

1990

Recycling Paper to Save Landfills and Trees

William H. Gilbert
Simpson College

Follow this and additional works at: <https://scholarworks.uni.edu/istj>



Part of the [Science and Mathematics Education Commons](#)

Recommended Citation

Gilbert, William H. (1990) "Recycling Paper to Save Landfills and Trees," *Iowa Science Teachers Journal*: Vol. 27 : No. 2 , Article 2.

Available at: <https://scholarworks.uni.edu/istj/vol27/iss2/2>

This Article is brought to you for free and open access by UNI ScholarWorks. It has been accepted for inclusion in Iowa Science Teachers Journal by an authorized editor of UNI ScholarWorks. For more information, please contact scholarworks@uni.edu.

RECYCLING PAPER TO SAVE LANDFILLS AND TREES

William H. Gilbert
Professor of Biology
Simpson College
Indianola, IA 50125

While some groups want to save tropical rain forests or marshy wetlands, other conservation-minded groups are interested in judiciously using sanitary landfills, or at least lengthening their lifetime by recycling paper (Hovelson, 1989). The Rolling Hills Audubon Society (RHAS), centered in Indianola (Warren County), sponsored two newspaper collections during 1989 in hopes of raising funds and reducing waste paper going to the South Central Iowa Sanitary Landfill located east of Winterset and south of Highway 92 in Madison County.

The first drive was held in a church parking lot on a single Saturday in May 1989. In response to only \$10 of advertising leaflets posted around Indianola, people from town and adjacent areas contributed 8.5 tons of old newspapers. Quality Insulation Company of Des Moines paid \$20/ton and sent a truck to collect it.

Encouraged by the success of the first collection, members of the RHAS decided to sponsor a second, more extensive paper drive in the fall of 1989, despite reports of falling prices for old newspapers and news in June that a Dubuque scout troop could not find a buyer for 20 tons of newspapers it had collected (Kerber, 1989). Since the May drive had collected most papers accumulated by those in the Indianola area who save them in barns, garages and basements, there was an experimental aspect to a second drive in the fall: results could be used to estimate what percent of current newspaper accumulation might be recycled through a convenient, but voluntary, effort in a typical county seat (Indianola).

Starting in October 1989, RHAS invested a total of \$80 for posters in stores and weekly ads in the local papers announcing the paper drive. The collection center was a vacant store next to the local newspaper office just off the Indianola Square. Owners of the store graciously allowed it to be used for the seven-week duration of the drive. Then came bad news: Quality Insulation Company had too much paper and was not buying any more. However, a mill in Tama that recycled newspapers into paperboard for use in such packaging as cereal boxes (Rose, 1989) put the RHAS in touch with one of its employees who bought paper for it as an independent broker. He agreed to pick up what was collected, so long as it was at least 10 tons to justify the trip from Tama to Indianola and back. An estimated 16 tons per month of *Des Moines Registers* (11 tons/month) and local newspapers (5 tons/month) are bought by people in and around Indianola. Over the six-month period between the late May and early December

pick-up dates, 100 tons of newspaper would have accumulated. The minimum goal of 10 tons was only 10 percent of that, and the RHAS hoped to get more.

It did. People brought their papers in each Saturday from mid-October until December 9, while Audubon volunteers sorted papers (discarding glossy sections) and made bundles. A mountain of papers began to accumulate near the loading dock, including piles of used telephone books that had been bound with string after their gluey spines had been chopped off.

RHAS volunteers anticipated arrival of a large semi-trailer from Tama on December 9, but a grain truck showed up instead. They filled it all too quickly with 10 tons and were told that the price for newspapers had dropped below \$7/ton. This would-be fund-raiser would not break even! Even more alarming was the fact that the truck would not make a second round trip from Tama to pick up the remaining 5 tons of paper which had to be removed soon from the borrowed building. Fortunately, the Container Haulway Company agreed to put a container near the loading dock in January. After Audubon volunteers loaded the remaining 5 tons into this huge container, it was hauled to the Bill Best Recycling Company in Des Moines and kept out of the landfill. This drive encouraged the *Record-Herald & Indianola Tribune* to sponsor a paper drive on June 9 in Indianola (with assistance from the above mentioned companies). The *Tribune* is planning further drives for the future.

The 15 tons of paper collected means that approximately 15 percent of the estimated flow of newspapers in the area was recycled. Despite the central location near the Indianola Square, Saturday hours and trips by Audubon members to pick up newspaper bundles from residents who telephoned, the RHAS could not equal the convenience and economic incentive that exist for returning beverage containers. Each year since 1979, when Iowa's bottle bill required deposits on such containers, 90 percent of them have been returned for the deposit and re-use (Iowa, 1984). A deposit on newspapers is not workable, but separating paper from the rest of trash is now required in several areas (e.g. Minneapolis, MN). In a recent national survey, 20 percent of the respondents reported that they recycle their newspapers regularly and another 15 percent said they did it occasionally (Gage, 1989). The remaining 65 percent who never recycle their newspapers might have to change their ways if large-scale recycling of paper goes into effect. That possibility is under consideration by Indianola's city council as one way to reduce the amount of trash going to landfills by 25 percent (1988 levels). A workable plan must be effected before July 1994, as required by Iowa state law (Belt, 1990).

The "Iowa Recycling Directory (1989)" lists companies that recycle paper, plastic, metals and other materials (batteries, drums, etc.) and is available from the Waste Management Authority (WMA) of Iowa's

Department of Natural Resources (DNR) at the Wallace State Office Building in Des Moines (50319). The WMA also has a pamphlet titled "Recycle: A How-To Guide" and another describing the mission of its organization.

Although Americans recycle 22 million tons of paper each year, about 36 percent of the 3.6 pounds of trash each of us throws away every day is paper (Pavlicek, 1990). Encouragements or requirements that computer paper, stationery, newsletters, magazines or newspapers use recycled paper could increase demand to some extent, but the number of times paper can be recycled is limited (Luoma, 1990). The long cellulose fibers of new paper are broken into smaller pieces during each recycling until, after only a few recyclings, they are too small to make durable paper. The average returnable glass pop bottle, on the other hand, can be re-used many times before wearing out.

Consequently, other ways to re-claim the resources in waste paper need to be developed. One way is to use shredded newspapers as bedding for dairy cows (Hovelson, 1990). Another is to reclaim the energy of cellulose fibers in paper by converting waste paper into fuel. Iowa Falls (Hardin County) has a million dollar machine that turns 40 percent of trash (primarily waste paper) into burnable fuel pellets, 30 percent of the trash into compost and 19 percent into recyclable glass, metal and plastic, leaving only 11 percent to go to the sanitary landfill (Hovelson, 1989). This machine is featured in a 1990 video (show 1021: "Sorting it Out") made by and available from Iowa Public Television (6450 Corporate Drive, Johnston, IA 50131).

The days of volunteer groups collecting newspapers for fund raising may be over, and groups should line up transportation and a company to accept the papers before advertising a paper drive, even if it is just to keep paper out of a landfill. However, large companies dealing with solid waste (Container Haulaway, Bill Best Recycling and others) might make profitable arrangements with Iowa's county and municipal governments to facilitate recycling and/or reclaiming of paper with equipment that can routinely handle large volumes of paper if separated from other trash. Grant programs are being developed to pay such companies for keeping waste paper (and other trash) out of landfills (Schmitz, 1990). If this trend continues, major reductions in the amount of trash sent to landfills could result, and less tax money would be required to buy additional sanitary landfills.

Extending the life of landfills is a good reason to recycle paper. At approximately 400 pounds of newspaper per cubic yard, the 23.5 tons of paper collected by the Rolling Hills Audubon Society in 1989 kept 118 cubic yards of paper from clogging the landfill. Another good reason for recycling is to save resources. Producing paper from pulp wood instead of recycled waste paper uses twice the energy, twice the water, results in 25 percent more air pollution and 65 percent more water pollution and takes an average of 17 trees per ton (Overland, 1990). The last

figure indicates that the 23.5 tons of recycled paper collected in Indianola saved around 400 trees from being chopped down. A lot of birds should be happy about that!

References

- Belt, D. 1990. "Council discusses recycling." *Record-Herald and Indianola Tribune*. March 21:11A.
- Gage, R. 1989. "Do as I say, not as I do." *U.S. News and World Report*. October 16. (Basic data is from the Roper Organization, Inc.)
- Hovelson, J. 1990. "Dairy cows bedded on shredded newspapers." *Des Moines Register*. January 21:1-2J.
- Hovelson, J. 1989. "Garbage sorter reduces load on landfill." *Des Moines Register*. April 2:1B,6B.
- Iowa Department of Water, Air and Waste Management. 1984. "What's missing from Iowa's roadsides?" (Pamphlet prepared by Waste Management Information Staff.)
- Kerber, R. 1989. "Tons of paper, but no buyer." *Des Moines Register*. June 18:4.
- Luoma, Jon R. 1990. "Trash Can Realities." *Audubon*. March (3):86-97.
- Overland, J. 1990. "Why Recycle?" *The Buzzard Bulletin* (Rolling Hills Audubon Society Newsletter). 3(4):2.
- Pavlicek, T.K. 1990. "It's in the bag." *Iowa Conservationist*. 49(1):3-7.
- Rose, C. 1989. "Piles of paperwork at Tama Mill." *Des Moines Register*. October 22:16.
- Schmitz, S. 1990. "Granting alternatives to landfills." *Iowa Conservationist*. 49(2):14-15.