

## INSIGHT

## Engineers, others work to include plastics in recycling campaigns

By CHRISTINA NIFONG

Staff Writer

By 7:15 in the morning, Earl Fennell, Stevon Strudwick and Ronnie Crosland are already tossing around papers and breaking glass.

All three are collectors for SunShares Recycling in Durham, and every Tuesday through Friday, from 7 a.m. to 3 p.m. or until they finish their routes, they drive around in special blue trucks with recycling labels plastered on the side.

In Durham, SunShares reaches about 16,000 homes semiweekly, but Tom Tarlton, operation supervisor for SunShares, said people in unserved communities called every day wanting to have their recyclables picked up.

"It's the hottest thing," he said. "For many reasons, however, recycling plastics is not the hottest thing. Larry Kehrer, recycling system manager at SunShares, said plant capacity created a problem with adding plastics to the current collection.

He also said collecting plastic was expensive because it was so bulky and light. Since processors pay for recyclables by weight, not volume, it takes a lot of space to collect enough plastic to make recycling pay off. "A lot of it is a question of cost," he said. Jeffrey Peirce, civil and environmental engineering professor at Duke University, identified other problems, including finding a market for recycled products and plastic mixtures in products.

"There are problems all along the way," he said. One industry bought a grinder to recycle some of its wastes, Peirce said, but the grinder's opening was too small to take the large pieces, which would have been the most profitable to recycle.

Peirce said he wanted society to deal with recycling collectively. Environmental concerns became prominent when the public realized that its water

was polluted. Now the government regulates clean water. The government also has assumed the responsibility of cleaning the air.

But the third problem, solid waste, is still being handled as a personal, private problem, Peirce said. "Society has to start to kick in money and clean up.

"Wouldn't it be nice if Chapel Hill owned three grinders?" he said. That way each company wouldn't have to buy its own grinder, which might be too small. If one city owned several, then these could be used for industries and regional processing.

Peirce also said money was a large problem. After plastic is melted, crushed, combined and mixed with glue, it may be more expensive to recycle than it is to create a new product. Since cost is measured on a per unit basis, one city alone has a hard time being cost effective, he said.

It compares to washing laundry. "It's better to save all the dirty clothes until you have one big load. You have to use the same quantity of soap and water," he said.

Give an engineer anything, and he can find a way to recycle it, he added. But companies must be concerned with how much can be recycled and at what cost. "I may not be able to handle 17 truck loads of it," he said.

Mark Chilton, co-chairman for Tar Heel Recycling Program (TARP), said the main problem with recycling plastic was that it didn't get recycled — it got reused.

Plastics, because they can be melted at high temperatures, can transfer dangerous chemicals to food, he said, and thus the Food and Drug Administration (FDA) will not allow recycled plastics to hold or wrap food.

Chilton's answer is to stop using plastic bottles. "Recycle it instead of recycle it." There are parts of the country where every bottle gets recycled, he added. Use plastics for reusable, per-

manent things instead of disposable things, he said.

"And to the extent that we're forced to use plastic — recycle it."

Plastics are extremely lightweight, so transporting them conserves energy. That's good for the environment. Chilton said the best alternative would be to recycle plastics completely, but current technology prohibits that.

One man, however, seems to have the answer to all these problems. Barry Appelget, president and founder of Environmental Recycling Inc., is a chemical engineer who may revolutionize plastics recycling.

"We've done things no one else in the country has done. We've done things people have said were impossible."

Plastics take up 15 percent to 20 percent of landfill waste, he said. He agreed that because of plastics' makeup, they were difficult to recycle. It takes 70 milk jugs to make a pound. It is hard to collect, ship and store that quantity.

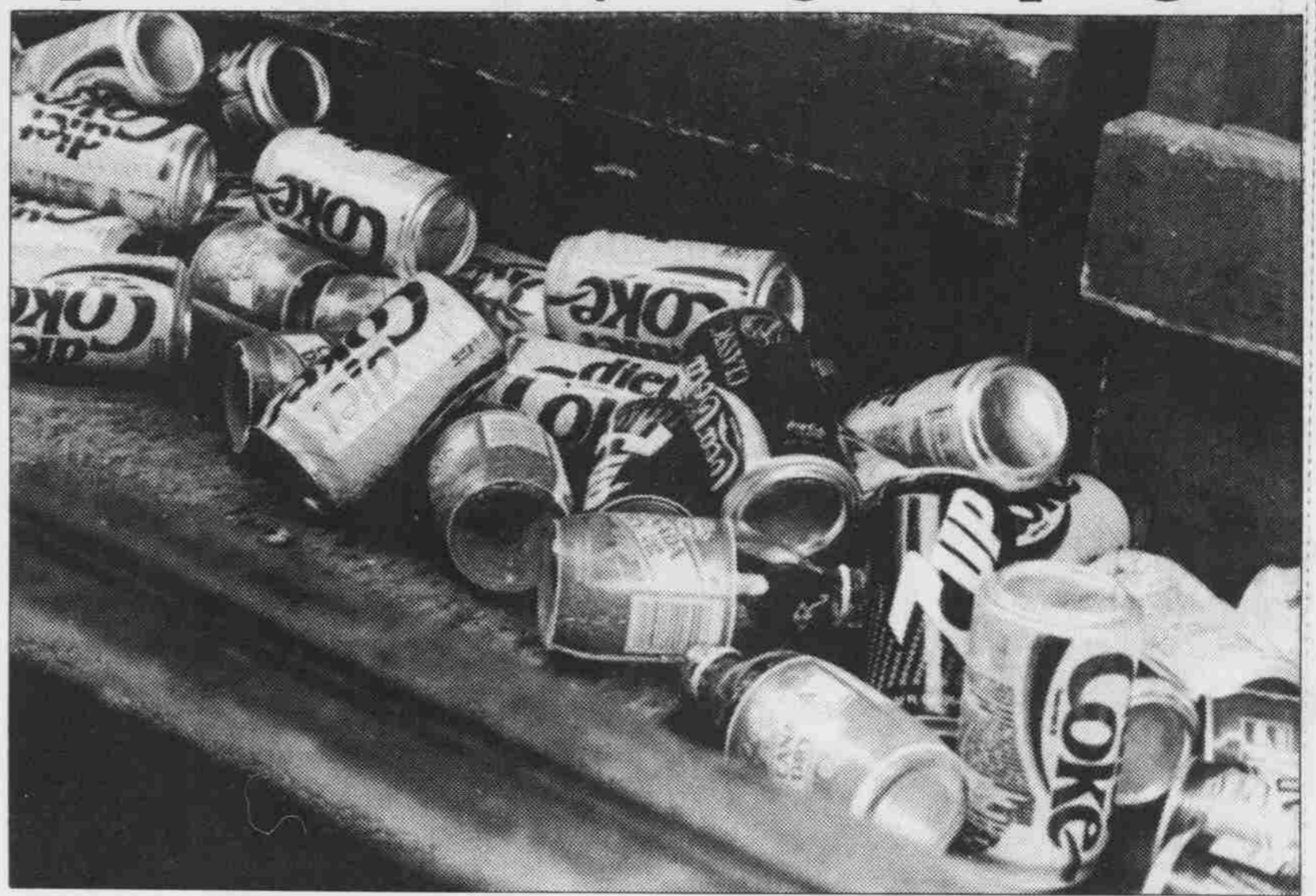
Greensboro, the home of Appelget's first recycling plant, will start a trial program of recycling plastics in June. Collection will take place semiweekly at all residences.

Appelget overcomes the obstacle of collecting plastic curbside by using a normal garbage truck. All of the recyclables will be collected and then separated at the plant.

The plastic will cushion the glass, so that the recyclables can be compacted. This does away with the need for an expensive, specialized truck, as well as the need for more space which would be necessary to collect plastics.

The problem with demand? Appelget said that only about 1 percent of the demand for recycled plastics is being met. One could sell 16 billion pounds of recyclable plastic but now only 30 million pounds is recycled.

Appelget said they turned plastics



DTH/C. Nifong

Plastics soon may join the piles of aluminum cans and glass bottles waiting to be recycled

into egg cartons, cassette tapes, automotive parts, bleach bottles, flower pots, carpet backing, paint brushes, the black cups on the bottom of soda bottles and fiber fill — the material that goes into sleeping bags and coats.

He also is building one of the few styrofoam recycling plants in the country. He said he could afford this because he had designed this plant to cost 90 percent less to build than the classical systems.

He said his research and innovations

would allow more plastics recycling. But, he said, "We're not just doing this out of the goodness of our hearts. We hope this will be profitable."

A little closer to Chapel Hill, Blair Pollack, the solid waste planner for Orange County, said the Orange Regional landfill budget might allot an estimated \$15,000 for plastic recycling drop-off sites.

He said that in the Orange County landfill, plastics made up 2.5 percent of the 30,000 to 40,000 tons of residential

waste each year. "There is plenty out there to capture," he said.

Things are looking up for plastics recycling on campus, too. Rhonda Sherman-Huntoon, campus recycling coordinator, said she was working on a drop-off site at the University.

Collecting plastics is not set in stone, she said. It appears to be one of the smaller volumes, but the Orange Recycling Services, the recycling company with which UNC has a no-fee contract, is willing to collect plastics, she said. "We're getting there."

## Getting involved in the environment: a guide for acting locally at UNC

By LAURA WILLIAMS

Staff Writer

People say they think recycling is a good idea. Sure it's a good idea to clean up the air, water and land. But worrying about the issues is a long way from solving environmental problems.

It should be an "earth day, every day" attitude, said Kate Shappley, a member of the Student Environmental Action Coalition (SEAC).

Bumper stickers encourage people to think globally and act locally. However, most students don't know where to begin. Students can do many things every day to help save the earth.

■ Recycle those cola cans

Students can make a habit of depositing their aluminum cans in the blue bins in the residence halls and Student Union. The Tar Heel Aluminum Recycling Program (TARP), a branch of SEAC, is the group responsible for setting up the bins. A private company picks up the cans and takes them to the recycling center, said Mark Chilton, co-chair of TARP.

"It's not just a matter of recycling

cans, but wondering why you create so much trash in the first place," he said. SEAC focuses on not creating so much trash in the first place. But once trash is made, it must be recycled, he said.

"Those two working together will solve a lot of our problems."

■ Carry your own cup

SEAC encourages students not to use paper disposable cups and offers green plastic SEAC mugs as an alternative. The mugs have become a fad around campus, tied to bookbags and around dog's collars. Many Chapel Hill businesses offer discounts with the mugs.

Students can purchase a mug for \$1 in the Pit this week, and at the Campus Y and Sadlack's Heroes on Franklin Street.

Simi Batra, coordinator of the SEAC mug effort, encouraged students to use glass cups in the dining halls.

Mary Beth Powell is the state recycling coordinator for the Solid Waste Section of the Department of Environment, Health and Natural Resources.

■ Recycle your used motor oil

Beginning April 16, 1990, the Orange County Landfill on Eubanks Road will recycle used motor oil. Residents of Orange County may take up to two gallons of used motor oil to the landfill to be recycled Monday through Friday, 7:30 a.m. to 4 p.m. and on Saturdays, 8:30 a.m.-11:30 a.m. Although there is no charge for depositing the oil, it must be in closed containers. The oil will be used as industrial fuel.

Used oil dumped on the ground or in sewers will pollute lakes, streams and soil. A gallon of used oil can ruin a million gallons of fresh water — a year's supply for 50 people.

■ Get involved on campus

UNC is headquarters for the National Network of Students' Environmental Groups. SEAC-UNC has many branches, including the Marine Action Committee, the Rainforest Action Group, and the Tar Heel Aluminum Recycling Program.

These programs offer ways for everybody to get involved. The groups try to educate students and have visited the N.C. School of the Arts and Chapel Hill

High School to show slides about their programs.

Members of SEAC traveled to Washington, D.C., in April to push the Clean Air Act.

■ Think about what you buy

Students can buy and use only products that are the least harmful to the environment. Batra said students should not buy many disposable items. He added that students could buy things in bulk quantities.

Some products, such as deodorant, that come in small bottles are often packaged in small cardboard boxes to help them stand out on the shelf, Batra said. This leads to extra packaging that ultimately ends up in the landfill. The larger size items do not require as much packaging, he said.

■ Plant a tree, or even two

People can plant trees with an organized group or on their own. SEAC has planted more than 1,500 trees in Orange County this year, Shappley said. They plant trees on government land, school grounds and public parks. The group's goal is to plant

10,000 seedlings by Earth Day, April 22.

■ Buy recycled products

The biggest problem with recycling is trying to find a market to buy recycled goods, Powell said.

"If you can't find a market for the recycled goods, then you aren't closing the gap. For recycling to occur, it has to go full circle."

She said people tended to think that once they set up a recycling program they had solved the problem. But that's not the case.

Copytron on Franklin Street sells recycled paper for 6 cents a sheet, Batra said. Earlier in the semester, the price was 8 cents, but teachers and students requested recycled paper so much that the business lowered the price.

Batra said demand for recycled goods will ultimately drive the price down.

■ Carry your own grocery bag

Students can carry their own bags to the grocery store when they shop and eliminate the excess cutting of trees to make disposable bags.

Even the new bio-degradable bags

are not proven to degrade in the landfill when acted upon by light and other natural elements, Shappley said.

■ Conserve water

When shaving or brushing your teeth, turn the water off, Batra said. This leaves more water for farmers to irrigate their fields.

Also, some people put fixtures on their shower to limit the amount of water that comes out. Although this is impossible for dormitory residents, students living in apartments should try to save water this way.

■ Take the Earth Day pledge

For the last two weeks, SEAC members have been in the Pit educating students about their programs. Members encouraged students to sign an Earth Day 1990 Green Pledge.

The pledge states that an individual will pledge to do his or her share in saving the planet by recycling, conserving energy, saving water and using efficient transportation.

All pledges collected will be mailed to Washington, D.C., and will be assembled into Earth Day art.

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