

Green Fund Project Final Report

This report may be published on the SIU sustainability website.

Name of person(s) completing report: Charles M. Ruffner, Laura Anz

Department: Forestry

Contact Phone and email address: 618-453-7469 ruffner@siu.edu

Project Title: Developing a Land Management Plan for Touch of Nature Environmental Center

Project ID #: 16SP106

Award Date: 4/22/2016

Completion Date: 8/15/2018

Total Funds Used: \$27,000.00

A. Provide a summary of your project.

This initial Green Fund grant provided our group with the support to plan and conduct a broad resource inventory of each management unit of Touch of Nature Environmental Center (TONEC). This inventory entailed over 300 forest inventory plots, processing and aging nearly 200 tree cores or cookies, 100s of hours on GIS mapping each vegetation unit, tracing its cutting history, and sampling for invasive species over 3200 acres of TONEC properties in Jackson and Union Counties. This endeavor has yielded a broad, yet deep, look at the wonderful natural resources entrusted to the managers of TONEC (Figure 1).

For this project we proposed to “develop a GIS database recording a field inventory of TONEC resources and ongoing program land-uses, as well as assessing and documenting University Management Objectives” and now look forward to completing the long-term project by writing the 10 year Land Management Plan based on the Management Objectives listed below (please see our recently funded, Phase II proposal #18SP103 for more details). To date, our research team (led by faculty members Ruffner and Holzmueller, with graduate students Leah Harper and Ashley Bergman, as well as undergraduate research associates Jeremy Schumacher, Katlyn Rasche, and Casey Fuson) has collated and summarized the forest inventory data (Figure 2) and developed stand and stock tables describing in detail, the forest conditions and we are well on our way towards defining our desired future conditions, followed up by treatment or development plans for each management unit.

In our budget (hereby attached) we feel we have shown an expeditious use of the funding to date which reflects well on the spirit of sustainably using Green Funds for undergraduate and graduate research and professional development as well as fostering the sustainable management of our landed natural resources based on these stated objectives.

The Management Objectives of this project are to:

1. Increase our knowledge of the forest conditions and uses of the land at TONEC at Southern Illinois University and translate them to the wider academic and public community through management workshops for SIUC students, local school groups and youth camps, as well as regional elder hostels.
2. Enhance the ecological integrity, health, and diversity of TONEC in a long-term management projection to ensure continued access for future students, researchers, and teachers from the local community.

3. Increase white-tailed deer hunting opportunities for SIUC veterans, students, and faculty at TONEC to increase habitat quality and variety across the TONEC system.
4. Improve the delivery of outdoor recreation and natural resource based education to our students, veterans, regional guests, and intergenerational community members.
5. Increase outreach to recreational hikers and bicyclists through a robust trail and camp shelter program aimed at increasing ecotourism opportunities within the TONEC system.
6. Increase awareness of our place in local environmental issues and develop a strong “sense of place” for SIUC students and visitors who come to TONEC.
7. Integrate management and research objectives into TONEC plans so that our forests continue to sustain the water quality of our streams and lakes, provide cover and habitat for our many wildlife species, and offer a sustainable outlet for showcasing the health and productivity of our forest resources for generations to come.
8. Coordinate management of hiking and wildlife corridors that stretch from Giant City SP on the west boundary, across TONEC holdings, eastward to the Crab Orchard NWR Wilderness areas and southeastward into the Outdoor Lab areas around Water Valley Road and Rocky Comfort Road. Monitoring and developing the resource capacity of these important corridors should be a major focus of our efforts in the next 10 years.
9. Most of these objectives support multiple Resource Strategies shared by both the Illinois Wildlife and Forest Action Plans currently being administered and implemented by multiple agencies under guidance from IDNR, National Wildlife Refuge and US Forest Service field staff.

B. Provide a summary of your results including quantifiable data as appropriate.

Throughout the 2 years of this project numerous students and many public groups have been informed of the ongoing assessment efforts and eventual Land Management plan. For instance, during my Forestry 100: Intro to Forestry course, I take the class (enrollment around 65-70, each fall semester) to TONEC two separate times to discuss the history of land-use and management here as well as the incredible need to assess our current conditions so that we can adequately plan for the future expansion and development of our outreach and educational activities. In addition, my Forestry 315: Fire in Wildland Management course (enrollment 35-50 each spring) visits TONEC multiple times to see the long term impacts of our prescribed burning and other forestry activities that are so much a part of educating our students and the broader public to the wise use of our natural resources at TONEC (Figure 3). One other major course taught by Dr. Ruffner, FOR 351: Forest Measurements (enrollment 35-50 each fall), has used the Upper 40/Indian Creek Drainage area for its field labs since at least Spring 2000 semester when this course was moved from Thompson Woods on campus out to TONEC to better illustrate regional forest conditions to learning forestry students and wildlife management students. Finally, Dr. Holzmueller requires his FOR 460: Forest Resource Management students (enrollment 20-35 each spring) to develop a forest management plan for the Indian Creek Drainage and present an end of semester powerpoint to the class to offer their various management alternatives and follow up assessments of treatment outcomes.

In regards to public outreach, Dr. Ruffner has offered several presentations at TONEC and Giant City State Park to foster discussion about the Land Management plan and its importance to SIUC and this central part of southern Illinois. He has personally led Touch funded elder hostels,

Illinois Master Naturalist workshops, management fieldtrips with Friends of Giant City and members of the Illinois Arborist & Forestry Associations, as well as walking tours of Camp I & II for groups using Touch of Nature for recreation or retreat facilities. One of the major missions shared across the Department of Forestry and TONEC staff is to inform the public as to the intimate relationship of protecting the watersheds of Little Grassy Lake and Indian Creek for the wildlife as well as human needs of the area through wise use of resources and prudent conservation practices. Our public presentations always include mention of the Green Fund as a funding partner and long-term supporter of this important endeavor. Several links and images regarding the Land Management Plan are also proudly displayed on the TONEC website. In addition, since 2016, key local land management agencies have used our demonstration areas at TONEC to educate local landowners and managers about timber stand improvement and woodland restoration activities. These groups are represented by the Audubon Society, Illinois Native Plant Society, Southern Illinois Prescribed Burn Association, and the Forest Restoration and Invasive Species Strike Teams operating across the southern 16 counties.

The current project has resulted in kick-starting the careers of several Forestry students reflected in their long hours of hot and cold fieldwork, devoted lab work, and grinding GIS screen time (Figure 4). They helped us map recreation trails, environmental education areas, soil resources, historic structures, as well as modern management activities such as prescribed burning and forest stand improvement treatments. Based on their experiences with this project, all of these undergraduates have now landed permanent forestry positions across the Midwest and Pacific Northwest regions. In addition, an MS Graduate Assistant, Leah Harper, began her research work with us in Spring, 2017 and is scheduled to graduate in Spring 2019. Her research pursuits are trying to characterize biodiversity across the various forest and vegetation types so that we can more objectively judge wildlife habitat quality (Figure 5). Her research and graduate presentations will culminate the many efforts of this project by laying out the management objectives of this plan and setting forth the funding efforts needed to enact those management goals and recommendations.

C. Provide evidence of how you used the Green Fund Marker in your project.

The Green Fund Marker has been used in several of our power point presentations to various forestry classes and public meetings as well as including the marker on our project links on the TONEC website. This fall, Dr. Ruffner will present a research presentation featuring this project to the Natural Areas Association Annual Meeting in Bloomington, Indiana and will proudly display the Green Fund Marker to indicate the role of the Green Fee in funding our efforts. This poster will then be hung in our Department's display cabinets where we highlight our research initiatives and student activities for visitors, students, and families to view.

In addition, a Green Fund marker proudly hangs on my Forestry Lab door to indicate to all who enter and come by that we are helping do some of the good work of sustainability on this campus. Once the plan is fully written and developed, a broad public outreach and socialization period will ensue and each of those posters and outreach materials will again, display the Green Fund Marker.

- D. Is there anything you would do differently if you were to do a similar project in the future? If so, please describe.

I think that I would again anticipate 2-3 years for this process to be completed as we have done this time. However, I would much prefer to hire a graduate student up front to help shepherd this process through. As it was, we attempted to hire a graduate student for this project but after interviewing five individuals, all of them seemed to think this project was too big for them to handle. Thus, we moved forward with building a team of undergraduates capable of doing the fieldwork and lab work necessary to get the assessment and mapping portion underway with guidance from Ruffner and Holzmueller. Then, over winter break 2016-17, we interviewed Leah Harper and secured an extension from the Council to bring her on that spring. She began full time in May 2017 and has been instrumental in finishing the field portion of the assessments and is now writing the management plan with guidance and support from Drs. Holzmueller and Ruffner.

In addition, while we feel our actual “budget spent” closely matches our proposed budget, a more direct accounting approach would perhaps require more intimate discussion and clarification of budget items/categories before completion of the project. While we acknowledge that the Sustainability Council does provide an in-depth meeting for PIs and financial staff to attend upon initial award, perhaps we didn’t know such issues might arise until later. Either way, closer discussion of budget issues on a more frequent basis would perhaps preclude any future challenges over budget or procurement items.

- E. Provide as an attachment to the email (see email address below) a minimum of 5 digital images. Images should be of high a quality as possible and be attached in jpg format, if available. Images will be used to promote interest in sustainability projects on campus and may be used on our website and in other promotional material. These can be photos of the progress of the project or the completed project. Provide captions for photos here.

Figure 1. Vegetation map of the Touch of Nature Properties

Figure 2. Finding old-growth forests with the help of our graduate students and faculty

Figure 3. Active management in our Timber Stand Improvement/ prescribed burn areas

Figure 4. Research assistant Jeremy Schumacher dating tree ring series in the lab

Figure 5. Leah Harper, MS Graduate Assistant, recording field notes during inventory

- F. List suggestions for the SIU Sustainability Council to improve the Green Fund Award Process here: See comments above

Final Report forms should be sent electronically, in editable Microsoft Word format, to greenfund@siu.edu. This should be completed before requesting final reimbursement. A Sustainability Council designate will review final reports before releasing funds.

SIU Holdings Vegetation Stands



