

2015 RECYCLING AND WASTE REDUCTION REPORT



NevadaRecycles.nv.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 In the 2012 and 2013 reporting years, Nevada has exceeded the 25% recycling goal. Based on reported data, the state recycling rate was 28.8% in 2012 and 25.1% for 2013. Of the six counties now required to have some type of recycling program, the recycling rates of Clark, Douglas, and Washoe Counties continued to exceed the 25% recycling goal in 2012 and Carson City, Douglas, and Washoe Counties exceeded 25% in 2013 (Table A).

Table A. Recycling Rates by County, 2012-2013

County	2012 (%)	2013 (%)
Carson City	24.9	27.9
Clark	27.5	22.0
Douglas	54.5	57.3
Elko	5.1	3.3
Lyon	*	*
Washoe	33.6	36.5

* Lyon County did not report 2012 or 2013 recycling data.

The Nevada Division of Environmental Protection's (Division) education and outreach efforts are ongoing in a variety of forms. 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 from 2009-2012, and the curriculum was revised in 2013. The curriculum is aligned to fifth grade Common Core and Next Generation Science Standards. The curriculum is available free of charge at NevadaRecycles.nv.gov for use in any classroom. Additional youth outreach has included presentations and activities with groups such as Scouts, 4-H, and high school environmental clubs.

To build and strengthen new and existing partnerships in solid waste reduction and recycling, the Division continues to work with local government, private, and non-profit leaders. Additionally, technical assistance is offered to both the public and private sectors. Despite the challenges presented by Nevada's geography, several small rural communities have also worked to maintain or establish basic recycling programs. Many of Nevada's larger communities have adopted single-stream recycling, allowing for convenient recycling of a broad variety of materials.

For more information concerning recycling in Nevada, visit NevadaRecycles.nv.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.

Table of Contents

Executive Summary i

 Table A. Recycling Rates by County, 2012-2013 i

1.0 RECYCLING LEGISLATION 1

 1.1 Reporting Mandates 1

 1.2 Legislation Overview and Summary 1

 Table 1-1. Recycling Program Requirements 2

2.0 STATUS OF RECYCLING IN NEVADA 2

 2.1 Solid Waste Disposal 2

 Table 2-1. Solid Waste Disposal, All Counties 3

 2.2 Recycling 3

 Table 2-2. State Recycling Rate Data, 2012-2013 3

 Table 2-3. Recycling Rates by County, 2012-2013 5

3.0 RECYCLING PROGRAMS AND INITIATIVES 5

 3.1 Recycling Contract and Grant Program 5

 3.2 Waste Tire Management and Recycling 5

 3.3 Recycling Education 6

 3.4 Recycling Outreach 7

 3.4.1 Recycling Hotline, Website, and Social Media 7

 3.4.2 Outreach to Rural Communities 7

 3.4.3 Other Community Outreach and Assistance Activities 7

 3.5 Industry Trends 8

 3.5.1 Single-Stream Recycling 8

 3.5.2 E-Waste Diversion Activities 8

4.0 CONCLUSIONS 8

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 2012 and 2013, including the status of recycling by county, where available, and the statewide recycling rate. Additional data can be found at NevadaRecycles.nv.gov.

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.

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.

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 majority of disposed solid waste is MSW from in-state sources (Table 2-1). The total tons of solid waste disposed of in Nevada decreased 11.7% from 2011 to 2012, but then increased 7.9% from 2012 to 2013 (Table 2-1).

Table 2-1. Solid Waste Disposal, All Counties*

Category	2011	2012	% Change (2011-2012)	2013	% Change (2012-2013)
MSW Disposal from In-State Sources (tons)	2,809,979	2,661,021	-5.3	2,921,046	9.8
MSW Disposal from Out-of-State Sources (tons)	260,558	207,388	-20.4	213,258	2.8
Industrial & Special Waste Disposal (tons)	1,877,128	1,502,436	-20.0	1,583,789	5.4
Total Solid Waste Disposal (tons)	4,947,665	4,370,845	-11.7	4,718,093	7.9

* These numbers do not include materials diverted for recycling.

2.2 Recycling

The recycling rate data was compiled from 2012 and 2013 reports submitted by Carson City, Clark, Douglas, Elko, 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 Nevada’s population resides in these four counties.¹ Lyon County did not report for 2012 or 2013.

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. Solid waste imported from other states is not part of the rate calculation.

Table 2-2. State Recycling Rate Data, 2012-2013

Category	2012	2013
Tons of MSW Recycled (tons)	1,008,626.85	936,886.87
Tons of MSW Generated* (tons)	3,504,861.85	3,727,868.87
Percent Recycling Rate	28.8%	25.1%

* 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 2012 was a record 28.8%, and 25.1% in 2013 (Table 2-2). For three consecutive years (2011-2013), Nevada has met or exceeded a 25% recycling rate. (Figure 2-1).

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

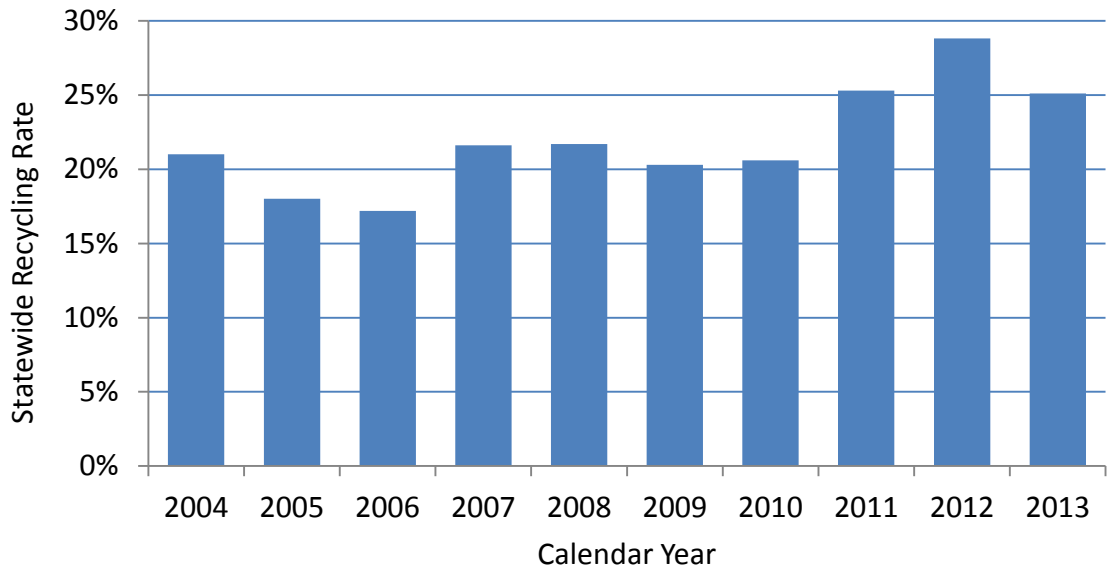


Figure 2-1. Annual Statewide Recycling Rate Comparison, 2004-2013

Of the counties with recycling programs and based on the data reported, Douglas County had the highest recycling rate in the state in 2012 and 2013 (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. The lowest rates in 2012 and 2013 were reported in Elko County. While curbside recycling is available to City of Elko residents, other communities in the county have limited or no opportunities to recycle locally.

The decrease in Clark County’s rate from 2012 to 2013 can be partially attributed to Southern Nevada Health District’s diligent efforts to minimize double counting materials that are transferred to another reporting facility in Nevada. Despite this overall decline, Republic Services reported an 18% increase in material at its Materials Recovery Facility (MRF) in 2013. This MRF handles commercial and residential recycling from Republic’s service area in Clark County.

In general, four types of material make up over 95% of the recycled tonnage collected in Nevada. In descending order, they are scrap metals, paper products, organic materials, glass, and plastics. Recycled paper tonnage remained steady from 2012 to 2013, while metals, glass, and plastics tonnages decreased. Notably, the organic materials category, which includes food waste, yard waste, wood, restaurant grease, and biosolids, increased by 71% from 2012 to 2013.

Alternative daily cover is not counted toward the recycling rate. Despite this, it should be noted that in 2013, 1,639 tons of material from South Tahoe Refuse’s MRF, which collects waste from Douglas County and bordering areas in California, was utilized as alternative cover at two Nevada landfills. The material included dirt, pine needles, glass and plastic which were not suitable for recycling or composting.

Table 2-3. Recycling Rates by County, 2012-2013

County	2012 (%)	2013 (%)
Carson City	24.9	27.9
Clark	27.5	22.0
Douglas	54.5	57.3
Elko	5.1	3.3
Lyon	*	*
Washoe	33.6	36.5

* Lyon County did not report 2012 or 2013 recycling data.

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.

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, requires 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. Some businesses in northeastern Nevada (Elko, Ely and Winnemucca) export 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) continues to use recycled tires as a source for road building materials in its pavement preservation projects. In 2012 and 2013, approximately 204,000 passenger car tires were recycled and used as a source for materials. Almost 80% of the recycled passenger tires were used in the asphalt overlay on I-80 in Humboldt County and in the construction of a new interchange on I-15 in Las Vegas. NDOT also recycles roads by using construction techniques

called roadbed modification and cold in-place recycling. Roadbed modification includes the pulverization of the entire existing pavement and reuse of the pulverized materials in the base for the new road. Cold in-place recycling includes the recycling of the top layer of the existing pavement and incorporating these materials in the new pavement surface. Reclaimed asphalt pavement (RAP) from the cold mill of existing pavement surfaces is recycled into base and shouldering materials as well.²

3.3 Recycling Education

Outreach to Schools

The Division has promoted recycling through statewide 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 aligns with the Common Core and recently-adopted Next Generation Science Standards for 5th grade, but is readily adaptable to school grade levels 4-12. 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, which was updated in 2013, is available on-line at NevadaRecycles.nv.gov for use in its entirety or as single-use lessons. Division staff has given presentations to K-12th graders for various schools, camps, school-related events, and groups such as Scouts and 4-H.

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 has been offered annually from 2009-2012 to Clark County teachers through the PDE program. Division staff is working with other school districts in the state to present this course for PDE credit. The curriculum has also been promoted by Nevada Recycles staff at GreenPower teacher workshops in northern and southern Nevada. An outreach program of the Desert Research Institute and NV Energy, GreenPower partners with sustainability-focused programs such as Nevada Recycles to provide education resources to Nevada’s K-12 teachers. NDEP’s involvement in other partnerships, such as the Green Ambassador Program in Clark County School District, has furthered recycling education in many schools.

In an effort to create a more continuous presence with Nevada’s formal and informal educators, NDEP’s Nevada Recycles staff partnered with outreach staff in the Bureau of Water Quality Planning to create an outreach e-newsletter with three issues per year. Enviro-News provides educational articles, links to resources, and highlights projects, programs, and other efforts that NDEP supports.

Many schools have expressed interest in improving their recycling programs. Although there are many simple ways to improve campus recycling practices, including more education about recycling, several major factors limit the potential of school recycling programs across Nevada. Custodial staff contracts may not include recycling duties, or limited staff time may not permit taking on additional duties. This often leaves recycling duties to a dedicated class, teacher, parent, or club, if one steps up. It takes a committed group or champion to sustain a recycling program, which can be a challenge with student turnover. Additionally, infrastructure may be limited—while reuse of cardboard boxes can make for functional recycling bins, the best option in many cases is to purchase labeled, material-specific bins (e.g. with slots designed to accommodate paper, bottles, and cans). Recycling bins are cost-prohibitive at many schools and school districts. In Clark County School District (CCSD), an incentive program offers schools that recycle a payment based on the savings incurred by reducing trash dumpster

² Gayle Maurer, Nevada Department of Transportation, email August 29, 2014.

quantity and/or volume. During the 2013-2014 school year, trash dumpster yardage in the district decreased by 13%.³ Nevada Recycles staff has assisted CCSD with its education efforts.

3.4 Recycling Outreach

3.4.1 Recycling Hotline, Website, and Social Media

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.nv.gov.

A new Nevada Recycles website was launched in November, 2013. The site has expanded content on key solid waste issues and frequently asked questions. Additionally, it includes a tool to search for businesses accepting recyclables in all counties of the state. As of September 1, 2014, over 3,700 new and returning users have visited the new site.

In 2012 the Nevada Recycles 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. However, 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, Churchill, Eureka, Humboldt, Lyon, Nye, and Storey Counties. Pershing County began working toward the establishment of a volunteer-run recycling center in 2013. Infrastructure and accessibility vary widely from county to county. Most landfills in Nevada are following procedures to recycle metals (e.g. appliances).

3.4.3 Other Community Outreach and Assistance Activities

Division recycling staff participate in many community events (i.e. Earth Day and America 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

³Mark Jones, Clark County School District, email September 12, 2014.

southern Nevada. Active involvement in collaborations such as GREENevada, a group dedicated to environmental education, has led to stronger partnerships with teachers, school districts, community members, and other member organizations.

The Division also provides outreach to the business community through recycling presentations, participation in corporate Green Fairs, and technical assistance. Staff played a key role in the launching of the Green Business Improvement Group, which recognizes businesses implementing sustainable practices in Carson City, Douglas County, and Lyon County.

3.5 Industry Trends

3.5.1 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, communities in Clark, Washoe and Elko Counties have implemented single-stream recycling programs. For Elko County, this was the first implementation of a curbside recycling program. In Washoe County, the pilot program resulted in a near doubling in participation and more than a tripling in tonnage.⁴ The Reno City Council voted to implement a single-stream program in November 2012; the program rolled out in early 2014. Clark County voted to implement single-stream recycling in 2013. North Las Vegas and Henderson have already implemented single-stream recycling. New MRFs will be constructed in Washoe and Clark Counties in order to accommodate the increased volume of recyclables.

3.5.2 E-Waste Diversion Activities

In 2012 and 2013, collection events for electronic waste were held in Elko, Reno, Incline Village, Minden, and Las Vegas. Not all included television collection. These events contributed to the overall diversion of e-waste from our landfills. Permanent e-waste collection points, including electronics retailers, are established throughout the state to collect e-waste from businesses as well as the public. Many hotline callers ask about e-waste recycling options and are informed of collection points in their community. During this two-year period, municipal recycling data reports indicate nearly 3,800 tons of e-waste was recycled.

4.0 CONCLUSIONS

Nevada's annual recycling rate has maintained 25% or higher since 2011. In more densely-populated areas, single-stream recycling has been considered an excellent option for increasing waste diversion. Nevada's small 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

⁴ 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.

Division's diverse partnerships continue to expand and improve avenues of outreach and education, enhancing Nevadans' awareness of the recycling and waste reduction opportunities that do exist across the state.

The Division's recycling program will continue to:

- Provide recycling information, education, and technical assistance to the public, government entities, businesses, non-profit organizations, and educational institutions.
- Participate in collaborative efforts to build and strengthen key partnerships in solid waste reduction and recycling.
- 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 e-waste collection/diversion events statewide.
- Work with the State of Nevada Purchasing Office to ensure that recycled-content products are available for state agency consumption.
- Encourage recycling and provide recycling technical support to rural areas.
- If funding permits, provide financial support in the form of grants to encourage recycling educational programs and opportunities in Nevada.

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