

## Pilot Projects and Case Studies

Through the course of our research as well as conducting pilot recycling projects at the College of St. Scholastica in Duluth, MN, and the Duluth K-12 Public School system, we have gathered best practices related to recycling textbooks. Several of the case studies are listed below and more may be found on the NWF web pages dedicated to this project.

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### Pilot Projects

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**For More Information:**

Laura Banken (student)

P: (763) 226-6954

E: lbanken@css.edu

Graduation date: 05/2014

#### The College of St. Scholastica: Pilot Project

The College of St. Scholastica is a private, four-year college located at 1200 Kenwood Ave., Duluth, MN 55811. The current enrollment of the school accounting for graduate and undergraduates is around 4,000 students.

**Campus Sustainability:**

The College of St. Scholastica has a student-led organization on campus devoted to environmental sustainability known as "Earth Actioners." Earth Actioners take on environmentally friendly initiatives to raise student awareness of the impact they can have on the environment and encourage environmentally responsible practices. Another group on campus, the Environmental Stewardship Advisory Committee is dedicated to sustainability and is comprised of students, faculty and staff. This organization functions as an advisory board to the President's Staff about green initiatives on campus.

#### **TEXTBOOK RECYCLING**

The College of St. Scholastica was the site of our higher education pilot recycling project under this grant, and the textbook recycling event on campus was held in May 2012 during the week of Spring finals. Three Gaylord boxes of both hard- and soft-cover books were collected during this event. The event was coordinated by National Wildlife Federation Campus Ecology Fellow Laura Banken in coordination with the Environmental Stewardship Advisory Committee on campus. The progress of the event relied on coordination with the scheduling department on campus as well as on cooperation with the facilities department and custodial staff.

Books were collected in multiple locations on campus. Gaylord boxes were set up in the main building outside the bookstore and another set up in the Student Union; two boxes were set up in the Science Building; one box was located in a main lounge and another outside of a commonly used computer lab. There were also boxes located in the main lounge of the freshman dorm and one in a central upper classmen apartment building.

The effort was communicated on campus in a student bulletin that is emailed out to the student body daily. It was also in the faculty/staff bulletin which is emailed to the faculty and staff daily. Posters were hung throughout campus in advance.

The campus responded with enthusiasm to the event, hoping that it would be an annual process. Temporary storage for the boxes before they were distributed throughout the campus was coordinated with the facilities department. A challenge involved students taking some of the books out of the boxes to try and sell them. The custodial staff mentioned that they would have preferred for the boxes to be smaller as they would be easier to maneuver around and

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collection easier to implement. A possible way to counter both of these challenges would be to find a smaller container with a slot that allows for the books to be deposited into the box but prevents people from gaining access to the books.

The pilot event was funded by a combined effort from the National Wildlife Federation, McGraw-Hill Companies and NewPage Corporation. Approximately 8,000 pounds of books were collected at this pilot event.



### Duluth K-12 Public School District: Pilot Recycling Project

The Duluth K-12 Public School District was the site of our K-12 textbook recycling pilot project. National Wildlife Federation coordinated with staff at the Duluth Public Schools (DPS) District Central Administration offices to host a pilot textbook recycling project involving the District's 13 schools -- nine elementary schools, two middle schools and two high schools.

Over the past two years, Duluth Public Schools have gone through many changes including some schools closing and merging with others, and teachers have been encouraged to get rid of curriculum that is not current and no longer useful. The unwanted material was sent to the Central Administration Building to be sorted and packaged for recycling.

It is not a policy of the DPS to ask teachers to give up old curricular materials, however there is a process in place for when teachers have materials that are no longer wanted. Materials are reviewed before being put into the recycling pile; those that are still current are used to supplement classroom libraries. Materials not donated to the library or other educational causes are sent to a local recycler for processing - removing the front and back covers and bindings so that the pages can be recycled.

#### **For More Information:**

Carla Harrold

District K-12 Reading &  
Language Arts  
English Language Learners  
Curriculum Specialist  
Duluth Public Schools  
Duluth, MN

P: (763) 336-8700 ext. 1117

In June 2012, Duluth Public Schools packaged four pallets of books for recycling, about 6,300 pounds; the pallets were approximately 4 x 4 x 4. The District's receiving department, helped coordinate this effort. Hartel's DBJ Disposal Companies in Duluth (<http://www.hartels-dbj.com/>) picked-up the books and transported them to a NewPage storage facility. The books were then combined with another load from the College of St. Scholastica's textbook recycling pilot project hosted in mid-May. The two collections were combined because a larger load of books was more cost effective than arranging pick-up and recycling for two smaller loads. The total load of books that were collected for recycling was 12,000 pounds. While we initially intended these books to be processed and sent to NewPage Corporation's Duluth deinking facility, the mill could not use them because the covers and bindings were still in place. Therefore, it was arranged with International Paper to collect the full load of books and transport them to their facility in Rosemont, Minnesota. According to International Paper, the waste recovered most likely was manufactured into new tissue paper.

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Examples of what can occur if proper packaging, strapping and securing of collected books is not done are shown below. The books picked up from Duluth Public Schools were stacked in many individual boxes on the pallets with no shrink-wrap to secure the load.



**Lessons Learned:**

- Use an existing recycling company with whom the school or organization already works. Contact the company to see if they can pick-up and process books for recycling. If not, research other recycling companies in the community that accept books. A good resource to locate local recycling options is Earth 911 (<http://earth911.com/>).
- Prepare your books for pick-up: Use Gaylord boxes, if possible, and use shrink wrap to secure each package. This ensures containment of the material and also the safety of the workers. Send pictures of the current state of the boxes of books and packing to the recycler before pick-up to ensure that everything is packaged appropriately for pick-up day.

## Case Studies

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### **For More Information:**

Tod R. Scott

Waste Stream Manager

University of Wyoming

P: (307) 766-3590

E: [TodS@uwyo.edu](mailto:TodS@uwyo.edu)

### University of Wyoming

*The University of Wyoming is a public, four-year school with an enrollment of 13,000, located in Laramie, Wyoming.*

#### **Campus Sustainability:**

The University of Wyoming (UW) is positioning itself to become more sustainable in a logical and deliberate way. Over the last five years, significant advances have been made. President Buchanan created the Campus Sustainability Committee (CSC) in 2005 “to serve in an advisory capacity to all campus departments, colleges and other entities in an effort to advance environmental and economic sustainability at the University of Wyoming.” In 2007, President Buchanan signed the American College and University Presidents Climate Commitment (ACUPCC), committing UW to become carbon neutral by 2050. In 2009, UW submitted its Climate Action Plan (CAP), UW’s guiding document to reducing carbon emissions and becoming more sustainable. Campus sustainability website: <http://www.uwyo.edu/sustainability/index.html>

#### **TEXTBOOK RECYCLING**

The University of Wyoming (UW) has been recycling textbooks, both soft- and hard-cover, for more than ten years. UW donates about 10,000 pounds of books to Better World Books each year to support literacy programs in the U.S. and across the world; the books that are not donated are recycled with other paper recycling. An estimated 20,000 to 30,000 pounds of books are recycled each year (2 to 3 times the amount donated). More than half of the books collected are hard-cover books (60 percent hard-cover and 40 percent soft-cover).

The recycling department (four full time employees and 11 part time students) coordinates this effort, including collecting and processing the books, with assistance from the bookstore, one campus club, and some individual staff and faculty members.

Bins are put out during book buyback times at the book buyback area of the bookstore. UW also collects books year round from students, faculty and staff in the regular recycling bins.

As mentioned, UW works with Better World Books (BWB) to donate books that are in good shape and valuable. BWB provides a scanner to plug into a computer and log on to their website; BWB also provides boxes to ship the books. UW scans the ISBN numbers to see if they are wanted for donation; if so, shipment is arranged and paid for by BWB (each shipment is a pallet or two, about 90 boxes). The books that are not donated (through BWB) are processed for recycling - a paper cutting machine is used to remove the spines and covers and the paper is recycled. The paper cutting machine is a Horizon PC-45 which has a 22-inch paper knife that works hydraulically/electrically. The campus uses a mix of recycling staff and volunteers, both students and community members in this effort. The paper is sold to ARK Regional Services; the campus paper is combined with ARK’s other customer’s similar commodities and sold by the semi load to mills.

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UW doesn't do much in the way of promotions other than placing bins in good locations. There are a few other organizations on campus that also collect books as a fundraiser and they promote their efforts separately. On occasion, this effort has been featured in the campus paper.

The biggest challenge in this effort is that more books are collected than can be handled by the existing staff and volunteers so advertising this opportunity has not been a priority. There are plans to create a website featuring this effort; however that has been on a slow timeline.

Financing for book recycling comes from three sources: sale of commodities, student fees, and Pepsi contract with UW. There is no profit, but between the three funding sources, the campus breaks even.

Student employees get paid \$7.50/hour, spending three or four hours a week on books, specifically. Full time staff collects the books with other recycling, so the books don't really add to the time spent in collection.

See Appendix A for more information on national resources, including Better World Books.



## Columbia College

Columbia College is a private four-year college with 12,000 students enrolled located at 600 S. Michigan Ave., Chicago, IL 60605.

### **For More Information:**

John Wawrzasek  
Recycling Manager

P: (312) 369-7675

E: [recycling@colum.edu](mailto:recycling@colum.edu)

### **Campus Sustainability:**

In 2005, Columbia made the effort to replace thousands of inefficient fluorescent lights in academic buildings. Classrooms have now been fitted with heating and cooling controlled by self-monitoring equipment with sensors and time-of-day scheduling that is coordinated with class schedules. Newly renovated bathrooms, office suites, conference rooms and classrooms have been equipped with motion sensor lights. Columbia College purchased renewable energy certificates in an amount equal to 30 percent of its electrical energy from Community Energy, a Pennsylvania-based developer of wind energy.

## TEXTBOOK DONATION/REUSE

Columbia College has collected textbooks for recycling since 2007. Each year approximately 2,760 pounds of both soft- and hard-cover books are donated from the library bookstore and dorms to be recycled. Recycling Manager John Wawrzasek coordinates the effort and has student employees who help with the labor logistics.



Books are collected in a few locations on campus. A cart in the library and bins are also available inside and near the bookstore so it's easy for bookstore employees to help direct students and others to drop off their unwanted books.

This opportunity is advertised to the student body and campus community with emails as well as posters and weekly printed calendars which are hung in main lounges around campus.

The biggest hurdle to overcome was finding where the major book sources are on campus and coordinating an effort between them. The only cost incurred by the college was that of student workers. The collected books are sent to Better World Books for donation distribution.



## Hamilton College

Hamilton is a four-year private liberal arts college located at 198 College Hill Road, Clinton, NY 13323; the enrollment is 1,820 students.

### **Campus Sustainability:**

Hamilton College is committed to protecting and sustaining the environment through institutional processes, management facilities and curriculum. Hamilton College has established goals to reduce its carbon emissions 50 percent by the year 2020 through use of renewable energy. Further goals include development of programs to raise awareness of conservation, use of Leadership in Energy and Environmental Design (LEED) in new construction and major renovations, and improvement of recycling. Hamilton College makes use of the Cram & Scram program to reduce landfill waste from the college by 28 percent each May. This program has been used by the college since 2007 and is a student-run program. The program removes items that could be left behind in a dorm including textbooks, furniture, kitchen supplies, clothing, bedding, etc.

<http://www.hamilton.edu/sustainability>

### **For More Information:**

Terry Hawkrige  
Assistant Director of  
Grounds, Horticulture and  
Arboretum

P: (315) 859-4075

## **TEXTBOOK DONATION/REUSE**

Hamilton College's Cram & Scram, started in 2007, is a non-profit, student-run recycling program aimed at reducing the waste that comes every summer as students move out of their residence halls. The annual Cram & Scram reduces Hamilton's landfill waste each year by 28 percent. The program removes nearly every type of item that could feasibly be left behind in a dorm room, including textbooks, furniture, kitchen supplies, toys, clothing, bedding, food, and small appliances. Under the Cram & Scram program, items are recycled, donated or sold back to students in the fall to be reused. The Cram & Scram program has allowed the college to reduce its landfill waste by more than 90 tons in previous years, according to a May 22, 2012 article, Cram & Scram Makes Tons of Difference in Recycling Effort.

<http://www.hamilton.edu/news/story/cram-scram-makes-tons-of-difference-in-recycling-effort>

In 2012, an estimated 3,500 pounds of both soft- and hard-cover books were recycled, up from 2,300 pounds in 2011.

Terry Hawkrige, Hamilton's Assistant Director of Grounds, Horticulture and Arboretum, is the major coordinator from the administrative perspective. Twenty students are hired on a stipend for three weeks to sort through everything that is left for Cram & Scram beginning the week of finals in May. Students work on this project ranging from 10-40 hours for three weeks; costing \$10,000 for stipends and another \$3,000 to feed them. When the program started 149 tons of materials (books included) were sent to landfills in May. Since the program started, the number has been reduced down to 79 tons of materials sent to landfills in May.

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Materials are collected in May. There are collection areas in place in all of the dorms. Students may also leave items in clear plastic bags they wish to donate when moving out. Those items are picked up by the student workers and sorted through.

Books are picked up and weighed by Prevent Child Abuse NY to whom the books are donated.

Emails to students, faculty and staff are sent out along with the link to the Prevent Child Abuse website.

This effort has been met largely with approval from the administration. The students find this a convenient program because if there are things they no longer want, they can get rid of those materials in an environmentally responsible way with little to no effort on their part. This also makes sense because the custodians need to clear out all of the dorms on campus and clean them within ten days of the end of the semester. Before this program came into place, this constituted mandatory overtime for the custodians. Now that there are students hired to help clear out the rooms, it cuts back on the work load of the custodians.

Two ten-foot U-hauls cost around \$800 for the amount of time they are needed on campus. Rental trailers cost \$150 per month per unit. \$1,800 is needed for storage. \$3,000 - \$4,000 for students to stay to sort and sell the items. Administration prepays money for expenses. Sale money goes towards labor initially. Overall, it is estimated that this program is a wash financially for the administration.



## University of North Carolina at Greensboro (UNCG)

The University of North Carolina Greensboro is a four-year public school with a total student enrollment of roughly 18,000. The campus is located at 1400 Spring Garden St., Greensboro, NC 27412

### **For More Information:**

Ben Kunka

Waste Reduction and Recycling

P: (336) 334-5192

E: bakunka@uncg.edu

### **Campus Sustainability:**

In 2009, sustainability became one of University of North Carolina at Greensboro's five core values. Therefore, the campus has required all new building and major renovation projects to attain LEED Silver standards. Energy consumption has dropped 14 percent since 2002 and heating and cooling systems have been updated to provide maximum levels of efficiency.

## **TEXTBOOK RECYCLING AND DONATION/REUSE**

The University of North Carolina at Greensboro (UNCG) has recycled hard-cover books for more than seven years with an estimated 60-100 tons of hard-cover books recycled each year; soft-cover books are collected with the comingled recycling streams and are not part of this estimate. Ben Kunka from the office of Waste Reduction and Recycling coordinates with the campus library and its staff on this effort.

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The books are collected at the library loading dock in large Gaylord boxes on a pallet or around campus in 95-gallon two wheeled roll carts which are then containerized into a Gaylord box on a pallet. Year round collection on campus is offered.

Student volunteers from service learning classes sort through the books following the process set up by Better World Books, who pays for the books. Unwanted books (not accepted by Better World Books) are sold primarily to one of three recycling brokers based on price offered: Green Day Waste and Recycling; Recycling Management Resources; and Carolina Fibre. A paper recycling broker offers UNCG \$70-\$140 per ton of fiber content. Books are collected whole and paper fiber mills are in charge of de-binding and shredding. This effort requires 30 hours per year. Lately the cost to gather the books has been less than the money paid by Better World Books meaning the college generates slight revenue from this effort.

There is not a lot of outreach and promotion of this effort since most students sell their books to Barnes and Noble on campus; the rest of the books that are received are from the library. The challenges faced with this effort include collecting books separately from the single-stream recycling, the use of special containers and forklifts, and employee safety is also a concern because of the heavy materials collection and processing.

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