

# Wisconsin Plastics Recycling Study

Wisconsin Department of Natural  
Resources (DNR)

WIRM Conference  
February 21, 2013



Presented by Dan Krivit,  
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# ≡ Project Organization

- ❖ Wisconsin DNR
- ❖ Foth Infrastructure & Environment, LLC
- ❖ Moore Recycling Associates, Inc.



# ☰ Acknowledgements

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## ❖ DNR Staff:

- ▶ Cynthia Moore
- ▶ Brad Wolbert
- ▶ Mark McDermid

## ❖ WEDC Staff:

- ▶ Brenda Hicks-Sorensen
- ▶ Lee Swindall
- ▶ David Volz

## ❖ UW Extension/SHWEC:

- ▶ Joe Van Rossum

## ❖ City of Madison:

- ▶ George Dreckman

# ≡ Acknowledgements (cont'd)

- ❖ IROW:
  - ▶ Cory Tomczyk
- ❖ City of Madison:
  - ▶ Matt Maikolajewski
  - ▶ Charlie Romine
- ❖ N.E.W. Plastics Corp:
  - ▶ Mike Rekitzke
- ❖ Northwest Wisconsin Manufacturing Outreach Center (NWMOC):
  - ▶ Larry Blackledge
- ❖ Outagamie County:
  - ▶ Jill Haygood
  - ▶ Phil Stecker
- ❖ Pellitteri Waste Systems:
  - ▶ David Pellitteri
- ❖ Placon Corp:
  - ▶ Dan Mohs
- ❖ Printpack:
  - ▶ Bill Rubick,

# ☰ Acknowledgements (cont'd)

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- ❖ Trex Company:
  - ▶ Dave Heglas
- ❖ Waste Management:
  - ▶ Mike Lunow
  - ▶ Lynn Morgan
- ❖ Waukesha County:
  - ▶ Karen Fiedler
- ❖ Wisconsin Film & Bag:
  - ▶ Pete Emenecker
  - ▶ Jack Riopelle
- ❖ Wisconsin Manufacturing Extension Partnership (WMEP):
  - ▶ Randy Bertram

# ≡ Goals of Project

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- ❖ Analyze current status of plastics recycling in Wisconsin
- ❖ Identify barriers & opportunities for growth
- ❖ Identify improvement options

## ≡ Methods

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- ❖ Describe existing regulations and policies
- ❖ Review available literature and studies
- ❖ Interview local suppliers and selected markets
- ❖ Analyze composition in waste stream as disposed at landfills

## ☰ Methods (cont'd)

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- ❖ Develop broad potential scenarios for improvement
- ❖ Develop specific options for consideration (not recommendations)
- ❖ Rough estimates of implementation roles, costs, and benefits



# Results: Selected Summary Highlights

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## ❖ Wisconsin Recycling Law:

- ▶ Since 1995 PET & HDPE bottles banned from disposal
- ▶ Other rigid plastic containers have had a waiver ever since
- ▶ Local governments as “Responsible Units” for recycling programs

## ≡ Collection Infrastructure

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- ❖ 34,000 tons of plastic containers in 2010
- ❖ 85 registered MRFs
- ❖ Many of the large, national recyclers have already increased their line of plastics collected (e.g., types #1 - #7)

# ≡ Auto Sort Technology

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- ❖ Continuous upgrades to MRF sorting technologies, including auto sorting machines for many types of plastics and cartons

## ≡ Markets Are Strong ...

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- ❖ .... Especially for the high volume, high value commodities (e.g., PET + HDPE bottles; PE film)
- ❖ Good markets emerging for non-bottle PET + HDPE, all PP
- ❖ 27 plastic market facilities in Wisconsin
- ❖ Need additional sorting / reclamation capacity for other “mixed bales”

# ≡ Economic Multipliers

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- ❖ Wisconsin plastics industries employ 39,800 people
- ❖ Direct payroll of \$1.6 billion
- ❖ 8<sup>th</sup> among all states

# ≡ Alternative Recovery Options

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- ❖ Waste to energy
- ❖ Plastics to oil



# Economic Development Programs and Resources

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- ❖ DNR's *Green Tier*
- ❖ WEDC
- ❖ WMEP
- ❖ NWMORC

## ≡ Barriers to Growth

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- ❖ Definitions, terminology and specifications are all over the map
- ❖ Collection and processing of additional types of plastics
- ❖ Financial and technical barriers limit smaller MRFs ability to handle a wider range of plastic types

## ≡ Other Barriers to Growth

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- ❖ Supply assurance
- ❖ Lack of a preference for domestic end-use markets

## ☰ Potential Action Steps

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- ❖ Establish plastic diversion planning targets  
(e.g., 100,000 tons per year by 2020)
- ❖ Continue investing in RU recycling programs
- ❖ Form a Plastics Recycling Subcommittee

## ☰ Potential Action Steps (cont'd)

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- ❖ Develop a detailed implementation plan
- ❖ Conduct two feasibility studies on two types of plastics recycling facilities:
  - ▶ Mixed rigid plastic containers
  - ▶ Plastic film & bags

# ≡ Three Planning Scenarios

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- ❖ Status quo
- ❖ Partnership-oriented
- ❖ Policy oriented



**Sustainable  
Packaging  
Coalition**

**Flexible Film  
Recycling Group**

Avangard Innovative  
Berry Plastics  
Dow  
ExxonMobil Chemical Company  
Petoskey Plastics  
Sealed Air Corporation  
SC Johnson  
Trex Company, Inc.  
Wisconsin Film & Bag

**Public/Private Partnership  
to increase film recycling**

# Plastic Film Composition as Disposed and Diversion Targets

(Tons per Year)

Type of Film	Disposed	Diversion Targets By 2020
Shopping bags + other pkg. film	10,400	5,000
Industrial film pkg.	44,100	8,000
Agricultural film	9,200	2,000
Other plastic film	170,200	2,000
<b>TOTAL</b>	<b>233,900</b>	<b>32,000</b>

# PlasticFilmRecycling.org

plasticbagrecycling.org

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Home

Consumers

Businesses

Recycling Coordinators

Recyclers

Retailers

SuccessStories ▶

## The online resource for plastic bag and film recycling



### Consumers ▶

- > Did you know about recycling things like toilet paper wrap?
- > Learn more about what you can recycle and where!

### Businesses ▶

- > Learn what's recyclable
- > Calculate the benefits of recycling
- > Find recyclers
- > Design your collection strategy
- > Download recovery tip sheet
- > View sample market specifications
- > Download FREE signage

### Quick Links

#### Resources

- > 2010 Plastic Bag & Film Recovery Report
- > Plastic Bag Recycling Fact Sheet
- > Environmental Facts about Plastic Bags

### New Poster Available

Recycle clean, dry  
plastic bags and film



# Poster

## Recycle clean, dry, plastic bags and film packaging

Look for this label on film products like these...



Retail Bags



Newspaper Bags



Produce Bags



Case Wrap  
(e.g. snacks, beverage cases)



Bread Bags



Napkin, Paper Towel, Bathroom  
Tissue and Diaper Wrap  
(packaging)



Air Pillows



Dry Cleaning Bags



[how2recycle.info](http://how2recycle.info)

- NO frozen food bags
- NO prewashed salad mix bags
- NO degradable bags

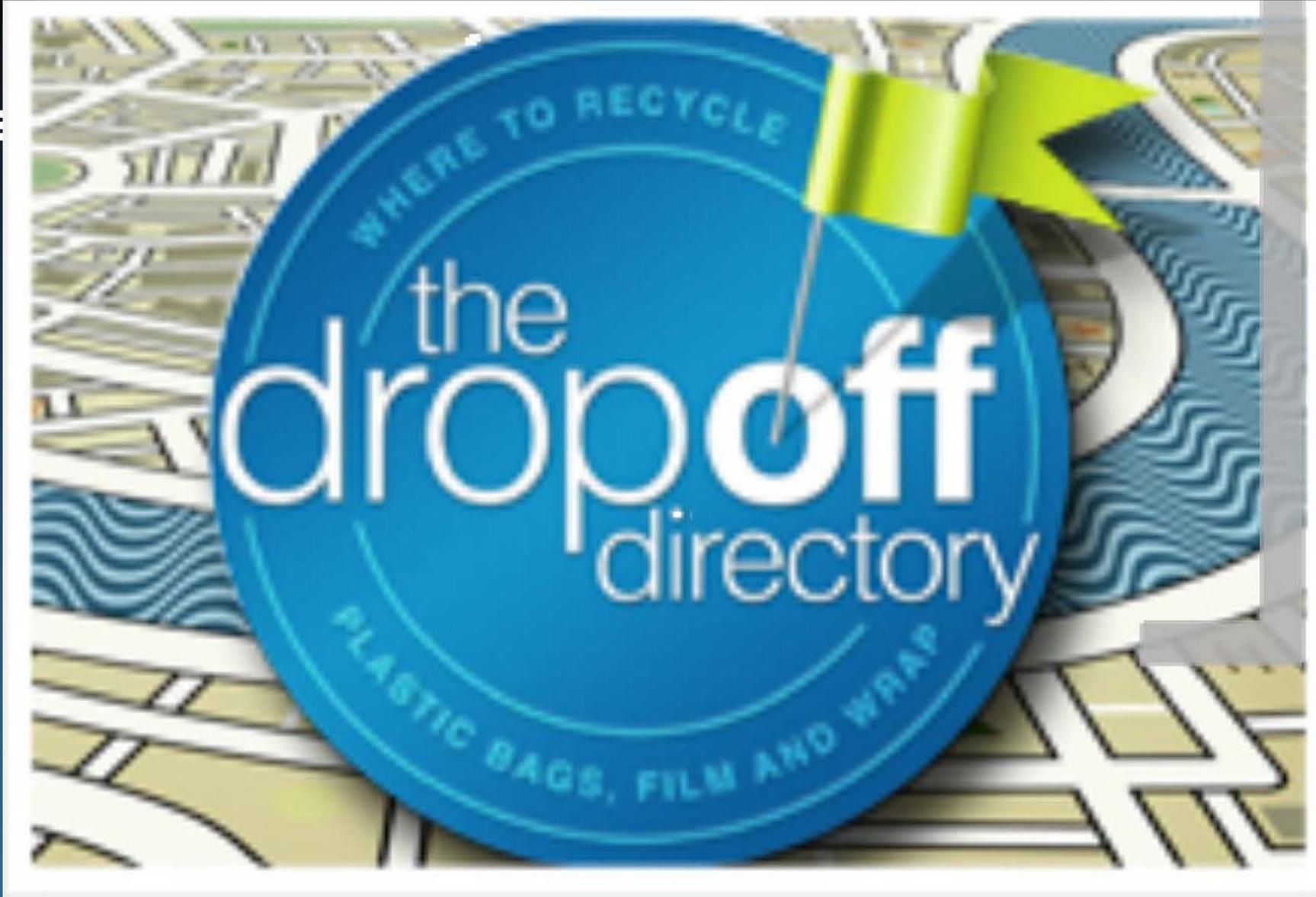


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RECYCLING ASSOCIATES INC.

Recycled plastic bags and wraps can become new packaging or durable home building products.

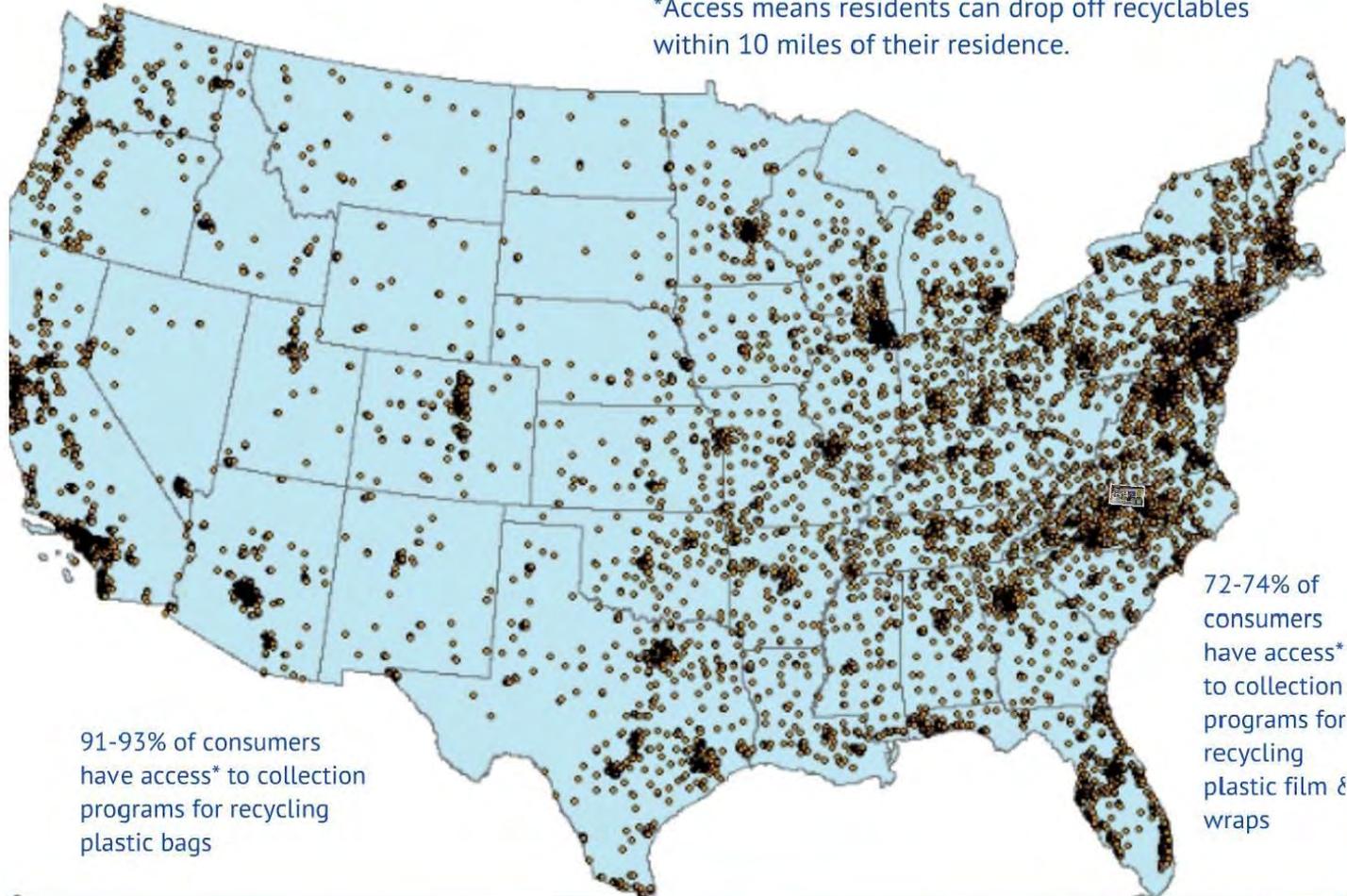
[plasticfilmrecycling.org](http://plasticfilmrecycling.org)







\*Access means residents can drop off recyclables within 10 miles of their residence.



91-93% of consumers have access\* to collection programs for recycling plastic bags

72-74% of consumers have access\* to collection programs for recycling plastic film & wraps





the  
**recycler**  
directory

**MOORE**  
RECYCLING ASSOCIATES INC.

 **Foth**

## The How2Recycle Label

The How2Recycle Label was created to provide consistent and transparent on-package recycling information .

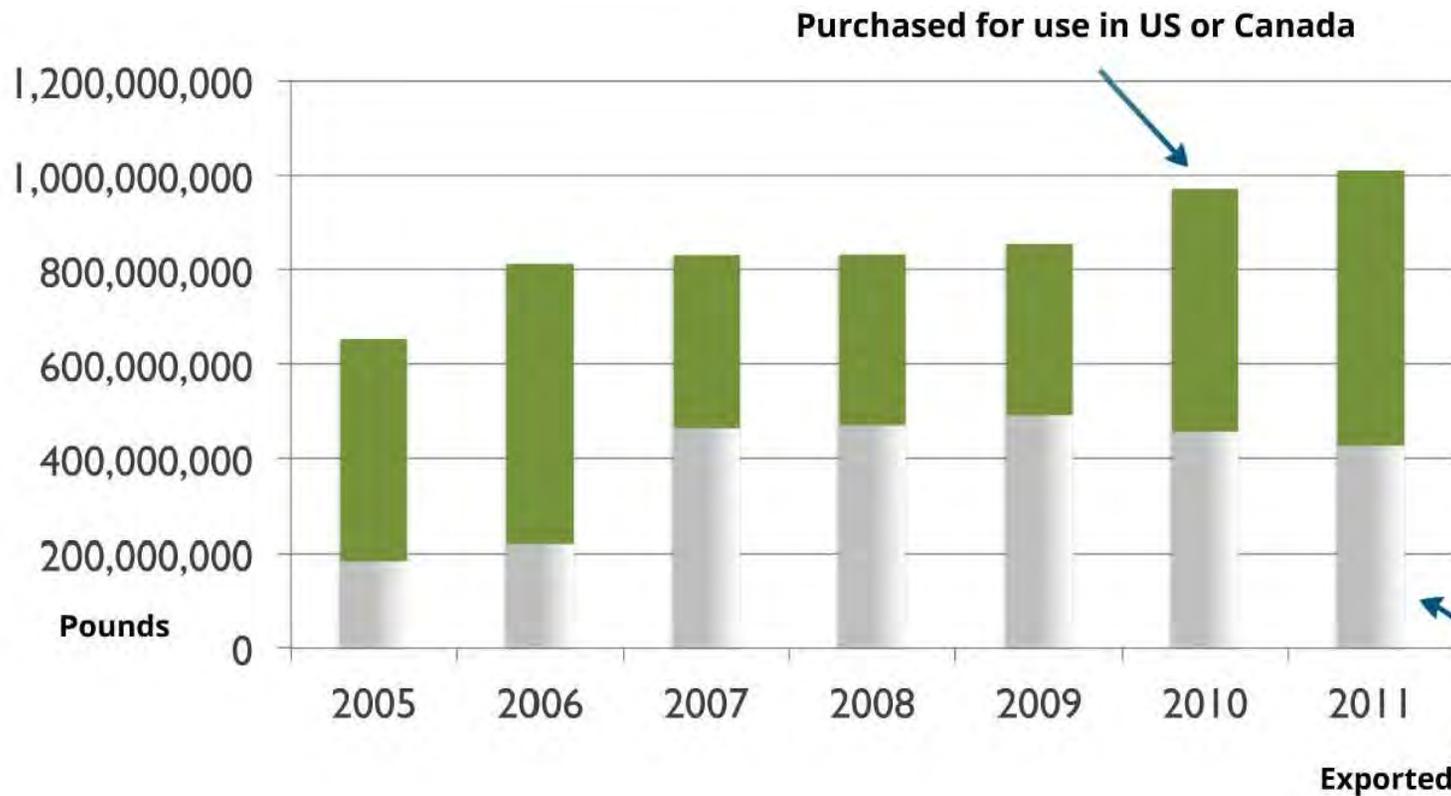
Packages with the label must follow the Assoc. of Postconsumer Plastic Recyclers [Design for Recyclability Guidelines™](#)



[how2recycle.info](http://how2recycle.info)



## Postconsumer Film Acquired for Recycling





Thank You!

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