

Sustainability Fee Project Grant Report Guidelines

for grants awarded during FY2016

Due by 5pm August 1, 2016

Email pdf or word doc to cfs@georgiasouthern.edu

Please provide the following information in order to help the Center for Sustainability document the success of the Sustainability Fee Grant Program.

Date: July 1, 2015 – June 30, 2016

Name(s): Checo Colon-Gaud (lead PI), James Roberts, Abid Shaikh

Unit/Department(s): COSM Biology and Chemistry

E-mail address: jccolongaud@georgiasouthern.edu

Phone: 912-478-0053

Project title: Bio-assessment and monitoring at Beautiful Eagle Creek

Amount granted: \$31,787

Amount spent: \$30,878.24

I. Project Outcomes/Value

Detail the planned and actual outcomes of the project here.

The Beautiful Eagle Creek Project was designed to develop an outdoor classroom experience that promotes the conservation, health and biological integrity of rivers and streams in general. Restoration efforts to increase the creek's riparian buffer were conducted in 2012-2013 and additional efforts continue to take place through the universities Facility Services' Landscapes and Planning units, as well as the two departments involved in this proposal. During 2013 a total of 500 cypress trees were planted near the heavily eroded banks and an additional set of trees/native plants (i.e., 1,800 linear feet) were planted in 2014. The overall effects/response of these and additional restoration efforts were evaluated as part of this project in 2015-16. These efforts are now complemented with a structured education and outreach component that includes community based workshops, undergraduate and graduate research projects, and the development of short documentary-style videos. In addition, enhancement of stream substrate to increase heterogeneity of in-stream habitats is proposed as part of the current awarded project at Beautiful Eagle Creek for the 2016-17 academic year.

Project Timeline - *Is your project completed or still in progress?*

Our project is not completed as we experienced a minor delay in completion of the interpretive signage for the site. However, these are in the advanced stages of production and funds to cover all the necessary materials (e.g., posts) and contracts (e.g., graphic designer) have been allocated, except for the final printing charges. An exemption was granted for the remaining funds to be rolled over to the current fiscal year in order to finalize the printing stage for interpretive signage. These tasks and the final posting of the signs are expected to be completed in August 2016. Otherwise, all of the activities proposed have been executed. In addition, a second, related proposal was submitted with funds awarded to continue and expand the work being conducted at the site during the 2016-17 academic year.

Project Outcomes - *List the proposed project goals/objectives and actual outcomes of the grant. Describe any successes, challenges and observations.*

The long-term goal of the project is to restore the functional and ecological integrity of Beautiful Eagle Creek while providing a venue for community engagement through educational and outreach activities

that focus on citizen science and environmental sustainability. In order to achieve this long-term goal we have developed workshops, as well as volunteer activities designed to educate on the need for maintaining and preserving the campus' freshwater resources. Through these workshops we have established partnerships between Georgia Southern University and multiple community groups. Furthermore, these activities are providing university-, as well as community-level educational and training programs, community engagement and service opportunities, as well as structured monitoring activities for our college courses to help establish a collaborative effort towards the long-term conservation of this site. We have implemented a continuous monitoring program at the site based on modified versions of US EPA and GA DNR EPD Standard Operating Procedures to assess the system's biological health and condition. A large portion of these efforts are part of undergraduate projects, but also part of class activities (BIOL 5099, 5444, and 5542), and seasonal workshops at the site (e.g., GA Adopt-A-Stream). Furthermore, summarized data from the site are available online in a project website that allows for comparison to other sites in the region.

Sustainability Improvements – clearly state how your project has improved campus or community sustainability and explain how you assessed the improvement.

By engaging GSU students with Eagle Creek biodiversity and ecosystem properties during class activities, the project has increased student awareness of connections between human activities (e.g., water use, land use, littering) and the natural environment. Such awareness is a key step toward any sustainability goals.

Outreach – how did you publicize your Sustainability Fee grant/project? Please attach copies of all publicity (news articles, web pages, fliers, newsletter, etc.) associated with your grant. If no publicity measures have been taken yet, what are your plans for publicity of your project?

Data generated from the project's monitoring efforts can be accessed online through our site's page at the GA Adopt-A-Stream website: <http://www.georgiaadoptastream.com/db/Sites.html?SiteID=3895>. In addition, three interpretive signs providing information about the project, as well as historical and background information about the creek are scheduled to be completed and be posted at the site in August 2016. Lastly, a series of documentary videos have been developed and continue to be produced. These videos are currently being played and in rotation in the Biological Sciences building main floor Christie Tiles display and can be found in Dr. Alan Harvey's YouTube channel.

<https://youtu.be/DhCHRTarVV4>

<https://youtu.be/OxlwXaLyQaw>

Budget report- provide an explanation of how all funds were used and explain any deviation from the original budget.

Please see Budget Report attached as separate item.

II. Student and Community Impact

Because these grant funds come directly from a \$10 Student Sustainability Fee, it is important to document how they benefit students.

Three undergraduate students, as field/laboratory technicians (30 hours/week for 40 weeks), and one graduate student, as a research assistant (3 terms), were supported by the grant during the 2015-16 academic year. In addition, 10 student volunteers participated in monitoring activities at Beautiful Eagle Creek as part of the GA Adopt A Stream Certification Program. Furthermore, a total of 45 students participated in monitoring activities at Beautiful Eagle Creek as part of course activities for 3 Biology courses (BIOL 5542 - Aquatic Ecology, BIOL 5444 - Ichthyology, BIOL 5099 - Fisheries Biology)

community members reached

With the addition of interpretive signage at the site the goal is to provide information for all who walk by the creek using the 'campus trails' network. We anticipate the interpretive signage will continuously impact local community members and visitors alike by communicating the projects education and outreach efforts at the site. Likewise, the rotation of documentary-style videos on YouTube will offer another venue to engage community members on a continuous effort.

Grant Leverage

Were you able to leverage your work for additional outcomes? Indicate the following if they apply.

Students Frank Parr and Cody Smith presented a poster titled 'The True Blue Water Quality of Beautiful Eagle Creek' at the Annual GA Adopt-A-Stream monitoring volunteers conference (Confluence) in Buford, GA on March 11-12, 2016. In addition, these and other students (see below, Garret Strickland) have presented work conducted at the creek at departmental, as well as university-level research symposia.

Parr, F., C. Smith, and C. Colon-Gaud. The True Blue Water Quality of Beautiful Eagle Creek. Confluence: Georgia Adopt-A-Stream Annual Conference. March 2016. Environmental and Heritage Center, Buford, GA.

Strickland, G.* and J.H. Roberts. Magical Waters: the fishes of Beautiful Eagle Creek. College of Science and Mathematics Annual Research Symposium, April 2015. Georgia Southern University, Statesboro, GA.

Papers published, in press or in preparation (indicate student authors with an asterisk)

Grants leveraged (list granting agency, amount awarded)

Project abstract

Provide a one paragraph abstract of the completed project and a photo (preferably including some of the people involved with the project at work) to be posted on the CfS web page.

Historically, Beautiful Eagle Creek has been envisioned as a symbolic staple of the successful program that practices near its banks, as well as inspired the name of business entities within the Statesboro community. Realistically, Eagle Creek's near 500m stretch has remained no more than a drainage ditch with little to no aesthetic appeal, much less ecological health and biological integrity. As part of an interdisciplinary effort supported by the University's Center for Sustainability, we have developed Beautiful Eagle Creek into a venue for K-20 education, community outreach, and research programs that promote environmental sustainability, as well the ecological health and integrity of freshwater ecosystems in the region. Our program includes monthly and quarterly monitoring of the physical, biological, and chemical components of the creek, as well as training and tools to evaluate the condition of the site year-round. While our project is ongoing, the 2015-16 Sustainability Fee Award allowed for the establishment of a monitoring program at the site through GA Adopt-A-Stream, as well as provide education and outreach opportunities through community partnerships.



Students after participating in a GA Adopt-A-Stream certification workshop at Beautiful Eagle Creek