

Eco Task Force



KEY INDICATORS

DATA OVERVIEW

The following data points provide an overall context for the group's activities and give a brief overview of the state of waste management at UNH. A complete set of data is given in the "Data Collection & Assessment" section.

WASTE GENERATION (per capita, in pounds)

2008	2009
46.32	51.30

RECYCLING RATE (percent diverted)

2008	2009
30.75%	39.34%

LANDFILLED WASTE* (tons)

2008	2009
1,288	1,612

* municipal solid waste only.

Fiscal Year 2008–2009

Integrated Waste Management Subcommittee Annual Report

UNH's Integrated Waste Management (IWM) subcommittee is comprised of UNH faculty, staff and students working together to evaluate, integrate and improve UNH's approach to waste management – including waste minimization, reuse, composting and recycling. It's mission is to evaluate the waste streams and waste management systems of the university and make recommendations for increasing diversion and improving minimization efforts.

The IWM subcommittee grew out of the efforts led by the Office of Environmental Health & Safety (EH&S) related to a Solid Waste & Environmental Management Program (SWEMP). This was combined with the need for the UNH Energy Task Force (ETF) to have a group that could organize UNH's participation in Recyclemania as part of the university's commitments under the American College & University Presidents' Climate Commitment (ACUPCC). These efforts require accurate data in order to prioritize the waste streams to be reduced, formulate programs for waste minimization, and facilitate participation in national tracking and assessment programs, such as STARS (Sustainability Tracking, Assessment & Rating System).

With the formation of the Ecosystem Task Force (EcoTF), the IWM group now functions as a subcommittee that reports directly to the EcoTF chair and the VP for Finance & Administration. The EcoTF has charged the IWM group with the following tasks:

1. Standardize and institutionalize data collection of all waste streams.
2. Develop standardized infrastructure and signage related to campus waste handling.
3. Establish minimization procedures ("zero waste") for large events.

Activities

Accomplishments & Projects

Since its formation, the group has been engaged in various projects in addition to the work of organizing and defining its goals and mission.

Green Cleaning Project

UNH and UNICCO Housekeeping staff in conjunction with the Green Cleaning Committee and the University Office of Sustainability continues to increase the recovery of recyclable items throughout campus and the reduction of such items in their own departments. Some of the goals achieved this past year are:

- ♦ 100% recycled toilet paper and paper towels used throughout campus
- ♦ New building and renovation standards include fast drying hand dryers with motion detectors for further reduction of paper products
- ♦ Green sealed or Eco Logo cleaning products for reduction of contaminated waste water
- ♦ Green sealed certified foaming hand soap

MEMBERSHIP

SUBCOMMITTEE STRUCTURE

The group is comprised of members of the university community who have a connection to the waste handling system through their work or interest.

Name	Affiliation
Brett Pasinella	University Office of Sustainability
David Gillum	Office of Environmental Health & Safety
Gene Gargano	Academic & Administrative Housekeeping
Guy Eaton	Facilities Operations & Maintenance
Janice Aviza	Health Services Administration
Jean Mitchell	Academic & Administrative Housekeeping

Name	Affiliation
Judy Koski	Academic & Administrative Housekeeping
Michele Chapman	University Office of Sustainability
Rick MacDonald	Dining Services
Steve Pesci	Campus Planning
Sue Bennett	Facilities Operation & Maintenance
Tim Cullinan	UGL Unico
Tom Byron	Grounds & Events

Members are appointed for a 2-year renewable term. The success of the group depends on the contributions of many other members of the UNH community.

- ◆ Purchase of cleaning chemicals in recyclable containers and dispensed by a proportioning system to reduce overuse.
- ◆ Purchase of floor tile and carpet cleaning equipment that uses ionized water and/or minimal amounts of cleaning chemicals thus eliminating chemicals in the waste water stream
- ◆ Continued upgrade of recycling receptacles in academic buildings
- ◆ Increase of recyclable recovery at athletic events by providing more containers, educating fans, and using a new trash recovery protocol after events

The main goal for the housekeeping departments this year is to better educate staff and students on the proper recyclables on campus and to increase receptacles for ease of recycling.

“Toss It” Stations

Members of the subcommittee and related staff worked with the planning teams for Commencement and University Day to help make the events more sustainable. In terms of waste, this resulted in the development of “Toss It!” Stations. Each station provided separate receptacles for recyclables, compost, and landfill waste, and a banner making the station highly visible at the crowded events. Additionally, volunteers were present at each station to help educate visitors about waste sorting.

Mass-mailing Project

In January of 2009, the three UNH staff councils chose several initiatives to pursue over the next year. One of the selected projects was to reduce the amount of excess paper generated on campus. The IWM subcommittee collaborated with and supported the councils’ efforts.

Several offices collected all unwanted mail (flyers, catalogues, post cards and magazines) for one month to evaluate the scope of the problem. The goal is not to eliminate paper communication completely, since many employees do not have access to email during working hours, but to develop ideas for reducing the amount of paper generated.

The project was described in the Campus Journal: <http://unh.edu/news/campusjournal/2009/Mar/25green.cfm>.

“Green” Sporting Events

In the fall of 2009, a football game was designated a “green event”. Announcements about sustainability were made throughout the game and local “green” businesses were invited to have a presence at the stadium. The “Toss It!” stations and many student volunteers were also utilized to educate attendees. In the winter of 2010, a UNH hockey game was designated a “green event” as well.

Members of the Living Green Community in Hunter Hall volunteered their efforts on a regular basis at “green” athletic events, RecycleMania initiatives and by building a tower of discarded water bottles at an event educating students about the environmental hazards of disposable water bottles.

Recyclemania

Recyclemania™ (<http://www.recyclemania.org>) is a 10-week waste minimization, recycling and composting competition between hundreds of colleges and universities nationwide that takes place each spring semester. UNH has participated for the past two years. Participating in the “Waste Minimization” competition is one of UNH’s commitments under the American

RECYCLEMANIA™ RESULTS

2009-2010

The Waste Minimization competition is highlighted due to its significance to our university-wide commitments.

Competition	Standing		Value	
	2009	2010	2009	2010
Grand Champion	68/206	46/267	30.75%	39.34%
Per Capita Classic	95/293	59/346	14.24 lbs./person	20.18 lbs./person
Waste Minimization	74/148	115/199	46.32 lbs./person	51.3 lbs./person
Gorilla Prize	59/293	46/346	242,895 lbs.	335,962 lbs.
Targeted material—Paper	87/204	17/223	5.16 lbs./person	12.87 lbs./person
Targeted material—Corrugated Cardboard	61/204	84/231	5.75 lbs./person	4.68 lbs./person
Targeted material—Bottles & Cans	47/210	57/223	3.34 lbs./person	2.63 lbs./person
Targeted material—Food Service Organics	42/86	60/127	2.33 lbs./person	3.03 lbs./person

Definitions of the various competitions can be found in the Appendix.

College & University Presidents' Climate Commitment (ACUPCC) and is part of WildCAP – UNH's Climate Action Plan. Additionally, Recyclemania has provided an excellent opportunity for focusing data collection efforts and in 2008 provided new data “snapshots” from Waste Management.

The results are shown in the box above. The Waste Minimization competition is highlighted due to its significance to our university-wide commitments and because it is one of the more difficult competitions, requiring the overall amount of waste generated at the university to be decreased, as opposed to simply increasing recycling.

Metrics & Indicators

Data Collection & Assessment

A key part of intervening effectively to minimize waste is to be able to assess our current practices and catalog changes over time and in response to actions taken by the university community.

Data Sources

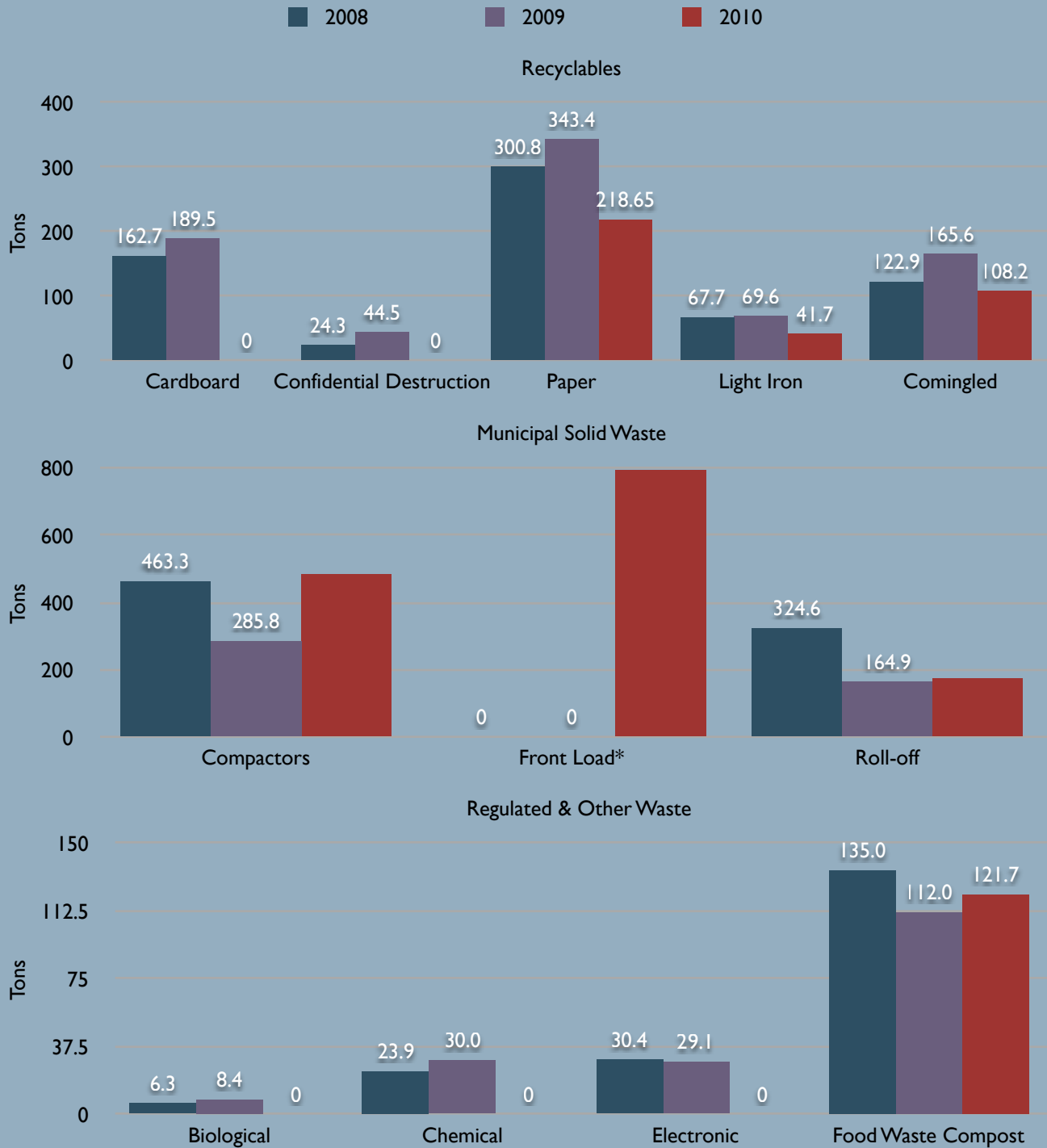
One of the first tasks undertaken by the group was to catalog waste streams that were currently being tracked and identify those for which data was not available. The following table displays UNH's current data collection capabilities and lists the staff member currently responsible for maintaining that data stream.

Waste Stream	Frequency	Contact
Batteries	Quarterly	Marty McCrone
Biological	Bi-weekly	Jeff Anderson
Cardboard	As Needed	Tom Byron
Chemical	Quarterly	Marty McCrone
Compactors	Monthly	Sue Bennett
Confidential Destruction	Monthly	Sue Bennett
Demolition	As Needed	Sue Bennett
Electronic	Monthly	Petr Brym
Food Waste Compost	Monthly	Scott Burklund
Front Load	Weekly	Sue Bennett
Light Iron	As Needed	Tom Byron
Paper	Monthly	Sue Bennett
Recyclables	Monthly	Sue Bennett
Roll-off	Monthly	Sue Bennett

WASTE GENERATION

PROVISIONAL FY08-09 DATA

The data below was collected by the group from easily available sources available to members. It should be reviewed and verified and any data from earlier years collected if available. In addition, any areas where data is not currently available should be investigated further.



* Front Load data is tracked by Waste Management, Inc. and is unavailable before FY2010.



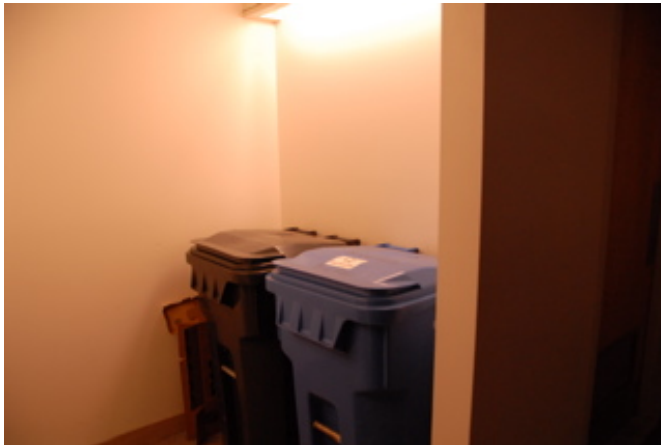
Sustainability Context

Climate Change Impacts

Disposal of municipal solid waste (MSW) in landfills generates an increase in climate change pollution through the emissions of methane – a greenhouse gas 21 times more potent than carbon dioxide – created by anaerobic decomposition. Methane emissions from landfills account for 22% of total emissions in the United States.

At UNH, the 1,612 tons of landfilled waste in FY08 generated 258.9 t CO₂e of greenhouse gasses. If UNH had not recycled or diverted a portion of its waste and disposed of the full 2,496 tons of waste it generated in landfills that number would have been 456.4 t CO₂e.

Recycling and waste minimization play an important role in climate protection at UNH and it is one component of UNH's Climate Action Plan – WildCAP.



Above: Recycling totes in use in Diamond Library.

Below: Improvised waste recycling station in use in Rudman Hall.

ECOSYSTEM TASK FORCE

IWM SUBCOMMITTEE

This report has been prepared by the Integrated Waste Management (IWM) subcommittee of the Ecosystem Task Force (EcoTF).

The overarching goal of the EcoTF is parallel to the Energy Task Force: to serve in an advisory capacity to the UNH President and be responsible for making recommendations on the full range of issues that relate to land use, landscaping, ecosystem health, biodiversity and development.

Recommendations will be formulated taking into account the teaching, research and engagement mission of the University, its core value of Sustainability, and its long-range Master Plan, including the Landscape Master Plan contained therein.

The EcoTF will complement and integrate the work of related groups including the Advisory Committee on Land and Property Use, the Committee on Real Property Acquisition and Disposal, the Woodlands Advisory Committee and others as appropriate.

ToDo

Conclusions, Recommendations & Next Steps

Institutionalize Data Collection

The group has made significant progress identifying the various waste streams generated by the university and the staff responsible for tracking those streams. However, the various streams are managed and tracked by different operating units across campus and there is little central coordination or analysis of the data that is collected.

Collection of such data is important for the group to understand the processes which generate the waste in order to determine interventions that will have the greatest impact, to be able to verify the effectiveness of any future actions by the group, and to respond to external reporting and tracking requests from groups such as STARS, Recyclemania, and the various state and federal regulations.

It is therefore the recommendation of the subcommittee that the University Office of Sustainability will coordinate annual data collection and coordination efforts. The various staff and units across campus that collect primary data will be responsible for providing data to UOS through the activity of this group. Data will be defined and collected in a consistent manner based on current collection methods and presented to the Ecosystem Task Force by the group.

Expanded Education & Outreach Efforts

It is the consensus of the group that a continued and revitalized education effort is the key to the continual success and improvement of integrated waste management efforts at UNH. The continual turnover of students as they move through their four years at UNH, as well as new hires of faculty and staff, and the continual stream of visitors to campus necessitate an ongoing effort.

The group recommends that a new program of outreach and education be established and distributed through existing university communication channels (e.g., Housing and Residential Life for incoming students, Human Resources for new hires, etc.). The group will work with the new Sustainability Stewards Program (<http://www.sustainableunh.unh.edu/stewards.html>) to develop and disseminate educational materials related to waste management.

To begin these efforts, the subcommittee will investigate development of video materials to support various training and orientation sessions.

Establish Procedures for Large University Events

Large campus events such as athletic games, commencement, University Day, and the fiesta picnic can generate large amounts of waste and occupy significant staff resources in planning and disposal efforts. These types of events also create a highly visible reflection of campus culture and attitudes to members of the UNH community and visitors. Given that the university has a strong external reputation as a sustainable campus, it is important that waste handling at such events do not convey a different message to visitors.

Based on the work done at “green” athletic events and with the “Toss It!” stations utilized at several events, it has been shown that waste minimization at such events is possible. It is the recommendation of this group that lessons learned from these events be built upon and institutionalized. Members of this group could work with the planning teams of future events to develop and incorporate a new common set of procedures to be followed for all events. Such procedures could be based on the “zero waste” principles that are now commonly being applied at a variety of institutions.

ToDo

Conclusions, Recommendations & Next Steps

Standardize Equipment & Labeling

Given the the consensus for improved education and outreach, a critical stumbling block to the effort is the sheer variety of equipment, labeling, signage, and procedures related to waste handling on campus. These can vary form building to building, or even at the level of a floor or department/office.

In order to overcome this confusion, the group developed the following sets of standards to be adopted by the university and followed in the purchase and deployment of new equipment. Since procurement of equipment is decentralized across operating units and departments and occurs both as part of new construction & renovation projects as well as during the day-to-day operation of the university, these standards would need to be approved by a central administrative unit and communicated to all employees who make procurement decisions. Having standards in place will facilitate the future development of outreach and education materials for faculty, staff, students, and visitors.

New purchases of related equipment would conform to the standards and older equipment would be repurposed if possible following the new guidelines or replaced though attrition.

Standardized Color Scheme

A common set of colors for waste handling equipment would be the first step in a more unified waste handling system and greatly improve community recognition and identification of the correct disposal receptacle.

Existing equipment could be assigned to use based on color and these recommendations are based on the prevalent color scheme currently in use across the campus.

Recyclables (Glass/Plastic)	Mixed Paper	Compost	Landfill
Green	Blue	Yellow	Black/Grey

Proposed System of Standard Colors for UNH Waste-handling Equipment

Standardized Signage

Labeling of existing equipment is inconsistent across the campus. In many cases, even when recycling stations exist they are not or are poorly labeled. It can be unclear what can be disposed of in each container and what can or cannot be recycled/composted. Also, it often falls to individual housekeepers to make and maintain signage for the stations in their area.

Given these challenges, the group developed a standard set of signs that can be easily printed and deployed as needed. It is recommended that a procedure be developed for deploying and maintaining the signs and funds be made available for their production and distribution.

Signs can be downloaded from the University Office of Sustainability website:

http://www.sustainableunh.unh.edu/biodiv_ed/wastemanagement.html

ToDo

Conclusions, Recommendations & Next Steps

Standardize Equipment & Labeling (cont.)

Preferred Recycling Equipment

The group recommends that a common set of equipment be utilized across campus. New purchases of equipment and replacement of older equipment should follow these standards.

In order to determine which types of equipment should be used in various settings (outdoor, office, hallway, large classroom, small classroom, etc.) the group recommends that an inventory of existing equipment be completed. This would allow the group to make decisions on appropriate choices for a standard set of containers and to be able to estimate the costs of upgrading the existing infrastructure to the new standards.

Investigate Single-Stream Recycling

Research the logistics, cost, labor, and minimization ramifications for single stream recycling to determine if it is a feasible or desirable alternative to the current recycling system.

Investigate Hiring Waste Management Coordinator

The rationale of this subcommittee is to provide a planning and coordination role that is lacking in the current university structure where waste management activities and administration are distributed amongst several offices and operating units. Effectively performing this role requires participation of a larger number of staff. Centralizing activities and designating a staff member to focus on and oversee these functions could not only prove a more efficient use of time and resources, but produce better results than a subcommittee.



Left: UNH students show off a tower they built from 1,500 bottles – the number of water bottles purchased at the university in one week.

Below: A three-bin “Slim Jim” recycling system in use at Diamond Library.



Appendix

RecycleMania Categories

RecycleMania is made up of four primary competitions, as well as four targeted material competitions. Participating schools are automatically included in each category for which recycling and trash data are provided.

Grand Champion

The Grand Champion category combines trash and core recyclable materials to determine a school's recycling rate as a percentage of its overall waste generation. Successful colleges and universities in this category demonstrate their achievement in both source reduction and recycling.

Stephen K Gaski Per Capita Classic

Schools compete to see which can collect the largest combined amount of paper, cardboard and bottles and cans per person. The Per Capita Classic is the original RecycleMania competition.

Waste Minimization

Schools compete to see which produces the least amount of municipal solid waste (both recyclables and trash) per person. This competition is intended to reward those schools that generate the least amount of combined waste and recyclables, emphasizing reuse and source reduction over recycling.

Gorilla Prize

This category recognizes the larger schools that recycle the highest gross tonnage of combined paper, cardboard and bottle and cans during the ten-week competition, regardless of campus population.

Targeted Materials

In addition to the four primary competitions, schools may compete in four targeted material categories including Paper, Corrugated Cardboard, Bottles and Cans, and Food Service Organics.