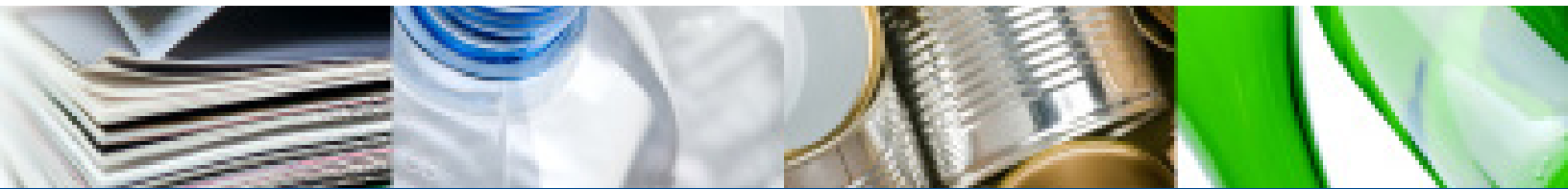
2021 RECYCLING AND WASTE REDUCTION REPORT

Nevada Recycles

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

http://ndep.nv.gov/Nevada-recycles



EXECUTIVE SUMMARY

Recycling is an essential aspect of solid waste management. It conserves our natural resources for future generations, saves energy by processing materials instead of producing new ones, and has positive economic impacts for our communities. Effective recycling programs can lead to job creation, reductions in pollution caused by improper waste handling, and reduced landfill costs to communities.

Recognizing the importance of recycling, the Nevada Legislature adopted a recycling goal of 25% in 1991. The goal was established to meet the demands of waste diversion and extend the life of many landfills within the State. Since 1991, the Nevada Division of Environmental Protection (NDEP) has tracked the State's recycling efforts.

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. The other Nevada counties are not mandated to create programs, but they may do so voluntarily. The six counties that meet population requirements are required to annually report the effectiveness of their programs to NDEP. Based on county reports, the recycling rate for Nevada remained steady at 20-22% between 2003 and 2011. From 2011 to 2013, the rate met or exceeded the 25% goal. Since then, the recycling rate has remained at 21-22% annually.

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

- Lack of collection services at commercial properties, multi-family housing and in rural communities
- Market volatility and low commodity values
- Transportation costs to get materials to markets
- High contamination rates of recyclable materials
- Lack of consistent public education

While Nevada continues to focus on increasing the volume of waste diversion, reducing the total amount of waste produced will also lead to an increase in the recycling rate.

To resolve these issues, Nevada must improve access to recycling collection, work to reduce contamination of recyclable materials, improve domestic markets for recyclables, use its purchasing power to procure products made with recycled content, and educate the public on proper recycling and ways to reduce overall waste generation.

Nevada's larger communities have adopted single-stream recycling, which allows for more convenient collection of many 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 increases the costs of sorting and processing the recyclables and can lead to recyclable material being landfilled.

To further statewide recycling efforts, NDEP conducts ongoing education and outreach. NDEP created a recycling curriculum aligned to fifth grade Common Core and Next Generation Science Standards, which is available free of charge at NDEP.nv.gov/Nevada-recycles. Additional youth outreach includes presentations and activities with students, teachers, and environmental organizations.

NDEP's Bureau of Sustainable Material Management team is researching opportunities to help reach the state's 25% recycling goal. An important idea is the creation of a "stakeholder group" to do an in-depth analysis of current programs and practices. The group will also look for solutions to improve recycling, reduce waste, and further other sustainable materials management efforts. Allowing for full participation with a diverse range of sustainability partners, the group will build consensus through sharing needs, information, ideas, and knowledge to reach common goals.

Topics for the group to consider may include:

- Strengthen the collection of waste diversion and recycling data
- Implementing a “Hub and Spoke” recycling collection system for rural Nevada
- Legislation such as extended producer responsibility or a container deposit system
- Statewide public education campaigns to address waste reduction and recycling
- Standardization of labeling of products and collection bins
- Increased processing capabilities of materials to be recycled
- Market development for recycled materials, including support developing domestic markets for recyclable materials
- Effective State regulations with enforcement strategies (where applicable)

The stakeholder group will help identify, shape, influence, develop, and implement the sustainability topics/outcomes that are important to the State.

As Nevada transitions from seeing used materials as “waste” to instead seeing them as commodities with value, our understanding of opportunities for these materials will continue to evolve. All materials, especially recyclables, need to be evaluated at all stages of their lifecycles to identify new uses. We need to market those materials as beneficial to the State’s economy and environment.

We must also embrace other models of thinking to meet our recycling goals – concepts like sustainable materials management (SMM), a holistic approach that encompasses and evaluates product design, material use, manufacturing, transportation, and other elements of a product’s lifecycle.

January 2021

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1. Recycling Legislation

RECYCLING LEGISLATION

Reporting Mandates

In accordance with statutes[1], 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, detailing the status of current and proposed programs for the recycling and reuse of waste materials. This report contains information about recycling in Nevada during 2018 and 2019, 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 . 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, and 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 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

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Commission adopted regulations[2] to fulfill the statutory mandate. These regulations have allowed NDEP to establish recycling goals and objectives that help conserve resources and reduce landfill disposal.

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 electronic waste (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.

SB 137 was also passed in 2009, requiring recycling containers be made available at certain apartment complexes. The bill contained requirements that construction or renovation permits must incorporate space for recycling containers. While the passage of SB 137 has increased the number of multifamily dwellings with access to recycling, recycling is still only available at a small percentage of complexes, as haulers charge extra for the service.

Insight

In 2015, a bill was introduced to divert construction and demolition waste for recycling, but it was also not acted on.

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 paid to the State General Fund. In 2019, AB 353 was passed, expanding this regulation change to include all other state agencies, and now includes e-waste in the definition of recyclable materials. The legislation also required some state agencies to report their waste diversion annually. The first year for reporting was 2019.

There have been several efforts to establish container deposit legislation, or a “bottle bill”. In 2011, AB 427 created a legislative commission committee to study the deposits and refunds on recycled products and report their findings in the next legislative session.

In 2013, the committee chose not to pursue a bottle bill, but did support a resolution pushing for the adoption of single-stream recycling by municipalities, as well as a recommendation to raise the recycling goal from 25% to 40%. No further action was taken to increase the diversion goal.

The most recent effort was SB 310 in 2019, which would have created a pilot program requiring a deposit and refund on certain beverage containers. The bill did not make it to a floor vote.

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No authority currently exists to enforce the statutes regarding recycling. Therefore, all efforts to provide recycling opportunities and comply with State reporting requirements are voluntary at this time.

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*

Clark and Washoe counties exceed the 100,000-population threshold and are required to make a program available for use. The program must 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.

Insight

Carson City began curbside collection of commingled recyclables and compostable yard waste in 2019.

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 available 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. Carson City renegotiated its franchise agreement in 2018, and as of July 1, 2019, began curbside collection of comingled recyclables and compostable yard waste for single-family homes. Carson City, Douglas County and Incline Village do provide HHW management for their citizens. Nye County is expected to be added to the counties with populations over 45,000 after the 2020 U.S. Census.

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. Recycling centers have been available in Churchill, Nye, Humboldt, Pershing, Eureka, Storey and White Pine Counties.

Funding to support these statutory recycling mandates was established through a $1 surcharge on retail sales of all new vehicle tires in the State. Funds collected through this “tire fund” are the primary source of funding for the State’s Solid Waste Program at NDEP and a contributing funding source for solid waste management for the Washoe County and Southern Nevada Health Districts.

2. Status of Recycling in Nevada

SOLID WASTE DISPOSAL

In Nevada, solid waste is categorized as either "municipal" or "industrial and special." The municipal solid waste (MSW) landfilled in Nevada is reported as either having been generated in-state or out-of-state (imported). Waste categorized as industrial and special includes debris from construction and demolition (C&D) projects such as wood, concrete, asphalt, and drywall. Also included are several types of solid waste that have specific management requirements for permitted landfill disposal (like asbestos and biohazard waste). Typically, about 90% of industrial and special waste, by weight, is C&D waste. MSW from in-state sources makes up just over half of the total waste landfilled in the State. Industrial and special wastes make up the bulk of the remainder (Table 2-1). Out-of-state waste is only a small fraction of the total waste disposal in Nevada.

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

Category	2017	2018	2019
MSW Disposal from In-State Sources (tons)	3,310,422	3,498,479	3,567,441
MSW Disposal from Out-of-State Sources (tons)	174,262	271,138	299,625
Industrial & Special Waste Disposal (tons)	3,218,458	1,703725	1,986,127
Total Solid Waste Disposal (tons)	**6,703,142**	**5,473,342**	**5,853,194**

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

RECYCLING

Insight

Solid waste imported from other states is not used to calculate the recycling rate.

Based on regulations[1], the recycling rate is calculated by taking the ratio of MSW recycled to tons of MSW generated. That includes materials diverted for recycling, and household and commercially generated waste. To determine the recycling rate, data is collected from reports submitted by Carson City, Clark, Douglas, Elko, and Washoe counties, which have all adopted recycling programs.

Although Lyon County has a population over 45,000 and is required to report, they do not have a solid waste management plan, have not adopted a program for recycling, and do not report their county recycling data. However, through Waste Management Inc., NDEP has some data on waste diversion in Lyon County.

NDEP used the most current recycling data from Carson City, Clark, Douglas, Washoe, and Elko counties (where, according to the 2010 census, over 90% of Nevada's population resides) to calculate the recycling rate for 2018 and 2019 (Table 2-2). Approximately 66% of households in Nevada have access to curbside recycling programs.

Table 2-2: Recycling Rates by County, 2018-2019*

County	2018 (%)	2019 (%)
Carson City	25	34
Clark	20	20
Douglas	67	57
Elko	4	3
Lyon**	0	1
Washoe	30	33

**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*

The recycling rate has been calculated by county and health department personnel. NDEP sends out an annual request to counties asking them to collect and compile data from recyclers using standard forms. The county data is then compiled to calculate the State recycling rate. Beginning with data for the 2020 state recycling rate, we will implement an electronic reporting system through Re-TRAC Connect. Recyclers will create an account and input their recycling data directly. County and NDEP personnel will be able to verify data and flag any potential errors or double counting of material. Moving to this system should help to streamline the data collection process and give NDEP the ability to better track, manage, and analyze the State's recycling data.

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Table 2-3: State Recycling Rate Data, 2018-2019

Category	2018	2019
Tons of MSW Recycled	935,247	862,073
Tons of MSW Generated*	4,254,548	3,965,571
Percent Recycling Rate	22%	22%

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

Nevada's recycling rate has remained at 22%. However, Nevada met or exceeded the 25% recycling rate for three consecutive years – 2011 to 2013 (Figure 2-1). The recycling rate depends on two metrics: the volume of recyclables collected and processed, and the total volume of waste generated.

The years with the highest recycling rate did not necessarily divert the largest volume of recyclable materials. Instead, total waste generation was lower in the years with the highest recycling rates, suggesting recycling rates improve when less waste is generated (Figure 2-2).

Figure 2-1: Annual Statewide Recycling Rate Comparison, 2010-2019

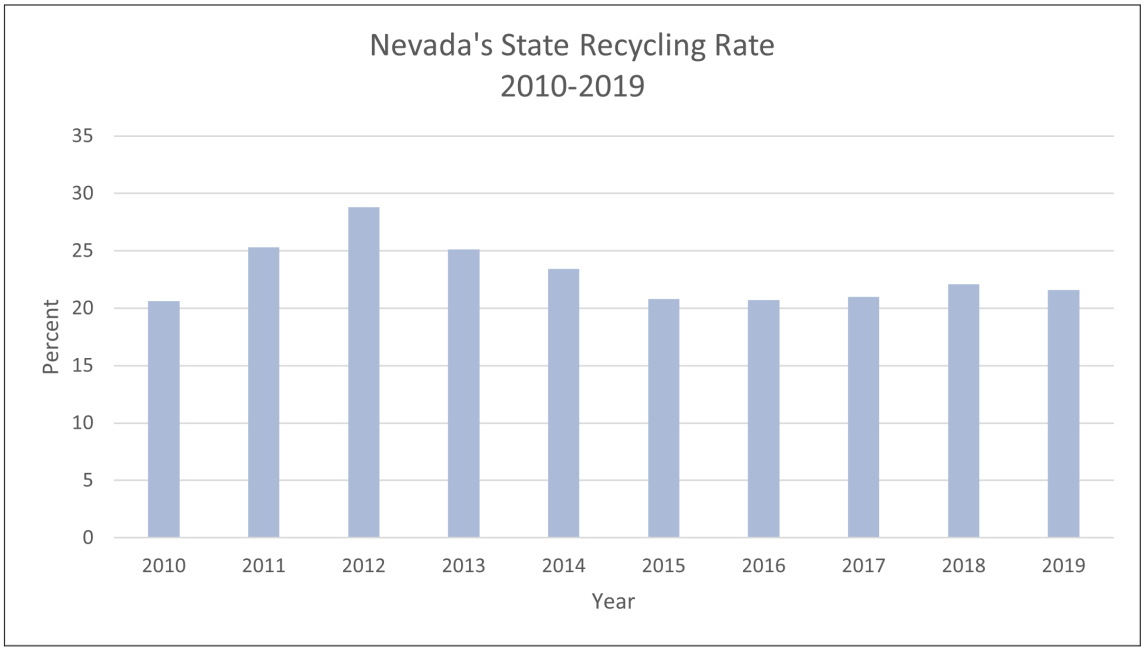
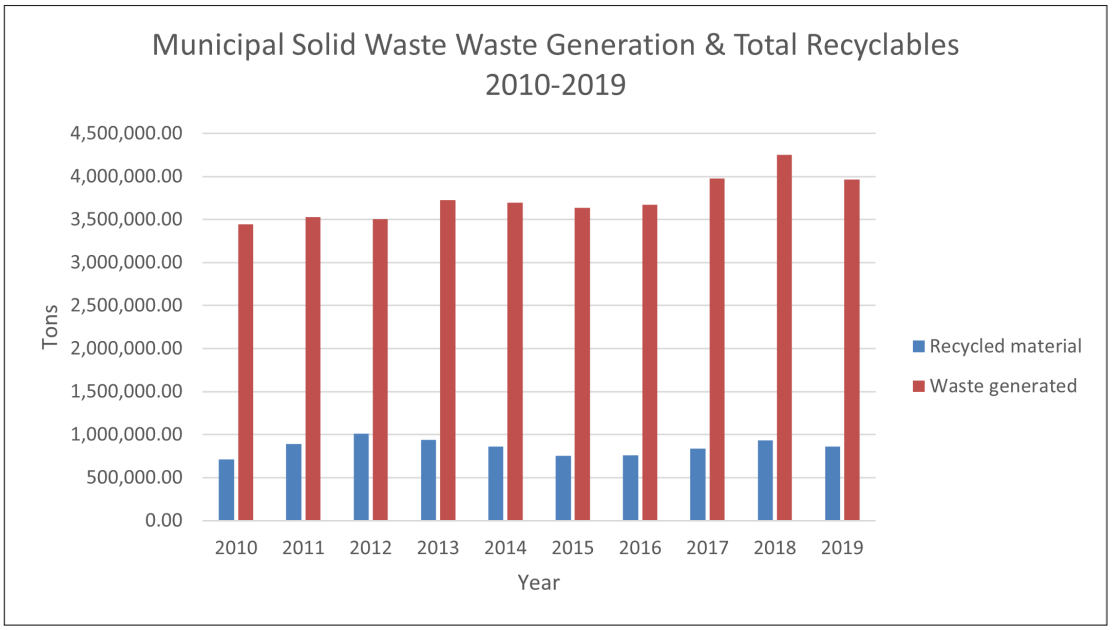


Figure 2-2: Waste and Recyclable Volume Comparisons 2010-2019



Counties

Based on data reported from counties with recycling programs, despite not having curbside collection of recyclables, Douglas County has consistently had the highest recycling rate in the State, largely because of the composting programs that operate in the county (Figure 2-3). Lyon County has the lowest reported rate, as county personnel have not been reporting their waste diversion data.

With the new reporting system, NDEP may be better able to obtain diversion data, as the agency will be responsible for getting recyclers to sign up for Re-TRAC Connect accounts and directly reporting their data.

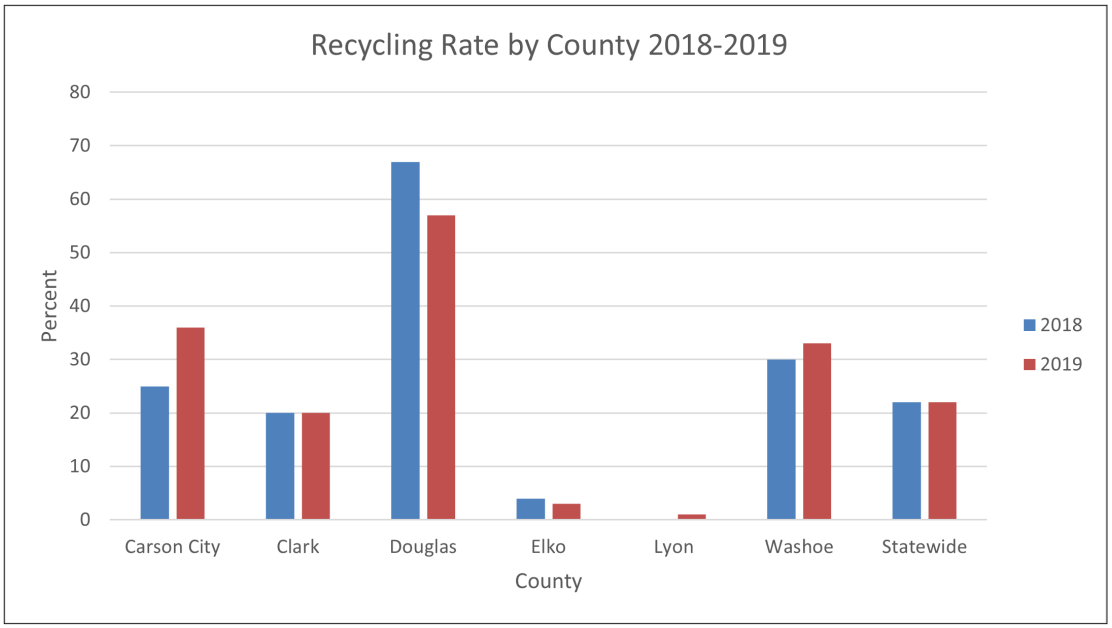
Washoe County moved to single stream collection starting in 2016, and a new drop-off site was added in Reno in 2020. Their recycling rate has been 30% on average for several years.

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. Elko Sanitation closed their recycling drop-off center in 2019 due to high contamination rates after repeated failed efforts to clean up the material stream.

Clark County's rate held steady at 20% in 2018 and 2019. More than 80 facilities report 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. Curbside collection moved to single-stream starting in 2016.

Carson City's rate increased from 25% to 34% after the city implemented single-stream recycling, green waste collection, and mandatory waste pickup for single-family residents beginning on July 1, 2019.

Figure 2-3: Recycling Rate by County 2018-2019



Materials

Insight

"Special waste" includes used oil, antifreeze, lead acid, batteries, paint, and tires. "Other" waste includes electronics.

Three materials make up over 92% of the recycled tonnage collected in Nevada: scrap metal, paper products (including cardboard), and organic materials. Glass and plastics comprise a small percentage, at about 2% each. The final 3% is both "special waste" and "other" waste (Table 2-4).

The bulk of material recycled in rural areas is scrap metal. Rural county recycling rates can significantly vary 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 municipal waste generated in these counties is small compared to Nevada's larger urban areas and does not greatly affect the State rate.

Table 2-4: Statewide Recycled Material by Tonnage and Percent of Total for 2019

Commodity	Tonnage	Percentage
Paper	198,638	23%
Metals	361,234	42%
Plastic	15,901	1.8%
Glass	16,662	1.9%
Organics	234,411	27%
Special Waste	27,717	3%
Textiles	983	0.1%
Other	6,527	0.7%
Total	**862,073**	**100%**

Although NDEP is required by statute to calculate the State recycling rate, there are other measurements that can be looked at in addition to the recycling rate, such as:

- The number of households with access to recycling collection
- The capture rate of recyclable materials from the waste stream
- Job creation from recycling activities
- Cost savings to communities by avoiding waste disposal and prolonging landfill life

NDEP has been assessing what data is collected and what is missing from our data collection. With the adoption and use of Re-TRAC Connect, we may be able to augment the current data collected to gain a more comprehensive understanding of what is working and areas that need improvement.

Working with partners at UNR's College of Business, State and County Economic Development Agencies, County Health Districts and National partners such as EPA and The Recycling Partnership, we can work together to share data and reduce duplicating efforts.

State Agency Recycling Report

With the passage of AB 353 in 2019, State agencies within the executive branch are now required to report the tonnages of materials they recycle each year. As recycling tonnages were not required to be tracked prior to this bill, many State agencies did not have this data available and used best estimates. Subsequent reports are expected to have better data, as agencies are now informed of the reporting requirements. The State agencies required to report[2] have provided data in the same categories that are used to calculate the State recycling rate.

Table 2-5: State Agency Recycled Material by Tonnage and Percent of Total for 2019

Commodity	Tonnage	Percentage
Paper	315.21	65.31%
Metals	106.31	22.03%
Plastic	20.48	4.24%
Glass	30.72	6.36%
Special Waste	0.08	0.02%
Other	9.83	2.04%
Total	**482.63**	**100%**

**E-waste, a subcategory under Special Waste, is often donated instead of recycled, which may lower reported tonnages*

AB 353 also gives State agencies the ability to retain revenue generated from recycling to be used to support recycling programs. With this new incentive to recycle, NDEP expects these numbers to increase in subsequent years. Resources and individual program designs are available to help State agencies increase their recycling tonnages.

2 State departments that reported data include the following: Administration, Agriculture, Business and Industry, Conservation and Natural Resources, Corrections, Health and Human Resources, Indigent Defense Services, Motor Vehicles, Public Safety, Silver State Health Insurance Exchange, Taxation, Tourism and Cultural Affairs, Transportation, Veteran's Services, and Wildlife. Employment, Training and Rehabilitation is not included due to COVID-19 related employee time constraints.

3. Recycling Programs and Initiatives

RECYCLING PROGRAMS AND INITIATIVES

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. In November 2018, fourteen proposals were received, and six grants were awarded for the 2019 grant cycle including projects in Ely, Carson City, Henderson, Pyramid Lake, Incline Village, and Yerington. The 2020 grant cycle received twelve proposals and funded six projects, including the Carson City School District, Liberty High School in Clark County, the Green Dining District in Carson City, Keep Truckee Meadows Beautiful in Washoe County, Pyramid Lake Paiute Tribe, and Yerington High School. Many agencies do not have the initial funding to implement recycling programs or projects, making the grant program particularly important.

NDEP hopes to grow the grant program, increase the amount of money available, and develop partnerships to leverage the dollars. However, due to the COVID-19 pandemic, the Nevada Recycles Grant Program was suspended for the 2021 grant cycle. NDEP hopes to be able to resume grant awards soon.

WASTE TIRE MANAGEMENT AND RECYCLING

In 1994, Nevada adopted regulations governing the management and transportation of waste tires.

For a fee, most landfills in Nevada accept used tires from the public, as well as from commercial haulers. SB 186, passed during the 2009 legislative session, requires counties to ban waste tire disposal 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.

Only one Clark County facility was permitted to accept tires for processing, and it is now closed. Some businesses in northeastern Nevada, including Elko, Ely, and Winnemucca, export waste tires to Salt Lake City, Utah for retreading, or use facilities that use tire-derived fuel. Other Northern Nevada businesses send tires to Oregon for processing.

Insight

Waste tires are often found at illegal dump sites throughout the state.

Waste tires continue to be problematic in Nevada. Tire recycling companies charge per tire fees to pick up waste tires from landfills, transfer stations, and other locations. The fee per tire depends on the location and number of tires. Tires are often found at illegal dump sites throughout the state, likely to avoid disposal fees. County operators have shown interest in purchasing tire shredding equipment to expand the uses of the disposed material. We are evaluating grant funding and partnership opportunities to purchase and maintain such equipment.

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 for free online[1].

Keep Truckee Meadows Beautiful was awarded funds by NDEP to develop and present their "Waste Warriors" program in the 1990's and continues to provide education to students in Washoe County. NDEP staff annually give 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 Boy and Girl Scouts, environmental clubs, and 4-H.

1 https://ndep.nv.gov/nevada-recycles/education

NDEP's involvement in other partnerships – like the Green Ambassador Program with the Clark County School District – has furthered recycling education in many schools. And in 2019 and 2020, NDEP partnered with Keep Truckee Meadows Beautiful, Cooperative Extension, the Carson City School District, the Great Basin Outdoor School, and others to offer teacher training events. In the trainings, Nevada Recycles staff present lessons and activities from NDEP's recycling curriculum, giving professional development credits to participating teachers. The workshops were offered in Washoe County and Carson City. Two events were also held virtually in 2020, allowing teachers from rural counties the chance to participate more easily.

Insight

The Washoe County School District adopted single-stream recycling in 2006. It was the first large entity to do so in Washoe County.

In the Clark County School District, an incentive program pays schools that recycle. The amount is based on the savings gained by reducing the number of trash dumpsters or the frequency of pickup. The Carson City School District also has a Sustainability Action Team that works to implement sustainable practices in all their schools. The practices include recycling activities, food waste composting, and other measures to reduce waste and energy consumption. The Washoe County School District provides recycling bins and dumpsters at all facilities, and annually trains its Site Facility Coordinators in proper waste diversion.

Yerington High School in Lyon County reached out to NDEP staff in 2018 to discuss ways to begin recycling at the school. The campus has since started a reuse program for school supplies. To support staff efforts, NDEP awarded Yerington High School recycling program grants in 2018 and 2019 to start a paper recycling program.

To build rapport with Nevada's formal and informal educators, NDEP recycling staff partner with colleagues in NDEP's Bureau of Water Quality Planning to create a triannual outreach e-newsletter. Distributed to over 2,700 individuals, the Watershed Ed publication provides educational articles, links to resources, and details on projects, programs, and other efforts that NDEP supports. NDEP recycling staff also partner with other State agencies and non-profits as part of GREENevada (Growing Resources for Environmental Education in Nevada), to foster sustainability through environmental education and leadership.

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. Callers can get information on common materials (paint, fluorescent light tubes, batteries) and more unusual recyclable items (electronics, refrigerators, cars, propane tanks). The hotline receives approximately 30 calls a month.

Insight

As of 2019, 32,030 users visited the Nevada Recycles website. There were 17,873 new users to the site, and 14,157 returning users.

The Nevada Recycles website is regularly updated and includes information on recycling, waste reduction, and reuse. The website highlights statewide events and articles of interest. The majority of the searches within the website are for recycling locations and what materials are recyclable, and the resource page that has statewide recycling data. These searches reveal the website's growing importance as a critical communication tool.

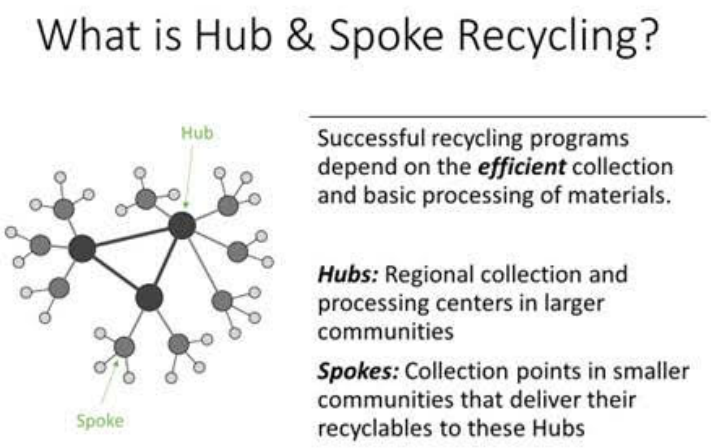
The Nevada Recycles Program also has a group within the Nevada Department of Conservation and Natural Resources Facebook page. The group highlights efforts in Nevada communities regarding waste reduction and recycling, shares national and local news and initiatives regarding waste and recycling issues, and informs the public on issues and events such as e-waste collections, Earth Day, clean-ups, and educational opportunities. A Listserv is also used to send periodic email messages regarding events, notifications for grants, and other pertinent information.

Outreach to Rural Communities

NDEP has been actively promoting the importance of recycling to rural communities. However, there are major obstacles to increasing recycling in these communities:

- Lack of infrastructure for collection
- Basic processing and storage of recycled materials
- Long travel distances to existing recycling centers
- Relatively small volume of recyclable materials generated
- Current low market value of the materials

To offset some of these challenges, NDEP staff have been evaluating 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 will help to decrease transportation costs and create a more reliable volume of materials to buyers. NDEP and UNR's Center for Economic Development collaborated to create a stakeholder group to investigate the issue. The hope is to establish funding and infrastructure to begin implementation of a Hub and Spoke pilot program in rural Nevada.



Despite these challenges, many rural communities have established basic recycling programs, such as 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 participate in community events like Earth Day, America Recycles Day, Aces Education Days, Silver Springs Fall Festival. They also serve on several recycling-oriented organizations across the State, including Sustainability Partners in Northern Nevada (SPINN), the Illegal Dumping Task Force, and holiday tree recycling committees in northern and southern Nevada. Active involvement in collaborations such as GREENevada and the Green Ambassador Program have led to strong partnerships with teachers, school districts, community members, and other organizations. While most in-person events have been canceled or postponed due to the COVID-19 pandemic, NDEP continues to participate in virtual events, such as teacher trainings, workshops, and webinars.

In celebration of America Recycles Day, NDEP has been co-sponsoring an annual Recycled Art Contest with The Venetian in Las Vegas. Submissions are accepted through October of each year, with winners announced in November. In 2020, the decision was made to end the Recycled Art Contest given the pandemic's impact on casinos in the state. Instead, NDEP sponsored a Creative Reuse Showcase. This year, 26 entries were received and can be found on the Nevada Recycles website.

CURRENT TRENDS AND LOOKING FORWARD

Market Support

To strengthen markets for products made with recycled materials, Nevada must commit to increasing the preferred purchasing of products with recycled content. AB 320, passed in 1991, requires State agencies to have a preferential procurement policy for goods made with recycled materials. We will evaluate to what extent this is happening and suggest areas of possible improvement.

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 transfer stations to empty trucks with partial loads due to uneven filling of compartments in divided trucks.

Reno, Sparks, unincorporated Washoe County, Clark County, Las Vegas, North Las Vegas, Henderson, Carson City, and Elko have all implemented single-stream recycling programs. Although single-stream collection increases participation and volume of materials, it can also result in much higher levels of contamination reaching 25-30% 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 also help, effectively reducing confusion and contamination by using simple, consistent messages statewide – or even nationwide.

Insight

Standardized labels on recycling bins can reduce contamination by using consistent messages.

Some communities around the country and the world have implemented dual-stream collection of recyclables, with paper products in one bin and all other recyclables in another bin. This method of separation at the source has been shown to reduce contamination of the paper stream, maintaining a much high level of quality.

Electronic Waste

The Recycling Hotline frequently receives calls asking about e-waste recycling options, especially TV monitors. Although there is not a statewide ban on landfilling e-waste, some landfills and transfer stations do not allow e-waste disposal at their facilities. Collection events for e-waste have been held periodically in various Nevada communities. These events have contributed significantly to the overall diversion of e-waste from our landfills. There are several businesses and non-profits that collect e-waste from businesses and the public – mainly in Clark and Washoe counties, and in Carson City. However, customers are generally charged for recycling televisions and cathode-ray tubes, and rural communities often lack the capacity to manage this waste stream.

Insight

Some states that have introduced Right to Repair legislation include Washington, Oregon, California, Colorado, Massachusetts, and New York.

Right to Repair legislation is being considered in some places to reduce e-waste, one of the fastest growing waste sectors. Many manufacturers do not allow products to be easily repaired at independent repair shops or by customers themselves. By not selling replacement parts, using proprietary hardware, and/or not having repair manuals, manufacturers make it virtually impossible to repair products independently. This requires customers to use brand-certified repair shops or purchase new replacement devices.

Right to Repair legislation would require manufacturers to sell genuine replacement parts and tools, as well as make repair documentation available to anyone. According to The Repair Association, 20 states have introduced legislation that would help aid in the repair process for consumer electronics, creating jobs, reducing waste, and maintaining the value of products in the used marketplace.

Extended Producer Responsibility Legislation

Extended producer responsibility (EPR) laws are initiatives to make manufacturers 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 incentivized to make environmentally beneficial design changes that make products more sustainable throughout the product's lifecycle. Product stewardship can reduce 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. Model legislation by product category is available for use and modification through the Product Stewardship Institute. They are currently working to finalize model legislation for state level container deposit legislation.

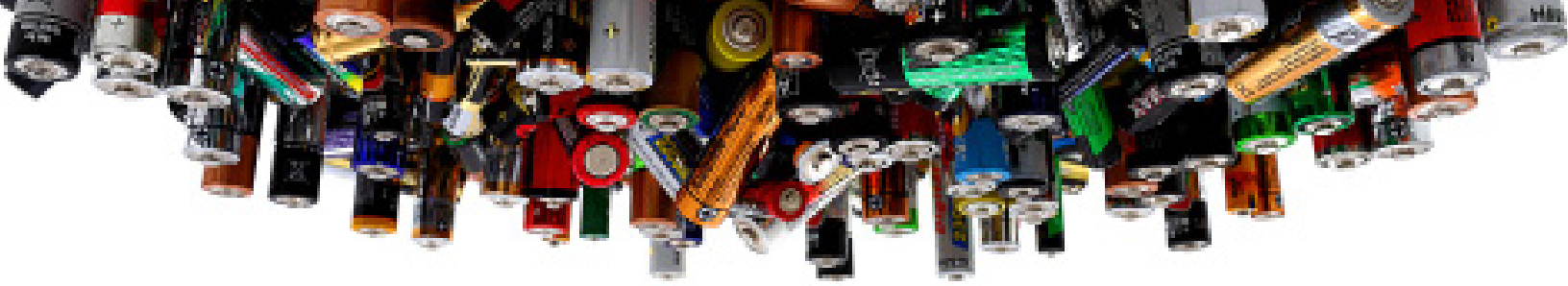
Standardized Labeling

Problems with contamination of recyclables are often caused by poor, confusing or inconsistent labeling of recycling containers. Standardized labels are a simple and effective solution. Using standardized labels can eliminate confusion as to what goes into recycling bins helping to reduce contamination and increase efficient processing to achieve high-quality recycled materials. Recycle Across America is a non-profit organization that works to promote standardization of labeling across the country and supports national efforts to recycle correctly.

Sustainable Materials Management

NDEP's Bureau of Sustainable Materials Management updated their name in 2019 from the Bureau of Waste Management. This reflects a broader focus from concentrating on waste disposal, to include systemic changes that encourage materials to be used to a greater extent over their lifetime. Sustainable materials management (SMM) is an approach to using and reusing materials more productively and changing how society thinks about the use of natural resources and environmental protection.

Some components of SMM are using materials in the most productive way, with an emphasis on using less, reducing the use of toxic chemicals and their environmental impacts throughout material lifecycle, and assuring that we use resources efficiently to meet future needs. By looking at a product's entire lifecycle – from materials extraction, to product design, use, repairability, reuse and recyclability, and finally end-of-life management – we can find new opportunities to minimize environmental impacts, conserve resources, and reduce costs.



4. Conclusions

Nevada's annual recycling rate has been consistent at 21-22% since 2007, and even reached a high of 28% in 2012. Prices for recyclable materials across all sectors have been down due to China's restricted markets, possibly contributing to lower recycling rates. The value for recyclable materials should increase in the coming years, as domestic markets for recyclable materials are developed. Nevada's small population and large geographic area continue to present challenges, especially in the rural areas of the state where transportation costs are high. Establishing a "Hub and Spoke" system in the rural parts of the state could make recycling and access to markets more economically feasible for rural communities.

With stakeholder input, waste reduction and market development for recycled materials need to be considered top priorities for Nevada to meet or increase the State recycling rate goal of 25%. Stakeholder input will be crucial in determining what investment in recycling infrastructure is needed, along with:

- Strengthening the collection of waste diversion and recycling data
- A statewide public education campaign to reduce contamination and increase participation
- Consistent and on-going public education and information
- Standardization of labeling
- Increased processing capabilities
- Market development for recycled materials
- Effective state regulations with enforcement

Extended producer responsibility legislation for targeted materials could also be considered. With the new reporting requirements for State agencies and the use of Re-TRAC Connect to gather statewide recycling and waste diversion data, NDEP will be better able to track and monitor trends in the state. This will allow the stakeholder group to make informed decisions about how to best implement best sustainability practices within our diverse State.

As NDEP's diverse partnerships continue to expand and improve, Nevadans will be more aware of recycling and waste reduction issues and opportunities across the State.

To meet our recycling rate goals, the State must look at all factors that affect the rate. Nevada must not only increase our recycled material volumes, but also focus on reducing the volume of waste generated overall. NDEP will continue to support and implement recycling programs in tandem with SMM concepts, utilizing a holistic approach that encompasses and evaluates product design, material use, manufacturing, transportation, and other elements of a product's lifecycle.

These concepts will play a key role in Nevada's success now and well into the future. SMM allows us to reduce environmental impacts, conserve resources, and reduce costs. In order to move toward a future with less waste, Nevada needs to find innovative ways to manage resources sustainably while working with and educating industry stakeholders, municipalities, academic institutions, non-profits, the public, and others.