



# **COLORADO**

## **Department of Public Health & Environment**

**2015 Annual Report to the Colorado General Assembly:**

**Status of the Solid Waste Management Program  
In Colorado**

Submitted to the Colorado Legislature  
by the Hazardous Materials and Waste Management Division  
Colorado Department of Public Health and Environment  
February 1, 2016



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# 2015 Annual Report to the Colorado General Assembly: Status of the Solid Waste Management Program In Colorado

## INTRODUCTION

Colorado's Solid Waste Management Program is responsible for ensuring compliance with laws and regulations pertaining to the management of solid waste. The authority for this program is in the Colorado Solid Waste Act, 30-20-100.5, *et seq.*, C.R.S. The U.S. Environmental Protection Agency (EPA) has approved Colorado's solid waste management program, and by doing so, the authority to implement requirements for the management of hazardous waste in Colorado rests completely with the state.

Primary elements of the Solid Waste Management Program (the program) include compliance assistance, compliance monitoring and enforcement, permitting, and materials management and recycling. Each of these program elements is discussed in the following sections.

The Solid Waste Management Program currently regulates the following facilities:

Facility Type	Number of Facilities
Landfills	74
Composting Facilities	28
Recycling Facilities	155
Medical Waste Facilities	3
Transfer Stations	52
Solid Waste Impoundment Facilities	60
Commercial Exploration and Production Waste Impoundments	12
Waste Tire Facilities	2,144
Waste Grease Facilities	65

Colorado law, at 30-20-101.5(3) and 30-20-122, C.R.S., requires an annual report to the General Assembly be submitted on Feb. 1 of each year. This report must describe the status of the Solid Waste Management Program and the efforts of the Colorado Department of Public Health and Environment to carry out its statutory responsibilities at the lowest possible cost without jeopardizing the intent of the statute. This report is intended to satisfy that statutory requirement.

## ACCOMPLISHMENTS

### Compliance Assistance

A goal of the Solid Waste Management Program is for all regulated facilities to be in, and stay in, compliance with state law and the regulations. The traditional inspection and enforcement program serves as one primary mechanism for reaching that goal. However, compliance assistance is another important method for obtaining and maintaining compliance. The General Assembly recognized the value and importance of compliance assistance in that one of the expectations set out in Section 30-20-101.5(2)(f), C.R.S., is for the department to “establish a preference for compliance assistance with at least 10 percent of the annual budget amount being allocated to compliance assistance efforts.” In FY 2015, the program met that requirement with 15 percent of staff time devoted to compliance assistance.

The program has developed and continues to invest in a broad range of compliance assistance services to help the regulated community manage hazardous waste appropriately. These compliance assistance services include the following activities:

- A part-time customer assistance and technical assistance phone line (303-692-3320): This telephone line is staffed four hours/day during business hours to provide information on common waste management questions and more complex or detailed regulatory guidance. Through this phone line, division technical assistance staff responded directly to 1,782 calls and 255 emails during FY 2015.
- A wide range of solid waste guidance documents and compliance bulletins and an extensive, useful and informative Website, which can be found at [www.colorado.gov/pacific/cdphe/hm](http://www.colorado.gov/pacific/cdphe/hm): The division maintains an extensive set of guidance information for regulated parties through both print and electronic media. Besides the normal access to regulations, guidance documents and policies, in the past year we have added the following information to our website: information on what to do if material in an old landfill is accidentally disturbed, new information on animal carcass disposal and avian flu carcass disposal, a policy stating that the recycling market for asphalt shingles has deteriorated to the point that those shingles are no longer considered recyclable materials in Colorado, and information on two upcoming stakeholder processes for regulation modifications. During FY 2015, the Solid Waste Management webpage received 10,620 hits.
- Periodic solid waste management training sessions provided to industry by our staff; and Solid waste training requested by industry groups and others: In FY 2015, the division provided 15 compliance-assistance training sessions to industry around the state and reached 659 people. The training sessions focused on solid waste and related environmental regulations. These trainings included presentations by program and local agency staff.

Program inspectors routinely incorporate compliance assistance and pollution prevention into the compliance inspections performed each year. Next year, we will

have the ability to report the number and percentage of inspections on which this type of advice was presented to regulated entities.

## **Compliance Monitoring and Enforcement**

The program conducted 153 inspections in FY2015. This number is lower than expected for several reasons, including:

- Being understaffed by 2 inspectors (35% of total inspection staff) for most of the fiscal year;
- Having 1 staff member tied up on two significant spill cleanups for most of the fiscal year; and
- The now-discontinued practice of counting certain types of site visits as compliance assistance visits instead of inspections.

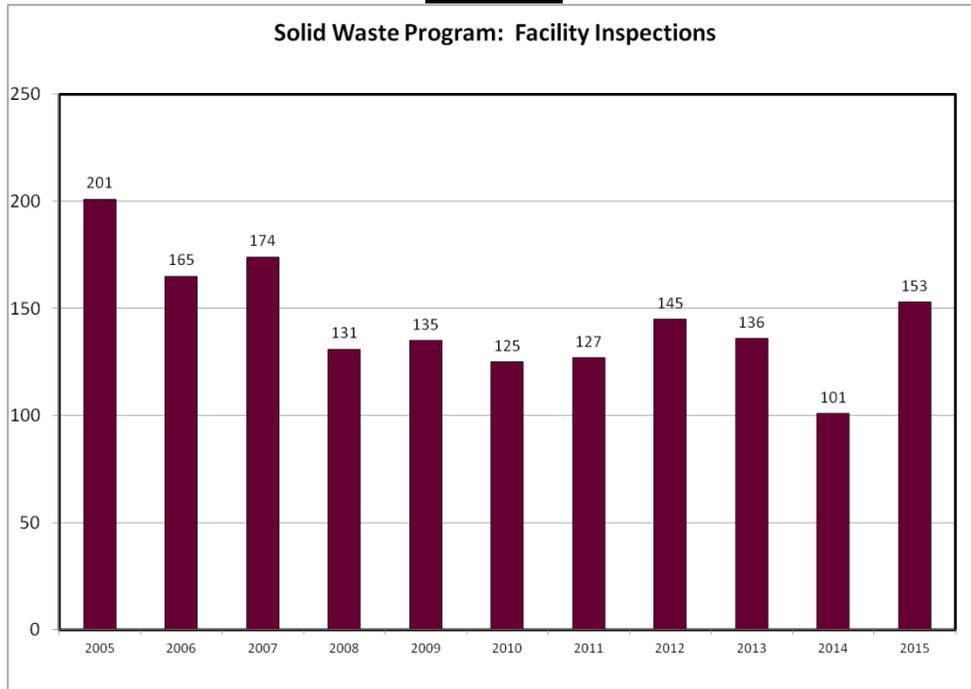
All of these reasons for lower inspection numbers have been resolved, so our inspection count should be significantly higher next year. In next year's report, we will also be able to report on staff efficiency in performing inspections. The performance plans for each inspector define the number of completed inspections needed to achieve an outstanding, satisfactory or unsatisfactory performance rating.

Every inspection carries administrative responsibilities, such as report preparation, tracking return-to-compliance activities at the facility, and data entry. In next year's report, we will be able to report on the timeliness of those activities.

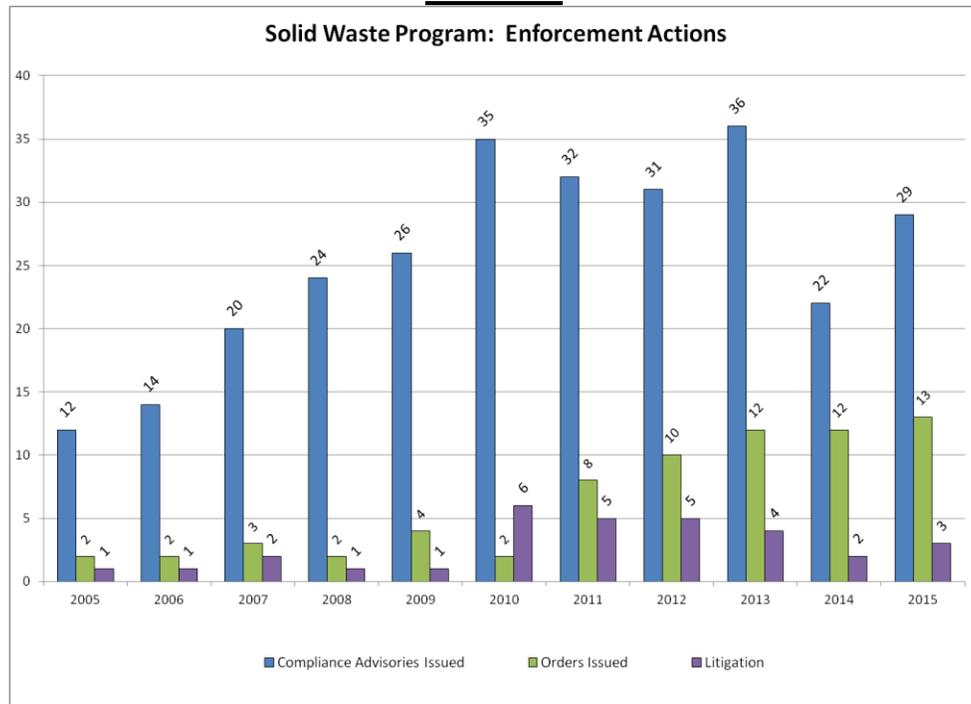
The program puts a high priority on complaints and spill reports. In FY2015, the program received 75 complaints. Of those, 51 were investigated and/or inspected by our staff and 24 were referred to local governments or other agencies. In addition, 43 spill reports were received. We followed-up on 38 of those spills to ensure appropriate cleanup actions were completed, and 5 spills were referred to local governments or other agencies.

Inspections, complaints, and spill follow-up result in the issuance of formal and informal enforcement actions. Informal actions are called Compliance Advisories, and formal actions include Compliance Orders and civil actions filed in court. Figure 1 presents the number of inspections performed by the program over past years, and Figure 2 presents the number of formal and informal enforcement actions undertaken.

**FIGURE 1**



**FIGURE 2**



In next year’s report, we will be able to report on the timeliness of these actions as measured against standards established by our program.

HB07-1288 requires that the program’s inspections “focus on major violations of regulations that pose an immediate and significant threat to human health and the environment.” In next year’s report, we will be able to demonstrate how we have accomplished this requirement.

## Permitting

In Colorado, all solid waste disposal sites and facilities need Certificates of Designation (CDs) issued by the local government. These are facilities at which the deposit and final treatment of solid waste occurs and includes landfills, incinerators, medical waste treatment facilities, and certain subsets of waste impoundments and composting facilities. However, it does not include recycling facilities, transfer stations, and any facility disposing of their own solid waste generated on their own site.

In order to get a CD, a facility must submit their application to the local government. The local government then refers the application to the program for a technical review to be sure that the facility can operate safely and in a manner that protects human health and the environment. If the division recommends approval of the application, the local government evaluates whether the proposed facility conforms to the local land use plan and zoning restrictions. The local government may approve or disapprove of the application at that point. However, if the division recommends disapproval, then the local government must disapprove the application.

The portion of the application that the program reviews is called the Design and Operations Plan (DOP). Certain facilities that do not require a CD must still get an approved DOP. Therefore, the division’s “permitted universe” includes all solid waste facilities with DOPs. Table 1 summarizes this universe of facilities.

**TABLE 1**

Solid Waste Facilities with Engineering Design and Operations Plans (EDOPs)			
Facility Type	# with CDs	# with DOPs	Total
Landfills	74	74	74
Composting Facilities	7	13 <sup>(1)</sup>	13 <sup>(1)</sup>
Recycling Facilities	0	150 <sup>(2)</sup>	150 <sup>(2)</sup>
Medical Waste Facilities	4	4	4
Solid Waste Impoundments	15	75	75
Other Facilities (Incinerators, waste-to-energy, animal disposal)	3	7	7
<b>Totals</b>	<b>103</b>	<b>323</b>	<b>323</b>

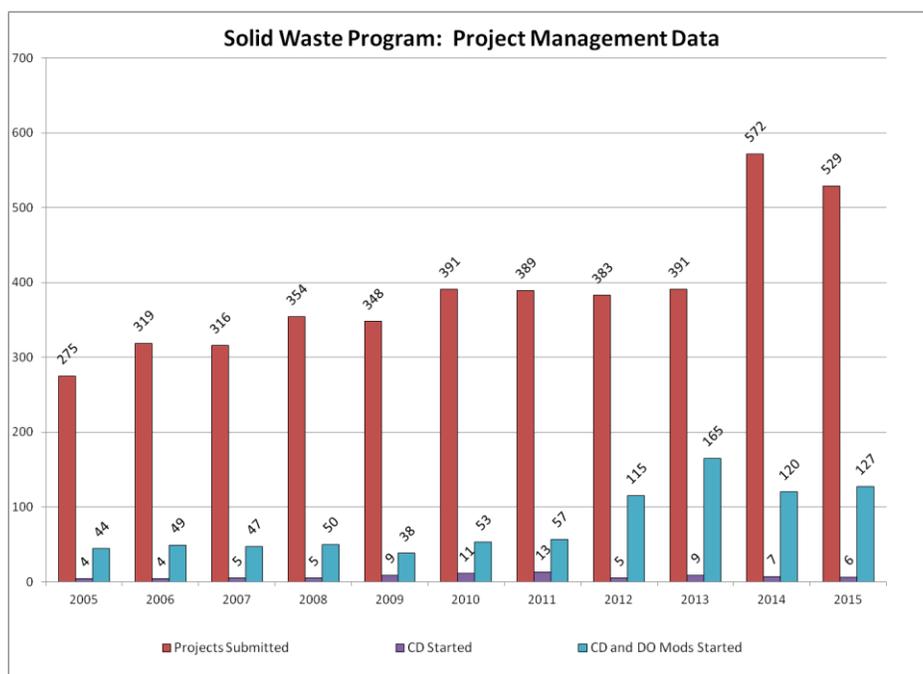
(1) Does not include 8 composting sites co-located at permitted landfills

(2) Does not include 5 recycling sites co-located at permitted landfills

This large universe of sites with DOPs is not standing still. New facilities are being built and existing facilities are adding new solid waste management units, adding waste streams, and adding treatment capabilities - all of which needed DOP, and sometimes CD, modifications to be reviewed and approved. Figure 3 represents the large number of documents being submitted to our staff by this universe of facilities on an annual basis. This graph does not show the relative complexity of these documents - they range from relatively simple ground water monitoring reports to very complex engineering designs for new treatment technologies and new landfill cells with sophisticated liners and caps. Next year, we will be able to show how efficient our staff is in reviewing a range of document types - we will show how long

it takes us to review a document in overall elapsed days, as well as how many hours of billable time it takes to review each document type.

**FIGURE 3**



## Materials Management & Recycling

Materials management and recycling have become significant parts of the overall Solid Waste Program. Increasing portions of the solid waste stream are being diverted from waste disposal. Recycling of many materials is on the rise - more and more industries are looking at the beneficial re-use of solid waste streams as attractive replacements for raw ingredients.

Within the Solid Waste Program, there are several materials management and recycling programs that we implement:

1. Waste Tire Programs
2. Waste Grease Program
3. Review of beneficial re-use applications
4. Track recycling and material diversion across Colorado

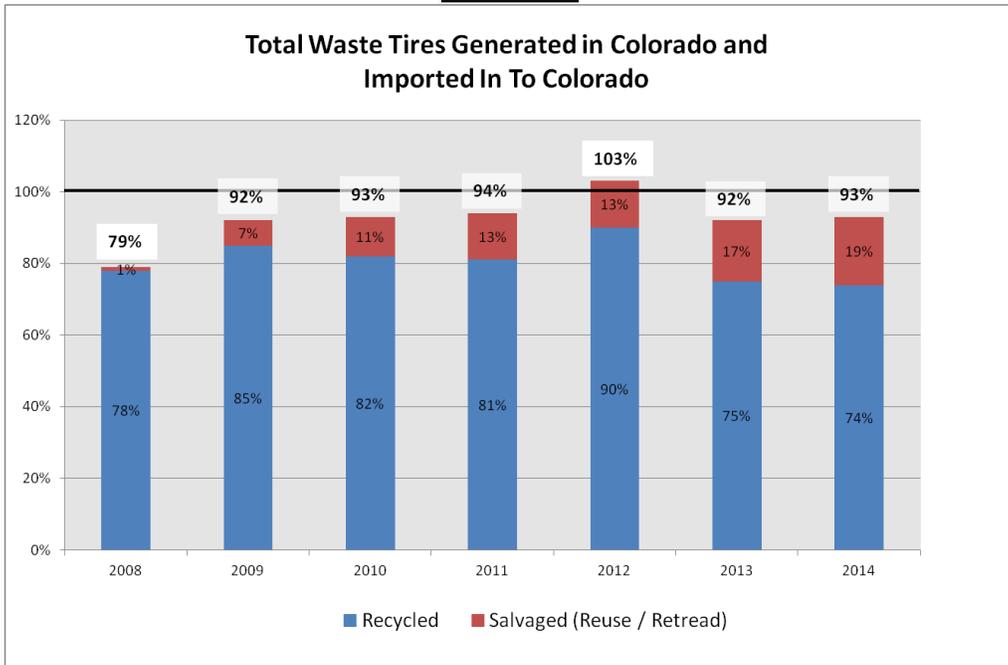
### The Waste Tire Program

Over the past decade, the Waste Tire Program has expanded to become fully integrated including oversight of waste tire generators (commercial tire shops), haulers, processors, collection facilities, end users, and monofills. Program staff inspects facilities, ensures collection of the waste tire fee on each newly purchased tire, and awards grants and rebates to entities that use tire-derived products.

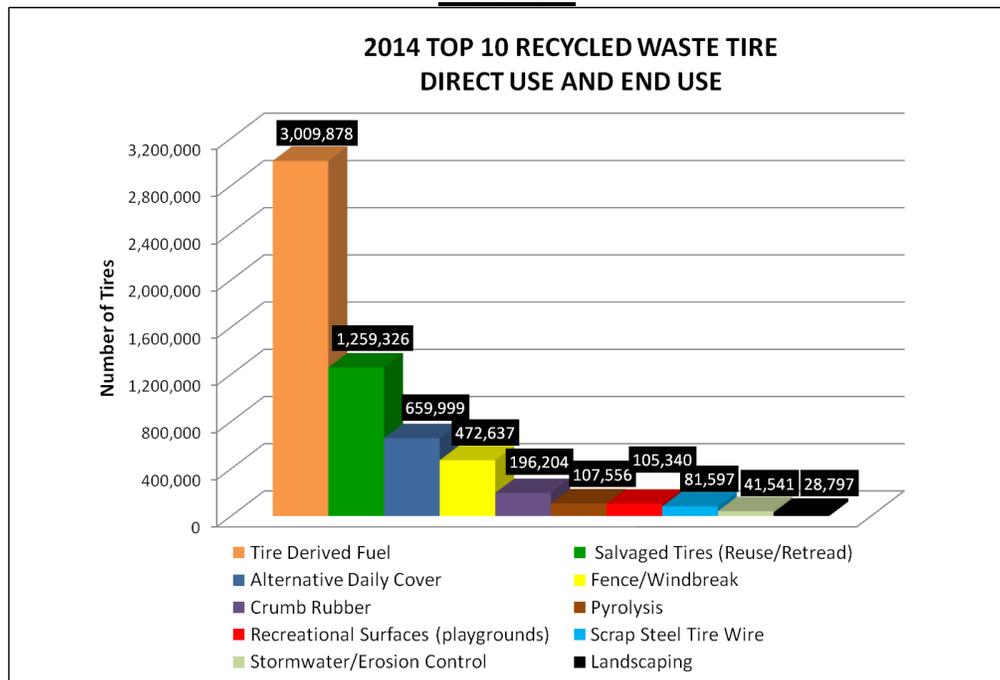
Some of the more significant metrics tracked for these programs include Figures 4, 5, and 6. Figure 4 shows that in 2014 (2015 data has not yet been tabulated), 93% of waste tires generated in, or imported into, Colorado were either recycled or re-used. Figure 5 illustrates the top 10 uses of waste tires with tire-derived fuel and salvaged tires being the top two uses. Figure 6 shows that, since 2011, Colorado has been

recycling or salvaging more than 100% of the tires generated in Colorado. For a complete explanation of the waste tire programs, please see the 2014 Annual Report to the Colorado legislature located at: [https://www.colorado.gov/pacific/sites/default/files/HM\\_sw-2014-waste-tire-rpt.pdf](https://www.colorado.gov/pacific/sites/default/files/HM_sw-2014-waste-tire-rpt.pdf)

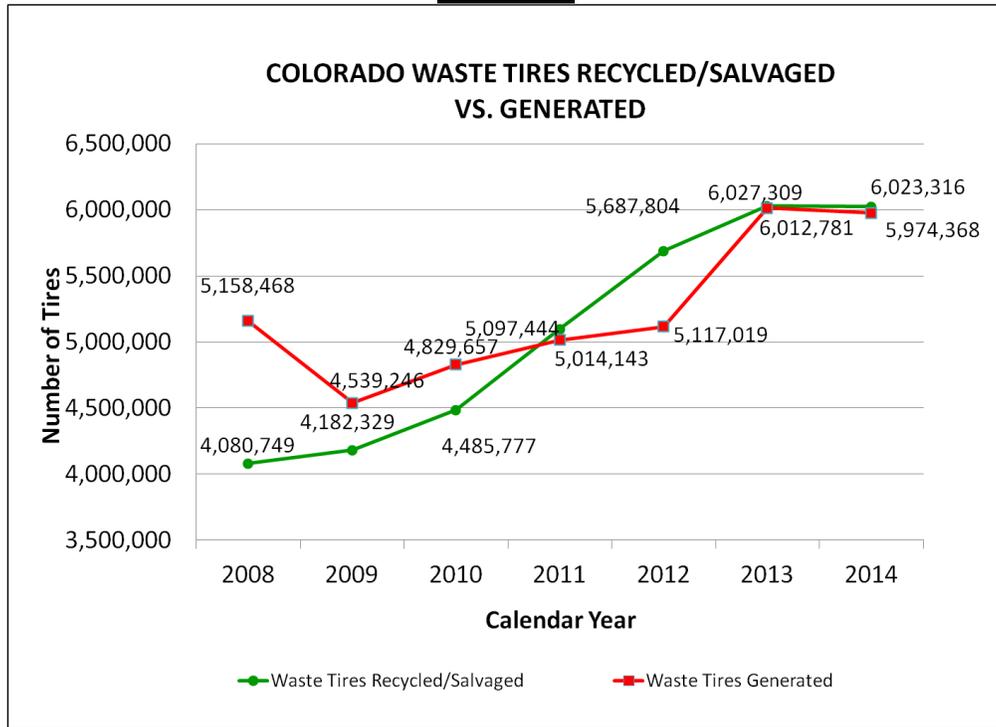
**FIGURE 4**



**FIGURE 5**



**FIGURE 6**



### Waste Grease Program

A total of 50 waste grease transporters and 15 waste grease facilities were registered with the division at the end of FY2015. Waste grease program staff performed 5 waste grease transporter compliance inspections on the Western Slope. During these inspections, staff provided educational information and answered questions and concerns about the waste grease program. Additionally, waste grease staff met with Delta County and Montrose Environmental Health representatives to discuss the waste grease program and the impact it has on their communities.

Staff continues to process new waste grease registration applications and annual waste grease renewal applications and provide information about the waste grease program by answering and responding to waste grease phone calls and emails.

### Beneficial Re-Use Applications

The materials management group reviewed 12 beneficial use applications in 2014, resulting in 747,076 tons of solid waste diverted from traditional disposal when combined with past beneficial use approvals.

### Recycling and Materials Diversion Tracking

The program tracks many aspects of recycling and waste diversion. For instance, Figures 7 through 10 below show the overall waste generation and waste diversion metrics through 2014, the last year information is available. Figure 7 presents the overall generation, disposal and diversion of municipal solid waste, or MSW. This is the waste that is disposed of in Colorado's landfills. Significantly, this does not include industrial waste recycled, cement and asphalt that are re-used, or waste tires utilized for energy recovery. It also does not include solid waste disposed in Colorado's construction and demolition and industrial waste landfills.

**FIGURE 7**

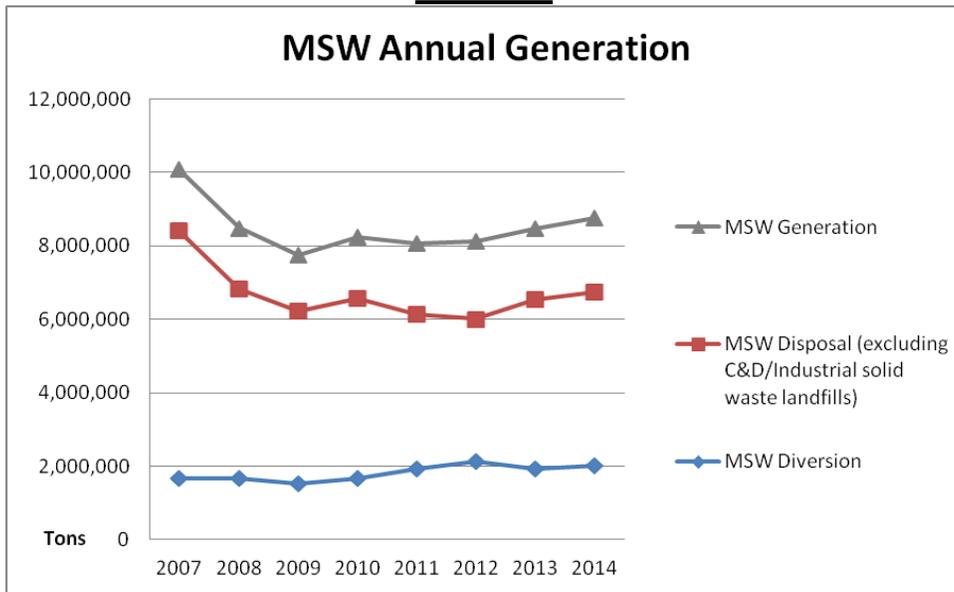


Figure 8 presents the diversion rate of MSW as a percent of the total waste generated. “Diversion” means that the waste was recycled or beneficially re-used, but not placed in to a landfill. A 23% diversion rate for Colorado puts us in the middle of the pack as compared to other states.

**FIGURE 8**

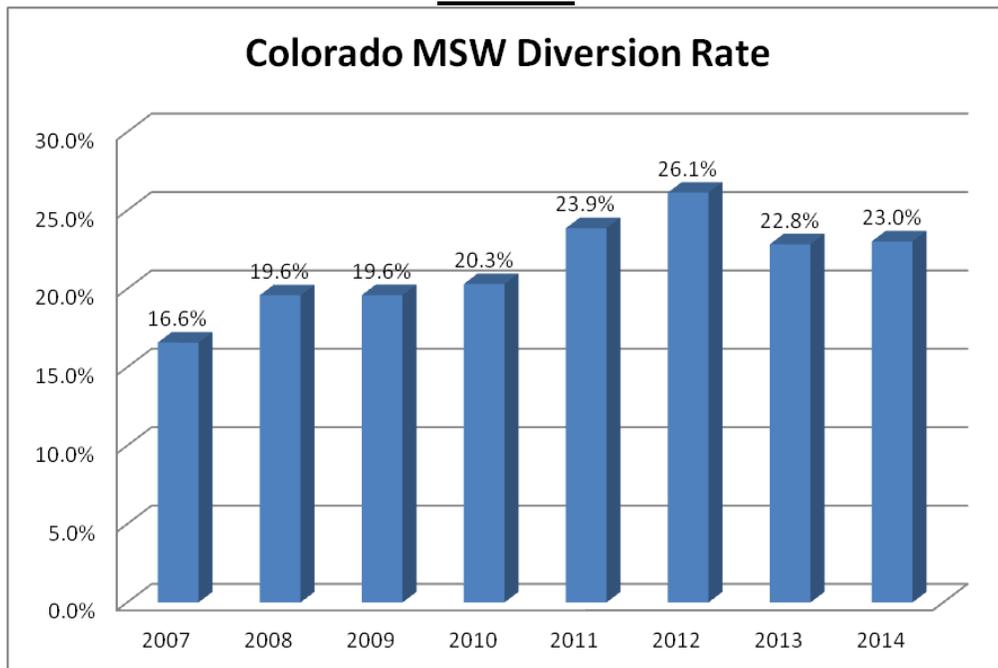


Figure 9 represents the average amount of waste generated in pounds per person per day. At more than 8 pounds/person/day, Colorado generates more than most states.

**FIGURE 9**

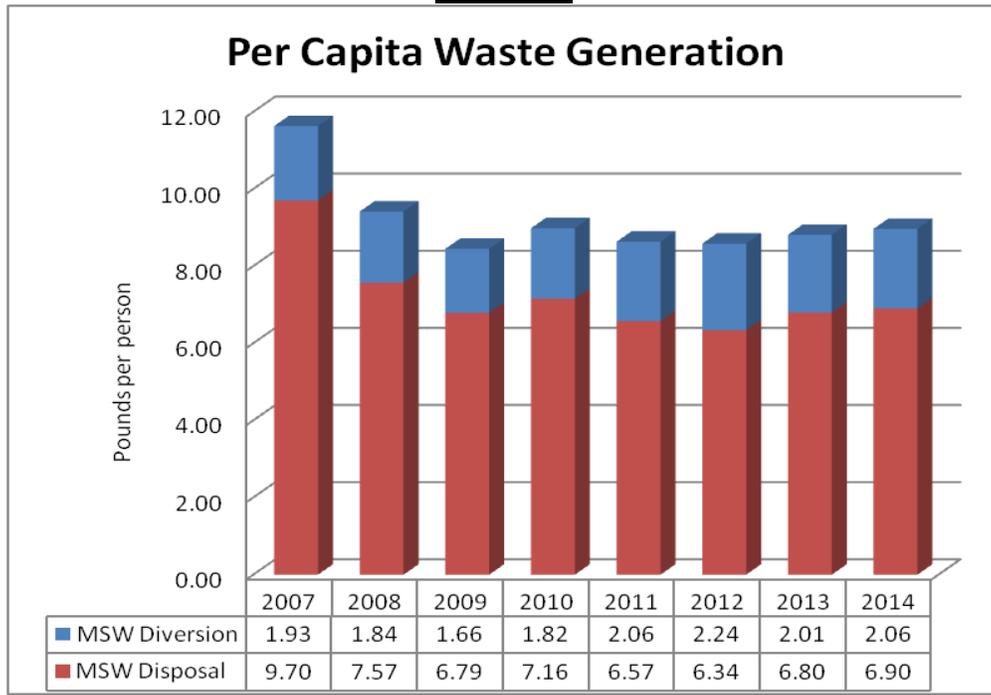


Figure 10 shows the overall content of diverted materials by weight for 2014. Clearly, paper, cardboard, and organic compostable materials ran well ahead of all other recyclables like aluminum, glass and plastic. Again, these figures do not include scrap metal, cement, asphalt, or waste tires.

**FIGURE 10**

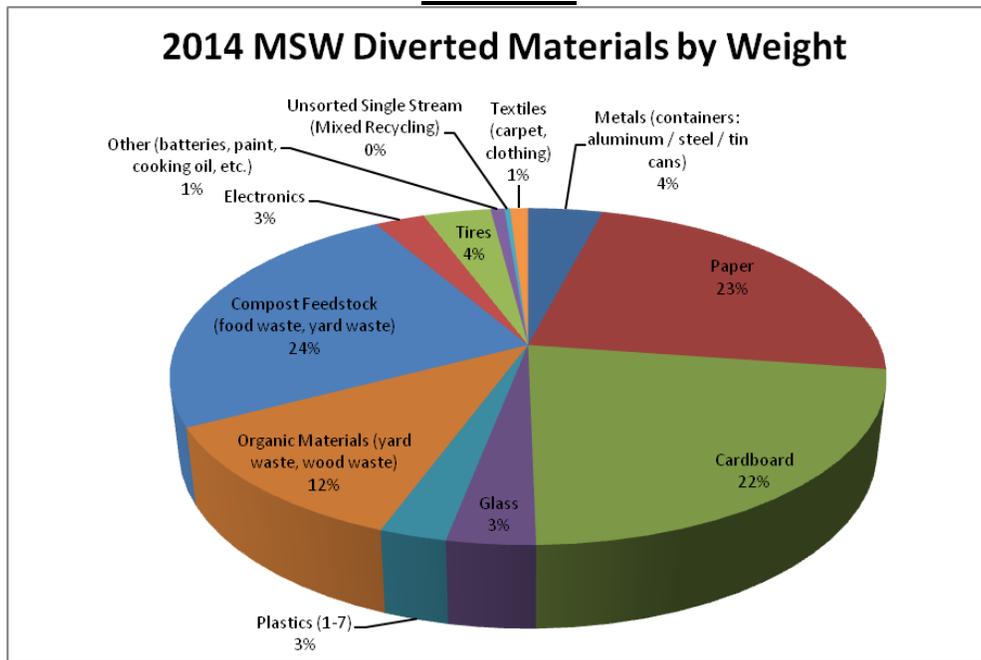
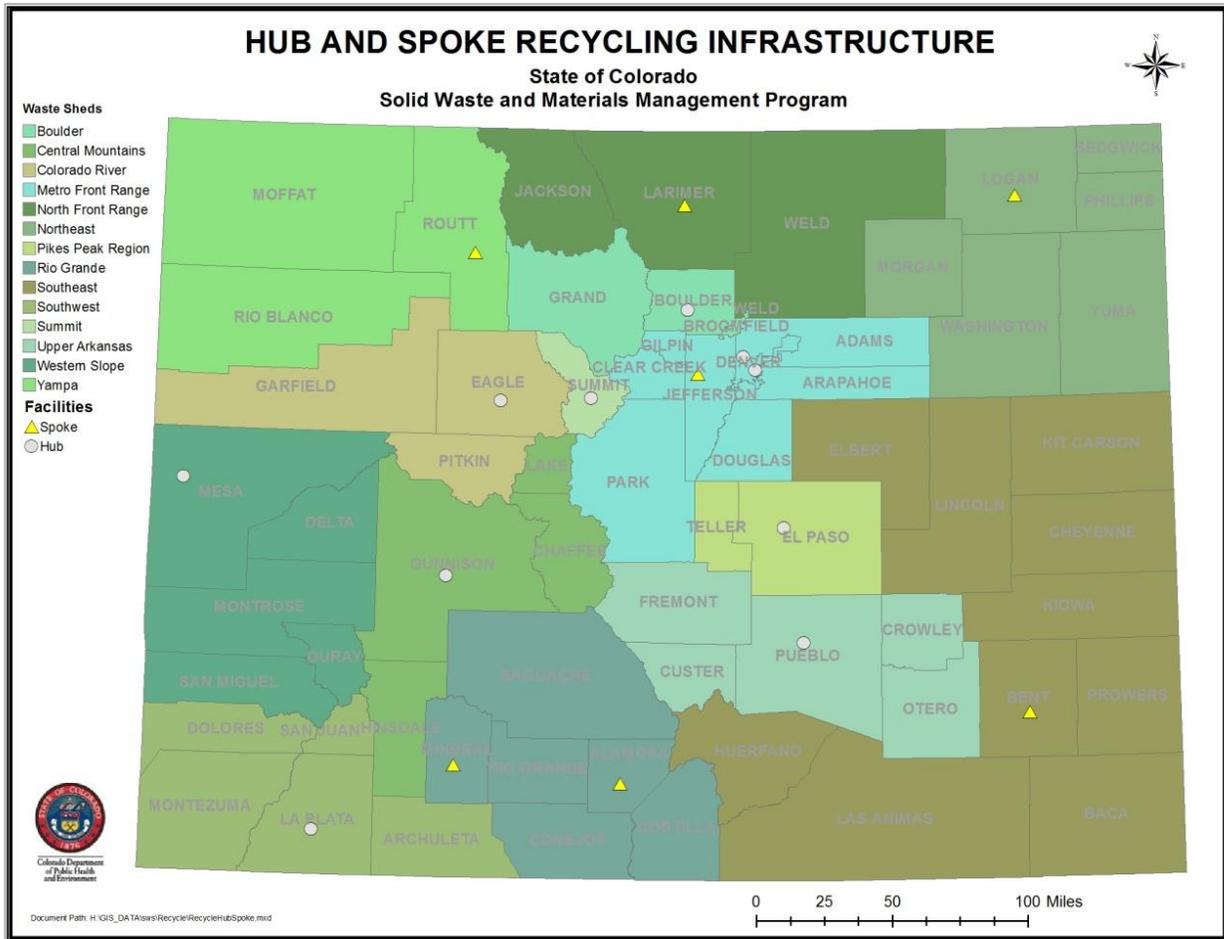


Figure 11 shows regional areas or “waste sheds” within which recyclable materials mostly go to the indicated recycling facilities. Recycling hubs are large facilities that sort, package, and transport recyclable commodities to end markets for remanufacturing while spokes consolidate recyclables and send them to hubs for further material separation and processing prior to conveyance to end markets.

**FIGURE 11**



### Integrated Solid Waste and Materials Management Plan

In FY2016, the program will be undertaking development of a new Integrated Solid Waste and Materials Management Plan (ISWMMP). Colorado law (30-20-100.5, C.R.S.) requires integrated solid waste management planning as one element in optimal solid waste management in Colorado. However, the most recent plan was developed in 1992 and no longer fulfills the solid waste and materials management planning needs of the State.

The new ISWMMP will emphasize both state and local efforts to reduce the volume and toxicity of the solid waste stream and will be developed with input from local governments and citizens. Realistic goals at the state and local level will be recommended to achieve source reduction, recycling, composting and similar waste diversion practices. Additionally, efforts will also focus on appropriate and protective solid waste management operations.

The new ISWMMP will include recommendations for developing regionalized solid waste management using “hub and spoke” infrastructure both for waste disposal as well as for recycling and waste diversion. In addition, the Plan will evaluate existing disposal facility compliance and the costs of attaining compliance for those facilities not meeting the minimum regulatory standards. This will allow communities to fully evaluate their options to improve their waste management practices, further protect

ground water, reduce air pollution, minimize rodent- and inspect-related issues, and reduce risk of fire and odors.

## Program Funding

Funding for the Colorado Solid Waste Management Program comes entirely from fees. The program receives no Colorado General Fund money. The program’s fee support has three components: 1) the Solid Waste User Fee (SWUF) which is a fee based on the weight or volume of waste disposed of at a landfill, also known as a “tipping fee,” 2) the Hourly Activity Fee assessed for prescribed services rendered to facilities, and 3) the Annual Facility Fee which is an annual fee remitted by facilities that are not required to pay the SWUF. In FY2015, the SWUF provided about 82% of the program’s funding needs with the other fees covering the remaining 18%.

Current funding projections show that the current fee structure and amounts should provide adequate funding for the next several years.

**FIGURE 12**

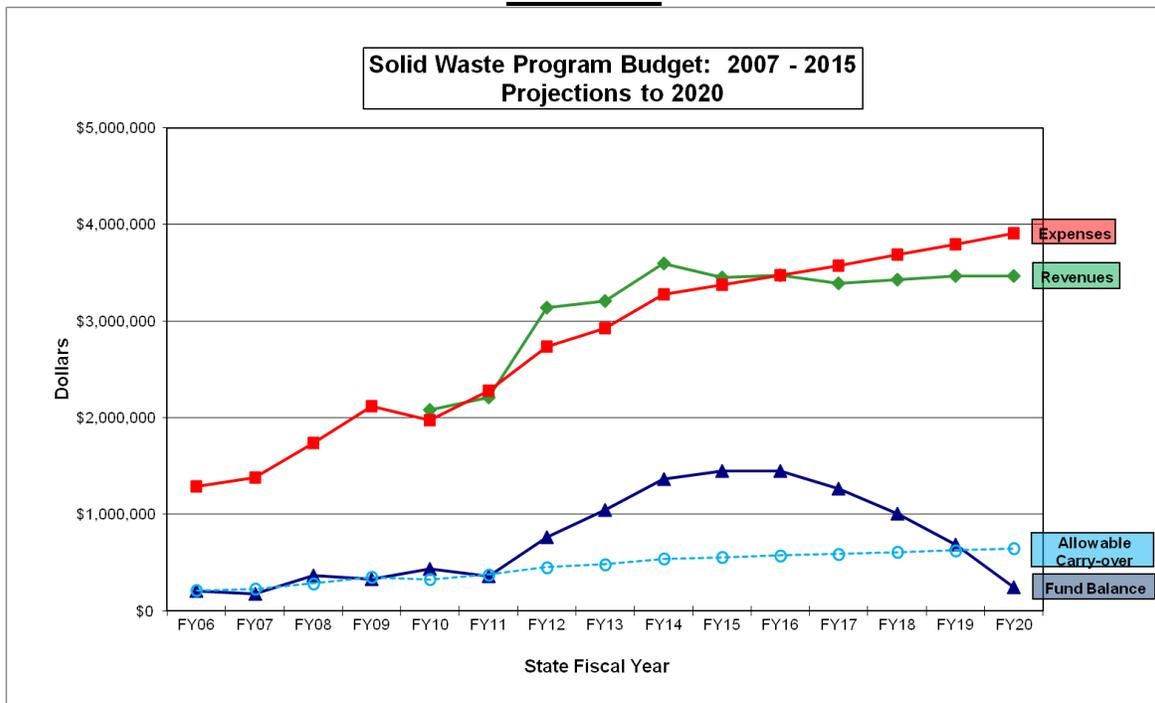


Figure 12, above, tracks the revenue, expenditures and fund balance for the Solid Waste Program. This graph shows that, if our projections are correct, we will have adequate revenues to fund the program through FY2020 at the current fee levels. Figure 12 also shows that the program is striving to balance revenues and expenditures and bring the fund balance to allowable levels during an unpredictable economic period that has made revenue and cost projections very difficult.

It is important to note that staff salaries are the biggest single expense item for the program. Therefore, managing staffing levels is an important part of managing the program’s budget. Even though it has been around for a long time, the Solid Waste Program is not a mature program. Over the past 8 years, we have seen a lot of program growth, both in terms of the programs we administer and the staff needed to implement those programs. Some of this is the result of a growing, changing and

demanding solid waste industry. Other growth can be directly attributed to legislative action that added to our responsibilities. This growth can be seen on Figure 11 starting in FY08 and continuing through FY15, where expenses began increasing significantly as staffing was added to meet workload demands. We believe we are now fully staffed. Therefore, projections out to FY20 show more modest, inflation-related expense increases.

## HB 07-1288 Summary of Requirements

The division’s successes in maintaining efficiency are clearly presented in this report. Significant improvement has occurred and is continuing to occur in an effort to further improve efficiency and reduce costs.

The following table presents a summary of the requirements of HB 07-1288 and the program’s efforts and activities to comply with each requirement. This table is intended to augment, but not replace, the presentation of information earlier in this report.

HB07-1288 Statutory Requirement - Referenced section of the Colorado Revised Statutes (CRS)	Solid Waste Management Program Response
30-20-101.5(1)(a) Promote community ethic to reduce or eliminate waste problems.	The program has worked hard on three fronts to accomplish this requirement: 1) our staff make working with, and cooperating with, local governments a high priority; 2) the program places a high priority on investigating citizen complaints; and 3) the program makes itself available through the technical assistance telephone line and technical trainings provided around the state.
30-20-101.5(1)(b) Is credible and accountable to industry and the public	The program endeavors to maintain credibility and accountability through 1) a high-volume, high-efficiency prioritized inspection program that maintains compliance and a level playing field; and 2) a high-efficiency permitting program that meets or exceeds its commitments to the regulated community.
30-20-101.5(1)(c) Is innovative and cost-effective	This report presents the program’s progress and accomplishments in becoming cost-effective and efficient. It also presents our commitment to, and implementation of, innovative approaches.
30-20-101.5(1)(d) Protects the environmental quality of life for impacted residents per the regulations	Our success in this requirement can be ascertained by considering our success in all of the other aspects of the program.
30-20-101.5(2) Develop, implement and continuously improve policies and procedures for statutory responsibilities at lowest possible costs.	After HB07-1288 passed, the program set up numerous performance goals. This report presents our success in meeting those goals.
30-20-101.5(2)(a) Establish cost-effective level-of-effort guidelines for reviewing submittals, including permit applications and design and operations plans, considering the degree of risk addressed and the complexity of the issues raised.	The program is actively developing these level-of-effort guidelines and will have them in place and functioning by FY2017.
30-20-101.5(2)(b) Establish cost-effective level-of-effort guidelines for performing inspections that focus on major violations of regulatory requirements that pose immediate and significant threat to human health and the environment.	The program has included goals in each inspector’s performance plan for the number of inspections expected and for the timeliness of administrative duties associated with each inspection. In addition, the program is developing reporting capabilities for focusing on major

HB07-1288 Statutory Requirement - Referenced section of the Colorado Revised Statutes (CRS)	Solid Waste Management Program Response
	violations and requirements that pose a threat to human health and the environment.
30-20-101.5(2)(c) Establish cost-effective level-of-effort guidelines for enforcement activities.	The program has significantly improved the efficiency and cost-effectiveness of enforcement activities over the last several years and we operate under timeliness guidelines established in the program's Enforcement Response Policy. However, because of the importance of quality workmanship in enforcement actions, and because each action is very site- and violation-dependent, the program has not established firm level-of-effort guidelines. To meet our timeliness goals, though, the level of staff effort on any given enforcement action must remain at or below certain metrics.
30-20-101.5(2)(d) Establish schedules for timely completion of department activities including submittal reviews, inspections, and inspection reports.	The program has established timeliness guidelines for these activities and other activities.
30-20-101.5(2)(e) Establish a prioritization methodology for completing activities that focuses on actual risk to human health and the environment.	The body of this report explains how priority schemes are used in setting inspection schedules.
30-20-101.5(2)(f) Establish a preference for compliance assistance with at least 10 percent of the annual budget amount being allocated to compliance assistance efforts.	Earlier in this report, we present the percentage of staff time and budget that is spent on compliance assistance activities (15 percent in FY 2015).
30-20-101.5(2)(g) Establish a preference for alternative dispute resolution mechanisms.	The department already has established this preference. In recent years, the program has not had many disputes.
30-20-101.5(2)(h) Establish a mechanism that continually assesses and provides incentives for further improvements in the program's policies and procedures.	The department and division have vital rewards and recognition programs whereby process improvements or innovative ideas can be, and will be, rewarded.
30-20-101.5(3) Submit an annual report to the General Assembly by February 1 <sup>st</sup> of each year.	This report is the 8th annual installment of the program's efforts to meet this requirement.
30-20-122(1)(a)(I) Collect information and data on recycling, solid waste, and solid waste diversion including: (I) statewide and regional solid waste stream components including types of materials, quantities of materials, and flow of each material.	This report includes information and data on recycling and waste diversion including: statewide and regional waste stream components including material flow, the proportion of solid waste diverted to calculate a recycling rate, reutilized materials amounts and rates, technical and innovates solid waste management developments, and an inventory of sites performing recycling activities.
30-20-122(1)(a)(II) The proportion of solid waste generated in the state that has been diverted to other uses.	See Figure 8.
30-20-122(1)(a)(III) Reutilized materials, amounts, and rates	See Figure 10.
30-20-122(1)(a)(IV) Technical and innovative solid waste management developments	This report presents how the program has implemented improved technical developments and innovative approaches. The program will continue and expand those efforts.
30-20-122(1)(a)(V)A statewide inventory of sites and facilities performing recycling or other solid waste processing or diversion	These inventories are presented on our website.

HB07-1288 Statutory Requirement - Referenced section of the Colorado Revised Statutes (CRS)	Solid Waste Management Program Response
30-20-122(1)(a)(VI) The number of jobs created and any other economic impacts resulting from the awarding of recycling resources economic opportunity grants made available pursuant to 25-16.5-106.7, C.R.S.	This information is independently reported to the Colorado Legislature in the <u>Recycling Resources Economic Opportunities Program Annual Report</u> prepared by the Sustainability Program within the Environmental Health and Sustainability Division at CDPHE.
30-20-122(1)(a)(VII) Other data as necessary to further the purposes of Part 1.	This report presents a lot of information that goes beyond the statutory requirements.

## CONCLUSION

As discussed in this report, the Hazardous Materials and Waste Management Division has implemented an effective and efficient Solid Waste Management Program satisfying the expectations set out in HB07-1288 (Section 30-20-101.5, C.R.S). Further efforts will continue in order to improve the Solid Waste Management Program.