



A JOINT RESOLUTION OF THE SENATE AND THE HOUSE OF REPRESENTATIVES OF THE STATE OF MONTANA REQUESTING AN INTERIM STUDY TO EVALUATE METHODS FOR INCREASING RECYCLING AND SOLID WASTE RECOVERY WITHIN THE STATE OF MONTANA.

WHEREAS, increased recycling rates will provide substantial economic and environmental benefits to Montanans; and

WHEREAS, recycling is a value-added manufacturing process that provides jobs for Montanans; and

WHEREAS, recycling reduces energy consumption associated with the manufacturing of products from raw materials and reduces landfill usage by diverting solid waste; and

WHEREAS, rural areas have a need for infrastructure support to increase recycling; and

WHEREAS, electronic waste and household hazardous waste present unique recycling challenges that may require additional programs; and

WHEREAS, the Montana Integrated Waste Management Act proposes increasing Montana solid waste recycling rates to 19% by 2011 and 22% by 2015 using a variety of methods, including source reduction, reuse, recycling, and composting.

NOW, THEREFORE, BE IT RESOLVED BY THE SENATE AND THE HOUSE OF REPRESENTATIVES OF THE STATE OF MONTANA:

That the Legislative Council be requested to designate an appropriate interim committee, pursuant to section 5-5-217, MCA, or direct sufficient staff resources to:

- (1) evaluate and propose potential methods for increasing the recycling rates in the state of Montana;
- (2) analyze methods to promote market development of recycled materials;
- (3) analyze options to address rural recycling challenges;
- (4) propose programs to address electronic and household hazardous waste; and
- (5) evaluate funding alternatives.

BE IT FURTHER RESOLVED, that if the study is assigned to staff, any findings or conclusions be

presented to and reviewed by an appropriate committee designated by the Legislative Council.

BE IT FURTHER RESOLVED, that all aspects of the study, including presentation and review requirements, be concluded prior to September 15, 2010.

BE IT FURTHER RESOLVED, that the final results of the study, including any findings, conclusions, comments, or recommendations of the appropriate committee, be reported to the 62nd Legislature.

- END -

Council action: The EQC allocated .20 FTE for this topic. For more information on this topic, contact Sonja Nowakowski: (406) 444-3078, snowakowski@mt.gov.

Recycling Work Plan Tasks

- 1. Review legislative history of Montana recycling incentives, rates, and law.

Who: EQC staff, DEQ staff
Time line: September 2009 meeting
- 2. Overview of recycling funding alternatives, incentives, and role of states in promoting recycling in other Western states.

Who: EQC staff
Time line: September 2009 meeting
- 3. Discussion of rural recycling challenges.

Who: EQC members, staff, stakeholders
Time line: September 2009 meeting
- 4. Panel discussion from stakeholders.

Who: Private recyclers, local governments, nonprofits.
Time line: September 2009 meeting
- 5. Summary of e-waste efforts in Western states and efforts in Montana.

Who: EQC staff, DEQ staff
Time line: January 2010 meeting
- 6. EQC discussion and study direction.

Who: EQC members
Time line: January 2010 meeting
- 7. Summary and discussion of recycling markets.

Who: EQC staff, DEQ economist
Time line: March 2010 meeting
- 8. Presentation of preliminary report and development of recommendations and proposed legislation.

Who: EQC members, staff
Time line: March 2010 meeting

Appendix B

- 9. Review draft report, findings, recommendations, and any proposed legislation.

Who: EQC members, staff

Time line: May 2010 meeting

- 10. Review public comment on draft report and any proposed legislation.

Who: EQC members, staff

Time line: July 2010 meeting

- 11. Approval of final report and any findings, recommendations, or legislation.

Who: EQC members

Time line: September 2010 meeting



Recycling Electronics in Montana

Presented by Sandra Boggs,
Recycling and Marketing Development Specialist
www.recycle.mt.gov

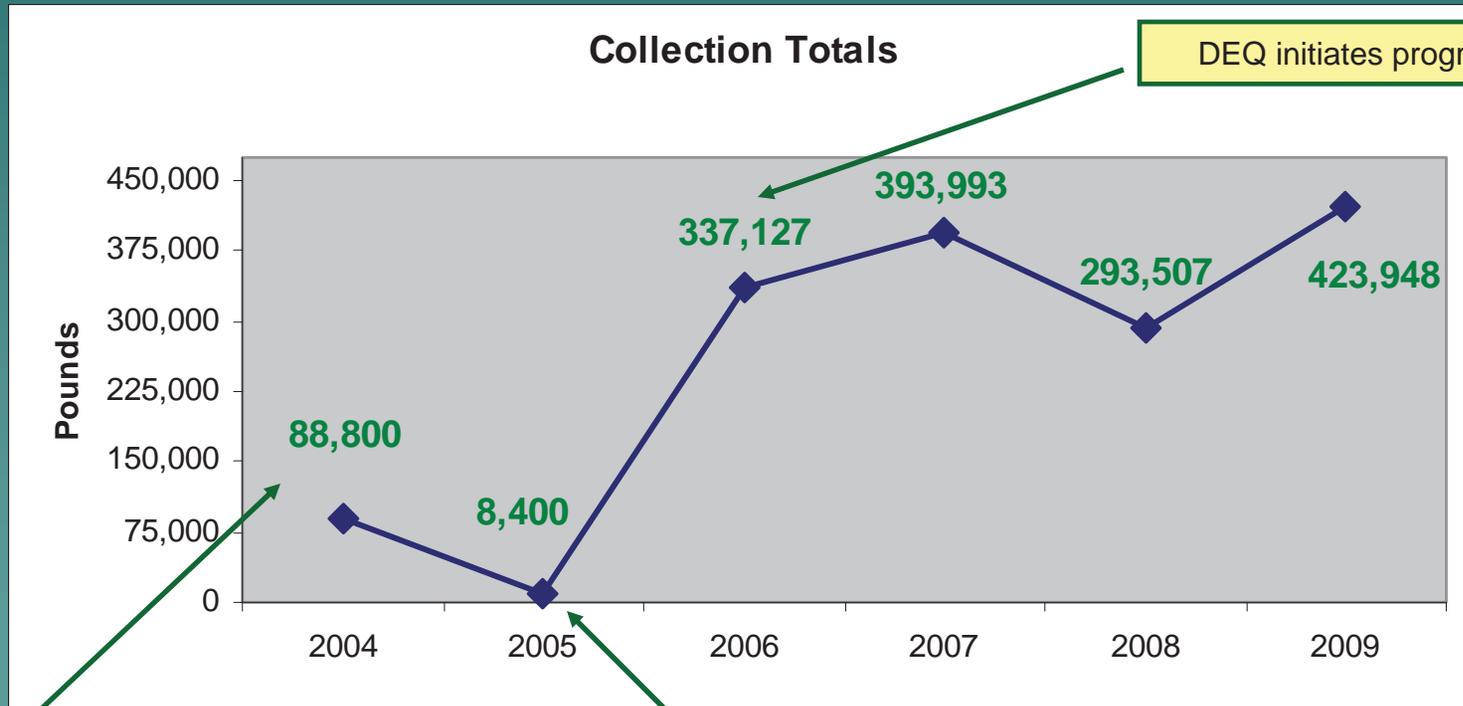


e-erase your e-waste!



Since 2004

Recycled over 1,545,775 pounds



Gallatin County
Water Quality Protection District

Sidney
USDA Ag Research staff & Community
Emergency Response Team

Why Electronics?



◆ Valuable Materials (small amounts)

- chromium
- cadmium
- mercury
- beryllium
- nickel
- lead
- zinc
- gold
- brominated flame retardants

- ◆ Protect land, water and air resources
- ◆ Save expensive landfill airspace
- ◆ Divert waste stream that is growing
- ◆ Take advantage of existing markets
- ◆ People want to recycle

Why DEQ?

- ◆ Protect land, water and air resources
- ◆ Save expensive landfill airspace
- ◆ Take advantage of existing markets
- ◆ Divert waste stream that is growing



- Americans own up to 24 electronic items per household. (CEA)
- EPA estimates 1.84M tons landfilled in 2007
- Almost half, or 976 million units, of all the products sold between 1980-2004 are still in use or reuse.
- EPA estimates only 10% - 15% are recycled each year

DEQ Assistance



- ◆ Relationships with Electronics Recyclers
- ◆ Financial support from manufacturers
- ◆ Assistance with education & outreach
 - Help directing public to data destruction resources
- ◆ Access to case studies and experienced community organizers
- ◆ Volunteer liability coverage
- ◆ On-the-ground assistance with event
- ◆ Initiate and support start-up of local e-scrap recycling

How did the 1st events happen?

Gallatin Co., 2004

- WQPD
- \$10k Apple Grant
- Free Event
- Goal: 30k pounds
- Collected: 88,800 pounds!

34% over estimates!

DEQ-initiated, 2006

\$1 - \$15/item

- ❖ Whitefish
- ❖ Kalispell
- ❖ Missoula

Staples-Sponsored

\$10/item

- ❖ Butte
- ❖ Helena

Sidney, 2005

- USDA ARS, EPC
- No Grant
- Charged \$0.40/Lb
- No specific goal
- Collected: 8,400 pounds!

Surveys (2006)

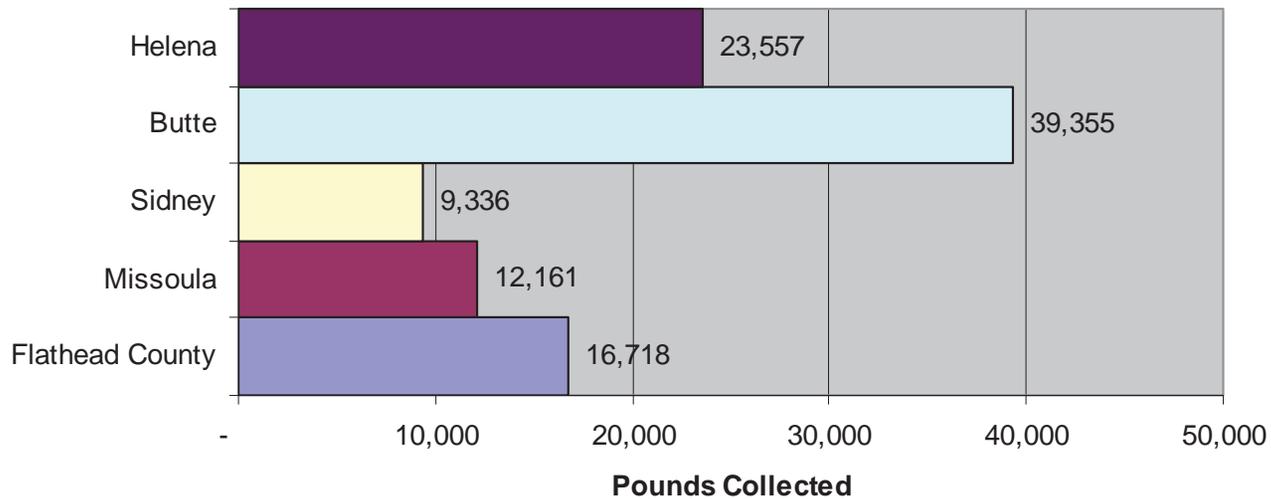
- Attitudes
- Preferences
- Willingness to Pay



2006 DEQ, EPA, Industry Partnerships

TOSHIBA

2006 Events - DEQ Partnerships



JVC
The Perfect Experience

SONY

SHARP
be sharp



STAPLES
that was easy

Panasonic

PHILIPS

Since 2006

e-erase your
e-waste!



- ◆ Annual events continue
 - ◆ Collection Event Planning Guide
 - ◆ Free operational SW license
 - ◆ Promotional templates online (E-erase Your E-Waste, Sidney)
- ◆ Over 13 communities have held events
- ◆ Manufacturer Recycling Programs
- ◆ Retail Take-Back Programs
- ◆ Public Education & Outreach
 - \$16,000 authorization and directive for education & promotion of electronics recycling
 - ◆ Television PSA & advertising piece
 - ◆ Support of local outreach & educational efforts

recycle.mt.gov

e-erase your e-waste!



Protect land, air, and water resources

- Ø Monitors and TVs contain between 3-8 lbs of LEAD each!
- Ø Rechargeable Ni-Cad batteries in laptops and cell phones are the largest source of CADMIUM in Landfills.
- Ø Electronics are a major source of MERCURY in Landfills.

Recycle!

- ♻️ Annual community collection events make it easy.
- ♻️ Retail take-back programs allow year-around recycling of some electronics.
- ♻️ Some items can be recycled for FREE!



Recycle Electronics!
Find out how at:
recycle.mt.gov



e-erase your e-waste!

Pay to Recycle your old Electronics

Saturday • July 29, 2006
9 a.m. – 4 p.m.

Allied Waste

3207 West Broadway • Missoula, Montana

Businesses must Pre-Register.

For more information call 800-433-8773

Charges Apply

Learn how to clean your hard drive,
visit www.deq.mt.gov

Sponsored by:

- Allied Waste • Rocky Mountain Recycling • Women's Voices for the Earth • Missoula Valley Recycling • Palmer Electric • Montana Department of Environmental Quality



TOSHIBA

LEXMARK

Panasonic

SHARP
be sharp

PHILIPS

SONY

JVC
The Perfect Experience

Education focuses on referring people to the DEQ website: recycle.mt.gov

- Learn about recycling
- Find calendar of annual collection events, other recycling events
- Find info on manufacturer and retail take-back programs.

2006 Surveys

What do citizens want?

Recycling should be FREE, or

- Consumers / OEMs should share recycling costs
- No exporting
 - Even free events = would pay a fee for it
 - If such responsible recycling was promised.
- Convenience
 - Landfill, Transfer Station
 - Recycling Centers
 - Retailers

Public Recycling Options

- ❖ Annual Collection Events
- ❖ Electronics Recyclers
- ❖ Retail Take-Back Programs
- ❖ Manufacturer Recycling Programs
 - Online & Mail-in Programs
 - Drop-off Programs



How accessible is electronics recycling?

Annual Events



Pay-for-Service

- Per pound
- Per item

Subsidized Rates

- Price discounts
- Targeted items

FREE

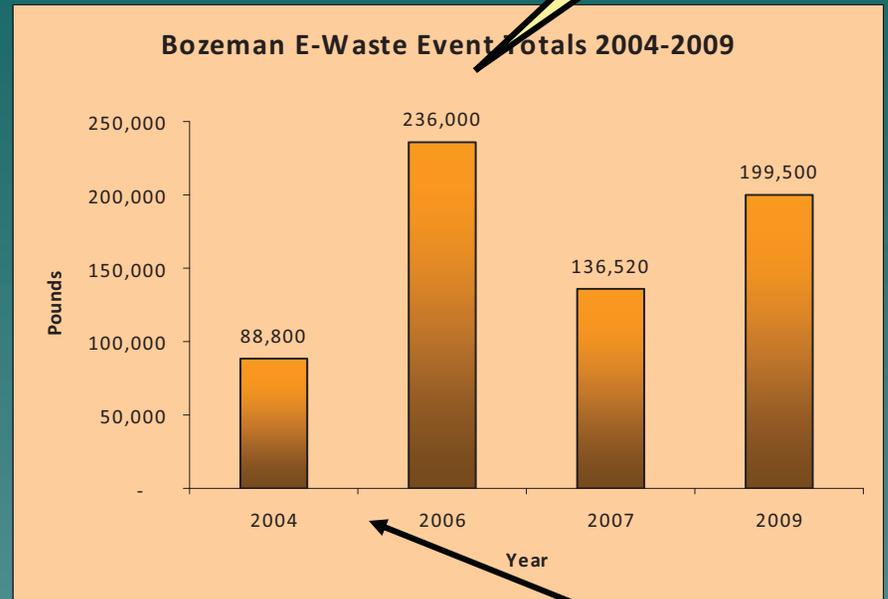
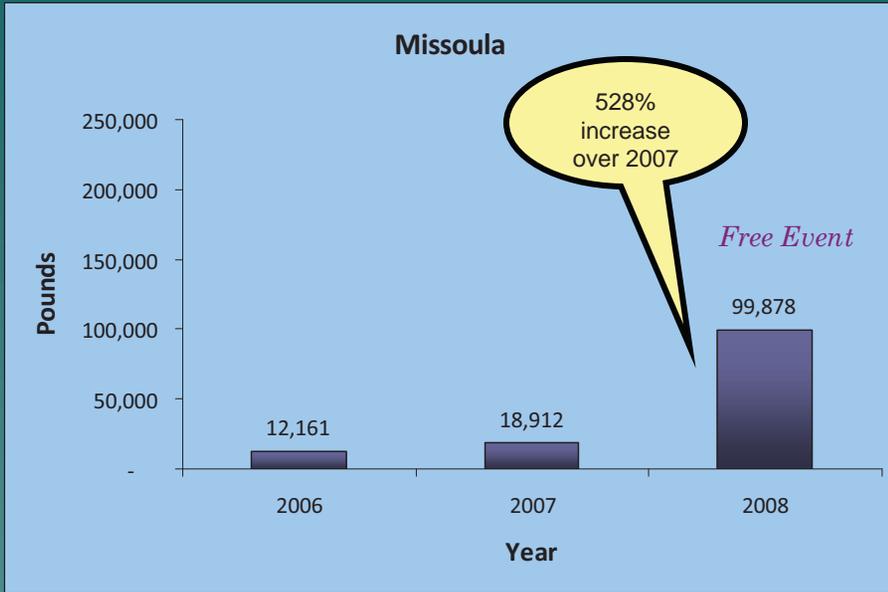
- Budget item
- Fundraising
- Sponsored

Potential fraud risks



Recycling: Annual Events

Participation

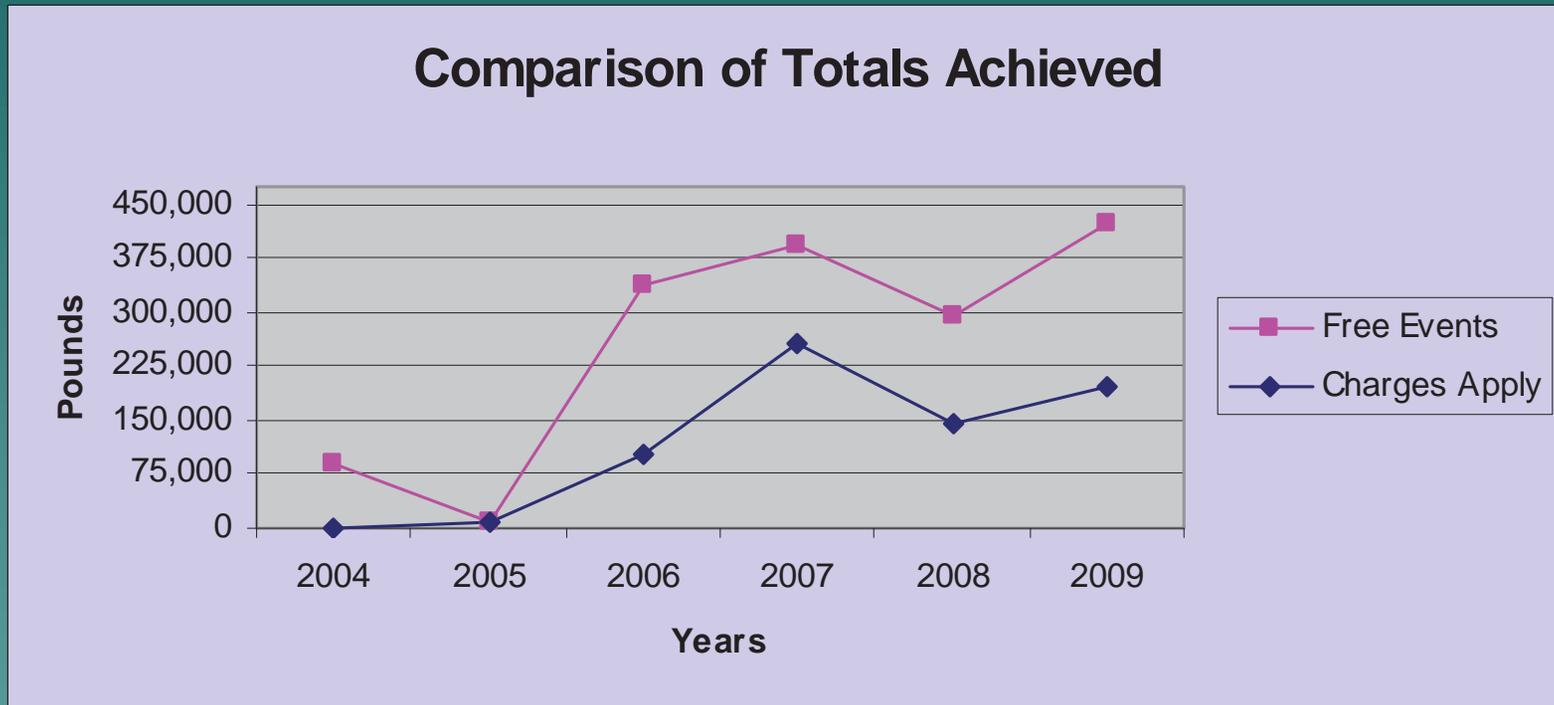


No event in 2005

Television Recycling



Collection Success

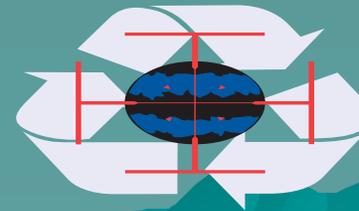


Next Look:
Electronic Recyclers in
Montana

Electronic Recyclers in Montana



P.E.T.E.S. Palmer Electric
(Total ReClaim, Seattle)



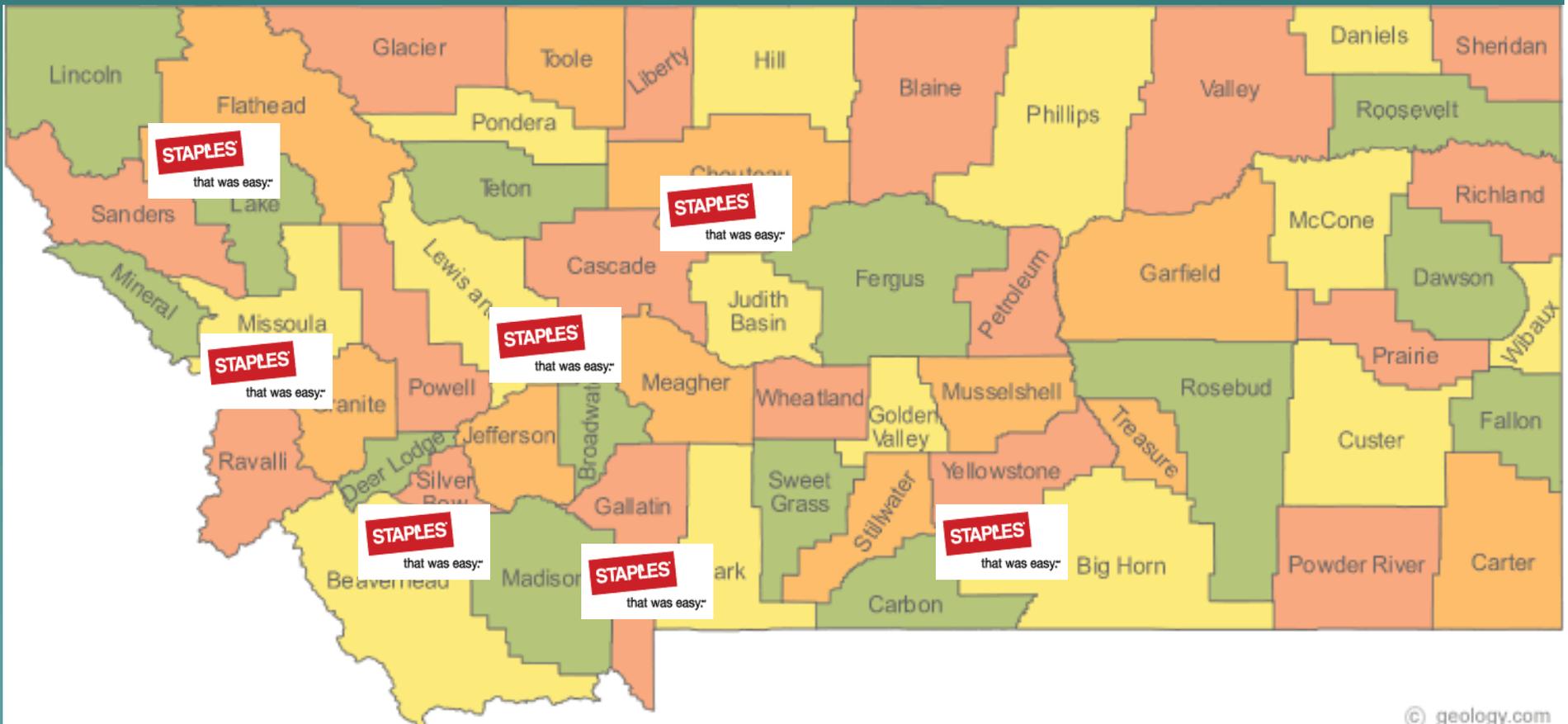
**TATOOINE
ELECTRONIC SYSTEMS**

(Warehouse)

Retail Take-Back Programs

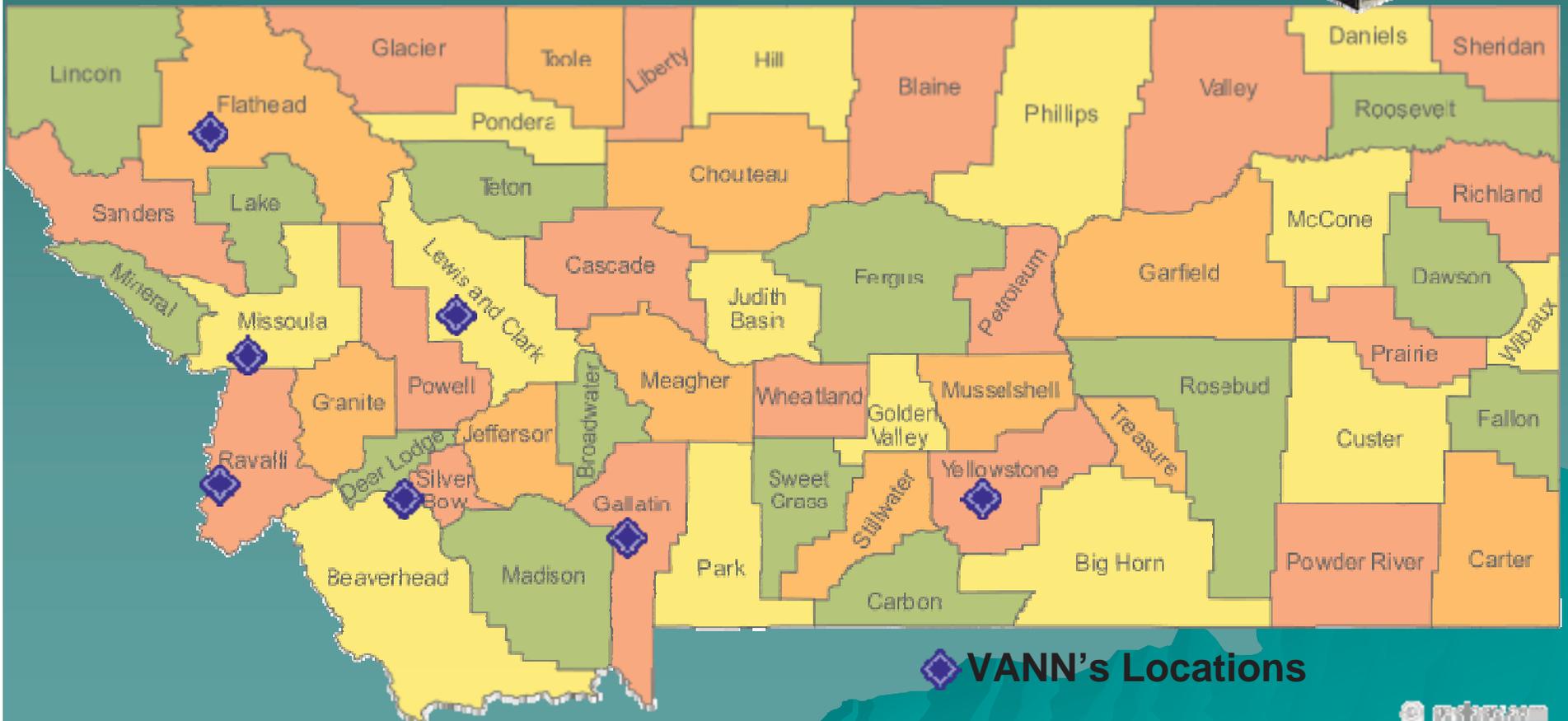
Staples

- Anything they sell
- Some items free (cellphones, chargers, PDAs)
- \$10 per unit fee (printers, Desktop, copier, and more)
- No TVs or stereo equipment
- Dell-brand items FREE



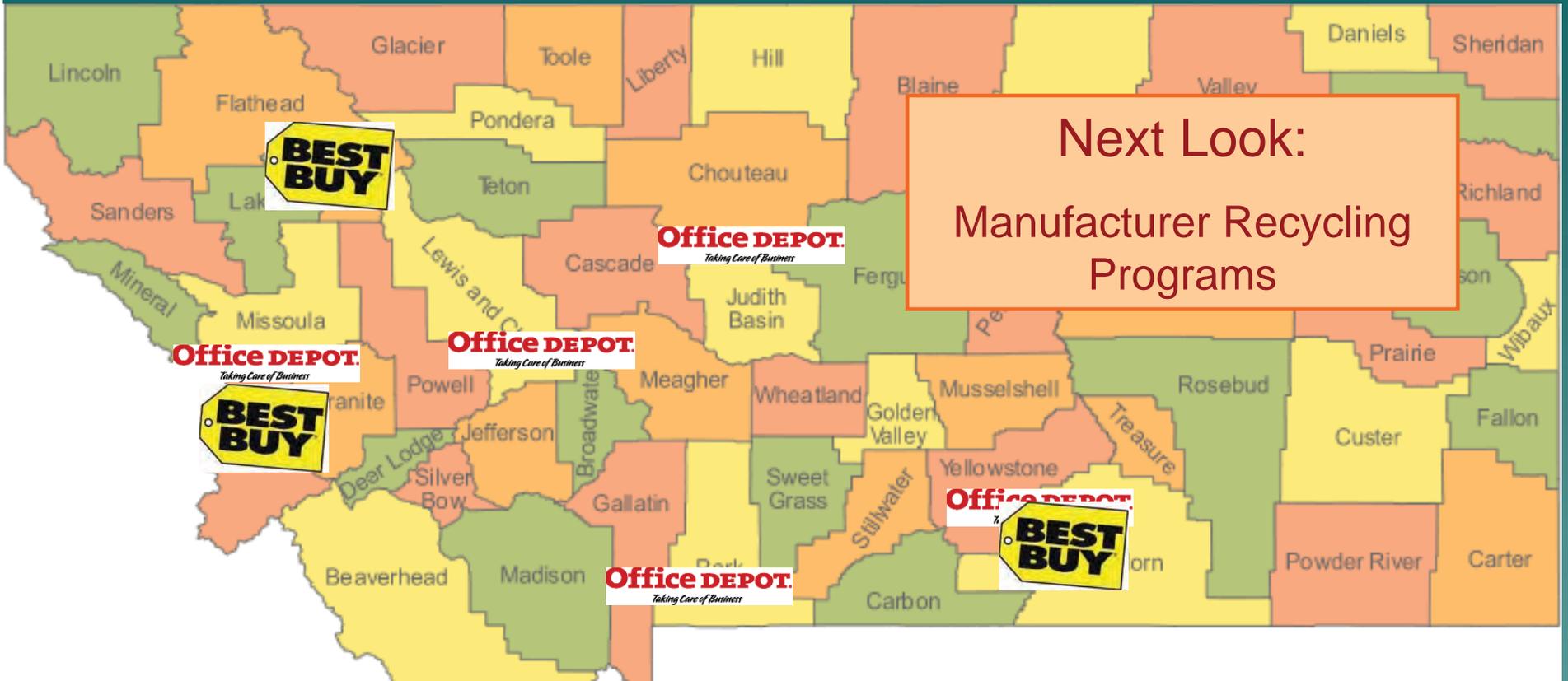
VANN's Recycling Program

- Partnership with Sony
- Small Electronics Only (any brand)
- No TVs; dropped off elsewhere for \$\$



Recycling: Retail Programs

Office Depot and Best Buy



Office Depot

- Ask to purchase a recycling box: Small (\$5), Medium (\$10), Large (\$15)
- Take home and fill
- Drop off at store

Best Buy

- Any brand; mostly free
- \$10 for TVs up to 32", monitors, laptops
- Get \$10 Gift Card

Mail-in & Online Programs

Apple

- Free IF you buy a new Apple
- Lots of restrictions
- iPods, iPhones are FREE

HP

- Buys items back if still valuable (any brand, free shipping)
- HP & Compaq products always free
- Other products at no value: you pay shipping, free recycling

Dell

- Free drop-off at Staples stores
- If mailing: Free shipping & recycling

Lenovo

- Very similar to HP program

Free Drop-off Programs

MRM Recycling Program

(Electronic Manufacturers Recycling Management Company)

- ◆ Panasonic
- ◆ Sharp
- ◆ Toshiba
- ◆ Mitsubishi
- ◆ Vizio

Samsung

(WalMart brands too!)

Partners with recycling companies

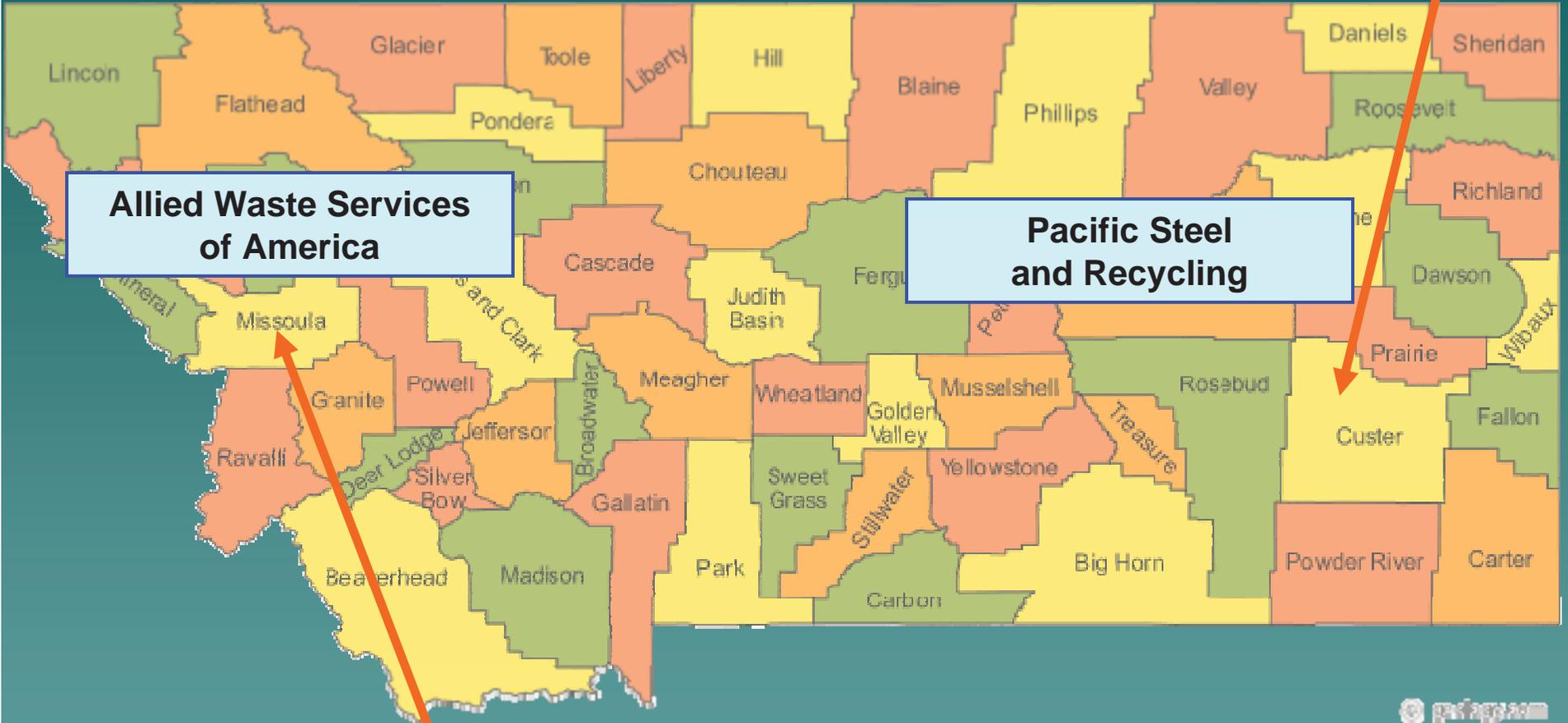
SONY

Dell

Partners with Retailers

Recycling: Manufacturer Programs

Montana Locations



Allied Waste Services of America

Pacific Steel and Recycling

MRM Recycling Program

paragga.com



Recycling: Manufacturer Programs

◆ Samsung

- One drop-off location: Miles City
- 2 U-Hauls (Helena & Missoula)

◆ MRM Recycling Program

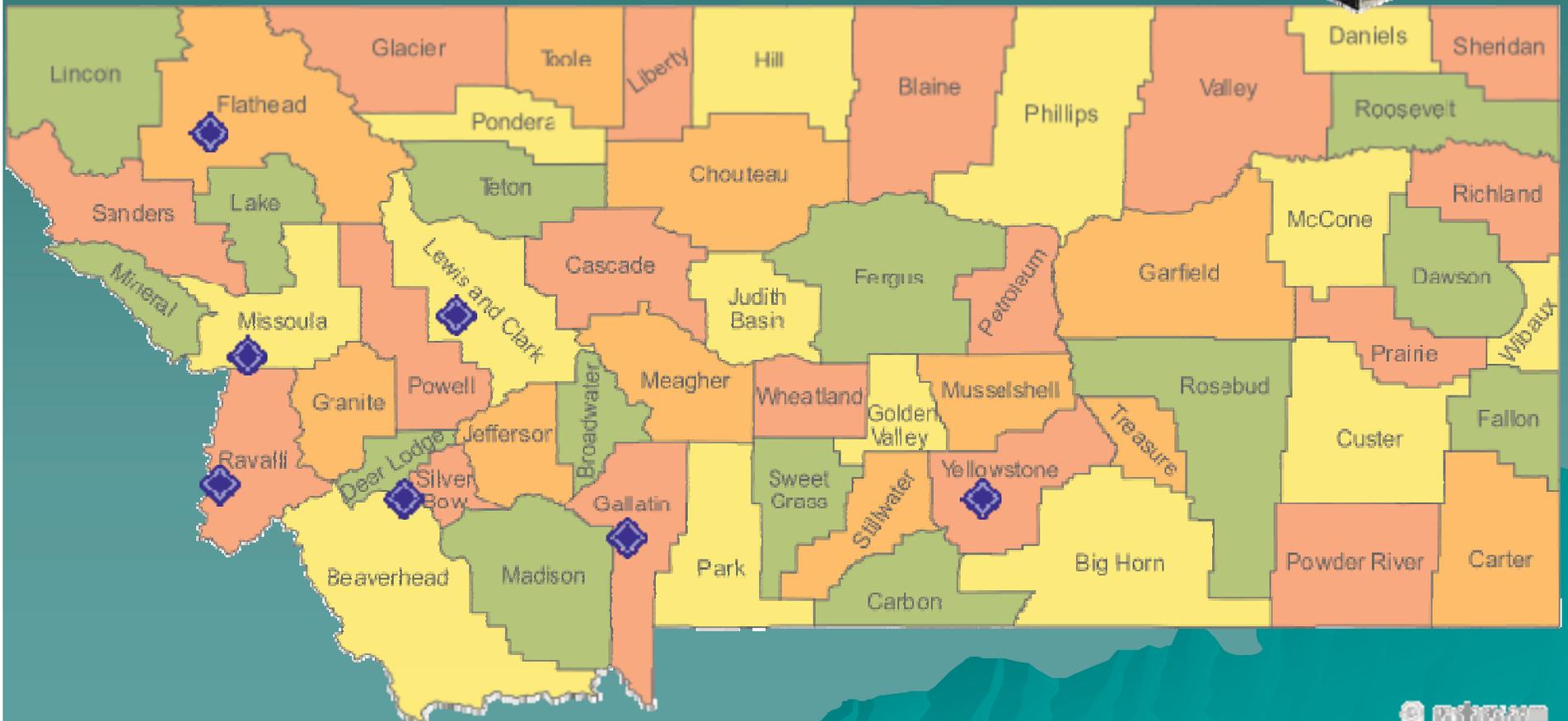
- Allied Waste in Missoula
- 1 U-Haul in Helena

Online programs



SONY Free Recycling

- Partnership with Vann's = 
- Small Electronics Only
- No TVs; dropped off elsewhere for \$\$



How accessible is electronics recycling?

Review:

❖ Electronics Recycler

- 2 locations

❖ Annual Events

- Community partners/support is essential
- DEQ will continue
- Recyclers don't like them

❖ Retail Programs

- Located in bigger communities
- Some free
- Some charge

❖ Manufacturer Programs

- Online & Mail-in
- Sometimes free
- Sometimes charges apply
- Some are in retail stores
- Some are at a recycling center
- Often limited or size restrictions
- No advertising or education
- Limited signage in stores
- Often employee education is lacking

The public suggested:

- ◆ Recycling should be FREE, or
- ◆ Consumers / Manufacturers should SHARE recycling costs
- ◆ Convenient
 - Landfill, Transfer Stations
 - Recycling Centers
 - Retailers
- ◆ No Exporting

From the 2006 Surveys

Convenient? Accessible?

Comments Received:

“This is confusing – just tell me where to take it.”

“Why can’t I just drop it off somewhere? I don’t have Internet.”

“Why can’t this be simple? I recycled my cell phone for free and it was easy.”

“Will my computer go overseas? I don’t want some kid recycling this, especially if I’m paying this much.”

“Well, they sure make it difficult, don’t they?”

The result of so many diverse programs is a hodge-podge of recycling options, sometimes free, often not.

There are a confusing number of websites and programs to understand and participate in.

A member of the public:



- ◆ Must be motivated!
- ◆ Must be internet savvy
- ◆ Must know the brand (when calling me, most don't recall the brand name of their items)

Often must be willing to:

- ◆ Travel to a drop-off location,
 - Pay a recycling fee (Sometimes),
- ◆ Package for shipping,
 - Pay for shipping (Sometimes)
- ◆ Hold items until annual events.

Motivated recyclers are discouraged

Department of Environmental Quality



Staples Check Presentation,
Butte Schools, 2006

Accomplishments

- First Rocky Mountain state to partner EPA's Plug-in to E-Cycling program.
- First state in our region to engage manufacturers.
- Started as a pilot project; quickly grew to include more communities; much larger program.
- Majority of communities participating have continued with annual events; some looking at permanent programs.
- Advocate for rural access to any federal recycling legislation
- Survey work quoted by EPA regarding public wish for no exporting.

Measuring Electronics Recycling

- ◆ Don't know actual volume recycled
 - No required reporting
 - In-state recyclers
 - Out-of-state recyclers
 - Manufacturers
 - Retail Stores

- ◆ EPA estimates only 10-15% of electronics are recycled each year

- ◆ Federal 'study' legislation introduced
 - Meanwhile 20 states have enacted their own e-scrap recycling laws

Thank You

recycle.mt.gov

Sandra Boggs

Recycling and Marketing Development Specialist
Montana Department of Environmental Quality

406-841-5217

sboggs@mt.gov

Appendix D

Nowakowski, Sonja

From: Holland, Steve [sholland@coe.montana.edu]
Sent: Tuesday, March 16, 2010 10:56 PM
To: Nowakowski, Sonja
Subject: RE: EQC Follow-up

Sonja,

I was out of town all of last week... sorry for the delay responding.

I have serious concerns about MMEC doing anything in the regulatory arena. It would erode our ability to provide unbiased technical assistance, which is what we are chartered to do.

We are currently working with DEQ on several waste reduction fronts... especially energy. We readily work with them on educational and other non-regulatory projects.

Another concern, if I recall correctly, was that the bill required us to dedicate a percentage of the effort toward this effort. That could reduce the state match we have available that we need for Federal funds. The result would be a reduction in total funds we have and a reduction in the services we were chartered to provide.

I'd be happy to talk more about how we can work directly with DEQ and other state agencies. Please let me know if I can be of assistance.

Steve

[Montana Manufacturing Extension Center](#)

From: Nowakowski, Sonja [mailto:snwakowski@mt.gov]
Sent: Monday, March 08, 2010 12:42 PM
To: Holland, Steve
Subject: EQC Follow-up

Director Holland,

My name is Sonja Nowakowski, and I staff the Environmental Quality Council (EQC). During the EQC's 2007-08 Climate Change study, the EQC brought forward draft legislation (House Bill No. 22) to provide additional funding to the Montana Manufacturing Extension Center and require a portion of that funding be used in collaboration with the DEQ to promote recycling. As the EQC worked on the legislation, you raised concerns about working with a regulatory agency such as DEQ and measuring results based on the bill.

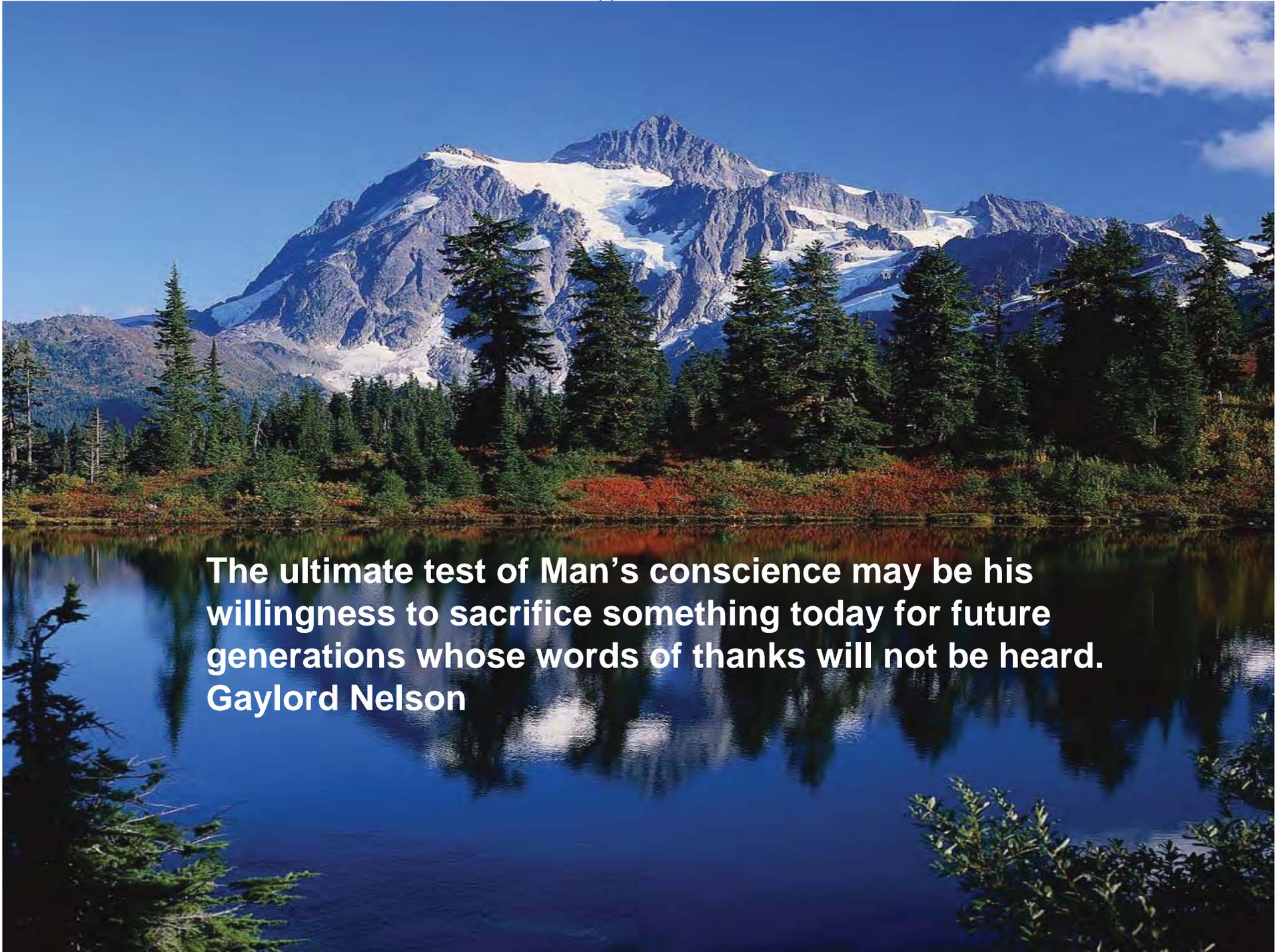
This interim, the EQC is working on a study dedicated to recycling, as required by Senate Joint Resolution 28. At the EQC's March 4-5 meeting, Representative Dickenson asked that the EQC again contemplate asking the Montana Manufacturing Extension Center to work with the DEQ to promote recycling efforts. Representative Dickenson asked if you would have the same concerns as you did about HB 22 last interim. She asked that I visit with you about the proposal and report back to the EQC.

When you have an opportunity, could you let me know if you continue to have concerns about a potential proposal that would be similar to HB 22 (as contemplated by the 2009 Legislature). Feel free to call me any time, if you have additional questions about the EQC's recycling study.

I look forward to hearing back from you.

Thanks,
Sonja Nowakowski

Sonja Nowakowski



**The ultimate test of Man's conscience may be his willingness to sacrifice something today for future generations whose words of thanks will not be heard.
Gaylord Nelson**



Introduction

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

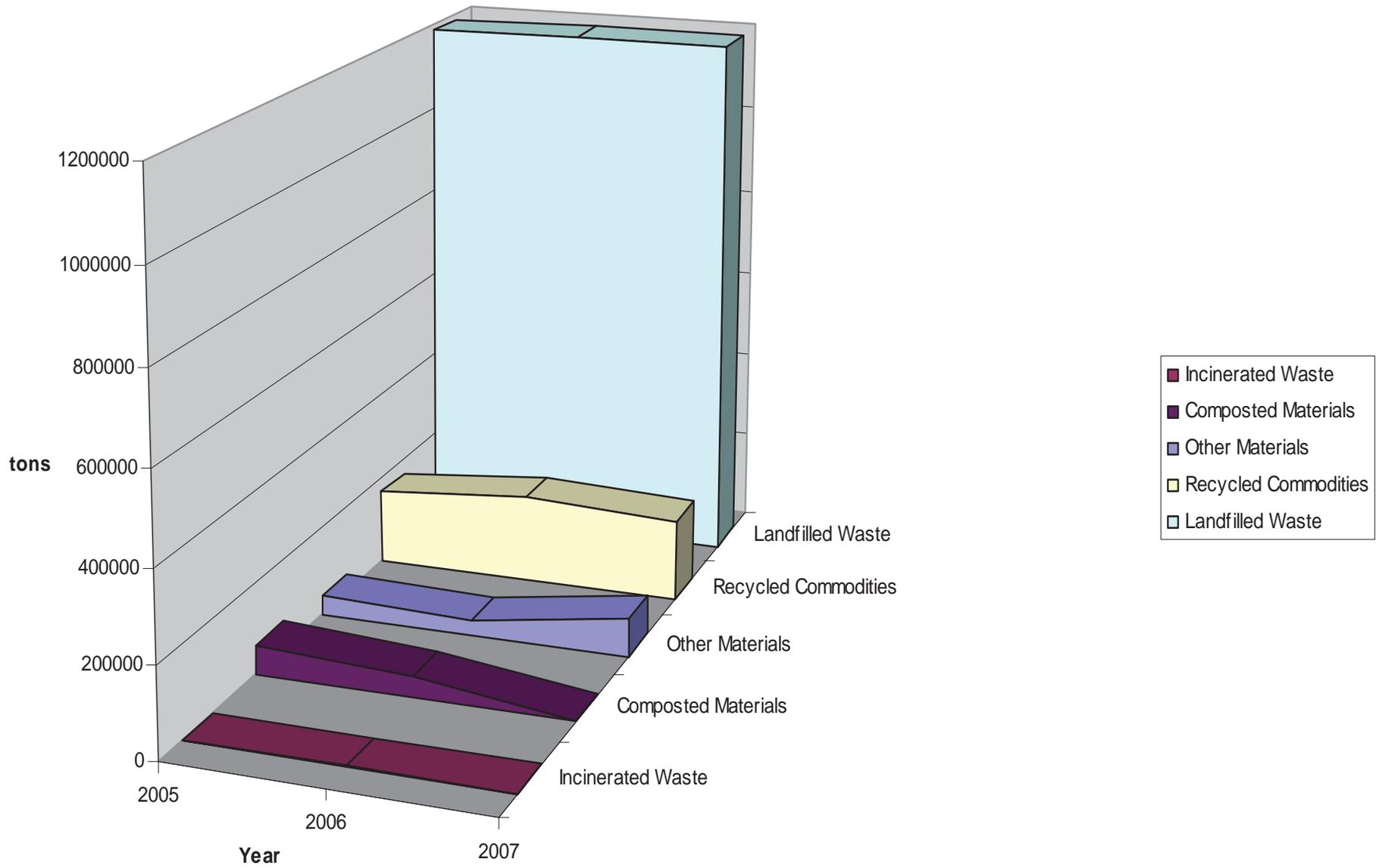
Adding to this challenge is implementing recycling in rural areas. Solving rural recycling issues is not an easy solution and is only a small part of a larger problem that local and state governments are faced with regarding recycling as a whole.

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

Trends in Waste Generation, Recovery, and Disposal



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!



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

Landfills Today

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

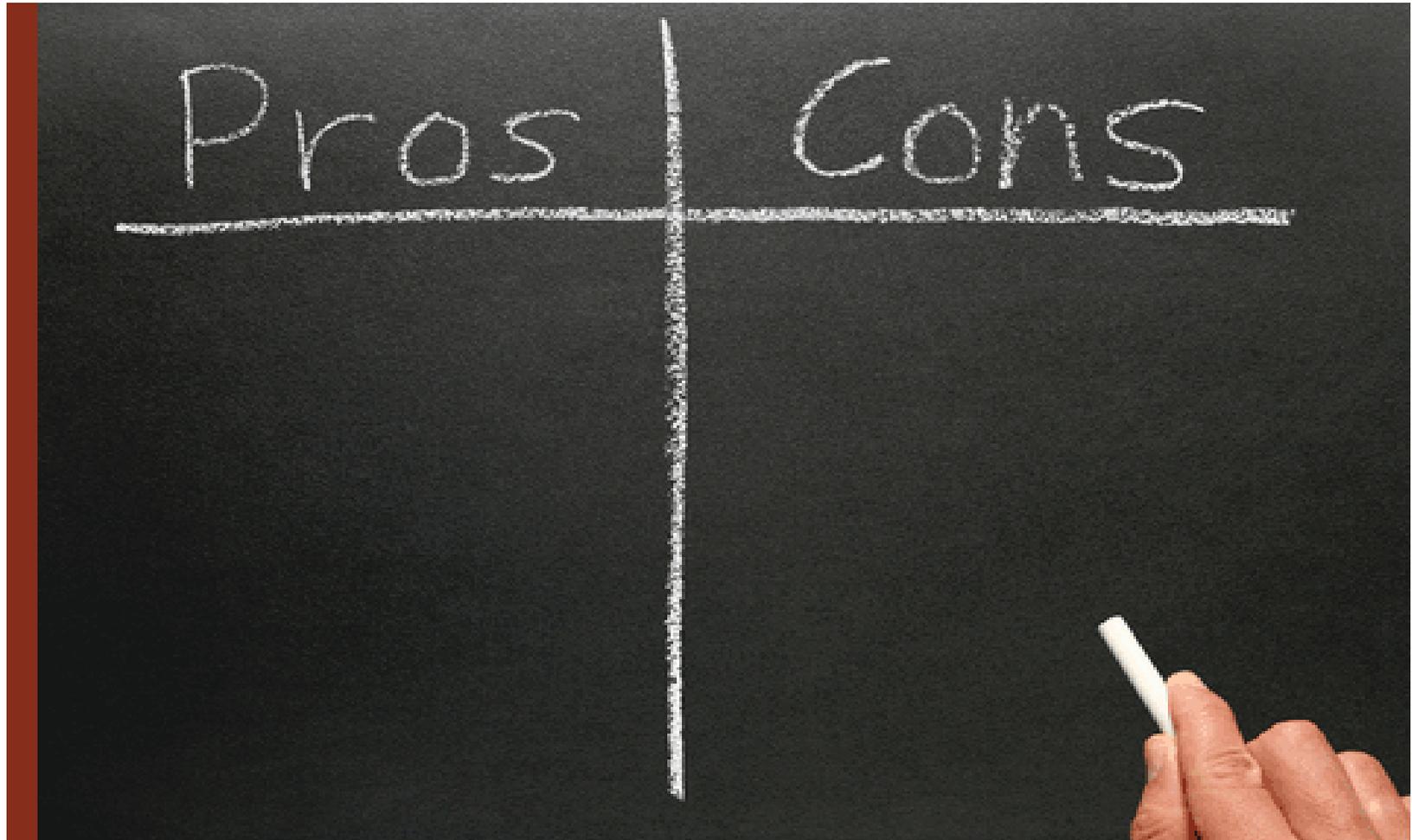
Reminder

**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





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



e-erase your e-waste!
Recycle your old Electronics
 Saturday • September 6, 2008
 9 a.m. – 2 p.m.
 MSU – Great Falls
 College of Technology
 2100 16th Ave. So. • Great Falls, Montana

Erase your hard drives (FREE) dban.sourceforge.net/
 Businesses are encouraged to recycle their electronics the week prior to the event. Contact **Tatooine Electronics, Inc. (406) 861-4920** to schedule an appointment for pickup.

Charges Apply

ITEM	COST (ea)
• Monitors & TVs (less than 19")	\$ 3
• CPU's, DVD & CD players, some Printers	\$ 2
• TV's (greater than 20")	\$ 5
• Monitors (greater than 17")	\$ 5
• Console/Big Screen TV's	\$25
• Batteries (household/rechargeable)	Free

For more information call (406) 771-1401
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