cherry, *Prunus umbellata* hog plum, *Quercus falcata* southern red oak, *Quercus geminata* sand live oak, *Quercus hemisphaerica* laurel oak, *Quercus laevis* turkey oak, *Quercus laurifolia* swamp laurel oak, *Quercus margaretta* sand post oak, *Quercus michauxii* swamp chestnut oak, *Quercus nigra* water oak, *Quercus pumila* running oak, *Quercus virginiana* live oak, *Rhus copallinum* winged sumac, *Rubus argutus* highbush blackberry, *Rubus cuneifolius* sand blackberry, *Rubus trivialis* dewberry, *Sabal minor* blue palm, *Sabal palmetto* cabbage palm, *Salix caroliniana* coastal plain willow, *Sambucus canadensis* elderberry, *Sapindus marginatus* Florida soapberry, *Sassafras albidum* sassafras, *Serenoa repens* saw palmetto, *Taxodium distichum* bald cypress, *Tilia caroliniana* basswood, *Ulmus alata* winged elm, *Ulmus americana* American elm, *Vaccinium arboreum* sparkleberry, *Vaccinium stamineum* deerberry, *Viburnum rufidulum* rusty black-haw, *Viburnum scabrellum* arrow-wood, *Zanthoxylum clava-herculis* toothache tree.

The following list of ferns has been documented on site: *Asplenium platyneuron* ebony spleenwort, *Lygodium japonicum* climbing fern, *Polypodium polypodioides* resurrection fern, *Pteridium aquilinum* bracken fern, *Thelypteris kunthii* woods fern.

The following list of vines has been documented on site: *Ampelopsis arborea* pepper vine, *Bignonia capreolata* cross vine, *Campsis radicans* trumpet vine, *Clematis crispa* leatherflower, *Clematis reticulata*? virgin's bower, *Dioscorea floridana* wild yam, *Galactia regularis* milk-pea, *Gelsemium sempervirens* yellow jasmine, *Ipomoea purpurea* morning glory, *Lonicera japonica* Japanese honeysuckle, *Lonicera sempervirens* coral honeysuckle, , *Matelea floridana* milkweed vine, *Parthenocissus quinquefolia* Virginia creeper, *Passiflora incarnata* maypop, *Passiflora lutea* yellow passion-flower, *Rhus radicans* poison-ivy, *Smilax auriculata* greenbrier, *Smilax bonanox* catbrier, *Smilax glauca* greenbrier, *Smilax hispida* catbrier, *Smilax pumila* wild sarsaparilla, *Smilax smallii* Jackson vine, *Vitis aestivalis* summer grape, *Vitis rotundifolia* muscadine grape, *Vitis vulpina* frost grape *Agrimonia incisa*? saw-tooth agmimony.

The following list of herbs has been documented on site: *Amaranthus hybridus* pigweed, *Amaranthus spinosus*? thorny pigweed, *Ambrosia artemisiifolia* ragweed, *Arenaria serpyllifolia* *Arisaema dracontium* green dragon, *Asclepias tuberosa* butterfly-weed, *Bidens alba* Spanish-needles *Bidens bipinnata* Spanish-needles, *Capsella bursa-pastoris*, *Cardamine hirsute*, *Carex albolutescens* *Chamaecrista fasciculata* sensitive plant, *Chasmanthium sessiliflorum*, *Chenopodium album*, *Chenopodium ambrosioides* Mexican tea, *Clitoria mariana*?, *Commelina diffusa*?, *Cnidioscolus stimulosus* treadsoftly, *Coronopus didymus*? wart-cress, *Crotolaria spectabilis*, *Croton argyranthemus* croton, *Cynanchum scoparium* milkweed vine, *Desmodium incanum* creeping beggarweed, *Desmodium tenuifolium* beggarweed, *Desmodium tortuosum* Florida beggarweed *Dichondra carolinensis* Carolina dichondra, *Diodea teres* buttonweed, *Elephantopus carolinianus* elephant's-foot, *Eclipta prostrata*?, *Eleusine indica*?, *Erigeron strigosus*, *Eriogonum tomentosum*

Erythrina herbacea Cherokee bean, Eupatorium capillifolium dog-fennel, Eupatorium serotinum? late boneset, Galium aparine bedstraw, Galium tinctorium, Geranium carolinianum, Gnaphalium obtusifolium? rabbit tobacco, Gnaphalium purpureum?, Hedyotis uniflora, Helianthemum carolinianum rockrose, Helianthus floridanus Florida sunflower, Helianthus radula rayless sunflower Heterotheca subaxillaris camphorweed, Hydrocotyle umbellata, Hyptis alata, Hyptis mutabilis bitter mint, Juncus effuses, Juncus elliotii, Lactuca floridana wild lettuce, Lepidium virginicum peppergrass, Lespedeza stuevei? tall bush-clover, Lippia nodiflora match-heads, Lolium perenne Melanthera nivea, Melilotus alba sweet clover, Melothria pendula creeping cucumber, Mitchella repens partridge berry, Mollugo verticillata carpet weed, Monarda punctata spotted beebalm Oenothera laciniata cut-leaved evening primrose, Oplismenus setarius woods grass, Orontium aquaticum golden club, Opuntia humifusa cactus, Oxalis dillenii yellow wood-sorrel, Pennisetum purpureum, Phlox drummondii Texas phlox, Phyllanthus urinaria, Phytolacca rigida pokeweed Pityopsis graminifolia, Plantago virginica ribwort, Polymnia uvedalia leaf-cup, Portulaca pilosa pink purslane, Pterocaulon pycnostachyum, Pyrrhopappus carolinianus Florida dandelion, Raphanus raphanistrum wild radish, Richardia brasiliensis?, Richardia scabra Florida Pusley, Rorippa palustris?, Ruellia caroliniensis wild petunia, Rumex hastatulus dock, Rumex crispus, Rynchosia difformis?, Salvia lyrata lyre-leaved sage, Sanicula Canadensis, Sesbania macrocarpa coffeeweed Sida rhombifolia, Silene antirrhina sleepy catchfly, Solanum americanum common nightshade Solidago sempervirens? seaside goldenrod, Sonchus oleraceus common sow-thistle, Sorghum halepense, Spermolepis divaricata false marsh-parsley, Stachys floridana Florida betony, Sisyrinchium rosulatum, Tillandsia recurvata ball-moss, Tillandsia usneoides Spanish-moss Tradescantia ohiensis spiderwort, Trifolium repens clover, Typha latifolia cattail, Verbena brasiliensis Brazilian vervian, Verbesina virginica frostweed, Vernonia angustifolia narrow-leaf ironweed, Vernonia gigantea ironweed, Vicia floridana vetch, Viola floridana Florida violet Viola septemloba seven-lobe violet, Wahlenbergia marginata Asiatic bellflower, Xanthosoma sagittifolium elephant-ear.

#### Invasive Non-Native Plants

The following invasive non-native plants have been documented on site: mimosa, Ardisia, climbing tree fern, air potato catclaw vine, cogongrass, Johnsongrass and elephantgrass

#### Animal Species

The following reptilian species have been documented on site: Alligator mississippiensis American Alligator, Terrapene carolina bauri Florida Box Turtle, Gopherus polyphemus Gopher Tortoise, Anolis carolinensis Green Anole, Sceloporus undulatus undulatus Southern Fence Lizard, Eumeces inexpectatus Southeastern Five-lined Skink, Eumeces laticeps Broadhead Skink, Scincella laterale Ground Skink, Coluber constrictor Black Racer, Diadophis punctatus punctatus Southern Ringneck Snake, Elaphe obsoleta quadrivittata Yellow Rat Snake, Nerodia fasciata pictiventris Florida Banded Watersnake, Thamnophis sirtalis sirtalis Eastern Garter Snake, Micrurus fulvius fuvius Eastern Coral Snake

The following avian species have been documented on site: Podilymbus podiceps Pied-billed Grebe, Ardea herodias Great Blue Heron, Butorides striatus Green Heron, Florida caerulea Little Blue Heron, Bubulcus ibis Cattle Egret, Casmerodius albus Great Egret, Egretta thula Snowy Egret, Mycteria americana Wood Stork, Eudocimus albus White Ibis, Lophodytes cucullatus Hooded Merganser, Cathartes aura Turkey Vulture, Accipiter cooperii Cooper's Hawk, Buteo jamaicensis Red-tailed Hawk, Red-shouldered Hawk Buteo lineatus, Pandion haliaetus Osprey, Falco sparverius American Kestrel, Colinus virginianus Common Bobwhite, Fulica americana American Coot, Gallinula chloropus Common Moorhen, Capella gallinago Common Snipe, Actitis macularia Spotted

Sandpiper, *Tringa flavipes* Lesser yellowlegs, *Zenaida macroura* Mourning Dove, *Coccyzus americanus* Yellow-billed Cuckoo, *Strix varia* Barred Owl, *Bubo virginianus* Great Horned Owl, *Caprimulgus carolinensis* Chuck-Will's-Widow, *Archilochus colubris* Ruby-throated Hummingbird, *Melanerpes carolinus* Red-bellied Woodpecker, *Picoides pubescens* Downy Woodpecker, *Picoides villosus* Hairy Woodpecker, *Sphyrapicus varius* Yellow-bellied Sapsucker, *Dryocopus pileatus* Pileated Woodpecker, *Colaptes auratus* Northern Flicker, *Sayornis phoebe* Eastern Phoebe, *Myriarchus crinitus* Great-crested Flycatcher, *Contopus virens* Eastern Wood-pewee, *Lanius ludovicianus* Loggerhead Shrike, *Cyanocitta cristata* Blue Jay, *Corvus brachyrhynchos* American Crow, *Corvus ossifragus* Fish Crow, *Iridoprocne bicolor* Tree Swallow, *Parus carolinensis* Carolina Chickadee, *Parus bicolor* Tufted Titmouse, *Turdus migratorius* American Robin, *Hylocichla mustelina* Wood Thrush, *Catharus guttatus* Hermit Thrush, *Poliophtila caerulea* Blue-gray Gnatcatcher, *Regulus satrapa* Golden-crowned Kinglet, *Regulus calendula* Ruby-crowned Kinglet, *Cistothorus palustris* Marsh Wren, *Troglodytes aedon* House Wren, *Thryothorus ludovicianus* Carolina Wren, *Dumetella carolinensis* Gray Catbird, *Mimus poltglottos* Brown Thrasher *Toxostoma rufum* Northern Mockingbird, *Sturnus vulgaris* European Starling, *Bombycilla cedrorum* Cedar Waxwing, *Vireo olivaceus* Red-eyed Vireo, *Vireo griseus* White-eyed Vireo, *Vireo flavifrons* Yellow-throated Vireo, *Vireo solitarius* Blue-headed Vireo, *Vermivora celata* Orange-crowned Warbler, *Dendroica petechia* Yellow Warbler, *Dendroica coronata* Yellow-rumped Warbler, *Dendroica pinus* Pine Warbler, *Dendroica palmarum* Palm Warbler, *Mniotilta varia* Black and White Warbler, *Seiurus aurucapillus* Ovenbird, *Setophaga ruticilla* American Redstart, *Dendroica discolor* Prairie Warbler, *Dendroica striata* Blackpoll Warbler, *Parula americana* Northern Parula Warbler, *Geothlypis trichas* Common Yellowthroat, *Dendroica dominica* Yellow-throated Warbler, *Seiurus noveboracensis* Northern Waterthrush, *Pipilo erythrophthalmus* Eastern Towhee, *Cardinalis cardinalis* Northern Cardinal, *Piranga rubra* Summer Tanager, *Molothrus ater* Brown-headed Cowbird, *Agelaius phoeniceus* Red-winged Blackbird, *Quiscalus major* Boat-tailed Grackle, *Quiscalus quiscula* Common Grackle, *Guiraca caerulea* Blue Grosbeak, *Passerina cyanea* Summer Indigo Bunting, *Carpodacus mexicanus* House Finch, *Carduelis tristis* American Goldfinch, *Spizella pusilla* Field Sparrow, *Spizella passerina* Chipping Sparrow, *Melospiza georgiana* Swamp Sparrow, *Melospiza melodia* Song Sparrow, *Passerculus sandwichensis* Savannah Sparrow, *Zonotrichia albicollis* White-throated Sparrow.

The following mammalian species have been documented on site: *Didelphis virginiana* Virginia Opossum, *Vespertilionidae* Twilight Bats, *Eptesicus fuscus* Big Brown Bat, *Lasiurus borealis* Red Bat, *Lasiurus intermedius* Northern Yellow Bat, *Lasiurus seminolus* Seminole Bat, *Myotis austroriparius* Southeastern Bat, *Nycticeius humeralis* Evening Bat, *Pipistrellus subflavus* Eastern Pipistrelle, *Molossidae* Free-tailed Bats, *Tadarida brasiliensis cynocephala* Brazilian Free-tailed Bat, *Dasyus novemcinctus* Nine-banded Armadillo, *Sciurus carolinensis* Eastern Grey Squirrel, *Scalopus aquaticus* Eastern Mole, *Procyon lotor* Raccoon, *Urocyon cinereoargenteus* Gray Fox.



Upland Pine forest during controlled burn

### Soils Inventory

The following soil information for on-site soils was gathered from the Soil Survey of Alachua County (1985). A more detailed survey analysis can be found at the NATL website - <http://NATL.ifas.ufl.edu>.

#### Apopka Sand

This nearly level to gently sloping, well-drained soil is in relatively small areas of the deep, sandy uplands. Slopes are nearly smooth or slightly complex. Typically, the surface layer is dark grayish brown sand about 5 inches thick. The subsurface layer is sand to a depth of 61 inches. In this Apopka soil, the available water capacity is very low to a depth of 61 inches and is medium below. Permeability is rapid in the sandy surface and subsurface layers and moderate in the loamy subsoil.

#### Blichton Sand

This gently sloping, poorly drained soil is on gently rolling uplands. Typically the surface layer is dark grayish brown sand about 6 inches thick. It is about 3 percent nodules of ironstone and fragments and nodules of phosphatic limestone.

#### Bonneau Sand

This series consists of deep, nearly level to sloping moderately well drained soils that formed these beds of loamy marine deposits. They are in broad areas of gently rolling uplands. Typically, the surface layer is dark gray fine sand about 9 inches thick. The subsurface layer is brownish yellow fine sand to a depth of 29 inches. The Bonneau soil has a water table that is at a depth of 40 to 60 inches for 1 to 3 months and at a depth of 60 to 72 inches for 2 to 3 months during most years. Surface runoff is slow. Permeability is moderately slow to moderate in the upper part of the subsoil and very slow to slow in the lower part

#### Kendrick Sand

This gently sloping, well-drained soil is in both small and large areas on the gently rolling uplands. These areas are mostly irregularly shaped or elongated and range from about 20 to 200 acres. Typically the surface layer is dark grayish brown sand about 9 inches thick. The subsurface layer is yellowish brown loamy sand to a depth of 26 inches. In this Kendrick soil, the available water capacity is low in the surface and subsurface layers, medium in the upper 5 inches of the subsoil, and

medium to high below this depth. Permeability is rapid in the surface and subsurface layers. Permeability is moderate to moderately rapid in the upper 5 inches of the subsoil, moderately slow to moderate in the next 42 inches, and slow in the lower 17 inches.

#### Lochloosa Fine Sand

This gently sloping, somewhat poorly drained soil is in small and large areas on the rolling uplands. Typically, the surface layer is dark gray fine sand about 7 inches thick. The subsurface layer is yellowish brown loamy sand or sand to a depth of 31 inches. This soil has a water table that is about 30 to 40 inches below the surface for 1 to 4 months during most years. Surface runoff is slow. The available water capacity is low to medium in the sandy surface and subsurface layers and medium in the subsoil.

#### Millhopper Sand

This nearly level to gently sloping, moderately well drained soil is in small and large irregularly shaped areas on uplands and slightly rolling knolls in the broad flatwoods. Typically, the surface layer is dark grayish brown sand about 9 inches thick. The subsurface layer is sand or fine sand about 49 inches thick. This Millhopper sand has a water table that is at a depth of 40 to 60 inches for 1 to 4 months and at a depth of 60 to 72 inches for 2 to 4 months during most years.

#### Millhopper Urban Land Complex

This complex consists of moderately well drained, nearly level to gently sloping Millhopper soils and Urban Land. The areas are irregular in shape and range from about 15 to 250 acres. This complex is within the most urbanized areas. About 50 to 85 percent of each delineation is open areas of Millhopper soils. These open areas are vacant lots or are used for gardens, lawns, parks or playgrounds. About 15 to 50 percent of each delineation is Urban land covered with buildings, streets, parking lots, sidewalks and other structures.

#### Zolfo Sand

This nearly level, somewhat poorly drained soil is on slight rises of the flatwoods and in the rather broad transitional areas between the rolling uplands of the western part of the county and the flatwoods of the eastern part. Slopes are nearly level and range from 0 to 2 percent. Areas are irregular in shape. Typically, the surface layer is dark gray sand about 8 inches thick. The subsurface layer is sand and extends to a depth of 60 inches. The Zolfo soil has a water table that is at a depth of 24 to 40 inches for 2 to 6 months during most years

#### Cultural and Passive Recreational Resources

NATL-west's primary use is as an outdoor teaching laboratory for many of the University's departments and Florida Museum of Natural History. Many academic uses are compatible with public access, others are not. Consequently, public access is limited to the northern half of NATL-west, including the five successional plots, the SEEP retention basin, and the northern portions of the upland pine and hammock ecosystems. All interested persons are encouraged to use the public area in any appropriate way and especially to learn from the academic kiosk and from the self-guided nature trails planned for the area. The public is invited to use the six tables in Natural Area Park for picnics, whereas the tables in the pavilion in the academic assembly area are reserved for academic uses. The southern half of NATL-west, including most of the upland pine and hammock ecosystems, is designated for academic use only. This protects these portions of the climax ecosystems from the harm of too much foot traffic and facilitates their use by classes and individuals for special projects.

## **Future Improvements**

The part of NATL-west that is north of Division Trail is considered a Nature Park, with the remainder considered an Academic Preserve. Teaching / research, public education and physical improvements are overseen by the Natural Area Advisory Committee (NAAC), which report to the Lakes Vegetation and Landscaping Committee. The NAAC has proposed a system of self-guided nature trails for the northern, public portion of NATL-west. Public access to these trails will generally be either from an entrance south of the Florida Museum of Natural History (Powell Hall) or from Natural Area Park, north of SEEP. The trails will also be easily accessed from the academic assembly area at the east gate. The trails will expose the visitor to hammock and restored and unrestored upland pine (forest ecosystems), five stages of old-field succession, an ephemeral pond, and SEEP, an ecologically engineered wetland that has a water-treatment forebay and permanent water--all within a 20-acre area. For a conceptual plan of the trail system, see <http://natl.ifas.ufl.edu/PubAreaPlan.jpg>. The plan includes a boardwalk and two observation platforms to provide public access to SEEP.

Planning the trail system was part of the development of the 2001 master plan for the UF Cultural Plaza (<http://natl.ifas.ufl.edu/CPmasterplan.htm>). A significant feature of the 2001 plan was an inviting entrance into NATL from between Powell Hall and the Phillips Center, with an open-air shelter for briefing groups prior to their entering NATL. The 2005 revision of the Cultural Plaza master plan retains such an entrance, with a shelter.

In the spring of 2005, NAAC recommended additional improvements for NATL-west (Please note that because CALM plans are updated only annually, NAAC may have modified its recommendations. For its current recommendations see <http://natl.ifas.ufl.edu/NATLrPlans.htm>). As in NATL-east, fencing is a concern to the committee and as such they have recommended that a six-foot-high chain-link fence be erected where vagrants are likely to enter and where NATL fronts on commercial establishments and apartment complexes. The boundaries that currently qualify are (1) SW 34th Street between the DPI compound and Regency Oaks, (2) the Regency Oaks apartment complex, (3) the Archer Woods Complex, and (4) the Classic Car Wash and Auto Insurance World properties. Additionally, the committee recommends that additional corral-type fencing be placed along the eastern boundary, where NATL-west's boundaries are visible from Natural Area/Surge Area Drive. This fencing along with new fencing across the road at NATL-east should help identify these two Conservation Areas as really being one larger system that is divided by a road. Finally, the committee notes that new field fencing will be needed to define the revised boundaries between NATL and the Surge Area.

Other NAAC recommendations for the boundaries of NATL-west are completion of a wax myrtle hedge to visually shield NATL from the DPI compound and erection of noise barriers adjacent to the Classic Carwash vacuum equipment and to the air-conditioning unit of DPI's fly-rearing facility. Additionally, a trash trap at the DOT drainage outfalls along 34<sup>th</sup> Street should be added.

A proposed improvement for NATL's Natural Area Park is to install signs that identify the 12 additional native species of trees recently planted there. Other committee recommendations are the installation of a weir at the SEEP in order to regulate water flow between the fore-bay and the remainder of the stormwater pond and the establishment of a secure place to store equipment for ongoing maintenance of NATL (tools, hose, sprayer, chain saw, chain-saw fuel and oil, and herbicides).

Maps on the following pages:

1. Aerial Photo

2. Water Resources
3. Natural Communities
4. Soils

Figure 14 -1

Natural Areas Teaching Lab  
Conservation Area

- Conservation Area
- Master Plan Boundary
- Creeks



0 75 150 300 450 Feet

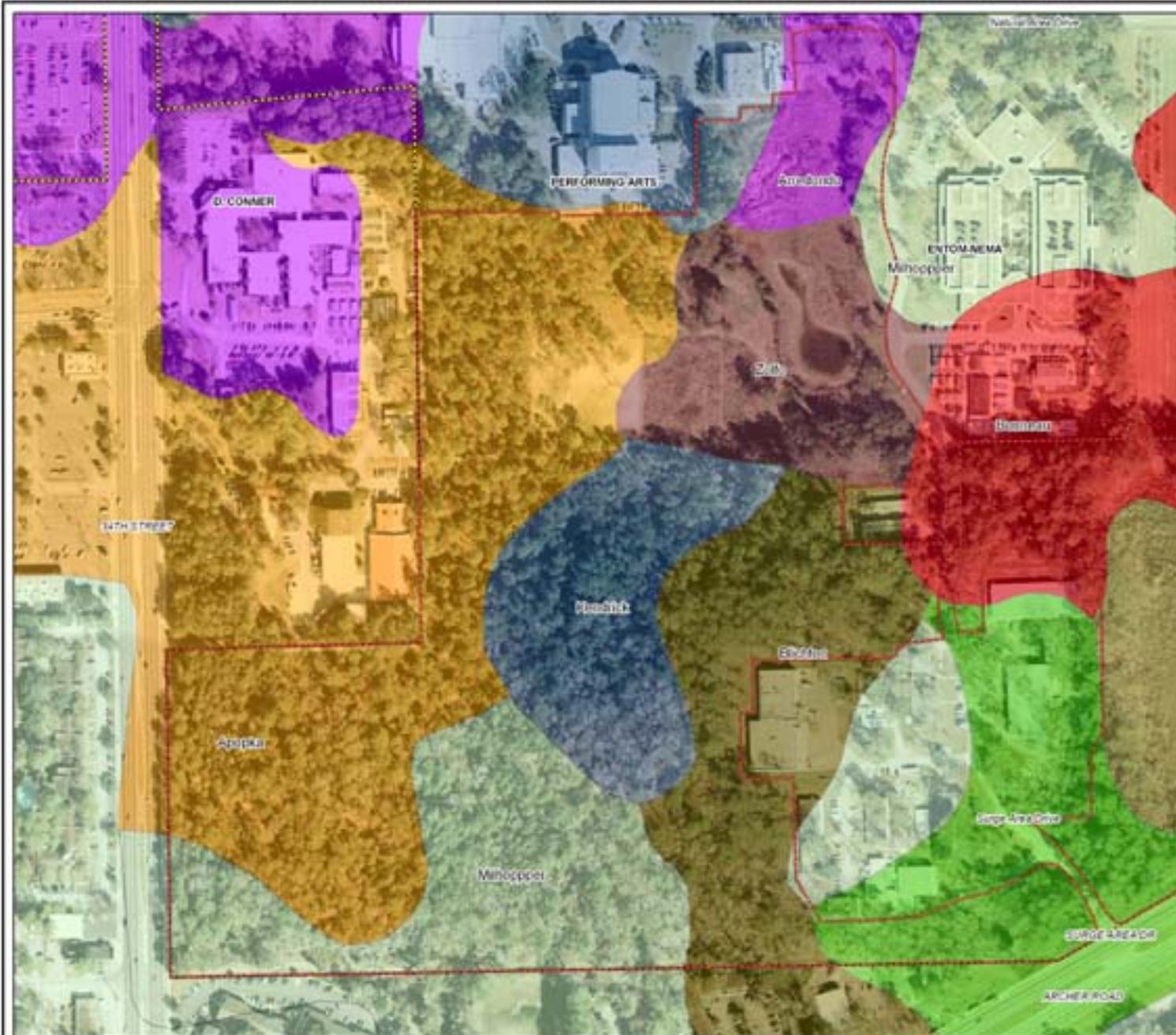
Facilities, Planning  
and Construction  
May 2005



This map is intended for planning purposes only.

Figure 14 - 2

Soils  
Natural Areas Teaching Lab  
Conservation Area



-  Conservation Area
-  Apopka
-  Arredondo
-  Blichton
-  Bonneau
-  Kendrick
-  Lochloosa
-  Mihopper
-  Monteocha
-  Zolfo
-  Master Plan Boundary



0 85 170 340 510 Feet

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Figure 14 - 3

Water Resources  
Natural Areas Teaching Lab (west)  
Conservation Area

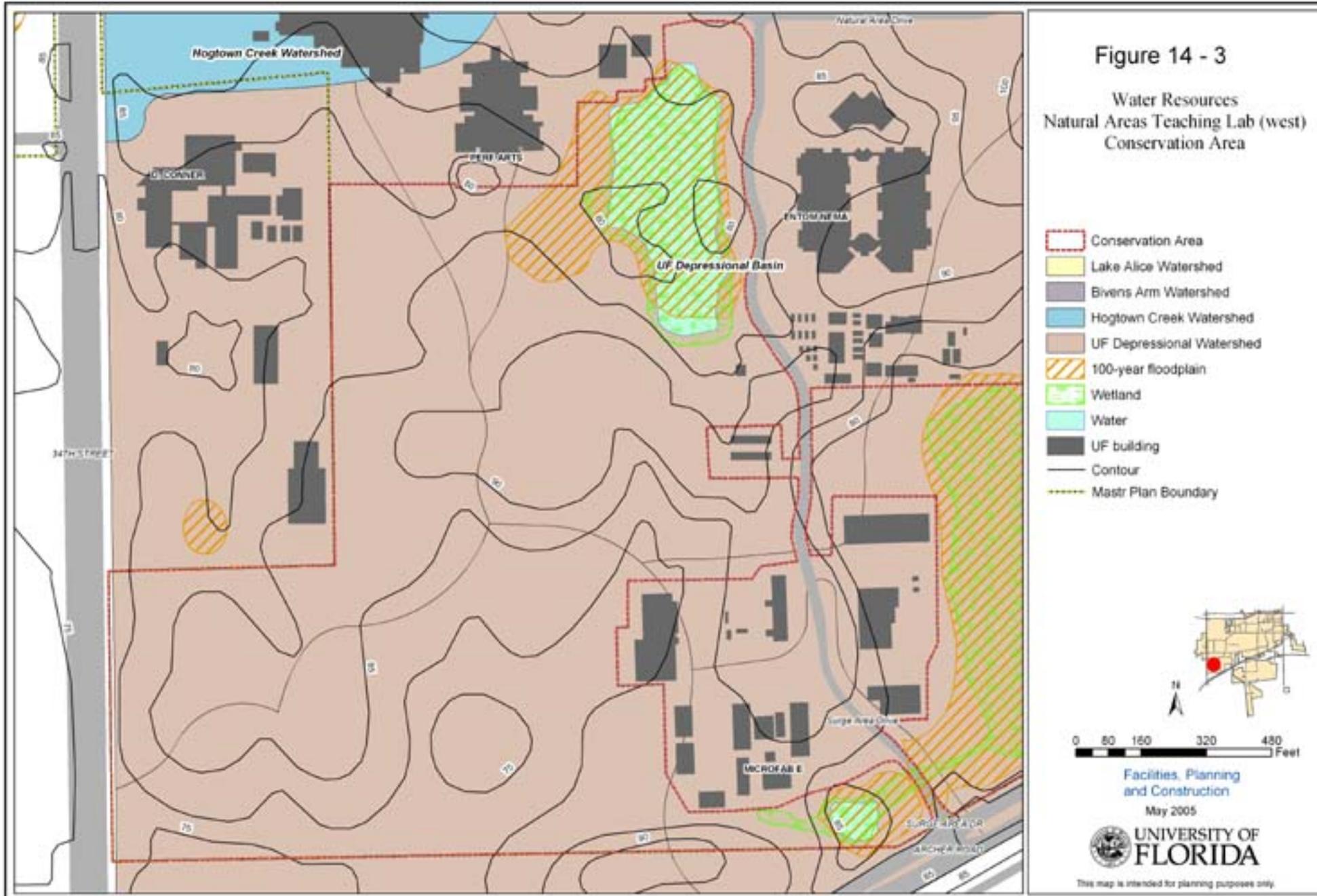


Figure 14 - 4

Natural Communities  
Natural Areas Teaching Lab (west)  
Conservation Area



-  Conservation Area
-  Pasture and Grass
-  Freshwater Marsh
-  Upland Mixed Forest
-  Mesic Flatwoods
-  Water
-  Bottomland Forest
-  Shrub Wetland - Basin Marsh
-  Emergent Aquatic - Marsh Lake
-  Urban
-  Utilities
-  Master Plan Boundary



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