



UW RECYCLING ANNUAL REPORT 2016

BUILDING SERVICES DEPARTMENT
UNIVERSITY OF WASHINGTON





UW RECYCLING

FISCAL YEAR 2016 ANNUAL REPORT

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UW RECYCLING MISSION STATEMENT

UW Recycling provides innovative recycling, composting and waste reduction solutions with unmatched passion for the health of our campus and our planet.

PROGRAM OVERVIEW

KEY POINTS

- 63% diversion rate
- Saved more than \$1.7 million by recycling, composting and reuse (includes donations)
- Net reduction of more than 11,126 tons of greenhouse gas emissions

INTRODUCTION

The Fiscal Year 2016 UW Recycling Annual Report provides an overview of the University of Washington’s recycling and solid waste program in Seattle from July 1, 2015 through June 30, 2016.

Committed to data integrity, UW Recycling took the initiative to conduct a route audit with our food waste collection vendor, Cedar Grove, in order to determine updated weight estimates for compostable materials being collected from campus. As a result of the adjustment, the waste diversion for fiscal year 2016 has decreased from the reported fiscal year 2015 numbers.

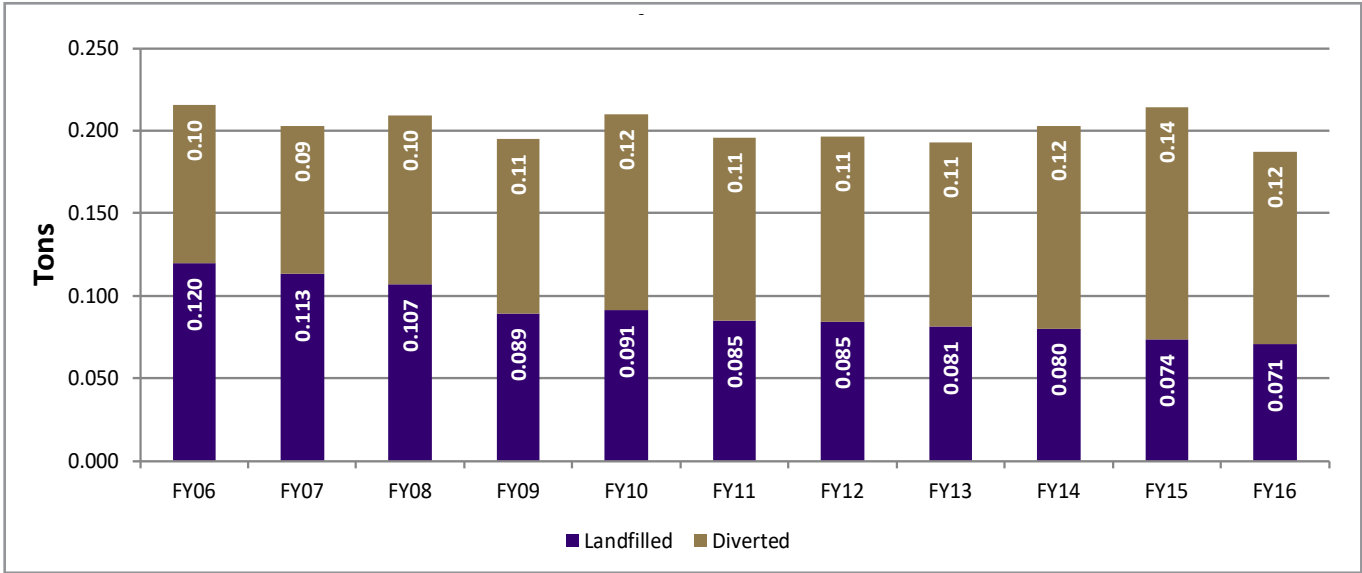
UW Recycling and its sister unit, Custodial Services, are both managed by the Building Services Department. BSD is one of eight departments within UW Facilities Services, which maintains the University’s physical plant, grounds, transportation, emergency operations, building maintenance, and waste management programs.

FISCAL YEAR 2016 ACCOMPLISHMENTS

Each year, UW Recycling monitors its program’s success and develops new initiatives to help drive waste diversion efforts. This year UW Recycling continued to raise overall awareness about its waste diversion goal of 70% by 2020. Specific educational and infrastructural accomplishments for fiscal year 2016 include:

- Came in 25th overall in the national RecycleMania competition and surpassed our Pac-12 rivals for the third year in a row!
- Diverted 26 tons of material through donations and recycling during our end-of-year student move out program, SCRAM.
- Named 2016 Higher Ed. Recycler of the Year by the Washington State Recycling Association (WSRA).
- Launched Streams application, including mobile route communication and improved online request forms.
- Performed a route audit to update food waste estimates.
- Contributed waste diversion data that helped UW earn a position on The Princeton Review’s Green Honor Roll for the sixth straight year.
- Continued the expansion of MiniMax and restroom paper towel composting whereby 60% of campus is participating in these programs; an increase from 56%.
- Extended public area composting opportunities through the installation of four more outdoor BigBelly® Solar Kiosks and 100 additional compost bins in building common areas such as kitchens, break rooms and main hallways.

AVERAGE WASTE PRODUCED PER PERSON (FTE) PER YEAR FOR UW IN SEATTLE



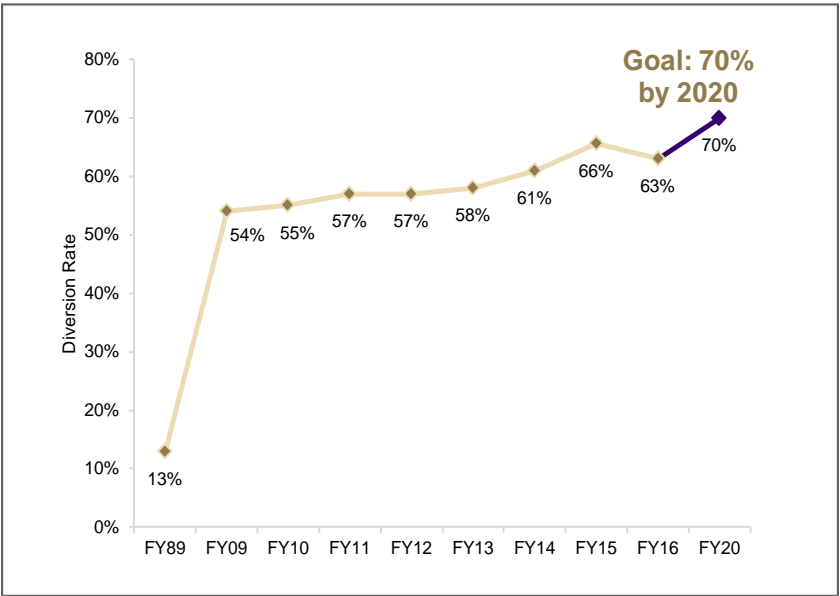
DIVERSION RATE: 63%

The diversion rate is the best indicator of how successful the University of Washington is in keeping materials out of the landfill. It is used to measure how the institution is doing compared to previous years, other higher education institutions, and the City of Seattle. The diversion rate is calculated by dividing the total tons of material diverted from the landfill by the total tons of waste generated for the University’s campus in Seattle.

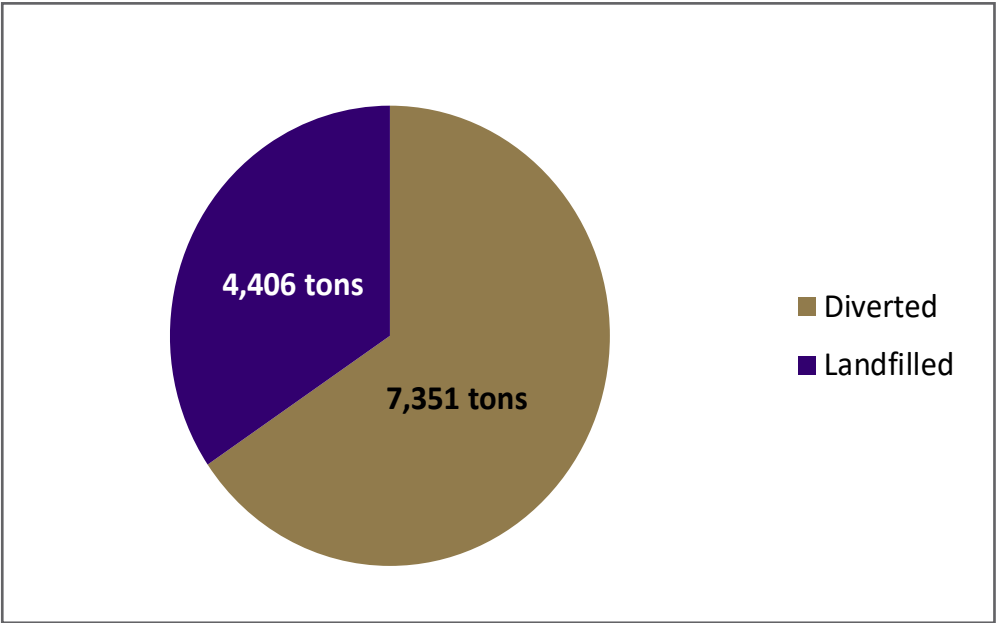
The diversion rate for fiscal year 2016 was 63%, down from 66% in fiscal year 2015. The total amount of material recycled decreased (7,351 tons in FY 2016 vs. 8,569 tons in FY 2015) and the total amount of material landfilled also decreased slightly (4,406 tons in FY 2016 vs. 4,504 tons in FY 2015). The decrease in material recycled is mainly due to receiving updated food waste weight estimates from our vendor at the start of fiscal year 2016, which determined that the material UW composted is lighter than the out-dated estimates we were using previously. An important highlight is that the total amount of material we landfill is decreasing, despite the fact that the campus continues to grow.

UW Recycling monitors the waste diversion numbers each quarter and tries to identify trends or causes for any fluctuations. We also develop annual program plans centered on increasing waste diversion. For fiscal year 2016, the focus included: increased compost collection in residence halls; continued educational outreach and waste collection infrastructure improvements throughout campus; and the continued promotion and implementation of our waste diversion programs, i.e. MiniMax, increased public area composting and restroom paper towel composting.

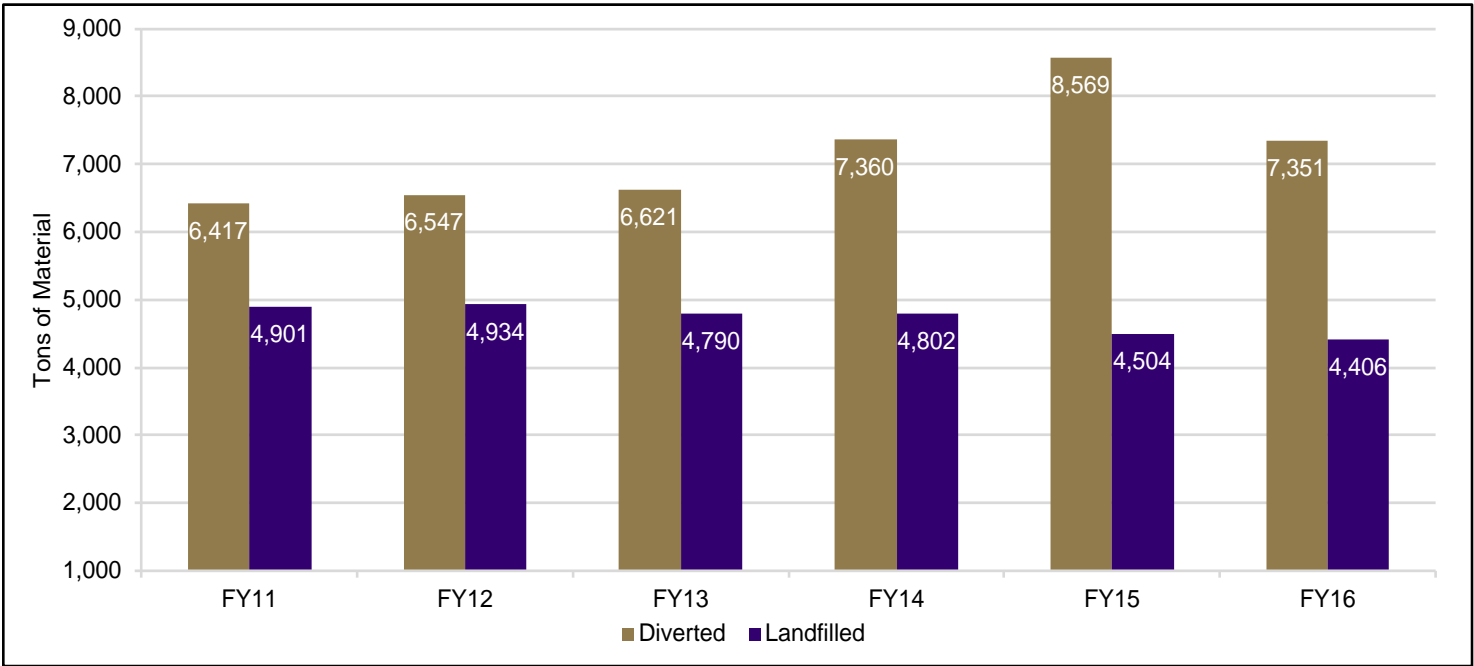
DIVERSION RATE GOAL



2016 DIVERTED TONNAGE VERSUS LANDFILL TONNAGE



FISCAL YEAR PROGRESSION OF DIVERTED TONNAGE VERSUS LANDFILL TONNAGE



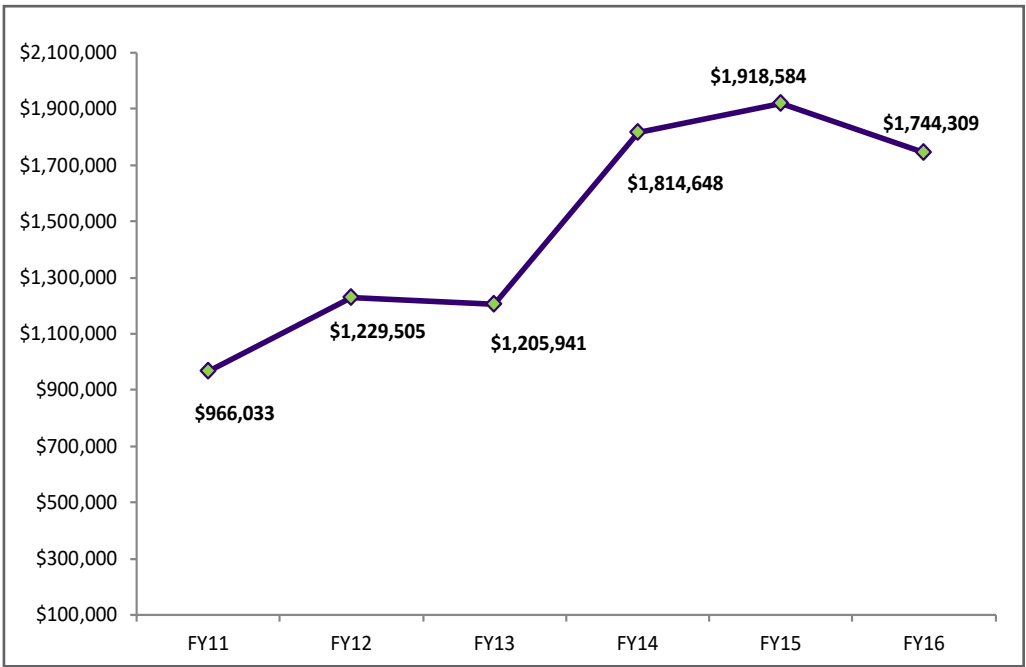
NET AVOIDED DISPOSAL COST

Net avoided disposal cost is a calculation that shows the benefits of our program and whether it makes good economic sense to recycle. The net avoided disposal cost is calculated by looking at two things: the cost to landfill materials versus cost to recycle materials, and the overall administrative/operational costs to run the recycling & solid waste program. Once the figures are calculated we subtract the average cost per ton to recycle from the average cost per ton to landfill, and then multiply the difference by the total tons recycled.

A positive net avoided disposal cost demonstrates that it costs less to recycle than to landfill waste. The fiscal year 2016 net avoided disposal cost was \$1,744,308.61, a slight decrease of \$200,000 from the 2015 net avoided disposal costs from 2015. In 2016, the amount of material we diverted decreased by over 1000 tons due in large part to the revised food waste estimate we are using to calculate monthly diversion totals of food waste. However, the amount of material we landfilled also decreased by 200 tons.

Note that recycled and landfilled special waste are not included when calculating the net avoided disposal cost. Recycled special waste (e.g. electronics, fluorescent bulbs and electronic media) cannot be landfilled and does not contribute to the savings achieved through recycling. Its inclusion in the net avoided disposal cost would significantly increase the average cost per ton to recycle, thereby misrepresenting the overall average cost per ton to recycle. Landfilled special waste (e.g. biowaste and Sharps) is not included when calculating the net avoided disposal cost because the high costs associated with its disposal would skew the average cost per ton to landfill.

NET AVOIDED DISPOSAL COST



CARBON FOOTPRINT

GREENHOUSE GAS EMISSIONS ASSOCIATED WITH SOLID WASTE

- The collection of solid waste produces greenhouse gas emissions in three primary ways:
- *Disposal:* the anaerobic decomposition of waste in landfills produces methane, a greenhouse gas 21 times more potent than carbon dioxide.
 - *Transportation:* the transportation of waste to disposal sites produces greenhouse gas emissions from the combustion of the fuel used in transport.
 - *Manufacturing:* because fossil fuels are used to obtain raw materials and/or manufacture new items, making new products to replace items disposed of in the landfill produces greenhouse gas emissions.

Estimating Greenhouse Gas Emissions

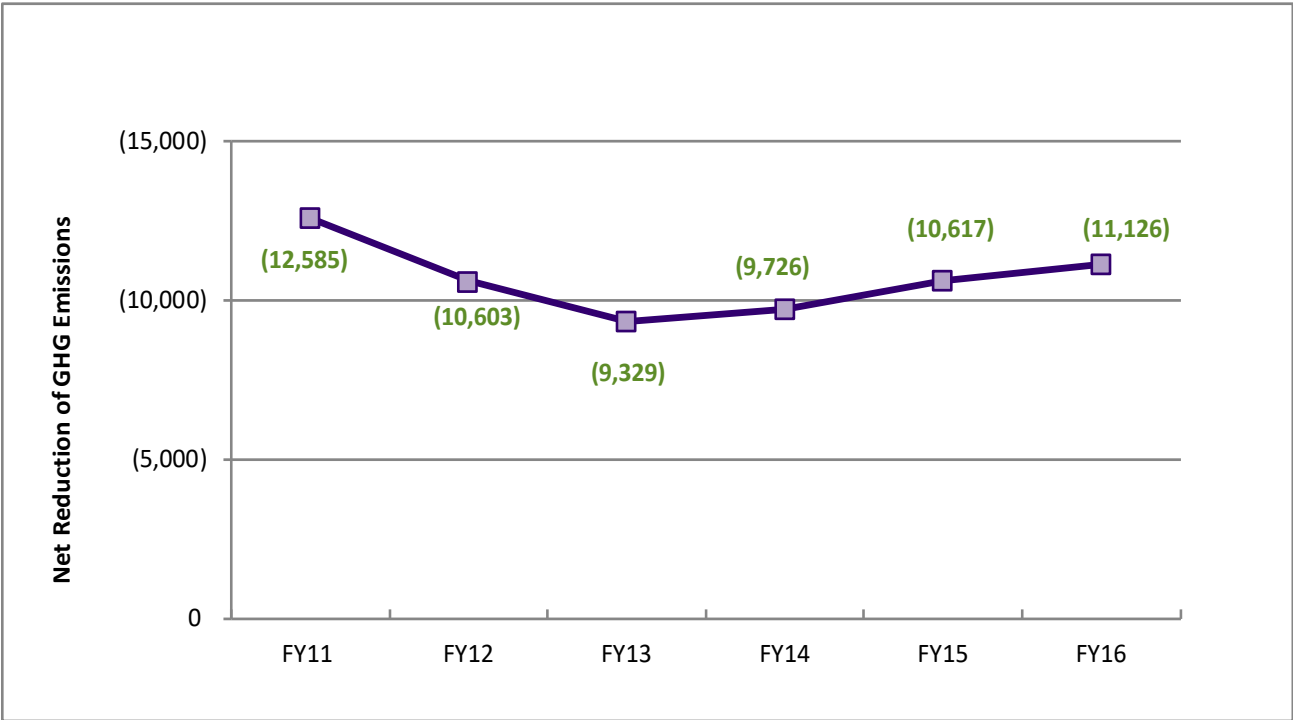
The US Environmental Protection Agency (EPA) Waste Reduction Model (WARM) is designed to estimate greenhouse gas (GHG) emissions and reductions associated with various waste management strategies. By calculating emissions in metric tons of carbon dioxide equivalent (MTCO₂E), the model divides waste into multiple categories depending on waste type and allows the user to designate landfill, incineration, recycling, or composting as the method of disposal.

UW Recycling’s Carbon Footprint

A carbon footprint is defined as the total set of GHG emissions caused directly and indirectly by an individual, organization, event, or product. UW Recycling used WARM to estimate the carbon footprint of the University’s recycling and solid waste programs for fiscal year 2016.

WARM reports net emissions only from the “mixed MSW” (landfilled waste) category. Recycled or composted materials, 63% of the waste stream in fiscal year 2016, result in net reductions of GHG emissions, as indicated by the numbers in parentheses within the chart to the right. Recycling and composting are considered less GHG intensive. By recycling or composting 63% of the waste generated in fiscal year 2016, the University’s recycling and solid waste programs had a net reduction of greenhouse gas emissions of 11,126 MTCO₂E, which is an increase from the previous fiscal year.

GREENHOUSE GAS EMISSIONS REDUCTIONS



WARM Calculations

MATERIALS	TONS	MTCO ₂ E
Mixed Municipal Solid Waste	4,406	(376)
Food Scraps	1,430	(283)
Yard Trimmings	650	(128)
Cardboard	286	(888)
Concrete	233	(19)
Dimensional Lumber	173	(425)
Mixed Metals	528	(2,854)
Mixed Paper	827	(2,904)
Mixed Recyclables	1,264	(3,630)
Carpet	10	(70)
Personal Computers	132	(299)
Tires	5	(2)
FY16 TOTAL	9,944*	(11,126)

What Do These Numbers Mean?

The recycling efforts at the University of Washington have a positive effect on our environment and our community. In fiscal year 2016, the University’s recycling and solid waste programs:

- Conserved energy equivalent to 727 American households’ annual energy consumption
- Reduced pollution equivalent to taking 1,900 cars off the road for a full year.
- Reduced energy consumption equivalent to 1,177, 294 gallons of gasoline or 54 railway cars full of coal.

**The total tons listed in the WARM calculation do not include fluorescent lighting, printer cartridges, Styrofoam, construction & demolition waste (C&D) and batteries. In addition, WARM does not recognize net reductions as a result of reusing material; therefore, tonnages for SCRAM donations and UW Surplus resold items are not accounted for in this calculation.*

Notes: Based on landfill distance of 260 miles (Columbia Ridge, Oregon) and “LFG Recovery-Flare” in WARM tool. Used Washington average and recycling and composting default distance of 20 miles. Mixed Metals includes scrap metal and refrigerators. Personal computers includes electronics, monitors/TVs and e.Media.

RECYCLING STREAMS

Recyclable materials collected on campus are consolidated into combined material streams that mirror industry standards and are categorized as follows:

Combined Fiber

Combined fiber is cardboard, mixed paper and combined paper/cardboard.

Organics

Organics is food waste and compostable serveware, clean wood/pallets and landscape debris.

Construction & Demolition (C&D)

Construction and demolition (C&D) is mixed C&D, concrete/asphalt, carpet and metal. Mixed C&D includes metal and concrete/asphalt when those items cannot be separated out from the rest of the material. Where possible, concrete/asphalt and metal are each collected separately for recycling.

Mixed Recyclables

Mixed recyclables consists of mixed containers, single-stream and plastics. Mixed containers includes all container-type materials that are accepted by our recycling vendor, such as bottles, cans, cups, jars, cartons, jugs, and aseptic packaging. Single-stream combines both mixed containers and paper. Plastics includes plastic film and Styrofoam.

Recycled Special Waste

Recycled special waste is a broad category. It pertains to waste that contains potentially toxic substances, such as mercury, refrigerants and lead, and therefore is banned by law from disposal in the landfill. This includes electronics, white goods, fluorescent lighting and batteries. It also includes auxiliary recyclables that cannot be placed in your regular recycling bin such as printer/copier cartridges and components; electronic media, such as DVDs and computer disks; small personal electronics, such as cell phones and portable music players; and miscellaneous items such as tires, mattresses, textiles and used cooking oil collected from campus dining facilities.

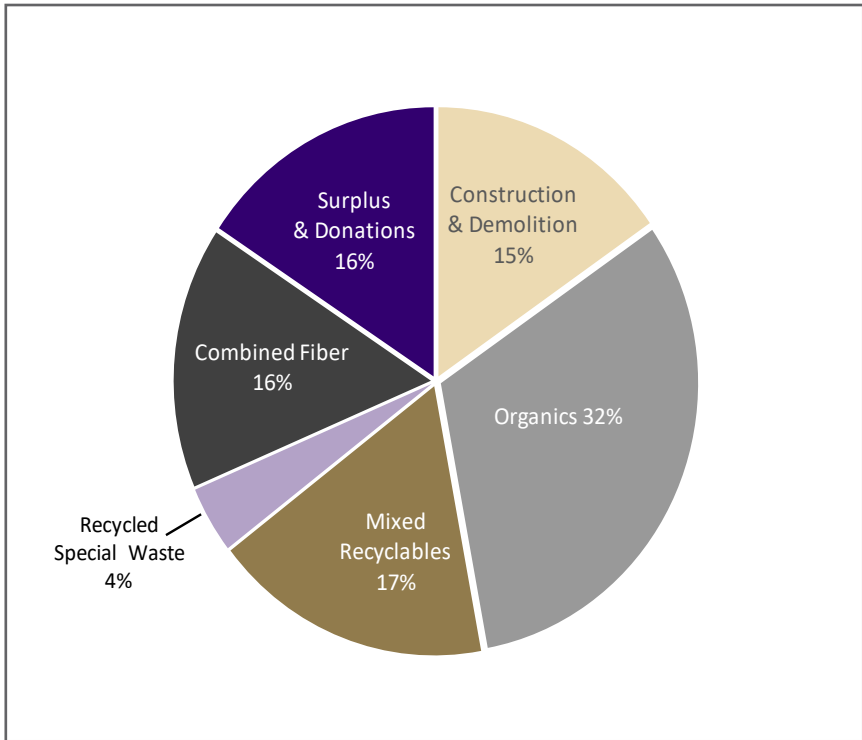
UW Surplus and Donations

Resold items and donations are included in our waste diversion because the University of Washington measures its sustainability performance by using the Sustainability Tracking, Assessment & Rating System™ (STARS®), which includes reselling as a criterion for waste diversion.

All items purchased with University monies or given to the University that are no longer needed by a department, whether they are in working or non-working condition, must be transferred to UW Surplus for recycling, resale, or disposal. Tonnage for all Surplus items that are recycled is captured in the construction and demolition stream. Tonnage for resold items is captured in this stream.

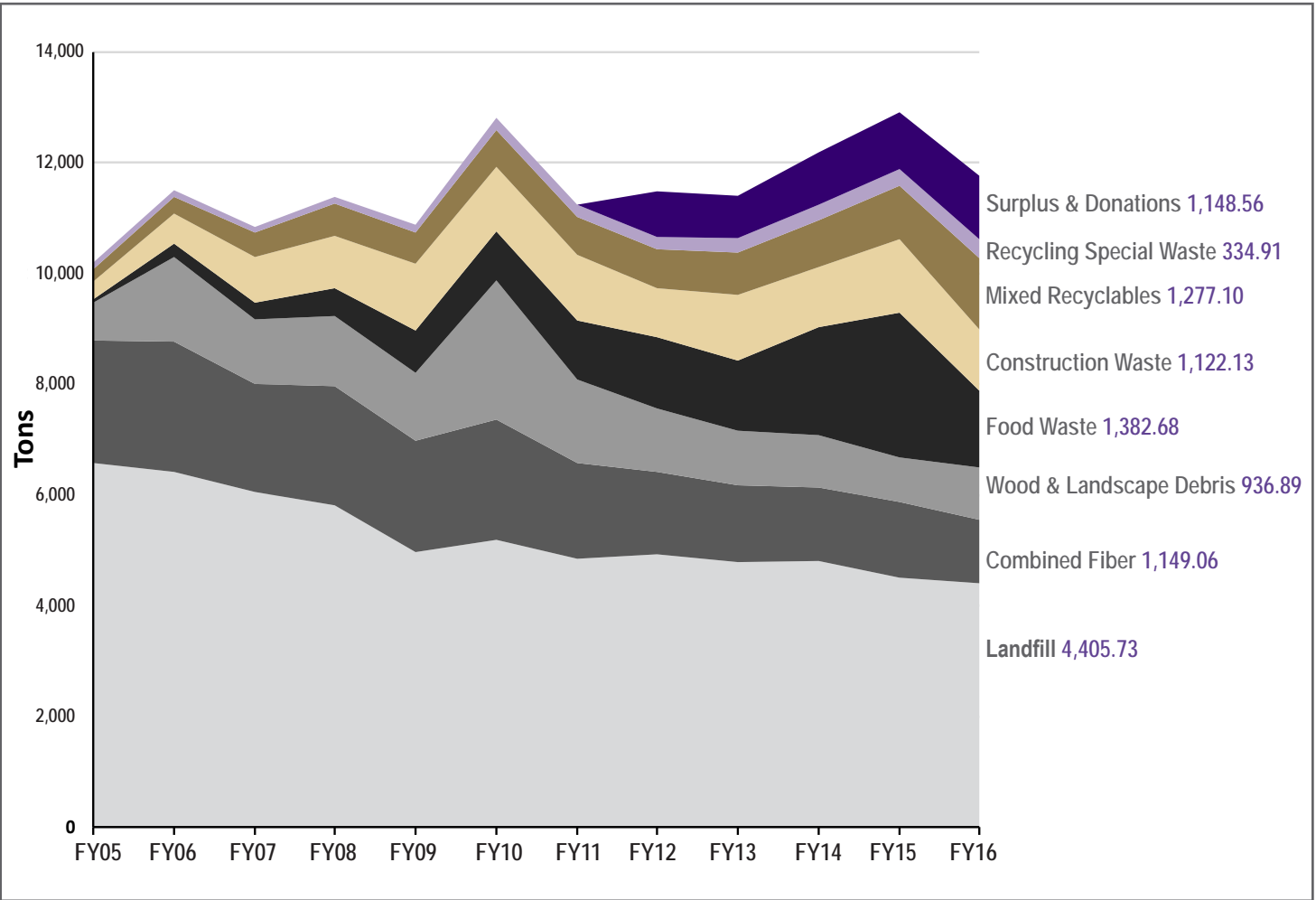
Donations collected from SCRAM (our student move out program) and food donations collected from Housing & Food Services cafes and dining locations are also captured in this stream.

2016 OVERALL RECYCLING STREAMS



The graph below shows the historical trend of the various material streams and how they impact our overall waste diversion. Not surprisingly, food waste and organics has really been driving our success.

HISTORICAL TREND OF RECYCLING STREAMS





UW Recycling vehicles in the W-40 Northlake parking lot.

HIGHLIGHT: PROCESS IMPROVEMENT WITH STREAMS LAUNCH

UW Recycling partnered with UW-IT to create a new application, known as Streams, to better connect their administrative office to crew members in the field. Through smart phones and tablets, Streams enables UW Recycling employees across campus to access their collection routes online and log changes that occur throughout their day. The development of the program began in January 2015.

The previous system, known as Wheels, was created in 1997 and no longer offered strong usability. Since replacing Wheels, the crew is now able to log billable start and end times on the job. They can also enter comments, photos and updates about specific work requests, and ultimately, communicate more efficiently.

The previous work flow process was extensive. Customer emails were manually entered into the system, scheduled, and then printed out as work orders to distribute to multiple people within the department. Once these job cards were returned to the administrative office, the program coordinator had to manually mark it both in Excel and Wheels.

In fiscal year 2014, a total of nearly 4,000 sheets of paper were used throughout the workflow process. An average of 103 minutes per month were spent entering vendor requests in Wheels, and service requests could take up to 30 seconds to log. After Streams was implemented, the log time was cut down to only eight seconds.

The administrative team also wanted to give crew members access in real time to route information and job changes. Streams funnels work orders and requests that are made by phone, email, or through an online form. UW Recycling crew members are able to see job details and route information while in the field. Once the route is complete, it's recorded in one click. Virtually no paper is involved.

The administrative team first demoed the application in June 2015. The team gave feedback to UW-IT and changes were made up until late 2015. Internal training for Streams started in August 2015, and the UW Recycling staff voted on their final app logo soon after. Phase one of the system officially went live on November 2, 2015.

Phase two of Streams launched in April 2016 and allowed customers to use their UW NetID to fill out online request forms, view the status of their requests/history, and make changes or add services to previous requests. By allowing editing-access on forms (rather than start from scratch), customers are now able to save a significant amount of time.

HIGHLIGHT: GLOVE RECYCLING PILOT

UW Recycling and UW Sustainability collaborated to pilot a glove recycling program, sponsored by the Campus Sustainability Fund. Nine labs participated, which include four from Molecular Engineering and Sciences (MoES), and five from Materials Science and Engineering (Mueller Hall).

During the pilot, non-hazardous gloves were collected in labs after use and sent back to their manufacturer, Kimberly-Clark. Once received, the used gloves are then broken down into pellets so they can be made into other products, such as park benches.

With volunteers from EcoReps, two waste audits were conducted to compare how many gloves would be diverted from landfills; one before the pilot began and one after. The waste audit prior to the glove recycling program demonstrated that 23% of the lab waste sent to the landfill were gloves—more than any other item. By the end of the quarter, only 7% of material sent to the landfill were gloves, which is an impressive reduction in waste.



Recycle bins for glove recycling provided by RightCycle by Kimberly-Clark Professional



UW Recycling staff working during a residence hall trash sort.

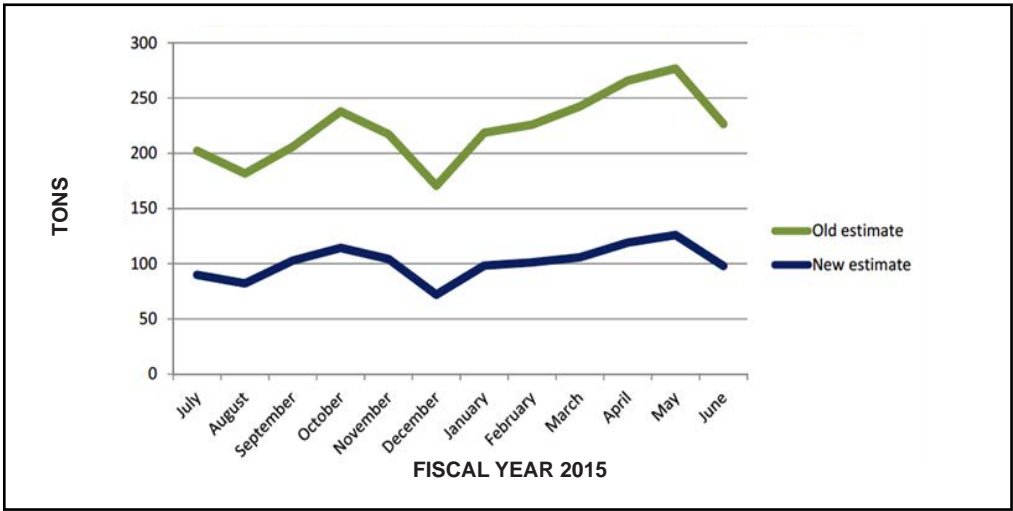
HIGHLIGHT: REVISED FOOD WASTE ESTIMATE

The majority of our food waste tonnage data is not based on actual measured weights, but an estimation using a volume to weight conversion factor. The volume to weight ratio of our reported food waste tonnage was established in 2004 by our contracted vendor, Cedar Grove, when our food waste program was first implemented. As a result of the rapid expansion of food waste collection on campus since that time, the composition of the food waste stream at the UW has changed. In 2004, the only compostable material being collected was heavy vegetative food scraps and coffee grounds. While food scraps are still being collected, the food waste stream now consists mainly of lightweight materials, such as compostable serveware, to-go packaging and restroom paper towels. Despite the changes in composition, the reported compost tonnage was still estimated using the volume to weight ratio established in 2004, which impacts the accuracy of food waste data we have been using to report our waste diversion success.

Realizing that our food waste estimate was outdated, UW Recycling took the initiative to conduct a route audit in November of 2015 in order to ascertain the true weight of compostable materials being collected from campus. What we found is the new food waste estimate is much lower than the established estimate in use at the time. UW Recycling was using the estimate of 350 pounds per cubic yard. However, the new estimate came to 137 pounds per cubic yard, which is only 39% of the old weight estimate.

The updated food waste estimate caused our overall waste diversion rate to decrease. To understand the impact of this new estimate, we recalculated the reported food waste tonnage collected during fiscal year 2015 and found that our waste diversion rate would have been 61% (rather than 66%), had the appropriate weight estimate been applied. The updated weight estimate has been utilized in all food waste data reporting beginning July 1, 2015 or the start of fiscal year 2016. Thus, any decreases in overall waste diversion was likely a result of this new, more accurate food waste estimate.

IMPACT ON FOOD WASTE TONNAGE CALCULATIONS



COLLECTION SERVICES

Two types of collection services are provided at the University of Washington: self-haul and vendor-provided. The type of service provided depends on the amount and type of material generated.

Self-Haul Service

UW Recycling crew members collect recyclables and waste in University-owned collection vehicles from the loading docks of most central campus buildings that accommodate 96-gallon toters or 2-yard dumpsters. The materials are transferred to designated recycling and waste disposal sites within the City of Seattle.

Vendor-Provided Service

All other service on campus is provided by vendors. Contracted vendors provide service for waste and recycling, organics, combined fiber, electronics, fluorescent lighting, and sharps and bio-hazardous waste. Non-contracted vendors provide service for electronic media and small personal electronics, printer/copier cartridges and components, and Styrofoam. Click on the following vendor names for more information:

Cedar Grove

Cedar Grove provides collection and composting of organics, including food waste and compostable serviceware, clean wood/pallets and landscape debris. The contract with Cedar Grove began in January 2009 and has a term of six-and-a-half years, with renewable extensions up to six years.

EcoLights

EcoLights is a child company of Total Reclaim and provides collection and recycling of fluorescent lighting. The University attached itself to Washington State’s fluorescent lighting contract in fiscal year 2010.

Friendly Earth

Friendly Earth provides collection and recycling of non-confidential electronic media, including CDs, DVDs, videotapes, small personal electronics, and electronic accessories including power cords, hard drives and chargers.

Greendisk

Greendisk provides collection and recycling of non-confidential electronic media, including CDs, DVDs, and videotapes, small personal electronics, and electronic accessories including power cords, hard drives, and chargers.

International Paper

International Paper provides collection and processing of combined fiber. The contract with International Paper began in June 2005 and had an initial term of three years, with renewable extensions up to eight years. International Paper also collects and recycles plastic film.

Magnum Print Solutions

Magnum Print Solutions, the largest toner remanufacturer in the Northwest, has redesigned the toner cartridge manufacturing process by optimizing packaging design and recycling efforts to minimize waste and maximize cartridge component reuse. This vendor collects toner cartridges from campus for refurbishment or recycling.

Printer Cartridge Recycling

Printer Cartridge Recycling provides collection and recycling of printer/copier cartridges and components, including fuser drums, imaging units, and transfer rollers.

Styro Recycle

Styro Recycle provides collection, processing and recycling of Styrofoam blocks, peanuts, boxes and large pieces.

Total Reclaim

Total Reclaim provides collection and recycling of batteries, electronics, computers, monitors, peripherals and other materials, including refrigerant gases and white goods. The University attached itself to Washington State’s electronics contract in fiscal year 2010.

Waste Management

Waste Management (WM) provides collection and disposal of municipal solid waste and treated bio-medical waste, hauling and disposal of sharps, and collection and processing of recyclables. WM collects from buildings and facilities that generate large volumes of waste and/or recyclables, including residence halls and dining facilities, Magnuson Health Sciences Center, Facilities Maintenance and Construction trade shops and campus industrial yards. WM also provides service during special cleanout or renovation projects, for large-scale special events including Husky Football, and when a location requires regular weekend service, such as the University of Washington Medical Center. The contract with Waste Management began in January 2009 and has a term of six-and-a-half years, with renewable extensions up to six years.



Beginning the construction of new UW Recycling warehouse space.

PROGRAM COSTS

The success of the UW Recycling program is due primarily to the financial commitment of the University in providing funding for hiring and maintaining appropriate staffing levels, leasing and operating collection vehicles, purchasing equipment and supplies, and investing in improved infrastructure so waste, recycling, and compost collection containers are purchased and placed in the most effective locations.

FY16 EXPENDITURES

Salaries	\$576,410
Vehicles/Fuel	\$108,071
Self-Haul Disposal	\$113,602
Other	\$59,998
Supplies	\$101,475
Equipment	\$65,701
Waste Management	\$1,046,813
Styro Recycle	\$2,825
Total Reclaim	\$32,253
EcoLights	\$22,290
International Paper	\$30,580
Cedar Grove	\$453,530
Total Expenditures: \$2,613,549	

FY16 REVENUE

Paper Recycling	(\$51,281)
Metal Recycling	(\$24,794)
Toner Cartridge Recycling	(\$2,831)
Rechargeable Work Orders	(\$110,895)
Total Revenue	(\$189,801)

FY2016 Total Budget*	(\$2,423,748)
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*UW Recycling pays for disposal for the entire University, including departments that have self-sustaining budgets that bear their portion of costs. UW Recycling recovers the costs for self-sustaining departments by recharging these costs back to the departments. In fiscal year 2016, total recharges to self-sustaining University departments for waste, recycling, and compost collection and disposal were \$1,189,500.31 and are factored into the expenditures.

PROGRAM OPERATIONS

FY16 STAFF

13 Staff Members (13 FTE)

MANAGERIAL & ADMINISTRATIVE

Assistant Director (1 FTE)
Program Coordinators (3 FTE)*
Communications Manager (1 FTE)

OPERATIONS

Program Operations Manager (1 FTE)
Truck Lead (1 FTE)
Waste Collectors (3 FTE)
Litter Collectors (2 FTE)

WAREHOUSE

Driver/Warehouse Worker (1 FTE)

VEHICLES

Rear-load waste and recycling compaction vehicles (3)
Box truck (1)
Utility pickup trucks (3)

VENDORS

Waste and Recycling: Waste Management
Organics: Cedar Grove
Combined Fiber: International Paper
Electronics and White Goods: Total Reclaim
Fluorescent Lighting: EcoLights
e.Media: Friendly Earth and Greendisk
Cartridges and Components: Magnum Print Solutions and Printer Cartridge Recycling
Styrofoam: Styro Recycle

**One program coordinator is shared with our sister operational unit within Building Services Department, Custodial Services.*

THANK YOU

UW Recycling thanks the University’s students, faculty, staff and community partners for their commitment to the environment, willingness to recycle, and support of the program. It is through everyone’s collective efforts that the University of Washington has achieved such great success.

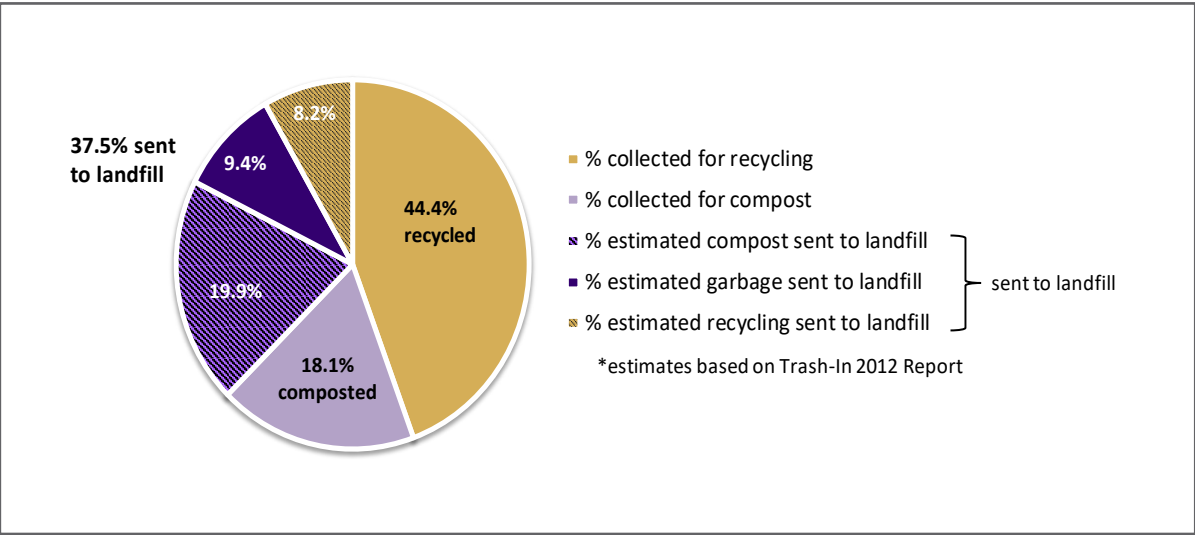


Members of UW Recycling team pose with Recycler of the Year, Higher Education award from the Washington State Recyclers Association

LOOKING AHEAD: PRIORITIES FOR THE YEAR TO COME

This upcoming year, our efforts will be a continued focus on minimizing the amount of food waste and recycling that is still getting thrown in the trash, and reduce overall contamination amongst all waste streams. We hope to do this through continued educational outreach, infrastructural improvements, and innovative programming.

TOTAL ANNUAL UW WASTE



Educational Outreach

- Increase promotion of the Recycling Roadshow—a presentation that provides recycling and compost education directly to the campus community—and Trash Talk, our outreach event dedicated solely to recycling and composting awareness. A group we would like to engage is the Facilities Services shops, as they handle a large array of recyclable material.
- Continue to foster the development of the student driven RecycleMania planning committee to increase campus-wide promotion of and participation in the national recycling competition. We want to continue to lead Pac-12 schools in overall recycling and increase our ranking among universities nationwide.
- Continue to improve and update educational materials and signage by collaborating with campus partners, with a specific focus on the development of a recycling guide for first year students and residents of on-campus housing.

Infrastructural Improvements

- Promote our updated Facilities Services Design Guidelines to ensure the new types of bins and waste stations we have invested in become the standard for new and renovated buildings on campus. The Facilities Services Design Guidelines were originally created in 2009 and in fiscal year 2016 we updated it to reflect current standards and establish uniformity for our overall waste collection system on campus. Our goal is to have equipment that matches our current waste stream and helps keep us in compliance with city ordinances.
- Expand our collaboration with Housing & Food Services staff and students to increase compost collection in the residence halls with a key focus on the apartments. We hope to continue our compost bin distribution program for the apartments by being on-site when students move in and handing out kitchen countertop compost bin as well as accompanying educational material on the what, why and how of compost. Our focus is primarily placed on the apartments since they are independent living, which requires students to more directly manage and dispose of their waste than students living in the other traditional residence halls.
- Continue to promote MiniMax , our self-service, desk-side waste collection system. Our goal for fiscal year 2017 is to have 65% of campus buildings converted to MiniMax by the end of the fiscal year.

Innovative Programming

- Pilot a glove recycling program within Building Services Department.



A student plays a waste diversion game during the RecycleMania kickoff event on Red Square.

BUILDING SERVICES DEPARTMENT

Gene Woodard, Director



UW RECYCLING MANAGERIAL AND ADMINISTRATIVE STAFF

Emily Newcomer, Assistant Director

Dean Seaman, Program Operations Manager

Erica Bartlett, MiniMax Project Coordinator

Liz Gignilliat, Program Coordinator

Jessica Lisiewski, Program Coordinator

Allison Nitch, Communications Manager

UW RECYCLING OPERATIONAL CREW

David Gipe, Litter Collector

Ben Henkel, Waste Collector

Ed Lyle, Waste Collector

Phong Pham, Driver/Warehouse Worker

Steve Smith, Waste Collector

David Speed, Waste Collector

Don Sutherland, Litter Collector

PREPARED BY

UW Recycling

3900 Seventh Avenue NE, Third Floor, Seattle, WA 98195

(206) 685-2811 / www.uwrecycling.com / recycle@uw.edu

EDITOR

Liz Gignilliat and Audrey Taber

COVER PHOTO CREDIT

Katherine B. Turner

DESIGN & LAYOUT

Allison Nitch

STATISTICS

Jessica Lisiewski



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Custodial Services and UW Recycling