2019 RECYCLING AND WASTE REDUCTION REPORT

Nevada Recycles

Nevada Department of Conservation and Natural Resources
Division of Environmental Protection
Bureau of Sustainable Materials Management

nevadarecycles.nv.gov

EXECUTIVE SUMMARY

Starting in the 1930s, recycling became a necessary aspect of solid waste management when companies switched from refillable containers to disposable cans and bottles. Recycling has seen fluctuations in the markets for materials, of course, but recycling continues to be important in today's society: it has environmental importance, has positive economic impacts, and is essential to cities around the world and people living in them. By creating effective recycling programs, we create jobs, help decrease the pollution caused by improper waste handling, and preserve natural resources for future generations. Nevada is not unique to this perspective, and in 1991 the Nevada Legislature adopted a recycling goal of 25%. The goal was established to meet the demands of waste reduction and to extend the life of many landfills within the state. Since 1991, the Nevada Division of Environmental Protection (NDEP) has tracked the recycling efforts of our state.

Counties in Nevada are required to make recycling programs available if they meet defined population ranges. Currently, Clark and Washoe counties are required to have source separation, recycling centers, and household hazardous waste collection programs. Douglas, Elko, Lyon, and Carson City — which have smaller populations — must maintain programs that establish recycling centers and handle household hazardous waste. All other counties are not mandated by regulations to create programs, but they may do so voluntarily. The six counties that meet the population requirements are required to annually report the effectiveness of their programs to NDEP. Based on county reports, the statewide recycling rate for Nevada has been flat at 20-21% since 2003, with the exception of 2011, 2012, and 2013 when the rate met or exceeded the 25% goal. Since then, the recycling rate for 2014-2017 has hovered around 21%.

Nevada's 25% recycling goal has been hard to reach for a few reasons:

1. Access to collection of recyclable materials
2. Market volatility
3. Contamination rates
4. Public education

To resolve these issues, Nevada could improve access, reduce contamination of recyclable materials, improve domestic markets for recyclables, and better inform the public on how to properly manage these materials. Nevada's larger communities have adopted single-stream recycling, which allows for more convenient collection of a broad variety of recyclable materials. However, the downside of this approach has been a significant increase in the contamination of recyclable materials with non-recyclables and other waste materials. Contamination often leads to recyclable material being landfilled.

Insight

Embracing other models of thinking will help to meet our recycling goal, including sustainable including sustainable materials management (SMM) concepts, a holistic approach that encompasses and evaluates product manufacturing, transportation, design, material use, and other elements of product life cycle.

By understanding these challenges and evaluating best practices, Nevada and NDEP can better manage Nevada's recycling efforts. Embracing other models of thinking will help to meet our recycling goal, including sustainable materials management (SMM) concepts, a holistic approach that encompasses and evaluates product manufacturing, transportation, design, material use, and other elements of product life cycle. These concepts will play a key role in Nevada's success now and well into the future. It allows us to reduce environmental impacts, conserve resources, and reduce costs. As waste disposal costs increase, finding innovative ways to manage our sustainable resources while working with and educating industry stakeholders, municipalities, academic institutions, non-profits, the public, and others will help to ensure success.

NDEP's education and outreach efforts are ongoing in a variety of forms. NDEP created a recycling curriculum aligned to fifth grade Common Core and Next Generation Science Standards. It is available free of charge at NevadaRecycles.nv.gov. Additional youth outreach has included presentations and activities with groups such as Scouts, 4-H, farmer's markets, robotics and environmental clubs, environmental education field trips, college environmental & policy classes, and many special events.

Nevada has several opportunities to help meet its 25% recycling goal: other states, for example, have implemented "hub and spoke" collection systems for rural areas, container deposit legislation, standardized labeling, extended producer responsibility legislation (such as PaintCare), statewide public education campaigns to reduce contamination and increase participation, policy revisions allowing state agencies to keep revenue from the sale of recyclables, and effective mandates with enforcement.

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IN THIS REPORT

Recycling Legislation

1 **RECYCLING LEGISLATION**

1 **Reporting Mandates**

1 **Legislation Overview and Summary**

Status of Recycling in Nevada

5 **SOLID WASTE DISPOSAL**

6 **RECYCLING**

Recycling Programs and Initiatives

10 **RECYCLING CONTRACT AND GRANT PROGRAM**

10 **WASTE TIRE MANAGEMENT AND RECYCLING**

11 **RECYCLING EDUCATION**

11 **Outreach to Schools**

12 **RECYCLING OUTREACH**

12 **Recycling Hotline, Website, and Social Media**

12 **Outreach to Rural Communities**

13 **Other Community Outreach and Assistance Activities**

14 **CURRENT TRENDS AND LOOKING FORWARD**

14 **Financial Incentives to Recycle**

14 **Single-stream Recycling Collection**

15 **E-Waste Diversion Activities**

16 **Extended Producer Responsibility Legislation**

Conclusion

1. Recycling Legislation

RECYCLING LEGISLATION

Reporting Mandates

In accordance with statutes (NRS 444A.070 and NRS 444A.110), the director of the Department of Conservation and Natural Resources must submit a biennial report on or before January 31 of each odd-numbered year that details the status of current and proposed programs for the recycling and reuse of waste materials. This report contains information about recycling in Nevada during 2016 and 2017, the statewide recycling rate, and possible directions for recycling in Nevada.

Recycling rates are calculated with data provided annually by recycling centers and waste haulers to their respective counties, who then compile that data into reports that are submitted to NDEP (NAC 444A.135 and 444A.140). The "recycling rate" is the ratio of recycled municipal solid waste (MSW) to total MSW generated (in tons), which is comprised of recyclables + household waste + commercially-generated waste. Solid waste imported from other states is counted separately and is not part of the rate calculation. Table 1-1 outlines the different levels of recycling services required of counties and municipalities based on population thresholds.

Legislation Overview and Summary

Nevada's recycling program began with passage of Assembly Bill (AB) 320 in 1991, which was codified in NRS Chapter 444A – Programs for Recycling. AB 320 established three guiding principles:

1. A goal to recycle 25% of the municipal waste generated in Nevada
2. A preferential procurement policy for goods made with recycled materials
3. A directive to NDEP to provide education and technical assistance concerning waste reduction and recycling.

With the principles created by these statutes, the State Environmental Commission adopted regulations (NAC Chapter 444A) to fulfill the statutory mandate. These regulations have allowed NDEP to establish recycling goals and objectives that help conserve resources and reduce landfill disposal.

Table 1-1: Recycling Program Requirements

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

In 1999, AB 564 required Washoe and Clark counties to develop recycling plans for public buildings and encouraged other counties to do the same. The bill also required local school districts and the Nevada System of Higher Education (NSHE) to recycle paper products. In 2005, Senate Bill (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 report concluded that e-waste was being handled by the private sector and no further action was taken.

Insight

The passage of SB 137 has increased the number of multifamily dwellings with access to recycling. But recycling is still only available at a small percentage of apartment complexes.

Also in 2009, SB 137 required provision for making recycling containers available at certain apartment complexes. The bill also contained requirements that construction or renovation permits must incorporate space for recycling containers. The passage of SB 137 has increased the number of multifamily dwellings with access to recycling. But recycling is still only available at a small percentage of apartment complexes; the extra cost for recycling services by haulers may be contributing to this trend. SB 137 also changed the regulations to allow NSHE facilities to keep any money received from the sale of recyclables for use in carrying out their recycling program. Prior to the change, any money received for recyclables was to be paid to the State General Fund.

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 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%. No further action was taken to increase the diversion goal. In 2015, a bill was introduced to divert construction & demolition waste for recycling, but it was also not acted on.

Clark and Washoe counties exceed the 100,000-population threshold and are required to make a program available for use to provide source separation of recyclable materials, 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. As a result, they are encouraged to make programs that establish recycling centers and provide for the collection and disposal of HHW. Although not required, source separation of recyclables is being provided to single-family homes in Carson City and the city of Elko. Counties with a population under 45,000 may establish programs for source separation of recyclable materials, create recycling centers, and provide for the collection and disposal of HHW.

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, the Washoe County Health District, and the Southern Nevada Health District.

2. Status of Recycling in Nevada

SOLID WASTE DISPOSAL

In Nevada, solid waste is categorized as either "municipal" or "industrial & special." The municipal solid waste (MSW) landfilled in Nevada 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 like wood, concrete, asphalt and drywall, and several types of solid waste that have specific management requirements for permitted landfill disposal (like asbestos and biohazardous waste). Typically, about 90% of industrial & special waste, by weight, is C&D waste.

MSW from in-state sources makes up just under half of the total waste landfilled in the state. Industrial and special wastes makes up the bulk of the remainder. Out-of-state waste is only a small fraction of the total waste disposed of in Nevada (See Table 2-1).

Insight

Out-of-state waste is only a small fraction of the total waste disposed of in Nevada.

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

Category	2015	2016	2017
MSW Disposal from In-State Sources (tons)	3,013,179	3,055,780	3,310,422
MSW Disposal from Out-of-State Sources (tons)	237,594	248,328	174,262
Industrial & Special Waste Disposal (tons)	2,808,431	2,077,844	3,218,458
Total Solid Waste Disposal (tons)	6,059,204	5,381,952	6,703,142

** These numbers do not include materials diverted for recycling*

RECYCLING

Based on NRS 444A.020 and the goal of 25% recycling, the recycling rate is calculated by taking the ratio of MSW recycled to tons of MSW generated, which includes recyclables and household and commercially-generated waste (solid waste imported from other states is not used to calculate the recycling rate). To determine the recycling rate, data is collected from reports submitted by Carson City, Clark, Douglas, Elko, and Washoe counties — the counties that have adopted recycling programs and, according to the 2010 census, have over 90% of Nevada's population. One of five collection facilities in Lyon County reports recycling data through Waste Management Inc. NDEP used the most current recycling data to calculate the recycling rate for 2016 and 2017 (See Table 2-2). Approximately 66% of households in Nevada have access to curbside recycling programs.

Insight

Approximately 66% of households in Nevada have access to curbside recycling programs.

Table 2-2: Recycling Rates by County, 2016-2017*

County	2016 (%)	2017 (%)
Carson City	29	26.7
Clark	18.3	19.9
Douglas	49.6	51.6
Elko	5.5	7.0
Lyon	0.2**	0.1**
Washoe	29.5	24.6

**The state recycling rate is calculated with data from the 6 counties required to report*

***One of five collection facilities in Lyon County reported data*

Eureka, Lander, and Nye counties also reported their recycling data in 2017; however, they were not required to do so. The bulk of material recycled in rural areas is scrap metal. Rural county rates can vary significantly year-to-year depending on when materials were sold. Although the recycling rate for these counties is not included in the state rate, the amount of waste generated in these counties is small compared to Nevada's larger urban areas and does not greatly affect the state rate.

Table 2-3: State Recycling Rate Data, 2016-2017

Category	2016	2017
Tons of MSW Recycled (tons)	759,169	832,319
Tons of MSW Generat-ed(tons)	3,673,694	3,971,065
Percent Recycling Rate	20.7%	21%

** Tons of MSW generated equals the amount of waste disposed of plus recycled materials*

Insight

As shown in Figure 2-1, Nevada's recycling rate has remained relatively flat at 21%. However, Nevada met or exceeded the 25% recycling rate for three consecutive years—2011 to 2013.

As shown in Figure 2-1, Nevada's recycling rate has remained relatively flat at 21%. However, Nevada met or exceeded the 25% recycling rate for three consecutive years—2011 to 2013 (See Figure 2-1). The recycling rate depends on two metrics:

1. The volume of recyclables collected and processed
2. The total volume of waste generated

The years with the highest recycling rate did not necessarily recycle the largest volume of materials. Total waste generation was lower in the years with the highest recycling rate (See Figure 2-2h).

Figure 2-1: Annual Statewide Recycling Rate Comparison, 2007-2017

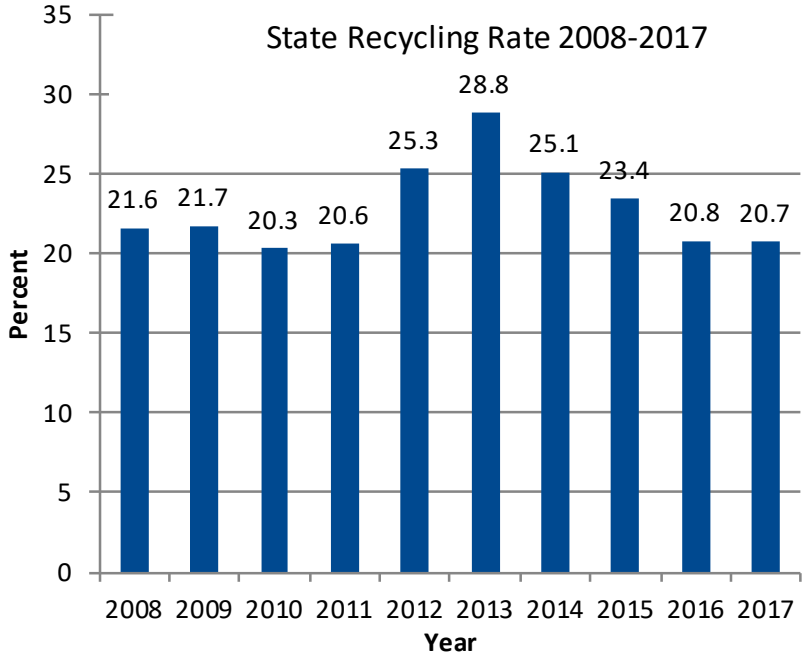
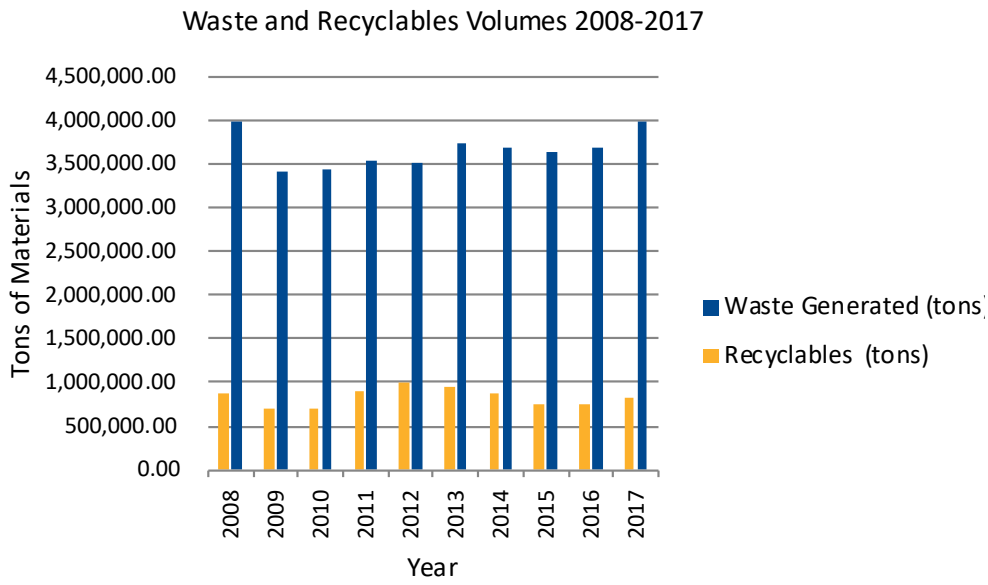


Figure 2-2: Waste and Recyclable Volume Comparisons 2008-2017



Insight

Based on data reported from counties with recycling programs, Douglas County has consistently had the highest recycling rate in the state, largely because of the composting and biofuel programs that operate in the county.

Based on data reported from counties with recycling programs, Douglas County has consistently had the highest recycling rate in the state, largely because of the composting and biofuel programs that operate in the county (See Table 2-3). Elko County has the lowest reported rate; however, this rate has been increasing. While curbside recycling is available to Elko residents in single family homes, other communities in the county have limited or no opportunities to recycle locally.

Clark County's rate increased by 1.51% — from 18.3% in 2016 to 19.90% in 2017. Eighty facilities reported recycling information to the Southern Nevada Health District, including material recovery facilities, recycling centers, waste grease facilities, and composting facilities. As Nevada's most populated county, Clark County's waste diversion and disposal rate significantly affects the state recycling rate.

Of the data collected, three materials make up over 90% of the recycled tonnage collected in Nevada: scrap metal, paper products (including cardboard), and organic materials. Glass and plastics comprise a small percentage — at 3% and 2%, respectively. The final 4% is "special waste," which includes used oil, antifreeze, lead acid batteries, paint, and tires (See Table 2-4).

Table 2-4: Statewide Recycled Material by Tonnage and Percent of Total for 2017

Commodity	Tonnage	Percentage
Paper	248,699	30%
Metals	330,422	40%
Plastic	13,507	2%
Glass	26,135	3%
Organics	171,021	20%
Special Waste	34,688	4%
Textiles	1,029	0%
Other	6,818	1%
Total	**832,319**	**100%**

3. Recycling Programs and Initiatives

RECYCLING CONTRACT AND GRANT PROGRAM

Under NRS 444A.110, NDEP has the authority to provide grants to municipalities, educational institutions, and non-profit organizations to enhance solid waste management systems and promote solid waste recycling. In January 2018, NDEP was able to fund new grants for the first time since 2006. Six proposals were received, four of which were ultimately selected for funding, including projects in Minden, Lovelock, Ely, and Springs Preserve in Las Vegas. A second grant announcement was made in August 2018, with proposals due October 1, 2018. Fourteen proposals were received, and six grants were awarded in November 2018, with projects in Ely, Carson City, Henderson, Pyramid Lake, Incline Village, and Yerington. Many agencies do not have the initial funding to start a recycling program or project, making the grant program particularly important. Without this program, many rural communities would not have an opportunity to begin a recycling program. NDEP hopes to grow the grant program and increase the amount of money available and to develop partnerships to leverage the dollars.

WASTE TIRE MANAGEMENT AND RECYCLING

Nevada adopted regulations governing the management and transportation of waste tires in 1994. For a fee, most landfills in Nevada accept used tires from the public as well as commercial haulers. Senate Bill 186, passed during the 2009 legislative session, requires counties with health districts to ban waste tire disposal at landfills if they issue operating permits to waste tire management facilities. Such bans help to maximize the diversion of waste tires from landfills to the waste tire management facilities in their jurisdictions. Currently, Clark County has the only permitted facility that accepts tires for processing under this law.

Waste tires generated in Nevada are often 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. Some businesses

in northeastern Nevada (Elko, Ely, and Winnemucca) export waste tires to Salt Lake City, Utah for retreading or use in facilities that use tire-derived fuel.

RECYCLING EDUCATION

Outreach to Schools

NDEP has promoted recycling through statewide educational presentations for many years. In 2007, NDEP created a 12-week curriculum focused on solid waste and recycling. The curriculum aligns with the Common Core and Next Generation Science Standards for 5th grade and is adaptable to school grade levels 4-12. The curriculum is updated periodically and is available free online at NevadaRecycles.nv.gov. NDEP staff annually gives presentations to K-12th graders in schools, camps, school-related events like the Great Basin Outdoor School and the Aces Education Days in Reno, and to groups such as Scouts, robotics clubs, and 4-H.

NDEP's involvement in other partnerships — like the Green Ambassador Program in Clark County School District — has furthered recycling education in many schools. In 2017, NDEP partnered with the Desert Research Institute, Republic Services, and Waste Management, Inc. to offer "Follow the Waste Stream," a course that gave half a professional development credit to participating teachers. The workshop was offered in Washoe and Clark counties and included tours of Lockwood and Apex landfills and local materials recovery facilities. Participants were also presented lessons and activities from NDEP's recycling curriculum.

In an effort to create a more continuous presence with Nevada's formal and informal educators, NDEP recycling staff partners with outreach colleagues in NDEP's Bureau of Water Quality Planning to create a triannual outreach e-newsletter. Titled Enviro-News, the publication provides educational articles, links to resources, and highlights projects, programs, and other efforts that NDEP supports. The newsletter is sent out to over 2,700 individuals.

While repurposed cardboard boxes make for functional recycling bins in schools, the best option, in many cases, is to purchase labeled, material-specific bins with slots designed to accommodate paper, bottles, and cans.

Insight

Many schools have expressed interest in improving their recycling programs. Although there are 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 typically do 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. Additionally, recycling infrastructure may be limited. While repurposed cardboard boxes make for functional recycling bins in schools, the best option, in many cases, is to purchase labeled, material-specific bins with slots designed to accommodate paper, bottles, and cans. However, such well-labeled recycling bins are cost-prohibitive at many schools and school districts.

In the Clark County School District, an incentive program pays schools that recycle based on the savings they gain by reducing the number of trash dumpsters or the frequency of pickup. 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. Yerington High School in Lyon County reached out to NDEP staff in 2018 to discuss ways to begin recycling at their school and has since started a reuse program for school supplies. To support their efforts, NDEP awarded Yerington High School a recycling program grant in late 2018 to help start their paper recycling program.

RECYCLING OUTREACH

Recycling Hotline, Website, and Social Media

NDEP operates a toll-free Recycling Hotline (1-800-597-5865) to provide information on local recycling services by county for common materials — like paint, fluorescent light tubes, and batteries — and more unusual recyclable items — like electronics, refrigerators, cars, and lawn and garden equipment. The hotline receives approximately 30 calls a month.

The design and layout of the Nevada Recycles website was recently overhauled to make it more visually appealing and user friendly. NDEP staff regularly updates site content and includes information on recycling, waste reduction, and reuse. The website highlights statewide events and articles of interest. In 2016, 11,770 new and returning users visited the site, with 4,900 sessions. In 2017, 18,900 users visited the site, with over 22,600 sessions. Through December 2018, the site saw 24,873 users visiting for 30,299 sessions, revealing the website's growing importance as a critical communication tool.

In 2012, the Nevada Recycles program developed a Facebook page to expand education and outreach throughout the state. The Facebook page is used to highlight local efforts regarding waste reduction and recycling, to share national and local news and initiatives regarding waste and recycling issues, and to inform the public on issues and events such as e-waste collections, Earth Day, clean-ups, and educational opportunities. Recently, the Nevada Recycles Facebook page was migrated over to the Nevada Department of Conservation and Natural Resources page.

Outreach to Rural Communities

NDEP 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 mate-

rials

2. The long travel distances to existing recycling centers
3. The relatively small volume of recyclable materials generated in rural Nevada

Insight

In rural Nevada, a "hub and spoke" system would help decrease transportation costs and create a more reliable volume of materials to buyers of recyclable materials.

To offset some of these challenges, NDEP staff conducts research on recycling strategies, community alternatives, and financial options such as developing cooperative partnerships with local businesses and industries. One potential solution is a "hub and spoke" system to connect rural recyclers (spokes) to each other to amass larger volumes of recyclable materials in centralized locations (hubs). This type of system would help decrease transportation costs and create a more reliable volume of materials to buyers of recyclable materials. NDEP continues to discuss this system to determine how to establish funding and infrastructure.

Despite these challenges, many rural communities have established basic recycling programs, like drop-off bins, that are 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, but most landfills in Nevada currently accept scrap metal (e.g. appliances and cars), automotive batteries, motor oil, and antifreeze for recycling.

Other Community Outreach and Assistance Activities

NDEP recycling staff participates in community events (i.e. Earth Day, America Recycles Day, Aces Education Days, Silver Springs Fall Festival) and serve on several recycling-oriented organizations across the state, including Sustainability Partners in Northern Nevada, the Illegal Dumping Task Force, and holiday 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 organizations.

Since 2014, NDEP has co-sponsored an annual Recycled Art Contest with The Venetian in Las Vegas. Submissions are accepted through October of each year, and winners are announced in November as part of America Recycles Day. Over 130 artists have submitted entries each year, with statewide representation from artists ranging from kindergarten through adulthood. Nearly 200 artists entered the contest in 2018. NDEP chose the theme, "The Art of Plastic," to highlight the impact of discarded plastic on the environment.

In March 2018, NDEP partnered with the Washoe County Library system to bring "fixit clinics" to Northern Nevada. A "fixit clinic" is a pop-up activity where people bring broken appliances and items to disassemble. Many participants have never attempted to repair something before, and special

tools are often necessary. Fixit coaches help guide participants through the disassembly and repair process and have tools on hand. Two additional clinics were held on September 29th and October 3rd of 2018. NDEP plans to hold these events twice a year. Sponsors include Patagonia, the Reno Bike Project, Kiwanis, and New 2 U Computers.

CURRENT TRENDS AND LOOKING FORWARD

Financial Incentives to Recycle

NDEP staff has been working with the Nevada Department of Corrections to increase their diversion of waste, but limited funding for their recycling program prevents them from pursuing more waste diversion activities.

This financial limitation could be alleviated with a minor shift in policy. Currently, state agencies are required to deposit all revenue from the sale of recyclable materials into the General Fund. An exception is the Nevada System of Higher Education (NSHE), which was granted the ability to keep all recycling revenue when SB 137 was passed in the 2009 legislative session. As a result of this new rule, NSHE has been able to increase its recycling capacity across the state. The University of Nevada, Las Vegas, for example, recycles (on average) 125 more tons of waste each year and is able to manage new projects, like recycling at the Sam Boyd Stadium.

Insight

Allowing all state agencies to retain the revenue from recycling — as the Nevada System of Higher Education is allowed to do — could help increase Nevada's recycling rate by creating a financial incentive.

Applying this NSHE model to a broader range of agencies — including the Department of Corrections and other agencies with large waste footprints — could help increase Nevada's recycling rate by unlocking more funding for recycling programs.

Single-stream Recycling Collection

Many municipalities have implemented single-stream recycling collection, which allows residents to deposit all types of recyclable materials in one container. This collection method encourages residents to recycle by making it more convenient and by providing customers with a single, larger mobile container instead of smaller crates. It is also more cost-effective for haulers as it can be readily automated, reduces the time spent collecting materials, and reduces trips to empty trucks with partial loads due to uneven filling of compartments in divided trucks.

The cities of Reno and Sparks, and unincorporated Washoe County, Clark County, Las Vegas, North Las Vegas, Henderson, and Elko have all implemented single-stream recycling programs. Carson City recently signed a new franchise agreement and will add single-stream recycling and organics collection in July of 2019.

Although single-stream collection increases participation and volume of materials, it can also result in much higher levels of contamination (on the

order of 25-30% contamination) at material recovery facilities. One possible way to counter the contamination problem is to develop a comprehensive public education campaign to better educate the public on what materials can and cannot be placed in recycling bins. Standardizing labels on recycling bins can help, too, effectively reducing confusion and contamination by using simple, consistent messages statewide (even nationwide).

E-Waste Diversion Activities

The public, along with many Recycling Hotline callers, ask about e-waste recycling options (especially TV monitors). Collection events for electronic waste have been held periodically in various Nevada communities. These events contribute significantly to the overall diversion of e-waste from our landfills. There are a number of businesses and non-profits that collect e-waste from businesses and the public. However, customers are often charged for recycling televisions and cathode-ray tubes, and rural communities often lack e-waste collection points.

Container Deposit Legislation

Nationally, the first container deposit legislation — also known as a bottle bill — was passed in Oregon in 1970 as a response to the decline of refillable beer and soft drink containers and the explosion of beverage container litter from the 1950's through the 1970's. By 1986, ten states had followed suit with some form of bottle bill. Although Nevada has not passed container deposit legislation, states with container deposit laws have more than doubled their recycling rates for aluminum, PET (plastic), and glass compared to states without those laws. A 2013 report indicated that although states with this type of legislation only made up 28% of the US population in 2010, together they recycled 46% of all containers recycled in the U.S.[1] Bottle bills (as passed in other states) create privately-funded collection infrastructure for beverage containers, making producers and consumers responsible for packaging waste, rather than taxpayers. The benefits of bottle bills are many:

- Conserving natural resources
- Reducing waste
- Producing high-quality recyclable materials
- Creating jobs
- Preventing litter

Container deposit legislation, along with curbside recycling and drop-off centers (which have proven successful in other states with more comprehen-

Insight

Container deposit legislation, along with curbside recycling and drop-off centers, could allow Nevada to capture the most material possible and meet its waste diversion goals.

1. Gitlitz, Jenny. (2013). Bottled Up: Beverage Container Recycling Stagnates (2000-2010): U.S. Container Recycling Rates & Trends, 2013. Culver City: Container Recycling Institute Report, 2013. Accessed January 4, 2018. http://www.container-recycling.org/index.php/publications/2013-bottled-up-report.

sive waste reduction and pollution prevention programs), could allow Nevada to capture the most material possible and meet its waste diversion goals.

Extended Producer Responsibility Legislation

Insight

Although paint is easy to recover, reuse, and recycle, most leftover latex paint in Nevada ends up in landfills.

Extended producer responsibility (EPR) laws are initiatives whereby manufacturers are responsible for recycling or safely disposing of their products once consumers are done with them. When manufacturers are responsible for managing their products at end-of-life, they are often motivated to make environmentally beneficial design changes that make the products more sustainable throughout their lifecycles. Product stewardship reduces the financial burden on taxpayers and state and local governments for material collection and management.

There are many product categories that have EPR legislation across the country. These include paint, appliances, batteries, carpet, electronics, mattresses, pharmaceuticals, and solar panels, to name a few. Model legislation by product category is available for use and modification through the Product Stewardship Institute.

PaintCare is one example of EPR. It is an industry-run, non-profit organization responsible for the major costs of managing leftover paint — including transportation, recycling, and processing. Although paint is easy to recover, reuse, and recycle, most leftover latex paint in Nevada ends up in landfills. Oil-based paint, considered hazardous waste, is the most expensive product for household hazardous waste programs to manage. A nominal fee would be charged when paint is purchased (about 75 cents per gallon). Any leftover paint could be returned to a collection center free of charge. In the past year, the Recycling Hotline received 41 and Keep Truckee Meadows Beautiful received 65 paint disposal calls.

4. Conclusions

Nevada's annual recycling rate has been consistently flat at 21% since 2007, with the exception of 2011-2013 when it reached a high of 28%. Prices for recyclable materials across all sectors have been down due to China's tightened markets for recyclable materials. Nevada's small population and large geographic area continue to present challenges, especially in rural areas of the state where transportation costs are high.

By evaluating the success of programs in other states — like "hub and spoke" systems for rural communities, container deposit programs, and extended producer responsibility — Nevada gains more options for moving closer to its 25% recycling goal.

In addition, creating a funding incentive for state agencies that generate large amounts of solid waste — like allowing them to retain the funds from selling recyclable materials — may similarly increase recycling rates across the state.

NDEP's diverse partnerships continue to expand and improve avenues of outreach and education, enhancing Nevadans' awareness of the recycling and waste reduction issues and opportunities across Nevada.