OVERVIEW OF MARION COUNTY WASTE REDUCTION AND RECYCLING PROGRAMS

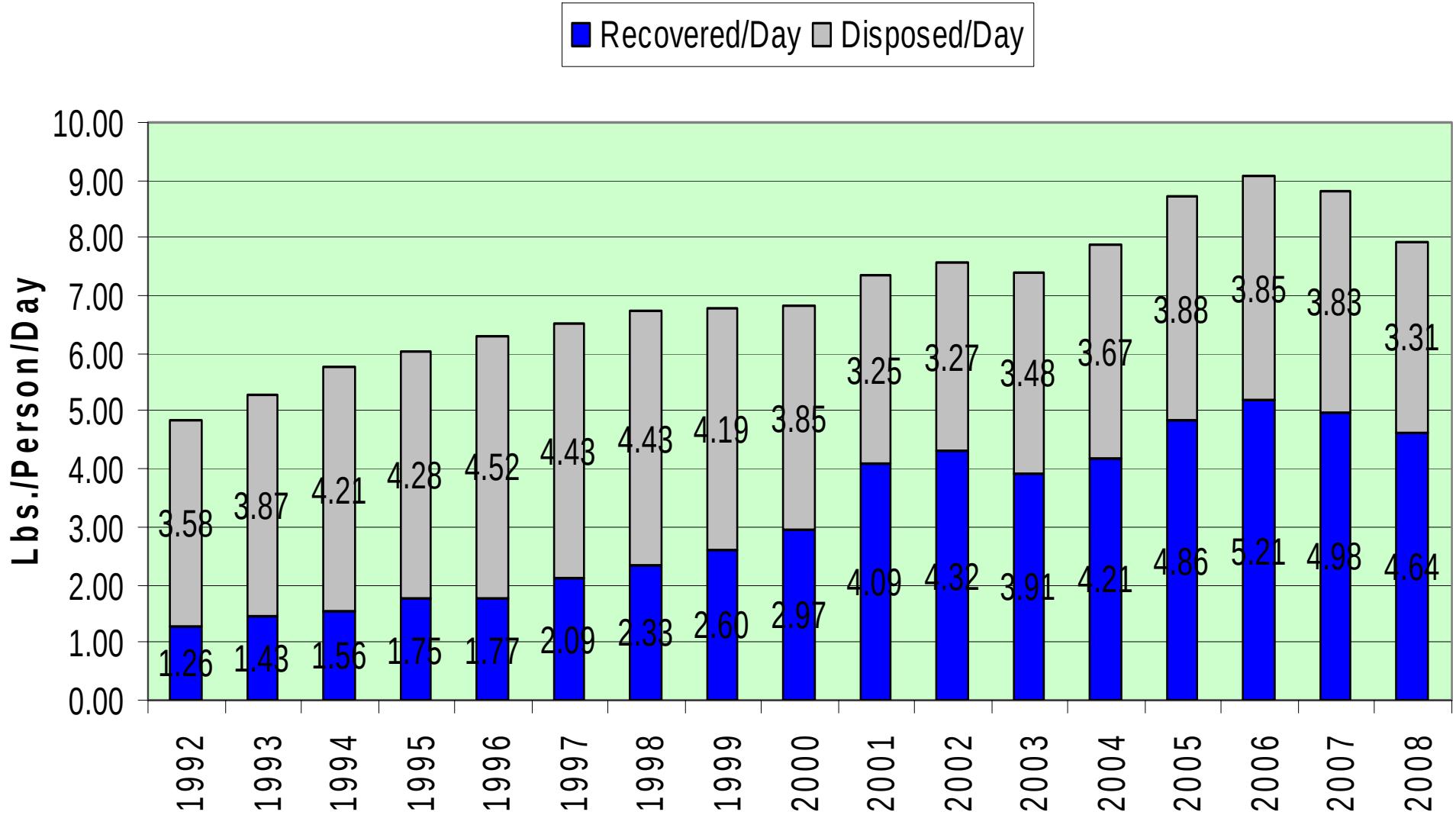
Marion County Public Works – Environmental Services

September 17, 2009

So, what am I here to talk about?

...and why it stinks!

Per Capita Recycling, Disposal & Generation

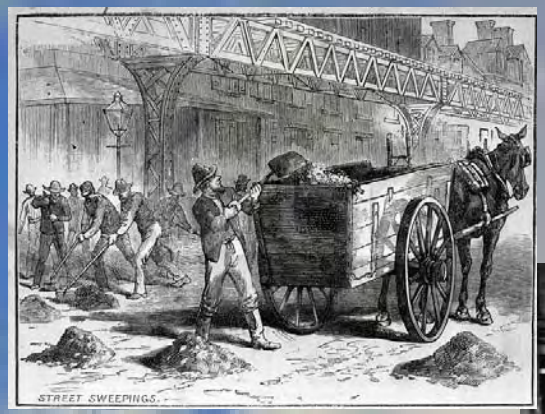


1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
4.8	5.3	5.8	6.0	6.3	6.5	6.8	6.8	6.8	7.3	7.6	7.4	7.9	8.7	9.1	8.8	8.0

ADAM
HIS COLLECTION IS WORTH THOUSANDS. ...THOUSANDS SPENT ON COFFEE, LATTES AND MOCHAS.
DUNKIN DONUTS
BRIAN © 2007 UNIVERSAL PRESS SYNDICATE
WWW.GOCOMICS.COM

Q: HOW MANY CONSUMERS DOES IT TAKE TO CHANGE A LIGHTBULB?
A: NONE. THEY'LL JUST BUY A NEW LAMP.
MICHAEL ©2007

History



Garbage in the streets.

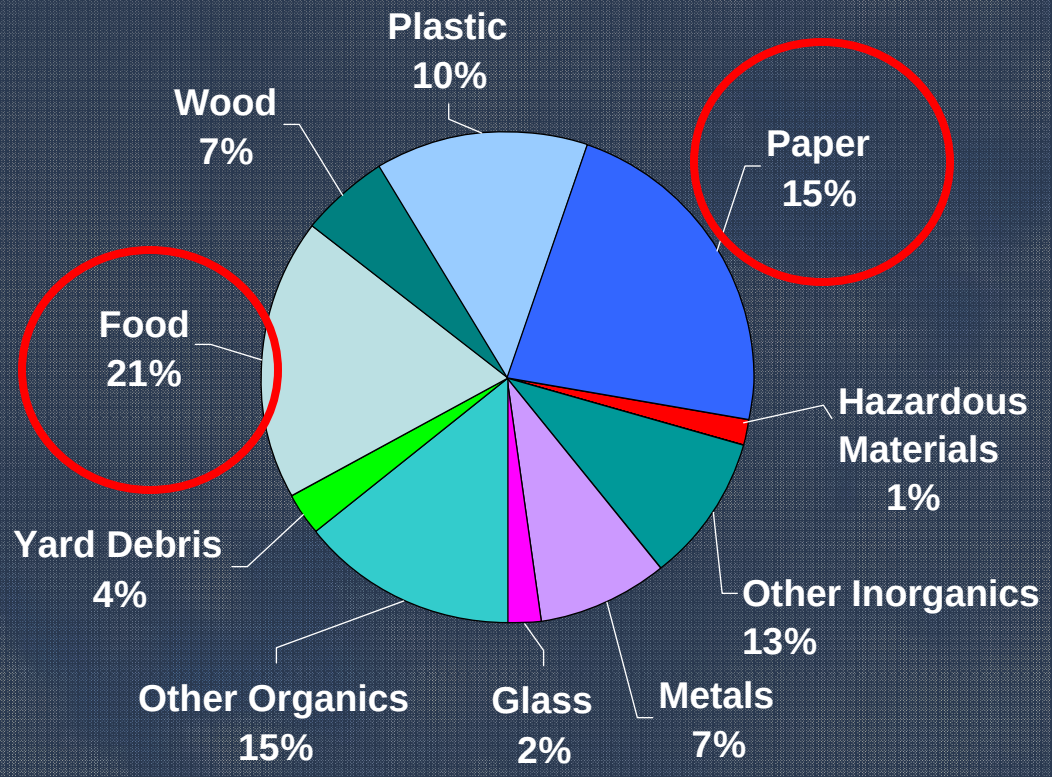
Garbage Collectors Strike in Manhattan

Metal Drive for War Effort, Brooklyn, 1941

Mobro - the Garbage Barge, 1987

How to Meet Goals

- What's in our garbage
- Implement new programs to recycle it (or better yet, get it out of our waste stream)



Waste Composition

Marion County - 2005

What is Marion County doing to reduce waste?

Reduce

Reuse

Recycle

Compost

Recover Energy

Landfill

What are we doing to encourage waste reduction?

earthWISE

Workplace Initiative for Sustainable Enterprise

WASTE REDUCTION & PREVENTION SURVEY		
Item	**Doing it now?**	**Comments/ Notes**
Two Sided Printing- default	Check with your IT tech to see if they are able to default at least one printer to double-side (duplex) printing. Double sided printing (and copying) is a quick and easy way to reduce paper use. Call your IT department to see if they are able to default at least one printer to double-side (duplex) printing. While the amount of money your business can save by double-side printing is directly related to the amount of paper your businesses uses in the first place, here are some facts: The average office worker uses 10,000 sheets of copy paper each year; The United States alone, which has less than 5% of the world's population, consumes 30% of the world's paper; Over 40% of wood pulp goes toward the production of paper; Printing and writing paper equals about one-half of U.S. paper production; The costs of using paper in the office can run 13 to 31 times the cost of purchasing the paper in the first place. The cost of buying paper is just the tip of the paper iceberg. For each sheet of paper used, a company incurs not only purchasing costs, but also storage, copying, printing, postage, disposal, and recycling. Citigroup, a large financial services company, determined that if each employee used double-sided copying to conserve just one sheet of paper each week, the firm would save $700,000 each year. Paper is an office necessity for some essential tasks, but it has an environmental cost. Creating paper from trees requires a lot of natural resources including water and energy. For example, it takes more than 1 ¼ cups of water to make one sheet of paper. (Picture a typical soda can.) Over 40% of wood pulp goes toward the production of paper. Reducing paper use reduces greenhouse gases: 40 reams of paper is like 1.5 acres of pine forest absorbing carbon for a year.	
Two Sided Copying	While the amount of money your business can save by double-side printing is directly related to the amount of paper your businesses uses in the first place, here are some facts: ☐ The average office worker uses **10,000 sheets** of copy paper each year. ☐ The United States alone, which has less than 5% of the world's population, consumes 30% of the world's paper. ☐ Over 40% of wood pulp goes toward the production of paper. ☐ It take an average of 15 watt-hours of energy to produce a single sheet of paper ☐ Printing and writing paper equals about one-half of U.S. paper production. ☐ The costs of using paper in the office can run 13 to 31 times the cost of purchasing the paper in the first place! What most people don't realize is that the cost of buying paper is just the tip of the paper iceberg. For each sheet of paper used, a company incurs not only purchasing costs, but also storage, copying, printing, postage, disposal, and recycling—and it adds up. A recent Minnesota study estimates that associated paper costs could be as much as 31 times the purchasing costs (not including labor). So, that ream of paper that you paid $5 for really could cost up to $155! **Economical: Saving Paper Saves Money** ☐ Citigroup, a large financial services company, determined that if each employee used double-sided copying to conserve just one sheet of paper each week, the firm would save $700,000 each year. ☐ Bank of America cutits paper consumption by 25% in two years by increasing the use of on-line	

Environmentally Preferable Purchasing (EPP)

EPP is buying reused products, materials with recycled content, and recyclable goods.

<u>Benefits</u>

- Reduce the energy required for extraction of virgin materials
- Encourage recycling by closing the loop
- Minimize emissions from production and transportation

Cell Phones & Printer Cartridges

- Selected a cell phone recycler that prioritizes reuse and recycles unusable phones responsibly.
- Printer cartridges collected at transfer stations are refurbished by a local company rather than recycled.

Garten Services

Microsoft WORKS
Blowout Price
$20
SYSTEM
Blowout Price
$60
SYSTEM
O.S. Ready Computers
O.S. Ready Computers

Green Schools Program

Master Recycler Program

- What happens to your garbage
- What can and can't be recycled and why
- Waste reduction
- Waste management, water, energy, and resource efficiency
- The power of purchasing
- Composting and vermicomposting
- Household hazardous waste reduction and alternatives
- Use of native plants and beneficial insects
- Making fun stuff from "trash"
- Outreach techniques

Green Building

Courthouse Square

Salem, Oregon - Arbuckle Costic Architects

- Sustainable Site
  - Where to build
  - How to protect site
- Water Efficiency
- Energy and Atmosphere
  - Efficiency
  - Renewable and Alternative
- Materials and Resources
  - Waste management
  - Local/regional sources
  - Recycled, reused, renewable
- Indoor Environmental Quality
  - Low VOC
  - No smoking
  - AQ monitors
  - Daylighting

New Projects

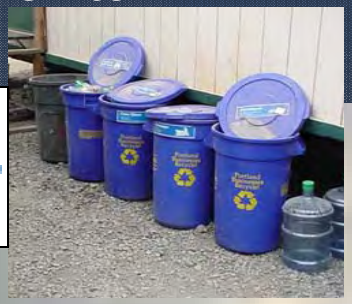
- Juvenile Market
- Juvenile Detention Facility
- Dog Kennel

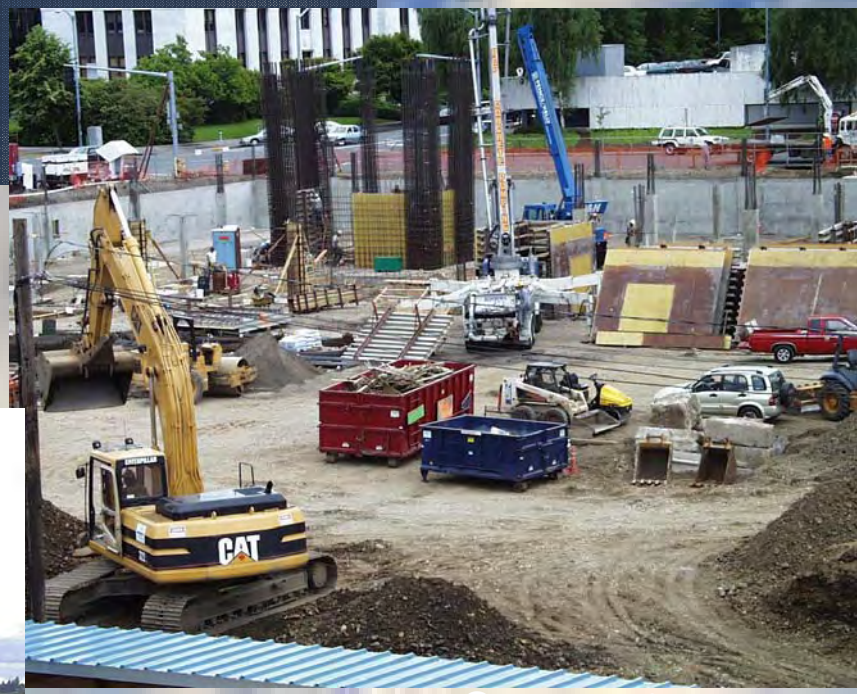
Construction Waste

- Reduce and manage waste

Mid-Willamette Valley Habitat for Humanity®

Office



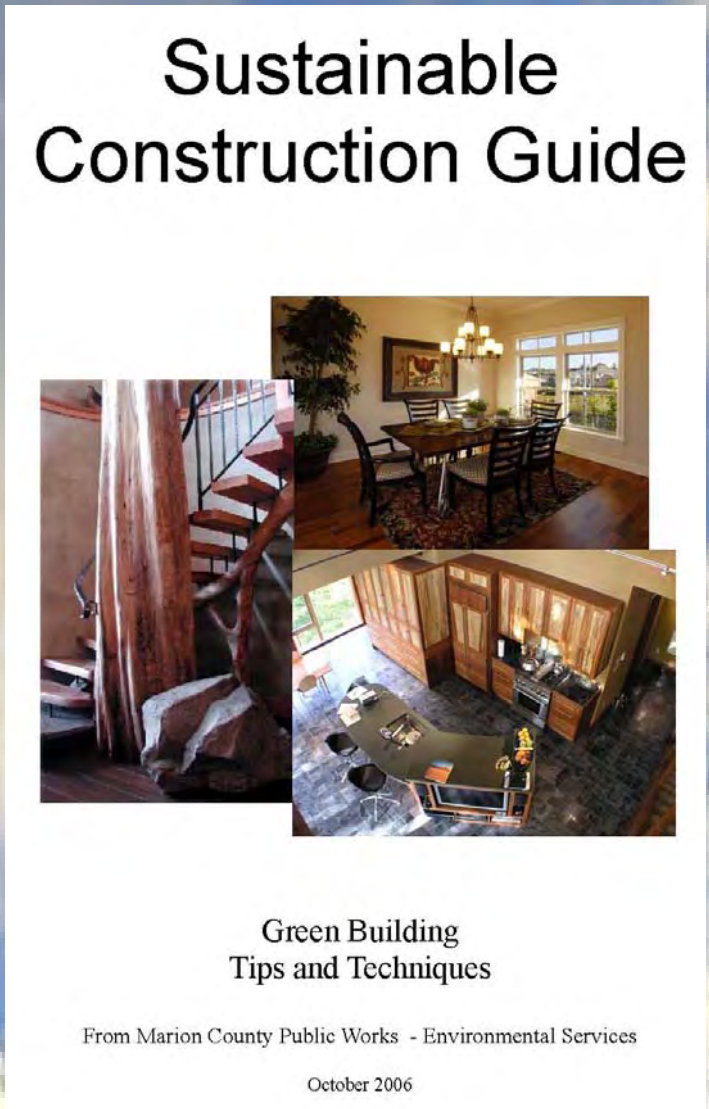


Construction

Demolition

Salvage & Reuse

Sustainable Building Guide:


Sustainable
Construction Guide

Green Building
Tips and Techniques

From Marion County Public Works - Environmental Services

October 2006

What is Marion County doing to promote reuse?

Reduce

Reuse

Recycle

Compost

Recover Energy

Landfill

Grants

- Marion County Waste Reduction/Recycling
- DEQ Grants

Reduce, REUSE, Recycle

Mid-Willamette Valley Habitat for Humanity®

REUSE

freecycle℠

ST. VINCENT DE PAUL HELPS PEOPLE

Northwest Materials Exchange

Find your perfect material match online. Visit www.NWmaterialsmart.org, an industrial materials exchange portal.

- Industrial Equipment ▪ Packaging ▪ Organic Chemicals ▪ Barrels & Drums
- Building Materials ▪ Acids ▪ Boxes ▪ Paints ▪ Containers ▪ Solvents ▪ Pallets
- Alkalis ▪ Used Machinery ▪ Office Equipment & Supplies ▪ Degreasers
- Laboratory Equipment & Supplies ▪ Oils ▪ Soil & Fill ▪ Industrial Chemicals

Find your perfect material match online at www.NWmaterialsmart.org. You'll find thousands of options for buying, selling, and exchanging materials.

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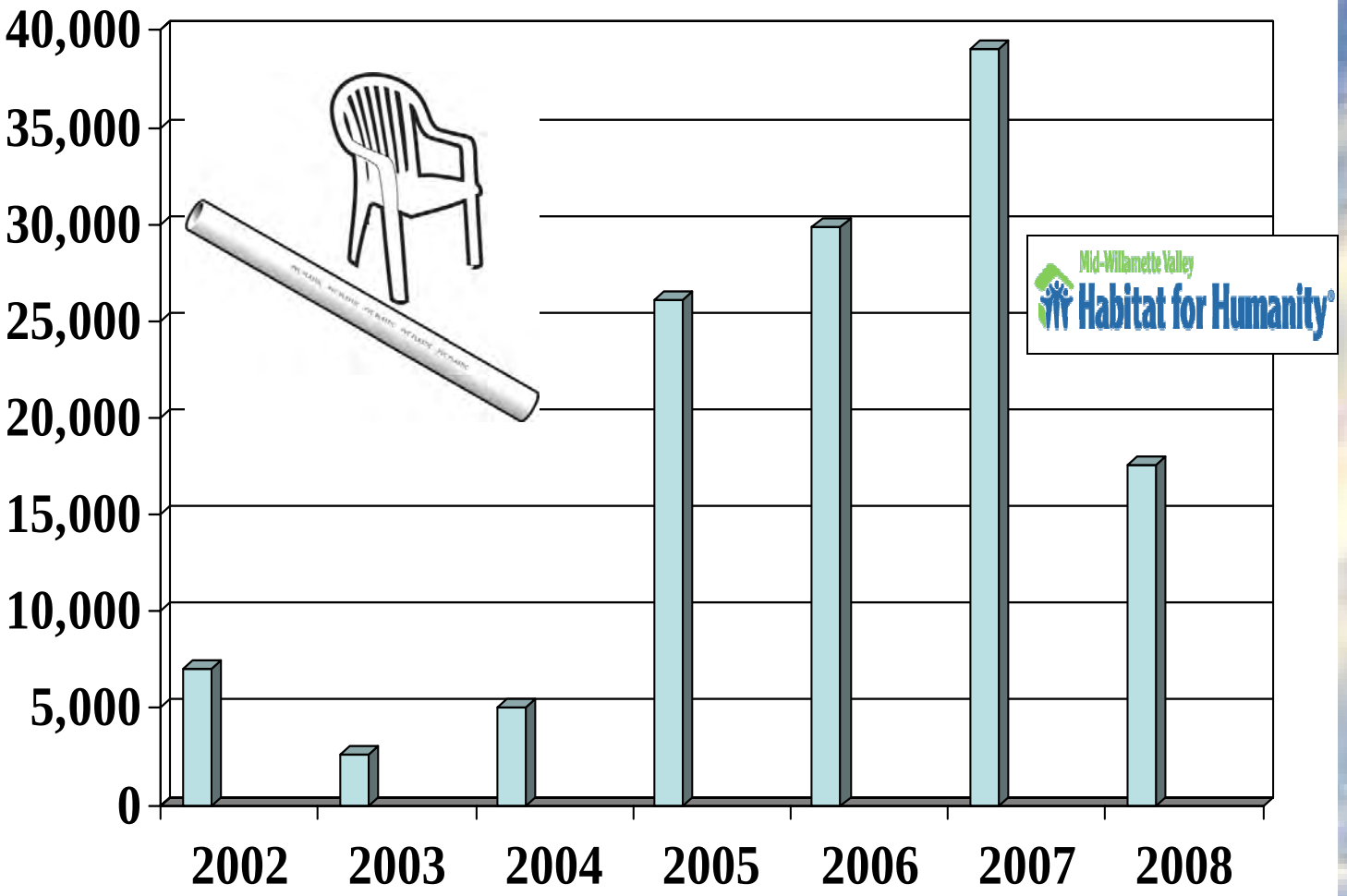
PVC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2002
2003
2004
2005
2006
2007
2008
Mid-Willamette Valley
Habitat for Humanity

What is Marion County doing to increase recycling?

Reduce

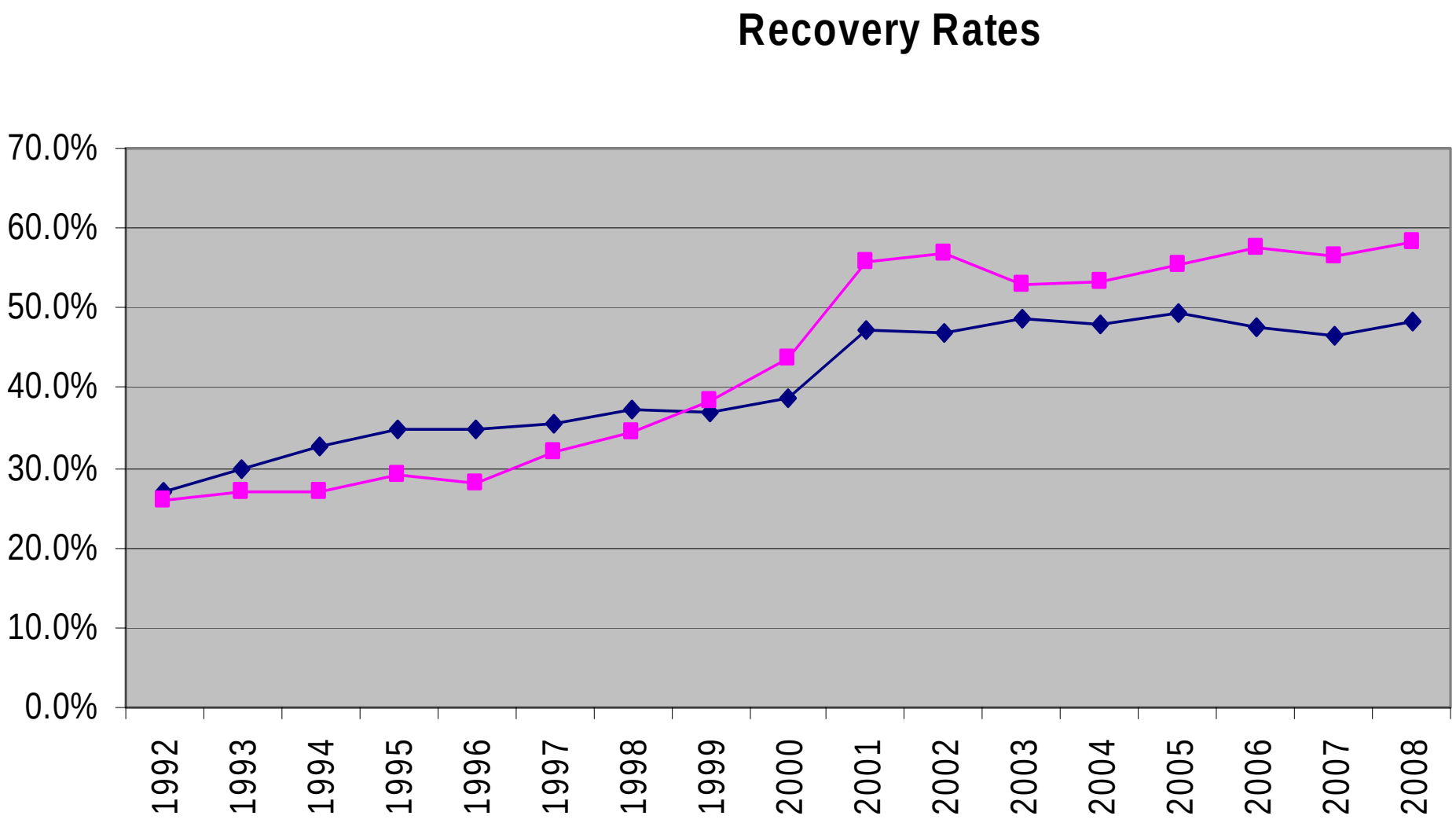
Reuse

Recycle

Compost

Recover Energy

Landfill


Recovery Rates
70.0%
60.0%
50.0%
40.0%
30.0%
20.0%
10.0%
0.0%
1992
1993
1994
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008

Mixed Recycling

Multi-family

Transfer at MRRF

Residential

Sort at Far West Fibers

THESE ITEMS GO IN THE

MIXED RECYCLING CART

Tin Cans & Aluminum Metal Beer & Wine Caps

Tin Cans & Aluminum - rinse first! Remove labels and add to mixed recycling roll cart. No need to flatten. Metal beer & wine caps ok.

Newspapers

Inserts are OK.

Mixed Scrap Paper

This includes: Junk mail, flyers, computer paper, carbonless forms, gift wrap, post-it notes, paper bags, greeting cards (no foil), envelopes, paper labels, shredded paper (in marked paper bag, not loose), tablet paper, white & colored ledger paper, magazines, phone books.

Plastic Containers

Clean first! Labeled #1-7. Please discard caps & pumps.

Cardboard, Greyboard, Paperboard & Paperback Books

Remove & discard plastic liners. Flatten box.

NEW! Aerosol Cans!

Remove spray-tip & discard. All cans must be empty.

NEW! Small Scrap Metal!

18-inches or less, less than 10 lbs. Hangers, door knobs, small gutter pieces, etc. Larger items? Call your garbage hauler directly.

NO medical waste, glass, plastic bags, greasy or waxed cardboard, Styrofoam, syringes, plastic bottle caps, or garbage in the Blue Roll Cart! Lids must be completely shut for automated system to work properly.

Household Batteries

Rechargeable & Small Button Cells
Sizes AAA through D, 6 Volt – 9 Volt.
Must be in a zip-sealed bag.

Used Latex Paint

Place up to 2 one gallon cans.
No rusted or unlabeled cans.

Used Motor Oil

In a sealed plastic container

Keep Glass Bottles Separated

Place Brown Glass in separate paper bag. Place Green Glass in separate paper bag. Place Clear Glass in separate paper bag.

NEW! Antifreeze!

Place into see-thru plastic jug with tight fitting cap. Keep motor oil and antifreeze separate.

NEW! Used Vegetable Cooking Oil!

Place cooled, used vegetable cooking oil into same labeled container & cap originally purchased, or place into CLEAN see-thru plastic jug with tight fitting cap. 2-gallons per week maximum. DO NOT MIX WITH OTHER RECYCLABLES.

Glass

Motor Oil

Cooking Oil

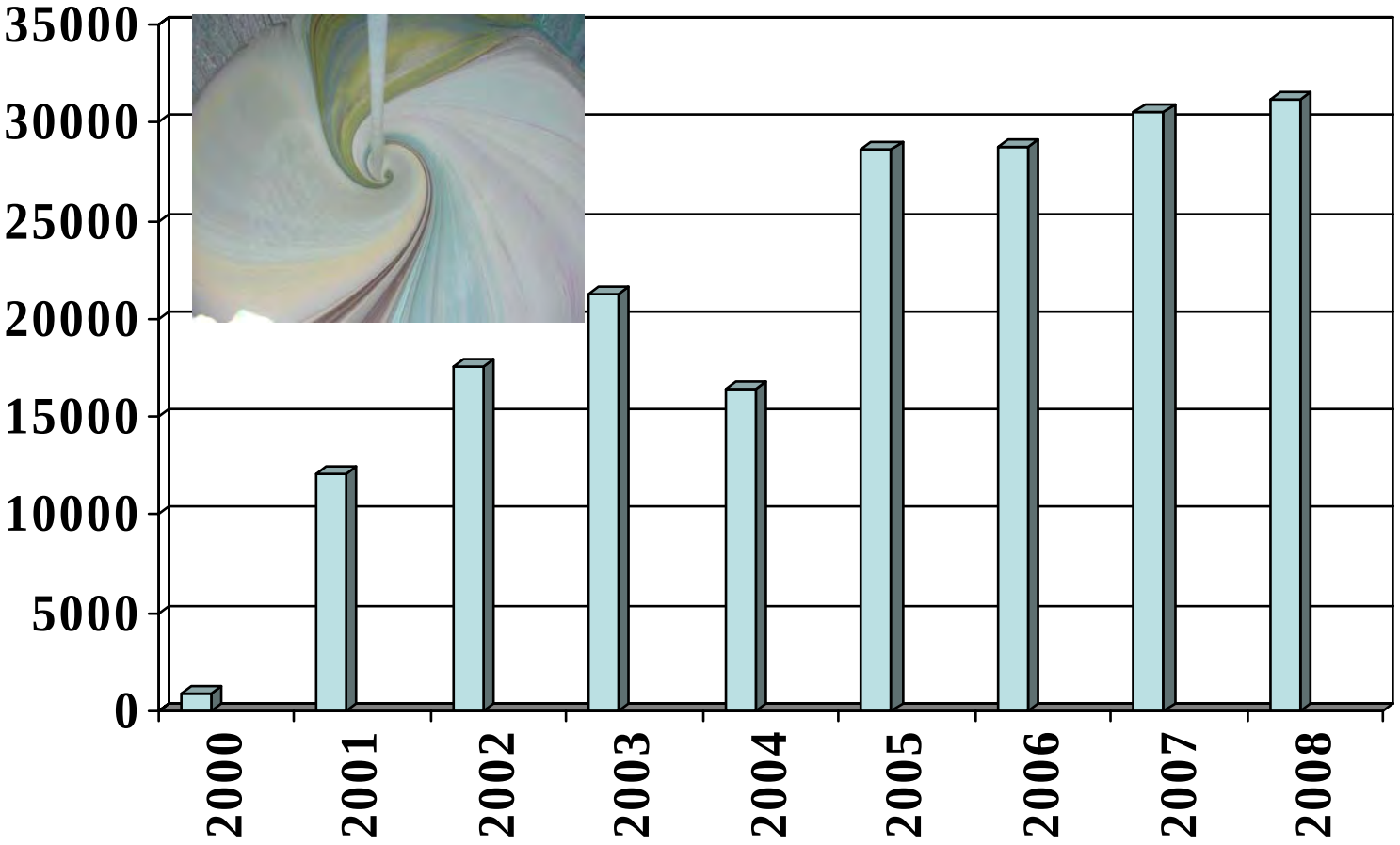
Paint Recycling Program

WIPE OUT GRAFFITI

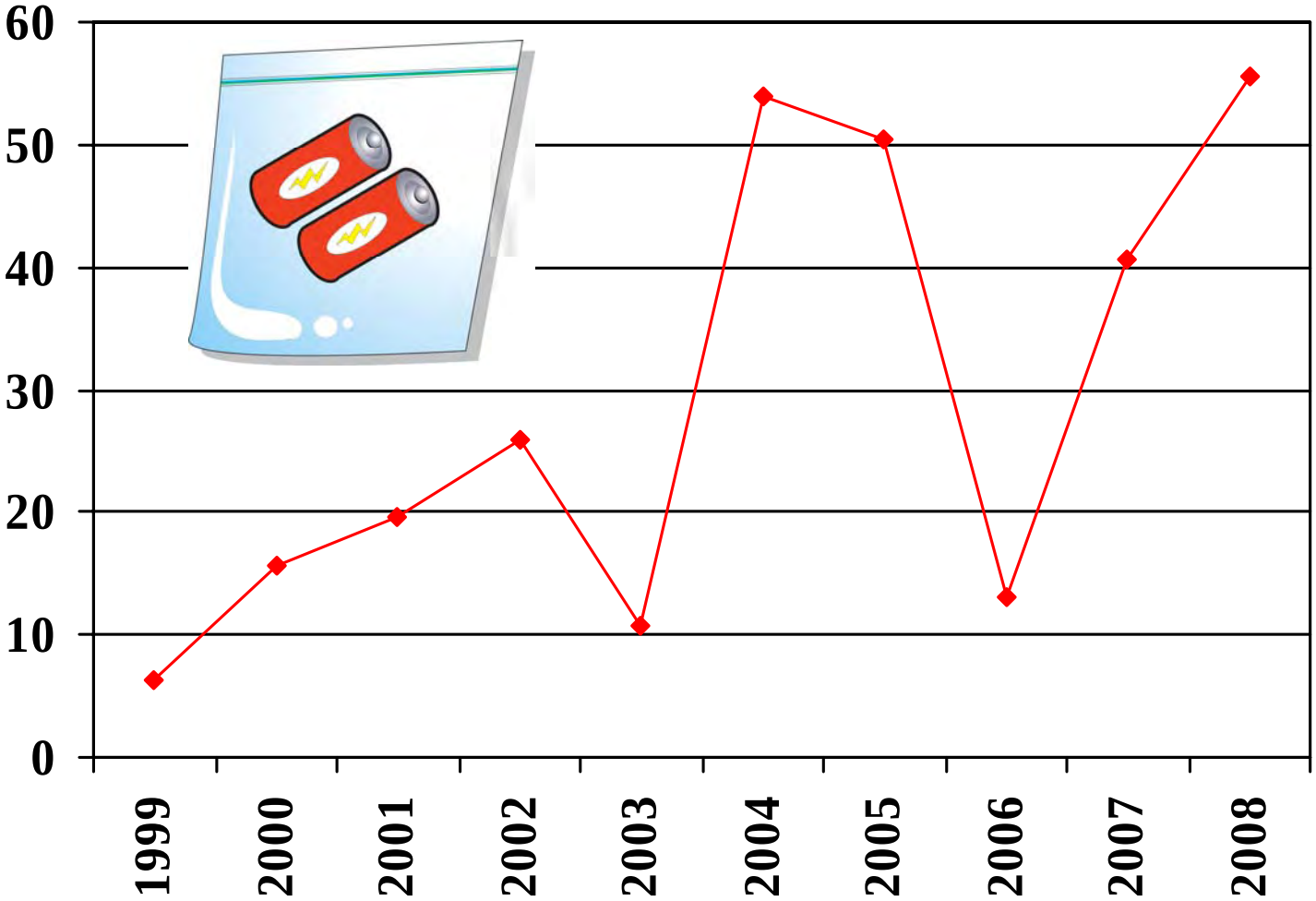
Paint Back

RECYCLE LATEX PAINT

Latex Paint Recycling



Battery Recycling



Antifreeze

Salem-Keizer & North Marion Recycling & Transfer Stations

THE EARTH WALK

Learn more about recycling

Hazardous Waste Facility

- Every Thursday & the First & Third Saturday.
  - Free to residents of any county
  - Businesses charged $2.50/lb and must register by calling: 800-444-4244

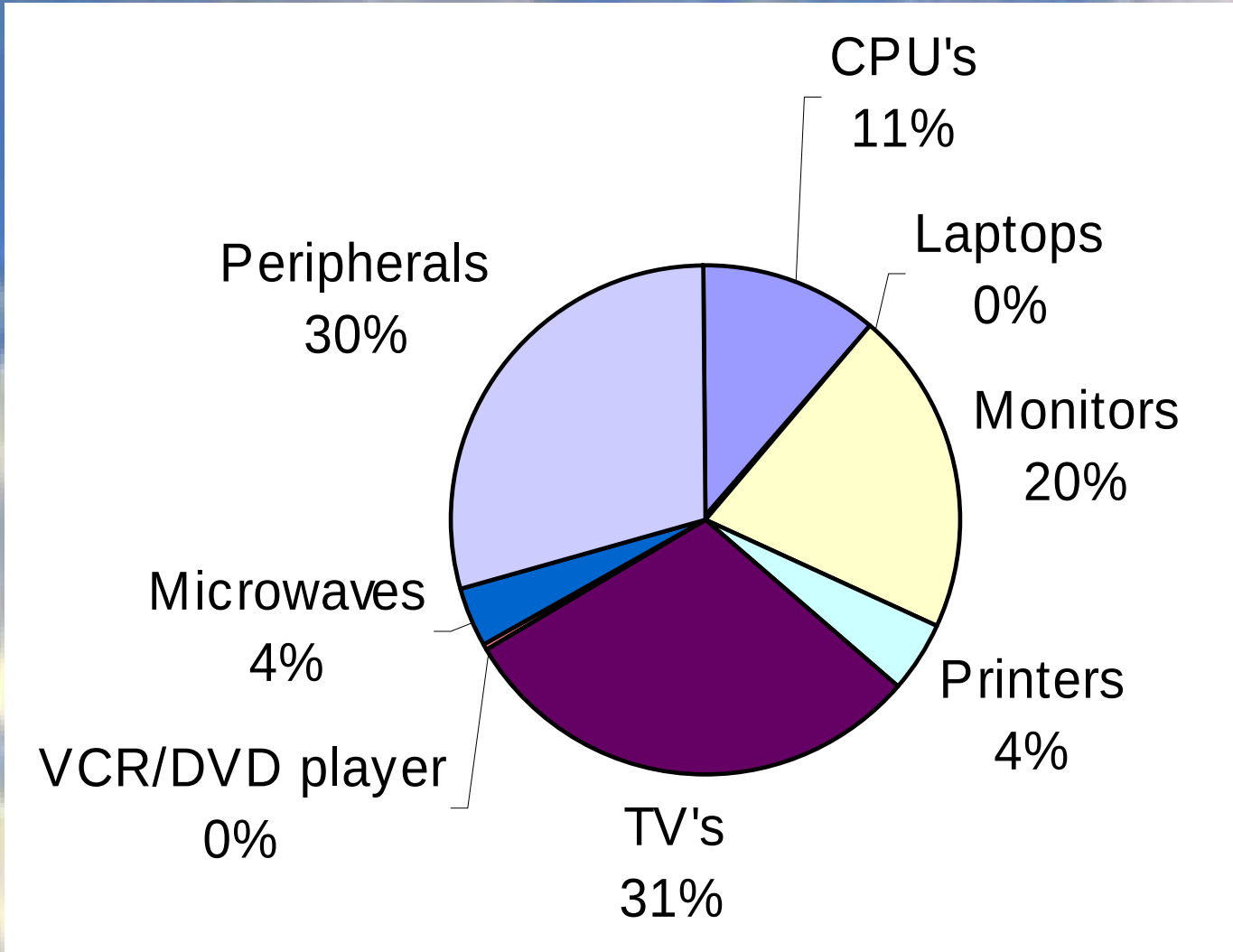
E-waste

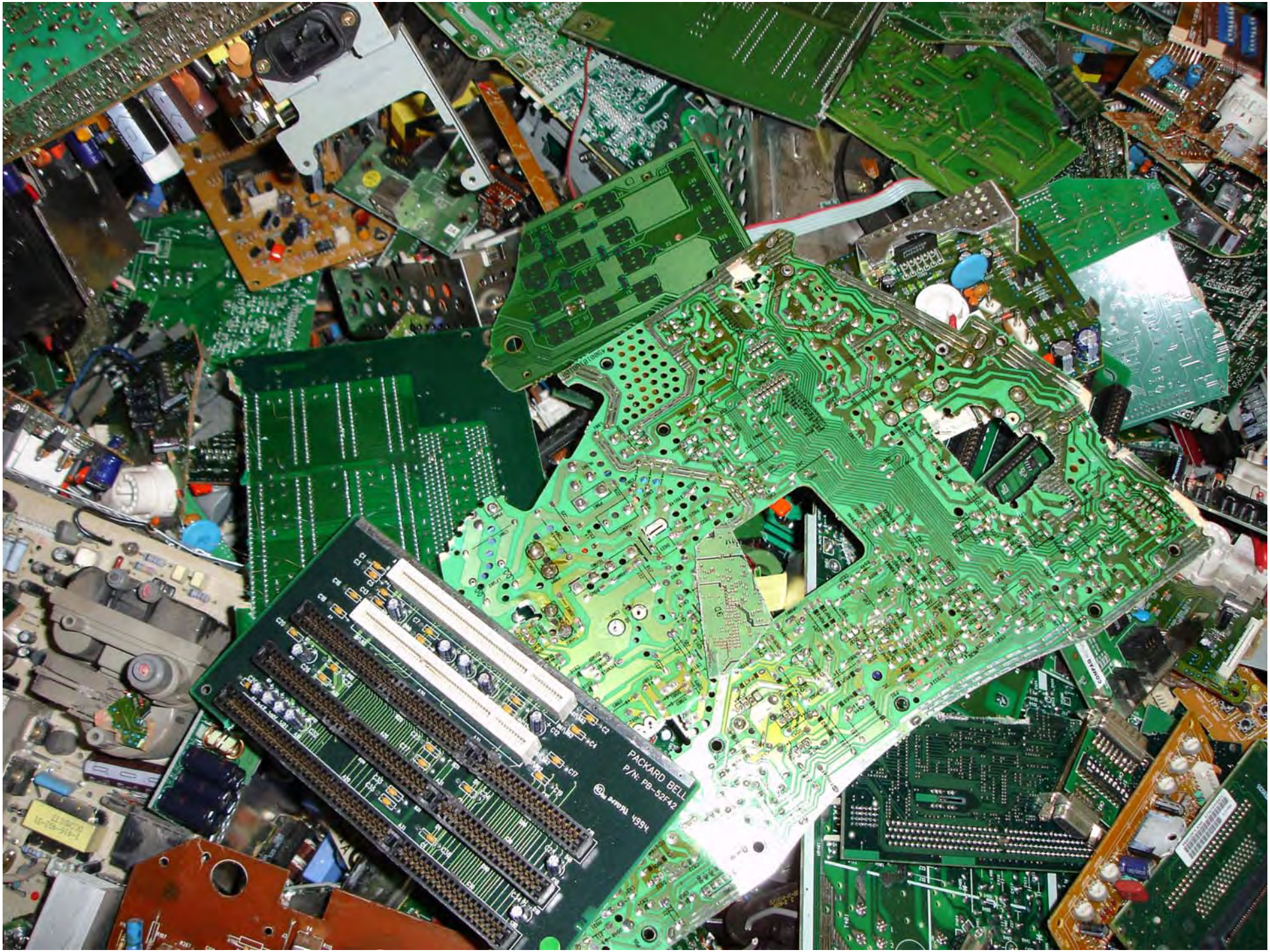
oregon E-CYCLES

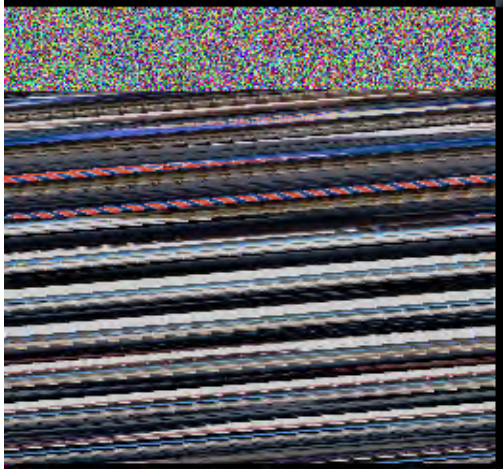
oregonecycles.org

- Product Stewardship
- Up to 7 “Covered Electronic Devices”

Composition of e-Waste (Marion County 2008)

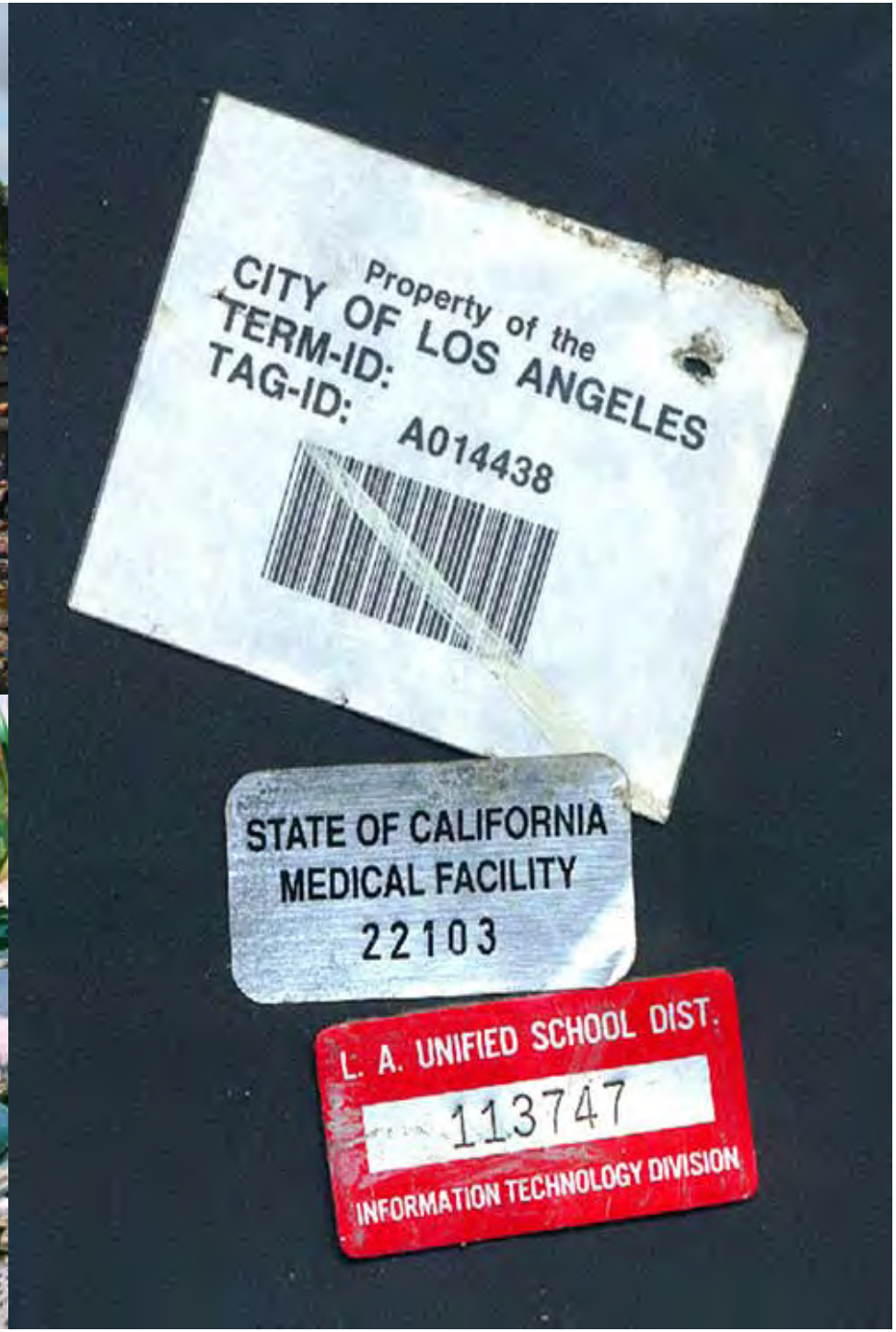



PACKARD BELL
P/N: PB-52F42



XNTOS

Hard Rock
ST. THOMAS


Property of the
CITY OF LOS ANGELES
TERM-ID:
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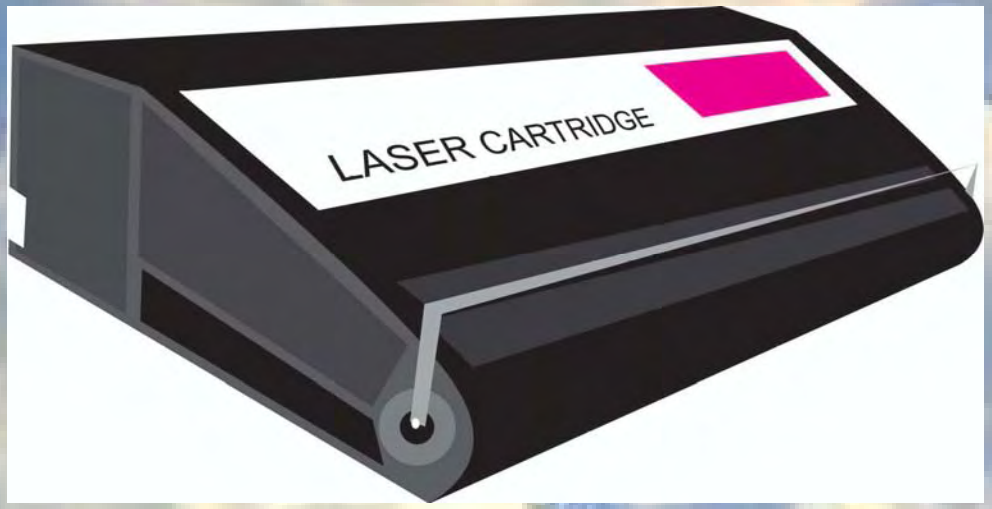
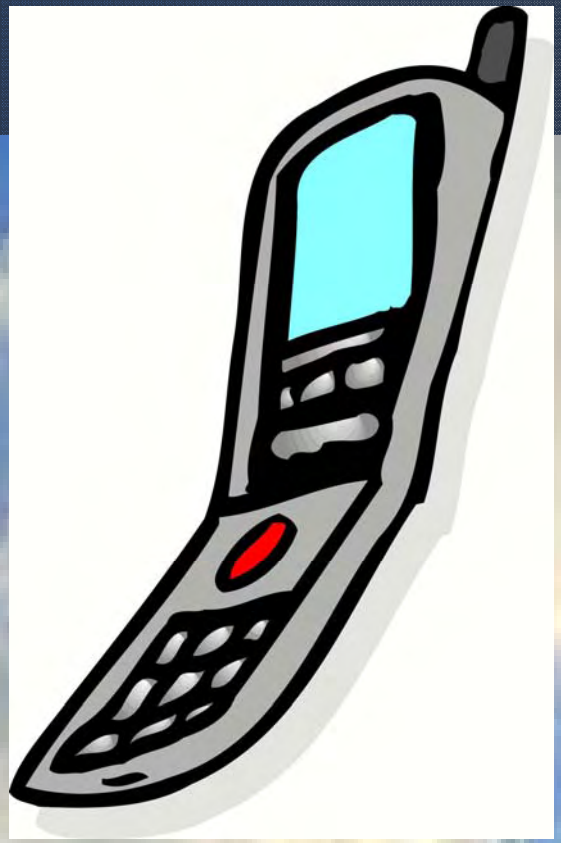
STATE OF CALIFORNIA
MEDICAL FACILITY
22103
L. A. UNIFIED SCHOOL DIST.
113747
INFORMATION TECHNOLOGY DIVISION

Printer Cartridges

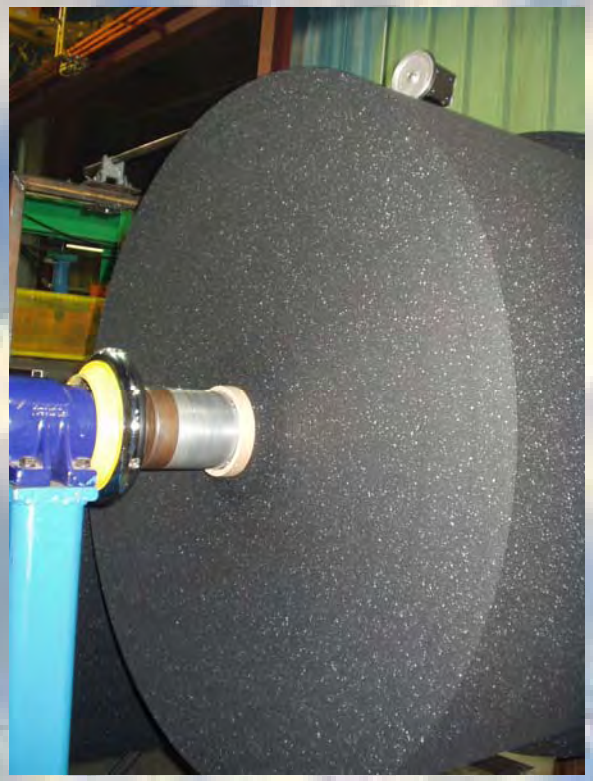


Cell Phones, PDA's, MP3 Players



Tires

- Disposal Ban in Oregon



Gable Tops
Aseptic Containers
Frozen Food Packaging

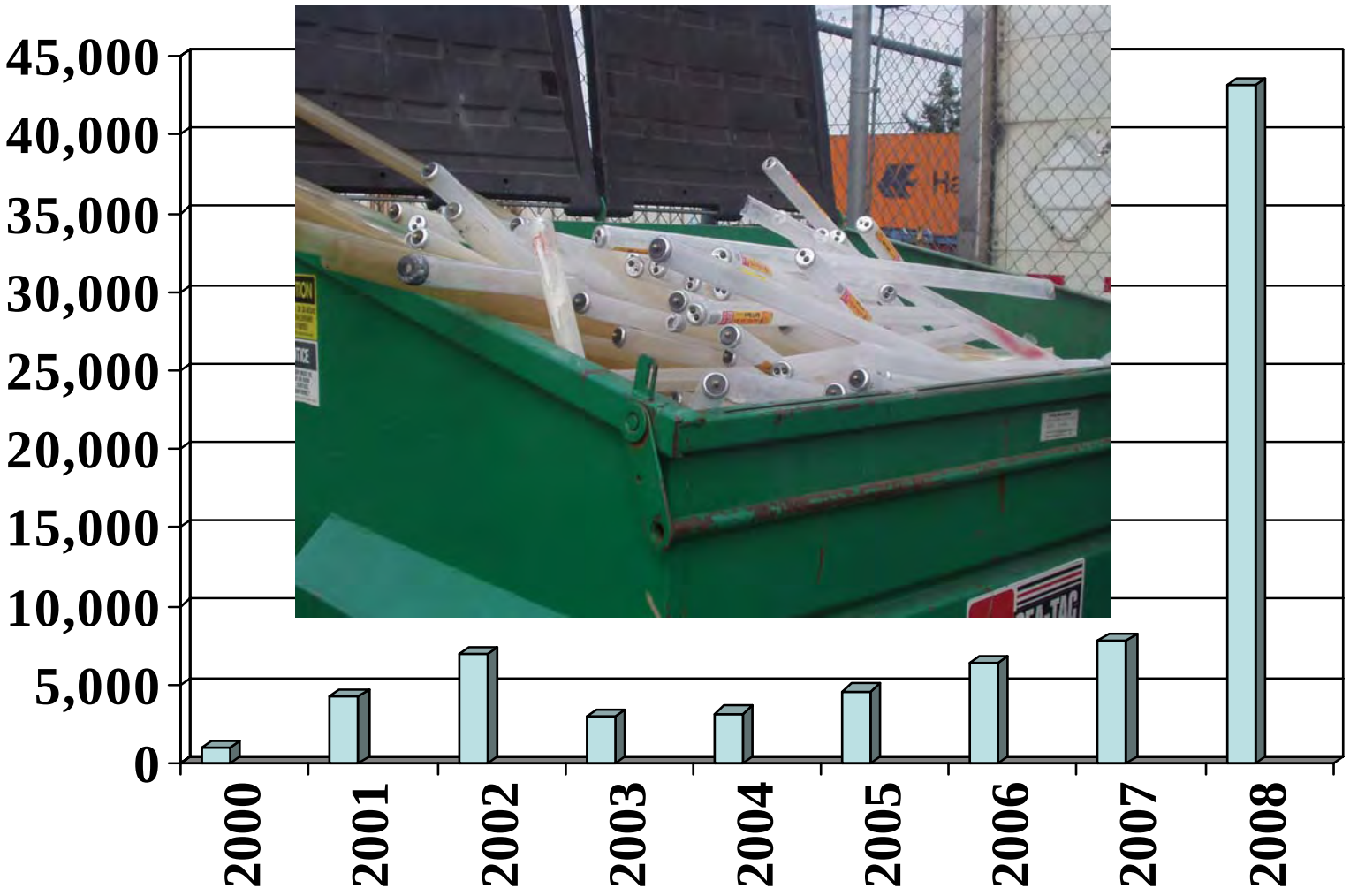
Film Plastics

But not in the mixed recycling!!!

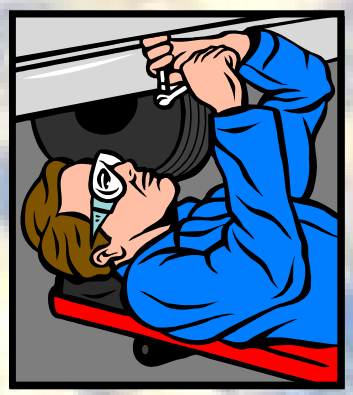
- 30% of recycling rollcarts contain plastic bags
- MRFs recover ~268,000 bags per 8 hour shift resulting in 311 tons/year
- This has resulted in equipment damage, slower processing, problems at paper mills, more bags being landfilled, and more labor costs (i.e. 1.7 FTE/shift to remove bags)

Hearing Aids & Glasses

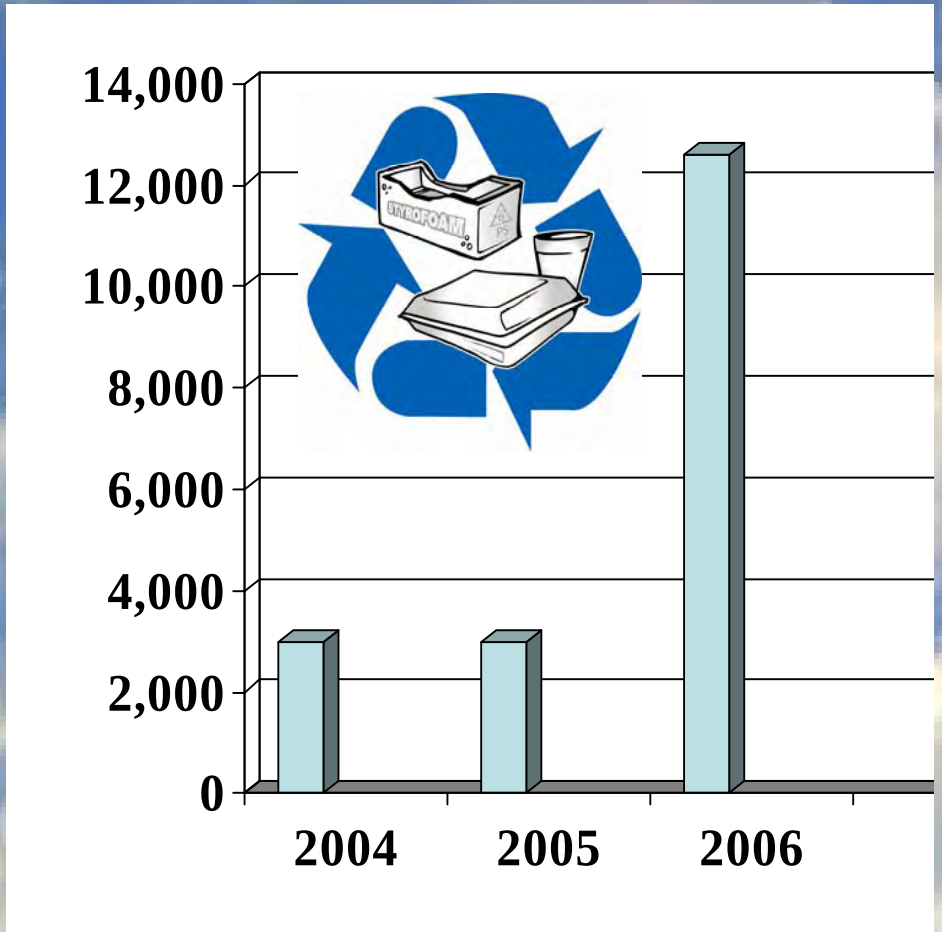
Fluorescent Lights



Mercury



Styrofoam


14,000
12,000
10,000
8,000
6,000
4,000
2,000
0
2004
2005
2006
STYROFOAM

Fresh Start Market
3020 Center St. NE, Salem

Recycling at Apartment

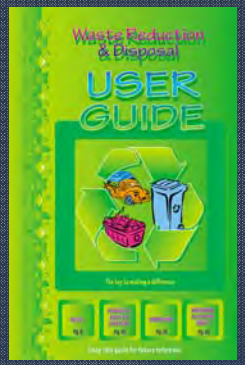
Recycling at Events

- Salem Art Fair & Festival
- Oregon State Fair
- Marion County Fair

garten
ZERO WASTE EVENTS

Promotion/Education

- Print
- Television
- Radio
- Billboards
- Buses
- School programs
- Master Recycler Class
- Sport events
- Presentations



Master Recycler Program

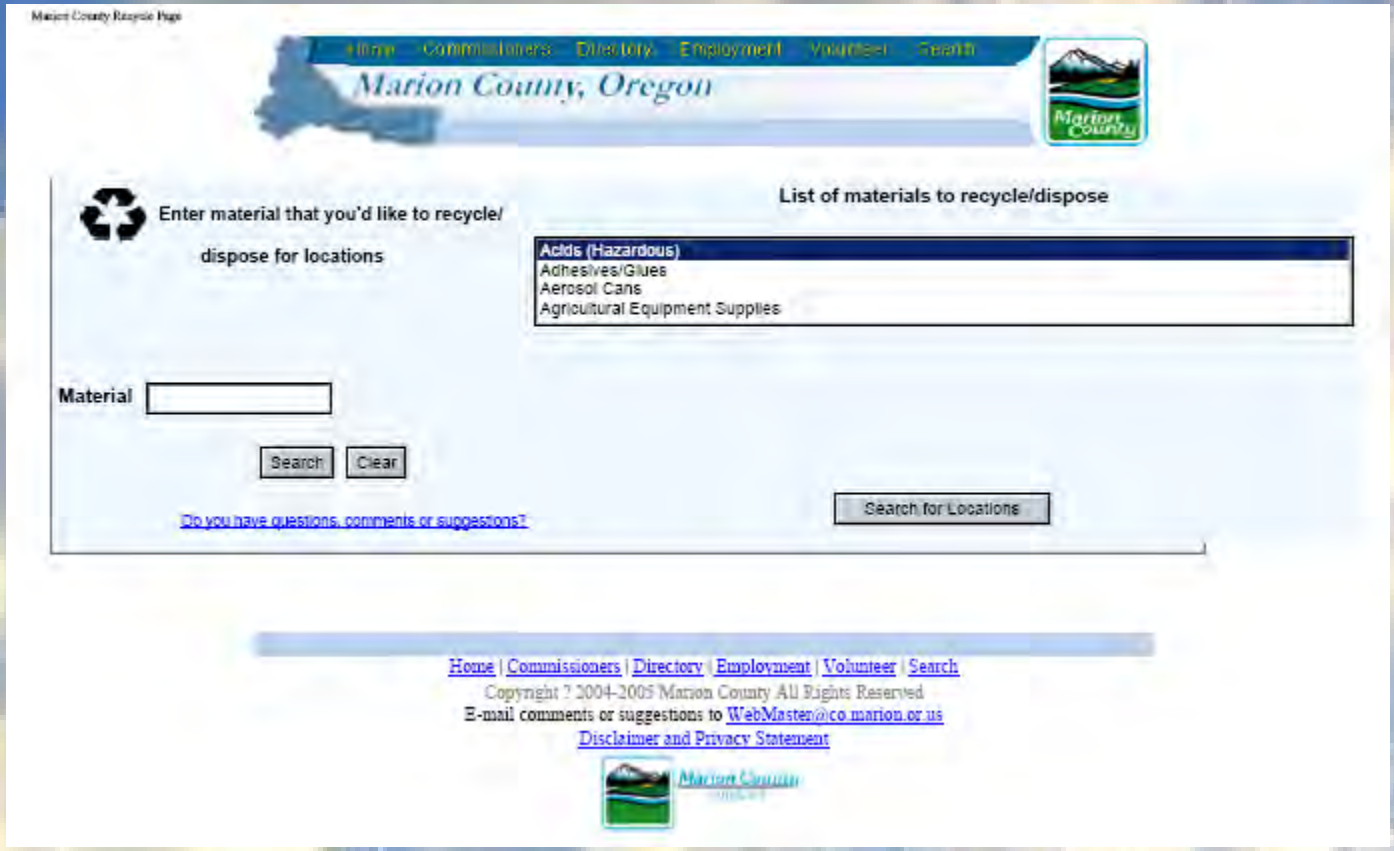
- What happens to your garbage
- What can and can't be recycled and why
- Waste reduction
- Waste management, water, energy, and resource efficiency
- The power of purchasing
- Composting and vermicomposting
- Household hazardous waste reduction and alternatives
- Use of native plants and beneficial insects
- Making fun stuff from "trash"
- Outreach techniques

Green Schools Program

Scholarships

Recycle / Disposal Database

http://publicworks.co.marion.or.us/Recycle/



What is Marion County doing to encourage composting?

Reduce

Reuse

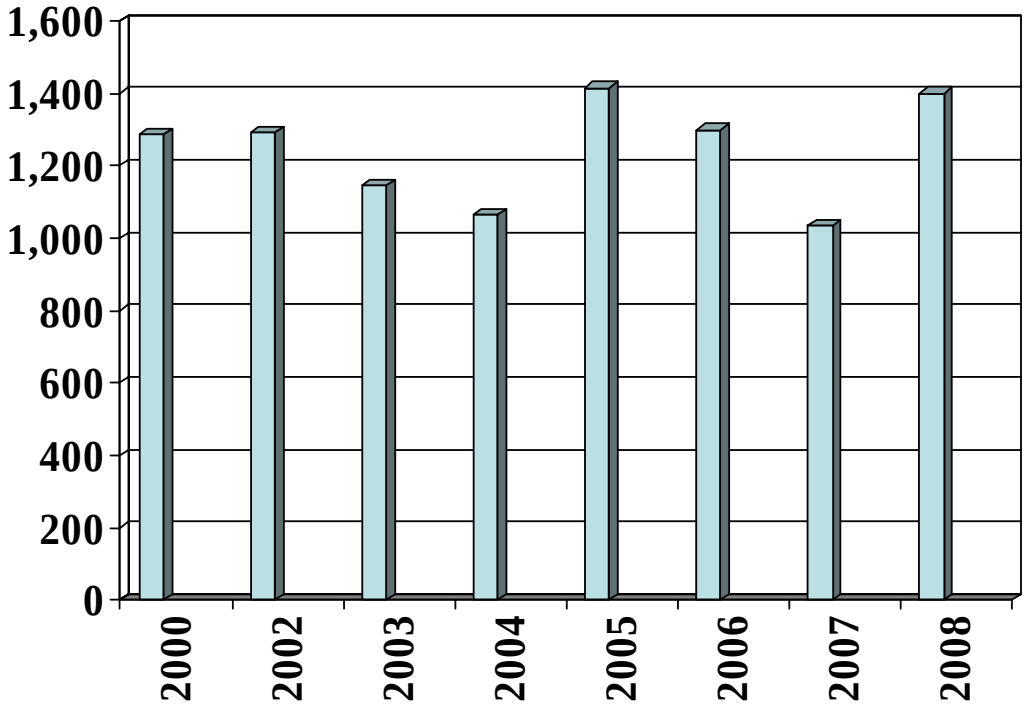
Recycle

Compost

Recover Energy

Landfill

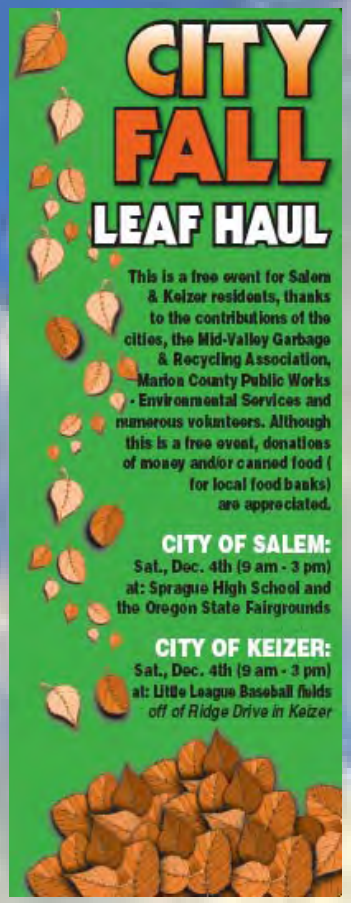
Composter Sales

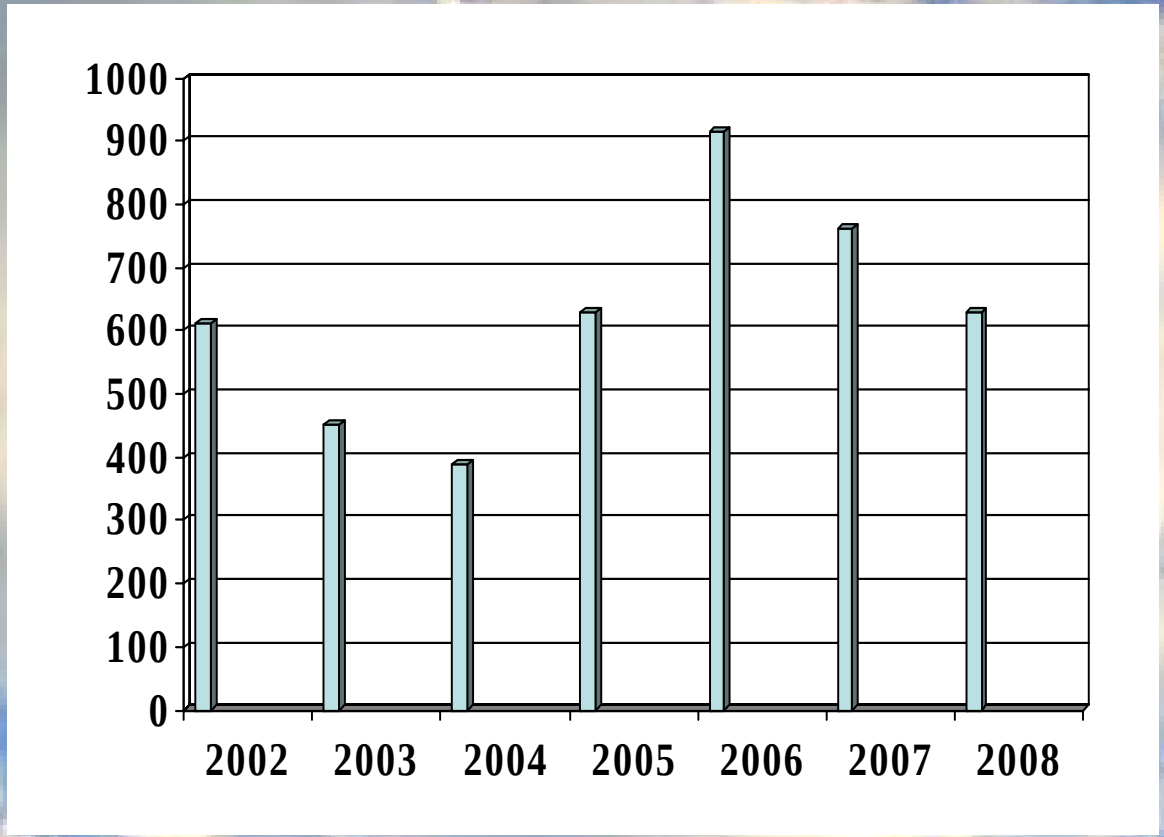


Fresh Start Market
3020 Center St. NE, Salem

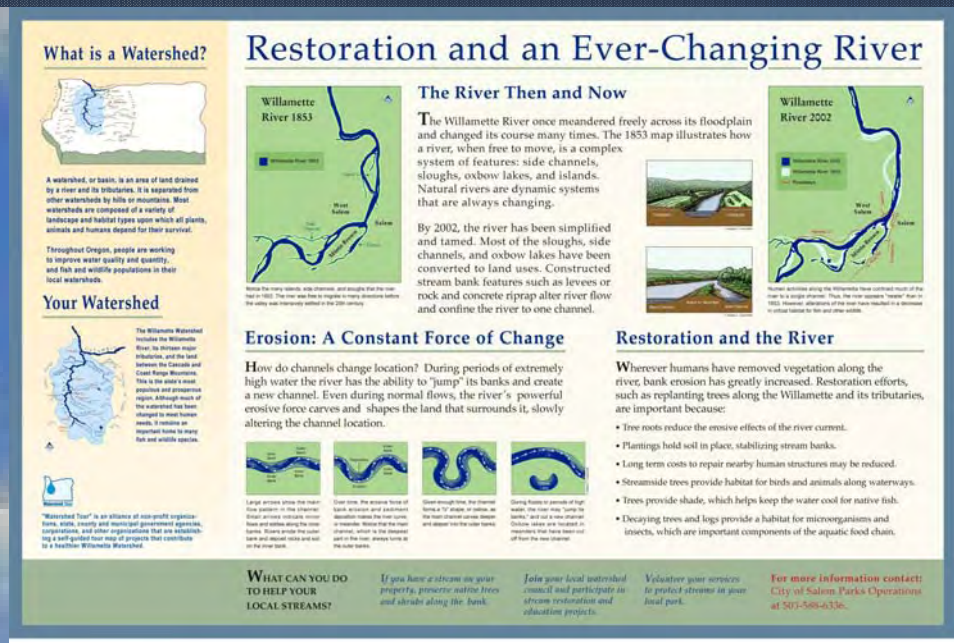
Compost Demonstrations Sites at Deepwood (Salem) and the Oregon Garden (Silverton)

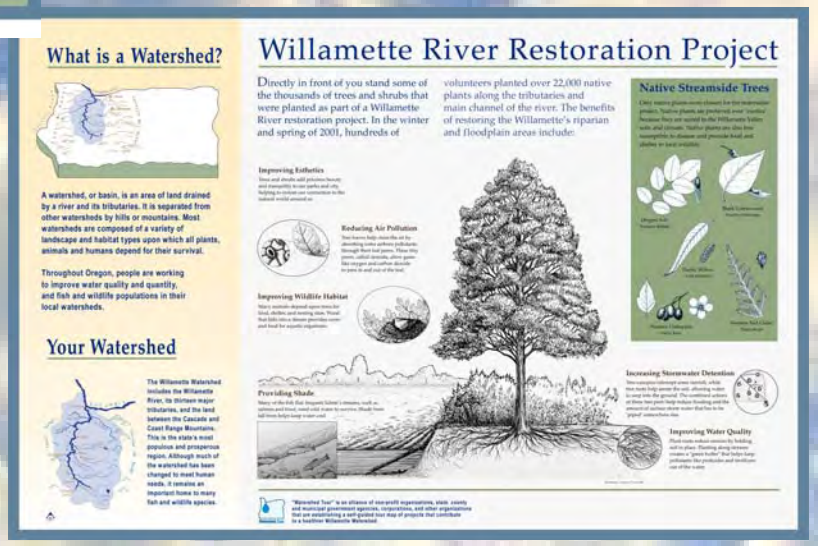
Leaf Collection Day





Restoration





THESE ITEMS GO IN THE

YARD DEBRIS CART

Grass Clippings

Leaves & Pine Needles

Garden, Fruit & Vegetable Scraps

Yard Prunings, Twigs & Small Sticks

NO

medical waste, plastic bags, pet waste, food (fruit/vegetables ok) or garbage of any kind. Lids must be completely shut for automated system to work properly.

Yard Debris Collection

Compost Oregon
(formerly Wood Waste)

Food Composting???

What is Marion County doing to recover energy?

Reduce

Reuse

Recycle

Compost

Recover Energy

Landfill

What happens to our garbage?

What does Marion County send to landfills?

Reduce

Reuse

Recycle

Compost

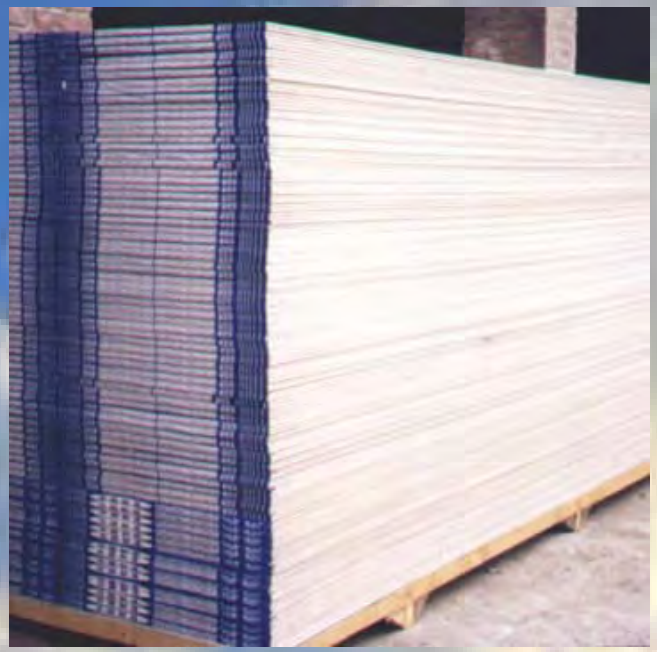
Recover Energy

Landfill

Brown's Island Demolition Landfill

Coffin Butte and Riverbend Landfills

What’s next???



Bailey Payne
Marion County Public Works Environmental Services
(503) 588-5169 x 5991
bpayne@co.marion.or.us

Marion County
Curbside Recycling...
Where do we go from here?
Marion County
Public Works
Environmental Services
Metal gets separated and sent to mills throughout the U.S. where it is turned into new metal products, like cans, bicycles, & aluminum baseball bats.
Lower grades of plastic get sent to China for recycling.
Plastic containers are sold domestically & turned into plastic lumber for decks & furniture or other plastic products..
Much of the paper is sent to Garten Services , a non-profit organization that employs people with disabilities. Workers sort the paper by grade & send it to mills in Oregon, Washington, California, Mexico, British Columbia, & China. It gets turned into office paper, newspaper, tissue paper & other paper products.
garten SERVICES, INC.
Garten Services, Inc.
Gardening Store
The finished compost is sold as a soil amendment at local gardening stores & nurseries
The leaves, grass clippings & fruit & vegetable scraps that you put in the green roll cart get turned into compost!
Wood Waste, LLC
AUMSVILLE
BROOKS
The recycling trucks empty the mixed recyclables & transfer them to a larger truck
Marion Resource Recovery Facility
HILLSBORO
Far West Fiber
Workers sort the mixed recycling.
Cardboard & paper bags get sent to mills throughout the Northwest & are turned into new boxes & paper bags.
Compost is then added to lawns & gardens for healthy soil and plants
YARD DEBRIS
RECYCLING
Grocery Store
BUY RECYCLED
RECYCLE AND COMPOST
Latex paint gets cleaned & mixed together. It's given away for free for covering up graffiti or painting your house.
LATEX PAINT
Colored glass is recycled in Portland and used to make beer and wine bottles.
Clear glass gets turned into new jars & bottles or is used as a road base in California
Items that can't be put in with the mixed recycling get dropped off at the haulers' depots.
Garbage & Recycling Hauler Office
Batteries are sent to recyclers across the country where the metals get separated and turned into new batteries.
BATTERIES
Motor oil is cleaned & reused in cars or it is burned to create electricity.
OIL
Coffin Butte Landfill
ADAIR VILLAGE (near Corvallis)
GARBAGE
Methane gas (a potent green house gas) is captured and burned for energy recovery at these landfills.
BROOKS
River Bend Landfill
McMINNVILLE
15% of the garbage in Marion County is sent to a landfill.
Waste-to-Energy Facility
Enough energy is created from burning the garbage to power 5,000 homes for a year.
85% of the garbage in Marion County is burned for energy recovery.
WOODBURN
When the garbage is burned it is reduced by 90% in volume, so the landfill for the ash (aka monofill) is smaller and less polluting compared to a normal landfill.
North Marion Recycling and Transfer Station and Ash Monofill
Each year in Marion County
- Recycling plastic bottles and tubs saves the equivalent of 8,600 gallons of gasoline each year!
- Recycling keeps 87,000 vehicles off the road, in terms of greenhouse gas reductions!
- Recycling saves enough energy to power over 37,000 homes for a year!
- Recycling saves nearly 400,000 trees a year!

Members of the Waste Reduction Education Action Committee (WREAC) produced a 13-minute video called "Saving Little Pieces of the Earth" to explain what happens to the recyclables after they leave the curb. It was intentionally designed to be relevant in all parts of Oregon that have a commingled collection system. You can download and view the video at: 9+ and it's available for free!

Get a FREE copy!

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