

Fall 2012 meeting of the Natural Area Advisory Committee

20 September 2012, NATL academic pavilion, 4:10 - 5:00 pm

Recorded by Lary Reeves and Amanda Abel

In attendance:

Amanda Abel (NATL Graduate TA)

Mark Clark (Soil and Water Science)

Jaret Daniels (FLMNH)

Jennifer Gillett-Kaufman (Entomology & Nematology Department)

Chris Holderman (Entomology & Nematology Department)

Absentee ballot sent in by Linda Jones (Education)

Erik Lewis (Facilities Planning and Construction)

Jack Putz (Biology Department)

Lary Reeves (NATL Graduate TA)

Beverly Sensbach (FLMNH)

Katie Sieving (WEC)

Jason Smith (LVL)

Tom Walker (Friend of NATL, Entomology & Nematology Department)

4:10 PM

1) Fiscal report for FY 2011-2012 (Jennifer Gillett-Kaufman)

The 2011-12 NATL Fiscal Plan and Report is attached as Appendix 1.

2) Fiscal plan FY 2012-2013 (Jennifer)

Attending NAAC members approved using the 2012-2013 spending plan as the basis for spending decisions between 1 July 2012 and the Fall 2013 NAAC Meeting. The 2012-13 NATL Fiscal Plan is attached as Appendix 2. Funds budgeted for controlled burns shifted towards lump sum under "upland pine restoration."

3) Possible capital improvements and funding sources (Jennifer)

The Natural Area currently has approximately \$2000 available to initiate capital improvements. These improvements seek to enhance in-person access, institute remote access and online interaction and bolster the research and teaching usage of NATL. For a detailed outline of the Long Range NATL Wish List, see Appendix 3. Wish List items include installing utilities (electricity and water) at the NATL Pavilion and shed, obtaining all-terrain wheel chairs and installing binocular stands. Beverly Sensbach and Jack Putz agreed to explore possibilities for obtaining utilities. Erick Lewis brought up the possibility of receiving funding for sand wheelchairs through UF disabled students organizations and will contact potential sources of funding.

4) Introduce new graduate TA – Amanda Abel (Katie Sieving)

NATL's new graduate assistant started this fall semester and has been busy working on creating a pavilion reservation system, learning Dreamweaver (so she can update the website and add new pages), setting up a chainsaw certification class, updating the 100 meter grid point markers with new metal and pvc pipe flag holders, maintaining the boardwalk, posting on Facebook, and participating in volunteer days such as Gator Plunge and Ask a Scientist Day at the Museum of Natural History.

5) Website revision review (Jennifer)

Tom Barnash has recently completed a much-needed revision to the Natural Area Teaching Lab website. The revised website went online at the beginning of the fall semester. This revision was completed at a cost of \$400, which was covered by the endowment sent up by Tom Walker to provide the NATL-Chair with a financial incentive during their time of service. Suggestions for further improving the site include increasing font size on the homepage, simplifying the home page to make it more public-friendly and adding a virtual tour.

6) DIY Campus Eco-Art (Jennifer)

During the Summer B semester, Jennifer Gillett-Kaufman co-taught the course DIY Eco-Art with an instructor from the Harn Museum, which produced three works of ecologically friendly art in the Natural Area. To support the course, the provost supplied funding for art supplies, as well as items used in the course, but beneficial to NATL. These items include sign-holders, work gloves and pruners.

7) NATL pavilion scheduling (Amanda Abel)

Guidelines to reserving NATL and calendar pages were printed on waterproof paper, put in a plastic sleeve, and posted in the pavilion. The guidelines ask people to include information such as course name or organization, number of individuals attending, start and finish time, contact email, and note if the group will be using the pavilion (P), natural area park (NAP), and/or touring (T). This reservation system will provide information to present to the provost such as which departments and how many people are using NATL. Amanda has created a google calendar and new website page so people can sign up online as well. The page should be online shortly. It was suggested at the meeting that if a department uses NATL heavily, they could be asked for funding.

8) NATL use report (Lary Reeves)

TrailMaster summary (Lary): To measure the volume of visitors NATL receives, TrailMaster units are installed at the three primary entrances to the Natural Area. The first unit (Cultural Plaza) was installed in 2010. The most recent unit was installed April 2012. Despite initial difficulties, the TrailMaster units have provided useful data since December 2010. Since then, the units have logged more than 21,000 visitors to the Natural Area (however, this is likely a substantial underestimate because of the staggered installation times of the units). For details and summarized data, see Appendix 4.

Groups and events: In 2012 the Florida Museum of Natural History, Department of Entomology and Nematology and Wetlands Club have been responsible for hosting events and activities at the Natural Area that have brought more than 1000 additional visitors to the Natural Area. Many of these visitors consist of members of the greater Gainesville community, in particular K-12 school groups. See Appendix 4 for details.

Volunteer update: Thus far in 2012, NATL has hosted a number of volunteer events. Combined, these events have brought 57 volunteers to NATL who have worked just under 700 hours on projects such as Coral Ardisia and other invasive control, trash removal and vine clearing. Several long-term volunteers have dedicated 135 hours to projects in the Natural Area. In addition, NATL super volunteers Tom Walker and Ken Prestwich have donated more than 430 hours of their time to NATL. For details see Appendix 4.

9) Minigrant update (Jennifer)

In March 2012, NATL awarded a minigrant to Brittany Gryzabowski to survey and improve accuracy NATL's herpetological inventory. A final report of the findings of the survey is available on NATL's website (http://natl.ifas.ufl.edu/docs/Herp_Inventory_Report_2012.pdf).

10) Old-field plot update (Tom Walker)

Plot A, a ten-year plot and the southwest side of Plot B, a one-year plot were scheduled to be restarted this year. The restart of Plot A has required a significant amount of effort to remove all plants that have become established over the past ten years (excluding the legacy longleaf pines). The restart is currently ongoing and set to be completed by the end of the year. Plot B is bisected by the Old Field Nature Trail. Either side of the trail is restarted each year on an alternating schedule. This year, the southwest side of Plot B was scheduled to be restarted. The restart was completed earlier this month. For more information, see Appendix 5.

11) Boardwalk concerns (Lary)

In June 2012, following Tropical Storm Debby, the SEEP boardwalk was submerged for approximately two weeks. As a result, the boardwalk became slippery with algae and some boards showed signs of warping. Through conversations with Mark Clark and Payne's Prairie State Park it was agreed that the best course of action would be to remain vigilant as the boardwalk ages and close the area during times of high water or when the boardwalk remains slippery. It was discussed that temporary gates could be erected at both boardwalk entrances so we could lock-out pedestrians when the boardwalk is deemed unsafe.

12) Nature trail update (Lary)

Since the Spring NAAC Meeting, major improvements to NATL's four nature trails include the installation of a 2x3' ant lion sign near the Old Field trailhead and the addition of 72 new permanent 5x4" signs printed by Color Reflections. In addition, Tropical Storm Debby, prescribed fire and the restart of Plot A have affected (temporarily closed or rerouted) the SEEP, Upland Pine or Old Field Nature Trails, respectively.

13) Bike rack, owl box, Facebook and Twitter updates (Lary)

- a. **Bike rack:** In January 2012, PPD donated a bike rack to NATL which is in place near the NATL Pavilion. During summer 2012, PPD donated a second bike rack that was installed at the Natural Area Park.
- b. **Owl box:** In April 2012, Lary Reeves and Charlotte Loomis installed a barn owl box in an Old Field longleaf pine along the Main Trail.
- c. **Facebook and Twitter updates:** NATL's Facebook page currently has 311 "likes" by the general public and numerous followers who are public and private organizations, while the Twitter account has 196 followers

14) Invasives update (Tom)

Control of invasive plant species continues to be a high priority at the Natural Area. Much progress has been made in controlling invasive plants, including significant reductions in populations of coral ardisia, skunkvine, air potato and cogongrass. The current classification and status of NATL's invasive plant species is attached as Appendix 6.

15) Restoration of upland pine (Tom)

NATL's Upland Pine habitat is divided between five blocks, A-E. In April 2012, Block B and most of Block A were burned. We hope to burn Blocks C, D and E in the near future. Also in

April of this year, a 1.2 acre demo plot was established in Block D to test restoration strategies. For additional details, see Appendix 7.

16) Next NAAC meeting date and time. Proposed 4:00, Thursday April 18, 2013

Attending members unanimously approved 4:00 PM on Thursday, 18 April 2013 as the date and time of the Spring NAAC Meeting.

5:00 PM Meeting adjourns

Appendix 1

NATL Fiscal Plan for FY 2011-12		[reformatted here]	Final Fiscal Report for FY 2011-12	
Approved by NAAC and LVL, fall 2011				
Funds available for 2011-12, excluding stipends for Graduate TAs*.				
Brought forward from 2010-11		\$ 178		\$ 178
				\$ 200
				\$ 1,150
				Found in Lowe's blanket PO
				Correction of a 3-yr delay in an endowment payment!
Projected income for 2011-12				
Provost	\$ 6,000		\$ 6,000	
NATL endowment	\$ 4,560		\$ 4,626	
	Sum	\$ 10,560		\$ 10,626
	Grand Total		\$ 10,738	\$ 12,154
Spending plan for 2011-12				
Personnel				
Undergraduate TA	\$ 3,010		\$ 4,590	Experienced undergrads (Elizabeth Wells, Ethan Carter)
Control of invasives	\$ 2,640		\$ 2,640	Invasive specialist (Ethan Carter)
	Sum	\$ 5,650		\$ 7,230
Other spending				
Miscellaneous expenses	\$ 2,000		\$ 1,835	
3000 wiregrass plugs	\$ 900		\$ 900	
2000 NT fliers	\$ 270		\$ 474	
People counter for NAP entrance	\$ 300		\$ 300	
Controlled burn of upland pine	\$ 600		none	Outside burn master could not be hired
2 minigrants @\$500 each	\$ 1,000		\$ 500	Money thought to be needed elsewhere
	Sum	\$ 5,070		\$ 4,009
	Grand Total		\$ 10,720	\$ 11,238
To be carried forward		\$ 18		\$ 916
				Could have been negative except for \$1150 windfall!
Online donations to NATL (implemented March 2012)				
				\$ 921
				To be used to encourage others to contribute to projects for major improvements in NATL
* The Provost and the CALS Dean will each pay the stipend for a NATL Graduate Teaching Assistant				

Appendix 2

NATL Fiscal Plan for FY 2012-13				Comments
Funds available for 2012-13, excluding stipends and tuition for Graduate TAs*.				
Brought forward from 2011-12		\$ 916		Made possible by the correction of a 3-yr delay in an endowment payment!
Projected income for 2012-13				
Provost	\$ 6,000			Transfer completed
NATL endowment	\$ 4,625			August 2012 estimate for 2012-2013 by Florida Foundation
Sum		\$ 10,625		
Grand Total			\$11,541	
Spending plan for 2012-13				
Personnel				
Undergraduate TA	\$ 4,322			Experienced help, 8 hrs/week (does most of routine maintenance of nature trails)
Control of invasives	\$ 2,640			Invasive specialist, 4 hrs/week
Sum		\$ 6,962		
Other spending				
Miscellaneous expenses	\$ 2,200			
Upland pine restoration	\$ 900			Continues efforts to restore 13 acres of longleaf pine ecosystem
2000 NT fliers	\$ 479			Based on last year's price
2 minigrants @\$500 each	\$ 1,000			Program attracts student proposals to fulfill NATL needs
Sum		\$ 4,579		
Grand Total			\$11,541	
To be carried forward			\$0	
NATL improvement fund (from online donations)				
Brought forward from 2011-12		\$ 921		
* The Provost and the CALS Dean will each pay the stipend for a NATL Graduate Teaching Assistant				

Appendix 3

The following items were discussed and compiled by the NATL Operations Committee and modified based on a week's discussion by NAAC members. Some items have an associated web link that is an example of the item described.

Long Range NATL Wish List: 2011-2021 Vision Plan

We recognize that NATL already has tremendous value to the local UF community. This Vision Plan seeks to strengthen and enhance these indigenous values of NATL and, in addition, provide mechanisms for bringing the educational values of NATL to an unlimited online environmental community of users. We present the plan in the form of a two-part outline of infrastructure and other developments, focusing on both in-person and online users of NATL.

This list is not static; additional items may be added to the list. Items will be removed from the list if more than half of NAAC members feel that the item would not enhance the use of NATL. Funding for items could come from donations to the UFF on behalf of NATL or by writing specific items into future grant proposals.

A. Enhancing in-person access

- ~~1. Bike parking areas at each primary NATL entrance.~~ **Completed 2012**
2. Extend 110v AC to the pavilion and the NATL shed (two weather proof duplex outlets at the pavilion and hook up the wiring that came with the prefab storage shed). Acquire a portable projector screen available for use in the NATL Pavilion.
3. Extend potable water service to the pavilion area to provide access to water for drinking, bottle filling, hand washing, and class-related low-volume uses. This could include a sink and associated drainboard if restraints on cost, design, and context are met.
4. Two or more locking cupboards for class use (to reduce the risk associated with students leaving valuables unattended in the pavilion during class time). (Design and placement not yet considered.)
5. Natural Area Park water fountain. (Design and placement not yet considered.)
6. Dog waste sanitation stations: Signs about dogs on leashes and picking up of animal waste at three main entrances with bags for waste disposal. (Dogipot 1003-L Pet Waste Station Kit) [LINK](#)
7. Sand wheel wheelchairs (1-5) and storage area. [LINK](#)
8. Additional seating areas at NATL Park and along NATL trails. (If the UF Foundation approves the plan, donors might pay enough for benches with commemorative inscriptions to fund other items on this wish list). [LINK](#).
9. Binoculars on a permanent stand that are attached to or near the boardwalk for wildlife viewing. (If the UF Foundation approves the idea, donors might pay enough for binoculars with commemorative inscriptions to fund other items on this wish list.) (Barska® 40x100 mm Blueline Jumbo Waterproof Binoculars and Stand). [LINK](#)
10. Add a classroom and/or lab building to facilitate NATL use. To avoid using land in the NATL-west Conservation Area, the building might best be situated on an out-parcel south of the pavilion. (A representative of the UF Foundation believes NATL might attract a donation of \$1 million or more. Having a plan for using such a donation might help the donor decide to make it.

An alternative plan for using such a donation would be to set up an endowment for the benefit of NATL.)

B. Instituting remote access (and security) and real-time online interaction with NATL

1. ~~Update the look of the NATL website while improving its usefulness as a distance natural laboratory. This change will maintain the historical information on the website now; it will not be lost in the change just repackaged.~~ **Completed 2012.** Website additions could include a NATL "virtual collection"/species inventory with photos and audio recordings of sounds such as resident bird, frog and insect calls for groups interested in taking virtual field trips.
2. Complete and enhance Wi-Fi coverage in NATL.-With this, we could lead live tours of NATL using camera abilities built into iPads and other electronic devices. This would allow teachers and students the ability to direct the tour by asking their NATL tour guide to zoom in on subjects of interest. This would be a wonderful opportunity for our students in the ecotourism track to lead tours for students around the world.
3. Install webcams in NATL at carefully selected venues. These cameras could be used by researchers studying animal behavior in NATL as well as giving access to NATL to teachers in their classrooms. Example of broadcasts: [LINK](#)
4. Six additional people-counting devices for gathering data on trail usage.
5. In partnership with FLMNH, develop a program using an interactive whiteboard (e.g., SMART board) to use digital material from NATL to involve K-12 students in learning about ecological concepts and problems. Including grade-level specific, standards-based curriculum materials (field investigation activities) that can be implemented as part of school field trips or summer enrichment programs. Make available as downloadable files for use by home schooled children, scout groups and others.

C. Enhancing the research and teaching usage of NATL

\$10,000 a year instituting a seed money grant program (\$500-\$5,000 grants) to foster data collection, proposal submissions and distance curriculum development utilizing NATL. Distance curriculum developed using seed grant funding would be made freely available on the NATL website. \$1,000 per year earmarked for a grant that would support one or more citizen science projects in NATL. Citizen science projects could fund some NATL specific ideas as well as support the partnership of NATL with national initiatives.

Estimated costs of items on wish list			
		Estimated cost	
A. Enhancing in-person access			
		low	high
1	Bike parking areas DONE!	\$3,600	
2	Extend 110v AC, projector screen	\$5,250	
3	Potable water service to pavilion	\$5,000	
4	Locking cupboards or trunks	\$2,000	
5	Water Fountain in NATL Park	\$5,000	
6	Dog waste stations, signs and bags	\$1,200	
7	Sand wheel wheelchairs	\$5,000	\$25,000
10	Classroom space or endowment	\$120,000	\$2,000,000
	Potential fund raisers	Cost each	Donation each
8	Benches in NATL	\$1,200	\$10,000
9	Binoculars on a permanent stand	\$3,000	\$15,000
B. Instituting remote access (and security) and real-time online interaction with NATL			
		low	high
1	Updating NATL website DONE!	\$5,000	\$20,000
2	WiFi	\$20,000	\$60,000
3	Webcams	\$15,000	\$25,000
4	People-counting units	\$3,500	
5	K-12 smartboard NATL program	\$8,000	
C. Enhancing the research and teaching usage of NATL			
	Seed money grant program	\$1,000	\$10,000

Appendix 4

NATL use and volunteer update

A. People Counter Summary: Three TrailMaster units are installed at NATL's Academic, Cultural Plaza and Natural Area Park (NAP) Entrances. These units measure NATL usage by counting the number of people passing through (entering or exiting) each of the three entrances. The Cultural Plaza Entrance has had a TrailMaster installed since July 2010, however initial technical difficulties yielded unreliable data in the first few months. Subsequently, two additional units were installed at the Academic Entrance (June 2011) and Natural Area Park Entrance (April 2012). Figure 1 summarizes information collected by the TrailMaster units in 2012. The high number of counts (>3000) logged at the Cultural Plaza Entrance in April is largely the result of FLMNH's Earth Day event, which brought at least 240 visitors to the Natural Area. With the exception of April, the unit at the Academic Entrance consistently logged the most visitors so far in 2012, likely a reflection of classes using the NATL Pavilion as a meeting or teaching area. Figure 2 summarizes all reliable information gathered by the TrailMaster units since December 2010. Because most NATL visitors are counted twice (as they enter and exit), all counts are divided by two in order to estimate the number of visitors NATL receives. Information gathered by the TrailMaster units since December 2010 generates an estimate of 21,327 visitors to the Natural Area since then. However, this is likely an underestimate because the three units were not installed concomitantly.

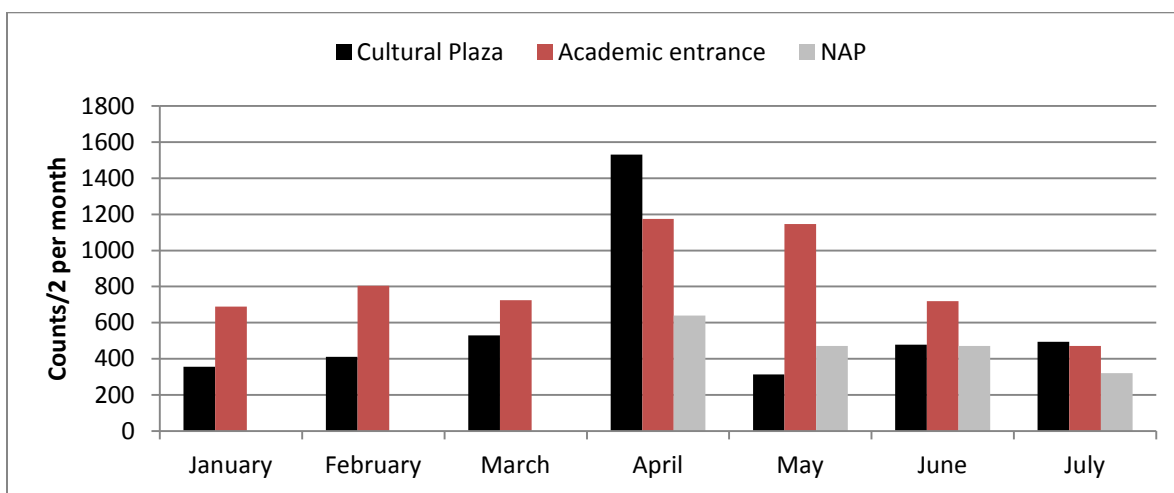


Figure 1. Summary of TrailMaster counts for 2012 at the Cultural Plaza, Academic and NAP entrances (all numbers are TrailMaster counts/2 because most users are counted twice, as they enter and exit).

		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
CP	2010												324	324
	2011	465	457	528	636	428	422	686	527	283	366	330	300	5424
	2012	356	412	529	1532	313	478	494						4111
Acad	2011						676	533	549	835	916	558	346	4410
	2012	689	804	725	1175	573	720	472						5156
NAP	2012				639	471	472	321						1903
												Grand total		21327

Figure 2. Summary of NATL usage estimates via TrailMaster counts (all numbers are TrailMaster counts/2 because most users are counted twice, as they enter and exit).

B. NATL Use: NATL provides an accessible outdoor classroom to the University of Florida as well as the broader community. So far in 2012, NATL has hosted more than 843 students and members of the general public from outside the University of Florida campus. These users come to NATL via programs offered by a variety of organizations, including the Wetlands Club, Florida Museum of Natural History and the Dept. of Entomology and Nematology. These programs utilize NATL's ecosystems, managed habitat and interpretive trails to educate participants on Florida's biota and ecosystems. Table 1 summarizes the educational programs that have been conducted in the Natural Area between January and August 2012.

Organization	Activity	Date	Participants	Number
Wetlands Club	Wetlands education day	January	Local 4 th graders	90
FLMNH	Spring break camp	April	K-5th	18
FLMNH	Earth Day BioBlitz	April	General public	238
Dept. of Entomology	Entomology Summer Camp	June	Middle school	25
FLMNH	Summer camp	June	K-5th	213
FLMNH	Summer camp	July	K-5th	259
Dept. of Entomology	Outreach	Jan.-Aug.	K-12	345
			Total	1188

Table 1. Summary of educational programs utilizing NATL in 2012

C. Volunteer update: In 2012 NATL has host several volunteer events as well as four highly skilled long term volunteers. This spring, NATL participated in two campus-wide volunteer events – the Martin Luther King Day of Service and the All-Greek Service Day. Combined, these events brought 44 volunteers to the Natural Area who helped control garbage and vines. In addition, volunteer groups have also contributed significantly to NATL’s efforts to eliminate invasive plants. Two groups led by Sarah Allred and Lary Reeves assisted in locating remaining Coral Ardisia plants and a group led by Michael Bainum and Lary, with assistance from Dr. Mark Clark, searched SEEP for invasives. Table 2 summarizes the number of volunteers and hours put in to the Natural Area for 2012. Several long-term volunteers have also dedicated many hours to the Natural Area and have assisted on various projects such as invasive removal, plant inventories, nature trail maintenance and tree data verification. Together, these volunteers have put in 136 hours to improving the Natural Area (Table 3).

Super volunteer update: NATL is very appreciative of its two super volunteers, Tom Walker and Ken Prestwich, who have each contributed 331 and 102.5 hours, respectively. Super volunteer total: 433.5 hours.

Month	Event	Volunteers	Hours
January	MLK Day of Service	13	17.3
February	Ardisia control day	4	8.5
March	Ardisia control day	4	9
April	All-Greek Day of Service	31	47.5
June	Invasive control day	5	8.7
Total		57	91

Table 2. 2012 Volunteer summary

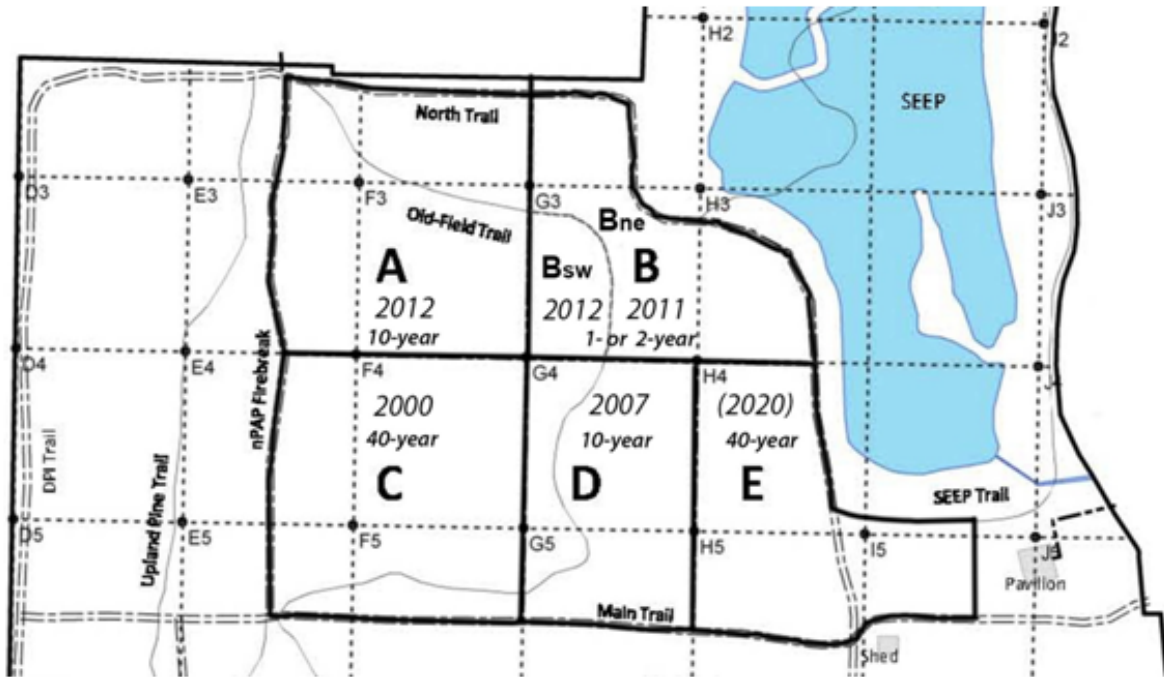
Volunteer	Hours
Sarah Allred	40.5
Michael Bainum	41
Sam Hart	35.75
Morgan Conn	18.5
Total	135.75

Table 3. 2012 long-term volunteer summary

Appendix 5

Status of NATL's old-field plots

Details are at <http://natl.ifas.ufl.edu/ecosystems/old-fieldsuccession.php>



Plot A: This 10-year-rotation plot is being re-started this year. The goal is to kill or remove all woody plants that managed to become established during the previous decade. Trees that had established were identified, measured, and mapped and then bush-hogged or removed. PPD has tilled the plot three times since then and will do so at least once more before the end of the year. Ethan Carter has applied herbicides to woody hardwoods and vines at the bases of the legacy longleaf pines and to root sprouts anywhere on the plot.

Plot B: The large, northeastern portion of this plot was restarted in November, 2011, whereas the small portion southeast of the OF Nature Trail was re-started in September, 2012. The larger portion will be re-started again in spring 2013 to provide users of the OF Nature trail a comparison of the initial invaders of cultivated fields let lie fallow in spring and in fall.

Plot C: Initially started in 2000; 28 years to go.

Plot D: This plot, re-started five years ago, is more than 80% covered with a deep layer of waste clay dug from campus construction sites. Other OF plots have deep clay on 5 to 60% of their areas

Plot E: This 40-year-rotation plot is scheduled for its first start in 2020.

Appendix 6

New classification of NATL's invasive plants

T.J. Walker and Ethan Carter, July 2012

Major threat and currently controlled (try to eradicate)

Cogongrass	<i>Imperata cylindrica</i>
Skunkvine (0.8)*	<i>Paederia foetida</i>
Coral ardisia	<i>Ardisia crenata</i>
Air potato	<i>Dioscorea bulbifera</i>
Japanese climbing fern	<i>Lygodium japonicum</i>
Cat's claw	<i>Macfadyena unguis-cati</i>

Major threat and currently a problem (try to reduce)

Guineagrass	<i>Panicum maximum</i>
Johnsongrass	<i>Sorghum halepense</i>
Mimosa	<i>Albizia julibrissin</i>

Minor threat and currently controlled (try to eradicate)

Arrowhead vine	<i>Syngonium podophyllum</i>
White leadtree	<i>Leucaena leucocephala</i>
Chinese tallowtree	<i>Sapium sebiferum</i>
Camphortree	<i>Cinnamomum camphora</i>
Paper mulberry	<i>Broussonetia papyrifera</i>
Chinaberry tree	<i>Melia azedarach</i>
Negundo chastetree	<i>Vitex negundo</i>
Glossy privet	<i>Ligustrum lucidum</i>
Loquat	<i>Eriobotrya japonica</i>
Lantana	<i>Lantana camara</i>

Minor threat and highly localized (try to eradicate)

English ivy	<i>Hedera helix</i>
Japanese jasmine	<i>Jasimum mesnyi</i>

Nominated but of uncertain invasive potential in NATL (evaluate threat)

Japanese honeysuckle	<i>Lonicera japonica</i>
Silverthorn	<i>Elaeagnus pungens</i>
Wild taro	<i>Colocasia esculenta</i>

SEEP Species (responsibility of Wetlands Club)

Torpedograss	<i>Panicum repens</i>
Peruvian primrosewillow	<i>Ludwigia peruviana</i>
Parrot feather	<i>Myriophyllum aquaticum</i>

Definitions

Eradicated = not identified in NATL for 3 or more years.

*(n) = number of years since last identified in NATL.

Appendix 7

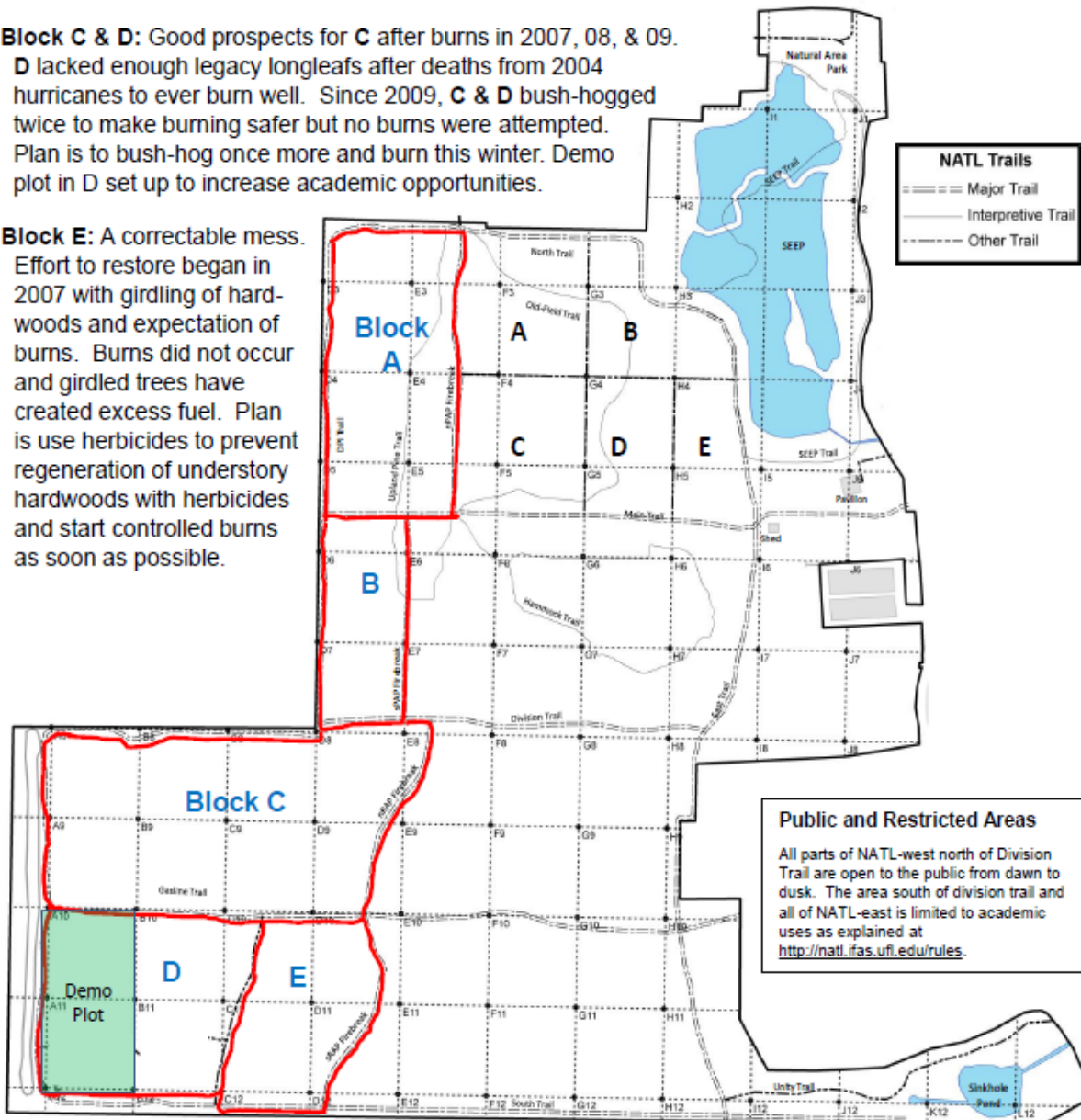
Restoration status of NATL's upland pine ecosystem

Details are at <http://natl.ifas.ufl.edu/ecosystems/uplandpine.php>

Blocks A & B: Going well! Burned 11 times since 1996; hardwood understory eliminated; missing age classes of longleaf pines partly restored; natural regeneration resumed with 2005 seed crop with eight seedlings completing the grass stage and now in the rocket stage.

Block C & D: Good prospects for C after burns in 2007, 08, & 09. D lacked enough legacy longleafs after deaths from 2004 hurricanes to ever burn well. Since 2009, C & D bush-hogged twice to make burning safer but no burns were attempted. Plan is to bush-hog once more and burn this winter. Demo plot in D set up to increase academic opportunities.

Block E: A correctable mess. Effort to restore began in 2007 with girdling of hardwoods and expectation of burns. Burns did not occur and girdled trees have created excess fuel. Plan is use herbicides to prevent regeneration of understory hardwoods with herbicides and start controlled burns as soon as possible.



Grid surveyed by
 UF Student Geomatics Assoc.
 Map created by
 Robert Guggenheim -May 2010

