



**NORTH CAROLINA  
RECYCLING BUSINESS  
ASSISTANCE CENTER**

A cooperative effort  
of the N.C. Department of  
Environment and Natural  
Resources and the N.C.  
Department of Commerce.

# Recycling Works

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## Blue Ridge Recycling Receives National Carpet Industry Grant

*By Matt Ewadinger, RBAC Manager*

In late April, Robert Gleaves, president of Blue Ridge Recycling located in Stallings, N.C., accepted a \$23,250 grant from the Carpet America Recovery Effort (CARE) to assist in the development of a landscaping-type stepping stone product manufactured from shredded post-consumer carpet using a compounder and compression molding technique.

"This is really an exciting venture because of the research involved in this project," said Robert Peoples, Ph.D., executive director of CARE. "If it proves successful, then carpet recycling would gain greater exposure to a wide variety of entrepreneurial ideas and markets."

The compounder is a patented technology

designed to batch feed a variety of recycled plastics - including post-consumer carpet - to compression molds capable of manufacturing a wide range of potential products. Should the research and development activities associated with this project produce favorable results, carpet recyclers and entrepreneurs could develop manufacturing facilities nationwide.

"The supply of post-consumer carpet needed to manufacture stepping stones at just one location could be between 3 and 4 thousand tons per year. Multiply that by 10 or even 50 locations across the nation and the potential to divert carpet from landfills can be enormous," said Gleaves. "The output of a stand-alone carpet recycling plant using this technology will vary depending on what product is manufactured. A large and heavy product like a pallet, for instance, could consume up to 90,000 tons per year of post-con-

(See **CARE**, Page 3)



**Robert Gleaves accepts check from CARE Board Member and Grant Committee Chairman, Seshadri (Ram) Ramachandran of Invista.**

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# Pallet Recycling Industry Needs More Pallets

By Sherry Yarkosky, Industrial Development Specialist

While wooden pallets are a universal and critical part of product transportation, the pallet recycling industry is an important component of North Carolina's economy. A recent pallet recycling study performed by N.C. State University-Wood Products Program in May 2004 shows that the recycled pallet industry in North Carolina employs more than 3,300 people and generates an annual business volume (36.5 million pallets) estimated at \$173 million.

Results from the survey also show that the North Carolina pallet industry could recycle more pallets than it does at present. At current operating capacity, 36.5 million pallets are recycled each year in North Carolina. At full capacity, 44.2 million pallets would be recycled each year. Eighty-five percent of the companies indicated that they could sell more pallets if they had additional recycled pallets for sale. Fifty-six percent of the companies surveyed plan to increase

their pallet recycling capacity in the near future. Once this capacity is available, North Carolina should soon be able to recycle in excess of 50 million pallets a year.

State recycling officials are investigating opportunities to recover more pallets from North Carolina's waste



  
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stream. One such idea is a disposal ban on wooden pallets. When asked their opinions on a pallet disposal ban in North Carolina's landfills, the response from pallet recyclers was mixed. Fifty-nine percent indicated that a ban was a good idea while 18 percent believed a ban to be a bad idea. Fifteen percent did not care and eight percent had other ideas or opinions.

Given the existing recycling capacity expansion plans and the ease of adding additional recycling capacity, a ban on the landfill disposal of pallets could be managed by the pallet recycling companies given an appropriate phase-in period. The constraint would more likely be on selling the recycled pallets, rather than the technical capacity to recycle. However, as also found in this survey, 85 percent of the companies indicated that they could sell more pallets if they had them, thus making a ban on landfill disposal of pallets even more likely to be a successful proposition.

## DPPEA Announces Spring 2004 Recycling Business Development Grant Winners

In its continuing efforts to reduce the flow of solid wastes to landfills and to encourage the sustainable recovery of materials from North Carolina's waste stream, The N.C. Division of Pollution Prevention and Environmental Assistance (DPPEA) awarded four recycling business development grants – totaling \$87,500 – in May 2004. A total of nine proposals sought \$194,500 in grant funding. The selected projects (with contact information) include:

- **Equipment for Food Recovery Expansion** – Food rescue operation in Raleigh, will expand to include new donor sites in a seven-county area and further expand food provision to recipient agencies. Contact: Jill Staton Bullard, Inter-Faith Food Shuttle, (919) 250-0043.
- **Job-Site Vinyl Collection** – Vinyl recycler in High Point will expand operations to include recovery from construction firms, remodelers and distributors. Contact: Kevin Reily, Reily Recovery Systems Inc., (919) 933-3611.

- **“Environmental Effects Using Recycled OCC”** – Paper manufacturer in Sylva will study the difference in modeled precipitation and associated nitrogen and phosphate leaching and run-off from wood-based litter compared to a proposed paper-based poultry bedding. Contact: Don Arrington, Jackson Paper Manufacturing, (828) 586-5534.
- **“Larger Loader = Larger Volumes of Diverted Wood Wastes”** – A mulch company that creates product from reclaimed pallets and crates will expand processing capacity at its Rocky Mount plant. Contact: Roger C. Seale, Kamlar Corp., (252) 443-2576.

For information on these and/or previous recycling business grant rounds, or to find out when the next grants will be available, please contact Matt Todd, DPPEA market development specialist, at (919) 715-6522 or [matthew.todd@ncmail.net](mailto:matthew.todd@ncmail.net)

### CARE, from page 1

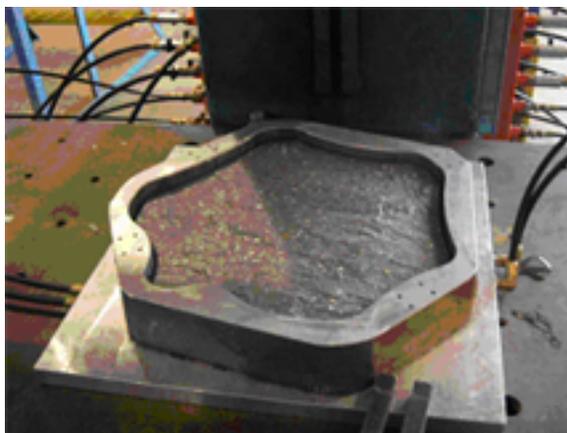
sumer carpet,” continued Gleaves.

Gleaves and his partner, Monty Thompson, got their start in carpet recycling back in 1998 collecting material from a number of carpet retail stores in the Charlotte area. The operation continued to grow, and in 2000 they opened a second processing facility in Morrisville. At the peak of their operation they were collecting more than 300 tons of carpet per month. Unfortunately, due to the closing of the Evergreen nylon carpet recycling plant in Augusta, Ga., in 2001, Gleaves and Thompson were forced to dramatically curtail their carpet recycling efforts, but they continue to collect carpet padding from their carpet retail outlets and even have expanded collection into the Greenville and Anderson, S.C. area.

“Many of our current carpet pad customers who previously supplied us with post-consumer carpet have said that they would very much like to renew that relationship when markets develop,” said Thompson. Hope-

fully, projects like this will lead to the development of viable, long-term markets.

For more information about Blue Ridge Recycling contact Robert Gleaves or Monty Thompson at [blueridgerecycling@alltel.net](mailto:blueridgerecycling@alltel.net) or (704) 821-4482.



**Post-consumer carpet can be molded into stepping stones as shown in this photo.**

# Processing Technology a Plus for FCR Inc.

By Matt Todd, Market Development Specialist

The capacity for processing commingled recyclables continues to grow in North Carolina. A wide array of material recovery facilities (MRFs) and sorting technologies are available, with both dual-stream and single-stream MRFs having a positive impact on North Carolina's recycling infrastructure.

MRFs can provide residential and commercial collection programs with an advantage in getting their material to market. Municipalities, as well as private haulers, can usually gain collection efficiencies and increase diversion in regions where commingled MRF access is available.

FCR Inc. (FCR), a wholly-owned subsidiary of Casella Waste Systems Inc., designs, builds and operates MRFs. In 1989, FCR signed a contract to begin operating its first MRF, a dual-stream facility that would serve Mecklenburg County (Charlotte), N.C. FCR provides processing and marketing of recovered materials, including newspaper, corrugated cardboard, office paper, aluminum and steel cans, plastic, glass and aseptic packaging containers.

Since 1989, the division has grown to employ about 900 people and processes more than 1.1 million tons per year of recyclables at 23 facilities in 14 states. Bill Leonidas, business development manager with FCR, works out of the Charlotte office. He's been with the company for six years and continues to maintain the focus on FCR's core business, the operation of MRFs for curbside recycling programs.

FCR owns and operates a single stream MRF in Greensboro, N.C. This MRF serves municipalities and haulers in North Carolina's Triad region. In 1993, FCR began operation of the MRF under a long-term contract with the city of Greensboro. The city picks up residential and commercial recyclables at the curb in a single stream and depends on FCR to sort, process and market the recyclables. For several years, FCR relied primarily on manual labor to sort through the commingled streams.

Both the city and FCR came to a mutually beneficial agreement to extend the contract, which allowed FCR to make a substantial capital investment to automate much of the sorting pro-

cess. The previous system was replaced by a state-of-the-art single-stream system that separates paper from containers automatically, separates cardboard from newspaper, and has other mechanical and magnetic separation points.

The new installation, completed in November 2002, has greatly improved recovery, quality and productivity. The plant was able to increase recovery from 56 percent to 82 percent while processing about 50,000 tons of recyclables per year. "Quality is a big concern for us and this new system is performing very well. The new sorting equipment has really helped in consistently producing high quality commodities," says Leonidas.

Arguments continue on the topic of single-stream recycling and its effect on recovered paper quality, especially with respect to old newspaper and residential mixed paper grades. FCR's processing philosophy emphasizes a combination of technology and manual sorting to design systems that produce the highest quality materials for sale to end markets. After installing the new system, FCR-Greensboro reduced its staff by only eight. It operates with 33 employees while processing residential recycling, and 23 when processing the commercial stream.

FCR's operation is capable of sorting commercial mixed loads as well as residential single-stream to serve the city and other haulers in the area. The city collects residential

(See FCR, Page 5)



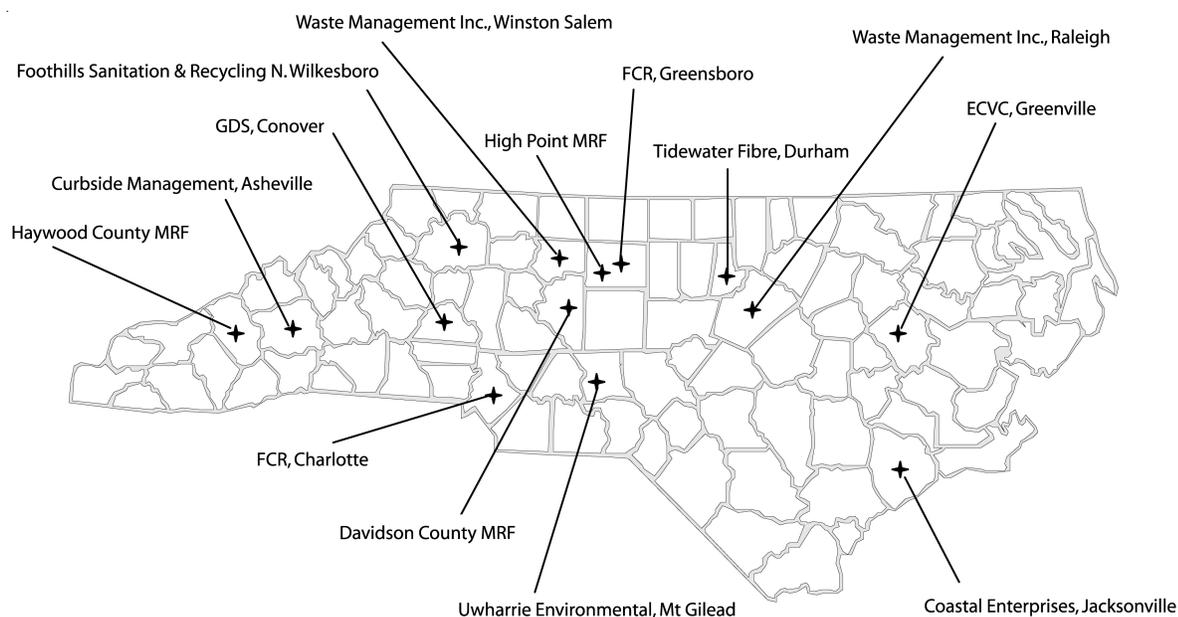
**City of Greensboro curbside collection truck dumps load for processing at FCR.**

# MRFs Across North Carolina

As can be seen from the map below, North Carolina has 14 MRFs with the ability to handle varying levels of commingled material. There are also numerous source-separated MRFs throughout the state. The 14 commingled MRFs vary greatly in the level of mechanization and labor used for processing materials. Although most of the MRFs have been in operation since the mid-'90s, four of the MRFs have come online within the last three years. The Division of Pollution Prevention and Environmental Assistance (DPPEA) anticipates the addition of another MRF in North Carolina within the next year.

The following provides a breakdown of the types of commingled MRFs.

- Seven of the MRFs are dual-stream processors,
- Four of the MRFs are single-stream processors,
- Two MRFs are capable of sorting mixed waste, and
- One MRF handles primarily source-separated material, but has some limited sorting capabilities for commingled materials.



## FCR, from page 4

recyclables curbside in 90-gallon carts using automatic dumping arms. The city also collects commercial recyclables from customers throughout Greensboro. The facilities throughput capacity exceeds the volumes collected locally, and FCR-Greensboro is capable of receiving additional recyclables from outside the area. "We have some capacity here that is not being used and would welcome the opportunity to work with others in the Triad and surrounding counties to process their recyclables," added Leonidas.

In addition to operating MRFs, FCR's parent company owns a 50 percent stake in U.S. GreenFiber LLC, an end user of "old" recyclable newspaper (ONP) that operates 10 facilities spread out over the United States. One of those facilities is co-located with the Mecklenburg County MRF

operated by FCR in Charlotte. GreenFiber's feedstock of ONP is used in the production of cellulose insulation. The cellulose insulation products compete favorably with fiberglass insulation and have the added benefit of being produced from recyclable materials.

The continued development of North Carolina's infrastructure for primary processing can greatly improve the economic effect of recycling on the state. Collection efficiencies in the commercial, institutional and local government sectors can create the incentive for more diversion, while increased processing capacity can help produce the required feedstock for the hungry secondary and end use markets for core recyclables.

# Cycles Within Cycles for the Recycler

By Fred Broadwell, Self-Help Sustainable Development Initiative



On July 1 of this year he finally did it, and recyclers need to think long and hard about the implications. Who is he and what did he do? No, it's not Lance Armstrong and the Tour de France, but it does have to do with cycles. The "he" I am thinking of is Alan Greenspan and the

"what" is raising interest rates. The Federal Reserve finally raised rates by a quarter point, putting the prime rate at 4.25 percent. The prime rate, what large banks charge their best customers, had been at a 46-year low.

So what does this mean for recyclers? One thing is clear: the Federal Reserve believes that economic growth is here. In the first quarter of 2004 the economy grew by 3.9 percent and the second quarter is looking strong as well. Inflation fears are also here: we saw a 5 percent annual inflation rate for the first five months of 2004. As a response, economists predict that the Fed will raise the prime rate to 5 percent by year's end. These macro-cycles have an effect on all of us.

But what about North Carolina recyclers? Two things to think about: Is it time to raise your prices? When was the last time that you did this? Your customers may be expecting you to do this, so the time might be right. Secondly, is it time to invest in more equipment and facility? Your trucks may need an upgrade; your building may be too small or outdated. On the other hand, your business may operate within micro-cycles that are independent of the larger economy and now may not be the best time to expand. These forces include the falling price of the dollar and status of export markets, government regulation and weak enforcement activity, the rise and fall of manufacturing production - including the effect of plant closings, and better government procurement

practices. Some of you may benefit from the sheer growth of the economy, but for most of you the situation is much more complicated.

With all this in mind, remember that the cost of investing in your company through loans remains at a historically-inexpensive level. Also, in the current climate, lenders may be eager to invest in the growth of your business. One way to find out is to talk with the RBAC team and lenders at Self-Help where the N.C. Recycling Loan Fund is operated. We can hook you up with SBA loans and the popular 504 program for larger projects. No matter what your commodity or service, we are ready to hear about your situation. Together we can help you sort out the "cycles within cycles" that affect your business. Next thing you know, you'll be moving along faster than Lance Armstrong on a straight-away in Paris.

[In the next issue, we will report on recent projects financed by the Loan Fund. Stay tuned.]

For more information, call (800) 476-7428 and ask for me. You can also e-mail [fred@self-help.org](mailto:fred@self-help.org).

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*Recycling Works* is published by the N.C. Recycling Business Assistance Center (RBAC), a program of the Division of Pollution Prevention and Environmental Assistance of the N.C. Department of Environment and Natural Resources (DENR). For more information call (919) 715-6500 or (800) 763-0136, or write to DPPEA, 1639 Mail Service Center, Raleigh, NC 27699-1639.

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N.C. Division of Pollution Prevention and Environmental Assistance



# Recycling Business Survey

By now you should have received a copy of the **N.C. Recycling Business Survey**, either through e-mail or regular mail. If you haven't responded yet – what are you waiting for? Please take a few minutes of your time to complete & return the survey!



The survey is part of a study undertaken by DPPEA and Duke University. The goal of the study is to measure the impact of residential recycling programs on North Carolina's job market.



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**This important research will help North Carolina's citizens and leaders realize recycling is not only good for the environment – it's also good for the economy!**

If you have any questions, contact  
Katie Alvarado, principal investigator  
[katie.alvarado@ncmail.net](mailto:katie.alvarado@ncmail.net), (919) 733-4396

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*The Recycling Business Assistance Center (RBAC) is a program of the North Carolina Division of Pollution Prevention and Environmental Assistance.*

Call (919) 715-6500 or (800) 763-0136 for free technical assistance and information about preventing, reducing and recycling waste.



## North Carolina market prices for recyclables

Prices current as of July 1, 2004

Item	Western Region	Central Region	Eastern Region
<b>METALS</b>			
Aluminum Cans, lb. loose	\$0.62	\$0.45	\$0.61
Steel cans, gross ton baled	\$83	\$160	\$73
<b>PLASTICS</b>			
Central Region markets plastics together			
PETE, lb. baled	\$0.16	<b>\$0.085</b>	\$0.15
HDPE, lb. baled	Natural	<b>\$0.085</b>	\$0.22
	Colored	\$.11	\$0.11
<b>PAPER</b>			
Newsprint, ton baled	\$81	\$85	\$81
Corrugated, ton baled	\$100	\$100	\$97.50
Office, ton baled	\$125	\$135	\$170
Magazines, ton baled	*	\$90	**
Mixed, ton baled	\$55	\$50	\$57
<b>GLASS</b>			
Eastern Region sells glass F.O.B. origin			
Clear, ton crushed delivered	\$30	\$26	\$17
Brown, ton crushed delivered	\$20	\$16	\$21
Green, ton crushed delivered	\$10	\$0	(\$9)

\*Markets with mixed paper.

\*\*Markets with newsprint.

Note: Prices listed above are compiled by RBAC and are for reference only. These prices are not firm quotes. RBAC obtained pricing information from processors for each category and developed a pricing range.

Visit RBAC online at <http://www.p2pays.org/rbac>

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