

UT Green Fee Program Metrics & Measurement

Snapshot Report June 2015

Prepared by: Office of Sustainability



Summary

The purpose of this report is to provide a snapshot of the program status in June 2015, encompassing all known results of the program's third year, and the funding decisions for the fourth. The report provides a short expenditures summary, and a number of statistics regarding the program, including tangible and intangible outcomes. The report will point to where data should be collected and analysis should be carried out in the future.

Financial Assessment

The program collects a maximum of \$12.50 every year from each student as part of his or her tuition fees. Full time students pay \$5.00 per long semester and \$2.50 in the summers. After four years of full time enrollment, a student will have contributed \$50.00 total to the Green Fee. The first four years of funds represent 103 grants, ten schools, one research center, and seven other departments, including operational and auxiliary departments. There are 83 distinct projects funded; some have received multiple grants. Thirty-five projects were proposed with no original "home" department. Four of the projects had cross-departmental collaborations wherein funds went to more than one department.

Before describing the funds distributed and expended, the Office of Sustainability will note that the annual amount "collected" by the Fee is based on Fall 2011 enrollment and was set as a recurring figure for the five years of the Fee. Accounts to receive grants are set up as centrally-funded fringe accounts, meaning that if the projects include student employment, the departments do not have to calculate fringe benefit costs for those employees. Fringe is deducted each year prior to transferring funds to Office of Sustainability.

The total amount transferred to the Office of Sustainability for administration by the Green Fee Committee for 2011-2015 (four fiscal years) was \$2,027,900. The total amount granted to date is \$1,991,497 and the amount returned unused is \$223,540. The amount encumbered and unspent as of May 31, 2015 is \$321,222; this represents many projects still in progress and some under additional review.

The amount retained for overhead by the Green Fee Program in Office of Sustainability for a half-time grants coordinator for four years is \$102,250, and publicity for the program (three years; advertisements, signage) is a total of \$16,009.

A total of \$22,000 was retained in a subaccount fund in 2012-2013 and 2013-2014 to create a contingency fund for projects that incurred unplanned costs due to requirements of the university, either for safety or other types of oversight. Because the projects are proposed by a diverse group of students, staff, and faculty, few have the necessary background in on-campus project management to accurately anticipate all costs. \$3,000 in contingency funds have been disbursed to date and that amount is included in the total amount granted, above.

Departmental Disbursement

This section details the disbursement of funds to schools and departments across the university from 2011-2015. See Appendix for the breakdown of each disbursement. The disbursement amount counts the funds that went into university accounts held by the specific department, such as the School of Architecture or the College of Natural Sciences. Some of

the divisions have been further broken down, mainly to preserve the distinction between funding for student groups and funding for faculty/staff-proposed or –managed projects.

Additionally, this counts each grant disbursed, so if a project receives more than one disbursement, it is listed as two grants. Amendments are included in the year they are disbursed and are not counted as separate grants.

In several cases, the departments receiving funds were not part of the authorship or grantee team for the grant. The Office of Sustainability helped identify partnerships and appropriate leadership for the grants, and in the below cases, the funds were given to the department to administer. Other departments received funds because students affiliated with them proposed and won grants.

A note on calculations: the total amount disbursed for grants found in the first section of this report is higher than the total represented by departments in this chart. This is because the Campus Environmental Center received multiple years of funding in their 2011 grant, which was later corrected.

Department Name	Funds To Date	Grants
Butler School of Music	\$ 7,700.00	2
Center for Electromechanics	\$ 61,561.00	2
Cockerell School of Engineering (Department of Chemical Engineering)	\$ 36,300.00	1
Cockerell School of Engineering (Student Engineering Council)	\$ 6,000.00	2
Cockrell School of Engineering (Department of Civil, Architectural, and Environmental Engineering)	\$ 55,000.00	2
Cockrell School of Engineering (Department of Mechanical Engineering)	\$ 117,500.00	3
Cockrell School of Engineering (Engineers for a Sustainable World)	\$ 6,000.00	2
College of Fine Arts (Department of Art and Art History)	\$ 61,011.00	3
College of Liberal Arts	\$ 5,290.00	1
College of Natural Sciences (Department of Integrative Biology)	\$ 5,000.00	1
College of Natural Sciences (Marine Science Institute)	\$ 61,050.00	1
College of Natural Sciences (Molecular Biosciences)	\$ 7,200.00	1
College of Natural Sciences (TIDES)	\$ 26,335.00	2
College of Natural Sciences (Uteach Outreach)	\$ 37,684.00	4
College of Pharmacy	\$ 15,000.00	1
Division of Housing & Food Service	\$ 31,030.00	2
Facilities Services (Campus Environmental Center)	\$ 136,920.00	4
Facilities Services (Landscaping)	\$ 36,380.00	2
Facilities Services (Maintenance)	\$ 93,800.00	4
Jackson School of Geosciences	\$ 7,500.00	2
Jackson School of Geosciences (Environmental Science Institute)	\$ 48,668.00	4
Ladybird Johnson Wildflower Center (Other)	\$ 44,637.00	1
Ladybird Johnson Wildflower Center (Tree Nursery)	\$ 25,158.00	4
Office of Sustainability	\$ 69,400.00	3
Parking & Transportation Services	\$ 77,840.00	6
School of Architecture	\$ 115,075.00	7
School of Information	\$ 2,500.00	1
School of Undergraduate Studies	\$ 51,000.00	2
Student Affairs, Dean of Students (Student Government)	\$ 6,600.00	1
University Health Services	\$ 40,000.00	1

In addition to the departmental grants, a number of grants were assigned to the Office of Sustainability to administer, but the Office was not part of the grantee team, and in only one case did the Office directly benefit from the funds. This chart shows those grants, along with their nearest beneficiary.

Campus - General	\$	4,630	Waller Creek Invasives
Campus - General	\$	7,500	Water Bottle Fill Stations
Campus - General	\$	21,396	Safe Cycling Campaign
Campus - General	\$	1,000	Waller Creek
Campus - General	\$	8,546	Nitrile Recycling
Campus - General	\$	7,145	RLM Battery Recycling
Campus - General	\$	4,365	Waller Creek Awareness
Campus - General	\$	1,100	Food Recovery Network
Campus - General	\$	15,000	Exterior Water Fountains
Campus - General	\$	6,480	Beehives on Campus
Campus - General	\$	7,500	Green Film Competition
Campus - General (2 grants)	\$	22,400	Biodiesel Implementation
Campus - General (3 grants)	\$	153,510	Solar Tables (Solar-Powered Campus)
College of Natural Sciences	\$	6,000	Small-Scale Aquaponics
Division of Housing & Food Service	\$	2,600	Shower Timers
Facilities Services (Campus Environmental Center)	\$	7,105	Irrigation at MicroFarm
Facilities Services (Campus Environmental Center) (3 grants)	\$	50,175	Tree Nursery
Facilities Services (Campus Environmental Center) (4 grants)	\$	72,712	MicroFarm
Facilities Services (Recycling)	\$	15,000	Steel Can Recycling for Labs
Facilities Services (Landscaping)	\$	35,799	HRC Landscape
Facilities Services (Landscaping)	\$	30,000	School of Music Landscape Rehabilitation
Facilities Services (Landscaping)	\$	56,348	Bioretention Gardens
Intercollegiate Athletics	\$	2,500	DKR Composting
Lyndon B. Johnson School of Public Policy (2 grants)	\$	2,500	LBJ Green Dining
McCombs School of Business	\$	5,635	McCombs Occupancy Sensors
Office of Sustainability	\$	10,000	Campus Sustainability Tour
Parking & Transportation Services	\$	12,500	Bicycle Parking
Parking & Transportation Services	\$	55,100	Permeable Surfaces
University Unions	\$	25,000	Exterior Compost Bins
UT Libraries (Perry-Castaneda Library)	\$	3,030	PCL Recycling Containers

Impact Assessment

This section contains lists of student-accessible acquisitions, measurable outcomes, academic outcomes, and visible results. Unlike the previous sections, the reporting timeframe is only three fiscal years, since final reporting for 2014-2015 is not due until August 2015. The project results from 2014-2015 will be included in a future metrics and measurement report.

- Two custom solar charging stations with ADA compliant seating and shade
- 3,150 trees planted in Bastrop State Park and surrounding areas
- 75,000+ seedlings grown in Tree Nursery
- 2000 square feet of permeable surface to reduce runoff pollution from parking vehicles near San Jacinto Garage

- 7500 square feet of garden space for teaching and learning at the UT Micro Farm
- 2550 square feet of new drought tolerant landscape, saving money on watering costs
- 225 kW of Solar Photovoltaic Panels (annual savings of over \$38,000)
- 60 recycling bins in the Perry-Castañeda Library
- 130 new parking spots for bicycles
- 39 drinking fountains modified for filling reusable water bottles
- 500 reusable water bottles purchased to change disposables culture in Longhorn Band
- 90 new bikes for daily, weekend, or semester rentals for UT students, faculty and staff
- 80 shower timers in Moore-Hill helped students commit to using less water
- Six Welch labs fitted with air quality sensors (annual savings of \$14,000)
- Nine light sensors in McCombs lecture halls to save energy when vacant
- One engagement kiosk in Battle Hall, sharing student research on energy, history, and ecology
- One exterior water fountain outside of RLM
- One 40-gallon biodiesel reactor at Pickle Research Campus

Additional measurable outcomes from the projects include:

- 10,500 pounds of compost diverted from landfill by the LBJ Green Dining Program since fall 2011
- 235 pounds (avg) per month of Styrofoam recycled since November 2012
- 250 pounds of produce from the UT Micro Farm for sale and for use in residence hall cafeterias
- 16,600 pounds of compost from one season of composting during football games. This is equivalent to 141 cubic yards of landfill space!
- 1,620 pounds of batteries recycled in 10 months from bins in RLM and the Student Services Building
- 677 pounds of trash cleaned out of Waller Creek during a single service project
- 13,000 pounds of electronics recycling collected during a drive hosted by the Student Engineering Council

Academic/Educational events and presentations included:

- Academic paper and presentation on using waste algae as grass fertilizer
- Presentation on tailgate recycling program at Smart & Sustainable Campuses Conference
- Free workshop for 30 students on practical applications of solar design
- 7 videos capturing the effects of Green Fee projects on campus and the community
- Two community feedback sessions on bicycle infrastructure
- Capstone 'white paper' publication on bicycle infrastructure
- One-of-a-kind dance/theater collaboration on bicycle safety themes
- Major evening lecture on energy futures by Dr. Michael Webber
- Major evening lecture on environmental justice by Dr. Bob Bullard
- Five course development awards for new and revised courses in sustainability
- Unique website (mobile and desktop) reflecting environmental and cultural research on Battle Hall

Based on best available information from employment records, 115 students have been employed in 63 on-campus jobs related to sustainability. Nearly all of the jobs were created by the Green Fee, and the few pre-existing jobs had their scope significantly expanded. Several hundred student volunteers participated in UTeach Outreach programming, Waller Creek Cleanups, tailgate and stadium recycling and composting, LBJ School composting, gardening at the Concho Community Garden, UT Tree Nursery, and UT MicroFarm, and the E-Waste Drive.

Finally, the UT Green Fee influenced one major national publication on green fund program management (AASHE's Green Fund Guide, 2013) and was the subject of three internal audit projects for the Management Auditing and Control course

taught in the McCombs School of Business. The Green Fee application guidelines were also used as a teaching tool in at least two separate classes taught by Dr. Eric Hersh and Dr. Jay Banner, and by Dr. Heidi Hart.

Future Analysis

The next metrics assessments will examine:

- A more detailed breakdown of materials and services expenditures.
- More information about student employment:
 - exact amount spent on wages
 - measure of the impact of the employment on students' university experience
- Evaluation of projects with multiple types of outcomes.
- More indexing of projects with primarily academic outcomes (workshops, reports and presentations).
- Additional detail on projects with potentially more measurable impacts than already listed here, such as UT Tree Nursery tree plantings.

Appendix

Detail of grants by department

Butler School of Music

\$2,500 Zero Impact Band/Longhorn Band, 2012

\$5,200 Zero Impact Band/Longhorn Band, 2014

Center for Electromechanics

\$35,444 Algae as Fertilizer, 2011

\$26,117 Algae as Fertilizer, 2012

Cockerell School of Engineering (Student Engineering Council)

\$3,000 E-Waste Drive, 2013

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Cockerell School of Engineering (Department of Civil, Mechanical, and Environmental Engineering)

\$50,000 Air Ventilation in Labs, 2013

\$5,000 Biodiesel Feasibility Assessment, 2013

Cockerell School of Engineering (Department of Chemical Engineering)

\$36,300 Utility Cooling Systems Optimization, 2012

Cockerell School of Engineering (Department of Mechanical Engineering)

\$75,000 Installation of Solar PV on FC-3, 2011

\$40,000 Solar and Rainwater Lab, 2014

\$2,500 Atmospheric Water Harvesting, 2014

Cockerell School of Engineering (Engineers for a Sustainable World)

\$2,500 Piezoelectricity, 2013

\$3,500 Alternative Energy Challenge, 2014

The total for Cockerell School of Engineering is \$220,800.

College of Fine Arts (Department of Art and Art History)

\$6,816 Safe Cycling Campaign, 2011

\$36,100 Campus Visualization, 2012

\$18,095 Solar Software Workshops & Development, 2014

College of Liberal Arts

\$5,290 Water Bottle Filling Fountains, 2013

College of Natural Sciences (TIDES)

\$13,830 Greenhouse, Farm & Garden, 2014

\$12,505 Solar Software Workshops & Development, 2014

College of Natural Sciences (Department of Integrative Biology)

\$5,000 Drought Tolerant Plants, 2013

College of Natural Sciences (Molecular Biosciences)

\$7,200 Foam Recycling Pilot, 2012

College of Natural Sciences (Marine Science Institute)

\$61,050 Water and Habitat Garden, 2014

College of Natural Sciences (UTeach Outreach)

\$7,500 Sustainability Tours & Curriculum Development, 2011

\$8,140 Sustainability Tours & Curriculum Development, 2012

\$9,176 Sustainability Tours & Curriculum Development, 2013

\$12,868 Sustainability Tours & Curriculum Development, 2014

The total for College of Natural Sciences is \$137,269.

College of Pharmacy

\$15,000 Medical Takeback Program, 2014

Division of Housing and Food Service

\$22,730 Energy Sub-metering, Honors Quad, 2011

\$8,500 Dual-Flush Toilets Pilot, 2014

Facilities Services (Campus Environmental Center)

\$45,360 CEC Projects & Operating Funds, 2011

\$30,410 CEC Projects & Operating Funds, 2012

\$39,950 CEC Projects & Operating Funds, 2013

\$21,200 CEC Projects & Operating Funds, 2014

Facilities Services (Landscaping)

\$17,650 Integrated Landscape Design, 2013

\$18,730 Green Tree Project, 2014

Facilities Services (Maintenance)

\$50,000 Air Quality Sensors in Labs, 2012

\$22,800 Longhorn Lights Out, 2013

\$11,000 3M Window Film, 2014

\$10,000 Dark Sky LED Streetlights, 2014

The total for Facilities Services is \$263,600.

Jackson School of Geosciences

- \$5,000 Storm Water in Waller Creek, 2013
- \$2,500 Chloride Isotopes Testing for Waller Creek, 2014

Jackson School of Geosciences (Environmental Science Institute)

- \$16,350 Green Fee Videos & Outreach, 2011
- \$17,000 Green Fee Videos & Outreach, 2012
- \$8,298 Environmental Equity Symposium, 2013
- \$7,020 Green Fee Videos & Mapping, 2014

The total for Jackson School of Geosciences is \$56,168.

Ladybird Johnson Wildflower Center (Tree Nursery)

- \$4,300 Tree Nursery Operations, 2011
- \$3,918 Tree Nursery Operations, 2012
- \$10,240 Tree Nursery Operations, 2014
- \$6,700 Tree Nursery Operations, 2014

Ladybird Johnson Wildflower Center

- \$44,637 Green Roof, 2012

Office of Sustainability

- \$32,000 Green Points App, 2012
- \$9,500 Foam Recycling Year II, 2013
- \$27,900 Green Labs Team, 2014

Parking & Transportation Services

- \$15,500 Bike Programs, 2012
- \$14,500 Daily Bike Rental, 2012
- \$6,050 Orange Bike Project, 2012
- \$28,000 Orange Bike Project, 2013
- \$3,790 Bike Programs, 2013
- \$10,000 Orange Bike Project, 2014

School of Architecture

- \$13,278 Safe Cycling Campaign, 2011
- \$45,627 Battle Hall Engagement, 2013
- \$21,625 Texas City Lab, 2013
- \$10,345 Waller Creek in Urban Eco Infrastructure, 2013
- \$5,000 Rainwater Recapture, 2013
- \$17,700 Architecture Models & Waste, 2014
- \$1,000 UT Thermal Lab Materials, 2014

School of Information

\$2,500 Water Bottle Fillers, 2013

School of Pharmacy

\$15,000 Medical Takeback Program, 2014

School of Undergraduate Studies

\$25,500 Course Development and PLUS Awards, 2013

\$25,500 Course Development and PLUS Awards, 2014

Student Affairs, Dean of Students (Student Government)

\$6,600 Reusable Bags, 2013

University Health Services

\$40,000 Waste Reduction Programs, 2013