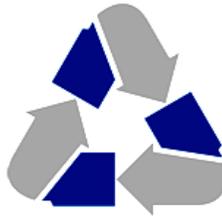


2011 RECYCLING AND WASTE REDUCTION REPORT



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 a 25% in 1991.¹ Based on reported data, the State recycling rate was 21.6% in 2008 and 20.3% in 2009. Of the five counties required to have some type of recycling program, the recycling rates of Carson City, Douglas, and Washoe Counties continued to exceed the 25% recycling goal in 2008 and 2009 (see Table A). During the reporting period, Nevada’s statewide totals of municipal solid waste (MSW) generated and the amount of materials recycled both dropped by over 10%.

Table A. Recycling Rates by County

County	2008	2009
Douglas	35.7%	34.1%
Washoe	32.2%	29.9%
Carson City	26.2%	29.6%
Clark	19.0%	17.4%
Elko	7.6%	*

* Elko County did not submit a recycling report for 2009.

The Division’s curriculum on waste reduction and recycling for grades 4-12 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 Professional Development Education (PDE) course offered to teachers for continuing education credits. The Division began offering this training for PDE credit in the spring of 2009. The workshops are offered once each year to Clark County teachers through their PDE program. The Division is working to gain approval for its use as a PDE course in other school districts across the state. The curriculum is available to download free of charge at nevadarecycles.gov for use in every classroom in Nevada.

To build new and strengthen existing key partnerships in solid waste reduction and recycling, the Division continues to work with local government leaders and provides technical assistance to both the public and private sectors. Single-stream recycling, a collection method that has been shown to dramatically increase recycling rates around the country, has been piloted in both Washoe and Clark Counties. In both counties, participation and the rate of recycling increased. Discussions continue regarding the best way to continue service while transitioning to single-stream recycling.

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

¹ The “recycling rate” is calculated by the ratio of MSW recycled to tons of MSW generated, which 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 counted separately and not part of the rate calculation.

Table of Contents

Executive Summary	i
Table of Contents	ii
List of Tables	ii
1.0 RECYCLING LEGISLATION	1
1.1 Reporting Mandates.....	1
1.2 Legislation Overview and Summary	1
2.0 STATUS OF RECYCLING IN NEVADA.....	2
2.1 Solid Waste Disposal	2
2.2 Recycling.....	2
3.0 RECYCLING PROGRAMS AND INITITIVES	4
3.1 Recycling Contract and Grant Program.....	4
3.2 Waste Tire Management and Recycling.....	4
3.3 Recycling Education	5
3.4 Recycling Outreach.....	5
3.4.1 Recycling Hotline.....	5
3.4.2 Outreach to Rural Communities	5
3.4.3 Community Partnerships and Participation.....	6
4.0 CONCLUSIONS	7

List of Tables

Table A Recycling Rates by County 2008-2009	i
Table 1-1 Recycling Program Requirements	1
Table 2-1 Solid Waste Disposal	2
Table 2-2 State Recycling Rate Data	3
Figure 2-1 Annual Recycling Rate Comparison.....	3
Table 2-3 Recycling Rates by County	4

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 2008 and 2009, including the status of recycling by county, where available, and the statewide recycling rate. For information prior to 2008, please visit the NDEP website at nevadarecycles.gov to view previous reports.

Recycling rates are calculated from data provided annually by recycling centers to their respective municipalities, who in turn compile that data into reports submitted to the Division of Environmental Protection 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 (below) 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
40,000 – 100,000	Shall:
	Establish recycling centers as needed
	Provide for collection and disposal of household hazardous wastes
	May:
	Provide curbside recycling from residential premises and public buildings
County/Municipality Population Threshold*	Program Components
Less than 40,000	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 (2000), per NRS 0.050.

To date, only five counties are required to establish some type 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. Because the populations of Douglas County, Elko County and Carson City are over 40,000 but less than 100,000, 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. It is anticipated that the 2010 national census will show that Lyon and Nye Counties have also exceeded the 40,000 population threshold. The Division has been working with Lyon and Nye 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. Funds collected 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 (NDEP, Washoe and Clark County Health Districts) 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 the waste in this category, by weight, is C&D waste.

The total tons of solid waste disposed in Nevada dropped 17.2% from 2007 to 2008 and dropped another 15.7% in 2009. 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 23% decrease in C&D waste during that period (see Table 2-1).

Table 2-1 Solid Waste Disposal *

Category	2008	2009
MSW Disposal from In-State Sources (tons)	3,300,004	2,947,458
MSW Disposal from Out-of-State Sources (tons)	342,959	308,123
Industrial & Special Waste Disposal (tons)	2,583,310	1,991,513
Total Solid Waste Disposal (tons)	6,226,273	5,247,094

* These numbers do not include materials diverted for recycling.

2.2 Recycling

The recycling rate data was compiled from 2008 & 2009 reports submitted by Clark, Washoe, Douglas, Carson City and Elko Counties -- counties that, by virtue of their population sizes, are required to establish recycling programs. Over 90% of the Nevada’s population resides in these five counties.

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

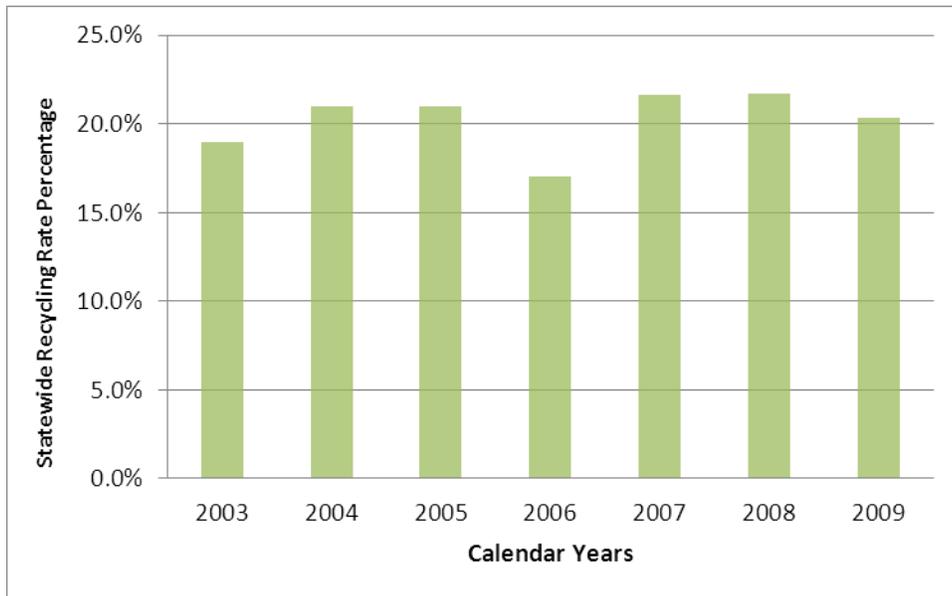
	2008	2009
Tons of MSW Recycled (tons)	866,457	694,616
Tons of MSW Generated ¹ (tons)	3,993,830	3,419,395
Percent Recycling Rate ²	21.6%	20.3%

¹Tons of MSW generated is the amount of waste disposed of in counties required to have a recycling program plus recyclable materials.

²The recycling rates are lower than actual since data from some recycling businesses was not reported.

Nevada’s recycling rate in 2008 was 21.6%, but dropped to 20.3% in 2009 (see Table 2-2). Even with decreases in solid waste generated, Nevada’s annual recycling rate has held relatively steady over the past several years, as shown in Figure 2-1.

Figure 2-1 Annual Recycling Rate Comparison



Of the counties with recycling programs and based on the data reported, Douglas County had the highest recycling rate in the state, at 35.7% in 2008 and 34.1% in 2009, due in part to the green waste composting programs operated in the county. This program accepts cellulosic waste from the county, cities, retail grocers, landscapers, private businesses and residents. Washoe County had the second highest rate in 2008 and 2009 at 32.2% and 29.9%, respectively. The lowest rate in 2008 was reported in Elko County at 7.6%. Elko County did not submit a report in 2009 (see Table 2-3). In general, four types of material make up 95% of the recyclables collected: scrap metals (50%), paper products (30%), organic materials (15%) and plastics (3%). For more information on current and past recycling rate data, visit nevadarecycles.gov.

Table 2-3 Recycling Rates by County

County	2008	2009
Douglas	35.7%	34.1%
Washoe	32.2%	29.9%
Carson City	26.2%	29.6%
Clark	19.0%	17.4%
Elko	7.6%	*

* Elko County did not submit a recycling report for 2009.

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 and 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 now has one such permitted facility that is accepting tires for processing.

Waste tires generated in Southern Nevada are being retreaded, crumbed or shredded, 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.

Within the past year, a number of waste tire-recycling energy recovery, and waste tire by-product manufacturers have expressed interest in locating operations in Nevada. Some of the companies are in the initial planning stages, while others have received operating permits to begin energy recovery operations in the near future.

Research into the use of recycled tires as a road paving material continues by the Nevada Department of Transportation (NDOT). Two Northern Nevada projects using recycled tires as rubberized chip seal material to waterproof aging roads and restore surface friction have shown promise. Asphalt specifications using recycled tires have been developed for roadway rehabilitation projects in Southern Nevada as well. Between 2008 and 2009, NDOT used approximately 134,000 recycled tires in their road-material research projects.

3.3 Recycling Education

Outreach to Schools

The Division has promoted recycling through 4th-12th grade educational presentations throughout the state for many years. In 2007, the Division created a 12-week curriculum in 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.

In addition to the 12-week 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 graders in Carson City, Elko and Washoe Counties various outdoor schools such as the Great Basin Outdoor School and the Northern Nevada Outdoor School. The free curriculum is available on-line from nevadarecycles.gov for use in its entirety, as three separate modules, or as single-use lessons.

In 2008, the Clark County School District approved *Recycling for a Greener Day: NDEP Solid Waste and Recycling Curriculum* as a Professional Development Education (PDE) course. It was offered for the first time in March 2009. The recycling course is 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.

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 50 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.

3.4.2 Outreach to Rural Communities

The Division has been actively promoting the importance of recycling to rural communities. 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.

3.4.3 Community Partnerships and Participation

Single-Stream Recycling

For several years, the Division 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 and Washoe Counties have piloted single-stream recycling programs. In each case, the results showed increased participation and volume of recyclables collected. Discussion continues between the municipalities and their contracted waste haulers regarding the best way to continue services to the community while transitioning from 3-4 bin curbside recycling service to single-stream. In Clark County, over 50,000 homes are currently participating in single-stream recycling programs that have resulted in increased recycling rates ranging from 3% to 20-25%. In 2007, Incline Village (Washoe Co.) converted their curbside recycling service to single-stream and continues to realize substantial increases in collection volume.

E-Waste Diversion Activities

The Division has established several key partnerships with municipal agencies and non-profit organizations to assist in planning, organizing and conducting their e-waste collection events. In 2008 and 2009, collection events were held in Elko, Incline Village, Reno, Winnemucca, Carson City and Las Vegas. These events contributed significantly to the overall diversion of e-waste from our landfills. During this two-year period, municipal recycling data reports indicate over 3,300 tons of e-waste was collected and either reused or recycled.

Introduced during Nevada's 75th Legislative Session, Assembly Bill (AB) 426 proposed creation of a State program to govern e-waste recycling. During the session, the bill was amended to require an interim study of e-waste reuse and recycling programs in Nevada. The study was to include an investigation and evaluation of Nevada's existing infrastructure for reuse and recycling of computers and other electronics, as well as the e-waste recycling infrastructures in use in our neighboring states. The findings of the study are being submitted in a report to the 76th Session of the Nevada Legislature.

Other Community Outreach and Assistance Activities

Division recycling staff participate in many community events (i.e. Earth Day, Nevada Recycles Day, and corporate Green Fairs) and serves as committee members on several recycling-oriented organizations across the state, including Illegal Dumping Task Force, Christmas Tree Recycling and Biomass committees in Northern and Southern Nevada. The Division also provides outreach to the business community through recycling presentations and technical assistance. In October 2008, NDEP Las Vegas staff collaborated with the Southern Nevada PBS Network to develop a TV feature about recycling for broadcast on the "Greener Las Vegas" program.

4.0 CONCLUSIONS

Nevada's annual recycling rate continues to hold relatively steady 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 hard 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.

--- end ---