

**INNOVATIVE GRANT
SW161**

FINAL REPORT

**New River Solid Waste
Association**

Introduction

New River Solid Waste Association (NRSWA) began discussing the need for a cardboard recycling program for Baker, Bradford & Union Counties in 1997. When the Florida Department of Environmental Protection introduced the Innovative Grant Program it was decided that NRSWA would submit an application for funds to begin this program.

The objective was to recover as much of the Old Corrugated Containers (OCC) as possible from the waste stream. This would be quite a challenge with the rural layout of the three counties. The project would be different from most OCC programs in that one employee and one collection vehicle would collect material from the business community in all three counties. The goal would be to eventually begin collecting OCC at each of the county's rural drop-off centers.

This final report will detail how the program was implemented and the results of the program in the first year of operation.

Implementation

The first step in implementing the program was to hire an employee to be responsible for the collection and processing of the OCC. This was accomplished after advertising the position in all three counties. The employee was trained in the current NRSWA recycling operations.

The purchase of equipment was a major portion of use of the grant funds. A compaction trailer that could be pulled by a $\frac{3}{4}$ ton or one ton vehicle was purchased. The trailer was self-contained in that it has an engine to run the hydraulic mechanisms. This allows the trailer to be pulled by more than one designated vehicle. The use of the trailer also limits down time due to mechanical failure of the truck in that another truck with the proper hitch can pull the trailer.

A $\frac{3}{4}$ ton truck that was already in use by NRSWA in the landfill operation was retrofitted to pull the trailer. This retrofitting involved putting the proper bed and hitch on the truck to pull the trailer. It was discovered after some use of this vehicle that it was not adequate to pull the trailer. A heavier vehicle was needed due to the combined weight of the trailer and OCC it was hauling. After a few weeks of use this vehicle began experiencing various mechanical problems. The truck was eventually removed from this service and it was decided that an existing roll-off truck with a container designed for OCC collection would be used for collection until an alternate vehicle could be acquired.

After careful consideration of alternatives it was decided that NRSWA would purchase a new truck for servicing the igloo recycling containers at the rural drop-off centers. The old igloo service truck, a Ford F800, would then be used on the OCC collection. The Ford was considerably larger than the $\frac{3}{4}$ ton truck and was in better condition. After the purchase of the new truck the igloo servicing equipment was removed from the Ford and it was fitted with a bed and hitch to pull the trailer. This has proven to be a very good combination and no major problems have been encountered using this truck with the trailer.

A new baler was purchased with the grant funds to bale the OCC at the NRSWA Processing Center. The baler purchased is identical to an existing baler used by NRSWA in baling plastics. By having identical balers parts are interchangeable and both can be used for OCC or plastics baling. With this baler being classified a "Heavy Duty" baler the weight of the bales of OCC have exceeded expectations. The average weight of the OCC bales is 1300 pounds. This piece of equipment has been virtually maintenance free.

The only other equipment purchased with the grant funds was a closed-top roll-off container designed for the collection of OCC. The container has four slots along each side for OCC to be inserted. This container is the one mentioned above. It is hauled with a roll-off truck that NRSWA had purchased a few years ago. A second container of the same kind has been purchased also. These containers are used at two businesses in Baker County that generate heavy quantities of OCC. The containers have to be emptied on the average of once a week.

Implementation (continued)

The only other equipment-oriented material that was purchased was wire to make the OCC collection bins. After investigating several types of bins/containers it was determined that the best method would be to use square wire bins at each of the businesses. These bins would be made from 52-inch tall cattle panels. These panels are sturdy enough to provide stability for the bin and convenience for the customer and collector. The bins are made in various sizes depending on the amount of OCC generated by the business and the frequency of collection. Most of the bins are 8'x8' in size. The bins are usually placed near the businesses' solid waste dumpster. The OCC is broken down and placed into the bin by the customer.

After all of the equipment was purchased the program was started in Union County. Several businesses found to be heavy generators of OCC were targeted first for the program. The bins were placed and a route schedule was established. A route was then established in Baker County.

One problem that occurred in Baker County was that the wire bins were taken from several of the businesses. It is speculated that they were being taken to be used as dog pens. These bins were promptly replaced.

The Baker and Union County routes were originally intended to be serviced twice weekly. It was soon discovered that the Union County route could be reduced to one day a week with enlarging the size of bins at the businesses. The Baker County route began and continues to be serviced two days a week.

A full Bradford County route was not implemented during the first year of operation. With the vehicle mechanical problems discussed earlier this route had to be postponed until a reliable vehicle was in use. Not having the Bradford route in place significantly lowered the amount of OCC that was anticipated for collection.

All of the OCC collected is brought to the NRSWA Processing Center where it is baled and stored until a truckload is ready for shipment. During the first year of operation over 75 tons of OCC were collected.

Implementation (continued)

Project Timeline

Month	Activity
July 1998	Employee hired
August 1998	Compaction trailer purchased Retrofitting of $\frac{3}{4}$ ton vehicle begins Call for bids on baler
September 1998	Retrofitting of truck completed Baler delivered OCC collected from two new businesses during their initial stocking period
October – December 1998	Collection points established in Baker, Bradford & Union Counties
January – March 1999	Roll-off containers for OCC purchased $\frac{3}{4}$ ton truck becomes disabled Roll-off truck used for collection Additional collection points established in Baker County
April – June 1999	Former igloo recycling truck (Ford F800) retrofitted for OCC trailer Additional collection points established in Baker & Union Counties Initial contacts for collection points made in Bradford County Four truckloads of OCC sold

Project Results

During the first year of operation of the OCC Recycling Program not all of the initial goals were met. The mechanical breakdown of the first vehicle slowed the implementation of the program considerably. However, some goals were exceeded. The size and density of the bales of OCC have been greater than expected and this has resulted in fewer bales being needed to achieve truckload quantities. Baker County quantities of OCC have been greater than expected and the business community has met the overall program with much enthusiasm. Implementation in Union County was almost totally completed within the first year. It was hoped however that a full route would have been established in Bradford County within the first year.

The technology utilized in this program is rather simple, a truck pulling a compaction trailer collecting material from wire bins and then baling the material for shipment to market. However simple this approach it is still a “new technology” in Baker, Bradford & Union Counties in that this type of program has never been attempted. This is a collection method that can easily be utilized in any size county. However, it definitely is a system that lends itself to success in rural counties where collection points are not located in close proximity.

This simple approach collected and marketed over 75 tons of OCC in the first year. Market prices were low in the beginning but rebounded later. The program fell way short of paying for itself in the first year. However, with market stability and increased tonnages from additional collection points this should begin to turn around within a couple of years.

The 75 tons of OCC recycled represents a savings of almost \$2,000 in tipping fees to the counties. Again, as tonnages increase this savings will become more substantial. When this savings is included in the overall finances of the program the actual cost of operation is and will be decreased even more.

This program has allowed NRSWA to implement a program for Baker, Bradford & Union Counties with no cost to local citizens or businesses. With no foreseen major capital expenditures in the near future, increased tonnages, and landfill tipping fee and space savings the recycling of OCC should help to subsidize other recycling programs that are not near as profitable.

The future for the program looks bright. OCC market prices appear to be stable and the amount of material collected increases monthly. NRSWA is currently collecting on average a truckload of material each month. With a soon to be established route in Bradford County these quantities should increase substantially. The goal is to achieve two truckloads of OCC per month. With current market prices this would generate approximately \$38,000 per year, which will more than pay for the operational cost of the program.

Project Results (continued)

The OCC collected with this program is a material that would not have been captured without this program. Florida State Prison and a couple of private businesses are collecting some OCC, but very little of this material is collected from small businesses and none of the material is generated by citizens. The NRSWA program will eventually impact all of these areas.

Attached, as part of this report is a quarter-by-quarter budget summary of how the grant funds were expended. This does not reflect the in-kind services rendered by NRSWA. These in-kind services included:

- Recycling Coordinator administering the day-to-day operations of the program including setting up collection points, educating business employees, marketing material and administering grant.
- Finance Officer issuing checks, purchase orders for equipment, etc.
- Cost of bid process, telephone, postage, etc.

**Grant Funds Remaining
SW161**

The 5% of each reimbursement request submitted during the grant period totals: **\$3,254.59**.

BUDGET SUMMARY:

Equipment	\$37,500	\$34,244	\$0.00	\$3,325	\$0.00	\$69.00
Retrofitting Truck	\$3,500	\$1,788.83	\$79.70	\$49.98	\$3,467.50	\$1,886.01
Wire (supplies)	\$800	\$870.88	\$0.00	\$0.00	\$0.00	\$70.88
Fuel	\$1,500	\$6.00	\$279.20	\$726.09	\$768.59	\$279.88
Salary	\$13,500	\$2,355.68	\$4,282.93	\$3,262.63	\$4,102.89	\$504.13
Fringe Benefits	\$8,292	\$1,402.23	\$1,804.44	\$1,725.75	\$2,311.45	\$1,048.13
<i>Totals</i>	\$65,092	\$40,667.62	\$6,446.27	\$9,089.45	\$10,650.43	\$1,761.77