

IOWA DEPARTMENT OF NATURAL RESOURCES | M A R C H 2 0 1 7

SUCCESS STORIES

FROM THE SOLID WASTE ENVIRONMENTAL MANAGEMENT SYSTEM



IOWA
Department of
Natural Resources



Overview of the Iowa Solid Waste Environmental Management System

Following Iowa law, the Department of Natural Resources (DNR) developed the Solid Waste Environmental Management System (EMS) program in 2009. Since then, DNR has helped 13 solid waste agencies across Iowa to join the EMS program as an alternative to Comprehensive Planning (see Figure 1). DNR manages the voluntary program and offers a wealth of support, such as training, workshops, and even project funding. Participating agencies vary in size from some of the smallest to the largest facilities in the state, demonstrating that a successful EMS program can be achieved by a facility of any size.

Each participating agency aims to make environmental improvements which directly relate to its own operations or to solid waste management within its planning area. Each of the EMS solid waste agencies sets goals and implemented projects which target the six Environmental Areas of Focus (see adjacent list). The success stories in this booklet describe a small selection of the many projects undertaken by the EMS agencies so far.

The success stories demonstrate the six areas of focus as well as positive outcomes beyond the environmental impacts. Many of the projects yielded operational benefits, including cost savings and improved customer service. New partnerships have been forged, expanding the agencies' effectiveness. And the solid waste agencies in the EMS program continue to enhance existing programs or establish new projects every year.

The 6 Environmental Areas of Focus:

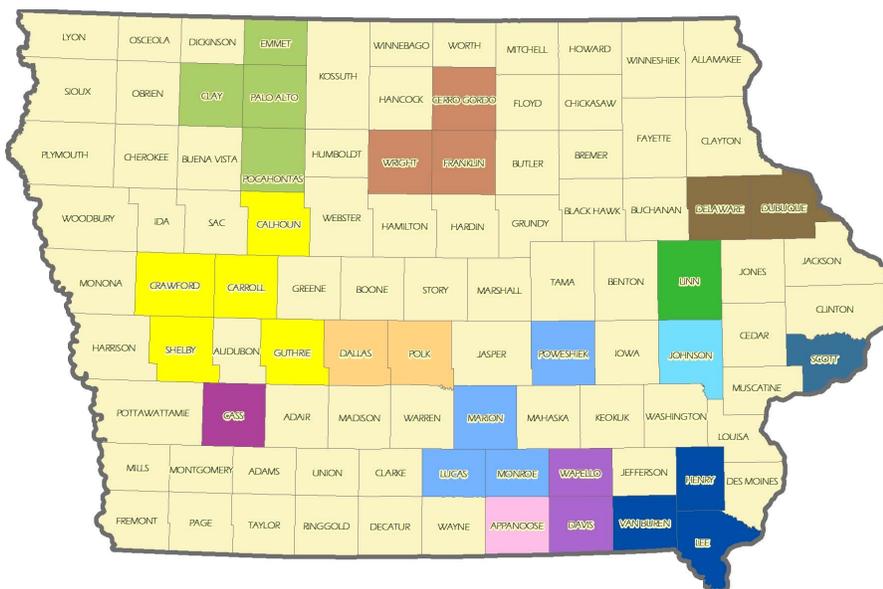
- Yard Waste Management
- Household Hazardous Waste Collection
- Water Quality Improvement
- Greenhouse Gas Reduction
- Recycling Services
- Environmental Education

Wanted: EMS Applicants

All solid waste agencies in the state of Iowa are invited to apply for EMS status and program participation, which comes with a variety of benefits:

- Specialized training and workshops to help develop and implement their EMS
- Veteran participants serve as mentors in the program
- EMS project funding
- DNR and consultant support
- Group workshops and reduced Comprehensive Planning Requirements

Participants have also reported an increase in environmental performance, better communication among employees, and improved record-keeping and documentation. More information about the program may be found on the Iowa DNR EMS website: www.iowadnr.gov/swems



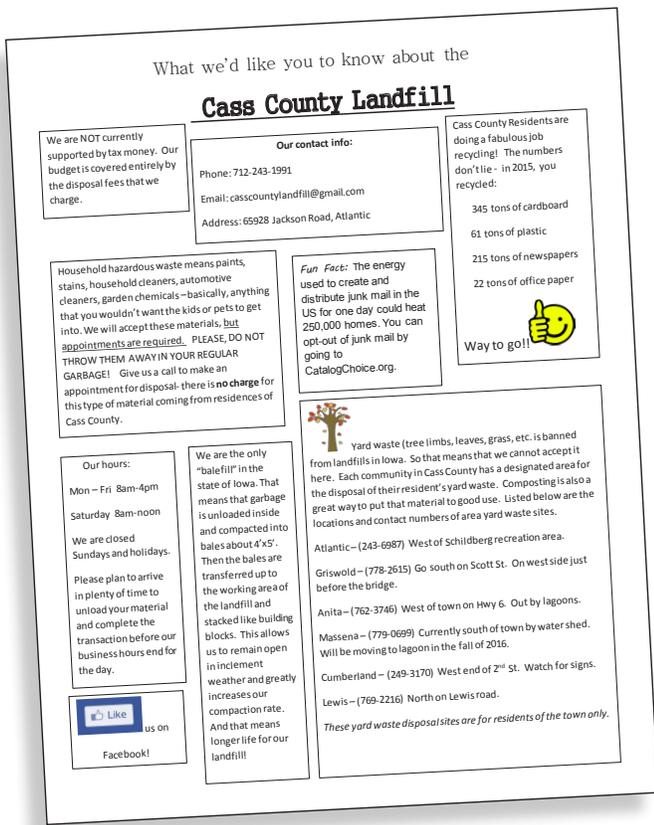
Environmental Management System Participants

FIGURE 1

- Cass County Environmental Control Agency
- Cedar Rapids Linn County Solid Waste Agency Service Area
- Dubuque Metropolitan Area Solid Waste Agency
- Great River Regional Waste Authority
- Iowa City Landfill and Recycling Facility Service Area
- Landfill of North Iowa
- Metro Waste Authority
- Northern Plains Regional Planning Area
- Ottumwa Wapello County Solid Waste Comm
- Rathbun Area Solid Waste Management Comm
- South Central Iowa Solid Waste Agency
- Waste Commission of Scott County Service Area
- West Central Iowa Solid Waste Management Association



Environmental Education Supports Program Success



THE CASS COUNTY ENVIRONMENTAL CONTROL AGENCY

had a goal to inform stakeholders about its various environmental programs, to bolster program participation and overall success. The agency compiled information on yard waste management activities at all city partners, local household hazardous materials collection, recycling, and more.

An informational flyer was distributed to households in the planning area. Program data is tracked annually and will be analyzed for improvements in participation.

Outcomes

- ESTIMATED 75% OF HOUSEHOLDS IN THE PLANNING AREA RECEIVED THIS EDUCATIONAL TOOL



The agency distributes recycling tote bags for participants at their recycling centers.

Battery Disposal Education Promotes Safety



Recyclable Batteries



Not Recyclable



Alkaline Batteries contain no hazardous materials and can be thrown away
AA • AAA • C • D • 9-volt

THE CEDAR RAPIDS/LINN COUNTY SOLID WASTE AGENCY

targeted an increase in batteries properly disposed of and diverted from the landfill.

The agency developed a handout to educate the public about battery recycling and will measure the amount of batteries recycled. The outreach also included advertisement and other outreach methods.

Outcomes

- INCREASE OF MORE THAN 10,000 LBS. OF BATTERIES RECYCLED IN FY16 COMPARED TO FY15
- AVERAGING OVER 4,000 LBS. PER MONTH IN FY17, ON PACE TO EXCEED FY16



Drone batteries are a fire hazard at the landfill.



Drop-off Site Signage Improvements to Increase Recycling Rates

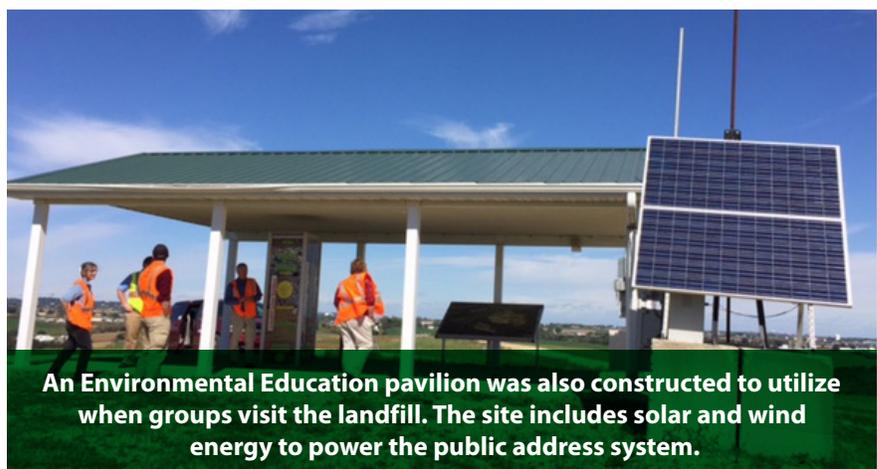


DUBUQUE METROPOLITAN AREA SOLID WASTE AGENCY

has an objective to increase recycling tonnage of materials at its landfill through improved signage. To aid visitors in quickly dropping off materials without frustration, color-coded and graphic signage was installed at the drop-off site. The new signage also promoted alternative material collection, such as bicycles, appliances, and e-waste, increasing diversion rates in 2016 compared with 2015, before signage was installed.

Outcomes

- **IMPROVED SIGNAGE HAS INCREASED DIVERSION OF ALTERNATIVE MATERIALS: APPLIANCES +19%; E-WASTE +30%; METAL +24%**
- **CUSTOMER QUESTIONS FOR DIRECTIONS REDUCED TO ALMOST NIL**





River Clean Up Promotes Water Quality and Community Involvement



THE GREAT RIVER REGIONAL WASTE AUTHORITY

partnered with Project AWARE to clean Iowa's rivers. Cleaning a portion of the state-designated 52-mile water trail on the Des Moines River in Van Buren County improved the usability of the water trail, promoted water quality and brought together the community. A variety of trash was removed including a motorcycle, a car frame, 8 bathtubs, a fiberglass boat, and even a dumpster.

Outcomes

- OVER 40 TONS OF TRASH WERE REMOVED IN JULY 2016
- RECYCLED 30 TONS OF THE TRASH COLLECTED



Volunteers get ready to canoe and clean the river!

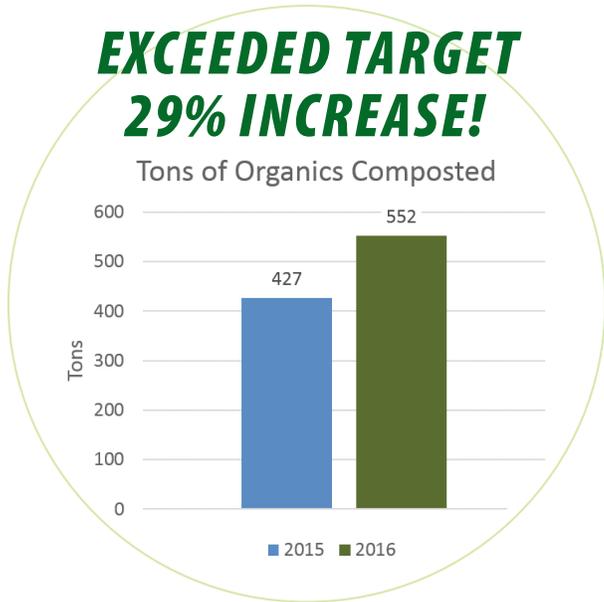


Curbside Yard Waste Program Expands to Include Organics



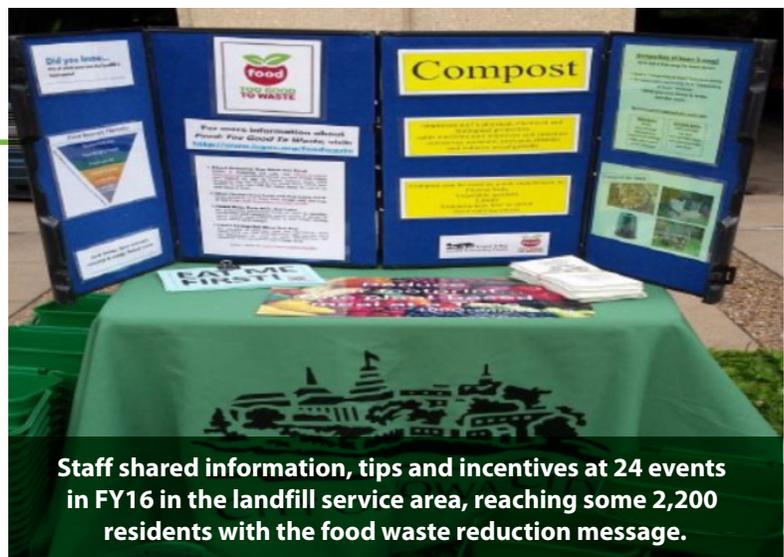
IN JUNE 2016, IOWA CITY LANDFILL AND RECYCLING CENTER staff presented Iowa City's City Council with the concept of collecting food waste in the existing curbside yard waste collection program. Council supported the concept and code language is being updated to formalize the program and begin curbside collection.

In addition to food waste composting efforts, staff continues to work to reduce residential food waste using the Food: Too Good to Waste (FTGTW) program. Nearly 600 counter-top collection bins were distributed as part of the outreach efforts. FTGTW information, tips and incentives will be included with the proposed curbside food waste collection program.



Outcomes

- **IN FY16, 552 TONS OF FOOD WASTE COMPOSTED**
- **EXCEEDED TARGET OF 25% INCREASE**



Staff shared information, tips and incentives at 24 events in FY16 in the landfill service area, reaching some 2,200 residents with the food waste reduction message.



Household Battery Recycling Program Designed with Lego League Partner



THE LANDFILL OF NORTH IOWA partnered with a local Lego League on ideas for their Trash Trek Challenge civic project to educate people about household battery recycling.

To make it more convenient for residents to recycle batteries, the team created battery drop-off receptacles with three businesses in Clear Lake agreeing to display the receptacles. The Landfill of North Iowa will pick up the batteries and measure progress to create future targets. The team also created an at-home and at-business solution for residents to safely store batteries, and shared these prototypes with community members.



Outcomes

- **3 LOCAL BUSINESSES ADDED BATTERY RECYCLING RECEPTACLES**
- **815 LBS. COLLECTED TO DATE**
- **LEGO LEAGUE WON MULTIPLE AWARDS AND ADVANCED TO THEIR STATE CHAMPIONSHIP!**



Students designed the receptacles and outreach plan and at their Regional Tournament, won Overall Champions and a special award, Global Innovation Award Nomination!



Propane Tank Recycling Expanded to Safely Meet Residential Needs



SEEING A NEED IN THE AREA, STAFF AT THE METRO WASTE AUTHORITY'S Hazardous Waste Drop-off expanded its service offering to include 1-lb propane bottles. Since area landfills did not accept these items, residents were either stock piling them, or disposing of the unaccepted items in the garbage.

Residents have responded positively to the new recycling option. Bottles in good condition, and with propane remaining, are placed in the SWAP Shop for other residents to use. Bottles not headed for the SWAP shop are safely prepared for recycling through a scrap metal hauler.

Outcomes

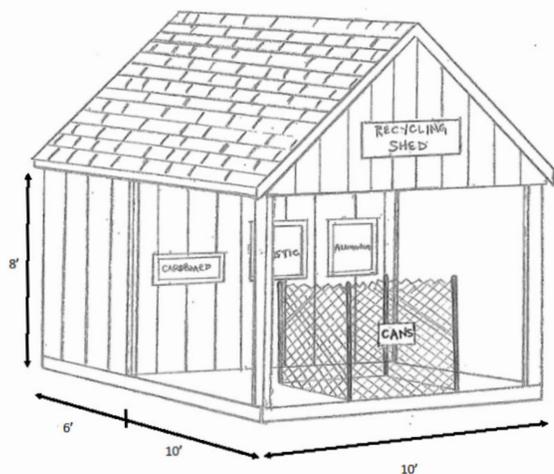
- **PURCHASED PROPANE RECYCLING EQUIPMENT MID-2015 AND BEGAN COLLECTION**
- **628 BOTTLES COLLECTED IN 8 MONTHS OF FY16/17**
- **EXCEEDED TARGET OF 10% OVER FY15/16**
- **PLANNING TO INCREASE COLLECTION BY 50% IN ENSUING YEARS**



Various media outlets helped promote the program.



Signage was created for promotion to residents.



Grants Program Creates Local-led Green Initiatives



THE DARP GRANT EXTENDS THE IMPACT OF EMS WITH UP TO \$10,000 FOR INNOVATIVE WASTE DIVERSION OR REDUCTION PROJECTS

NORTHERN PLAINS REGIONAL PLANNING AREA rolled out a new program to collaborate with local organizations in the diversion of waste from the landfill: the DARP Grant (Diversion And Reduction Program).

Applicants may request financial assistance for waste reduction equipment, education and workshops, building construction or renovations, or studies that impact the following areas:

- **YARD WASTE MANAGEMENT**
- **WATER QUALITY IMPROVEMENT**
- **HAZARDOUS HOUSEHOLD WASTE COLLECTION**
- **GREENHOUSE GAS REDUCTION**
- **RECYCLING SERVICES**
- **ENVIRONMENTAL EDUCATION**

Funding assistance has been utilized by two entities outside the City of Spencer. One seeks to improve yard waste management through a study to determine the feasibility of transitioning a garden waste burn site into a composting site. The other will increase recycling services by creating a centralized recycling building for use by campers.

Outcomes

- **TWO GRANTS AWARDED IN 2016!**
- **CITY OF ESTHERVILLE WAS AWARDED \$2,800 FOR A FEASIBILITY STUDY OF MUNICIPAL COMPOSTING**
- **PALO ALTO COUNTY WAS AWARDED \$10,000 FOR A CENTRAL RECYCLING FACILITY AT A PUBLIC CAMPGROUND**



Collection of Cardboard to Divert from Landfill to Recycling



EXCEEDED YEARLY GOAL WITH 4,300 LBS. IN FIRST 8 MONTHS

THE OTTUMWA/WAPELLO COUNTY SOLID WASTE COMMISSION

reviewed its waste audit and found a significant amount of cardboard was being disposed of in the landfill. An easy-to-implement solution included purchase of a trailer that would be used to collect cardboard that comes in with trash loads to the landfill. The commission also has a policy to encourage recycling by increasing fees for loads with excessive cardboard.

The trailer hauls are transported by the solid waste mechanic on scheduled maintenance runs, adding little time to these trips which would be made regardless. This simple change to process has already yielded great results!

Outcomes

- **DIVERTED AND RECYCLED OVER 4,300 LBS. IN FIRST 8 MONTHS**
- **ON TRACK TO DOUBLE THE COLLECTION GOAL OF 2,640 LBS. OF CARDBOARD AT LANDFILL FOR RECYCLING IN FY17**



The trailer allows collection of cardboard at landfill hauling to the recycling center.



Success in Shingle Recycling Leads to Expanded Offerings Including Wood Waste

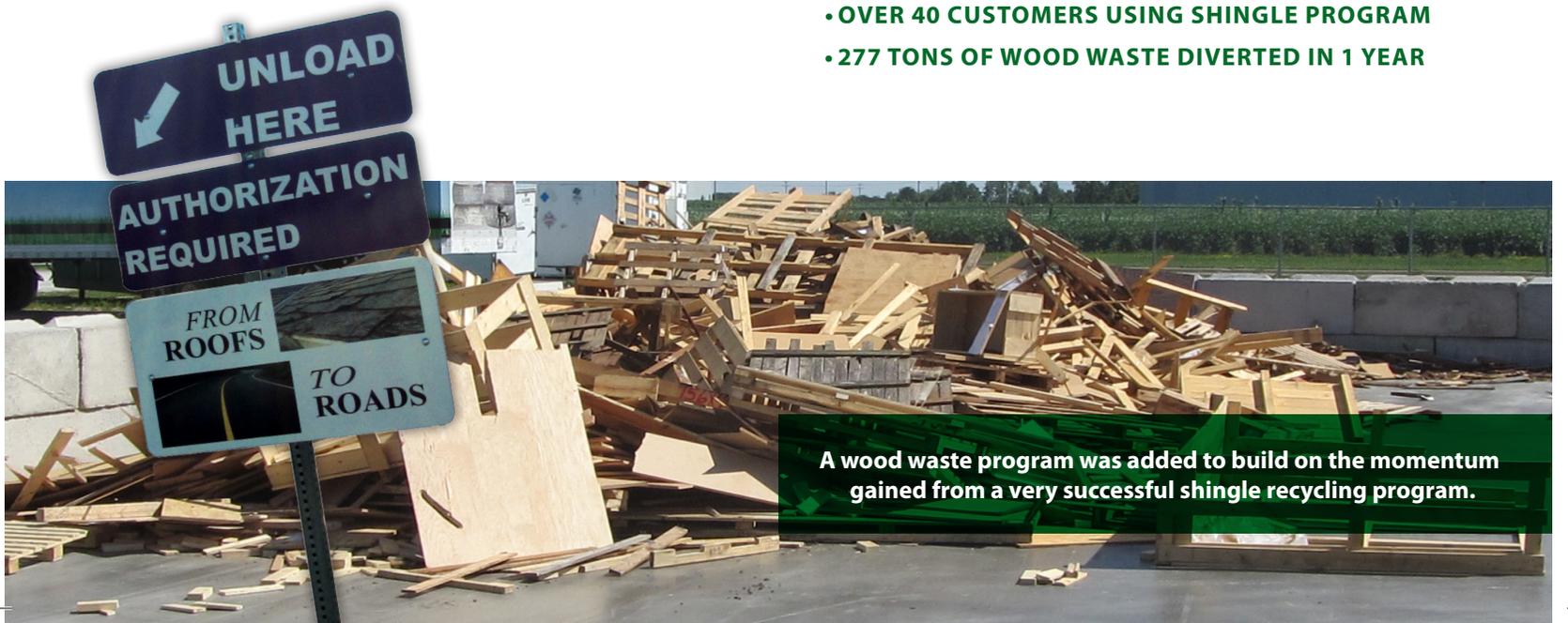


RATHBUN AREA SOLID WASTE COMMISSION

developed a comprehensive shingle recycling program, including a 6,400 sq. ft. concrete collection pad, signage, promotion, and ongoing program management to support the community. Local contractors and homeowners get a discounted tipping fee while making a positive environmental impact. After a few months of successful shingle recycling, a local industry member contacted the Rathbun Area Solid Waste Commission to discuss recycling their wood waste. This opened the door for another recycling opportunity at the same facility.

Outcomes

- 355 TONS OF SHINGLES DIVERTED IN 2 YEARS
- OVER 40 CUSTOMERS USING SHINGLE PROGRAM
- 277 TONS OF WOOD WASTE DIVERTED IN 1 YEAR



A wood waste program was added to build on the momentum gained from a very successful shingle recycling program.

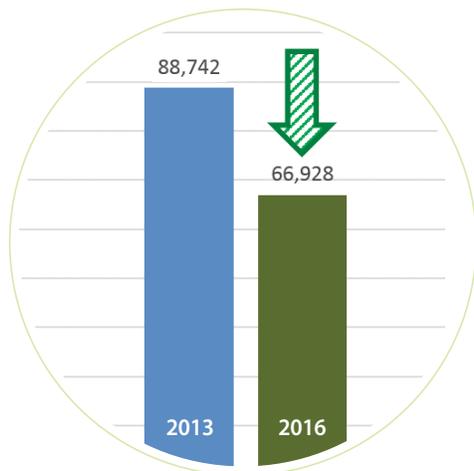


New energy-efficient lighting was installed

Common Sense Updates to Reduce Greenhouse Gas Emissions



31 TONS OF GHG EQUIVALENTS PER YEAR REDUCED!



Outcomes

- **TARGET TO REDUCE ELECTRICITY CONSUMPTION BY 10%**
- **ELECTRIC CONSUMPTION EXCEEDED GOAL — LANDFILL HAS DECREASED BY 25% AND TRANSFER STATION BY 54%**

SINCE 2013, SOUTH CENTRAL IOWA SOLID WASTE AGENCY has been working on an objective to reduce greenhouse gas (GHG) emissions through reducing electrical consumption by 10% by mid-2016 over the baseline year of 2013. Shop doors were replaced in the transfer station building, as well as lighting at the landfill and transfer station with LED and T-8 models. A new heating system in the landfill shop was also installed.

A subsequent energy audit resulted in additional energy-saving measures such as replacing the old, less efficient pop machine, upgrading fixtures to more efficient technologies, and disconnecting baseboard heaters.

SCISWA IS YOUR RESOURCE

| | | |
|--|---|--|
| | RESOURCE We will treat all discarded materials as potential resources. | ENVIRONMENTAL POLICY South Central Iowa Solid Waste Agency employees are expected to understand, promote, and assist in the implementation of this policy. |
| | EDUCATION We will educate the business community and public on the importance of environmental stewardship by acting as a resource to members. | |
| | SAFETY We will promote the safety of all staff and visitors using emergency and operational policies, procedures, and training programs. | |
| | OPERATION We will operate Agency facilities and equipment in a manner that minimizes damage to the environment by setting annual objectives and targets to address environmental performance. | |
| | UTILIZATION We will utilize Agency assets to maintain the financial viability of services through diversification of revenue sources and cost-efficient operational methods. | |
| | RESPONSIBILITY We will address responsibility for environmental liability and regulatory compliance through sound decisions about site, facility, and program development, operations, and post-operation care to preserve the natural resources of the area. | |
| | COORDINATION We will coordinate operations and services with our members and employees, anticipating and responding to concerns about potential and actual impacts of the Agency's activities. | |
| | EVALUATION We will evaluate performance of the Agency in meeting its Mission Statement and established environmental objectives and targets annually. | |

MISSION STATEMENT
To provide economically and environmentally sound management of waste materials by supporting proper resource management practices throughout the Agency planning area.



Updated Processes and Infrastructure to Collect Household Hazardous Waste



**REDUCED RISK OF
SPILLS AND IMPROVED
CUSTOMER SERVICE**

THE WASTE COMMISSION OF SCOTT COUNTY has a goal to eliminate the potential for runoff of oil contaminants at its oil drop-off area. The commission has installed a new household hazardous waste collection area and now provides staff to conduct transfers.

As part of overall upgrades to the Scott Area Recycling Center, the adjoining Household Hazardous Material Facility was expanded to include a specially-designed oil pour-off system. To eliminate the potential for runoff of oil contaminants, the facility no longer has an unstaffed drop-off area for auto fluids. Instead, staff handles all auto fluids at the new facility. These changes protect the environment and provide better service to area residents.

Outcomes

- **MINIMIZED ENVIRONMENTAL IMPACT OF OIL DROP-OFF**
- **ZERO SPILLS AT THE OIL DROP-OFF AREA**
- **INCREASED SERVICE TO AREA RESIDENTS**
- **NEARLY DOUBLED THE NUMBER OF RESIDENTS SERVED**
2,800 SERVED IN 2015 (AUGUST - DECEMBER)
5,400 SERVED IN 2016 (AUGUST - DECEMBER)

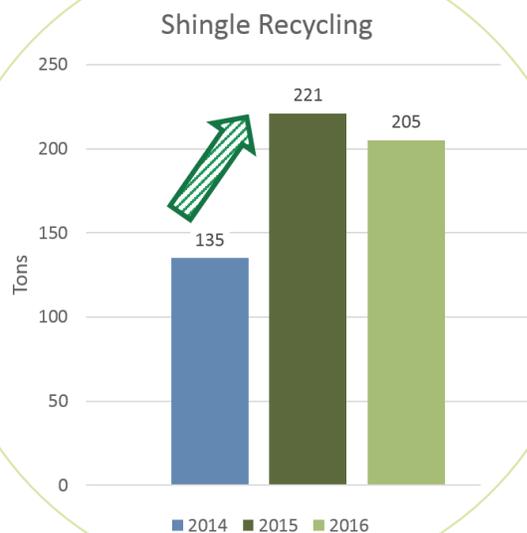


The new oil pour-off system decreases the risk of spills.

Shingle Recycling Initiative Leads to Increased Landfill Space



**EXCEEDED TARGET
64% INCREASE!**



WEST CENTRAL IOWA SOLID WASTE MANAGEMENT ASSOCIATION

had an overall goal to decrease recyclable materials from going to the landfill. Shingle recycling was identified, and its success far exceeded the 5% increase expected.

Large plastic bags are provided free of charge for individuals or businesses to put their recyclables in from the job site. The recycled shingles will be used in an asphalt mix in parking lots and roadways. Shingle recycling has been a great success, with initial targets exceeded by far.

Outcomes

- **135 TONS RECYCLED IN 2014**
- **221 TONS RECYCLED IN 2015**
- **205 TONS RECYCLED IN 2016**



Shingles are recycled into asphalt, used for repaving roadways.

ACKNOWLEDGEMENTS

**Thank you to the following Iowa solid waste agencies
for sharing the stories of their EMS success:**

Cass County Environmental Control Agency
Cedar Rapids/Linn County Solid Waste Agency
Dubuque Metropolitan Area Solid Waste Agency
Great River Regional Waste Authority
Iowa City Landfill and Recycling Center
Landfill of North Iowa
Metro Waste Authority
Northern Plains Regional Planning Area
Ottumwa/Wapello County Solid Waste Commission
Rathbun Area Solid Waste Commission
South Central Iowa Solid Waste Agency
Waste Commission of Scott County
West Central Iowa Solid Waste Management Association

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DNR manages the EMS program, a voluntary alternative
to Comprehensive Planning. For more information about
this innovative program, visit the following website:

www.iowadnr.gov/swems