

University of Florida Natural Area Teaching Laboratory (NATL) 1999-2000 Annual Report

During the 1999-2000 school year the Natural Area Advisory Committee consisted of Mark Brown (Environmental Engineering Sciences), Mark Clark (Wetlands Club), Donald W. Dickson (Entomology & Nematology), Donald A. Graetz (Soil and Water Science), Susan Jacobson (Wildlife Ecology & Conservation), Linda Jones (Teaching & Learning), Kaoru Kitajima (Botany), Doug Levey (Zoology), Alan J. Long (Forestry), Maria Minno (Florida Native Plant Society), Francis E. Putz (Botany), Marilyn Roberts (Florida Museum of Natural History), Clay W. Scherer (Entomology & Nematology Student Organization), Thomas J. Walker, ch. (Entomology & Nematology), Margaret Carr, ex officio (Lakes, Vegetation & Landscaping Committee).

The Committee met twice: 21 Oct. 1999 and 14 Apr 2000. Minutes are posted at <http://csssrrv.entnem.ufl.edu/~walker/natlmins.htm>. (Between meetings, business is conducted by e-mail.)

1. Academic uses of NATL documented

During Spring Semester all units that use NATL for academic purposes were surveyed as to their current and planned uses. Each of the eight departments and one school queried listed three or more course that used or planned to use NATL. Of the 76 courses listed, 53 had already used NATL. More than 2,500 students use NATL each year with the usage being divided among four colleges approximately as follows: Agriculture and Life Sciences, 47%; Arts and Sciences, 20%; Education, 20%; and Engineering, 13%. Academic uses of NATL other than for classes include student research projects of many types; special seminars, workshops, and short courses; and docent-led K-12 school groups. The complete report can be accessed at <http://csssrrv.entnem.ufl.edu/~walker/natluses.pdf>.

2. Plans for NATL's public area prepared

Because the public area of NATL is positioned to become an important adjunct to UF's Cultural Complex, the Natural Area Advisory Committee (NAAC) was invited to participate in the development of a Cultural Complex master plan. The conceptual plan developed by NAAC included a small park north of NATL's ecologically engineered retention pond (Stormwater Ecological Enhancement Project or SEEP). This "NATL Park" would provide a natural retreat from the more formal portions of the Cultural Complex, a place for school groups visiting the Florida Museum of Natural History or the Harn Museum to eat their lunches, and an entrance to the public areas of NATL. Other items in NAAC's conceptual plan were boardwalks for access to SEEP; nature trails for access to NATL's upland pine and hammock ecosystems and its successional plots; a pavilion for classes near NATL's academic entrance; and a pavilion for museum groups at the Powell Hall entrance to NATL. This fall a landscape architect will be hired to prepare a master plan for the Cultural Complex, including NATL's public area.

NAAC was helped in developing its conceptual plan by Anna Lee, a student in Landscape Architecture, who made detailed plans for NATL's public area as her senior project.

3. 34th Street berm completed

During Fall Semester, an earthen berm 710 ft long and 7 ft high was completed along NATL's western boundary south of the DPI compound. Valued trees within the footprint of the berm were protected from its effects by retaining walls constructed of cross ties. The berm removes the visual impact of SW 34th Street and blocks much of the noise. At completion, the berm was covered with straw and seeded with rye. It is now naturally vegetated and will remain so.

4. Security concerns addressed

The following actions were taken in response to a UPD analysis of potential security problems in NATL: (1) Managers of Regency Oaks and Archer Woods Apartments were contacted and acquainted with concerns about trash dumping and trespassing along NATL's south fence. Each agreed to distribute pamphlets describing NATL and its purposes to their residents. (2) Signs were posted at intervals on the south and 34th Street boundary fences identifying NATL and the proper place to enter it. (3) An emergency telephone was installed at NATL's east gate. (4) Safety precautions for users of NATL were formulated and posted on the east-gate kiosk.

5. Soil resources inventoried

Professors, staff, and students of the Soils and Water Science Department sampled the soil at each of NATL's grid points. Laboratory analyses of the samples are underway. Prof. Mary Collins completed a well-illustrated, 115-page draft of a "Detailed Inventory of Soil Resources" of NATL. The summary of the preliminary report and a soils map of NATL is at <http://csssrvr.entnem.ufl.edu/~walker/PSoilRpt.htm>. Dr. Collins concludes that "The complexity of the landscapes and associated soils should provide excellent opportunities for challenging research studies by students."

6. Grid system surveyed

The UF Student Geomatics Association precisely located and permanently marked all points in NATL's 50-meter grid. At the same time they made all the necessary measurements to locate, relative to the grid, NATL's boundaries and internal physical features. This fall, they will use these measurements to prepare a new, more accurate map of NATL.

7. Update of plant inventory begun

Dr. Daniel Ward has undertaken an update of NATL's plant inventory. Thus far he has identified 346 species of vascular plants and classified them by ecosystem and by their relative frequency in the ecosystem. His work has already added more than 100 species to the previous inventory. A preliminary version of the update is at <http://csssrvr.entnem.ufl.edu/~walker/plants.htm>.

8. South fence stabilized

NATL's south fence at Regency Oaks Apartments was in danger of falling northward because it had been installed on the brink of a steep slope. Using soil from a construction site, personnel from Physical Plant stabilized the fence by reducing the pitch of the slope and adding fill at the base of the slope.

9. Restoration of upland pine continued

On 4 February 2000, Dr. Alan Long directed a successful prescribed burn of the upland pine north of Division Trail. The burn team consisted of Long's class in Fire Natural Resource Management (FOR 3622) and personnel from Austin Cary Forest. Alachua County Fire and Rescue provided its brushfire truck with crew and one of its pumpers on Natural Area Drive as a backup. Shortly after the burn, all smoldering material was extinguished, and smoke caused no problems. During spring and summer volunteers continued to cut and girdle laurel oaks that are impeding the restoration. They started stacking logs from downed trees with the goal of burning the stacks to establish favorable places for transplanting longleaf pines and wire grass during the winter of 2000-01.

10. Stormwater Ecological Enhancement Project (SEEP) enhanced

The Wetlands Club installed a station for recording water levels in SEEP's forebay. To access the station and to stop foot traffic from degrading the berm that defines the forebay, they built a narrow, restricted-access boardwalk on the east half of the berm.

Dr. K. R. Reddy used a \$3,000 minigrant from the College of Agriculture and Life Sciences to purchase equipment to monitor SEEP water levels to enable students in his wetland biogeochemistry courses (SOS 4242 and SOS 6448) to begin long-term monitoring of SEEP water chemistry

A six-foot female alligator made SEEP its home and nested in the low area east of the Performing Arts Center. She produced six young that survived at least seven months. During the low water period in late spring of 2000, without consulting the Advisory Committee, University Police Department personnel relocated the female and her six yearlings to Lake Alice.

11. Preparation of old-field-succession plots continued

Plot C, a 40-year rotation plot, was readied for its start in fall 2000. Logs from clearing the plot were burned and stumps were bulldozed. Clay that had been dumped on the eastern two-thirds of the plot in the 1960's was partially excavated to use on the 34th Street berm and was replaced with soil from new dormitories under construction west of Lake Alice.

Plot A, a 10-year rotation plot to be started in 2002, was partially cleared. Physical Plant Division removed piles of building debris from the plot's north third.

Plot B, a 1- or 2-year rotation plot, was partially cleared and some of its remaining trees girdled.

12. Invasive plants battled

Mimosas along the 34th Street and south fences were cut and the stumps treated with Garlon. Chinese tallows near Regency Oaks Apartments were similarly treated. Roundup was sprayed on patches of cogon grass, johnson grass, elephant grass, climbing tree fern, and air potato. In a project headed by Dr. Kaoru Kitajima, approximately 2000 *Ardisia crenata* plants were removed from the H grid squares in NATL's hammock ecosystem.

13. Student projects proposed and completed

Greg Pryor, working toward his Ph.D. in the Zoology Department, received approval to use NATL in a project entitled "The nutritional value of plants and microbes to anuran larvae.

Karen Oven received approval for a Wetland Wildlife Honors project to study the occurrence of tree frogs in SEEP and adjacent pineland.

Stephanie Romanach, Zoology Department, published, with D. J. Levey, the results of study at NATL: "An experimental test of the predator satiation hypothesis: at what level might it apply?", *Florida Scientist* 63(1): 1-7, 2000.

14. NATL made the news

These stories appeared in the local press and helped inform the public and the UF community about NATL:

10 Nov. 1999. "Southwest Corner of Campus is Home to UF's Natural Area Teaching Laboratory." *Alligator, University of Florida Digest*; article describing the plan, the progress, and the prospects of NATL, with two photographs and a map.

5 Feb. 2000. "Burning to survive. Controlled fire helps preserve native pine." *Gainesville Sun*, page 1B; article describing NATL's prescribed burn, with two photographs.

15. Committee membership changed and new Chair elected

Maria Minno resigned from the committee in January. Linda Jones (Teaching & Learning, College of Education) joined the committee in March, and Carol M. Stiles (Plant Pathology) joined in May. At the Spring Semester meeting Don Dickson (Entomology & Nematology) was elected Chair for 2000-2001.