

**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

Volume 9, Number 1

Summer 2003

Pallet Resource of NC Offers Environmentally Responsible Pallet-Related Products

By Matt Ewadinger, RBAC Manager

Nestled in the northern Davidson County countryside, Pallet Resource of NC Inc. (PRNC) takes pride in being a full-service provider of environmentally responsible products for any wooden material-handling need. Established in 1967 under the name of Pallet Repair of NC Inc., PRNC currently employs 85 people on its 22-acre site. The company incorporates the environmental philosophy of "Reuse, Repair, Recycle and Renew" into all aspects of its operation.

Under its current management since 1985, PRNC services the needs of industry throughout central and western North Carolina with used, reconditioned and newly manufactured pallets, in addition to

providing a pallet disposal and removal service. To PRNC, however, "disposal" means grinding pallets into a variety of useable wood fiber products.

PRNC repairs pallets in accordance with the standards adopted by the National Wooden Pallet and Container Association. For those pallets that cannot be repaired, PRNC's state-of-the-art pallet disassembly equipment can recover the reusable components and assemble them into a new pallet.

In addition, PRNC's two grinders, with the assistance of large magnets that remove nails and other metal fragments, produce uniformly-sized, clean wood fiber that is transformed into a variety of products including Designer Wood, a colored landscape mulch,

(See Pallet Products, Page 3)



Orphan boards await remanufacture into pallets at Pallet Resource of NC Inc.

Inside

Fresh Faces in RBAC	2
Manufactured Housing Workshop . . .	3
Pallets to Flooring Project	4
Interest Rates Fall6
Recycling Businesses in the News . . .	7
Market Pricing8

RBAC: Not Rebuilding, Just Reloading

Just as successful college athletic programs must bid adieu to their star players every four years (these days it is more like two or three years), so too has RBAC had to replace many top-notch performers. From the formative years when Bobbi Tousey, Jay Tilley and John Nelms helped to establish RBAC, followed by the able contributions of Diane Minor, Kathleen Gray and Tom Rhodes (lucky for us Tom still provides us with much appreciated part-time assistance coming off of the bench), to the most recent team of John Blaisdell, Gerry Sutton and Jason Hale (Jason played out his option and signed with the sun and surf New Hanover County team), we have been fortunate to have had a group of highly motivated, energetic and personable professionals who have made significant contributions to recycling market development not only here in North Carolina, but, I dare say, throughout the country. I am proud to have worked with each of these fine people, but, more importantly, I am lucky to call them my friends.

But now I am excited to announce the hiring of three new RBAC team members who will continue the fine tradition of their predecessors. They bring a variety of skills and experience ranging from public sector employment with the Town of Cary, UNC-Chapel Hill and Mecklenburg County, to consulting work in Wake County, Washington, D.C., and New York City. Please join me in welcoming these latest additions to the RBAC team. – *Matt Ewadinger, RBAC Manager*

Matt Todd brings more than eight years of waste management experience to RBAC. Prior to joining DPPEA, Matt served as the recycling coordinator for UNC-Chapel Hill. Before joining UNC-Chapel Hill he worked as a project manager for a small recycling consulting firm in Washington, D.C. He started his career in solid waste management in 1995 working for a waste hauler in the Washington, D.C. metro area. His work for RBAC is geared toward improving North Carolina's recycling infrastructure with special emphasis on recovered paper markets and electronics, and administering the State Recycling Markets Directory. Matt holds a bachelor's degree in environmental science from Virginia Tech.

Sherry Yarkosky, RBAC's liaison with the N.C. Department of Commerce, has eight years of professional experience in the private, public and nonprofit environmental sectors. In the public sector, she worked for



RBAC welcomes newest staff members (from l-r): Sherry Yarkosky, Wendy Worley and Matt Todd.

Mecklenburg County Solid Waste Management, conducting research and designing, implementing and evaluating commercial waste reduction programs. In the private sector, she worked as a consultant, developing financial and economic models, and served as team leader for projects involving land use permitting, management consulting and solid waste management planning. Sherry holds a bachelor's degree in economics from Indiana University of Pennsylvania and a master's degree in Public Health from UNC-Chapel Hill.

Wendy Worley brings approximately 10 years experience in solid waste and environmental management to RBAC. Most recently, she worked as an independent consultant for Wake County, focusing on construction and demolition (C&D) waste reduction. This work built on prior experience in solid waste management and recycling market development while serving as recycling coordinator for the Town of Cary (1994-1998) and as an intern with DPPEA (1992-1994). While working as an intern with DPPEA, she was instrumental in the development of the N.C. Directory of Markets for Recycled Materials. Wendy specializes in C&D market development work with RBAC. She has a bachelor's degree in Political Science from N.C. State University and completed graduate coursework in Environmental Management and Policy at UNC-Chapel Hill.

DPPEA Presents Manufactured Housing Waste Reduction Workshop

By Tom Rhodes, Solid Waste Management Analyst

In March, the N.C. Division of Pollution Prevention and Environmental Assistance (DPPEA) presented an environmental workshop for the factory-built housing industry. The workshop entitled, "Greening Your Facility And Your Bottom Line," featured presentations designed to train home manufacturers how to reduce production waste while conserving resources and reducing waste disposal costs.

The workshop presented at Central Carolina Community College in Sanford featured presentations by state experts on waste reduction. Presentations included John Burke's, "Assessing Your Waste Situation"; Tom Rhodes', "Gathering Resources for an Effective Pro-

gram"; Matt Ewadinger's, "Realistic Approaches to Waste Reduction in Material Management"; Brian Ketchem's, "Completing The Loop Through Environmentally Preferable Purchasing"; Urs Buehlmann's, "Strategies for Managing Wood Waste"; and presentations by Beth Graves and Norma Murphy on "Developing a Company EMS."

A roundtable discussion of manufacturing issues followed the presentations. For further information on this and other DPPEA workshops, contact Tom Rhodes at (919) 715-6516 or e-mail at tom.rhodes@ncmail.net.

Pallet Products, from page 1

and Kid Cushion, an ASTM certified playground safety surface material.

According to PRNC President Neal Grimes, advantages of using Designer Wood, the company's recycled wood fiber mulch, include, "longer-lasting mulch color and a slower decomposition process that results from using hardwoods such as oak, maple, pecan, poplar, ash and gum. For the homeowner, that translates into saving money, working less and a more attractive yard for a longer period of time."

When asked about PRNC's loose-fill organic playground surface known as Kid Cushion, Grimes said, "Kid Cushion surpasses the Consumer Product Safety Commission's standards for playground surface area and has been tested and successfully passed ASTM

standards for shock absorbency, wheelchair accessibility and surface flammability."

PRNC's Reuse, Repair, Recycle and Renew efforts resulted in the recovery of more than one million pallets, which translates into 20,000 tons that would otherwise have required disposal in 2002.

For more information about PRNC, contact Neal Grimes at (336) 731-8338 or e-mail him at nealgrimes@prnc.com.

**Raising Worms and
Producing Castings for Profit:
Methods and Markets
Wednesday, Aug. 13 - 9-5 p.m.
Tarboro, N.C.**

This workshop covers an overview of the industry, markets for worms and castings and much, much, more.

Registration/details:

<http://www.bae.ncsu.edu/programs/extension/workshops/Worms03/>


LEVEL
SymmeTree®

SCHOLARSHIPS For Recycling Entrepreneurs

Register now for the next course offerings. These exciting, business-building courses are designed to give entrepreneurs the skills needed to grow their recycling businesses.

To apply for your scholarship, call:
**(919) 715-6516 (RBAC), or
(919) 715-7272 (SBTDC)**

Turning Used Pallets Into Unique Flooring: Successful Pilot Project Seeks Private Partner

By David Lowles, Waste Reduction Partners Engineer

Waste Reduction Partners (WRP) in Asheville, in conjunction with the U.S. Forest Service, N.C. State University Department of Wood and Paper Science, and the N.C. Division of Pollution Prevention and Environmental Assistance (DPPEA), have developed a process for converting used pallet deck boards into high quality prefinished flooring with a stylish, unique, yet rustic look.

Pallet manufacturing in the United States represents the largest use of hardwoods (4.5 billion board feet annually).¹ While pallet repair and recycling are increasing, these businesses themselves create scrap wood waste streams that are expensive to manage. Disposal cost of a discarded pallet is between 50 cents and \$1.25 per pallet², plus transportation and handling. On the other hand, when the pallet is recycled into a value-added product, it generates approximately 25 cents when sold as boiler fuel, \$1 for chips used for particle board production, \$2-\$3 when disassembled and used for pallet repair replacement parts, and potentially \$5-\$8 when processed into value-added wood products, such as flooring.³ Therefore, there seems to be an economic opportunity in this recycling effort. Additionally, it is expected that this project could offer employment to those displaced by the decline in the sawmill and furniture industries.

Market Research

The project team produced a pilot production of flooring using university and private industry resources. Shop owner Rene Fisher is delighted with the prefinished natural floor that has been installed in the Sprig Garden Shop in the Grove Arcade Public Market in downtown Asheville. Many customers ask questions and remark that they would love a floor like this in their home or business. During a market

research focus group, many of the invited architects expressed strong interest in recycled flooring to meet the green building requirements of their clients. In a tour of new high-end homes in Florida, many models are showing recycled flooring in at least one room. These are strong indications that the demand for this product exists.

Pilot production and progress summary

Deck boards are removed from used pallets by pallet recycler/rebuilders; those boards too short for use in rebuilt pallets are candidates for flooring. The end nails are removed with a chop saw and the boards are sent to a wood recovery



A variety of species and stain samples from the pilot production run.

planer-saw. This unit rips the board to width and planes the board to the target thickness. In tests, the recovery unit removed about half of the middle nails. The remaining nails are removed with a pneumatic press.

The boards, now known as flooring blanks, are stacked for kiln drying to about 6-8 percent

moisture. Optionally, the nail holes can be filled with an epoxy material, which hardens during the drying process. Dried floor blanks are then processed through a standard production floor milling operation, resulting in finely machined flooring with tongues and grooves. The flooring is then factory-finished with filler, stained as desired, adding three coats of UV-cured urethane with suspended aluminum oxide particles for excellent wear resistance. The final floor highlights the unique natural character of wood, and provides all the endurance attributes of the priciest wood floors.

The finished flooring is 3/8 inch thick, and can be installed using the same techniques and guidelines as other solid prefinished flooring.

Next steps

The team is now planning a second pilot production run to meet known demand from commercial markets. They are seeking private industry partners to provide “board to blank” conversion, de-nailing, drying and floor milling operations. Board recovery from pallets and final surface coating are commercially available activities. The team plans to provide technical assistance in equipment selection, operation sequencing and business strategy and coordination services to the chosen partner. The team has regional distribution contacts and relationships and will help, if needed, in market development activities.



Pallets-to-flooring board milling.

To learn more

WRP, a program of Land of Sky Regional Council in Asheville, coordinates this project. Terry Albrecht, managing director, can be reached at (828) 251-6622 or terry.albrecht@ncmail.net. WRP offers no-charge engineering services in water and energy use reduction and recycling of solid waste from industrial and commercial activities. This project is coordinated by Dave Lowles, whom you can contact at (828) 698-4926 or dclowles@bellsouth.net. Project partners are Phil Araman, project leader, U.S.D.A. Forest Service, and Urs Buehlman, assistant professor and extension specialist at N.C. State University.

¹Bush, R. J. and P. A. Araman. 1998. Changes and trends in the pallet industry. *Hardwood Market Report*. February 28, 1998. pp. 11-13.

²Assuming 25 pounds for a standard pallet and landfill tipping fees ranging from \$20.00 to \$40.00 per ton.

³Araman, P. A., R. J. Bush, A. L. Hammett, and E. B. Hager. Wood pallets and landfills – status and opportunities for economic recovery and recycling. *Proceedings from WASTECON/ISWA World Congress 1998*. pp. 18-21.

Does Your Waste Have a Home?

Available on a Computer Screen
Near You...

www.ncwastetrader.org
N.C.'s Industrial Waste Exchange

Have Your Waste Ready!

for more information, call:
Tom Rhodes, (919) 715-6516



Sustainable Jobs Fund L.P.

*Capital for job creation
in neighborhoods that
need it.*

A community development venture capital fund which finances recycling, remanufacturing, environmental and other companies that:

- require equity or subordinated debt capital to fuel profitable growth
- create quality jobs for low-income citizens or locate in economically distressed regions of the eastern United States

For more information,
call **919.530.1177**
or visit www.sjfund.com

What, They Dropped Interest Rates Again?

By Fred Broadwell, Commercial Loan Officer



Recently the Federal Reserve dropped the Federal Funds rate to its lowest level in 45 years. The prime rate is now at an unbelievable 4 percent! So what does that mean for your recycling business? Should you just rush out and get a prime-based loan on something, anything?

Well, no. Low rates are no reason to incur additional debt unless the project makes sense on its own merits. For smaller and/or shorter term projects, interest costs are not a big issue to start with. So don't be enticed into borrowing when you don't need to or aren't ready.

Beyond interest rates, be aware of fees and other loan costs. Just because interest rates are low doesn't mean you will get a good deal. Shop fee costs at least as carefully as you do rates. Talk to at least two lenders. Just don't expect the bank to give you the money...some reasonable fees are probably unavoidable. A 1 percent closing fee is standard fare and fees will be higher if SBA guarantees are involved.

Another factor is how much hassle will be involved with any given transaction. For example, if you need a new vehicle, a leasing company may be an exceptionally smooth way to do the financing. If you are paying a bit more, weigh that against the time you may have to devote to a full-on commercial bank loan.

Another overlooked resource is "factors," which can provide much needed working capital for account receivables -- with a minimum of your valuable time. The prices of factors may seem very high, but the flexibility and simplicity of the transaction may outweigh the extra cost. Factors can be your friends.

A corporate credit card or bank line of credit may similarly provide needed capital with a minimum of hassle. "But wait, it's so expensive!" Yes and no. Unsecured debt is expensive because there is no collateral behind it; the flip side of this is that your assets are not tied up in loan deals. There is nothing worse than constantly bargaining over collateral arrangements with multiple lenders. Time you are pouring into financing arrangements could be going into your core business: making profits.

If the bank is truly the best financier for your project, remember that low interest rates don't make bank loans any easier to get. Luckily though, there are tried-and-true ways to grease the wheels for a loan. One major hiccup for some companies is a bumpy personal credit. Business owners should regularly monitor their personal credit reports to make sure they are accurate and in good shape. An annual check-up, available on-line, is not a bad idea.

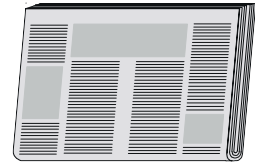
If the bank is having misgivings about doing the loan that you need, ask the banker if they have considered an SBA guarantee or an SBA 504 product. Some banks are shy about using the SBA because they perceive that there will be a large amount of paperwork. There is additional documentation with the SBA, but it is not as bad as in the past, particularly for smaller loans. The SBA 7(a) program is designed to shore up weak collateral, with a 75-85 percent guarantee for your bank. 7(a)s under \$150,000 fall under the SBA's special low documentation/quick review program, called Lo-Doc. The maximum loan size is \$2 million.

The 504 program, best used for projects valued at more than \$250,000, allows the bank to put in only 50 percent of a project, with 40 percent of the funds coming from the SBA. Since 504s give the bank first lien on all the collateral, the bank is made to feel much more secure. At Self-Help, we have made several 7(a) and 504 loans to recyclers, and recently have been able to combine the 7(a) with the State's Recycling Loan Fund. Information about these and other programs is available at the SBA's excellent Web site, www.sba.gov.

One last thought: when approaching a bank for the first time, it may make sense to describe yourself as a "materials processor" and not a recycler. If you say "recycling," some banks may immediately screen you out because they think you are operating a junkyard full of oozing toxic residue. Let's hope that's not the case! Right away you will want to get your bank comfortable that they are not going to be stuck with a contaminated piece of land if they foreclose. With bankers these days, cleanliness is next to Godliness.

Fred Broadwell is a commercial loan officer and directs the N.C. Recycling Loan Fund at the Self-Help Credit Union, which has seven offices around North Carolina. Fred can be reached at (800) 476-7428 or fred@self-help.org.

Recycling Businesses in the News



By Matt Ewadinger, Tom Rhodes, Matt Todd & Wendy Worley

U.S. Green Fiber in Charlotte recycles approximately 120 tons per day of old newspaper into cellulose insulation. The recent addition of a shredder into the front end of their operation has made it possible for them to accept phone books and soft cover books into their manufacturing process. Material must be clean and dry and is accepted loose, palletized or in gaylords. Please contact John Harkavy [e-mail: john.harkavy@us-gf.com or phone: (704) 379-0654] with U.S. Green Fiber for pricing information and other details.



Material Reclamation L.L.C. is opening a new construction and demolition recycling facility and C&D landfill in High Point. Construction is slated to be completed in the fall. Similar to the Raleigh facility, the High Point facility will be able to process between 400-500 tons per day of C&D material. With an estimated 65 percent recycling rate, materials to be extracted for recycling include concrete, wood, metals, asphalt, cardboard, dirt (fines) and gypsum.



LOANS FOR RECYCLING COMPANIES

A Project of the N.C. Environmental Loan Fund

Commercial & SBA Loans from \$10,000 to \$2.5 million for Collection, Processing, Composting, Reuse, Organics, Recycling Equipment & End-Use Manufacturing.

Need a loan with reasonable interest rates and flexible underwriting standards? We may have the answer! Self-Help has the expertise and programs to help recycling businesses throughout North Carolina. Call today to learn how a Self-Help loan can strengthen your enterprise.



CO-SPONSORED BY:



1.919.956.4400

www.self-help.org

N.C. Environmental Loan Fund: Self-Help established the N.C. Environmental Loan Fund to provide financing to small businesses and other organizations that preserve our natural resources. Projects that are targeted for financing include recycling firms, land conservancies, environmental consulting and services, environmental equipment firms, and sustainable development products and services. Self-Help has extended more than \$6 million in financing to this growing and important segment of our economy.

Global Electric and Electronics Processing Inc. (GEEP) in Durham began its Triangle operations in June 2002. The facility performs asset recovery services for a handful of Triangle companies, with Nortel as its largest client. Recycling customers are charged a fee for processing the old computer parts, but they get a rebate for money made reselling the metals.



Wellmark Inc. started in 1994 as the recycling arm of Technimark Inc., a molder of polypropylene dye tubes and other plastic products. As an end-user and processor of plastic discards, Wellmark provides a significant market for a number of materials in the Southeast. Currently the company has expanded into the end-product market, molding approximately six million DVD cases monthly for a major movie rental corporation.



Layman Plastics Corporation serves the international post-industrial plastics market. Today, Layman Plastics produces proprietary thermoplastic blends and end products for both OEM and retail consumers. Some of the retail recycled-content products produced by the company include those sold under the Layman Plastics and Enviroguard trade names. These products include plastic lawn edging, PVC gutter screens, and privacy fence weave.



Freudenberg Nonwovens N.A. in Durham is making its mark in the post-consumer recycling market by introducing 50 percent recycled PETE in its non-woven polyester carpet backing. The company plans to bump the recycled-material content up to 100 percent in the form of post-consumer bottle flake.

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.

Michael F. Easley, Governor, North Carolina
William G. Ross Jr., Secretary, Department of Environment and Natural Resources



Division of Pollution Prevention and Environmental Assistance

Gary Hunt, Director
Scott Mouw, Chief, Community & Business Assistance Section
Matt Ewadinger, RBAC Manager
Matt Todd, RBAC Market Development Specialist
Wendy Worley, RBAC Market Development Specialist
Sherry Yarkosky, RBAC Industrial Development Specialist
Diana Kees, DPPEA Information & Communications Specialist





Reduce Reuse Recycle

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.



DPPEA-FY02-34

North Carolina market prices for recyclables

Item	Western Region	Central Region	Eastern Region
METALS			
Aluminum Cans, lb. loose	\$0.49	\$0.38	\$0.525
Steel cans, gross ton baled	\$34	\$47	\$40
PLASTICS			
Central Region markets plastics together			
PETE, lb. baled	\$0.10	\$0.0425	\$0.14
HDPE, lb. baled	Natural	\$0.15	\$0.10
	Colored	\$.115	
PAPER			
Newsprint, ton baled	\$65	\$60	\$56
Corrugated, ton baled	\$72	\$75	\$72.50
Office, ton baled	\$95	n/a	\$160
Magazines, ton baled	**	\$60	***
Mixed, ton baled	\$35	n/a	\$30
GLASS			
Eastern Region sells glass F.O.B. origin			
Clear, ton crushed delivered	\$20	\$16.50	\$17
Brown, ton crushed delivered	\$30	\$26.50	\$21
Green, ton crushed delivered	\$10	(\$12)	(\$9)
<p>*Central Region prices from May 2003. **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.</p>			

Visit RBAC online at

<http://www.p2pays.org/rbac>



N.C. RECYCLING BUSINESS ASSISTANCE CENTER
DIVISION OF POLLUTION PREVENTION
AND ENVIRONMENTAL ASSISTANCE
1639 MAIL SERVICE CENTER
RALEIGH, NC 27699-1639

PRSR STD
US POSTAGE
PAID
RALEIGH, NC
PERMIT #1422

ADDRESS SERVICE REQUESTED