

2013 RECYCLING AND WASTE REDUCTION REPORT



NevadaRecycles.gov
Nevada Division of Environmental Protection

Report to the Nevada Legislature

Submitted by:

**NEVADA DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES
DIVISION OF ENVIRONMENTAL PROTECTION
BUREAU OF WASTE MANAGEMENT**

Executive Summary

The Nevada legislature adopted a recycling goal of 25% in 1991.¹ During the reporting period between 2010 and 2011, Nevada's statewide recycling rate increased by 4.7%. As a result, Nevada has reached the 25% recycling goal. Based on reported data, the state recycling rate was 20.6% in 2010 and 25.3% for 2011. Of the six counties now required to have some type of recycling program, the recycling rates of Carson, Douglas, and Washoe Counties continued to exceed the 25% recycling goal in 2010 and Douglas and Washoe Counties exceeded 25% in 2011 (Table A).

Table A. Recycling Rates by County, 2010-2011

County	2010	2011
Carson City	41.6%	23.9%
Clark	17.9%	22.3%
Douglas	38.8%	53.8%
Elko	*	*
Lyon	**	**
Washoe	27.2%	35.6%

* Elko County did not submit a recycling report for 2010 or 2011.

** Lyon County was not required to report for 2010, and is currently in process of establishing programs.

The Nevada Division of Environmental Protection's (Division) curriculum on waste reduction and recycling for grades 4-12, a component of NevadaRecycles' outreach and education efforts, has continued to be used in classrooms across Nevada. In late 2008, the Clark County School District (CCSD) approved *Recycling for a Greener Day: NDEP Solid Waste and Recycling Curriculum* as a course offered to teachers for continuing education credits. The workshop has been offered to teachers in Clark County annually since 2009. In 2012, the development of a new Recycling Ambassadors Program utilized the curriculum as well. This program trains high school students to give a presentation on waste reduction and recycling to elementary school classes, and has been implemented in the CCSD. The Division is working to gain approval for the curriculum and Recycling Ambassadors Program in other school districts across the state. The curriculum and information on the Ambassadors Program are available free of charge at nevadarecycles.gov for use in any classroom. Additional youth outreach has included presentations and activities with groups such as Scouts and 4-H.

To build and strengthen new and existing partnerships in solid waste reduction and recycling, the Division continues to work with local government and non-profit leaders and provides technical assistance to both the public and private sectors. Elko, Clark and Washoe Counties have piloted single-stream recycling, a collection method that has led to dramatically increased recycling rates around the country. Following successful pilot programs, Henderson and North Las Vegas in Clark County, as well as the City of Elko, have adopted single-stream recycling on a permanent basis. However, discussions are ongoing regarding the best way to continue recycling services while transitioning to single-stream recycling in Washoe County. Despite the challenges presented by Nevada's geography, several rural communities have also worked to maintain or establish basic recycling programs.

For more information concerning recycling in Nevada, visit nevadarecycles.gov or contact the recycling hotline at (800) 597-5865.

¹ The "recycling rate" is calculated by the ratio of municipal solids waste (MSW) recycled to tons of MSW generated, which includes recyclables, as well as household- and commercially-generated waste. Despite best efforts, not all recycled material gets reported resulting in a lower rate than actually achieved. Solid waste imported from other states is counted separately and not part of the rate calculation.

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1.0 RECYCLING LEGISLATION

1.1 Reporting Mandates

In accordance with Nevada Revised Statute (NRS) 444A.070, the Director of the Department of Conservation and Natural Resources is required to submit a biennial report on the status of current and proposed programs for recycling and reuse of materials on or before January 31 of each odd-numbered year. This report contains information about recycling in Nevada during 2010 and 2011, including the status of recycling by county, where available, and the statewide recycling rate. For information prior to 2010, please visit nevadarecycles.gov to view previous reports.

Recycling rates are calculated from data provided annually by recycling centers and waste haulers to their respective municipalities, who in turn compile that data into reports submitted to the Division per Nevada Administrative Code (NAC) [444A.135](#) and [444A.140](#). These annual reports quantify the recyclable materials collected at recycling centers in the preceding year. Despite best efforts, not all recycled material gets reported, resulting in a lower rate than actually achieved.

1.2 Legislation Overview and Summary

Nevada's recycling program began with passage of Assembly Bill (AB) 320 in 1991. AB 320 was codified in [NRS Chapter 444A – Programs for Recycling](#). Table 1-1 outlines the different levels of recycling services required of counties and municipalities based on population thresholds. AB 320 also established a recycling goal of 25%, a preferential procurement policy for goods made with recycled-content materials, and directed the Division to provide education and technical assistance concerning waste reduction and recycling. With the directives created by these statutes, the State Environmental Commission (SEC) adopted regulations (NAC Chapter 444A) to fulfill the statutory mandate.

Table 1-1. Recycling Program Requirements

County/Municipality Population Threshold*	Program Components
100,000 or more Shall:	Provide curbside recycling from residential premises and public buildings Establish recycling centers as needed Provide for collection and disposal of household hazardous wastes Encourage business to reduce solid waste and recycle where possible
45,000 – 100,000 Shall: May:	Establish recycling centers as needed Provide for collection and disposal of household hazardous wastes Provide curbside recycling from residential premises and public buildings
Less than 45,000 May:	Provide curbside recycling from residential premises and public buildings Establish recycling centers as needed Provide for collection and disposal of household hazardous wastes

* Population thresholds are determined using the latest national decennial census (2010), per NRS 0.050.

To date, six counties are required to establish some level of recycling program. Clark and Washoe Counties exceed the 100,000 threshold and must provide curbside recycling, establish recycling centers, provide for the collection and disposal of household hazardous waste (HHW) and encourage waste reduction and recycling by businesses. The populations of Carson City, Douglas, Elko, and Lyon Counties are over 45,000 but less than 100,000 and thus these counties are required to: establish recycling centers, as needed, and provide for the collection and disposal of HHW. Although not required, curbside recycling is being provided in Carson City and the City of Elko. The 2010 National Census indicated that Lyon County exceeds the 45,000 population threshold. However, it is anticipated that it will take approximately two years for Lyon County to establish their recycling and/or HHW programs and begin reporting to the Division and it was not included in the calculations for 2010 and 2011. During this period of time the Division has been and will continue to work with Lyon County officials to prepare them for compliance with their new recycling requirements.

Funding to support these statutory recycling mandates was established in NRS 444A.090 through a \$1 surcharge on retail sales of all new vehicle tires in the state. Collected funds are deposited in the *Account for Solid Waste Management*, also called the “Tire Fund,” and disbursed among the three solid waste management authorities in Nevada (the Division, Washoe County Health District, and Southern Nevada Health District) to fund their programs, including recycling.

2.0 STATUS OF RECYCLING IN NEVADA

2.1 Solid Waste Disposal

In Nevada, solid waste is categorized as either “Municipal” or “Industrial & Special.” The municipal solid waste (MSW) disposed of in Nevada landfills is reported as either having been generated in-state or out-of-state (i.e. imported). Wastes categorized as Industrial & Special include debris from construction and demolition (C&D) projects such as wood, concrete, asphalt and drywall, and several types of solid waste that have specific management requirements for permitted landfill disposal such as

asbestos and biohazard waste. Typically about 90% of Industrial & Special waste, by weight, is C&D waste.

The total tons of solid waste disposed of in Nevada increased 38.1% from 2009 to 2010, but then dropped 31.7% from 2010 to 2011 (Table 2-1). Although the amount of waste disposed in all categories decreased over the two year period, the overall drop was fueled in large part by a 52.5% decrease in C&D waste.

Table 2-1. Solid Waste Disposal*

Category	2010	2011	% Change
MSW Disposal from In-State Sources (tons)	2,996,166	2,809,979	-6.2%
MSW Disposal from Out-of-State Sources (tons)	297,013	260,558	-12.3%
Industrial & Special Waste Disposal (tons)	3,950,541	1,877,128	-52.5%
Total Solid Waste Disposal (tons)	7,243,720	4,947,665	-31.7%

* These numbers do not include materials diverted for recycling.

2.2 Recycling

The recycling rate data was compiled from 2010 and 2011 reports submitted by Carson City, Clark, Douglas, and Washoe Counties—Counties that, by virtue of their population sizes, are required to establish recycling programs. Based on the 2010 census, over 90% of the Nevada's population resides in these four counties.¹ Elko County did not report for 2010 or 2011.

The recycling rate is the ratio of MSW recycled to the tons of MSW generated and includes recyclables, household- and commercially-generated waste. Despite best efforts, not all recycled material gets reported resulting in a lower rate than actually achieved. Solid waste imported from other states is not part of the rate calculation.

Table 2-2. State Recycling Rate Data, 2010-2011

Category	2010	2011
Tons of MSW Recycled (tons)	711,376	892,873
Tons of MSW Generated* (tons)	3,446,381	3,530,908
Percent Recycling Rate	20.6%	25.3%

* Tons of MSW generated is the amount of waste disposed of in counties required to have a recycling program plus recyclable materials.

Nevada's recycling rate in 2010 was 20.6%, and rose to 25.3% in 2011 (Table 2-2). This is the largest year-to-year increase since 2007, and the highest rate the State has attained (Figure 2-1).

¹ United States Census Bureau, State and County QuickFacts, Nevada, <http://quickfacts.census.gov/qfd/states/32000.html> (July 16th, 2012).

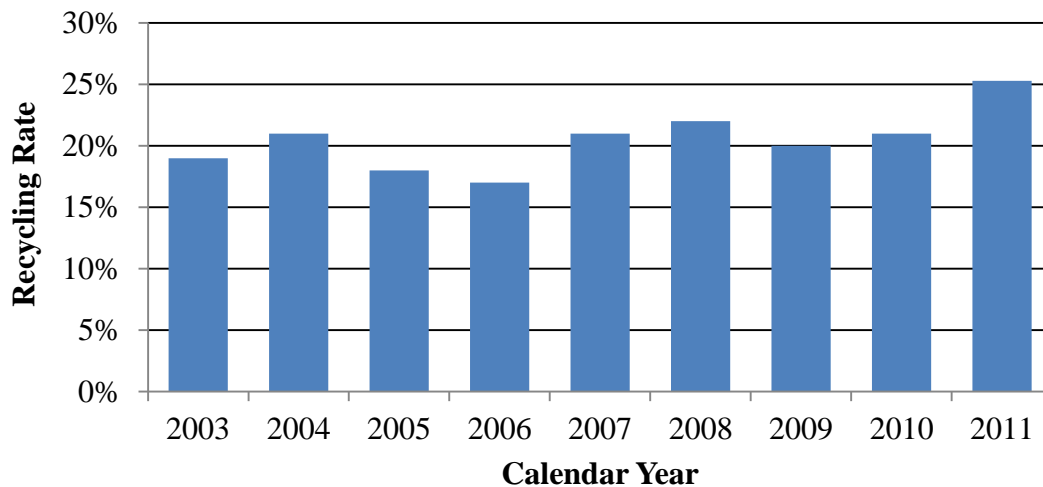


Figure 2-1. Annual Statewide Recycling Rate Comparison, 2003-2011

Of the counties with recycling programs and based on the data reported, Carson City had the highest recycling rate in the state in 2010, at 41.6%, and Douglas County had the highest rate in 2011, at 53.8% (Table 2-3). Douglas County's high rates are due in large part to the composting and biofuel programs operated in the county. A couple of businesses collect cellulosic waste from the county, cities, retail grocers, landscapers, private businesses and residents for composting. One business recycles large quantities of used cooking oil in order to produce biofuel. Carson City's rate drop was mainly due to challenges in collecting 2011 data from large retailers. The lowest rates in 2010 and 2011 were reported in Clark County at 17.9% and 22.3%, respectively. Elko County did not submit a report in 2010 or 2011. Increased rates in Nevada's largest counties, Clark and Washoe, are largely attributable to increases in metal recycling tonnage. In general, four types of material make up 95% of the recyclables collected in Nevada: scrap metals (50%), paper products (30%), organic materials (12%) and plastics (3%). For more information on current and past recycling rate data, visit nevadarecycles.gov.

Table 2-3. Recycling Rates by County, 2010-2011

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Carson City	41.6%	23.9%
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3.0 RECYCLING PROGRAMS AND INITIATIVES

3.1 Recycling Contract and Grant Program

Pursuant to NRS 444A.110, the Division has the authority to provide grants and contracts to

municipalities, educational institutions and non-profit organizations to enhance solid waste management systems and promote solid waste recycling. Although contracts have been issued in the past, the Division has been unable to fund new grants or contracts since 2006 and does not anticipate being able to do so in the next biennium unless tire sales increase significantly.

3.2 Waste Tire Management and Recycling

Nevada adopted regulations governing the management and transportation of waste tires in 1994. Most landfills in Nevada accept used tires from the public as well as commercial haulers for a fee. Senate Bill 186 passed during the 2009 legislative session requiring counties that issue operating permits to waste tire management facilities to essentially ban waste tire disposal in their counties. Bans help to maximize the diversion of waste tires from landfills to the waste tire management facilities in their jurisdictions. Clark County currently has one such permitted facility that is accepting tires for processing.

Waste tires generated in southern Nevada are being retreaded, shredded to make tire-derived fuel, cut for agricultural uses, or left whole for use at cement plants, with some processed in- and some out-of-state. In northern Nevada, waste tires not landfilled are exported out-of-state to be retreaded, crumbed, or used as tire-derived fuel. Northeastern Nevada (Elko, Ely and Winnemucca) exports waste tires to Salt Lake City, Utah, for retreading or for use in facilities that use tire-derived fuel. Due to reporting inconsistencies from one company to another, it is difficult to quantify the tonnage of tires recycled, disposed, or exported.

The Nevada Department of Transportation (NDOT) has continued its use of recycled tires for pavement preservation. In 2010 and 2011, approximately 215,000 tires were recycled for use in pavement preservation projects. Over half of the recycled rubber tire material was used in the Las Vegas Valley to resurface Interstate 515 in Henderson and repave part of Interstate 15 in Las Vegas. In addition to using recycled tires, NDOT recycles roadways by using practices called roadbed modification and cold in-place recycling. Reclaimed asphalt pavement (RAP) is also recycled into some base and shouldering materials. In 2011, over 80,000 tons of RAP was used in surface overlays alone. Efforts to reduce sand, salt, and chemical usage have continued as well.²

3.3 Recycling Education

Outreach to Schools

The Division has promoted recycling through statewide 4th-12th grade educational presentations for many years. In 2007, the Division created a 12-week curriculum focused on solid waste and recycling. While designed to be fun for students, the curriculum offers educators many additional benefits. It is readily adaptable to school grade levels 4-12. It aligns with the Nevada standard course of study, and meets various science, math, language arts, and social studies objectives through an integrated approach to the subject. The curriculum wraps up with an “action component” that encourages students to apply their newly acquired knowledge to designing, coordinating, and implementing a recycling program at their schools. The free curriculum is available on-line at nevadarecycles.gov for use in its entirety, as three separate modules, or as single-use lessons.

In addition to the Solid Waste & Recycling Curriculum, a series of four single-lesson classroom presentations was developed for statewide use. Division staff has given single presentations to K-6th

² Gayle Maurer, Nevada Department of Transportation, email July 25, 2012.

graders in Carson City, Elko and Washoe Counties, various outdoor schools such as the Great Basin Outdoor School, Northern Nevada Outdoor School, and the High Desert Montessori School.

In 2008, the Clark County School District (CCSD) approved *Recycling for a Greener Day: NDEP Solid Waste & Recycling Curriculum* as a Professional Development Education (PDE) course. It was offered for the first time in March 2009. The recycling course is currently offered once a year to Clark County teachers through the PDE program. Division staff is working with other school districts across the State to have this course approved for PDE credit.

An additional new recycling program, the Recycling Ambassadors Program, was introduced in CCSD during the spring semester of 2012. Through this program, the Division aims to continue educating young students on the value of resource conservation. This program trains highly motivated high school students to teach lessons, developed from the Solid Waste & Recycling curriculum, in elementary school classrooms. The high school students have the opportunity to gain community service hours, develop leadership and communication skills, and share their enthusiasm about recycling, reusing, and reducing, while helping educate younger students about the importance of recycling and waste reduction. While this program was initially introduced in Clark County, Division staff is working with other school districts across the State to expand this program to other school districts.

3.4 Recycling Outreach

3.4.1 Recycling Hotline

The Division operates a toll-free Recycling Hotline (1-800-597-5865) to provide information on local recycling services by county for common materials (glass, plastic, aluminum, e-waste and paper) as well as other more unusual recyclable items (refrigerators, cars, lawn and garden items, etc.). The Hotline receives approximately 40 calls a week. In addition to live information provided by the Hotline, a directory of resources, by county, is posted and regularly updated on the NDEP recycling website, nevadarecycles.gov.

In 2012 the NevadaRecycles program developed a [Facebook page](#) to expand education and outreach throughout the state. The Facebook page was primarily developed to showcase local efforts in recycling and waste reduction. Events specific to e-waste collection, Earth Day events, educational activities, and news are updated on a regular basis to continue NDEP's education and outreach. Legislative bills are also included with summarized descriptions of each bill on the Facebook timeline.

3.4.2 Outreach to Rural Communities

The Division has been actively promoting the importance of recycling to rural communities by partnering with local government and environmental education groups for collection or outreach events. As a result, several rural public utility offices are becoming aware and increasingly interested in starting up or expanding their current recycling programs. The Division staff will continue to actively promote the importance and many benefits of recycling in the rural communities, encouraging partnerships wherever possible.

Three major obstacles continue to hinder progress toward increasing recycling in rural Nevada: 1) the lack of infrastructure for collecting and storing recycled materials, 2) the long travel distances to existing recycling centers, and, 3) the relatively small volume of recyclable materials generated in rural

Nevada. To address these challenges, Division staff meets regularly with local government officials and public utilities managers in rural counties to discuss viable recycling options in rural communities. Division staff also conducts research of recycling strategies, community alternatives, and financial options such as developing cooperative partnerships with local businesses and industries to address these challenges.

Despite challenges, several rural communities have recently established or maintained basic recycling programs such as drop-off bins accessible to the public. Rural recycling options exist in Douglas, Humboldt, Lander and Nye Counties.

3.4.3 Community Partnerships and Participation

Single-Stream Recycling

For several years, the Division has encouraged municipalities to implement single-stream recycling as their primary collection method. Single-stream refers to collecting all types of recyclable materials into one container. This collection method encourages residents to recycle by making it easier and more convenient to do so. Single-stream collection has been shown to dramatically increase recycling rates to 50% and higher in participating communities around the country.

To date, Clark, Washoe and Elko Counties have piloted single-stream recycling programs. In Clark and Washoe Counties, the results showed increased participation and volume of recyclables collected. For Elko County, this was the first implementation of a curbside recycling program. Discussion continues between the municipalities and their contracted waste haulers regarding the best way to continue services to the community while transitioning from 2-3 bin curbside recycling service to single-stream. In Washoe County, the pilot program resulted in a near doubling in participation and more than a tripling in tonnage.³ The Reno City Council voted to implement a single-stream program in November 2012; implementation of the program will begin in 2013. In Clark County, over 80,000 homes participated or are currently participating in pilot single-stream recycling programs that have resulted in increased recycling rates of 500-600%.⁴ The cities of North Las Vegas and Henderson are currently in the process of implementing the single-stream program city-wide. Elko initiated its city-wide single-stream recycling program in June 2012.

E-Waste Diversion Activities

The Division has established several key partnerships with municipal agencies, non-profit organizations, and businesses to assist in planning, organizing and conducting their e-waste collection events. In 2010 and 2011, collection events were held in Elko, Reno, Incline Village, and Las Vegas. These events contributed significantly to the overall diversion of e-waste from our landfills. Additionally, electronics recyclers have established an increasing number of locations throughout the state, including some rural communities, to collect e-waste from businesses as well as the public. During this two-year period, municipal recycling data reports indicate over 3,100 tons of e-waste was collected and either reused or recycled.

³ Greg Martinelli, Waste Management, "State of Recycling: Washoe County, NV," Legislative Commission's Committee to Study the Deposits and Refunds on Recycled Products Meeting (Las Vegas, NV), February 21, 2012.

⁴ Bob Coyle, Republic Services, "State of Residential Recycling in Clark County," Legislative Commission's Committee to Study the Deposits and Refunds on Recycled Products Meeting (Las Vegas, NV), February 21, 2012.

Other Community Outreach and Assistance Activities

Division recycling staff participate in many community events (i.e. Earth Day and Nevada Recycles Day) and serve as committee members on several recycling-oriented organizations across the state, including the Illegal Dumping Task Force and Christmas Tree Recycling committees in northern and southern Nevada.

The Division also provides outreach to the business community through recycling presentations, participation in corporate Green Fairs, and technical assistance. Staff has written several recycling plans for various facilities that outline waste management options and provide recommendations.

4.0 CONCLUSIONS

Nevada's annual recycling rate has increased to over 25% even in light of the national economic downturn. Nevada's low population and large geographic area continue to present unique challenges, especially in the rural areas of the state, as the high costs to recycle relatively small quantities of waste are difficult to overcome. Nevada's sheer geographic size means the costs of long-distance transportation (labor, time, fuel resources) to the markets that are primarily located out-of-state will remain high.

The Division's recycling program will continue to:

- Provide recycling information/education to local, state and federal agencies and participate in collaborative efforts to build and strengthen key partnerships in solid waste reduction and recycling.
- Promote and encourage single-stream recycling to municipalities statewide.
- Provide and promote solid waste and recycling education through the Division's recycling curriculum and to provide other presentations to various audiences in the state.
- Encourage and participate in e-waste collection/diversion events statewide.
- Provide information on federal grant opportunities and technical program assistance to the public, government entities, businesses, non-profit organizations, and educational institutions.
- Work with the State of Nevada Purchasing Office to ensure that recycled-content products are available for State agency consumption.
- Encourage recycling in and provide recycling technical support to rural areas.
- Continue to provide financial support in the form of grants, as funding permits, to encourage recycling educational programs and opportunities in Nevada.

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