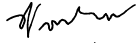


Los Alamos Baling Twine Working Group Report and Recommendations

June 22, 2024



Working Group Members

Nancy Ambrosiano	Former Equine & Livestock Advisory Subcommittee member	 7/4/2024
Shannon Blair	Environmental Sustainability Board Member	 7/3/2024
Wendy Burke Ryan	Los Alamos Stable Owners Association Chair	 7/4/2024
Jerry Cowan	LAC Parks and Recreation Board Vice-Chair	
Lisa Reader	Former Equine & Livestock Advisory Subcommittee member	 7/4/2024

1. Executive Summary

Baling Twine is a polypropylene plastic material used to bind hay and straw. Like other plastics, polypropylene plastics are derived from petroleum products ([source](#)) and are typically labeled as #5 plastic. However, baling twine cannot be recycled in traditional curbside recycling and must be recycled in a specific manner.

If recycled properly, baling twine can be reused for items such as automotive parts or shipping material. In addition to being produced from a non-renewable resource, baling twine poses a significant environmental threat to wildlife. Wildlife and livestock can either ingest baling twine or become tangled in it, threatening their lives.

In Los Alamos County (LAC), there are roughly 122 stable lots with up to six horses per lot, using hundreds of bales of hay each year, each with two or three strings of baling twine to be stored and periodically thrown into the landfill. In July of 2023, a concerned citizen brought the issue of baling twine to the Environmental Sustainability Board (ESB) and Parks and Recreation Board (PRB). A pilot was conducted to collect data on the amount of baling twine used in LAC. After the pilot, ESB convened a working group to address the issue of baling twine recycling in LAC.

The recommendation of the baling twine working group is as follows: Conduct the project as a public/private partnership, with potential involvement of Los Alamos High School Eco Club. Also request that the county support communication and advertising of a future baling twine recycling program.

2. Pilot Summary and Introduction

In July of 2023, a presentation was given to both the Environmental Sustainability Board and the Parks and Recreation Board outlining the need for a county-wide baling twine recycling program. After the presentation, Los Alamos County staff and Lisa Reader and Nancy Ambrosiano agreed to coordinate a pilot baling twine collection program for 3 months to help determine feasibility and extent of Los Alamos County involvement. The 3-month pilot program began in September and ran through November. During the pilot, 380 pounds of baling twine was collected from Los Alamos and White Rock stable owners. The pilot program did include residents and stable owners of White Rock, however the White Rock participation, due to fewer horses, was less than North Mesa. After the conclusion of the pilot program, it was determined by LAC staff that a county-wide baling twine program was not economically feasible. At the request of residents, the Environmental Sustainability Board appointed a working group to determine a path forward and the extent of Los Alamos County involvement.

The specific motion that established the working group was:

“...the Environmental Sustainability Board establish the Baling Twine Working Group for three months beginning March 22, 2024 and ending June 22, 2024; and appoint ESB member Blair as lead; and request the working group to report findings to the ESB on or before the July 18, 2024 meeting.”

The body of the motion was:

“Upon the request of Lisa Reader, the ESB is proposing to establish a Baling Twine Working Group for a three month period beginning March 22, 2024, and ending June 22, 2024. Working Group members may include Shannon Blair (ESB member), one member of Parks and Recreation Board, and community members to include Lisa Reader and may include up to two other community members. The purpose of the Baling Twine Working Group is to assess the viability of baling twine collection and recycling including cost, resources and assess the role of Los Alamos County, if any.”

3. Environmental Impact of Baling Twine

As previously mentioned, baling twine is a type of polypropylene plastic that is produced from petroleum. Polypropylene plastics can take 20-30 years to decompose in landfills, which is much faster than other plastics like polystyrene and polyethylene, which can take over 500 years to break down. However, PP is not biodegradable or compostable because it is a synthetic material that microorganisms cannot recognize and process. PP is also resistant to weather and chemical rotting, which further reduces its biodegradability.

If not disposed of properly, baling twine poses significant risk to all types of wildlife and livestock. Baling twine is long, strong and stringy, and birds often pick it up and use it in their nests. Adult and young birds can then become entangled in it and can die from infections or starve to death. Baling twine can also become wrapped around the hooves, legs or necks of wild animals and cause significant cuts and infections leading to death or lasting injuries. In livestock, baling twine can be ingested if embedded in their hay and if not removed quickly through expensive abdominal surgery, the animal often dies.

4. Meeting County Sustainability Goals

Implementing or supporting a countywide baling twine recycling program will help the county reach multiple environmental and sustainability goals including the following:

Eliminate municipal solid waste through reduction, reuse, recycling and composting following “Zero Waste” principles - Los Alamos Resiliency, Energy & Sustainability (LARES) Task Force, WCNR-1

Collecting and recycling and properly disposing of baling twine directly supports this goal. Recycled baling twine is reused and turned into different plastic parts for automotive equipment such as dashboards. Recycling and repurposing baling twine keeps it out of the landfill and away from the birds and animals to which it represents a threat to life and health.

Protect native vegetation, wildlife and cultural resources through appropriate planning, monitoring, and on-the-ground projects” - LAC Goal, listed under Managing Natural Resources

As previously discussed, loose baling twine poses significant risks to wildlife. Collecting and properly disposing of baling twine ensures that it will not pose a threat to wildlife.

5. Baling Twine Recycling Programs Across the Country and the World

Many other municipalities and counties across the United States have established baling twine recycling programs. In some cases, the county is involved in the collection process and in others, it is strictly privately organized by volunteers.

- In Durango Colorado, a local organization, Four Corners Back Country Horsemen, collects twine at the local feed cooperative and takes it to a recycling manufacturer ([source](#)). The funds are used to support local forest service trails.
- Other municipalities such as the City of Fort Collins have baling twine collection stations implemented by the city’s environmental services division ([source](#)). The Fort Collins Recycling program stated that they receive roughly a pallet sized box of baling twine every 6 months. For context, that is approximately the same amount that was collected during the 3 month pilot.
- In Montana, the Yellowstone Valley Audubon Society manages local collection sites in a variety of areas.
- Active twine-recycling efforts are underway in Canada, Germany, France and Spain, where it is recognized as a plastic product that should not simply enter the waste stream ([source](#)).

6. Recycling Options and Companies

In general, there are limited options for baling twine recycling because it cannot be put into curbside recycling. However, there are companies across the country who purchase or collect donated baling twine. Options that other established recycling programs use include the Waste-

Not Recycling in Windsor, Colorado, Green Group Processing in Minnesota, and RMC Industrial in Glendale, Arizona.

7. Potential Options for Storage and Processing

The working group explored three different options for collection, storage, and transportation of baling twine: all private, a private/public partnership, all public. After discussions amongst the members and communication with county staff, it was determined that a private/public partnership would be ideal.

All Private

An all private baling twine recycling program would require volunteers to coordinate all steps in the process. Possible organizations include the Los Alamos Pony Club, 4-H, Los Alamos High School Eco Club and others.

- **Collection Process**
 - **Collection at Stables**
 - Collection at stables would require involvement by volunteers, nonprofits or other civic organizations to assist with collection and transport to a storage site.
- **Storage**
 - **White Rock**
 - If a resident of Pajarito Acres or La Senda is willing to provide space for a storage container at their stables this could be possible, although none have yet volunteered.
 - **Storage at other private facilities**
 - Parker, Courtright, PreventTech rental facilities were explored but they involve monthly fees ranging from \$100 to \$280 per month.
- **Transportation**
 - Transportation to the recycling facility would be coordinated by volunteers or a nonprofit or other civic organization.

Public/Private Hybrid

This option would include collection and transportation by volunteers but storage on public land. Options include Bayo Canyon, the EcoStation, White Rock Transfer Station, and LAPS land.

- **Collection**
 - Collection by volunteers/nonprofits as discussed above
- **Storage**
 - **Storage on privately licensed stable lots**
 - Los Alamos Stables

- Storage at the Los Alamos Stables would require special written permission from LAC CSD to store on North Mesa Stable lots due to rules relating to no “trash” and no business operations. Since a recycling center might pay for the twine, a potential payment might be deemed a business operation by LA CSD.
 - Storage on public (County, school) land in a central location
 - Contact with Los Alamos High School’s EcoClub has indicated that they would like to play a role in helping find a storage location. As it is summer, they have not been able to meet, but they are willing to pursue asking the school board for use of school district land for storage, and they expressed willingness to assist with collection and coordination.
 - The working group explored storage of baling twine as the following sites and determined it was not feasible given lack of county support:
 - EcoStation
 - There is currently limited storage space at the Eco Station especially with upcoming plans associated with the food-composting program. Additionally, the EcoStation is located on US Department of Energy (DOE)-managed land. Changing the current lease would require approval from DOE.
 - Bayo Canyon
 - Currently the County does not encourage public traffic to the Bayo site to avoid excessive traffic on the roads that cross LANL land.
 - White Rock Collection Station
 - No specific reason was given by county staff.
 - Communications with CSD/Parks Division indicated that they will not permit storage of baling twine on any Parks land.
- **Transportation**
 - Transportation to the recycling facility would be coordinated by volunteers or a nonprofit or other civic organization.

All-County

The third option the Baling Twine Group explored was an all-county option where LAC would be responsible for pickup, storage, and transportation of the baling twine to the processing facility in Arizona. After speaking with county staff about the logistics of this option, it was determined this would not work due to lack of interest on the part of the county.

- **Collection**
 - Collection at a centrally located drop off such as at the Los Alamos EcoStation or the White Rock Transfer Station.
 - Concerns with this option included limited availability for storage containers and costs associated with purchasing new storage containers.

- There were also additional concerns regarding the cost of recycling bins to the participating horse owners.
- **Storage**
 - The working group explored storage of baling twine at the following sites and determined it was not feasible given lack of county support:
 - EcoStation
 - See above
 - Bayo Canyon
 - See above
 - White Rock Collection Station
 - See above
- **Transportation**
 - County coordination of getting the baling twine to Arizona would likely require procurement of a contract to transport the material due to the amount/weight of twine involved. This could potentially be costly and difficult.

8. Summary of Potential Options for Storage and Processing

Table 1. Summary of Potential Options for Storage and Processing

	Description	Responsible Party/Parties	Feasibility and Limitations
Collection Options	Stables - both LA and WR	County and equestrian community	Very feasible, would need sign off from county
	EcoStation	County	Not feasible
	White Rock Transfer Station	County	Not feasible
	Private Location	Private	Feasible but need to find a location
	Collected by volunteers	Volunteers	Feasible but need consistent volunteers
Storage Options	Stables - both LA and WR	County and equestrian community	Very feasible, would need sign off from county
	EcoStation	County	Not feasible
	White Rock Transfer Station	County	Not feasible
	Bayo Canyon	County	Not feasible
	Private Location	Private	Feasible but need to find a location
	LAPS Land	LAPS and EcoClub	Feasible but further research and information needed
Transportation Options	Coordinated by County	County	Not feasible
	Coordinated by Volunteers	Volunteers	Feasible but need consistent volunteers

9. Possible Grant Options

- a. The working group researched possible grant options to support the potential need for a storage container. Most options would have to be directly supported by LAC to be considered for funding. Grant options include the following:
 - **Recycling and Illegal Dumping Fund (RAID) through the New Mexico Environmental Department (NMED)**
 - The RAID Fund is available to Municipalities, Counties, Solid waste authorities, Pueblos, tribes, and nations, Land grant communities, and Cooperative associations (as defined in the Recycling and Illegal Dumping Act). The funds are used for various reasons including establishing recycling facilities and developing recycling infrastructure. Establishing a baling twine recycling program would potentially qualify for this grant.
 - **Solid Waste Facility Grant Fund through the New Mexico Environmental Department (NMED)**
 - The Solid Waste Facility Grant Fund supports solid waste facilities and are implementing projects to positively impact the health of NM residents and the environment. The funding is available to counties, municipalities, and solid waste authorities.
- More information on both programs can be found on NMED's website [here](#).

10. Working Group Recommendations

The final recommendations of the Working Group are as follows:

- a. Conduct the project as a public/private partnership
 - i. Permit storage on privately licensed lots at the North Mesa stables
 1. As per the Rules and Regulations governing the Stable Licenses, written permission from CSD would be required to allow activities that are not explicitly permitted under the current rules.
- b. Pursue involvement of Los Alamos High School EcoClub (unknown status until school restarts).
- c. Request that the county support communication and advertising of a future baling twine recycling program. This could include information on the LAC website under the Waste and Recycling Tab, information on the RecycleCoach app, and flyers at LAC buildings. Also county support for grant-writing opportunities if storage needs are identified.