Colorado Department of Public Health and Environment

Colorado Solid Waste and Materials Management Program

2013 Annual Report to the Colorado General Assembly
(February 1, 2014)

This document was modified to update the web address on page 5.

A MESSAGE FROM CHARLES JOHNSON

Communication is something we begin learning at a very early age. It does not take long to realize that some people may not understand what we're saying — and this is not a hearing issue. Then we learn to explain ideas from different perspectives and we soon realize how extremely important listening is to communicating. If you want someone to understand you, you need to listen to what they are saying or asking. One way to enhance our understanding is to ask questions so you can fully appreciate their perspective. After listening and understanding, you may be more able to explain your idea so they can understand and appreciate your perspective. Once they fully appreciate what you are trying to convey, you are on your way to effective communication. This all seemed so much easier when we were younger.

As the pace of business increases, issues seem to become much more complex and interrelated. This is especially true in the ever-changing and innovative world of solid waste and materials management. Solid waste facilities are no longer just landfills but entire business centers that include landfills, shingle and tree recycling operations, compost activities, solidification basins and waste-to-energy operations all at the same location and integrated in campus-style operations. Facility owners and operators are forever increasing efforts to maintain a seamless and efficient flow of materials through their facilities. They are also always looking for the next new opportunity to integrate into their business plan.

We need to work as partners to help ensure a safe and economic integration of the regulations into the business and operations model. Integrating the regulations into the business model streamlines permitting processes and increases environmental protection while improving the return on investment. During these activities and working as partners, it is essential to maintain an open dialogue and optimize effective communication. One of the best ways to ensure effective communication and a successful project is to meet with solid waste staff prior to becoming fully committed to one specific business model, design and time table. We invite and strongly encourage all businesses to meet with staff prior to finalizing designs. We will endeavor to set up a multi-divisional, environmental meeting with our air and water counterparts to help expedite your process. With improved communication comes better results and better return on investments.

Colorado Department of Public Health and Environment
Solid Waste and Materials Management Program

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*As required by law, the recycling data reported herein is to be submitted March 1 of the following calendar year (for example, calendar year 2012 recycling data was received March 1, 2013), and reported February 1 of the subsequent year (2014). The remainder of the data is from the previous fiscal year (2013) to be timelier.

PERMITTING

Wildfires and floods and debris management, oh my! That was fiscal year 2013 for the Solid Waste Permitting Unit (the permitting unit). Unprecedented natural disasters pounded Colorado, resulting in debris management challenges this state has never before faced. One cannot overlook the human and economic impacts these natural disasters left behind. For wildfires and floods alike, a significant part of the recovery effort focused on debris management solutions. Unit staff participated in a significant number of meetings, conference calls and site visits to better understand the debris management challenges our communities face. Community concerns were almost always urgent, emotional and complex. Alongside local, state and federal agencies, our focus was to help folks get their lives back to some level of normalcy by developing practical debris management guidance that when followed, would ensure minimal impact to public health and the environment.

Flood debris in the City of Evans.

Debris management for wildfires — mainly burn footprints and waste volumes — were light relative to the floods. Flood debris was more widespread, affecting many communities and entire counties. Floods presented challenges with momentous volumes and varieties of debris. The permitting unit provided management guidance of an assortment of waste streams and granted numerous temporary waivers that provided regulatory relief on a state-wide level, as well as for individual solid waste facilities and communities. These waivers ensured both regulatory and environmental successful management of debris.

We learned important lessons from these events. An implementable debris management plan is critical to navigate recovery efforts. Workable and protective solutions for debris management are attainable through cooperative approaches. As regulators we need to be pragmatic when dealing with debris management — keeping in mind the human and economic impact of these events. The permitting unit met the challenge of providing communities with guidance and waivers to successfully manage wildfire and flood debris.

MATERIALS MANAGEMENT

The Materials Management Group (the group) encountered many new projects in 2012. With the ever-growing waste diversion industry, the group is constantly evolving to keep up with the pace of business and innovation of new management techniques.

During the fall of 2013, the group held a stakeholder process to evaluate the use of recyclable materials and the feasibility of increasing waste diversion through management practices including recycling, composting and pyrolysis (thermal destruction of material with very little oxygen). As directed by Senate Resolution 13-038, CDPHE will be issuing a report in 2014 with the findings of the stakeholder process.

The group was also tasked with implementing the requirements of the Electronic Recycling Jobs Act. The act bans disposal of electronic devices in landfills and became effective July 1, 2013. It also tasked CDPHE with enacting a public education and outreach campaign. Radio and television public service announcements and staff interviews, an infographic, FAQ documents for industry, local government and the pubic, and a new webpage were all used to educate the

Continued on page 6...

BY THE NUMBERS: OVERVIEW OF THE PROGRAM

REGULATORY AUTHORITY & PROGRAM ELEMENTS

This program is located within the Hazardous Materials and Waste Management Division of CDPHE. It is responsible for ensuring compliance with laws pertaining to the management of solid waste and recycling activities. Primary program elements include compliance assistance; compliance monitoring and enforcement; remediation, permitting, outreach, training and information management. The program does not receive any monies from Colorado's General Fund and is 100 percent fee supported. The Act and regulations (6-CCR 1007-2, Part 1) provide three means of collecting fees to support the program: the Solid Waste User Fee (SWUF) or "tipping fee," the Hourly Activity Fee and the Annual Facility Fee. In 2010, the Solid and Hazardous Waste Commission received authority for and passed regulations setting the SWUF. The SWUF supports approximately 85 percent of the program's funding (Figure 1) and the program is expected to have adequate revenue for at least three years. In 2013, the program continued its efforts to improve efficiency and effectiveness following the passage of HB 07-1288.

Examples of these activities include:

- Improved facility assistance delivered on inspections;
- Streamlined inspection and reporting process by integrating new inspection checklists;
- Development of new workload tracking tools;
- Development of new database (ongoing);
- Continued improvement of data collection, especially in the waste tire and recycling arenas;
- Cross-media integrations with internal and external customers;
- Integrated meetings with owners and air, water and waste regulators to expedite issue resolution; and
- Initiation of a permitting streamlining and checklist effort.

Figure 1: Solid Waste Revenues

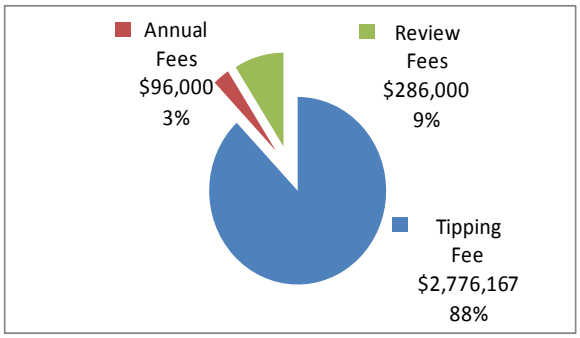


Figure 2: Annual increase in Diversion

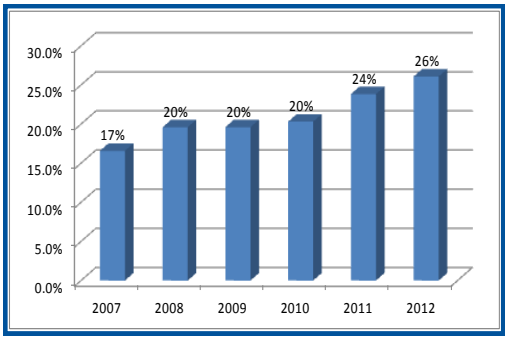


Figure 3: 2012 Materials Management Totals

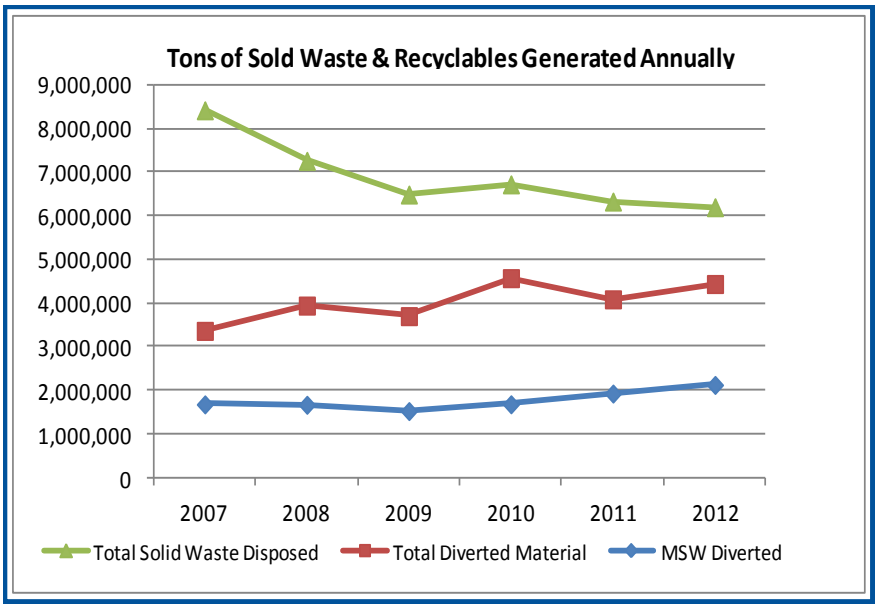


Figure 4: Enforcement Actions

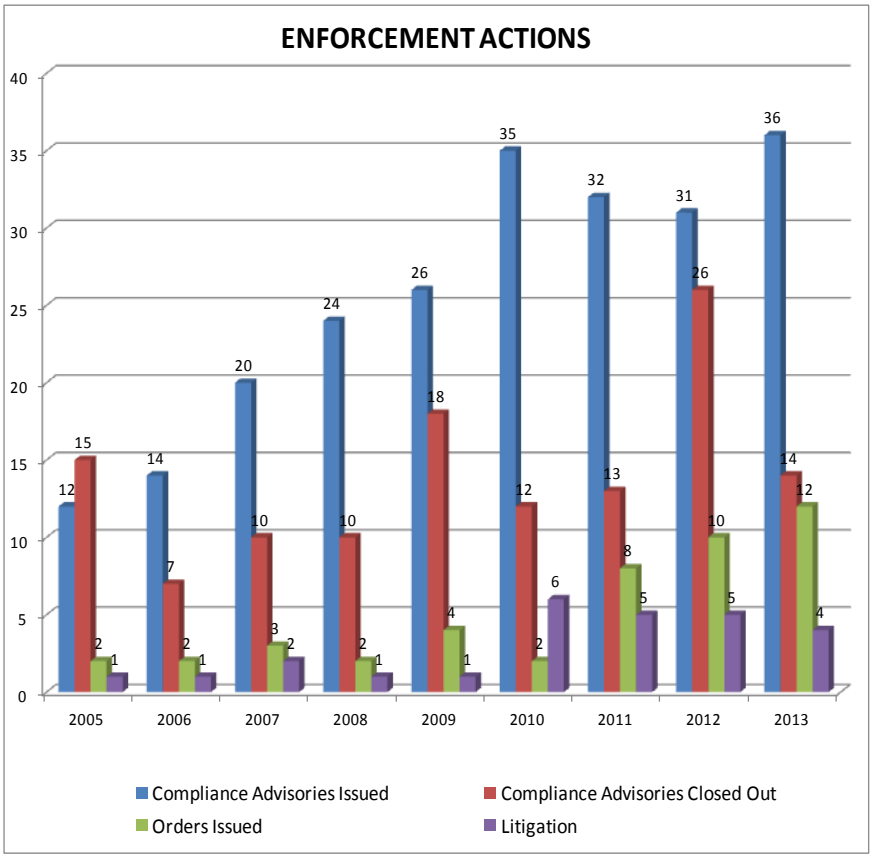


Figure 5: Annual Collected Compost Materials

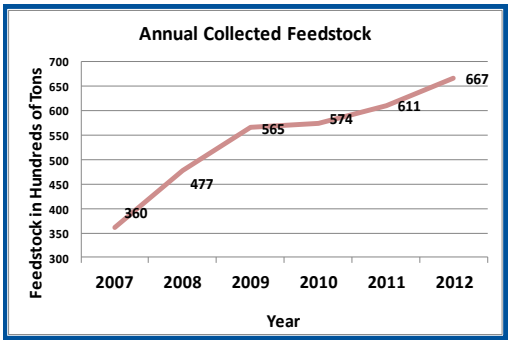
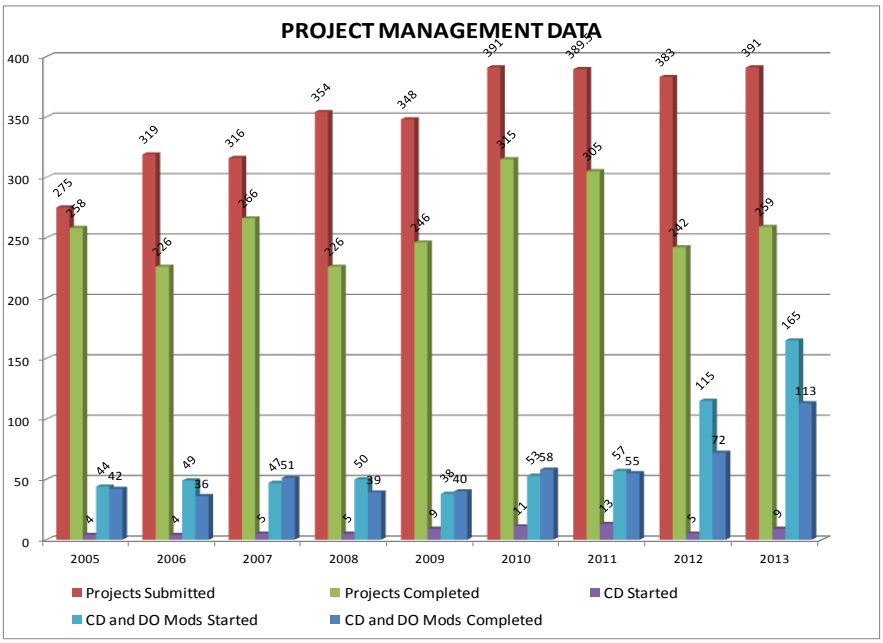


Figure 6: Project Management Data



ADDITIONAL INFORMATION

This report and additional data not reproduced here are available on the Colorado Department of Public Health and Environment website. For more information, please visit: www.colorado.gov/cdphe/solidwaste and www.recycle4colorado.info

MATERIALS MANAGEMENT

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public on the act.

Colorado businesses expressed interest in beneficially using waste streams in 2012. The group reviewed multiple beneficial use applications for ten different waste streams. The proposals ranged from using waste tires as backfill material to utilizing food processing residuals as a fertilizer. Annual reporting from some beneficial users of solid waste found that 176,566 tons and 11,197,494 gallons of solid waste was beneficially used in 2012.

In 2012, there was also an increase in compliance assistance and enforcement among waste tire processors and haulers. The group began a major effort to ensure waste tire facilities operate within the applicable regulatory and statutory requirements. The group actively managed seven waste tire related enforcement actions in 2012. Waste grease regulations also appeared in 2012. The regulations require transporters, facilities and personal users of trap grease to register with CDPHE and comply with waste grease to wastewater and environmental health associations and health inspectors. This outreach and education resulted in 59 total registrants in 2012 and 2013.

A key message of the e-waste campaign.

COMPLIANCE

This year, the Solid Waste Compliance Assurance Unit (the assurance unit) began to realize efficiencies from policy changes made at the end of the previous fiscal year. One such change was the addition of a streamlined enforcement mechanism called an early settlement agreement, which was added to the Solid Waste Enforcement Policy. Although discussed briefly in last year's annual report, the early settlement agreement was first utilized by the assurance unit this year and was successful. It is likely to play an increasing role in expedited resolutions of future solid waste enforcement actions.
The solid waste inspectors now can focus on inspection, enforcement and outreach activities, instead of shared permitting duties.

The assurance unit lost one Grand Junction staff member but is working to re-staff to full strength.

Despite the loss of one staff member, the number of inspections increased by 38 percent during 2012. Of the 136 inspections performed, roughly one-third were complaint inspections, one-third permitted facilities, and compliance assistance site visits and enforcement follow-up inspections made up the remainder. The increase is attributable to the development of standardized inspection forms, which can be completed in the field and in many cases, replace the detailed, multi-page inspection reports developed back in the office.

The number of enforcement actions has remained level with prior years. Fewer court actions and more cases settled freed staff time to focus on inspection and assistance activities.

One inspector led a large stakeholder group aimed at revising Section 5.5: asbestos-contaminated soil regulations. Another assisted with development of guidance for the new waste impoundment regulations.

The assurance unit also is piloting a self-certification program for transfer stations. Already used successfully within the Hazardous Materials and Waste Management Division, self-certification teaches industry personnel to evaluate and certify their own compliance status. CDPHE then reviews the certifications and conducts random verification inspections.

Colorado is undergoing a proliferation of oil and gas exploration, development and production activities. The primary oil companies drilling and producing oil and gas in Colorado indicated that they will double their Colorado activity and production base over the next three yeas. This means more drilling wastes to manage, including produced water and drill cuttings.

Colorado currently has three approved commercial oil and gas produced water recycling facilities. These facilities cleaned and recycled 11,197,494 gallons of produced water last year for reuse in oil and gas operations. CDPHE teams are exploring additional opportunities for the beneficial use of produced water outside of oil and gas activities. The success of these efforts could realize the recycling and reuse of produced water from commercial recycling facilities for activities such as dust suppression, irrigation and other industrial or agricultural operations. Reutilization of produced water would greatly benefit Colorado's residents and businesses.

Industry has also expressed an interest in the appropriate disposal and potential beneficial reuse of drill cuttings. We are working with industry and stakeholders to explore the best management practices for design and operation of disposal facilities, and the safe and protective beneficial reuse of drill cuttings. Drill cuttings are chips and pieces of rock generated by drilling through the earth. The drill cuttings may prove to be successfully reused for civil engineering applications, reducing the need and cost to produce new soils for construction applications.

LEGISLATION, REGULATIONS & WORKGROUPS

In 2013, multiple bills impacting solid waste were vetted through the legislature:

- Senate Bill 13-050 passed a multi-year stepped increase in the Recycling and Resource Economic Opportunity fund portion of the solid waste user fee from $0.07 currently to $0.16 per cubic yard.
- Senate Bill 13-252 included a Senate Joint Resolution to study the influences of pyrolysis on Colorado's existing recycling market.
- House Bill 13-1018 spawned a statewide oil and gas produced water (used for dust suppression) stakeholder process.

Multiple outreach and stakeholder activities were also conducted, including:

- A work group for beneficial use of whole tires on agricultural property that resulted in new waste tire use guidance and 26 pre-approved waste tire uses;
- An electronic waste landfill ban stakeholder process, culminating in passage of the new waste landfill ban regulations and guidance;
- A statutory stakeholder process charged with reviewing, discussing and updating Colorado's waste tire related statutes. The current statutes codified and updated the various waste tire statutes into one cohesive implementable program. The current effort is focused on including revision based on our, and the regulated industry's, experience. The current revision will remove implementation barriers;
- The asbestos-contaminated soil stakeholder group concluded a two-year process to revise and reduce the burden of the Section 5.5 regulations. The rulemaking hearing took place on December 12, 2013 but the Solid and Hazardous Waste commissioners voted to extend the hearing into February 2014;
- Permitting staff continues to work with stakeholders to develop a composting facility guidance and training opportunities for implementation of the guidance.
- Staff also conducted multiple industry-based waste impoundment meetings and collaboratively developed an implementation guidance and assistance program;
- Program staff hosted three outreach meetings providing updates and soliciting programmatic improvement feedback.

2012 RECYCLING & WASTE DIVERSION FACTS

MUNICIPAL SOLID WASTE (MSW) ANNUAL TOTALS

Total MSW Generated:
8.2 million tons

MSW Diversion Rate:
26.1 percent

Total Waste Diversion Rate:
41.7 percent

Per Capita Generation:

MSW Disposed	6.3 lbs.
MSW Recycled	2.3 lbs.
MSW Generated	8.6 lbs.

2.1 million tons of MSW was recycled in Colorado in 2012.

2.3 million tons of industrial materials including asphalt, concrete, C&D and organic material was diverted from Colorado landfills for recycling.

1.2 million tons of recyclable material was used in manufacturing metal, glass, and plastic products in Colorado.

220,950 tons of single-stream recycling was collected.

218,549 tons of municipally generated material, including food waste, was composted.

35 million pounds of electronics was collected for recycling.

Plastic collected at a recycling spoke awaits shipping to a regional hub.

BENEFITS OF RECYCLING MSW

Energy Savings

Energy savings from recycling was equivalent to the energy use of 112,000 homes in a year [1]

Natural Resources Conserved

2.1 million barrels of oil [1]

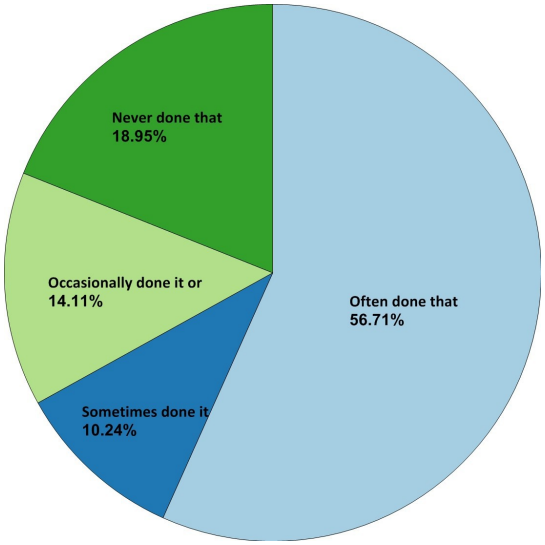
9,500 railcars worth of coal [1]

Greenhouse Gas Emissions Avoided

1.7 million metric tons of carbon dioxide emissions prevented, which equates to emissions from 348,370 cars [1]

[1] US EPA Waste Reduction Model "WARM" Version 12

In the past 12 months, how often did you recycle aluminum, plastic, paper and/or glass?



Recycling in Colorado, Statewide responses from 2012 Behavioral Risk Factor Surveillance System Survey