

Wake County School Recycling Program Case Study

Jurisdiction:	Wake County, NC
Best Management Practice:	Public Schools Recycling Program
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Others organizations:	UNC Environmental Finance Center, R.W. Beck Consultants, Paper Stock Dealers

Introduction:

School recycling programs have increasingly been trimmed down or eliminated due to the challenges of paying for them. School recycling programs may receive some revenue for their recyclables, however these amounts are small and don't do much to offset high collection and transportation costs. While school recycling programs are often costly, they do provide important environmental education benefits. Recycling is a hands-on tool for teaching students about the environment and personal responsibility. The environmental education students receive at school often continues into their homes.

Objectives

The Wake County Solid Waste Management Division (SWMD) started a pilot recycling project in order to:

- Create a system-wide recycling program for the Wake County Public School System that will realize substantial disposal cost savings as well as establish a standard for environmental responsibility.
- Create an efficient and effective school recycling program in Wake County that can serve as a model for others.
- Expand the program to as many schools as possible without increased cost to Wake County.
- Provide education to schools to increase participation in the recycling program.

Description:

Since 1991, Wake County has operated a school igloo recycling program on public school campuses. These locations collect aluminum, plastic, glass, newspaper and mixed paper and are open to the public. Wake County pays all program costs and the Wake County Public School System (PSS) approves final site locations and receives all revenue generated from the sale of the recyclables. In 2003, there were 42 igloo sites which collected 1,132 tons/year at an annual cost of \$429,500. The average amount collected by each school in 2003 was 3,210 pounds and the annual revenue returned to the schools based on performance was \$6,859.

In 2003, the SWMD began to evaluate all of their programs and services based on whether they were integrated, comprehensive, efficient, effective and sustainable. It was determined that the school recycling program could be changed to increase services to schools, reduce

costs, use partnerships with the school system and local cities/towns, and form the foundation for a sustainable education system for environmental stewardship.

The SWMD partnered with the Wake County Public School System (WCPSS), the City of Raleigh, and the Town of Cary to test different operational and educational recycling ideas at 15 Wake County schools. In the pilot program each school received:

1. External recycling containers - roll carts, recycling dumpsters
2. Training on the importance of recycling and how to recycle
3. Lesson plans, books, a video and other recycling educational materials
4. Incentives (trading cards, pencils, coupons, baseball tickets)
5. Classroom recycling bins
6. A half-penny per pound for the recyclable material collected

The SWMD's solid waste management consultant, R.W. Beck, Inc., analyzed recycling tonnage and trash volume data from thirteen schools participating in the pilot program to determine changes to the amount of trash disposed after the implementation of the pilot recycling program. R.W. Beck's data analysis projected that approximately 13.9 tons of solid waste per week would be diverted if the entire Wake County PSS came fully online with the pilot program. This would divert 503 tons annually from the landfill, which at current landfill tipping fees of \$29.50, would yield an annual disposal cost savings of approximately \$14,839.

After the pilot program ran for six months, the University of North Carolina's Environmental Finance Center (UNC EFC) facilitated a focus group discussion to gain feedback from the participating pilot schools regarding operational and educational aspects. One goal of the meeting was to gather feedback from participants on their recycling program's operational aspects. Another meeting focus was to get comments concerning educational materials and incentives. (See attachment 1 for notes from the meeting).

The pilot program feedback was used to determine the operational and educational aspects of Wake County's new "Feed the Bin" school paper recycling program which replaces the igloo recycling program in phases over the next 2 years.

In May 2004, the SWMD requested responses from contractors to collect, transport, process and market paper and potentially other materials from the schools. UNC EFC reviewed the school RFP to assist Wake County with getting the best price for the services they requested. (See attachment 2 for final RFP). Recycling collection has become a commodity and an RFP must be detailed and clear about the expectations of the contractor. The RFP Selection Committee used a Forced Matrix to evaluate and choose a contractor.

Results:

The results of the pilot program show that the Wake County SWMD can increase services, reduce costs and utilize partnerships with other organizations by phasing out the igloo recycling program and implementing an internal paper collection system in the schools. SWMD staff believes this new system will improve overall program efficiency, save up to 39% per year, and form the foundation for a sustainable recycling program supported by education for students.

A five year contract was negotiated with Paper Stock Dealers in the amount of \$356,222. The first year cost is \$34,596, with the per unit price decreasing as schools are added each year. Services will include placing roll carts at each participating school, collecting mixed paper (sometimes including newspaper) weekly from each participating school, providing monthly invoices with detailed data for each school, and creating a draft School Recycling Standard Operations Procedure. The contractor will retain 100% of the material revenue. In lieu of revenue sharing, grant funding for environmental education projects will be available to the schools.

The tables below demonstrate the dramatic reduction in cost per school under the new contract.

Table 1 Estimated Program Cost for the Old School Recycling Program

Actual Annual Costs	Number of Schools	Total FY Cost	Cost/School/Year
FY 01-02	51	\$445,335	\$8,732
FY 02-03	48	\$427,411	\$8,904
FY 03-04	46	\$365,546	\$7,946

Table 2 Estimated Program Cost for the New School Recycling Program

Estimated Annual Costs (weekly collection with Roll Carts)	Estimated Number of Schools	Estimated Total FY Cost	Estimated Cost/School/Year
FY 04-05	47	\$34,596	\$736
FY 05-06	87	\$59,382	\$683
FY 06-07	126	\$79,384	\$630
FY 07-08	145	\$91,430	\$630
FY 08-09	145	\$91,430	\$630
Contract Total		\$356,222	

Supplementary Documents:

Attachment 1: Notes from EFC's teacher meeting

Attachment 2: Final version of RFP