

Introduction

Across the country, local and state governments are faced with the challenge of meeting recycling goals, reducing solid waste tonnage and minimizing costs.

Adding to this challenge is implementing recycling in rural areas. Solving rural recycling issues is not an easy solution and is only a small part of a larger problem that local and state governments are faced with regarding recycling as a whole.

**Montana
Is
A typical "rural"
state, by definition**

Rural Areas are designated as having population densities less than 999 persons per square mile and greater than 1 person per square mile.

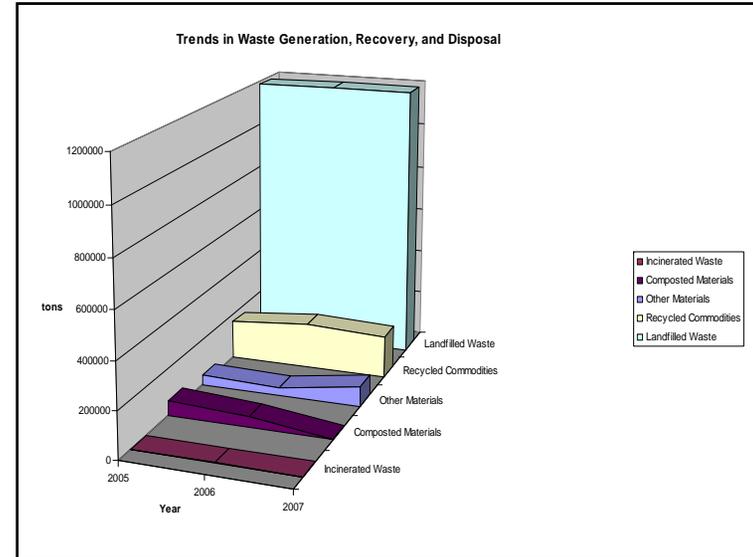
Montana is the fourth largest state averaging 147,000 square miles with a population of 967,440 people. We have 56 counties and 22 of those have less than 5,000 people. We have an average of 6.2 people per square mile.

Hence the old saying we have more cattle than people!

Rural areas have solid waste management problems just as urban areas do.



Rural communities are striving alongside their urban counterparts to meet recycling and reduction goals. Montana has a current waste reduction goal of 19% by 2011



These recycling and reduction goals are important because many communities are trying to offset the cost of climbing solid waste fees and preserving valuable landfill space.

Landfill expansion is expensive! The average cell expansion for a landfill cost around 2 million dollars, and many of our rural communities will have huge burdens trying to meet these costs.



Recycling can be a solution

View recycling costs as part of the entire municipal solid waste (MSW) management strategy.

For example, a recycling program should be considered a viable method for **reducing overall disposal costs**



Disposal Costs

Example:

Landfill cost to dispose one ton garbage

Average tipping fee \$27.00

Landfill airspace per ton \$7/\$10 dollars

Average **\$37.00** to dispose



In 2007, Montanans generated
1,455,595 tons
of trash



Landfills Today

At \$7/ton it cost:
\$10,189,165
to bury all that trash!



Landfills Today

Landfill space is valued at \$4 - 10/ton

182,064 tons were recycled in 2007

\$1,274,448 of landfill space was saved by recycling in 2007 (At \$7/ton)



Landfills Today

Recycling Means:

- Income Generated from Sales
- Landfill Cost Savings



Rural Landfill Example:

- Licensed as Intermediate (5,000 – 25,000 tons/year)
- Only recycles aluminum cans at Landfill
- Far from Markets
- Landfill space valued at \$7/ton




Aluminum Recycling

\$600/ton -Today's market prices (\$0.30/Lb)

30 tons x \$600 = \$18,000 from sales of Al cans

+ 210 Landfill space savings
\$18,210 total value of Al Cans to landfill

- 1,050 Back-haul cost to market (1.4 trucks w/22 ton max.)
\$17,160 Net value to Landfill (annually)



Rural Landfill Example:

Cardboard Recycling

\$ 60/ton -Today's market prices (\$0.03/Lb)

120 tons x \$60 = \$7,200 from sales

+ \$840 Landfill space savings

\$8,040 total value of Cardboard

- \$4,500 Back-haul cost to market
(6 trucks w/22 ton max.)

\$3,540 Net value to Landfill (annually)

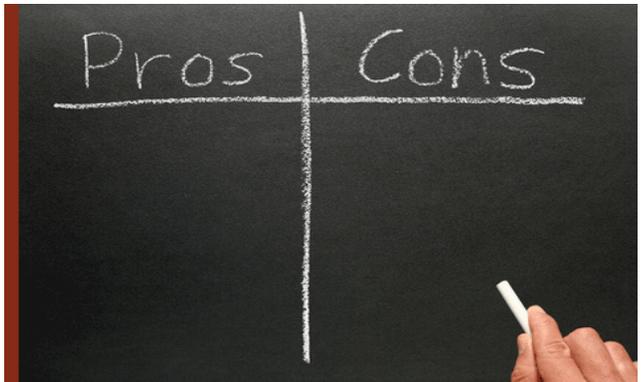
How Markets Affect Recycling Commodities

Reminder

Collecting & Stockpiling recyclables does Not mean the market will be developed

Markets & Recycling

- The scrap market in general, is closely tied to economic conditions because demand for some recyclables tracks closely with markets for new products.
 - Cardboard, for instance, turns into the boxes that package electronics. Rubber goes to shoe soles, Metal is made into auto parts.
- Recycling is a **cyclical industry** that has seen price swings before. The industry follows consumer spending trends.
- One reason prices slid so rapidly this time is that demand from China, the biggest export market for recyclables for the U.S., quickly dried up as the global economy slowed.



Of Rural Recycling

Rural Recycling Efforts can be Hampered by

- ♻️ Low population, tax base, limited local government budgets and personnel, low-density housing and limited commercial development.
- ♻️ Some of these areas are faced with solid waste volumes that fluctuate due to seasonal residents or tourists.
- ♻️ Accumulating enough processed materials

Strengths

That assist rural communities in developing and operating recycling programs

Rural residents have a strong sense of community



A HISTORY

OF

VOLUNTEERING



Creative & Thrifty approaches to Solid Waste management



Each **County**, **City** and **Town** is unique:
There is no one right way to recycle



There is one commonality each of them
must have to make recycling
successful

Similar?



Preparing
recyclables
For transport



Transportation in Montana will always be
A major factor



Understanding transportation & requirements for loads is a key to pricing and markets.

Transportation on the average runs \$1.80 a mile. Maximizing your load is very important to get full value of the trip.

Example: To ship a full truck (22 tons) of baled paper to Spokane (310 miles) would cost on the average about \$550.00 in shipping. The paper would bring \$25.00 a ton or \$550.00 in revenue. Landfilling this product at \$27.00 a ton you pay \$594.00.

A regional recycling approach will help to overcome the challenges facing individual rural governments

- ♻️ Increased volumes of recyclables, will open marketing opportunities and increases revenues.
- ♻️ Shared costs for equipment, personnel, processing, transportation, marketing, facility capital and operating costs.
- ♻️ Regional economic stimulus from new collection and processing jobs

Montana's Successes





Montana Department of
ENVIRONMENTAL QUALITY

Small overview of Accomplishments

- 866 tons of electronics
- Over 100 tons of Ag plastic
- 610 lbs of mercury containing materials
- 5,960 lbs from the chemical school clean out program
- Numerous National awards for accomplishments







