



NEVADA DIVISION OF
**ENVIRONMENTAL
PROTECTION**

2017 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 Although Nevada exceeded the 25% recycling goal in the 2012 and 2013 reporting years, the rate has declined for the past two years. Based on reported data, the state recycling rate was 23.4% in 2014 and 20.8% for 2015. Of the six counties now required to have some type of recycling program, the recycling rate of Clark County fell below the 25% recycling goal in 2014 and 2015. Carson City, Douglas, and Washoe Counties exceeded 25% in 2014. (Table A)

Table A. Recycling Rates by County, 2014-2015

County	2014 (%)	2015 (%)
Carson City	29.2	28.5
Clark	20.6	17.7
Douglas	55.5	62.3
Elko	5.9	1.8
Lyon	*	*
Washoe	33.5	31.4

* Lyon County did not report 2014 or 2015 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 was first offered to teachers in Clark County in 2009, 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, Farmer’s Markets, Robotics Clubs 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 governments, as well as 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. Several 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.

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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 2014 and 2015, 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 years. 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% diversion of municipal waste, 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.

In 1999, AB 564 required Washoe and Clark Counties to develop recycling plans for public buildings, and encouraged other counties to do the same. It also required local school districts and the Nevada System of Higher Education (NSHE) to recycle paper products. In 2005, SB 396 required Clark and Washoe Counties to provide recycling information to business license applicants. In 2009, AB 426 directed NDEP to conduct an e-waste study and submit the results during the next legislative session. The finding was that e-waste was being handled by the private sector. Also in 2009, SB137 required provision of recycling container placement at certain multi-family dwellings (apartment complexes), with requirements for permits for construction or renovation to include the provision of recycling containers. SB 137 also included further recycling requirements for NSHE facilities.

Several efforts were made to establish container deposit legislation or a “bottle bill”, the most recent of which was AB 427 in 2011, which created a Legislative Commission Committee (the Committee) to Study the Deposits and Refunds on Recycled Products. In 2013 the Committee chose not to pursue a bottle bill, but supported a resolution expressing support for the adoption of single-stream recycling by municipalities and a recommendation to raise the recycling goal from 25% to 40%. In 2015 a bill was introduced to divert Construction & Demolition (C&D) waste to be recycled, but it was not acted on.

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 a 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.

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 of Environmental Protection (NDEP), the Washoe County Health District, and the Southern Nevada Health District) to fund recycling programs.

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 a Nevada landfill 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 increased 7.7% from 2013 to 2014, and increased 19.2% from 2014 to 2015 (Table 2-1).

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

Category	2013	2014	% change (2013-2014)	2015	% change (2014-2015)
MSW Disposal from In-State Sources (tons)	2,921,046	2,968,701	+1.6%	3,013,179	+1.5%
MSW Disposal from Out-of-State Sources (tons)	213,258	231,367	+8.5%	237,594	+2.7%
Industrial & Special Waste Disposal (tons)	1,583,789	1,881,974	+18.8%	2,808,431	+49.2%
Total Solid Waste Disposal (tons)	4,718,093	5,082,043	+7.7%	6,059,205	+19.2%

* These numbers do not include materials diverted for recycling.

2.2 Recycling

The recycling rate data was compiled from 2014 and 2015 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 five counties.¹ Lyon County did not report for 2014 or 2015.

The recycling rate is the ratio of MSW recycled to the tons of MSW generated and includes recyclables, as well as 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, 2014-2015

Category	2014	2015
Tons of MSW Recycled (tons)	863,195.43	756,143.00
Tons of MSW Generated* (tons)	3,695,809.43	3,636,186.00
Percent Recycling Rate	23.8%	20.8%

* 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 met or exceeded a 25% recycling rate. (Figure 2-1). However, since then the State recycling rate has dropped to 23.8% in 2014 and 20.8% in 2015.

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

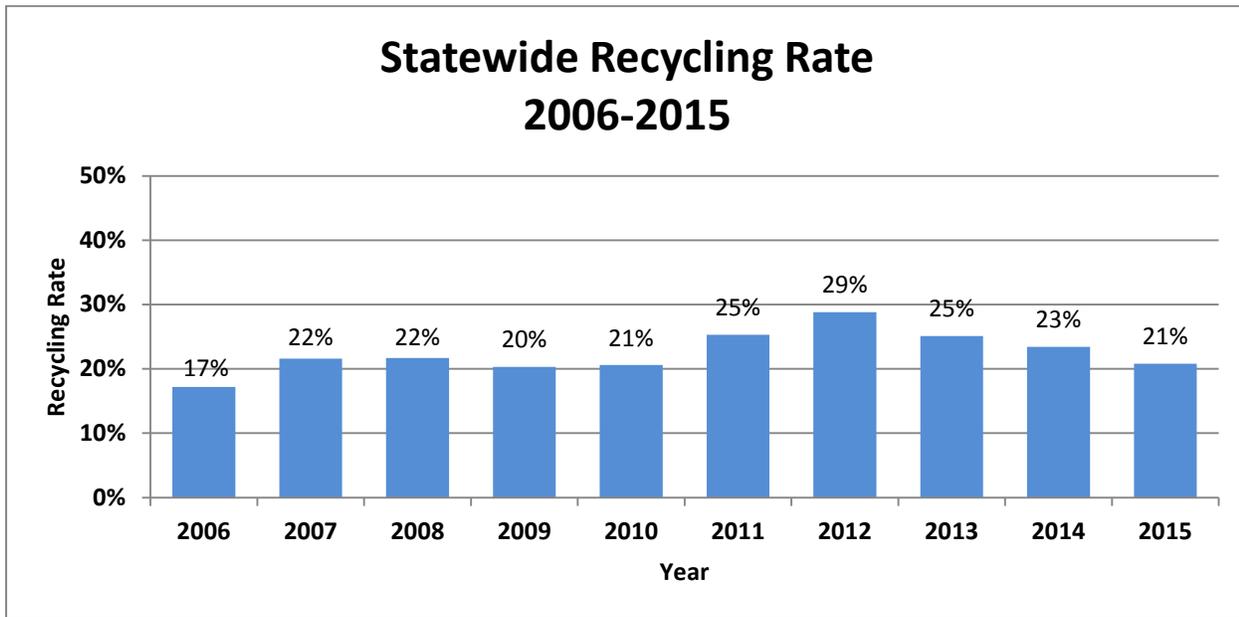


Figure 2-1. Annual Statewide Recycling Rate Comparison, 2006-2015

Based on data reported from counties with recycling programs, Douglas County had the highest recycling rate in the state in 2014 and 2015 (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 2014 and 2015 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.

Table 2-3. Recycling Rates by County, 2014-2015

County	2014 (%)	2015 (%)
Carson City	29.2	28.5
Clark	20.6	17.7
Douglas	55.5	62.3
Elko	5.9	1.8
Lyon	*	*
Washoe	33.5	31.4

* Lyon County did not report 2014 or 2015 recycling data.

The decrease in Clark County’s rate in 2014 can be partially attributed to a fire that happened at the local composting facility, A1 Organics. A large portion of food waste, landscape debris, and general organics were diverted away from the landfill and sent to A1 Organics to be composted. Since the fire that broke out in June 2014, those materials have had been sent to the landfill, reducing the Clark County recycling rate. However, there were positive trends during 2014. The number of businesses reporting recycling information to the Southern Nevada Health District (SNHD) increased from 80 to 87. There was also an increase in recycling for glass, paper, and plastics due to the implementation of single-stream collection in some municipalities.

There was another decrease in Clark County's rate in 2015. Although A1 Organics was replaced with a different composting facility, the new facility is very stringent on the material it accepts, and doesn't take in as much organics as A1 previously received. Due to a decrease in commodity prices and a port strike in early 2015, the amount of recyclable material shipped overseas decreased. The number of businesses reporting to SNHD decreased as well, from 87 to 73.

In general, five types of material make up over 95% of the recycled tonnage collected in Nevada. In descending order, they are paper products, scrap metals, organic materials, glass, and plastics. All materials showed a decrease from 2014-2015, with organics in particular showing a large decrease of 33%.

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.

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. 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-state 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 (TDF). 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 TDF. Due to reporting inconsistencies from one company to another, it is difficult to quantify the tonnage of tires recycled, disposed or exported.

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. Staff has given presentations to K-12th graders for various schools, camps, school-related events, and groups such as Scouts, Robotics Clubs 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. Staff is working with other school districts in the state to present this course for PDE credit. 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 2015, NDEP partnered with the Desert Research Institute (DRI), Republic Services, and the Las Vegas Sands Corp. with "Get on Board: The Sustainability and Recycling Tour" that offered ½ PDE credit for all participating teachers.

In an effort to create a more continuous presence with Nevada's formal and informal educators, Nevada Recycles staff partnered with outreach staff in NDEP's 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 the Clark County School District (CCSD), an incentive program offers schools that recycle a payment based on the savings incurred by reducing trash dumpster quantity and/or volume. Nevada Recycles staff has assisted CCSD with its education efforts.

Carson City School District has a Sustainability Action Team that works to implement sustainable practices in all of their schools, including recycling activities, food waste composting and other measures to reduce waste and energy consumption.

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 month. In addition to live information provided by the Hotline, a directory of resources, by county, is posted and regularly updated on NevadaRecycles.nv.gov.

The Nevada Recycles website was launched in November 2013. The site content is regularly updated and includes information 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. In 2015 4,920 new and returning users visited the site. Almost 8,000 new and returning users had visited the site as of October 2016.

In 2012 the Nevada Recycles program developed a [Facebook page](#) to expand education and outreach throughout the state. The Facebook page is used to showcase local efforts regarding waste reduction and recycling, share national and local news and initiatives regarding waste and recycling issues, and inform the public on these issues. Events specific to e-waste collection, Earth Day events, educational activities, and news are updated on a regular basis to continue the program's education and outreach. Pertinent 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 collection and storage of 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. Staff also conducts research on recycling strategies, community alternatives and financial options such as developing cooperative partnerships with local businesses and industries to address these challenges. One promising method being discussed is to implement a "Hub and Spoke" system to connect rural recyclers (the "spokes") to each other to amass larger volumes of recyclable materials in centralized "Hubs", thereby decreasing transportation costs to rural communities and creating a more reliable volume of materials to buyers of recyclable materials.

Despite challenges, several rural communities have 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, Storey, Pershing and White Pine Counties. Infrastructure and accessibility vary widely from county to county. Most landfills in Nevada are following procedures to recycle metals (e.g. appliances and cars), automotive batteries, motor oil and antifreeze.

3.4.3 Other Community Outreach and Assistance Activities

Division recycling staff participates in community events (i.e. Earth Day and America Recycles Day) and serves as committee members on several recycling-oriented organizations across the state, including Sustainability Partners in Northern Nevada (SPINN), the Illegal Dumping Task Force and Christmas Tree Recycling committees in northern and southern Nevada. Active involvement in collaborations such as GREENevada, a group dedicated to environmental education, and the Green Ambassador Program, has led to stronger partnerships with teachers, school districts, community members, and other member organizations.

NDEP and Nevada Recycles have sponsored an annual Recycled Art Contest since 2014. Submissions are accepted through October and winners are announced in November as part of America Recycles Day. Over 130 artists have submitted entries each year, with state-wide representation from artists ranging from Kindergarteners through Adults.

3.5 Industry Trends

3.5.1 Single-stream Recycling Collection

For several years, the Division has encouraged municipalities to implement single stream recycling collection. This 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.

Although single-stream collection increases participation and volume of materials, it can also result in higher levels of contamination and an increase in residuals at Material Recovery Facilities (MRF's). In order to counter the contamination a comprehensive public education campaign is needed to better educate the public as to what materials are allowable in their mixed recycling containers.

To date, communities in Clark, Washoe and Elko Counties have implemented single-stream recycling programs. In Reno, the pilot program resulted in a near doubling in participation and more than a tripling in tonnage.² The City of Reno implemented single-stream recycling in 2012 and Sparks began their single-stream program beginning in January 2015. Clark County, North Las Vegas and Henderson have all implemented single-stream recycling. Unincorporated Washoe County and Las Vegas are expected to implement single-stream in 2017. Republic Services built their new MRF in November of 2015. Their MRF is the largest and smartest residential recycling center in North America.

3.5.2 E-Waste Diversion Activities

Collection events for electronic waste were held at least annually in Elko, Reno, Minden, and Las Vegas. Not all include television collection. These events contributed significantly 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. Incline Village collects e-waste twice weekly in conjunction with their Household Hazardous Waste collection. Many hotline callers ask about e-waste recycling options and are informed of collection points in their community. Customers are charged for recycling televisions and CRT's.

4.0 CONCLUSIONS

Nevada's annual recycling rate has declined to less than 25% since 2014. This was due in part to the depressed prices for recyclable materials across all sectors. 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 challenges, especially in the rural areas of the state, as the high transportation costs are difficult to overcome. Establishing a "Hub and Spoke" system in the rural parts of the State would make recycling and access to markets more economically feasible for rural communities. The Division's diverse partnerships continue to expand and improve avenues of outreach and education, enhancing Nevadans' awareness of the recycling and waste

² 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.

reduction issues and opportunities across the state.

The Nevada Recycles 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 waste reduction and recycling education through the Division's recycling curriculum and to provide presentations to various audiences in the state.
- Encourage e-waste collection/diversion events statewide.
- Encourage recycling and provide recycling technical support to rural areas and assist in the development of a Hub and Spoke system to collect and market recyclable commodities in rural Nevada.
- If funding permits, provide financial support in the form of grants to encourage waste reduction and recycling opportunities in Nevada.

--- End ---