



Current State of Electronics Recycling

Electronics Collector Workshop
Eau Claire
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**E-CYCLE
WISCONSIN**



Electronics recycling law

- Requires manufacturers of certain electronics to provide for recycling of a percentage of the materials they sell
- Additional requirements for registered collectors and recyclers who work with those manufacturers
- Outreach requirements for retailers and RUs
- Retailers cannot sell unregistered brands
- Landfill and incinerator bans

Which Electronics **Are Banned** From Wisconsin Landfills?



Wisconsin's electronics recycling law bans the landfilling and incineration of several types of electronics as of September 1, 2010. These bans apply no matter where the devices are from or who used them. Wisconsin households, K-12 public schools and Milwaukee Parental Choice Program schools can recycle banned devices (except cell phones) through E-Cycle Wisconsin.

To learn more, visit dnr.wi.gov/ecyclewisconsin.



- Desktop computers
- Desktop printers, including printers combined with fax machines, scanners and copiers
- Video display devices of at least 7" long in the longest diagonal dimension. These include TVs, laptops and computer monitors
- Computer peripherals including keyboards, mice, hard drives, scanners, speakers, flash drives, external modems and other devices
- Fax machines
- DVD players, VCRs, DVRs and other video players
- Cell phones



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dnr.wi.gov/ecyclewisconsin

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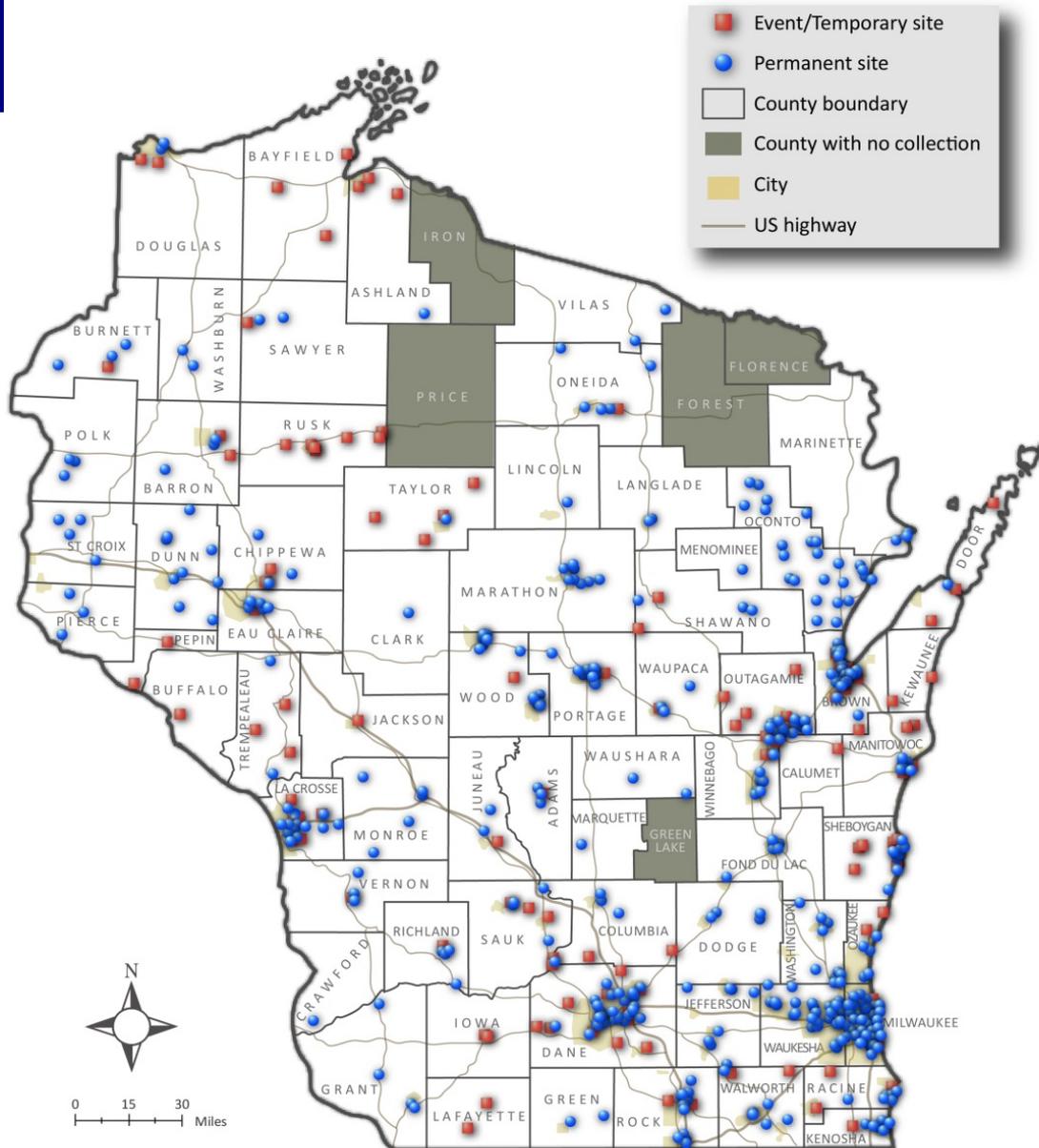
Printed on Recycled Paper



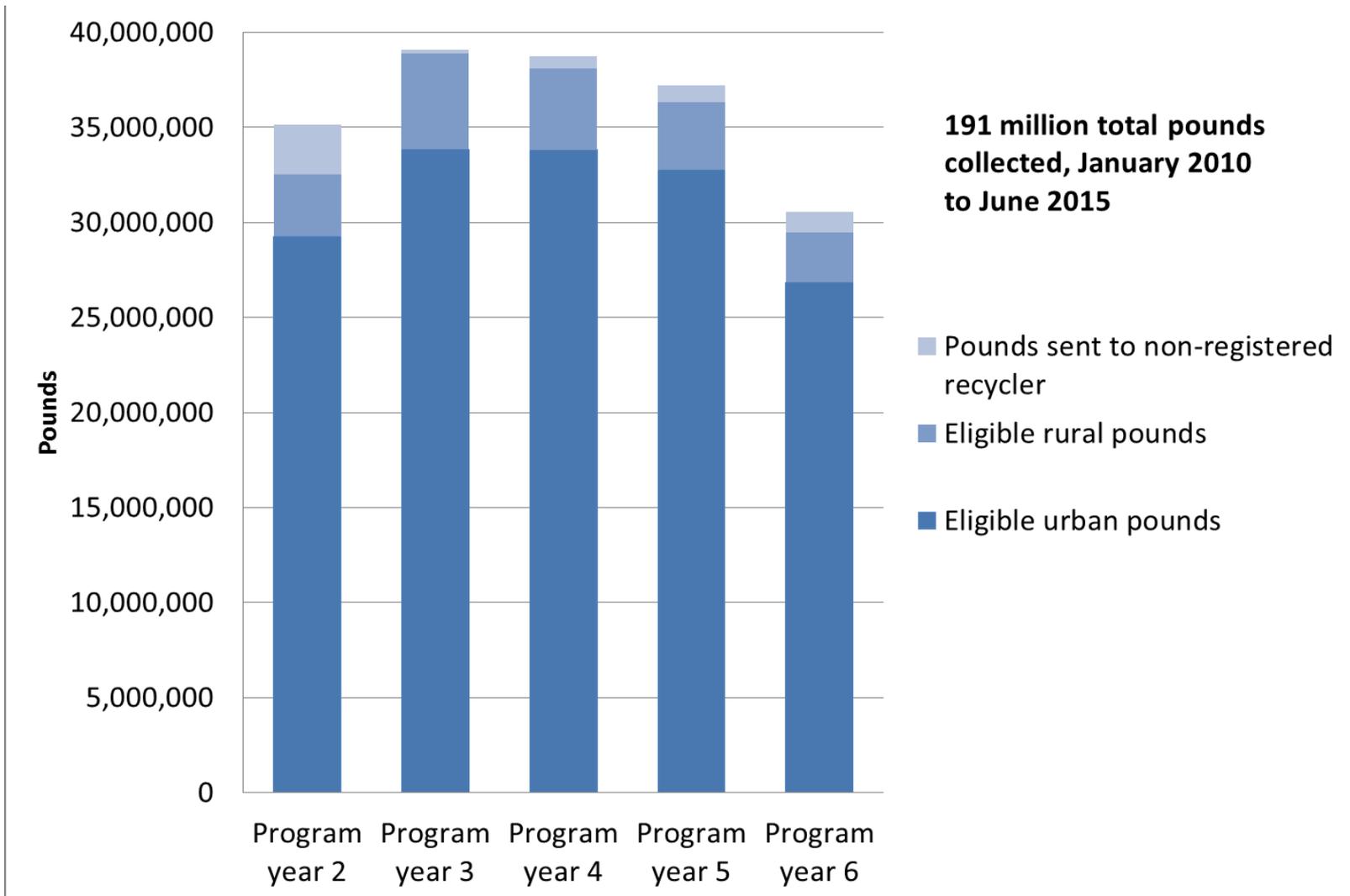
E-Cycle Wisconsin program success

- 71 out of WI's 72 counties have had at least one collection event or a collection site.
- The large population centers have multiple collection sites providing convenient access to the majority of the state's residents
- High rate of recycling - nearly 200 million pounds collected over first six program years, high per capita collection rate
- Valuable materials recovered
- Ensures proper management of hazardous materials
- Creates jobs for electronics recyclers

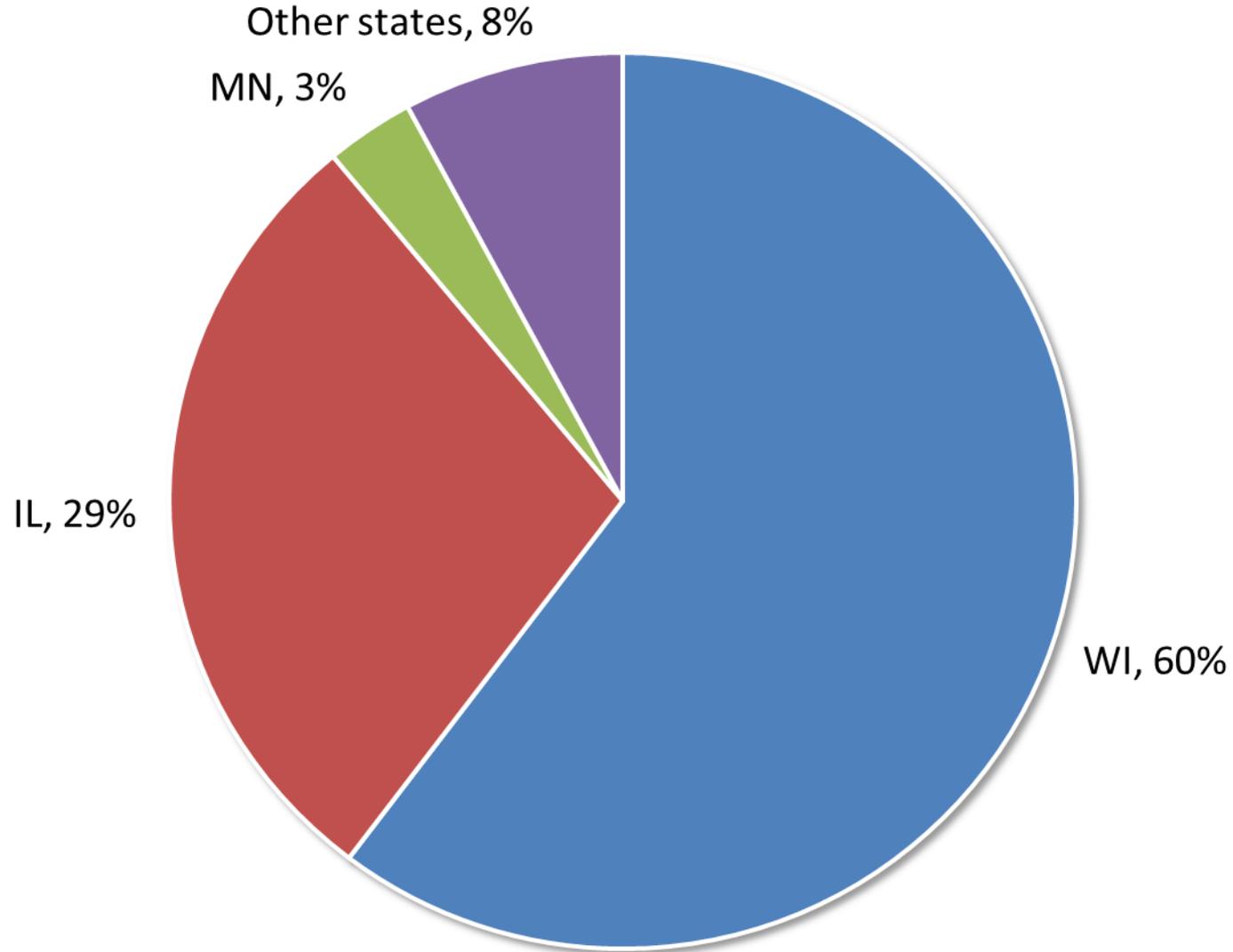
Registered E-Cycle Wisconsin Collection Sites, July 1, 2014 to June 30, 2015



Pounds collected by program year



Where collected materials go (PY6)





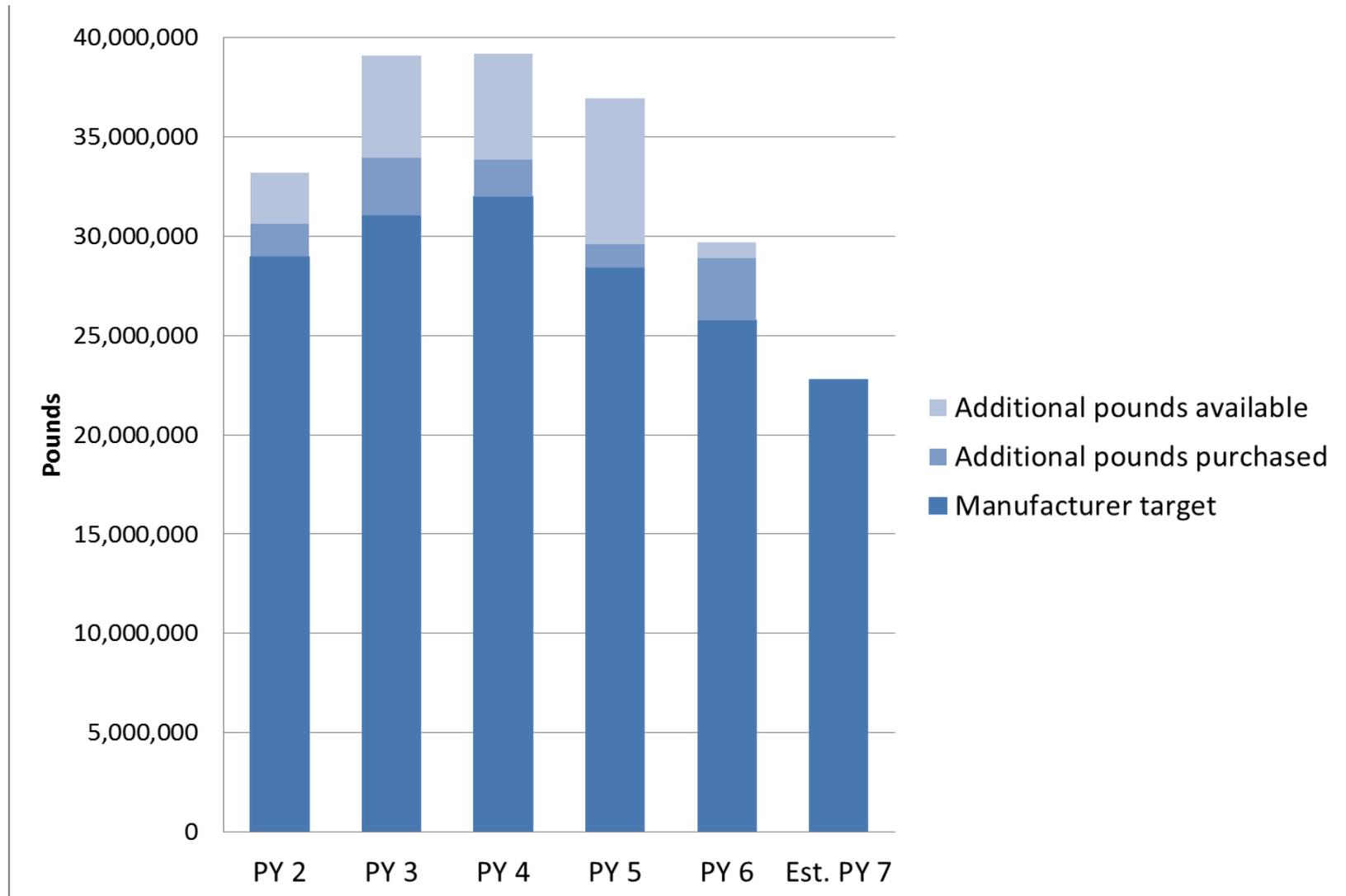
Current challenges for e-cycling

- Managing CRTs more expensive as markets decrease
- Low commodity prices affect recyclers' income stream
- Some registered recyclers and collectors are having difficulty managing program costs, especially if flooded with CRTs
- Declining manufacturer target weights due to smaller, lighter devices being sold
- These economic issues have reduced the number of collection sites, especially in rural areas
- "Recyclers" outside the program face issues when they don't understand regulations and marketplace complexity

Cathode ray tubes

- Continue to make up the majority of weight collected
 - Predicted to continue for the next 4-5 years
- Recycling options continue to decline
 - One glass to glass recycler left in the world - Videocon in India
 - Lead smelting
 - Tiles and ceramics
 - Cement
- New glass furnaces slow to come online and unlikely to be able to handle the current demand
- Hazardous waste treatment or disposal (including ADC) is an option but does not count toward E-Cycle WI manufacturer credit

Decreasing manufacturer targets



Leveling the playing field

- Inspections of collection drop-off sites
- Inspections of all in-state recyclers at least once a year
- Some visits to out-of-state recyclers
- Closer scrutiny of reporting using online system
- Taking action against retailers found to be selling unregistered brands
- Increased the number of registered manufacturers and brands, with help from retailers
- Will be working with collectors to improve recordkeeping used to verify recycler weights



Potential legislative changes

- Change manufacturer target formula so it's based on weight received by registered recyclers
- Replace rural "bonus" with collection percentage requirement
- Switch program year to coincide with calendar year
- Update definitions of covered devices
- Cover all K-12 schools
- Reduce registration fees for smallest manufacturers
- Add additional recycler reporting detail
- SB621 failed to pass during 2016 session; will likely be introduced again in 2017



Challenges of tracking electronics

- Tracking components downstream is very difficult and time-consuming
 - Large quantity of materials
 - Crossing state lines
 - Downstream vendors don't always give information easily - sometimes they don't want to release information because they haven't been paid
- Questions about locations of CRT glass
- Collectors often have poor tracking methods
- Reliance on recyclers' recordkeeping

Stockpiling concerns



- If not recycled within the program year, cannot be used toward manufacturer credits
- Hazardous waste exclusions no longer apply if CRTs stored for more than one year

Dumping/irresponsible recycling





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Oconto County case study results

- Glass piles were found to be hazardous for lead
- Direct contact to soil and drinking water wells within 100 feet made cleanup of the site critical
- DNR requested EPA's assistance
- EPA and their contractors removed:
 - 120 tons of lead contaminated glass and debris - disposed as HW
 - 8.3 tons of CRTs were recovered and recycled
 - 1346 pounds of miscellaneous electronics
 - 148 intact TVs and monitors
- Project cost approximately \$163,000

Contacts

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