

Green Fund Projects

Final Report

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Project Title: Developing a Digital Trail Map for Public Access in Southern Illinois
Project ID #: 17SP129
Award Date: April 2017
Completion Date: June 18, 2019
Total Funds Used: \$2,541.43

1. Provide a summary of your project/project experience.

Trails and natural areas create healthy recreation opportunities for people of all ages with attractive, accessible, and low-cost places to walk, hike, jog and cycle. This is especially important to SIU students and community residents, who need more affordable sites for recreation in an environmentally friendly manner. However, information of the trails available in Southern Illinois is maintained by various government agencies and non-profit organizations. Easy-to-access and centralized information depository on the locations and characteristics of these trails is generally unavailable. Funded by the student Green Fee, we designed a comprehensive web-based trail map using Geographic Information Systems (GIS) and digital trail data collected by students, governmental and non-profit entities. In this project, students in the GIS Club used Global Positioning Systems (GPS) to record locations of trails available in the western side of Southern Illinois (close to the SIU campus) through 7 field trips. In the GIS Lab, they used ArcGIS software to compile the trails-related GIS data into a central geodatabase with data quality checks and verification. The trail data were finally uploaded to ArcGIS online, a cloud-based public-accessible online mapping platform, for public access. The compiled trail map covered important public areas, including the Crab Orchard National Wildlife Refuge, Shawnee National Forest (west side), SIU campus, Giant City State Park, and Green Earth Inc. properties. Locations of areas of interest, such as parking lots and rest rooms, are provided to enhance its functions. This project provides hands-on and practical learning opportunities of digital mapping for SIU students, enhance the awareness, access and recreational values of public trails, and encourage students to actively engage in nature. Around 20 students benefit directly from joining in the trail mapping tours and learning how to use the GPS units and map the trails. It also helps further promote SIU as an environmentally friendly campus with close links to local economy, resources and communities.

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2. Provide a summary of your results (environmental, social, and/or economic) including quantifiable data as appropriate (ex. # of individuals reached, lbs. diverted from landfill, energy saved, etc.).

This project helps promote awareness of recreational resources, i.e., public trails, near the SIU campus and its outlying areas. The project deliverable would encourage more active use of public trails by the students and general public, and provide opportunities of positive interactions with the natural environment. This positive interaction will contribute to greater appreciation, protection and sustainable use of the natural environment by SIU students and residents of Southern Illinois. These benefits are expected to sustain at least 10 years unless a better product substitutes for this map earlier than that. Anyone can access this open and publicly-accessible information on this website maintained by a large corporation.

This project can help positively impact social justice on SIU campus and beyond by promoting access to and the conservation of natural areas through an open-access web link to the digital map. The development and sharing of public trail information is currently departmentalized and most information is only available as paper or digital pamphlets with minimal geographic contexts. These issues restricts a wider access to and use of the trails by the SIU and its surrounding communities who may have no resources or literacy of recognizing the locations and values of these trails. Thus, a project integrating all trail data in a digital map would promote the social justice by providing easy access to this public information and making individuals aware of these recreational facilities.

The map, as a key project deliverable, will help promote awareness and use of natural areas near the SIU campus. It would eliminate some needs of printing paper maps and time costs of figuring out the locations of these trails. It can be used as a usable tool to help attract potential incoming students. Accessible information on natural trails around SIU can be used during visitation events on campus. Student projects such as this can help to provide examples of how SIU is helping students get involved with hands-on opportunities of learning skills valuable to their majors.

We had 10 students at maximum, an average of 4 students, and a minimum of 2 students in all of the 7 trail mapping tours. We collected data for trails from Giant City State Park and Crab Orchard Wildlife refuge as well as a few park locations in the Carbondale area. The preliminary results have been shared to over 30 faculty and students during the GIS Day presentation. About 40 tourists are aware of the project during the field tours. We expect the impacts will reach out to about 200 persons after we publicize the digital map through our Facebook and SIU Today.

3. Summarize how your project promoted the Green Fee/Sustainability on campus including, but not limited to, flyers created, screenshots of website, signage, etc. Please include website links, if applicable. (Reminder: you are required to promote your project using at least 2 items from the awardee website promotion list.)

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- A. The project's initial results were presented during the SIU GIS Day event held in the Morris Library on November 15, 2017. The project and how sustainability is attained by this project was discussed by Kaitlyn Holtsclaw and Megan Brown. We acknowledge the Green Fund during the presentation.



Figure 1 Presentation on the project during the SIU GIS Day

- B. The project was delivered as an openly accessible online map for the public to access. Green Fund logo has been published on the map as well. The web map is freely accessible at <https://siucarbondale.maps.arcgis.com/apps/webappviewer/index.html?id=f23a302dacc6418c972eb1caa181c32b>

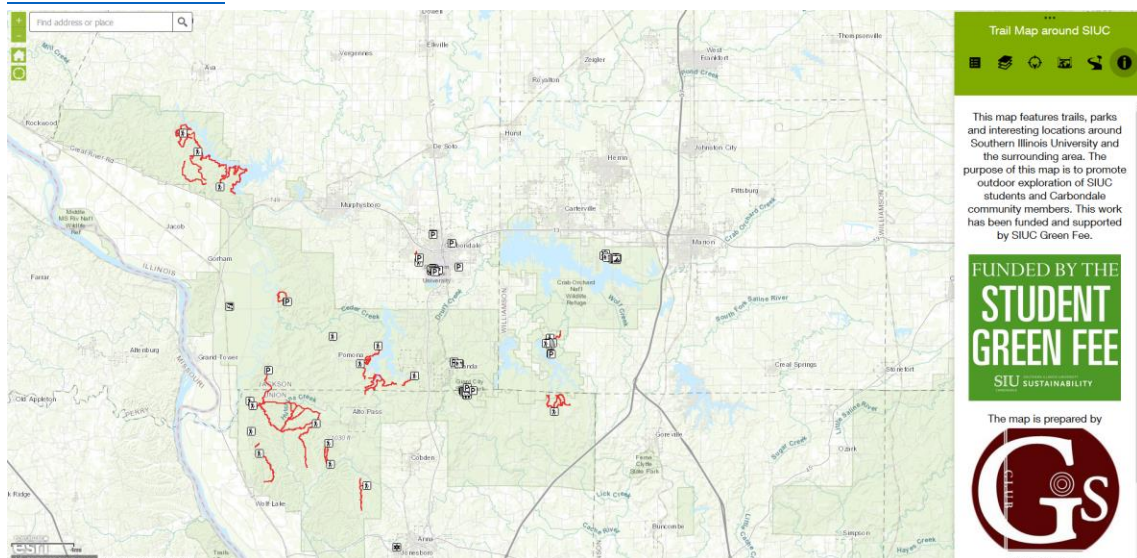


Figure 2 Green Fund Trail Web Map

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C. The information on this product was sent to a few student listserv email lists. This information has also been shared through the Facebook page of Department of Geography.

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

During the SIU GIS Day event, we included the Green Fund logo in the presentation. The project was delivered as an openly accessible online map for the public to access. Green Fund logo has been published on the digital map (the major project deliverable) as well.

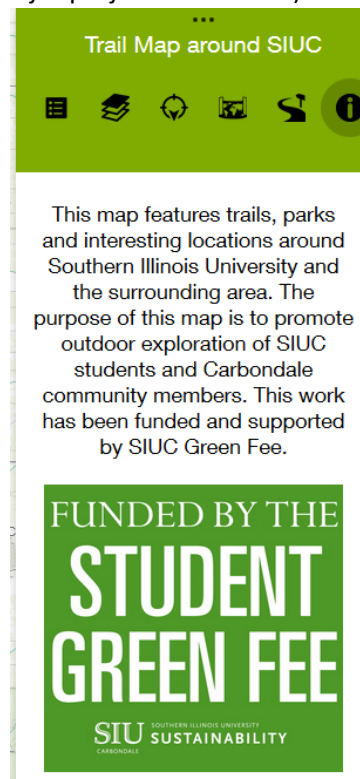


Figure 3 Green Fund Logo Used in the Project

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

Technically, the efficiency will be much improved if we budgeted two new GPS units at the very beginning. We had to press one button hundreds of times with our old units during the field collection tours. Thanks to the approval of the Sustainability Council, we finally purchased two new units that supported our last data collection tour. We expect we could achieve better efficiency for data collection tours in future similar projects.

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6. 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 4-7 The GIS Club Field Tour in the Giant City State Park

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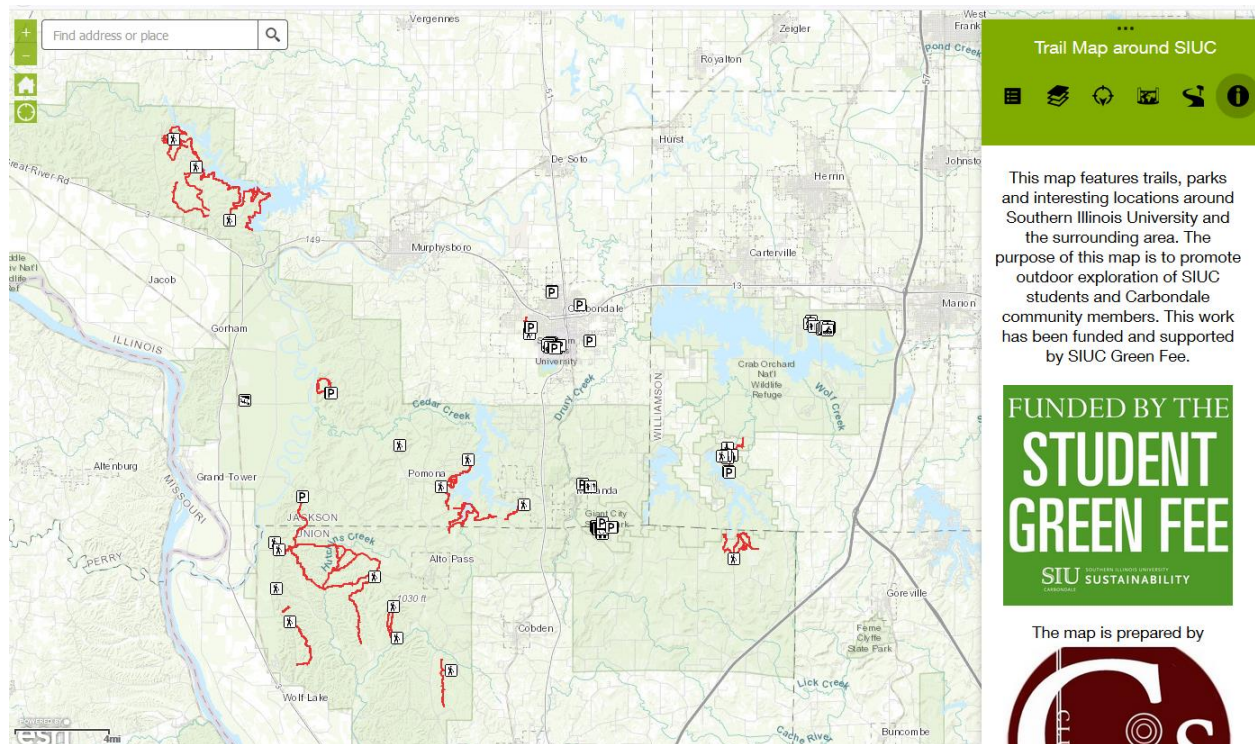


Figure 8 The Digital Trail Map Funded by the Student Green Fee

7. List suggestions for the SIU Sustainability Council to improve the Green Fund Award Process here:

We still sincerely hope that the Green Fund can expand the funding for the Student RSOs as this will encourage the students' involvement. Also, in many cases, the eligibility requirement on the cost share is a challenge to the student RSOs. There could be an exception for the student RSOs.