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September 20, 2013

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**Executive Director**  
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Chad Rogers  
Pollution Prevention & Field Services Unit  
Office of Environmental Assistance  
Constitution Hall  
525 West Allegan St.  
PO Box 30473  
Lansing, MI 48909-7973

**RE: 2011 Community Pollution Prevention Grants Program  
Product Stewardship Grant  
Grant # 430182-11**

Dear Mr. Rogers,

Please accept our ninth quarter and final grant report. This report does not include a Financial Status Report (FSR) or request for reimbursement for grant expenses, as there was an insignificant amount of activity on the grant and no remaining funds from which to work.

We are pleased with the results of the project and hope you are too.

Please feel free to call if you have any questions or concerns, (517) 974-3672.

Sincerely,

Kerrin O'Brien  
Executive Director

**Michigan Department of Environmental Quality**  
2011 Michigan Community Pollution Prevention (P2) Grant Program

Michigan Product Stewardship Program  
Michigan Recycling Coalition  
Grant # 430182-11  
**Final Grant Report**

Project Name: Michigan Product Stewardship Program  
Project Location: Ingham County  
State Senate District Number for Project Location: 23  
State House of Representatives District Number for Project Location: 68  
Applicant: Michigan Recycling Coalition  
Organization's Federal I.D. Number: 38-2466754  
Organization's Telephone #: 517-974-3672  
Organization Fax #: 517-482-9565  
Contact person: Kerrin O'Brien  
Contact's E-Mail: kerrinmrc@gmail.com  
Organization Address: PO Box 10070, Lansing, MI 48901  
Start Date of Project: July 1, 2011  
End Date of Project: September 30, 2013  
Grant Requested: \$ 50,000.00 + Local Match \$ 19,628.00  
Project Total: \$ 69,628.00  
Person with grant Acceptance Authority: Kerrin O'Brien, Executive Director

#### PROJECT GOALS & OBJECTIVES

Product stewardship is a relatively new approach to solid waste management. It essentially directs all those involved in the lifecycle of a product to take responsibility for impacts to human health and the environment that result from the production, use, and end-of-life management of the product and its packaging. While product stewardship can be imposed on companies through legislation, manufacturers and retailers are also creating voluntary initiatives to collect and recycle or safely dispose of their products, some of which are available - though underutilized - in Michigan.

While it is of the utmost importance to recycle or properly dispose of potentially hazardous products, doing so requires a well-informed, proactive public and governance structure, collection opportunities that rival the convenience of throwing something 'away', economic incentives to manage end of life products appropriately, and funding to cover the cost of collection, transportation, and, ultimately, recycling or disposal of the product. Local governments, especially in small communities with a relatively small tax base, are hard pressed to fund and/or provide all of these critical elements of sustainable materials management.

With funding assistance through the P2 Community Grant, the Michigan Recycling Coalition (MRC) targeted three specific product categories to begin discussions and potentially move toward product stewardship focused solutions for e-waste, pharmaceuticals, and packaging (primarily plastic

packaging). The MRC inserted itself into current and developing state and local dialogue, processes, and programs for handling these materials to grow interest and potentially build support for product stewardship efforts in general and specifically for the identified product categories above.

## **Project Goals**

### **1) Build and expand stakeholder network**

- a) Over the course of the grant period the MRC and PSI reached out to well over 3000 contacts, on approximately a monthly basis, in their collective databases to notify them of the product stewardship project and the events and opportunities that were developed over the course of the project
- b) Of that list, the MRC identified and accumulated a direct contact list of over 700 potential stakeholders in all three product categories. These stakeholders were contacted numerous times mostly via e-mail, regarding the product stewardship learning and discussion opportunities we were providing through PSI, and hosted workshops, webinars, and conference calls. The MRC and PSI directly engaged 43 unique individuals.
- c) PSI hosted over 30 informational webinars/conference calls on product stewardship topics of all types in addition to conference calls around more specific working topics over the course of the grant period. Over 80 Michigan professionals participated in these calls.
- d) MRC hosted a variety of stakeholder meetings throughout the project:
  - i) Green Innovators Breakfast in-person regional meeting – e-waste, 10/21/2011, 6 participants
  - ii) Fall Into Recycling in-person workshop – e-waste & pharmaceuticals, 11/29/2011, 37 participants
  - iii) E-waste Takeback Legislation conference call – e-waste, 12/19/2011, 42 participants
  - iv) Model Pharmaceutical Programs Part 1 webinar – pharmaceuticals, 1/26/2012, 25 participants
  - v) Model Pharmaceutical Programs Part 2 webinar – pharmaceuticals, 2/15/2012, 16 participants
  - vi) Making the Case for a Sustainability Fee webinar – packaging, 2/16/2012, 18 participants
  - vii) Spring into Recycling: Hellooooo! Governor E-Rally webinar – packaging, 3/27/2012, 36 participants
  - viii) MRC Conference Product Stewardship & Packaging session – packaging, 5/10/2012, 38 participants
  - ix) Electronics Recovery Feedback Workshop – electronics, 12/4/2012, 41 participants
  - x) Increasing Pharmaceutical Recovery in Michigan Feedback Workshop – pharmaceuticals, 3/25/2013, 43 participants
  - xi) Product Stewardship & Packaging Feedback Workshop – packaging, 4/10/2013, 29 participants
  - xii) Pharmaceutical Dialogue follow-up conference call – pharmaceutical, 6/19/2013, 8 participants
  - xiii) Packaging Dialogue follow-up conference call – packaging, 7/9/2012, 15 participants

### **2) Involve stakeholders in PSI events**

- a) Both PSI and MRC promoted PSI member benefits and services to MRC members, Michigan state and local governments, and other key stakeholders
- b) Over 80 individuals from Michigan state agencies, MRC, and local agencies took advantage of PSI's educational services. In addition, all MRC members and participating individuals received bi-monthly product stewardship updates and PSI's newsletter.

### **3) Program improvement**

- A. *Join the Product Stewardship Institute, Inc. (PSI)*, is a national environmental institute with a growing membership of 47 states, over 200 local governments, and over 70 businesses, environmental groups, and organizations. PSI pursues initiatives, state and national, to ensure that all those involved in the lifecycle of a product share responsibility for reducing negative health and

environmental impacts, with producers bearing responsibility for designing more environmentally-friendly products as well as financing as proper material management.

With funding through this grant the MRC became a PSI state partner for the two-year duration of this project and committed to engage in national and state level dialogue around the targeted product stewardship issues. As a state partner, the MRC, its members, the Michigan Office of Environmental Assistance, and all local governments in Michigan had access to all 'Full Member' benefits of PSI. At many points throughout the grant period MRC members and potential stakeholders or beneficiaries of membership were provided with information about membership and the project via direct solicitation from MRC and PSI, direct e-mails, and the MRC newsletter.

The MRC was eager to work with PSI staffers to both learn about all the issues surrounding product stewardship of the chosen product categories but also to learn PSI techniques for engaging very different types of stakeholders in potentially divisive conversations from coast-to-coast. We found PSI staff to be very knowledgeable about the issues and techniques for driving dialogue toward understanding and consensus. The direct consulting services they provided to the MRC were most helpful in developing strategy and helping to establish agendas to move each discussion toward its natural tipping point.

For all three product categories, PSI provided important current and historical knowledge about dialogue that has already taken place in other states and at the national level. They also worked with MRC staffers to better understand what the current situation in Michigan holds and how we can best engage stakeholders in forward moving, productive dialogue.

More specifically, for example, PSI worked directly with MRC staffers to help them identify unifying topics to begin the dialogue on packaging waste. PSI has been working for a few years to understand the issues of packaging waste from the perspective of all the different stakeholders. Packaging has proven itself to be a very sticky issue because of the sheer number and diversity of stakeholders. The first step the Michigan-based stakeholder group had to take was to recognize and agree that there is an issue with packaging waste. We determined that focusing some of the initial dialogue on the impacts of packaging waste on both Michigan's land and water created both a sense of urgency and a problem that couldn't be denied. Getting all parties to agree to these problems was the first step in a process that is likely to take years to build consensus around.

In the case of electronics waste, that has some history with product stewardship type solutions, PSI helped MRC staffers by identifying key questions for stakeholders. These questions were developed from knowledge of both Michigan's takeback law but also of the business interests of many manufacturers and recyclers at the Great Lakes and national levels. These questions provoked thought and discussion around the challenges and opportunities presented by Michigan's current electronic waste law and management situation.

We were somewhat disappointed that more MRC members and Michigan governments and nonprofits didn't take advantage of the benefits of PSI membership. We postulate that these stakeholders are still very new to the ideas of product stewardship and extended producer responsibility (EPR) and do not yet see themselves in the national context or using their authority to advocate for product stewardship or EPR in an official capacity in their jurisdiction. Especially in the case of pharmaceuticals and packaging where multi-national companies are working to get ahead of the product stewardship issue or are simply ignoring it outright. Discussions among local

stakeholders, without the input of manufacturers, left participants a bit frustrated about how to make real progress with product stewardship.

- B. *Assess and explore strategies for strengthening Michigan's current E-waste Takeback Law***, Part 173, Electronics, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (Act 451), requires manufacturers to provide free and convenient recovery and recycling of e-waste. The MRC hosted an initial E-waste workshop on November 29, 2011 to establish a foundation for sharing information about the law, the programs that have developed in the state as a result, to better define product stewardship in this arena, and to increase recovery of e-waste. A follow-up conference call was held on December 19, 2011 to discuss the implications of and potential changes to the e-waste law that would ultimately result in increased recovery. The MRC held another workshop on December 4, 2012 to dialogue with stakeholders about the opportunities and challenges of recycling e-waste in Michigan.

Of the three product categories, e-waste discussions were the most simple to manage. The fact that a product stewardship-based law is already in place focused stakeholder attention on the factors that contributed to the success or failures of the law to move materials toward recovery. Our work in this product category focused on facilitating discussion among stakeholders and reporting that discussion to the DEQ. The final workshop provided the most valuable stakeholder input for electronics through facilitated dialogue. See the report entitled *Increasing Electronics Recovery in Michigan Feedback Workshop Dialogue Notes*, December 4, 2012.

Generally speaking, Michigan's E-waste Takeback Law has made some impact on the recovery of electronic waste in Michigan. The extent of that impact, however, is in question. As a result of the law, collectors are being paid for their material which potentially allows them to offer more collection opportunities and events, but revenue is very modest. With success comes additional burden. The costs to promote and properly operate collections are an ongoing financial challenge as recovery increases, as is serving rural and sub-rural regions of the state.

Recyclers are less sure that the Takeback Law has had any significant impact on their recovery numbers. If there has been an impact, the burden of CRT recycling is a cost to recyclers that tempers revenue. Out-of-state recyclers do not have to register with the program which puts in-state recyclers at a disadvantage. Furthermore, recyclers that don't have a direct relationship with an original equipment manufacturer (OEM) expressed having a significant market disadvantage and report that they are required to pay for the material but receive less value for the commodity they sell on the open market. It appears that OEM's are ultimately driving recovery and without full compliance, the take-back law recovery will never reach its potential. They contest that more pressure on manufacturers, to gain compliance from all manufacturers, would drive better results. For recyclers, mandatory manufacturer recovery goals and even, potentially, a landfill ban would have a more equitable and significant impact on recovery of e-waste in Michigan.

Manufacturers also do not believe that the take-back law has had much impact on recovery and consumer education. As collection opportunities accumulate, simple local promotion accounts for much of the increase in recovery. However, they do believe that developing a stable infrastructure and consistent message would increase recovery over scatter shot collection events. Manufacturers express an interest in incentive-based approaches to compliance and an opposition to increased fees, suggesting more fees as a disincentive.

Participating stakeholders did not agree on every point but they did seem to agree on the need to increase recovery, for broader consumer education and information regarding recycling their equipment, and for the need to better serve underserved populations. What has become evident to the MRC is that clear, concise goals and targets move industry to action. The mandate to provide ‘convenient’ takeback opportunities muddies the water and is not effective in engaging all manufacturers and distributors in creating high impact programming for the public.

The state is currently collecting data as it relates to the Michigan E-waste Takeback Law. The need for good data, collected and analyzed on an on-going basis is a systemic issue, needed for all aspects of recycling and resource recovery. Data reporting will have to be required by the state to assure complete and consistent reporting. Maximizing data standardization across materials will be important if we are to learn what recovery strategies work best. The MRC relied on the baseline information developed by the DEQ and saw little need to recreate the information. We encourage the state the advance data collection efforts across the spectrum of recovery efforts.

The MRC has developed a recycling awareness campaign its calling Recycle, MI. This campaign is designed as a statewide tool to promote recycling of all kinds, including e-waste. The campaign focuses on providing the motivation necessary for current non-recyclers to pay attention to the information and local programs providing services. It has been launched and as interest and funding grows so will its impact.

The MRC developed a report entitled, The State of Electronic Recycling in Michigan. The report identifies the current impacts of the law, compares our progress to other states and makes recommendations for improving the law with stakeholder input. This document was also used as a basis for discussion with the stakeholder groups at the workshop on December 4, 2012. The MRC continues to stand by its recommendations and will use the findings from this report to enhance its efforts to advance understanding and action about these issues.

Stakeholders discussed the importance of e-Stewards and R2 certifications to both ensure the proper end of life management of e-waste but also to ensure a level playing field among service providers. The MRC recognizes the importance of certification and recommends the state require registered service providers be certified by at least one of the entities above. However, e-Stewards is recognized by recycling industry leaders as the certification that has developed a higher level human health and environmental assurances. Collectors are looking to recycling leaders to help them identify good actors in the industry and we believe that both of these certifications provide necessary guidance. The Northeast Recycling Council compares the certifications in this [article](#).

The MRC did not end up engaging with the Midwest Electronic Waste Recycling Policy Initiative. The Michigan e-waste takeback law is unique in the Midwest and beyond the state comparisons in the State of Electronic Recycling Report, this project focused on the specifics of our e-waste law and its implications.

Take-away:

- Stakeholders appear to agree that not enough material is being recovered, especially in underserved areas.
- Stakeholders appear to agree that state leadership and fair policy is important to further recovery.

- Stakeholders appear to agree on the need for sustained, consistent, and easily accessible consumers educational, information, and collection opportunities.
- Stakeholders appear to agree that scavenging and theft is a growing problem in this area.
- Government stakeholders would like to facilitate more collection opportunities but are financially challenged to do so.
- Recycling stakeholders believe that OEM's are driving, or not driving, recovery and need to be held accountable.

**C. *Coordinate an ongoing forum for discussion, information sharing, and development of local drug take-back programs.*** There are several successful methods and models for implementing programs to collect unused pharmaceuticals in Michigan. The MRC provided information about several of those successful Michigan-based pharmaceutical take-back programs at a workshop on November 29, 2011. Two follow-up webinars were held on January 26 and February 16, 2012 designed to highlight how different take-back models succeeded in sustainably recovering material. A second workshop designed to enlarge the dialogue around increasing pharmaceutical recovery was held on March 25, 2013 with a follow-up conference call facilitated on June 19. These later, in-depth discussions allowed participants to discuss in greater detail the challenges faced in establishing and operating high impact, sustainable recovery of pharmaceuticals.

The discussion around pharmaceutical recovery seems to be growing in urgency but is also stuck in limbo. Given Michigan's geographic proximity and ultimately, its responsibility to the nation's most important fresh water resource, this is an important issue but budget constraints mean that widespread convenient programming is not a top priority. Michigan is lucky enough to host a few very successful collection models that have been highlighted throughout this project. However, every one of these programs is hampered by the slow moving and very necessary changes to the Drug Enforcement Agency rules governing the handling of controlled substances and the Michigan Department of Environmental Quality's regulations regarding the transportation of solid waste across county lines. We are told that proposed changes to the DEA rules may be approved in October of 2013 and that changes to the DEQ regulations will be proposed in an upcoming legislative session. Without these changes, real progress will be very slow as stakeholders are reluctant to develop programs where they are either operating outside of the law or in a changing legal environment. While stakeholders have little control over these rule changes they are becoming advocates for the needed change. The MRC will continue to share information about rules changes as they develop and encourage advocacy on the proper management of these materials.

Funding to support collection programs is a real challenge. Permanent drop-off sites require a secure container and in order to collect both controlled and non-controlled substances these containers must be housed in a law enforcement location, generally not convenient to the law-abiding public. Collection events happen too infrequently and are likely to receive controlled substances which require law enforcement presence.

While product stewardship has been identified by many stakeholders as a potential solution, manufacturers are not coming to the table. There's a growing understanding at the state and national level that engaging pharmaceutical manufacturers is going to be a lengthy, unguaranteed process.

Participating stakeholders generally agreed that pharmacies were the most logical place to take-back unused medicines. While not a full product stewardship effort, garnering increased pharmacy involvement will not only increase proper recovery and disposal, but spreads the cost for

transportation and management of old meds across a key stakeholder group, pharmacies. Michigan hosts several successful in-pharmacy collection programs. The Michigan-based Yellow Jugs Old Drugs program is the most unique and widespread program that makes pharmaceutical recovery services available to participating pharmacies at a reasonable cost. While many MRC members manage HHW collection events and even local take-back programs of their own, the YJOD program is a valuable service that can be bought by any pharmacy. The MRC finds the YJOD approach both unique and successful. YJOD is currently better equipped than most counties, police stations, or municipalities to provide convenient, cost-effective take-back opportunities for populations of all sizes, geographies, fiscal situation, and composition.

A not insignificant amount of the discussion on March 25th was geared toward a need to use unwanted, in-date, packaged medications for low income and overseas needs. Redistribution program will have to operate separately, as the YJOD program destroys the drugs before ultimate disposal.

Stakeholders voiced support for consistent and widespread education and messaging that crosses jurisdictions. But again, there was frustration about the lack of interest in even this aspect of the discussions by pharmaceutical companies that are often national and multi-national in scope. Without the engagement of these prominent stakeholders, mandatory product stewardship in the form of government mandated extended producer responsibility may be the only option and is being tested in other states. YJOD has received funding to educate on a wider scale through the use of PSA's and given the value of YJOD's role in old med collection in pharmacies, their role as educator is key. The MRC will support YJOD's outreach efforts by providing resources to MRC members and constituents about the importance of proper disposal and the services YJOD provides.

To address the range of issues associated with unused pharmaceuticals and the high level of state interest in water protection and public health and safety, MRC will continue to work with PSI voluntarily to continue to safe drug disposal. Along these lines, the MRC will continue to maintain and improve its website and provide up-to-date resources for consumers and programs in Michigan

While there is recognition that data collection efforts in this arena are important, it's very difficult to maintain a good, consistent and comprehensive effort without a full inventory of programs, a requirement that they report, and the means to collect and report the data. It's estimated that some 23,916 pounds of old drugs were collected in 2012 but that number does not include mail-back, HHW collection events, and smaller programs across the state. Without an understanding of the amount of drugs in the waste stream it's even more difficult to understand what kind of impact we're making or need to make. The need for good data, collected and analyzed on an on-going basis is a systemic issue, needed for all aspects of recycling and resource recovery. Maximizing data standardization across materials will be important if we are to learn what recovery strategies work best.

#### Take-away:

- Stakeholders agree without hesitation that federal rules regarding controlled substances need to be changed to reflect the need for increased recovery and safe disposal.
- Stakeholders agree that state rules regarding the transportation of old meds across county lines needs to be changes to reflect the need for safe disposal.
- Stakeholders agree that pharmacies are the most convenient location for safe, timely collection of old meds.



- Stakeholders agree that consistent messaging and programming is very important, no matter how programs run in the background.
- Stakeholders appear to agree that with the current obstacles of rules and costs, the YJOD program holds the most promise for increased and equitable recovery in Michigan.
- Stakeholders agree that there are a variety of generally unrelated stakeholders affected by the improper storage and disposal of old meds that need to be educated; need cooperative, coordinated solutions.

***D. Engage a wide group of Michigan-based stakeholders in discussions regarding packaging waste*** and the elements of a product stewardship solution. The MRC kicked off the packaging portion of this project by building understanding about product stewardship and extended producer responsibility in the current context of funding curbside/drop-off recycling programs. The MRC used its 2011 State of Recycling in Michigan report as a foundation for the discussion. Conference calls held on February 3, March 13 and 27, 2012 were based on existing MRC research and recommendations regarding funding for recycling as a point to insert discussions about product stewardship. A Feedback Workshop held on April 10, 2013 and follow-up conference call on July 9, brought a wide variety of stakeholders to the table to talk more seriously about the roles and responsibilities of stakeholders in funding recycling and the opportunities and obstacles to product stewardship-based programming and funding solutions.

The April 10 Feedback Workshop was very informative, offering a snapshot of represented stakeholder opinions on product stewardship. From that gathering we understand that many at the table believe that all packaging need not be recyclable but that we do need to do a better job recycling the packaging waste we do produce. Products and packaging need to be produced more sustainably and need to be easier to manage at the end of life. Some manufacturers have or are putting voluntary programs in place and are willing to step up if the value, sustainable solutions, and trust is there.

The trend toward better end of life management is growing. While there is agreement that all stakeholders have a role to play in the lifecycle of a product, there remain differences on what those roles should be and if they include financial extended producer responsibility. The manufacturers represented in this group did not buy into the EPR funding model, rather promoted more traditional waste management funding and policy strategies such as, PAYT, landfill bans, research, and education. The group had some difficulty identifying where manufacturer responsibility ends and the consumer responsibility begins.

Manufacturers seem increasingly responsive to the pressure to create better products, but must also respond to market conditions and that's not always in line with environmental interests. Accurately valuing the entire lifecycle costs of products through lifecycle analysis will grow in importance as we move toward more sustainable solutions. All stakeholders recognize that they have an important role to play in the recovery of material, though some are more critical than others. But doing the right thing often costs, and will put product makers at a competitive disadvantage if the playing field is not level. Therefore, the consensus is that government must lead and develop policies requiring all companies to do the right thing.

Participants also discussed that Michigan's recycling efforts are hampered by the fact that, jurisdiction to jurisdiction, programs differ wildly. Closing the gap and building consistency across programs will lead to better participation. All of the stakeholders in attendance agreed that the State

of Michigan has an important role to play in establishing the policies and funding necessary to make it all work.

The July 9 follow-up conference call focused the group's attention on some more specific issues related to product stewardship of packaging. Participants sought to define the roles of each stakeholder, recognizing that consumers will ultimately pay for all the costs associated with the lifecycle of a product, except where those costs are externalized. The notes of these workshops and conference calls are all included in this document.

Product stewardship of plastic packaging is currently being discussed and debated in national and regional forums as governments, manufacturers, and trade associations seek to build understanding of basic concepts and position themselves for success. While there is little optimism that a national product stewardship effort will grow from these discussions, there are some indications that product stewardship and funding for recycling programs will come from individual state efforts.

The MRC believes that product stewardship is an important and natural step toward the development of sustainable materials management in Michigan. It's crucial that product manufacturers, distributors, and retailers understand and are held accountable for the end-of-life impacts of the products they provide. Without this important connection we will never transform the majority of our waste into the resources on which our economy thrives.

One topic that was not discussed in these dialogues was the need to establish a feedback mechanism. One that creates a connection between waste managers and brand owners about hard-to-manage products and materials, including toxics, low-value materials, and operational issues associated with packaging products. Optimizing the overall packaging system, from design to collection, sorting, processing, and aftermarkets is going to be an on-going challenge if companies don't experience their products through to the end of useful life.

The need for good data, collected and analyzed on an on-going basis is a systemic issue, needed for all aspects of recycling and resource recovery. Data reporting will have to be required by the state to assure complete and regular reporting. Maximizing data standardization across materials will be important if we are to learn what recovery strategies work best.

#### Take-away:

- Stakeholders appear to agree that there is a problem with waste and more materials need to be recovered.
- Stakeholders agree that all packaging doesn't have to be recyclable but we need to recycle much more of the packaging that is recyclable.
- Stakeholders agree that there is an appropriate role for all involved in the life cycle of a product and its packaging. What those roles are, remain key questions.
- Stakeholders appear to agree the consumers will ultimately pay the full cost, including end of life costs, of a product and its packaging.
- Stakeholders agree that state leadership and fair policy is required to increase recovery of plastics packaging and other recyclables.
- Stakeholders agree that a state level motivation, education and outreach effort is a key to increasing recovery across the board.

- Stakeholders appear to agree that there are good models of state level policy and local action for sustainable materials management that could be employed today to move the needle, i.e. goals, PAYT, recycling carts, dual and single stream collection, increased landfill costs, etc.
- Stakeholders appear to agree that creating consistency between and amongst recycling programs across the state is critical to overall program success.

#### **4. Utilize electronic media and social networking**

- a. The MRC created and is committed to improving and maintaining dedicated webpages about product stewardship and programs that support the recovery of materials in the chosen product categories.
  - i. <http://www.michiganrecycles.org/index.php/product-stewardship/residential-electronics>
  - ii. <http://www.michiganrecycles.org/index.php/product-stewardship/unwanted-medicines>
  - iii. <http://www.michiganrecycles.org/index.php/product-stewardship/plastic-packaging>
- b. The MRC and its event speakers developed informational presentations and material that was shared with event participants throughout the course of the project. These materials are available on the websites listed above.
- c. Product stewardship information and news updates were provided to MRC members weekly and the entire MRC contact database (about 3,500) on a monthly basis through the MRC Weekly digital newsletter. The MRC will continue to provide a forum for the discussion of product stewardship initiatives and topics into the foreseeable future.
- d. Model recovery program information was provided in the beginning stages of the grant period in preparation for discussion about furthering product stewardship efforts later in the grant period. Information about these programs will be available on the appropriate webpage that is currently being updated.

#### **5. Seek long term funding**

- a. Funding to support recovery program efforts was a consistent theme of discussions throughout the grant period, getting attention at every event the MRC hosted. Long-term funding ideas for recovery efforts come in two forms, funding and policy. Many options for funding and policy were discussed: EPR, PAYT, landfill bans, voluntary product stewardship, changes to current legislation and Michigan's bottle deposit law, a landfill surcharge, sustainability fee, general fund appropriation, and general income tax.

It is clear that funding is a fundamental issue and challenges to programmatic funding are different for each product category but underpin all product stewardship discussions. In fact, as we move forward in the development of product stewardship, it will be crucial that stakeholders speak accurately about voluntary and mandatory product stewardship (EPR and funding), as discussions about mandatory product stewardship are threatening to product makers and often lead to stifled, generally unproductive conversations. Moving the conversation as far forward as possible within the voluntary product stewardship framework will provide some insight as to how much stakeholders are willing to do without government policy. Little forward movement, however, is likely without government involvement.

One example that has come to light recently is Call2Recycle, a voluntary national rechargeable battery industry effort to increase recovery of rechargeable batteries. The initiative was widely lauded as a success, with collection boxes in many stores and municipalities across the country. This year they've collected 3,542,421 pounds of batteries. However, the industry had much higher collection goals and though that they had reached what they thought was saturation with the collection boxes, they have come to the realization that increasing their recovery numbers will take government intervention - to get past what they now recognize as a glass ceiling.

The dialogue that resulted from this project was very informative and helped us understand the issues faced by each type of stakeholder, both in the status quo and in a product stewardship future. What we came to understand is that this kind of dialogue is not good for making decisions about product stewardship and its mechanisms. Those decisions should come out of government (state, regional, local) interest in shifting cost burden back onto the product. A credible threat has to be there to get the interest, attention, and resources of all stakeholders to the table.

At this point in time, increased e-waste recovery is likely to come from improvements to the existing law that includes mandatory goals and penalties. Improving the existing policy to require manufacturers to capture more e-waste, at their own cost, also means that it is recovered for further commercial/ industrial use. While Michigan's current take-back law is not fully supported by manufacturers, the inequity that results from the law is punitive to complaint manufacturers. MRC will work with members to advocate for these policy changes.

Pharmaceutical stakeholders, including the Michigan Pharmacists Association, agreed that most reasonable place to take-back old meds was the pharmacy. While many pharmacies are participating in some program or another, the majority are not. Furthermore, manufacturer funding for in-pharmacy collections is a long way off. In the meantime, removing the regulatory barriers to collecting old meds, making it easy and cost-effective for pharmacies to collect, and put pressure on pharmacies to provide this service is likely to increase pharmacy participation in programs like YJOD and to put pressure on the manufacturers to pay for this important service.

While EPR and product stewardship for packaging is used throughout the world to address waste funding issues, the issue is just beginning to get attention here in the states. There are a variety of different viewpoints and little consensus, other than there is a problem. Voluntary product stewardship efforts are going to be driven by market pressure on product makers to do the right thing. Under the voluntary model, companies will only be willing to participate in ways that doesn't harm their competitive advantage. Governments are reluctant to stand up at this point and sponsor EPR legislation for packaging but they are funding Coalitions to explore the opportunities presented by product stewardship in all its forms, ultimately advocating for product makers to take responsibility for the products and packaging they produce.

- b. While PSI and MRC both promoted the benefits of PSI membership to MRC members and state and local governments, participation in national level calls by these entities has been relatively spotty and weak. PSI expertise and service in the product stewardship arena is top notch, however, it appears that the limited product stewardship conversations taking place in Michigan are very specific and our stakeholders engage in product stewardship topics that are only of immediate interest to them. Other states have product stewardship councils that grapple with a whole host of issue but Michigan hasn't reached that point. At the close of this grant we are more interested in a smaller investment in PSI, for example and membership for the MRC itself so we can stay abreast of the issues and use PSI's consulting as needed to tackle one issue at a time.

## **6. Evaluate PSI**

The Product Stewardship Institute was evaluated based upon two main roles played in this project. Approximately 40% of the total grant funds provided by the DEQ through this P2 grant established the MRC as a PSI state partner, giving Michigan stakeholders (local, state and county governments; NGO's; universities; and companies) access to PSI through several of our member/partner benefits. These benefits included:

- Direct, on-call access to PSI staff

- Free access to educational webinars and update calls
- Free access to dialogue calls, workgroups, government strategy calls
- Free access to our product stewardship update emails and newsletters
- Priority consideration for pilot projects
- Ability to vote for and serve as a Board member

### **PSI's monthly Member/Partner Update Calls:**

Over the course of our work with Michigan, PSI held monthly calls on a topic of interest to our members. These topics were often product-specific (electronics, pharmaceuticals, etc.) PSI did not require registration for these calls. They advertised monthly topic to members and partners (including those who have signed up for free benefits through the P2 grant) and anybody who received the conference number through these communications could call in and participate. For this reason, there was no ability for PSI to track when Michigan stakeholders participated on these calls and for which topics. In total, PSI held 16 calls, of which three were on pharmaceuticals, three were on packaging, and one was on electronics. Approximately 80 to 100 members and partners dialed in for each call. It is likely that around 2 percent of those were from Michigan; but, again, this is an estimate only, since PSI doesn't require registration for these calls.

### **PSI's General Webinars:**

These educational webinars took place throughout the 1.5 project years and covered a wide range of topics, including product-specific ones (pharmaceuticals, electronics, phonebooks, packaging, mattresses, and paint) as well as general product stewardship ones (life-cycle analysis, product stewardship trends, job creation benefits of product stewardship policies, corporate social responsibility, local government perspectives of product stewardship, etc...). Over the project period, PSI held 24 webinars, of which 18 drew the participation of Michigan stakeholders. In total, PSI had 53 instances of Michigan stakeholders engaging in webinars. They held three packaging-specific webinars and two electronics-specific webinars during the project timeline. Eleven unique Michigan attendees from six agencies/organizations attended the packaging webinars, and four unique Michigan attendees from two agencies/organizations attended the electronics webinars. Due, in part, to fewer electronics-specific PSI events, there were fewer membership-based PSI engagements with Michigan Stakeholders on electronics than on the other two project categories.

### **PSI's Product-Specific Webinar Series: Pharmaceuticals**

PSI held a special three-part pharmaceuticals waste series in the late spring of 2012. During this series, PSI engaged 11 individual stakeholders from nine organizations and government agencies. Seven of these individual are unique attendees in addition to the 15 unique attendees who participated on the General Webinars.

### **Great Lakes Pharmaceuticals Coordination**

For the last three years, PSI has coordinated stakeholders in the Great Lakes Region to improve and expand on safe pharmaceuticals take-back programs and advance product stewardship solutions for unwanted pharmaceuticals. Their work included coordinating workgroup calls, developing educational and outreach resources, coordinating a unified response to the DEA regulations, hosting monthly pharmaceuticals stewardship update calls, and hosting an annual pharmaceuticals summit. PSI members had free access to all these workgroups, calls, and coordinated activities, and at least five Michigan stakeholders participated in several of them, including our Voluntary Collections Work Group, our Pharmaceuticals Take-back Messaging Workgroup, our Pharmaceuticals Summits, our update calls, and the production of a few educational materials. Particularly active participants

include David Oostindie of Wyoming, Michigan. David has been active in work groups, summits, update calls, and DEA regulations calls. He was interviewed for PSI's Lessons Learned on Voluntary Pharmaceuticals Take-back fact sheet. Paul Kuklewski of Grand Rapids has also become active in PSI's Great Lakes pharmaceuticals work and summits. Both of these local Michigan representatives have since decided to join PSI as paying Full Members. Last, Chad Rogers, of the MI DEQ, invited PSI's Stefanie Wnuck to provide a pharmaceutical stewardship update on a call he hosted in late June 2013 for the DEQ's drug take-back grant recipients which include many MI local governments and non-profit organizations. PSI does not have information on how many people were on that call, but it is another instance of PSI engagement with MI stakeholders through the membership benefits that we provide.

### **Packaging-Series Dialogue Calls**

In the summer of 2012, PSI held a three-part dialogue call series which members could access for free. PSI engaged 3 Michigan stakeholders on one or more of these calls.

### **Government Strategy Calls – Packaging**

PSI holds regular strategy calls on multiple product categories throughout the year. Again PSI does not typically take attendance on these calls, so it is impossible to say how many more stakeholders from Michigan have attended strategy calls during the project period, or on what topics they attended. However, on the packaging-specific government strategy call, PSI did take attendance, and at least one unique Michigan stakeholder took part.

### **Other PSI Benefits**

PSI sent between 12 and 26 product stewardship email updates each year, as well as newsletters, and breaking news alerts as they happened, to all members. PSI sent these communications to 41 Michigan stakeholders from 28 agencies and organizations during the project period.

### **Total Estimates of Stakeholder Engagement on Pharmaceuticals, Electronics, Packaging, and Other Product Stewardship Topics**

	Pharmaceuticals	Electronics	Packaging	Other P.S. Topics	UNIQUE TOTAL
<b>Monthly Update Calls</b> (estimated)	6	2	6	10	Unknown
<b>Webinars</b>		4	11	9	22
<b>Pharmaceuticals Webinar Series</b>	16				9
<b>Great Lakes Pharmaceuticals Coordination</b>	20				12

<b>Packaging Call Series</b>			3		
<b>Government Strategic Call Packaging</b>			1		1
<b>TOTAL EGANGEMENTS (minimum)</b>	<b>42</b>	<b>6</b>	<b>17</b>	<b>19</b>	
<b>UNIQUE (minimum)</b>					<b>43</b>

### Continuing Full and Affiliate Memberships

PSI has two Membership types – Affiliate (unpaid) and Full (Paid). As a result of our work on this grant, three Michigan local governments have become full, financially contributing members of PSI.

- City of Grand Rapids
- City of Wyoming
- Muskegon County
- Kent County has remained a Full Member.

In addition, PSI has gained several Affiliate Members including:

- Atlas Township
- Bath Charter Township
- Chester Township
- City of Ann Arbor
- City of Dearborn
- City of Huntington Woods
- City of Lansing, city of Romulus
- City of Saginaw
- Monroe County
- Clinton County
- Delta Township
- Emmet County
- Lenawee County
- Macomb County
- Robinson Township
- Washtenaw County
- Williamstown Township

The Michigan State Government membership is up for renewal now. During this project, PSI provided benefits to 15 employees of the Michigan

- Department of Environmental Quality
- Department of Natural Resources and Environment

- Department of Community Health - Radiation Safety Section
- Department of Agriculture.

PSI has also been providing benefits to the following organizations:

- Michigan Recycling Coalition
- Mid Michigan Waste Authority
- Resource Recovery and Recycling Authority of Southwest Oakland County Michigan (RRASOC)
- Goodwill Industries of Grand Rapids
- Detroit Medical Center

PSI's secondary role in this project was as contractor to MRC, providing technical assistance to meet the goals and deliverables of the grant. In collaboration with MRC, PSI created and implemented a Scope of Work during the project's first year, which consisted of the following: organizing and facilitating stakeholder meetings and phone calls, including quarterly calls for the MRC steering committee; product-specific webinars for MRC staff and certain Michigan state and local government officials; and additional coordinating calls on October 12, 2011, January 19, February 14, April 5, June 14, and November 2, 2012.

These calls provided the opportunity for PSI and MRC to discuss upcoming initiatives, division of work, and next steps both internally and with the MRC Product Stewardship Steering Committee. PSI assisted in the coordination and facilitation of calls, development of agendas, securing speakers, and performing other roles as needed. MRC staff decided to change the project focus for the second year of the grant to ensure a continued emphasis on its highest product stewardship priorities. The second year's efforts were used for in-person stakeholder meetings for each of the three target product categories rather than for a series of calls. PSI continued to provide logistical and technical support for these meetings, including strategic development of agendas, advice on facilitation, technical data, and other related aspects.

Direct PSI consulting services were especially helpful and of high value. PSI provided important understanding and perspective in creating agendas and setting up meetings to facilitate conversation among stakeholders that have differing opinions about the more advanced issues on the table in the second year of the project. PSI's approach to stakeholder engagement was well received by event participants and has influenced the way MRC will conduct such conversations in the future.

The MRC will continue to learn from PSI as it responds to the new challenges maturing product stewardship conversations bring. The MRC will also continue a direct relationship with PSI as an environmental advocacy partner at the close of this project. We also feel that the relationship was PSI accomplished our goals of engaging at least 10 entities in regular communications in each product category and in many cases those relationship will endure beyond the scope of this grant.

Individual agency affiliate memberships with PSI may provide the most value as the potential for product stewardship gains traction in Michigan because ultimately, we believe that product stewardship efforts will be driven at state, local and regional levels. MRC also recommends that we seek to move forward with product stewardship initiatives on a material-by-material basis as opportunities arise, using PSI consulting services as needed.



### Developing Recommendations Related to Michigan's E-Waste Law - A Tool for Discussion

The Michigan Recycling Coalition is developing recommendations on how Michigan's electronics recycling law can be improved. This document reflects general input and ideas that MRC has gathered through an informal online survey, the Fall Into Recycling event, and numerous individual conversations and observations. This document will be used as a tool for further discussion on a December 19, 2011 conference call. The issues in the left-hand column come from the law.

Issue	Survey Results	Recommendations and Considerations
<b>1. Goal for video display devices.</b> Should the current voluntary goal of 60% for manufacturers recycling covered video display devices be increased or decreased?	Not conclusive	<p>The 60% by weight goal may still be a relevant target and is used by many other states. Possibly recommend maintaining current goal, with potential to phase in % increases.</p> <ul style="list-style-type: none"><li>• Current goals are attainable and realistic</li><li>• Phased in increases drive increased recovery</li><li>• MI can't release info on whether anyone's achieving voluntary goal</li><li>• No goal for computer manufacturers – need some goal</li><li>• Matt reports 32% achievement of goal – aggregated</li><li>• Can't assume TVs are only consumer sales. Hospitals, prisons, campuses, schools could also be purchasing TVs.</li><li>•</li></ul>
<b>2. Mandatory goals.</b> Should mandatory targets, as opposed to voluntary goals, be established?	Y - 76% N - 15% M - 9%	<p>There is general agreement that mandatory goals should be established.</p> <ul style="list-style-type: none"><li>• Enforceable</li><li>• Levels playing field</li><li>• Information should be released about achieved recovery</li><li>• Dell supports mandatory goal, 4lbs. per capita model (Dell model) for industry</li><li>• Goals can be increased and decreased over time</li></ul>

Issue	Survey Results	Recommendations and Considerations
		<ul style="list-style-type: none"> <li>• Market share model to divide up 4lbs. per capita goal</li> <li>• Look at Dell Model carefully KO</li> <li>• MRC develop viable changes that will speak to legislature</li> <li>• Schools have a lot of computers they have to deal with as regulated generators. Any thought about requiring mfgs to take back the computers they sell to schools?</li> <li>•</li> </ul>
<b>3. Basis for allocating responsibility.</b> If a mandatory target is established, should a manufacturer's market share be used to determine the amount required to be recycled annually by the manufacturer?	Y - 67% N - 24% M - 9%	<p>“Market share” models in other states charge manufacturers based on the amount of products they produce and sell. “Return share” models charge manufacturers based on the amount of their products that are turned in for recycling.</p> <ul style="list-style-type: none"> <li>• Market share is typically used to establish baseline in other states and creates the most equitable manufacturer target</li> <li>• Third party to provide market share information?</li> </ul>
<b>4. Options when goals are exceeded.</b> Should manufacturers that recycle more than established goals or targets, and/or collect in under-served communities, and/or reuse, refurbish, reuse, donate electronics be granted extra and/or transferrable credits that can be used against future program years, and/or sold or transferred to other manufacturers?	Y - 64% N - 23% M - 12%	<p>As a large state with geographic challenges, providing incentives to exceed expectations will drive collection in underserved areas, encourage innovative solutions, and increase recovery.</p> <ul style="list-style-type: none"> <li>• Transferrable credits allow manufacturers to cooperate on efforts</li> <li>• Across TVs vs. computers to make it easier for recyclers, munis</li> <li>• Credits based on lbs.?</li> <li>• Underserved areas – populations x people per Sq mile or county? Rural? Inner city – census data</li> <li>• Dell supports incentives not mandatory goals</li> <li>• 1.5 lbs for every 1 lb collected bonus also double bonus for reuse if applicable</li> </ul>

Issue	Survey Results	Recommendations and Considerations
<b>5. Increased goals.</b> Should manufacturers be required to recycle more electronic products and peripherals than provided for in the current law? What about orphan devices?	Y - 51% N - 39% M - 9%	Expanding the material list, including a provision to capture orphan shares means that all manufacturers will be responsible for managing all the peripherals many are managing now. <ul style="list-style-type: none"> <li>• Levels playing field</li> <li>• Captures all material and counts all material equally</li> <li>• 2.2 lbs of TV products and peripherals</li> <li>• 4 lbs of computer products and peripherals</li> <li>• The above used for goals but can collect any type of electronic to meet (does this create challenges for recycling of different devices)</li> </ul>
<b>6. Penalties.</b> Should a manufacturer be penalized for not reaching targets or goals?	Y - 79% N - 6% M - 15%	There is general agreement that there should be enforceable penalties for non-compliance which include higher registration fees for late registrants. <ul style="list-style-type: none"> <li>• Penalties make all manufacturers accountable.</li> <li>• Must be enforced.</li> <li>• Could provide funds for education &amp; outreach.</li> </ul>
<b>7. Disposal ban.</b> Should the law be amended with a future disposal ban trigger?	Y - 79% N - 21%	We would advocate for a phased in disposal ban. <ul style="list-style-type: none"> <li>• Bans drive very high recovery rates.</li> <li>• Systems must be in place before bans can truly be effective.</li> <li>• Bans would change the relationship between collectors and processors willing to pay for the material.</li> <li>• Michigan SW Policy – infrastructure has to be in place before ban – meeting goals? Access?</li> <li>• Developing infrastructure goals in PS context</li> </ul>
<b>8. Education program.</b> Should a program be developed and funding provided for grants to provide consumer education related to the programs?	Y - 78% N - 6% M - 15%	An education an outreach program is essential to drive participation. <ul style="list-style-type: none"> <li>• Manufacturer</li> <li>• Retailers have an education role to play – they have</li> </ul>

Issue	Survey Results	Recommendations and Considerations
		<p>direct contact when service is needed – point of purchase (handouts, info, training) – for state specific information</p> <p>Mfgs are few in MI. So are recyclers. The lobbying effort by the Michigan Retailers Association will be very strong against requiring them to educate consumers or pay a fee for state-wide education.</p> <ul style="list-style-type: none"> <li>•</li> <li>• IL EPA – % of reg fees to every county to educate</li> <li>• Government or third-party could actually develop and implement plan.</li> <li>• Registration fees and/or penalties</li> <li>• Need uniform statewide campaign to build awareness</li> <li>• Packaging is another issue</li> </ul>
<b>9. Other materials.</b> Should a system be developed to collect electronics otherwise not collected by a manufacturer or address the issue of scrappers cherry picking material?	Y - 70% N - 14% M - 14%	See # 5 <ul style="list-style-type: none"> <li>• Cherry picking materials impacts all recyclers.</li> <li>• General legislation could address this issue for all recyclers and materials.</li> </ul>
<b>10. Registration fees.</b> Is the funding for the administration of the law's implementation adequate?	n/a	Increased funding is needed for robust state administration and enforcement. Out-of-state recyclers should also register and pay fees. <ul style="list-style-type: none"> <li>• Mandatory goals without penalties and penalties without enforcement will not increase recycling of electronics to the 60% goal.</li> <li>• The state needs to be funded to follow through.</li> </ul>
<b>11. Recognizing manufacturers who exceed goals.</b> Should a program be developed to recognize manufacturers that implement an expanded recycling program for additional products or recycles electronic waste at a higher rate than the target?	n/a	Incentives as outlined in #4 should be enough.
<b>12. Additional data.</b> Should additional recycling data be	n/a	Measurement of progress toward a goal is critical to its

Issue	Survey Results	Recommendations and Considerations
collected? If so, how?		success. <ul style="list-style-type: none"> <li>• Should be a part of a larger measurement system</li> <li>• Should be a third party data collector/reporter</li> </ul>
<b>Other recommendations?</b>		NEC business-to-business work... market share Steelcase – Weeee regulation in Europe business-to-business – similar problem b-to-b and b-to-c Bob Sanders – get out of defining small businesses – difficult to define stay in the household environments, manufacturers can estimate on how sales break down (Rich)

Participants:

1. Pat Summers NEC Display- Business to business issue
2. Todd Gibson Vintage Tech Should cover all CED and peripherals
3. Seth Smith Vintage Tech
4. Mike Csapo- Policy Committee is going to offer the "Best Practices" regardless of the political climate.
5. Nick Carlson- Goodwill
6. Erick Logan- Information Technology Industry Council
7. Rich Farnum- Panasonic - suggests that 60% for video displays is the high end of states. Supports Sales weight published online
8. Kate PSI
9. Sierra Flecher PSI
10. Randy Slikkers Goodwill
11. Shawn Fehey Steelcase- Business to business issue
12. Brendon Ringlover- HP
13. Shannon Donovan Universal Technologies
14. Kate Neese Clinton County
15. Matt Flechter MDEQ-
16. Brenda Mathison-Electronic Recyclers International
17. Fran Vazullo Dell

18. Kari Bliss Padnos
19. Chad Rogers MDEQ
20. Becky Andrews- Recycle Ann Arbor
21. Crag Daniels Technologies Conservation Group
22. Johny Sunski
23. Tom Stride Resource Partners
24. Don Pyle Delta- Don Pyle
25. Megan Thomas Sustainability Agency
26. Bob Sanders STSM- stop with the small business issue and avoid the how many employees are in a business.
27. Trisha Conry MRM-
28. Leslee Rohs – Muskegon County
29. Michigan Legislative Consultants
30. Apple
31. Microsoft
32. E4 Partners
33. Valley City
34. Marcus McKissic MRC
35. Lucy Doroshko MRC
36. Kerrin O'Brien MRC

# Electronics Workshop Survey

**1. What is your level of satisfaction with the current law? Please circle one.**

High				Low
1	2	3	4	5
	2	4	2	2

**2. In your opinion, what was the most beneficial effect of the current law?**

- Intent of the law was to put the onus on manufacturers to pay for a portion of the waste they are creating. It is not enforceable and not all manufacturers are participating because it is voluntary.
- Recycling Volume has increased in Michigan. (2 people)
- Encourages manufacturers to financially support recovery.
- Funding Mechanism.
- Awareness. (2 people)
- It is a starting point. There is some formal structure to work from. (2 people)
- Now getting paid for electronics collections.
- Processing costs have gone down and having more "competiton" has been very positive for municipal programs.

**3. What has been the most difficult or disappointing aspect of the law?**

- Comprenew is a registered Michigan, R2 Recycler that collects 3 million lbs. of "true" Michigan residential e-waste. This law does not facilitate, in any way, our company's ability to receive takeback funds. Because of the law, Comprenew has to compete for municipalities business and pay for poundage out of our own revenue stream in contrast to out-of-state recyclers who can use takeback funds to subsidize their business.
- The law has not impacted on us. We had electronics collection on-going prior to the law. The decision was made not to push the alternative to residents but rather continue to push compliance through our program even though we incurred the cost.
- MI recycling rate is very low. How are we going to change that? Still able to dispose of these materials curbside. Unlimited garbage services at curbside is scary. Pay As You Throw (PAYT) is the way to go.
- It is not mandatory (3 people)
- Not accompanied by a phased in landfill ban.
- No accountability for manufacturers. Many do not participate. (2 people)
- Lack of enforcement mechanism. (3 people)
- Lack of funding.
- How Goodwill type companies are exempt.
- Lack of staff for regulation.
- No penalties.
- No education.

**4. What improvements could be made to the program, and what would it take to achieve these improvements?**

- Registered Michigan recyclers should have a fair and level playing field against out of state recyclers who receive takeback money for Michigan electronics. The law should incent Manufacturers to reward recyclers that are actually out in the field collecting Michigan consumer e-waste at the consumer level. Currently manufacturers are just buying e-waste to fulfill their quota.
- Make it mandatory for manufacturers. (5 people)
- Phase in a landfill ban. (2 people)
- Retailers and manufacturers.
- Publicized voluntary goals.
- Education and promotion component. (2 people)
- Having federal and state governments work together. The truth is, if municipality programs are going to be a major component, the manufacturer should compensate (i.e. more labor, buildings, etc.).

**5. Is more e-waste being collected and recycled since the start of the program as compared to previously?**

<u>YES</u>	<u>NO</u>
11	1

**Comments?**

- It has created some awareness and e-recycling is going up in general. (2 people)
- As recycling becomes more mainstream volumes will continue to increase.
- Others have stepped in and assumed roles in e-waste collection, reducing the role of Government in collection.
- Volumes almost double every year.
- Difficult to directly tie this to the rebate program. Many dismantlers do not get program funds. They would be doing the same work without the law.

**6. Is collection more convenient?**

<u>YES</u>	<u>NO</u>
7	3

**Comments?**

- Comprenew has placed more than 150 mobile units in hard to reach rural areas and collected over 500,000 pounds of e-waste in areas that do not have other options. We offer this service for free and we do not get paid by the manufacturers. Comprenew is making collection more convenient, not the law.
- There are more opportunities (i.e. Goodwill, Habitat Stores, etc.)
- Run by other entities, not the county.
- Having costs go down for processing and having more “competition” has been very positive for municipal programs.
- Possibly but not guaranteed.
- Need landfill ban, assuming alternative mechanism for collection.
- There are more collection spots, but it depends on what is considered “convenient”.



**7. What was the most successful aspect of this workshop?**

- Good job Kerrin! One of the best workshops we have had. Claire Galed
- Awareness that the law is not helping the electronic recycling companies it should be helping. The workshop provided dialogue that Michigan's takeback law does not provide resources for ALL R2 certified Michigan recyclers. It encouraged Comprenew as a recycler to get more involved at the state and local legislative level. I (Shelley Huard) am currently drafting a letter to Governor Snyder.
- Open dialogue on what is working well with the program and where improvements can be made. (2 people)
- Lunch.
- Breakout by sector. (3 people)
- Education on the law and where it is heading.
- Hearing other perspectives. (2 people)
- Networking. (2 people)
- Meeting representative s and sharing information from several industries. (2 people)

**8. What was the least successful aspect of this workshop?**

- Felt like a lot of the afternoon discussion was focused heavily on manufacturers and recyclers. As a government entity I want to know what I can do to assist with recycling as much as possible and removing electronics from the waste stream. It was good to hear their perspective however.
- No discussion of landfill bans.
- What is the next step? Where do we go next to improve the law? Concrete Outcomes. (3 people)
- No manufacturers – no stakeholders in money.
- Too long.
- Breaks.
- Fewer questions for breakout groups.
- Review of recycling data.

**9. What could be done to improve this type of workshop?**

- More brokers/retailers and manufacturers need to be represented. (5 people)
- Make it a half-day workshop.
- Very well planned, well done. (3 people)

**10. What other policy topics or workshop topics might be of interest to you?**

- Pros and Cons of landfill ban.
- HHW, Pharmaceuticals, Latex paint recycling vs. disposal. (3 people)
- Recycling of general recyclables and include-Municipal, Hauler, Processor, Manufacturer.
- State of recycling in general – Medications, tires, solid waste, planning, policy.

**11. Any other suggestions or comments?**

- This is a great set-up. Love the location (easy to find for those of us not familiar with the area) and lunch was awesome! Thanks for building in lots of time for networking!
- Keep on the manufacturer, they have the money!
- The Public Policy Committee must continue to meet on a regular basis. This is critical!
- Education is needed! Not just stickers on a box encouraging people to recycle.



## **Increasing Electronics Recovery in Michigan Feedback Workshop Dialogue Notes**

December 4, 2012

### **MICHIGAN RECYCLING COALITION Michigan Product Stewardship Initiative**

The Feedback Workshop gathered key stakeholders involved in the recovery of electronics in Michigan, to discuss the current E-waste Takeback Law and possible improvements to the law. While the intent of these notes is to simply record and report on the conversations among stakeholders, some general findings can be gleaned from the dialogue.

Generally speaking, Michigan's E-waste Takeback Law has made some impact on the recovery of electronic waste in Michigan. The extent of that impact, however, is in question. As a result of the law, collectors are being paid for their material which potentially allows them to offer more collection opportunities and events, but revenue is very modest. With success, however, comes additional burden. The costs to promote and properly staff collections are an ongoing financial challenge, as is serving rural and sub-rural regions of the state.

Recyclers are skeptical that the E-waste Law has had any significant impact on their recovery numbers. If there has been an impact, it's on overall recovery but the burden of CRT recycling is an ultimate cost to recyclers that tempers profit. Recyclers noted that out-of-state recyclers should have to register with the program as well. Recyclers that don't have a direct relationship with an original equipment manufacturer (OEM) have expressed a significant market disadvantage and report that they are required to pay for the material but receive less value for the commodity they sell on the open market, because OEM are driving recovery. They contest that more pressure on the manufacturers would drive better results. That mandatory manufacturer recovery goals and even, potentially, a landfill ban would have a more equitable and significant impact on recovery of e-waste in Michigan.

Manufacturers do not believe that the E-waste Law has had much impact on recovery and consumer education. As collection opportunities accumulate, simple local promotion accounts for much of the increase in recovery. However, they do believe that developing a stable infrastructure and consistent message would increase recovery over scatter shot collection events. Manufacturers express an interest in incentive-based approaches to compliance and an opposition to increased fees, suggesting more fees as a disincentive.

Participating stakeholders did not agree on every point but they did seem to agree on the need; to increase recovery, for broader consumer education and information regarding recycling their equipment, and for the need to better serve underserved populations.

*Participants: Jill Adams, Tina Andrews, Sarah Archer, Karen Bever, Steve Chalker, Greg Vorhees, Mike Csapo, Rick Curtis, Jeff Depew, Tom Dewhirst, Jeff Drolshagen, Whitney Ehresman, Tiffany Eichorst, Matt Flechter, Claire Galed, Bill Gurn, Tim Heckaman, Shelley Huard, Kris Jolley, Paul Kehoe, Andriana Kontovrakis, Brodie Ehresman, Joe Meyers, Travis Mikulenas, Dan Moody, John Morrissey, Kate Neese, Steve Nobel, Kerrin O'Brien, Dave Perry, Katie Reilly, Randy Slikkers, Seth Smith, Scott Vanderkooy, Ben VanDyk, and Ben Williams.*

**Welcome, housekeeping, workshop norms, and introductions around table**

- Tiffany Eichorst, Calhoun County - 2 e-waste collections last year.
- Ben Williams, Allegan County - Recycled 90,000 lbs. of e-waste in 2011.
- Jill Adams, Berrien County – One e-waste collection last year.
- Kate Neese, Clinton County – 2 e-waste collections per year. Work with others to provide other opportunities for e-waste recycling which brings their events up to 4 -6 per year.
- Tom Dewhirst, Kalamazoo County– Collect e-waste 3 days per week all year long which equals 350,000 lbs./yr.
- Joe Myers, Antrim County – Held two e-waste collections last year.
- Kris Jolley, MSU Surplus and Recycling – Collects 500,000 lbs. of e-waste per year.
- Steve Nobel, MI DEQ – Steve is the new e-waste coordinator at DEQ. Jackson County collects once per month.
- Dan Moody, Washtenaw County – 3 to 4 single day events per year. AT EMU they did 11,000 lbs. last year and 30,000 this year.
- Steve Chalker, Vintage Tech Recyclers – Opening new plant in six weeks in Canton.
- Paul Kehoe, Comprenew – Grown over last few years. Processes 3,000,000 lbs. per year. Work with municipalities, businesses and schools.
- Shelly Huard, Comprenew – Had 400 volunteers for a one day event.
- Bill Gurn, Haworth – Collects lots of e-waste.
- Brodie Ehresman, Advanced Technology Recycling – Processed 15,000 million lbs. of e-waste last year.
- Whitney Ehresman, Advanced Technology Recycling – Expanding to SW and NE regions of the U.S.
- Andriana Kontovrakis, Sims Recycling Solutions – National electronics recycler.
- Katie Reilly, Electronic Recyclers International – Have facilities across the U.S.
- Greg Vorhees, MRM – Represent 35 electronics manufacturers.
- John Morrissey, Great Lakes Recycling – Collects e-waste.
- Karen Bever, SOCRRA – Collects e-waste 6 days a week year round.
- Claire Galed, City of Huntington Woods – Runs two drop-off e-waste events per year.
- Travis Mikulenas, Padnos – Established 20<sup>th</sup> facility on west side of the state.
- Mike Csapo, RRRASOC – Held 5 household hazardous events, e-waste events, also have at your door services for big items e-waste items.
- Ben VanDyk, Drug & Laboratory Disposal – Household hazardous waste events and some recycling

### **Overview of Current Michigan Takeback Law and 2011 Data – Matt Flechter**

Michigan's Takeback Law is relatively unique. The DEQ is entering into the 4<sup>th</sup> year of the law and will soon be able to provide better service to manufacturers, etc. The basics of law: Manufacturers who sell televisions, computers and printers must register with the state and then make it convenient for recycling. Manufacturers must take back 7 items per day. Recyclers have to register as well. They have to use industry accepted procedures, maintain detailed records and annually report the amount of recycled materials taken back. Retailers have to: Sell only new computers, televisions and printers by approved manufacturers. MI has 52 registered manufacturers and only 13 are completely registered. Last year MI had 74 registered manufacturers. The total count should reach around 70 by year end. This year there are 16 recyclers registered. Year one 2010: Collected 6.9 million lbs. of e-waste. 2011: 16.7 million lbs., 2012: 23.2 million lbs. The Take-Back law covers consumer items or small businesses of 10 employees or less. There is a trend that the amount recycled is increasing every year. Recyclers report how many lbs. they process. This year they reported 41.2 million lbs. 18 of 52 manufacturers that reported said they didn't collect even 1 lb. of material. The manufacturers aren't required to collect a certain amount of lbs. The DEQ evaluated the Take-Back program and because of the way the law is written, with free and convenient requirements, it was hard to assess the program's success. The DEQ sent out letters to non-compliant manufacturers. One-half responded and corrected the problems. There is not a way for the DEQ to check the amount reported to make sure it was accurate. It is difficult to track how the program is running based on numbers reported. They wanted an e-waste advisory council to be formed but it has not been. Attendees could see themselves as this council. The DEQ has made huge steps forward in collection of e-waste because of the law.

### **Overview of the MRC Electronics Report - Mike Csapo**

Csapo expressed that he didn't expect a huge impact from the Takeback law, but MI has made tremendous strides and he has to give credit to recyclers and collectors. The MRC has stepped into the void, reviewed the laws and looked at reports from other states. It facilitated the "Fall into Recycling" event, conducted surveys and has talked about The State of Electronic Recycling in MI report. The MRC wants to increase recovery, and foster a program that will spread across the state and level the field for everyone. MI recovery rates are low and mandatory goals are needed. The current law punishes companies doing the right thing. The law is not consistent with other Great Lakes states laws. The MI program has underperformed and education and outreach has never gotten adequate funding. And the list of electronics covered by the law is small.

The MRC is making these recommendations: Establish mandatory goals based on a consumer market share approach. Allow transferrable credits (include incentives for serving underserved populations). Adjust goals on an established timeline – products change and goals must be consistent with the market. Expand list of covered electronics devices – materials change and we must modify the list to match the materials being generated. Increase registration fees because the program is underfunded. Add non-compliance penalties and use the penalty money to fund education and outreach. Require date reporting. Consider a phased-in disposal ban, but can't hang the whole ban on municipalities.

### **Sponsor Highlights:**

Comprenew – They hold collection events every week of the year in underserved areas. The volume of TV's with CRT monitors is not decreasing. Comprenew takes it all with a zero landfill perspective.

One thing that has been effective is they run e-stores stocked with refurbished electronics. Many people will opt for this if they feel it is good equipment and they trust the retailer. As a non-profit they are a work opportunity operation and hire people that are trying to get back on their feet and get back into the workforce.

Valley City – They have been in business since 1969 and started out as a hazardous waste recycler. Then went into florescent bulbs and battery recycling and have now expanded into e-waste. The environmental side was the focus when they started and they have an extensive disassembly program for e-waste.

ATR – Started as a small business next to a landfill. They noticed all the electronics being dumped into the landfill and wanted to stop the flow. In 2002 the State of Illinois awarded them a grant to refurbish two facilities for e-waste recycling. They work with residents to make sure they know where and how to recycle e-waste. They live and believe in the triple bottom line.

MRM – Started out representing manufacturers and are now in every state but three.

## **QUESTIONS & DIALOGUE**

Ben Williams, Allegan County – Matt Flechter do you know the percentage of materials coming in that are from municipalities vs. private companies? Matt said there is no way to know based on how the data is collected.

Katie Reilly, Electronic Recyclers International – Mike Csapo suggested that Michigan expand the list of recycled materials. Katie Reilly wants to know if he meant the list of materials or list of manufacturers. Mike said the list of materials.

Greg Vorhees, MRM – Why do Mike Csapo and Matt Flechter want a mandated collection law when the Michigan law seems pretty successful? Mike Csapo said the collection numbers aren't where they should be. Michigan needs to require every manufacturer to participate. Matt Flechter said the current framework isn't working for some manufacturers and the playing field needs to be leveled.

## **SECTOR SPECIFIC BREAKOUT GROUPS REPORTING OUT DIALOGUE BASED ON QUESTIONS**

**Local Officials and Collectors – Kate Neese – Municipalities with differing events.**

### **1. Are local governments bearing more or less cost (and by how much) to manage their residents' e-waste under the program, compared to before?**

Before the law, they were paying. After law they are being paid. Mandatory goals and objectives impact the process. Volumes are an issue for smaller counties. There has been little change in costs. Governments are seeing very little changes in charges over the years. All are paying for their own advertising for events. With increases in volume collected, staffing has had to increase and staffing costs have increased.

**2. How have the economics of e-waste changed? Which local governments are paying less to vendors, not paying at all, or even getting paid? How much has any change impacted their budgets?**

Staffing time and costs have risen with rise in volume collected. The hope was that the law would generate some buzz, but that hasn't happened. They are trying to shift costs to drop-off centers instead of holding HHW collection events in order to get paid for material – added staff time. Revenue is very modest and won't allow for expansion to programs.

**3. Qualifications for contractors.**

Need to know which questions to ask of vendors for good contracts. Counties share information with each other. The responsibility is on the local officials to check references and do the tours and it is time consuming. Certifications help but aren't necessary and are also time consuming. The legislation hasn't really changed the way vendors are picked or which questions to ask. *Collectors are looking for assistance to identify good service providers.*

**4. Is the public more aware of the importance of recycling their e-waste and how to do so?**

Public awareness is still a challenge. There is an increase in the fact that people know they have to recycle but is that because of the law? No. Increases in public awareness happen generally through the news and local effort. There is no real state outreach effort and communities are hoping to see the state get involved. How do we get people to accept recycling as the norm? Make it really easy and convenient and put a ban on certain items in the trash. Education needs to happen for recycling in general, e-waste is a part of that.

**5. Does the current law serve both urban and rural areas well? If not, how could that be improved?**

The legislation has benefited places that already have a program and infrastructure in place. There are problems reaching rural areas. It would be beneficial to get curbside pick-up in rural areas and offer transferrable and extra credits for underserved areas.

**6. What collection methods have emerged (e.g. retailer take-back, municipal events, ongoing municipal collection, etc.) as a result of the current program, if any? Are different methods more popular in different sized towns? More effective?**

Legislation hasn't changed collection methods but has increased cherry-picking. People take out what they want and give the rest of the "junk" to the municipalities. There is an increase of businesses contacting municipalities to recycle e-waste. The economy is more a factor than the law and scrap metal dealers are an issue. *Scavenging and theft is becoming an important issue for recyclers.*

There will always be a need to continue municipal events. There is a need to service institutions such as schools/colleges/universities. There is a need for equitable services – rural.

## **DIALOGUE**

Sarah Archer– Schools and businesses have increased their recycling of e-waste during collection events. They sometimes hoard their equipment until the event and then turn everything in.

Businesses promote e-waste collection days through their newsletters, etc. in Sarah's area.

Mike Csapo -There is a natural ceiling in rural areas as to how much e-waste is available to collect.

Credits should be given to collectors to service rural areas.

Steve Nobel– Community colleges and small universities dump on collection days.

## **Processors and Recyclers – Katie Reilly**

Have 8 MI based recyclers in group

Have 2 non MI-based in group

### **1. Are your businesses more or less profitable since the law passed? What factors have played into any changes?**

There was no impact. Significant increase in volume = increase in profits. They have seen some relatively minor increase in e-waste recycling but can't directly link that to the law. They're seeing more CRT's. Increase in awareness has led to increase in recycling (education). It's unclear to recyclers without relationships with OEM's how they can benefit from the law. The volume they are seeing with the program isn't significant because program isn't very strong. Costs of low grade, problem material needs to be offset.

### **2. Has the program created new jobs within the recycling sector?**

Seen an increase in the number of jobs but it is hard to link back to the law. There is more volume from schools, churches, etc. Convenient and low cost. One recycler said 75 jobs will be created but not necessarily tied to law, it's OEM driven (not just in MI).

### **3. Have you had difficulty finding markets for CRTs and CRT glass? If so, what impacts has this had?**

There are 4 recyclers with CRT processing. OEM subsidies are what's key to managing volume of CRT's. 65-90 percent is monitors and TV's.

### **4. Is the public more aware of the importance of recycling their e-waste and how to do so?**

Most of the education is coming from the recyclers, not from the manufacturer. It's coming from entities directly in contact with the public. Awareness is not directly linked to the law. A direct landfill ban would greatly increase e-waste recycling. Small business factor/determination is difficult. Non-profits should also be included.

### **5. Does the current law serve both urban and rural areas well? If not, how could that be improved?**

The group did not answer this question.

**6. What is your opinion of a fee structure that rewards programs for early registration or reporting and penalizes programs for non-compliance and late registration or reporting? How might the incentive portion be structured (timing, amounts) to sufficiently promote early action?**

Felt manufacturers were the key to all of this and need to fix recycler regulations & reporting. Make it mandatory for out-of-state recyclers to register, etc. Come up with system that is more transparent and DEQ is vital. Accurate data is a key. Inaccurate data isn't going to be effective. DEQ needs to police entities that are registering and make sure they are good players and are reporting. The benefits of compliance need to be worthwhile. Publish a "bad players" list. Buy advertising with the DEQ. Have penalties for manufacturers that aren't hitting quotas. Would penalties to OEM's incentivize working with reputable recyclers?

**7. What collection methods have emerged (e.g. retailer take-back, municipal events, ongoing municipal collection, etc.) as a result of the current program, if any? Are different methods more popular in different sized towns? More effective?**

The group did not answer this question.

## **DIALOGUE**

Todd Gibson – the law impacts jobs on multiple levels, from sourcing to downstream. You can track jobs from point of collection all the way through processing. If the law is to be free, easy and convenient then it is the job of the recycler to make it that way. More jobs could be made at collection level. 2011 analysis directly linked 108 new jobs from e-waste laws in the Midwest. In this state, we have gone from one extreme to the other. Not all electronics are funded for recycling. Collectors will focus on those products that are funded. We should open up the scope of what comes to the facilities. 30% of materials are non-compliant (microwaves, DVD players, etc.). Those materials are not tracked by the state of MI.

Kerrin O'Brien – There may be some disconnect between the recycler, and the manufacturer that is willing to buy their material. Seth Smith said a lot of the recyclers at the table are more focused on business e-waste not consumer.

## **Manufacturers – Steve Noble**

**1. Are your businesses more or less profitable since the law passed?**

Since the passage of EPR laws in the US in general? What factors have played into the changes? Profits are down due to the economy. Accounting is not state specific. Costs have to be passed on to all consumers. There has been a cost reduction in general and there is a general inability to pass all.

**2. Has the program impacted manufacturing jobs or product design in any way?**

Yes, product design has changed in a general sense, but cannot necessarily be attributed to e-waste laws. Metal TV cases reduce waste because the materials are more recyclable. Resins have been reduced by half in recent years to increase recyclability.



Alternative technologies in items such as CD's and camera bodies have reduced waste. The E-peat program has helped. What drives design? Eliminating waste to some extent, less lazy constituents.

**3. Is the public more aware of the importance of recycling their e-waste and how to do so?**

Yes but not necessarily due to e-waste law. There is increased availability of locations to recycle. Manufacturers have potentially covered as best they can. Is part of the information dissemination process being missed? Retailers have point-of-contact with consumers. There are more collection days through cities. Randy Slikkers - You can't throw your tire out in the landfill and everyone knows that. Why do they know that? Legislative strength drove knowledge and behaviors. Manufacturers put messages on their products but it becomes confusing for consumers. A group/council/coordinating body needs to be the one place to go for information. Convenience drives the amount of recycling that occurs.

**4. Does the current law serve both rural and urban areas well? If not, how could that be improved?**

No, both areas aren't being served well. Rural needs incentive to recycle. Credits for outreach to rural areas would help. Michigan needs to raise its standards to match surrounding states.

**5. What is your opinion of a fee structure that rewards programs for early registration or reporting and penalizes programs for non-compliance and late registration or reporting?**

How might the incentive portion be structured (timing, amounts) to sufficiently promote early action? Expanding CED's would bring more people to collections which would raise recovery. Don't raise fees that are already in the program. That would be a disincentive to do business. Early action = Standard fee and a penalty for late registration. Standing fee (advanced disposal fee) for consumers like the Tire Recycling Fee. Any embarrassment or negative press could work as an incentive. There should be a retailer component. Sell to corporate warehouse?

**6. What collection methods have emerged (e.g. retailer take-back, municipal events, ongoing municipal collection, etc.) as a result of the current program, if any? Are different methods more popular in different sized towns? More effective?**

Manufacturers do not support collection events. They support ongoing events like building infrastructure with companies such as Best Buy. Consistency of a regular ongoing program would help, same collection day every month, for example.

## **DIALOGUE**

Randy Slikkers – When they talked about not raising fees it is a disincentive to others, not manufacturers. Raise fees collectively and not raise fees just for doing business in MI.

Matt Flechter – There aren't any manufacturers in the room. Don't put opinions in the report that manufacturers are happy with program when they aren't at the workshop.

Mike Csapo – The way the law is currently structured involves manufacturers and processors with whom the manufacturers do business, recyclers and the consumers. The piece of the chain that is missing is retailers.

Tim Heckaman – There is a need for advertising of e-waste recycling. Have a tag line like “Recycle Responsibly” and have a website where someone could go for all the information on recycling.

Randy Slikkers– Retailers could apply a sticker to products with the web address of and exchange consumers can go to find out how and where to recycle their e-waste. Have retailers put something directly in people’s hands.

## **FULL GROUP DIALOGUE BASED ON QUESTIONS**

### **How would a change from a voluntary to mandatory recovery goal impact your business or operation?**

Dave Perry - Mandatory trash haulers. Enforcement, penalties, would impact local municipalities.

Steve Chalker – This is a ban of e-waste in landfills.

Karen Bever – What would happen if municipalities stop taking e-waste in their landfill?

Mike Csapo – Have a goal for manufacturers to hit a certain mark possibly based on how much they sell in the state.

Kerrin O’Brien – Some manufacturers take it very seriously and others don’t.

Karen Bever – Mitsubishi was a good one.

Greg Vorhees – Manufacturers that they represent are active in MI. Are they going to see some added costs for taking part in programs they are currently participating in in MI? We would want to have the flexibility to recover as much material as they can. We don’t want to have to raise prices too much on the consumer.

Kerrin O’Brien– The consumer would be hesitant to pay \$5-\$10 to get rid of the product at the end of the life cycle.

Mike Csapo – Transferrable credits would be used to make sure a successful manufacturer can continue to collect.

Katie Reilly – Other state programs – Manufacturers will not fund beyond their target and recyclers are the one that end up with the credits.

Andriana – it is a lot of work to find out who needs the credits. The recyclers need a certain amount of elasticity in their program.

Katie Reilly – Her company, Electronic Recyclers International, doesn’t cut off collectors, but they have to figure out a system that makes it easy to get rid of the excess e-waste and credits.

Todd Gibson – Vintage Tech doesn’t cut off collectors either. But it does happen in the industry. What comes down to is that manufacturers, recyclers and public need to work together.

Matt Flechter – What is the obligation for the recycler and the manufacturer? It is confusing with the law now and needs to be fixed. Some manufacturers are going to recyclers and asking to buy x amount of lbs. That is happening in other states and is being transferred here. Are there manufacturers asking for every single lb. they can get? No. Manufacturers are picking an arbitrary number to recycle. That is why there isn’t any consistency.

Sarah Archer – Would it be beneficial to set a goal based on their sales in MI?

Matt Flechter - Says tentatively yes.

Kerrin O'Brien– Those companies that are trying to recycle 60% of their sales, are they achieving their goals? Matt Flechter doesn't know. A significant # of TV manufacturers aren't getting anywhere close to the non-binding target.

Mike Csapo – would argue that if we had a mandatory target the only ones that would have to change are the ones that aren't hitting the goals now. It would only happen if it is free and convenient to consumers.

Kerrin O'Brien– Take a straw poll of who supports mandatory targets? Half.

Greg Vorhees - thinks it should be voluntary and the numbers should be public. Voluntary programs are usually cheaper than mandatory programs.

Randy Slikkers – Juxtapose this question with where the most jobs would be created? If there is a way to meet the goal and increase jobs, then that should be looked at. Could have a situation where there is voluntary percentage and mandatory reporting that could have job increase potential.

Matt Flechter – We know how many lbs. are collected by each manufacturer and that number is public. It would be good to compare that number to what the company has collected in other states where it is mandatory. Use that as a “scarlet letter” incentive to get manufacturers to collect more in MI.

Kerrin O'Brien– Should other entities be required to help the manufacturers meet their goals? No. It would be an unfunded mandate.

Claire Galed – the consumer is paying to either dispose of the e-waste in the landfill or to recycle it. It isn't free either way.

Randy Slikkers – If the consumer knows they can't set it to the curb they will do something with it, free first.

Ben Williams – Do we have any idea of methods that other states use to collect e-waste? He would like to see MI do it the way other more successful states do it.

Todd Gibson – It happens various ways, non-profit, collectors, governmental, partnering with a for profit business.

Kerrin O'Brien– The issue right now harkens back to the EPA issues of the past in that voluntary efforts only take us so far. At some point a mandatory goal must be put in place. We are trying to deal with a difficult to manage waste stream.

### **Should the law require manufacturers to take back any and all equipment, even if it isn't theirs?**

#### **That is how it works in other states and it works. Peripherals?**

Greg Vorhees – That is hard to answer. Would the lbs. count? It should. Who thinks more devices should be covered?

Randy Slikkers - said it is very difficult. They negotiated with Dell that that peripherals should all be collected with the computer.

Kerrin O'Brien – If peripherals are included in the weight then will the important stuff be recovered?

Mike Csapo – they are fortunate in that their manufacturer will accept all the peripherals with the computer.

Matt Flechter – He thinks there is no reporting on non-covered materials. The law could be changed to include that data.

Mike Csapo – Likes the idea of expanding the list of acceptable materials so that it could be counted toward the poundage goal.

Sarah Archer – Want to make sure the most toxic materials are recovered.

Matt Flechter – Some manufacturers would be for collecting other's goods to hit the poundage faster and others wouldn't want to take others goods.

Kerrin O'Brien – Would it be possible to have weight goals for each set of items?

Andriana - says it would be difficult.

Kerrin O'Brien – How motivated are municipalities to collect this stuff?

Mike Csapo – Electronics collection does not have the same priority as hazardous waste or regular recyclables. The revenue stream is not significant.

Claire Galed – There needs to be more education.

Mike Csapo – The revenue isn't enough to worry about.

Kerrin O'Brien – How does e-waste improve its priority?

Claire Galed – A new commodity takes time to expand. Need more education and it will be just as incorporated as anything else.

Jeff DePew – A whole different approach is using peer pressure. Based on a percentage of sales have the manufacturer run a TV commercial in the state or give kids a flyer in school.

### **Opinions on current provisions for proper handling of material in the current law?**

Sarah Archer – There is no easy, good way to know who is reputable. Are certifications important?

Greg Vorhees said they only use 3<sup>rd</sup> party approved recyclers.

Katie Reilly – They are supportive of it because they don't have time or resources to look into the recyclers themselves.

Matt Flechter – It is very important. Those programs are doing the work of what was thought of as government work. Is ISO1401 or equivalent the best one? Maybe not.

Sarah Archer – Thinks certification is important. *There should be a website or list of registered, certified recyclers.*

Matt Flechter – Another challenge is how to pursue those e-waste recyclers that aren't following the rules and registering.

Travis Mikulenas – The non-registered businesses are taking away from the ones that are registered. They are cherry-picking the good stuff and then taking the leftovers to non-profits like Goodwill.

### **Landfill Ban?**

Scott Vanderkooy says there should be one. How would recyclers handle it all? They would like to have the challenge. How can you protect the environment without saying these things have to stay out of the landfill?

Mike Csapo – If there is a voluntary goal and there is a no landfill rule and the manufacturer won't take TV's anymore, would the recyclers continue to take municipalities TV's for free?

Scott Vanderkooy - says they do it now.

Shelly Huard - says it can be a synergistic relationship.

Matt Flechter – There is not the manpower or funding at DEQ to enforce a no landfill law on e-waste.

Scott Vanderkooy and Randy Slikkers - say it would be a step in the right direction.

Scott Vanderkooy- The feeling back in 2005-06 was that there needs to be federal rules. It doesn't seem like much has changed since then.

Mike Csapo – If we didn't have this law, MI wouldn't be collecting this material.

**Date:** January 29, 2012 9:29:19 PM EST  
**To:** Michael Csapo <[mcsapo@rrrasoc.org](mailto:mcsapo@rrrasoc.org)>

Mike,

Sorry I didn't thoroughly read the document prior to the meeting. Below is my feedback (a bit anal, I'll admit):

I think the first sentence should use "valuable resources" instead of "materials that have value." I think it sounds more valuable that way and doesn't use "material" twice. **Makes sense.**

In the bullet list describing the law, the 4<sup>th</sup> bullet and the last bullet seem to say almost the same thing. **This was Matt's list. Check with him to see if he means two different things.**

Page 3, paragraph 3, first sentence should probably clarify that the 60% is by weight. **Fair point.** As a matter of style regarding the last two sentences, I'm not a fan of starting sentences with "therefore" or "however." **I don't mind starting with "However", but I think my original draft combined those into a single sentence. I suggest this line: However, Part 173 does not require computer manufacturers to report sales and, as a consequence, Michigan does not have data on the percentage of computers or printer sales that were recycled. (Also note that the our copy says "manufactures" not "manufacturers".**

Page 3, bullet 4, second sentence: Seven states have enacted... **Good catch.**

Bottom of page 3; do we have any data estimates on the volume of e-waste that is going into the landfills? **No but also not necessary for this report. Even though we likely could estimate it, it would be extra work that doesn't need to be done. It would be an estimate at best anyway.**

On page 4, first paragraph following the gray box, last sentence: is it true that the goal does not apply to computer monitors? **Yes.**

Page 5 middle, in the paragraph beginning with "mandatory", "mandatory" is misspelled. **Good catch.**

Page 6 in the paragraph headed with Education, the last sentence should read "in particular." **Another good catch.**

Hope this helps,

Sandy

**Sandy Rosen**  
30700 Edison Dr.  
Roseville, MI 48066

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[www.go-qlr.com](http://www.go-qlr.com)

Deb, a couple of other good online overviews include Solving the E-Waste Problem (StEP)'s "What is e-waste?" page (<http://www.step-initiative.org/initiative/what-is-e-waste.php>) and the Electronics TakeBack

Coalition's "E-waste Problem Overview"

(<http://www.electronicstakeback.com/resources/problem-overview/>).

Unfortunately, neither page has a printer-friendly version, so I'm not sure if you could print them off and use them as a fact sheet.

**Michael Csapo** mcsapo@rrrasoc.org

Ja  
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to Matt, me, Roger, Sandy, Nick, Don, Michael

Policy Committee Members,

Attached is a draft set of recommendations developed for review by the Policy Committee. The recommendations are intended to improve Michigan's e-waste takeback law so that it is more consistent with the laws of other Great Lakes states, and thereby improving performance while leveling the playing field among manufacturers and among e-waste processors.

As indicated in the document, the recommendations were developed based on considerable input from stakeholders and MRC membership as well as based on a review of best practices and laws found elsewhere.

Once the document is vetted by the Policy Committee, it will be forwarded to the MRC Board of Directors for review and consideration.

I am hosting a Policy Committee meeting on January 24 at 1:00 pm at the RRRASOC offices (20000 W. 8 Mile Rd., Southfield, MI 48075). For those of you that cannot make it in person, we will establish a "call-in" line (details will be sent later). If you are not able to make the meeting at all, please feel free to forward your comments on the document to me so that we may have the benefit of considering them when we discuss the recommendations next Tuesday.

Thanks,  
Mike

Michael Csapo  
General Manager  
Resource Recovery and Recycling Authority of Southwest Oakland County  
20000 W. 8 Mile Rd.



## Email from Jeffrey Kuypers, HP 12/31/12

Hello Kerrin,

Thanks again for reaching out to HP to participate in your workshop, below. I am still trying to see if I can have a local HP associate join the workshop, and I am sorry that I was not able to make arrangements to attend personally. HP is very interested in the topic.

I am writing here to provide some input after reviewing “The State of Electronic Recycling in Michigan”. This report prepared by MRC is concise and includes many points that HP appreciates. We also have a few cautions that I would like to share regarding how one key recommendation is implemented—namely that when volume targets are used (as recommended by MRC), **then care must be taken to avoid cross-subsidization of TV product recycling by computer companies**. Below I offer a few brief comments:

- The MRC report notes that performance by manufacturer may not be readily available today. By way of introduction of HP’s commitment to serve consumers in MI, I offer the following **performance information for HP**:
  - HP program volume: **4.76M lbs collected and recycled during the 2012 program year** (up from 2.51M lbs in PY 2011, as we have been building our program).
  - HP program collection sites: **Approx 50 ongoing drop-off sites** for multi-brand, plus additional sites for HP-brand. See [www.hp.com/us/go/recycling](http://www.hp.com/us/go/recycling) and select Michigan from the Map to see location detail and geographic spread.
- Assertion related to HP comments that follow—**the most expensive challenge is ensuring proper management of CRT TVs**, as evidenced by the following recent example data:
  - In the last newsletter from the Washington Materials Management & Financing Authority (WMMFA), which runs the only approved manufacturer take-back program in WA, cumulative 2012 collections show 73% of all collections by weight have been televisions, 19% monitors.
  - Based on recent reports from South Carolina DHEC regarding available county and city collection data, 85% of CRT devices returns are TVs, 15% monitors.
  - The price of managing CRTs has skyrocketed. One report says that it has gone from recyclers paying \$205/ton in 2004 to charging \$200/ton today (“Tube tied—Why millions of CRTs are being stockpiled, no recycled”, [www.greenbiz.com](http://www.greenbiz.com)). Conversely, recyclers are commonly known to return credits to process computers, especially desktop computers.
- **The MRC report recommends imposing volume mandates on manufacturers based on market share. HP submits that unless this is managed carefully, it is not consistent with the “individual**

**producer responsibility” principles that the report expresses support for.** This also is a specific area where Michigan should not simply “make the law more consistent with surrounding states”—many of those states have implemented systems that warrant improvements based on experienced gained. **Specifically, the problem is that volume targets have been implemented in other states in a way that forces IT companies to substantially subsidize TV recycling. This occurs as follows:**

- 1) A state sets an arbitrary volume target that is “one-size-fits all” for both IT equipment and TV/TV peripherals, such as the same %-of-sales target for both categories.
- 2) Some computer equipment such as, in particular, desktop computers are sufficiently valuable in recycling that they are collected by many parties without the motivation of law. These parties then may charge manufacturers a bounty to let them have computers back. Also, many simply keep the computers for their own benefit and either do not make them available to manufacturers, or TV mfrs obtain them to reduce TV pounds collected and thereby reduce the cost of their programs to comply with volume targets.
- 3) Because of the financial incentive for others to recycle computers, computer manufacturers can’t get sufficient volumes of equipment from their industry back to meet targets, and they are forced to collect significant volumes of televisions instead. For example, in MN, WI and NY, HP has had to collect roughly 70% televisions by weight to meet volume targets, while not producing televisions for sale. Because TVs are so much more expensive to recycle than computers, IT mfrs bear a cost for recycling that is not commensurate with their rightful obligation to take care of consumer needs, while TV mfrs do not bear the full cost to recycle the types of devices their industry has produced. This is not “individual producer responsibility” because it does not allocate equitable responsibility to each manufacturer by brand (like Maine) or even by category.

- **Solutions:**

- One solution within the framework of what MRC has recommended (sales based volume mandates) would be to exclude the weight of high value products like desktop PCs from the calculation of manufacturer take-back weight obligations. This is a logical approach from the perspective that products of sufficient value motivate collection and recycling without targets, and also because it reduces cross-subsidization (it does not force IT manufacturers to take care of an equivalent weight of TVs and enable TV mfrs to reduce their obligation for their product type).
- Another solution within the framework of what MRC has recommended (sales based volume mandates) would be address the biggest problem by only placing a volume target on televisions, *and* requiring television manufacturers to meet their target with televisions and not other devices instead. In this way, the biggest, most expensive problem cannot be shifted to other industries like computer manufacturers. (Alternatively, place the target on all CRT device types—televisions and computer monitors—which could be met only by pounds of TVs and monitors. Note as

reflected by data above, however, monitors are a much smaller share of the expensive CRT volume needing recycling.)

- Outside of MRCs recommended framework are many approaches that HP prefers, such as a geographic coverage target. I have attached a related white paper that expands on HP's recommendations here.
- Lastly, HP suggests that product scope needs to be balanced. For example, if all major computer peripherals are covered, then so also should all major TV peripherals be covered. Or if TV peripherals are going to be exempted, then the exemption must be defined and extended to computer peripherals as well. I have attached an HP white paper on this topic as well.

I am happy to discuss further as interested. I hope the workshop goes well.

Sincerely,  
Jeff

**Jeff Kuypers**

Environmental Program Manager  
Printing and Personal Systems Group

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Roseville, CA 95747  
USA

# A Balanced Approach to Product Scope for US hardware take-back law



## White paper

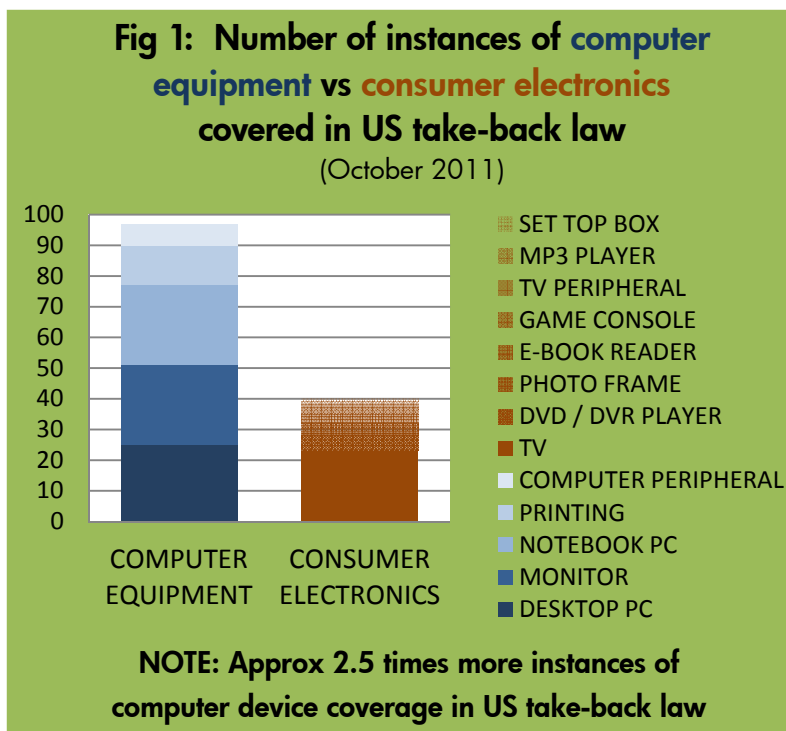
### Introduction

**In this document, HP briefly reviews four primary assumptions that have contributed to the historical focus on computer equipment in US take-back laws, and provides recommendations for a more balanced approach to product scope going forward.**

Early US electronic hardware take-back laws focused on video display devices such as televisions and computer monitors. There was some logic behind this in the sense that these products share compositional features (e.g., they all contain a display screen). Some states have added other devices as well, with a noticeable focus on computer equipment. This focus is apparent if one compares the cumulative number of instances of computer devices versus consumer electronics<sup>1</sup> defined as covered in state take-back laws, as shown in Figure 1.

Unlike the earlier focus on display devices, the expansion to other types of electronic devices has disproportionately targeted computer equipment without recognizing the similar composition of many excluded devices. For example, similar to computers, devices such as game consoles and video players (e.g., DVD / DVR players) all contain disk drives or memory, processor chips, power supplies, etc., in a plastic and/or metal case, but often only the computers have been covered in state take-back law.

So, why the computer-centric focus of product scope? In some cases, HP has learned that new legislation simply based product scope on that of legislation in another state. Harmonization is helpful so long as the model used is sound, but in this case we believe that it warrants review. In this document, we examine assumptions behind the focus on computer equipment and suggest a more balanced approach to product scope in US take-back legislation.



### Assumptions reviewed

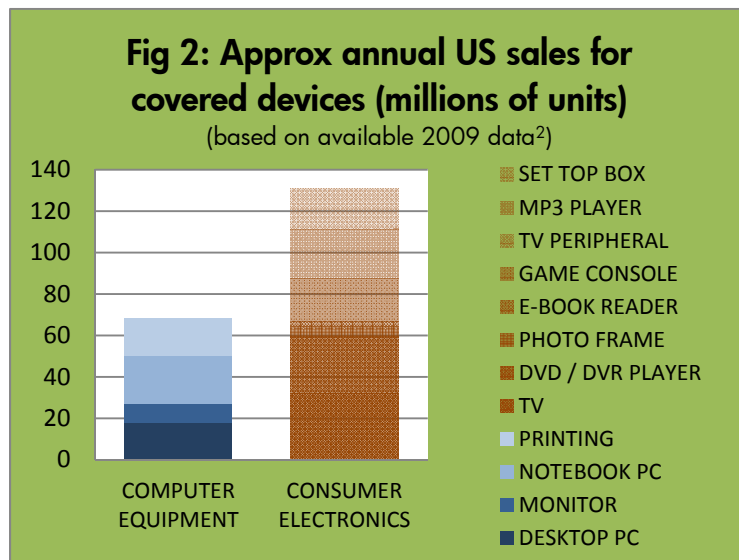
In this section, we'll examine some assumptions that HP has noted over a number of years, and that may have contributed to the historical focus on computer equipment in US take-back laws.

**Assumption 1:** “Besides TVs, most of the devices received by recyclers are computer products. We only need to require manufacturers to implement take-back programs for these devices.”

**Review:** One might surmise that if recycling programs in fact are not seeing many consumer electronics devices (besides TVs), a reason might be that various consumer electronics do not sell in large quantities relative to computer equipment. However, this generally does not appear to be the case—note in Figure 2 that the sales volume for consumer electronics is significant relative to computer products.<sup>2</sup> If some types of well established and popular electronic products are being recycled in lower rates than others<sup>3</sup>, this might be grounds for greater focus rather than exemption from take-back law.

It also is worth noting a significant inconsistency here: some stakeholders want the scope of products covered to be based on *recycling rates*, but then suggest that each manufacturer’s share of performance targets should be based on *sales rates* for covered devices.

HP suggests that future take-back laws be consistent: if manufacturer responsibility for targets is based on *sales*, then the scope of products covered also should include all commonly *sold* electronic devices. If on the other hand stakeholders want to base product scope on the rate of products being *recycled*, then each manufacturer’s share of targets also should be based on *recycling rate* data rather than sales data.



**Assumption 2:** “Consumer electronic devices often are smaller or lighter than covered computer equipment and don’t warrant the same coverage under take-back law.”

**Review:** The weight and size of a product does not necessarily govern end-of-life environmental impact. The University of Florida performed waste toxicity testing that yielded some notable results, such as: “*Smaller devices . . . (e.g., cellular phones, remote controls) tended to leach lead above the TC [US EPA test] limit at a greater frequency than devices with more ferrous metal (e.g., printers).*”<sup>4,5</sup> *Emphasis added.* Also, the size argument further breaks down considering that many of the common consumer electronics often excluded from manufacturer take-back mandates in the US (e.g., DVD/DVR players, game consoles, audio-video receivers, set-top/cable boxes, etc) can have similar weight as many covered computer devices.

Major take-back laws in other jurisdictions have not ruled out devices based on size, and there is no objective rationale to apply such relief only to a limited industry segment in the US.

**Assumption 3:** “Many collection opportunities already exist for used consumer electronics, so these devices do not need to be covered under take-back laws.”

**Review:** The same argument could be made for computer equipment. In fact, devices such as desktop PCs have high value for recyclers (relatively easy to process and/or rich in reusable materials) and consequently are in demand by many collection and recycling programs. (Some parties use recycling value of computers to subsidize funding to recycle other devices.) Further, in addition to the many independent recycling programs for computers, most major computer manufacturers have product reuse and recycling programs which often include buy-back or free recycling opportunities for their products. Logically, then, *Assumption 2* should result in exclusion of *computer equipment* such as

desktop and notebook PCs from take-back law scope, yet this has not occurred. HP suggests that future take-back laws should treat consumer electronics and computer equipment equally in evaluating existing collection programs.

**Assumption 4:** “Adding consumer electronic devices to take-back law would mean that government agencies would have to process the registrations of a greater number of manufacturers, and this would be too difficult for agencies to manage.”

**Review:** The “too difficult to manage” claim does not appear to have been born out in practice. Many state agencies have successfully registered makers of computer equipment and televisions already, and received registration fees from manufacturers to compensate for the activity. Also, the number of manufacturers that would have to be registered in order to cover not only computer equipment and TVs, but also other consumer electronics, remains small by comparison with what other jurisdictions handle. For example, in one US state that covers some major consumer electronic devices (DVD players, set-top-boxes, game systems, etc) in addition to computers and TVs, registrations only number about 100<sup>6</sup>. By comparison, European countries with *much* broader product coverage in take-back laws (also covering appliances, power tools, etc.—not proposed in the US case) have successfully registered thousands<sup>7</sup> of manufacturers and distributors. Therefore, it does not appear that the US situation in terms of numbers of registered manufacturers is at any real risk of becoming unmanageable.

If it is acceptable for agencies to work to register all major computer manufacturers, then there is no substantial reason that they cannot register manufacturers of major consumer electronic devices as well.

## Recommendation

After considering the above, and based on HP’s extensive experience with electronic hardware take-back worldwide, HP recommends that the following two key considerations be addressed in order to create a balanced US product scope where take-back laws are deemed necessary:

1. **Timing for coverage:** In the legislation, define computer equipment *and* consumer electronic equipment as covered devices either:
  - a. at the same time, or
  - b. subject to a *definite* schedule for phase-in of products over time that considers both consumer electronics and computer equipment. Below is an example of products that are covered in other jurisdictions<sup>8</sup> and might fit into a phased approach:

PHASE I (common video display devices, examples)	PHASE II (other common consumer electronics & computer equipment, examples)
<ul style="list-style-type: none"><li>• televisions</li><li>• portable DVD players</li><li>• digital picture frames</li><li>• e-readers</li><li>• computer monitors</li><li>• notebook computers</li><li>• tablet computers</li><li>• all-in-one computers</li></ul>	<ul style="list-style-type: none"><li>• set-top / cable / satellite TV boxes</li><li>• video recorders and players (DVD, etc)</li><li>• video game consoles</li><li>• audio equipment (MP3 players &amp; docking equipment, home theater, etc)</li><li>• desktop computers (CPUs)</li><li>• desktop / personal printers</li></ul>

2. **Scope of coverage:** If any major consumer electronic equipment is exempted, then define the exemption criteria (in the legislation or other documented, publicly-accessible forum) and apply it equally to computer equipment.

## Summary and final remarks

HP’s observation is that most US take-back laws reflect a bias to cover computer equipment while excluding most consumer electronic (non-computer) equipment from “covered device” scope. HP

believes that a more balanced approach would be beneficial. If conditions such as the existence of take-back opportunities are considered sufficient basis to exempt various consumer electronic equipment, then the same exemptions should be applied to various computer equipment (e.g., desktop and notebook computers that already have many take-back opportunities due to their relatively high recycling value). Alternatively, if electronic product take-back legislation is deemed necessary for all major computer equipment, then there is no substantial reason *not* to cover all major consumer electronic equipment as well. (Consumer electronics and computer equipment have many similarities in composition, and consumer electronic devices are put on the market in significant quantities relative to computer equipment.) While HP also observes that state agencies are able to register and accommodate *both* computer and consumer electronic devices in take-back laws, HP's recommendations include the option of a phased-in schedule to help ensure manageability by government. We believe these recommendations to be responsible and fair, with potential benefits including but not limited to more consistent recycling programs for consumers, increased electronic hardware recycling rates overall, and more equitable division of responsibility among all electronics manufacturers.

## About HP

HP is a pioneer in environmental sustainability, and we continue to raise the bar across all aspects of our business. While we are significantly reducing our own impact, we are also applying our size, expertise and partnerships to uniquely help customers save money and be more efficient while reducing their environmental footprint. We design our products and services to have less impact throughout their entire lifecycles compared with previous generations. We offer customers convenient product reuse and recycling solutions, and we set, meet and promote high standards in our global operations and supply chain. See [www.hp.com/environment](http://www.hp.com/environment) for more information.

### *Environmental leadership, examples:*

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*2010 – Publicized policy on banning exports of nonworking electronics to developing countries*

<sup>1</sup> In this document, the term "consumer electronics" excludes computer equipment.

<sup>2</sup> Sources for unit shipment / sales data estimates included several syndicated market research firm reports. Exception: "Desktop / AiO PC" and "notebook PC" unit shipments were estimated based on HP's market share and internal consumer shipment data. Data for some product types was obtained for North America where US data was not readily available—the substantial share of these sales is expected to be in the US.

<sup>3</sup> US EPA has noted: "... electronic products, including VCRs, stereos, and video cameras ... are recycled at lower rates than the ... scope of products studied [e.g., PCs, TVs, printers] ... " (*Fact Sheet: Management of Electronic Waste in the United States*, USEPA, July 2008)

<sup>4</sup> RCRA Toxicity Characterization of Computer CPUs and Other Discarded Electronic Devices, Townsend et al, July 15, 2004.

<sup>5</sup> Note: Modern RoHS (Restriction of Hazardous Substances) compliant devices may perform better than older devices that the U of FL tested. As of January 1, 2007, HP specifically achieved its internal voluntary goal to meet the then-current EU RoHS 1 substance restrictions on a worldwide basis for virtually all HP branded products in scope, except where it is widely recognized that there is no technically feasible alternative.

<sup>6</sup> New York, with the largest covered product scope in the US, reported 68 manufacturers registered in April of 2011.

<sup>7</sup> The WEEE Register Society listed over 1,600 registered parties as of Sept 7, 2011.

<sup>8</sup> For example, Annex 1B of the EU WEEE Directive (Directive 2002/96/EC of the European Parliament and of the Council of 27 January 2003 on waste electrical and electronic equipment) lists the following as covered in the category of "consumer equipment": radio sets; television sets; video cameras; video recorders; hi-fi recorders; musical instruments; and "other products or equipment for the purpose of recording or reproducing sound or images, including signals or other technologies for the distribution of sound and image than by telecommunications."



# Targets in US Electronics Take-back Law: challenges and recommendations



## White paper

HP has decades of recycling and compliance experience worldwide—HP launched recycling programs in 1987 and has recycled roughly two billion pounds of equipment. Based upon this experience, HP has identified some recurring challenges related to use of performance drivers (“targets”) in product take-back legislation. In particular, these challenges seem most evident with arbitrary volume targets (binding volume targets that are set at levels which are disconnected from the amount of a manufacturer’s devices that are available to that manufacturer to collect at any given time.) **This paper explores some challenges with the use of arbitrary volume targets and recommends alternatives to drive strong performance in a manner that is equitable among manufacturers and accounts for actual volumes of devices available for recycling.**

## Challenges with arbitrary volume targets

The following are examples of challenging situations or conditions that have resulted when arbitrary volume targets are employed:

- Some electronic devices such as personal computers can net a return when recycled, and therefore these devices are in demand by non-manufacturer programs that reuse or recycle them. As evidence of this, a recent study by 2CV for HP (*2011 Select and Buy Study*)<sup>1</sup> revealed that only about 16% of computers recycled by consumers in the US are submitted directly to manufacturer take-back programs. **Arbitrary volume targets measured only at a manufacturer level do not recognize the volume of equipment processed by non-manufacturer programs, and may drive manufacturers to divert material and inadvertently interrupt non-manufacturer programs without necessarily adding environmental benefit.**
- **The weight of material that manufacturers can obtain and recycle changes over time** due to many factors (product weight, longevity, reuse rates, etc). As a result, **it is very difficult to predict reasonable volume target values over time.** One problem if the target is set too high is that manufacturers may be forced to take actions to try to divert devices from consumers before the end of the product’s natural lifespan, though ultimate consumer behavior remains beyond manufacturer control. When the target is too low on the other hand, and when some manufacturers may stop paying for recycling or stop purchasing volume after meeting their target, some processors may be left with incomplete reimbursement for recycling costs.
- **Some manufacturers face an unlevel playing field relative to other manufacturers when subject to volume targets. For example:**
  - Some manufacturers are forced to subsidize the cost of devices that are much more expensive to recycle than those they put on the market. For example, during the most recent program year in MN, NY and WI, approximately 70% of the material that HP ended up having to recycle to meet required volume targets was televisions, even though HP produced *none*. HP pays a much higher rate to recycle televisions than devices HP produces (computer equipment)—in fact, HP often



receives credit or payment from recyclers for computers (which are relatively easy to process and have relatively high materials value), while HP must pay vendors for recycling televisions. As a result, HP's financial obligation for recycling is disproportionate to and disconnected from the products we sell. This outcome decouples the cost of recycling from the products a manufacturer produces and thereby diminishes design for recycling incentives.

- Rather than ensuring that targets accurately reflect the availability of devices defined as “covered devices” under a take-back law, some states have added a category of devices that are optional to collect and called them “eligible devices”. Manufacturers of covered devices may—and often must—collect *eligible* devices in order to meet targets, while the laws place no responsibility on manufacturers of eligible devices. Consequently, covered device manufacturers bear recycling responsibility—and cost—effectively subsidizing the exempt eligible device manufacturers, and the realistic target for covered devices is obscured. (Also see HP's white paper titled *A Balanced Approach to Product Scope*.<sup>ii</sup>)

## Recommendations

Given the issues that have arisen under existing US volume targets, illustrated by the examples above, HP recommends the adoption of one of the following models where jurisdictions are considering options for achieving strong performance in mandatory take-back programs.

1. **“Maine model”:** The electronics take-back model used in Maine avoids many common challenges with targets while delivering high recycling rates. There are three basic components to the operation of the Maine take-back model. First, there is one body—the state environmental agency—that solicits, approves and lists collection sites. These sites are obligated by law to send collected covered devices to consolidators, which also are approved by the state environmental agency.<sup>iii</sup> Second, after receiving the collected electronics and with manufacturer funding, the consolidators sort the devices by brand or device type. (Maine sorts by brand, but in Europe similar programs sort by covered device type—e.g. computers in one category, televisions in another<sup>iv</sup>—which has the potential to be more efficient.) Third, after segregation of devices, manufacturers must then arrange to recycle devices bearing their brand (or alternatively, their share of devices of a given type). Manufacturers can either arrange to transfer their products to the manufacturer's approved recyclers, or pay the consolidators to perform the recycling service.<sup>v</sup>

An important strength of the Maine model is that, because manufacturers must recycle their brand or type of products, the cost of recycling that each manufacturer bears is commensurate with the type, design and durability of products that they put on the market. This model maintains design-for-recycling motivation and avoids inappropriately burdening manufacturers of products that are inexpensive to recycle with the obligation of subsidizing recycling more expensive devices that may not possess the same recycling features. An arbitrary volume target is unnecessary because manufacturers must recycle whatever volume of their branded products is deposited by consumers in the approved collection network. Notably, Maine's model—which couples disposal bans and reasonably convenient consumer access to collection sites—has been effective in generating some of the highest volume results among mandated US take-back programs.

2. **“Convenience target model”:** If the Maine model is *not* used, and the jurisdiction believes a law with targets is necessary, HP recommends the use of a convenience (a.k.a. “geographic coverage”) model. Under this model, manufacturers must arrange for collection sites to be available in a certain density throughout a jurisdiction, and the sites must be operational on a published, ongoing schedule. This type of model naturally adjusts to consumer needs over time (consumers can drop off unwanted devices whenever needed), and avoids the challenges of adjusting a volume target for changes in product weight, consumer behavior, and other factors over

time. States using the convenience target model also have been effective in generating some of the highest volume results among all mandated US take-back programs.

Another benefit of the convenience target model is that it better accommodates existing, self-sustaining non-manufacturer programs (e.g., programs that collect computers or other devices with reuse or recycling value) than programs with volume targets. With volume targets imposed on manufacturers, manufacturers typically are incented to divert as much material as possible away from non-manufacturer programs and into their own programs in order to meet the targets. Some independent programs then may lose access to, or capture a much smaller volume of, devices such as computers that they might previously have obtained value from. This risk increases if the volume targets are arbitrarily set too high. Under the convenience target model, it does not matter whether consumers deposit items of value into the manufacturer network or into independent collection programs, so long as consumers have sufficient opportunities to divest unwanted devices.

Regarding establishment of the target value in the convenience model, HP recommends defining geographic coverage (convenience) on a sliding scale to calibrate to different size manufacturers or groups (consortiums). See Table 1 for an example.

**Table 1—Example\* tiers for a convenience target**

MARKET** OR RETURN SHARE (mfr or sum of all mfrs in a consortium, by weight)	STANDARD TO MEET:	
	One collection site per county with . . .	One collection site in XX% of remaining counties
Over 10%	25K+ people	50%
1+% to 10%	50K+ people	25%
1% or less	75K+ people***	0
* Some jurisdictions may warrant different tiers / coverage. An “over 20%” share tier might also be added for consortiums.		
** If market share is used, it is critical that the product scope include all major consumer electronic devices and not focus primarily on computers. See HP’s white paper, <i>A Balanced Approach to Product Scope</i> , for recommendations. <sup>ii</sup>		
*** Consider counting events as “sites” in the small share (1% or less) category.		

It also may be helpful to consider an example application of data in Table 1. There are 3,143 counties in the US, and 1,587 have a population of over 25,000 people. Therefore, a manufacturer or consortium with over 10% market share would need to have 2,365 collection sites (1,587 plus half of the remaining counties). This coverage, for just one consortium or manufacturer, translates into an average driving distance of about 11 miles for a consumer to reach a collection point.<sup>vi</sup> Multiple manufacturer programs likely would increase the total number of collections sites and reduce the average driving distance. Also, note that most computer manufactures offer buy-back or free mail-back programs for their products, augmenting options for consumers.

3. **“Target choice model”:** It is recognized that implementation of a take-back law adopting a convenience target model (2) may be more difficult for some manufacturers than others. For example, a small number of manufacturers have brick and mortar retail locations that serve conveniently as collection sites, while others do not. Those that do not have captive collection systems typically must partner with retailers or other collectors, or join consortiums that have collection capability. If there is significant concern among stakeholders in a jurisdiction, then **consider employing a “target choice model” that would:**
- a. define both a volume and convenience (geographic coverage) target, and**
  - b. allow each manufacturer to choose which target to meet.**

Such flexibility afforded to manufacturers with different infrastructure and preferences related to delivering take-back services may be viewed as more equitable than a one-size-fits-all target. Unfortunately, this “target choice model” would retain the challenges associated with setting and

managing a volume target for manufacturers that choose that program option, and for this reason it is not HP's first recommendation.

## Concluding remarks

Imposing targets on manufacturers for take-back of electronics presents challenges. Where jurisdictions are considering options to drive performance in mandatory programs, HP has recommendations based on extensive experience managing take-back programs world-wide. In particular, adopting the "Maine model"—where manufacturers must arrange to recycle any quantity of their brand of devices (or category of devices) received and consolidated in a shared collection infrastructure—avoids many of the challenges and couples manufacturer recycling costs with the type of devices they produce. If the Maine model is not used, then HP suggests use of a "convenience target model" (geographic coverage) because—similar to Maine's model—it naturally adjusts to real consumer recycling volume needs, avoiding the challenges of adjusting a volume target for changes in product weight, consumer behavior, and other factors over time. The convenience target model also accommodates independent programs, and has shown strong results in states that have employed it. Lastly, jurisdictions may wish to consider providing manufacturers with a choice of meeting *either* a volume or a geographic coverage target ("target choice model"). Outside of the "target choice model", HP urges against imposition of an arbitrary volume mandate—the volume target is unlikely to match real consumer demand over time, even with intensive oversight, resulting in ongoing dissatisfaction among many stakeholders.

### **HP also recommends that where electronics take-back mandates are deemed necessary, legislators and regulators address the following:**

- Facilitate evaluation of the total performance of electronics take-back activity by requiring all electronics collectors in the jurisdiction to report their collection data, regardless of whether they are working with a manufacturer. In this manner, non-manufacturer programs that choose to capture devices with value (such as many computers) and operate independently will be recognized.
- Consider instituting landfill bans to help drive covered devices into the take-back program.
- Require that recycling facilities used in hardware take-back programs be certified under the eSteward or R2 standard at a minimum.<sup>vii</sup>

To discuss implementation of concepts in this document, contact your HP government affairs or compliance representative. If you do not have an HP representative, send an inquiry to [AmericasEnvironmental@hp.com](mailto:AmericasEnvironmental@hp.com) with the subject "discuss US take-back targets". Thank you for your interest in HP's recommendations.

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<sup>i</sup> HP retained consultant 2CV in 2011 to study key customer choice criteria and behaviors when purchasing new computer products. In the personal computer case, 2,289 customers responded to multiple choice questions including: "After purchasing your new product, what did you do with your old product?" Those who selected "recycled" were further asked to specify the channel, and 16% selected "mfr program". Alternatives that the customer could select included storage, continued use, donation, sales, disposal and recycling options.

<sup>ii</sup> Legislators or regulators may request a copy of HP's white paper on product scope by sending a request to [AmericasEnvironmental@hp.com](mailto:AmericasEnvironmental@hp.com).

<sup>iii</sup> Alternatively, such entities could be reviewed and approved by a private party or board of manufacturers and government representatives.

<sup>iv</sup> See European Union electronics waste categories 3 and 4 at <http://www.weeeregistration.com/categories-of-electrical-and-electronic-equipment-covered-by-WEEE-directive.html>.

<sup>v</sup> Maine also has a process for managing "orphans" (covered devices that cannot be tied to a manufacturer that has registered to participate in Maine's program). These devices represent a small portion of the total volume of material managed in Maine's program. Registered manufacturers are responsible for recycling a "return share" of the orphan material. (Return share for brand-A = the weight of brand-A devices divided by the total weight of all devices of registered-brands collected in a given time period).

<sup>vi</sup> Estimation: 2,365 collection sites divided by the area of the US (3.79M mi<sup>2</sup>) equals one collection site per 1,600 square miles. A circle with this area would have a radius of 22.6 miles. Assuming a collection center located centrally in the area, and consumers located on average about midway between the collection center and border, consumers would be approximately 11.3 miles from the collection center on average.

<sup>vii</sup> Recycling standard and certification websites—eSteward: <http://e-stewards.org/certification-overview/>; R2: <http://www.r2solutions.org/>.

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# MICHIGAN RECYCLING COALITION

## Pharmaceutical Workshop

### Survey/Evaluation Results

March 25, 2013

1. What is your level of satisfaction with the current state of pharmaceutical recovery? Please circle one.

High					Low
<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	
5	1	2	8	1	

2. In your opinion, is state policy a necessary component to the successful management of unwanted medications?

- Yes – 12; to allow full service. Uniform rules & regulations to continue the ongoing issue on disposing of prescription medication.
- No – 4; Statewide campaign with consistent messaging and funding. Regulation would be helpful. State model program – not dictated.
- The state needs to remove the regulatory issues (conflict) between various departments.

3. What does your organization do to reduce the impact of unwanted medicines?

- Work with 12 pharmacies that accept medications; promote yellow jug program to residents. (3 people)
- Coordinate collection events; HHW events. (8 people)
- Year round controlled medication collection bin.
- Offer programs to assist with collection and safe disposal.
- Final Disposal
- Education
- Information Distribution (2 people)
- Coalition building
- Program implementation
- Use a reverse distributor

4. In your role (please identify), what's the greatest challenge to reducing the impact of unwanted medicines?

- Funding/Messaging
- Getting information sent to certain managers/instructors
- County Governments , meeting all requirements for collecting controlled substances.
- Stop overprescribing medications
- Awareness/Education (5 people)
- Client buy-in, opportunity
- Offering enough year-round collection opportunities

- Coordination of efforts & standardized messaging (2 people)
- Identify locations for the diversion
- DEA regulations/policy (2 people)
- Recruiting new pharmacies
- Cost to law enforcement

**5. What do you need to be successful in your efforts?**

- Consistent messaging with support (2 people)
- Changes to DEA regulations to allow for easier collection (4 people)
- Ongoing partnerships with pharmacists and local law enforcement
- Funding (2 people)
- Opportunity
- Consistent policies (2 people)
- Education (2 people)
- Conferences
- State involvement/DEQ (2 people)
- Participation from large chain pharmacies

**6. Do you have any direct feedback to the MDEQ regarding this issue?**

- A page on the DEQ website with local contacts would be beneficial. Similar to MDARD clean sweep website.
- DEQ should take the lead on a state-wide education program – get the word out (2 people)
- Consider point source pollutant? CWA
- Continue policy and regulations discussions (2 people)
- Get your act together
- Coordinate contact to pharmacies on a regular basis and maintain state-wide website.
- Produce or create one promo piece with next steps at local level.

**7. What was the most successful aspect of this workshop?**

- Networking (4 people)
- Coordination
- Possibly different aspects to this issue
- Group dialogues (4 people)
- Panel discussions – various perspectives (5 people)
- Understanding concerns/awareness
- Learning what other people are doing about pharmaceutical waste

**8. What was the least successful aspect of this workshop?**

- It was all good (5 people)
- Smaller discussion
- Not enough information on state regulations
- Not enough breaks/networking

**9. What could be done to improve this type of workshop?**

- More recruitment of diverse participants
- Get lobbyist/policy makers involved

- Make it a half-day workshop
- Have another meeting after the final DEA rules
- Participation from law enforcement (2 people)
- Longer breaks and less recap. Became repetitive
- Better participation if the workshop was held on the U of M campus
- DEA involvement

**10. What other policy topics or workshop topics might be of interest to you?**

- Law enforcement webinar
- Universal waste recycling
- Looking forward to packaging
- HHW
- Waste reduction, ways to reuse
- Textiles

**11. Any other suggestions or comments?**

- Thank you!
- "I really like chocolate fountains. Just throwing that out there."
- Great job!
- Thank you for helping to raise awareness!

**12. How did you hear about this workshop?**

- Co-worker
- Website
- Previous workshop
- MRC email blast (6 people)



## **Increasing Pharmaceutical Recovery in Michigan Feedback Workshop Dialogue Notes**

March 25, 2013

### **MICHIGAN RECYCLING COALITION Michigan Product Stewardship Initiative**

Sarah Archer – Opening Statements

Covanta – Oversees waste side of Kent County. Does take some reject drugs but from federal, state and local entities. A couple of organizations take back drugs that are coordinated through the county. Covanta owns and operates 40 facilities around the country.

Kaitlin Fink, Livingston County Catholic Charities – Substance abuse prevention coordinator focused on drug take-back.

Amy Moore, Ingham County Health Department – Working on drug take back.

Joe Carney, Livingston County Community Alliance – Works with Kaitlin on drug take-back program in Livingston County.

Melanie Jorgensen, Washtenaw Community College – OSHA, DEQ, Pharmacy programs.

Kent Newman, Sierra Club

Jill Adams, Berrien County – Have one day medical waste collections.

Kate Neese, Clinton County - Have 7 medication collection events each year.

Dan Moody, Washtenaw County – Works with Jeff Krcmarik. Thirteen pharmacies in Washtenaw County participate in their drug take-back program. They have collected over 7,000 lbs. of medication since the program began.

Angela Wan – Student at University of Michigan

Barry Wilkins, Washtenaw Community College – Tries to recycle everything at Washtenaw Community College.

Ben VanDyk, Drug & Laboratory Disposal – Collects pharmaceuticals for proper disposal.

Mike Fiebing, Benzie County – Solid Waste Coordinator

Pam Ortner, Trinity Health

Patrick Cullen, Wayne County – Get calls daily from residents looking for pharmaceutical waste disposal options.

Mary Vangieson, Wayne County – Runs household hazardous waste and drug take-back programs.

Larry Wagenknecht, Michigan Pharmacists Association

Sarah Battiata, Recycling concepts

Chris Angel, Yellow Jug Old Drugs

Floyd Vitale, Sinai-Grace Hospital - Pharmacy Operations Manager

Mike Gjonaj, Waste Management – Get lots of information on pharmaceutical recovery

Jeff Krcmarik – Has been with Washtenaw County for 25 years and has experience in the pharmacy world. Jeff and Dan Moody started with a grant application to the DEA for pharmaceuticals. They wanted to look at home toxics in Washtenaw County. They were trying to reduce liability and make sure home toxics were put in a safe location in the house. The #1 toxic issue inside the home is the medicine cabinet and there was no program to address that. Jeff and Dan were told they shouldn't be taking back medication at HHW events. In 2003 they



applied for the DEA grant. The pharmacy take back program started in 1995 with sharps. Pharmacies were paid to take back sharps in 1995. That program was expanded to include body art facilities.

In 2002 the USGS came out with their report that 80% of US surface water has residual pharmaceutical compounds. There is a social and economic need to address abuse, misuse, and accidental poisonings. It is very costly to remove used pharma from wastewater. The City of Ann Arbor studied this with ibuprofen and acetaminophen. The amount coming in with the wastewater has been reduced, but isn't gone. There have been no studies on well water. Dave with the City of Wyoming received a grant to monitor influent, effluent, and bio-solids. Triclosan is very common product additive and has been found to be very prevalent.

The Washtenaw Take-Back Program has 12 pharmacies taking back used substances at no cost and they have collected around 10,000 lbs. so far. The county waste management plan also includes take-back information. Their program follows the product stewardship model in that you take it back to where you get it from. Who is doing take-backs? West MI, WyMeds – The City of Wyoming accepts from several municipalities. Yellow Jug Old Drugs – Started in MI but is now regional in the Great Lakes area. Walgreens – Mail Back. DEA – Spring and fall events with law enforcement. The DEA can take back narcotics. Red Barrel – Southeast Michigan Substance Abuse Agency. Secure and responsible drug act of 2010. Proposed revisions to Universal Waste Laws. Revisions to Part 115 Solid Waste Laws to include pharmaceuticals. How to get drug take-back information out? Washtenaw has shelf talkers at various offices. They also purchased the domain [www.dontflushdrugs.com](http://www.dontflushdrugs.com) and have information on their website. Don't rush to flush! There is information on their website about the sharps program. The website states that they don't accept scheduled drugs. They also have a list of participating pharmacies on their website. Washtenaw County purchased 24,000 ads that were printed on drug bags that have the dontflushdrugs.com information on them. No chain pharmacies are in the Washtenaw program. They would like information with the medication packaging. Pharmacies have locked drums so there aren't any thefts. The drum is labeled so pharmacies know what can go into it. To make sure there are no legal issues there are certain things that Washtenaw must have from the pharmacy: a letter of understanding, identify expectations, lengths of commitment, and ability to provide promotion.

Question - What kind of participation rate does Washtenaw have? Answer - They don't track by participant, only by poundage.

Kent Newman – Asked about triclosan concentration. Do animals that eat the other things with triclosan concentration get it? Jeff thinks yes.

U of M engineering school came out with study last summer that it is better to throw the medication away instead of taking it to the pharmacy because of the impact of driving back and forth to the environment.

Sarah – Jeff poses three questions: Is there environmental issue? Yes. A social issues? Yes. An economic issue? Yes.

Kerrin – Thank you to Covanta. MRC got a grant from the DEQ to be a third-party convener to facilitate dialogue around this issue. Talking about the problems from a product stewardship perspective to hopefully change how things are being done. What is Government's responsibility? It traditionally carries the burden of waste management for residents.

Product Stewardship is the act of minimizing health, safety and environmental harm. From a PS perspective, there really is no consequence to pharmaceutical companies, pharmacies or doctors for products that are over-prescribed. We want them to be responsible. Mandatory product stewardship could include, at a minimum, the requirement that the producer's responsibility for their product extends to post consumer. Voluntary product

stewardship could mean companies take care of their products and packaging at the end of their useful life. Some companies are doing it on their own without being required by law. In Michigan, extended producer responsibility is generally mandated by the government. The Michigan e-waste take-back law is gaining strength across the country and focused on toxic, high volume or problematic materials. Everyone has a role to play – producers, distributors, consumers, etc. What is the best way to manage old drugs? There is no clear message: Flush? Don't Flush? Tape and hide it in the garbage? Mix it with something in the garbage? Wait for collection days? There are very few convenient, well-funded options.

DEA Rules – After over 2 years, the DEA released proposed regulations to expand collection options for the disposal of controlled substances to include: take-back events, permanent collections sites and mail-back programs. The DEA said flushing and trashing does not meet the standards of the DEA. They are saying that incineration is the way to go. Long-term care facilities aren't addressed and so they continue to flush medications. The DEA rule allows pharmacies, distributors, etc. to be authorized collectors in the program but take-back programs by municipalities are still being required to have a police officer on site. That is very restrictive. A change in the DEA rules will help. There are only 3 useful incinerators in Michigan where drugs can be burned. Since drugs can't be taken across county lines, any hauler that takes drugs to an incinerator that isn't in their county is non-compliant.

Alameda County came up with a safe drug disposal ordinance but companies came back and said it was infringing on their interstate commerce rights. We don't know how this will end up but the lawsuit is still pending. A vision for the Great Lakes State: Protect public health and the environment, minimize impact on the environment, be adequately funded and identify and address the underlying drivers that contribute to the problem. Our challenges: Pharmaceutical companies are international in nature and are not eager to come to the table. They perceive tremendous liability implications in taking responsibility and the cost for comprehensive programming is unknown.

Sarah Archer asked if there is any movement from PSI on pharmaceuticals? Kerrin said there is no formal movement. PSI was excited about new DEA rules however. How does it look for a national policy? That depends on how optimistic people feel. E-waste programs are not the same nationally. Companies would like to see e-waste programs be consistent. A national policy on pharmaceuticals should be consistent as well. Josephine Jabara asked about legislative bills? One bill passed and one bill died. Johnson's bill regulates the re-use of drugs and that one passed. Pharmacies are having a hard time with it because there is no way to know if the drugs have been handled properly or not. Joe Carney – Until federal rules change the only drugs that can be reused are ones that the pharmacy already controls. If federal rules change then drugs can be used from one facility to another.

Amy Ann Moore – Trends in Prescription Drug Use and Abuse.

Prescription Drug Abuse – Used in any other way than prescribed. Drinking cough syrup, taking ADHD meds to study for finals, taking meds for euphoric effects. Mason, Michigan is having issues with drug abuse in their schools. High-impact drug communities in Michigan are Kalamazoo, Detroit, Saginaw and \_\_\_\_\_. Teens report pills are cheap and easy to get. 60% get them from a friend or relative, 8% purchase from a friend or relative, 4% take them from a friend or relative and 17% are physician prescribed. If a child perceives the drug is OK then they are more likely to do it. Also they are more likely to use it if their friends are doing it. The Problem – Unintentional poisoning has increased by 62%. Unintentional opioid deaths are up. There has been a rise in drug-induced deaths second only to motor vehicles. Michigan has one of the highest prescription drug abuse rates in the country at 12%. Drug treatment centers have seen a 182% increase in people reporting drug abuse at time of admission.

Concerned Stakeholders – The Federal Government and in Michigan – Prevention Network of Michigan, State of Michigan, Michigan Automated Prescription Systems (MAPS), Michigan State police and the substance abuse prevention and treatment community.

Ingham county – HHW – ON-going, Medical collection – One-time events, recycle-rama  
Pharmacy take-back option – Permanent on-going. Simple for community, rural outreach, community message.  
Capital Area takes back meds – Ingham (Capital Area) using West MI logo and image. Have two year DEQ grant to get program up and running.

#### **Panelists –**

Chris Angel – Great Lakes Clean Water – A non-profit organized for the specific purpose of dealing with this issue. Yellow Jug Old Drugs is a part of the Great Lakes Clean Water organization. The DEA recognizes there won't be any funding for collection at pharmacies. Pharmacies see the value of bringing people into the store to return unused medications, it increases traffic in the store. Yellow Jug Old Drugs try to keep their program costs as low as possible. They save money by doing PSA's. They have grants as well. The idea behind the sustainability piece is to start the pharmacy on the program with a grant and then charge the \$25/month to sustain the program. They don't penalize the pharmacies by charging by weight so the program is only \$300/year. Yellow Jug Old Drugs thinks pharmacies should take controlled substances and pharmacies agree. The yellow jugs have a gel in the bottom of the container that dissolves pills into sludge and makes the medications unusable and undesirable. And they would be the only non-profit reverse distributor in the nation.

Amy Ann Moore – Ingham County - Has been in drug prevention for 21 years. She uses research based information to set up drug programs. Ingham County has ten participating law enforcement agencies. They modeled their program after Washtenaw County. Ingham County also has twelve pharmacies that have written a letter of commitment.

Larry Wagenknecht – Pharmacists Association – They do lobbying, continuing education and professional development for pharmacists. They developed the drug take back program at the capitol but almost had to stop because they were violating existing waste disposal rules. Working with the DEQ Director, the take back program occurred. They represent individual pharmacists.

Jeff Krcmarik – Washtenaw County – Have participating pharmacies that take non-controlled substances. Came to this point because HHW collections were not taking back drugs. Washtenaw gets lots of calls from home health care individuals with left-over chemo drugs, tubing, etc. after person dies wondering what to do with it all. Washtenaw is dealing with drugs from a waste issue but they want to dispose of it properly and are trying to help people do the right thing.

Panel Questions – for Larry Wagenknecht from Sarah Archer – What is your opinion on the role of pharmacists in this issue? Larry - The logical place is that pharmacies should be able to accept unwanted medications. To date laws have made that difficult. We are in a better place now that the DEQ has proposed changing some of the rules, but as of today, the changes have not occurred. 579 lbs. of product was collected this year worth over \$1 million. This year some faculty and students from Ferris State University are analyzing the take back program. They found a lot of the medications were coming from mail order, not the local pharmacy. The pharmacist does have a responsibility to take it back but there is also a need for an easy mechanism for patients to return and pharmacist to dispose.

Larry Wagenknecht- Stated that he believes the real issue is natural excretion of the drugs. A lot of our drugs in the watershed are through the excretion from people who have taken them. Pamela Ortner – Says that there

have been no studies to show that the drugs in the watershed are coming from excretion. He agrees that he can't site any studies, but believes that most drugs aren't "unwanted" but misused. Sarah Archer – Was at another workshop and was told that the majority of the drugs we take are not absorbed by our body and most is excreted. Josephine Jabara – World Medical Relief has had a pharmacy since 1986. There is a push to dispense drugs for 90 days but World Medical Relief won't do it because they want to reduce the amount of unwanted medication. Larry Wagenknecht says studies have been done to show that medication is cheaper through the local pharmacy than through mail order. He promotes that medication people are on for life can be prescribed for 90 days effectively. Other medications and situations don't promote it.

Kaitlin Fink – Question for Chris Angel – Where does the money go for the program? Business expenses. They drive drugs to Detroit for incineration every four months. The Upper Peninsula is on a six-month collection program. Do the pharmacies pay the \$300? In most cases, yes. In the beginning Yellow Jug paid the \$300. Now the pharmacies pay on their own. 90% of the pharmacies they deal with are paying on their own.

Sarah Archer asked to what extent are pharmacies willing to participate? Chris Angel – The free trial period helps a lot. In Ingham County they have concerns about space issues and the ability to store the returned drugs. Jeff Krcmarik gives the pharmacies a choice on what type of container they use for storage. Walgreens was on board with the program to purchase bags and return drugs. Larry Wagenknecht said another challenge with the chains is that they go across multiple states and there are differing laws and it gets too complicated. A lot of pharmacies in general have gotten involved because of positive public relations.

Patrick Cullen asked Chris Angel what type of protocol do they follow to keep controlled substances out of the program? They have a strict protocol with the pharmacy. The pharmacy knows they are going against federal law if there are controlled substances in the Yellow Jugs in their store.

Sarah Archer asked if there are any other obstacles to pharmacy take back? Amy Ann Moore said they have people come to take back programs and they bring back boxes of medical supplies, some unopened. Pam Ortner says there are individual hospices in each state and they have a policy of flushing. Chris Angel says new regulations support that a family member can legally bring in controlled substances for disposal. Larry Wagenknecht said there is a challenge of how to reuse medications, while ensuring they have been handled properly. The mechanics of getting medications that could be used by patients that don't have them is very complicated. There is a huge variety of situations that meds can be used or misused in. How to put laws, rules, and regulations in place? Josephine Jabara – World Medical Relief gets a huge amount of drugs from high profile companies that have to be sent overseas. They get drugs from hospitals that they can use in the United States. Joe Carney said when he was reading the proposed EPA rules he thought it said family members could transport drugs under old rule? Chris Angel says no. That is the new rule. If you are trying to dispose of old narcotics go to the police department and call ahead.

Kerrin O'Brien thinks there are lots of different programs and ideas but do we need to have consistency? Amy Moore says that is very important. Programs may be run differently, but should look the same. One good program could be replicated throughout the state. Kerrin O'Brien asked if pharmacists would be more likely to participate if there was consistency? Larry Wagenknecht says the take-back programs are great and having a consistent program is important. A program should have regular collection times, and have a streamlined process. Jeff Krcmarik says a consistent message is important. There should be a website for people to go to for information like [www.dontflushdrugs.com](http://www.dontflushdrugs.com). People don't even know when there are programs in their area. Larry Wagenknecht said people who are healthy and don't use drugs aren't aware of programs. Then when a parent dies they have unused drugs and they don't know how to properly dispose of the drugs. Chris Angel said communities try to keep up with lists, but businesses close and things change and it is hard to keep up. If the

message comes out through DEQ it would help. Floyd Vitale said kids are dying from drug abuse and we need to fill that gap and address the issue. He says controlled substance collection needs to be addressed. There is a need to have a notice on prescription bottles to bring back to the hospital if not used. Most people are coming back to the hospital within one month or less anyway and can return their unused medications then. Melanie Jorgensen said she gets messages on her water bill. A message about drug take-back could be added to that.

One of the first PSI webinars for the San Francisco area was that it was law that it be posted in all pharmacies where the take back locations are, not just in participating pharmacies. Mike Gjonaj asked what type of social media is used to reach young people? Amy Moore said Ingham County has school campaigns, parent training and peer assisted leaders.

Josephine Jabara said the way pain medications are prescribed needs to be addressed. Amy Moore – In Ingham they have one doctor that deals with opioid addiction. Most doctors don't want to do pain management, but they do it anyway. The doctors have a point person to talk to about pain awareness.

Sarah Archer asked where is policy in all of this?

Larry Wagenknecht said any time a patient is prescribed pain medication, the information is sent to Lansing as part of the State's Michigan Automated Prescription System (MAPS). Discussions are going on with the Governor on how to reduce drug addiction. Police aren't given access to MAPS to see where the drug abuse is happening. There have been many cases where the prescribing doctor is part of the problem and many prescribers do not check MAPS before they prescribe.

Kerrin O'Brien asked if it helps to have diverse groups like this get together? Larry Wagenknecht said drug abuse has been a problem since the 70's. We can increase awareness but we live in a society that there is a pill for every ill and if one is good then two is better.

Amy Moore asked what pharmacies do with the used bottles, are they shredded? HIPAA won't allow the pharmacy to reuse the bottle. Patient health information is the issue with bottle reuse.

## **Small Group Questions & Discussion**

### **Pharmacy Group-**

1. a. What is your entity's role? Pharmacies should take responsibility because they are dispensing meds. Most pharmacies are interested and would participate. They feel caught in the middle between pharmaceutical companies and consumers. Need to keep the program simple and administrative costs low.  
b. Is it appropriate for your entity to provide collection opportunities to consumers? Yes, as long as it is easy for pharmacies.
2. To what extent is your entity willing to support/provide a program? Pharmacists are open to accepting drug waste, but it needs to be simple, secure and low-cost. Pharmacies may or may not be open to redistribution, unknown. Some may participate in recycling (re-use) of drugs depending on liability, etc.
3. a. What do you think are the characteristics of a successful program from this perspective? Convenient, inexpensive and avoid HIPAA violations. Controlled substances are an issue but this may change with DEA regulation changes.  
b. What is needed to ensure the success of your effort? DEQ needs to amend Part 115 to allow diversion. Keep it simple. Corporate support. May need Federal support to keep consistency and adopt a national model to get chains invested. State rules should incorporate federal rules. Communicate with pharmacies to push take-back models. DEQ should keep a take-back list and could send out a letter

alerting pharmacies about the drug take-back program. Public education about pain management. \*Promotional Help\*. Landfill and flush ban.

4. What are the obstacles to your entity's success? Cost. Who pays? Producers, retailers, consumers? Determine cost of take-back/collection programs. Lack of data concerning source. Unknown cost to society of no action. Reduce, reuse, proper disposal/destruction. Insurance policy terms. Lack of education. What is the best model? Separate drug misuse and waste issues.
5. What kind of policy would support your entity's effort? Consistency. Lower the legal barriers. Promotion and education about issue is critical but also costs. What about policies? Landfill and flush bans won't work unless there are good alternatives. Engage with CARA, DNR and MDARD. Need to understand the pharmaceutical impacts on gamefish.
6. How have or how can your entity successfully spread the message to responsibly manage unwanted medication? PSA's, social media, at point of purchase, from medical professionals.

#### **Municipal group-**

1. a. What is your entity's role? Worker bees of the state. See a program that needs to be provided and make it happen locally. See their role as education, regulation, grants/funding, disposal costs and collection events. But, they shouldn't be the only provider of collection events. Should have other ways to dispose of events. Some municipalities are closing down their drug collections and funneling people through HHW events which is making it harder for people to dispose of their drugs.  
b. Is it appropriate for your entity to provide collection opportunities to consumers? Part of the County Solid Waste Plan to perform collection events consistent with message – environmental protection.
2. To what extent is your entity willing to support/provide a program? Create a partnership with Pharmacies. Munis are willing to support but can't be the only provider – must be a cooperative venture.
3. a. What do you think are the characteristics of a successful program from this perspective? Multiple partners/collaboration, consistent messaging, state level searchable website for residents – must be maintained. Must be easy to use, free and convenient. Must be funded, affordable, cost-effective.  
b. What is needed to ensure the success of your effort? Funding. Build sustainability with funding through cooperative partnerships.
4. What are the obstacles to your entity's success? Funding! Must build consensus, ease regulatory restrictions, address liability issues, broadcast a consistent message throughout the medical community, targeting the audience.
5. What kind of policy would support your entity's efforts? Statewide regulation? Support and enforcement from leadership and state.
6. a. How have or how can your entity successfully spread the message to responsibly manage unwanted medication? Link to website, PSA's targeting illicit use, e-mails, flyers, postcards, facebook, social media, local munis spread the word, connect with drug preventions coalitions. Could pharmacists staple info to a script bag or put a sticker on a bottle with disposal info? Need consistent message. Billboards. b. How does your entity inform consumers of available collection/disposal opportunities?
7. What can we expect from law enforcement as these programs grow and require attention? Need better education and have an ambassador for the program.

#### **Special Interest Group-**

1. a. What is your entity's role? Represent reclamation, reuse, disposal, end-point, WTE destruction, environmental and health policy, non-profit.  
b. Is it appropriate for your entity to provide collection opportunities to consumers? Yes, these groups can and should provide some collection opportunities.

2. To what extent is your entity willing to support/provide a program? Issues are many: Alternatives to problem chemicals? Impacts of incineration, air quality, transporting material. Antibiotic resistance. Safety concerns of take-back sites and controlled substances. Collections or what's not accepted, hazardous waste.
3. a. What do you think are the characteristics of a successful program from this perspective? Easy, good advertising, public/legislative support at pharmacies, money!  
b. What is needed to ensure the success of your effort? Same as above.
4. What are obstacles to your entity's success? Consumers' willingness to pay for the service when scripts are so cheap.
5. What kind of policy would support your entity's efforts? Built-in disposal "tax", pay for R&D and capital costs to improve water treatment plants.
6. a. How have or how can your entity successfully spread the message to responsibly manage unwanted medication? Educate and inform through flyers, magnets with information on accepted vs. not accepted meds., nurses, social media, QR codes on keychains, on campus' and to youth. Funding from drug forfeitures.  
b. How does your entity inform consumers of available collection/disposal opportunities?

#### Ways programs are currently funded?

- Landfill tip fees
- HHW disposal fees
- Private contributions (Yellow Jug Old Drugs)
- PA 69 – county recycling surcharge on property taxes. \$25 - \$50 (vote needed).
- Clean Sweep – 7-8% to HHW meds
- Water Resource Authority, Drain Commissioner
- Volunteer driven (barrel creation and sales)
- Drug forfeiture, award donations
- Pharmacies
- DEQ grants
- Substance abuse coordinating agencies: PA 2 fed to state to local for treatment and prevention coordination. Substance abuse prevention coalitions.
- Special millage
- Charging drug offenders

#### Messaging

- Need to coordinate information about issues and programs through a statewide searchable database and make that available to 211 call center.
- Have common promotional/informational materials statewide.

#### Needs

- Need to amend Part 115.
- To make programs easy and convenient for the pharmacy and resident.
- Stakeholders must coordinate efforts, through a coordinating agency...bring stakeholders together to crease consistent messages, build comprehensive programs.

#### Models

- Public/private partnerships to fund and manage collections (currently at the table 6 private service providers & 3 nonprofit service providers)

- Where does law enforcement fit in?

#### Mailback-

- The perception is that people don't want to pay and it won't be well received. This can be a teachable moment – here are your free options and why is this important.
- Include cost of service with script and provide return envelope for free.
- Could offer an incentive to come back with envelope. Mail order companies could offer a return envelope promotion.
- Mail order companies can offer return envelope for services...problem with liquids and patches.
- Mail service might work well for commercial generator with certificate of compliance

#### Redistribution -

- Is happening from medical facilities and physicians, and in some cases from homes – unexpired/unopened and often goes overseas
- Blister packs are an issue
- Pharmacies are not redistributing based on the requirements of the current laws.

Kate Neese said Clinton County program is funded from tipping fees from two landfills in the county. That is how their entire recycling program is funded. They have added in cost of drug disposal to their HHW recycling program. Clinton County has a three to five year financial plan in mind when doing budget. Kate will crunch numbers as to how much of their tipping fees go to their recycling program. Pharmacists and law enforcement donate their time to the HHW events.

Josephine Jabara – World Relief Fund says Yellow Jug program is funded by contributions.

Mike Fiebing - PA 69. Put a recycling surcharge on all property taxes. Can go up to \$25/year/household. Out of his PA 69 \$ he is around 7-8% of his HHW budget. Meds haven't been an issue. Might cost \$200 next year.

Washtenaw County – Dan Moody – Approached water resources commissioner and they kicked in some money. Are there any parameters around use of those funds? No, open.

Joe Carney said the Livingston County program is built around the Red Barrel program. They have someone that will manufacture them at no cost to him. If you are close to people you work with they may donate to your program. The Livingston County prosecutor won a monetary award and donated to their program. They do a lot of PR in theirs and other counties. Get families that donate barrels. They support their program through police drug forfeitures/fines.

Chris Angel said the Yellow Jug program has received DEQ grants and donations. Pharmacies pay fees to have Yellow Jugs. They used DEQ monies for PSA's, documentaries, educational materials, etc.

Amy Moore with Ingham County said substance abuse coordinating agencies share funds for treatment and prevention. They have a slush fund called PA2 funds. It is an alcohol tax. Funds are allocated through the county commissioners. Ingham County runs their program through the HHW program.

Kent Newman asked about built in taxes?? Kerrin O'Brien said that is not being used in MI right now.



Most of the programs represented today have gotten money from Clean Sweep. But Clean Sweep will soon go away. The pharmacies are registered to handle controlled substances. Most pharmacies have a DEA controlled substance license.

Chad Rogers says state of MI doesn't have a funding model at this point. Other states charge the drug companies a fee to fund their programs.

Pat Cullen – Have a consistent program for all groups.

Amy Moore - Call 211 and ask about information on recycling and all kinds of other things. Each community is in charge of their own program but need someone to coordinate all of the communities into one consistent message. Josephine Jabara – Would like to see DEQ take the lead and be the coordinator. Have one phone number, one website, etc.

Chris Angel – One great resource is the local pharmacist. Larry Wagenknecht says pharmacists are getting calls. One piece of important legislation that needs to happen is to make it legal for pharmacies to take back addictive meds.

DEQ – Chad Rogers – It is hard to maintain a list that is current. They refer the people who call the DEQ to the local pharmacy.

Amy Moore – Talked to DEQ grantees, they are having a difficult time identifying all the pharmacies in their area. Contact LARA to find out who they are.

Ben VanDyk – Drug & Lab Disposal – Their goal is to make it simple, easy and convenient for the consumer. Their target audience is the pharmacy. Do this as at a price point that they can accept.

Mike Gjonaj – Want to make it easy for the client. Make sure they have limited liability and customer satisfaction.

Terry Madden – Covanta – The counties have rewritten their solid waste plans. Not a lot of money in this but it is the best thing to do.

Amy Moore – Law enforcement can take their evidence (confiscated drugs) any place they want. Anywhere that can burn it appropriately is where they take it.

Joe Carney – When they were developing their program they talked to the animal crematorium. They said they would do it if they would pay for an upgrade. Another county used to use the crematorium until they were told to stop because it wasn't legal. Need to have a burn facility with proper controls.

Terry Madden - Consumers Energy facilities have been used for disposal of drugs.

Who uses private companies to manage their HHW and drug disposal? 6 (mostly counties)

Who uses non-profits? 2

Who disposes of the HHW and drugs themselves? None

Mike Fiebing – Costs to dispose of HHW and drugs would be cost prohibitive to most companies unless they make the drugs themselves.

Sarah Archer asked if mail back programs are viable? Kate Neese says no because they don't want to pay to send back their drugs. Mike Gjonaj – Says there are Med Waste, and other programs. Commercial entities may use the mail back program for bulk returns.

Chris Angel – The general population isn't going to use the mail back program.

Larry Wagenknecht – Pharmacies were approached by a few different companies for a nationwide program but it wasn't a very good uptake because of the mail back option. It is good to have that as one option but not an answer to the solution.

Joe Carney – Do you lose people after you give them an option to buy the \$3.00 envelope and they say no and walk out?

Mike Fiebing – Include the mail-back envelope in prescription price or provide incentive for people to mail back.

Floyd Vitale – Since mail order medications seem to be an issue require those companies to give people a way to mail back unwanted medications.

Dan Moody – He has seen that people don't even know that there is a mail back your drugs program.

Larry Wagenknecht – Agrees with Chris Angel that there were some areas that were missed but in general there is a good start to changes in the current drug take back law.

Ben VanDyk – There is a problem with mailing liquids too.

World Relief Fund is the only group here today that reuses medications. Larry Wagenknecht - This is a policy issue of what drugs can be reused, etc. World Relief Fund gets most of their drugs from doctor's offices that are sealed and have appropriate dates, etc. They do not use open bottles, but what about blister packs? Why can't they use those? This is the policy issue.

Amy Moore – A program in Jackson is taking unopened, unexpired meds to Africa. A doctor takes the meds over there.

Josephine Jabara – Countries all over the world are very strict about medicines that are expiring. Won't let meds in the country that are close to expiring.

Mike Fiebing – We covered only part of the problem. What are we trying to do here? Keep the water clean, the environment? What about agriculture?

Set a call to talk about what we talked about today.

### **MRC Takeaway Summary**

There seem to be several successful methods and models for implementing a program to collect unused pharmaceuticals. Permanent drop-off sites require a secure container (in order to collect both controlled and non-controlled substances these containers must be housed in a law enforcement location) and collection

events require law enforcement presence. The development of additional collection opportunities and sites, however, is hampered by the fact that federal and state rules currently place limiting rules on the collection of controlled substances and the transportation of these materials across county lines. While we've seen interest in updating these rules to accommodate increasing recovery of pharmaceuticals, there is little interest and effort put into expanding current and adding new programs that may be impacted by rule changes.

Participants voiced support for consistent and widespread education and messaging that crosses jurisdictions. There was recognition of the convenience factor of pharmacies collecting the material and also the challenges they face in providing those services. A not insignificant amount of the discussion was geared toward a need to use unwanted, in-date, packaged medications for low income and overseas needs.



## Increasing Pharmaceutical Recovery in Michigan Feedback Workshop Conference Call Notes

June 19, 2013

**Participants:** Kerrin O'Brien – Michigan Recycling Coalition, Tina Andrews – Michigan Recycling Coalition, Kate Neese – Clinton County, Chad Rogers – MI DEQ, Larry Wagenknecht – Michigan Pharmacists Association, Dan Moody – Washtenaw County, Jeff Krcmarik – Washtenaw County, Sarah Archer – Iris Waste Diversion Specialists

### **Did we accurately record and document your feedback?**

Larry Wagenknecht doesn't remember seeing the notes. Was there anyone else that didn't receive the notes? Dan Moody, Sarah Archer and Chad Rogers didn't receive them. Notes were resent during the conference call.

### **Looking back on the dialogue of that day, what were the key points that you were left with and the obstacles and opportunities to recovery?**

Kate Neese: Clinton County struggled to get law enforcement and pharmacies on board. It takes time to get the different agencies to collaborate. It can be overwhelming for municipalities to take the time to get the program going.

Larry Wagenknecht: The big issue is the question about handling controlled substances. He had a meeting with a DEA policy person in April and thinks the DEA will issue their final rules in the fall. His take was that there wouldn't be major changes, but minor tweaking. This would loosen up the need to have law enforcement present for narcotics take back. Collection boxes will still be located in both pharmacies and law enforcement offices but will offer additional options for collection. Kerrin O'Brien asked if pharmacies would be more willing to participate. Larry Wagenknecht thinks this will help. Kerrin will contact Representative LaFontaine's office regarding a meeting to talk about the bill. Larry Wagenknecht said he would be happy to go along.

Chad Rogers: Brought up that some pharmacies fear if they do a take-back program they would be considered a large quantity hazardous waste generator. Kerrin O'Brien said this is something valid to look into. Jeff Krcmarik said Washtenaw County had a pharmacy that had a large quantity of expired nicotine patches and had to work with their hauler directly because of that reason. Chad Rogers said there is debate at the DEQ whether drugs are hazardous waste or not. Kerrin O'Brien may be able to explore this issue within the context of the grant and get some clarification. Christine Grossman is the DEQ waste specialist and would be a good person to talk to about this issue. Dan Moody said most municipalities classify these items as household hazardous waste.

Kate Neese: Clinton County packages their non-controlled substances separately, treat it as hazardous waste, and are charged per pound for it to be taken to the incinerator.

Sarah Archer: Regarding county collection events - When they went out to bid for their vendors, not all vendors had the proper certifications to accept drugs at these events. It is expensive to be certified to transport those materials.

**What other issues from the dialogue were at the top of your mind? What about the education piece?**

Kerrin O'Brien: We need to develop key, consistent messages that can be shared throughout the state.

Sarah Archer: That came through for her as well.

Chad Rogers: Education is one of the issues. One of the grants to Yellow Jug Old Drugs pays for ads on public television. They had a lot of money in the grant for pharmacies but the pharmacist didn't want any more handouts to put in the bags with the drugs.

Larry Wagenknecht: There are discrepancies between what the FDA requires and what pharmacies distribute. Two to three levels of education need to occur. Once new rules are out we need to educate pharmacists about them. We need to educate the patient and then educate the community. Once the rules are more clear, then counties and communities can decide how they want to tackle it. Maybe we could contact two of Chris Angel's pharmacies that are the best at collecting and analyze how they do it. We could get an idea of best practices that can be distributed across all pharmacies.

Chad Rogers: Another education area looked at with Chris Angel's grant was schools, doctors and veterinary offices.

Dan Moody: Washtenaw County has found it to be very effective to put information directly on the prescription bag. Kroger pharmacies in Ann Arbor were looking for something to fill space on their bags. Washtenaw County paid \$300 for a year to put their website [www.dontflushdrugs.com](http://www.dontflushdrugs.com) on 27,000 bags and it has worked very well.

Sarah Archer: Like any program, it takes a diverse number of methods to get the word out.

**How do we get this funded?**

Chad Rogers: Chris Angel has a good model. Charge \$300/year to pharmacies to pick up their old medications. We could help his efforts by producing information to help pharmacies see the benefits of having Yellow Jug Old Drugs receptacles in their stores like it will create more foot traffic, etc.

Kerrin O'Brien: Is participating with PSI to get a grant to evaluate the Yellow Jug Old Drugs program and find out what the key elements are of that program. One of the ways they came to that program over others was the new DEA rules that make it easier for pharmacies to take back all drugs. This program is unique to MI. They are making headway, but are a small non-profit and need some help to ramp up their program. PSI will develop a survey and send it out to help make that program as good as it can be.

Sarah Archer: Is concerned that the cost that is assessed to pharmacies should fund education and \$300 is pretty low to cover the pick-up, disposal and education. And, if pharmacies are now taking narcotics the collection will increase immensely.

**Are there any thoughts about Sarah's comments or funding in general?**

Any real effort to get pharmaceutical companies to pay to get medications taken care of is a long way off. We have to work with the resources we have.

Jeff Krcmarik: Washetnaw County puts the whole county into the RFP. That gives them the best possible pricing and a consistent message. For controlled substances, the big collections are showing

that the controlled substance only make up 10-15% of what they collect. Washtenaw County uses the Red Barrels program at law enforcement sites for controlled substances.

**Jeff, how do you feel about the MRC promoting the Yellow Jug Old Drugs program?**

Jeff Krcmarik: There is no cookie-cutter way of doing things. More rural communities are probably better served by YJOD. The more urban areas are better served by the counties doing a program.

Dan Moody: There was a meeting in Milwaukee last week and attendees were asked who visited their local law enforcement office in the last week. No one raised their hand. Then they were asked who went to a pharmacy in the last week? Everyone raised their hand. It makes the most sense to take medications back where you get them from and where it is convenient.

**Great Lakes Restoration Initiative (GLRI) is addressing the same questions we are addressing today: funding, education and consistent messaging. A few states have introduced EPR bills and want to get as many programs up and running as possible. If it goes positively, then more states may go the EPR route.**

Chad Rogers: We need to somehow get the pharmacy industry involved in the discussion.

Kerrin O'Brien: We reached out to companies but none came. Walgreens canceled at the last minute.

Chad Rogers: Do we have any idea why they don't want to get involved?

The risk managers at the pharmaceutical companies say it is a huge liability for them to say that these materials are creating problems in the environment. And, they don't want to take responsibility for the dependency problem.

Jeff Krcmarik: Mentioned that drugs flush out through our bodies and get into the water that way. Companies won't take responsibility for drugs in the waterways. There is also an interstate commerce issue.

Produce Stewardship can happen many different ways. State leadership is going to be important as we move forward. Chad Roger and Kerrin O'Brien will discuss a meeting with Representative LaFontaine in another call.

Chad Rogers asked when the final version of the Pharmaceutical grant will be done. Kerrin O'Brien said possibly by July 30<sup>th</sup>.

**Any there any final comments or observations?**

Sarah Archer: Her final observation from the original meeting was that she was very glad that Larry Wagenknecht was involved. She appreciated his comments regarding the pharmacies willingness to collect medications if and when the laws are changed to handle narcotics. She thinks the program may move forward quickly if the law is changed.

Chad Rogers: We need better metrics as we don't really know who is doing what, where, or how much is being collected. That is a big issue for the State.

Dan Moody: About a year ago Duane Roskoskey did a survey of the collection programs in the State and compiled that data. Washtenaw County did a survey as well. Kerrin O'Brien asked Jeff Krcmarik to send that information.

Chad Rogers said there is a household hazardous roundtable on July 15<sup>th</sup> at 9:30 am at Ingham County. Dan Moody plans on attending the meeting and will talk about Washtenaw County.

Chad Rogers said he had data on the DEA collections and he can send that data to Kerrin O'Brien.

# MICHIGAN RECYCLING COALITION

## Packaging Workshop

### Survey/Evaluation Results

April 10, 2013

1. What is your general level of satisfaction with the current state of recycling in Michigan?  
Please circle one.

High					Low
1	2	3	4	5	
2		4	1		

2. In your opinion, is state policy and/or leadership necessary to increase access to recycling opportunities throughout the state?

Yes – 7 people

- Legislation needs to be implemented to increase the cost of throwing resources in the landfill – to equal or increase costs for trash vs. recycling.
- There is a public interest that is more impactful.
- Policy, leadership and funding needed.
- Leadership of multiple stakeholders in all areas. The goal is more material back and out of the landfill.
- All effects of the decisions must be understood.

3. What do you think is the appropriate role of your organization in the recycling of packaging waste?

- Education about where to take packaging and where recyclables go after they are in the bin. (4 people)
- Networking with all stakeholders.
- Advocating to local, state, county and federal government to improve recycle programming and product development.
- Making sure we are checking and tracking where material is going for its final stop.
- Opening secondary markets.
- Support through program funding and/or participation.
- Big user of recyclable material and want to see material supply increase.

4. What do you think is the greatest challenge to reducing and recycling packaging waste?

- Economic benefits to manufacturers to create packaging that has a closed loop cycle.
- Give manufacturers tax breaks to develop take back reuse programs with product development.
- Having everyone involved in the stewardship responsibility.
- Mixed products
- Diversification of materials
- Consumers and their current buying habits
- Cost



- Awareness that it is important to everyone (i.e. benefit to consumer)
- Educate where material is used and put a fine on communities not meeting goals.

**5. What do you need to be successful in your efforts to reduce packaging waste or increase recycling?**

- Creating innovative (multi-language) educational programs (ads) to educate residents about packaging & best practices methods that are available and how to get involved to make changes. (2 people)
- Being or sustaining a partnership on ----- level of -----process.
- Accessibility
- Marketing – Make it a buzz word or “Want To” program.
- State Leadership & Funding – (2 people)
- Continue to keep it on everyone’s mind & a #1 priority.
- Business Funding

**6. Do you think product stewardship (mandatory or voluntary) will gain momentum? Why or why not?**

- Product Stewardship should be mandatory – to keep built infrastructure in place. Funding would be stabilized.
- Yes, but if it’s not mandatory, the movement will just fade away.
- Not without funding.
- Yes – I think manufacturers want to do the right thing.
- It needs to be clearly defined and until EPR does, I think it may be a little stagnate.
- Needs to be a combination.

**7. Do you have any direct feedback to the MDEQ regarding this issue?**

- State legislature needs to create legislation to support a structured policy/funding to establish statewide programs.
- None that I am aware of, but I will look into having feedback.
- \*Access to convenient recycling is an issue\*.

**8. What was the most successful aspect of this workshop? Were the presentations helpful?**

- Sharing of ideas and points of view. (5 people)
- Brainstorming
- Continuing participation
- The discussion on the stewardship responsibilities.
- The presentations were helpful. (3 people)
- Mike’s presentation
- Open discussion (2 people)

**9. What was the least successful aspect of this workshop? What could be done to improve?**

- Establishing next steps? Ways to move closer to recycle programs and packaging stewardship.
- None (2 people)
- Very informative
- Great workshop (2 people)
- Great dialogue

- The conversation jumped around a little bit and sometimes had to be brought back to main question.
- Felt that there were some who only had one way to solve the issue and were not open to other ideas.

**10. What other policy topics or workshop topics might be of interest to you?**

- Multi-language barrier development pieces in education
- MFU outreach/education to increase participation
- Larger carts – for increased recycling
- How to change policies to adapt to automation in the collection field of work (servicing at the curb). Apartment complexes come to mind.
- Rural recycling – How to improve participation
- Provide training or classes for best practices & “how-to”.
- Educate elementary – all consumers on recycling.
- Single stream vs dual stream and quality of material.

**11. How did you hear about this workshop?**

- Email blast
- We discuss MRC ----- regularly.
- MRC (2 people)
- MRC meetings
- Kerrin O’Brien (2 people)

**12. Any other comments or suggestions?**

- Enjoyed the topic and input from everyone.
- Great lunch and awesome snacks!
- Great job and thank you for the opportunity to bring everyone together.



## Packaging & Product Stewardship in Michigan: Moving Recycling Forward Feedback Workshop Dialogue Notes

April 10, 2013

Welcome- Kerrin O'Brien. Spoke about the three product stewardship workshops and why they were chosen: the Great Lakes. Workshop etiquette was discussed.

### **Sponsors:**

Dart Container Corporation

Dow Chemical Company

TABB Packaging Solutions LLC

### **Attendees:**

- Allen Kennedy, Recycle Ann Arbor – The biggest concern is to get people to recycle foam. He would like to take some type of message from the workshop back to Ann Arbor residents.
- Lisa Pershke, Recycle Ann Arbor – Recycling Program Specialist. Gets calls about what to do with items, mostly plastics. She would like to see legislation passed to require manufacturers to do something with their waste.
- Bill Haagsma, Speed-Tech Equipment – Is here to learn about folks with problematic issues like how to bale material, etc. He would like to take some information back to his clients.
- Allen Burton, U of M School of Natural Resources and Environment – Would like to get a better understanding of the issues of stakeholders in the room.
- Sue Selke, MSU School of Packaging – Plastics and packaging and the environment. Would like to get a better understanding of the issues of stakeholders in the room.
- Matt Flechter, MI DEQ – This meeting is a long time coming. MI is on the cusp of making some big decisions about recycling and that includes product stewardship. He is interested in finding out how big of a step the state can take and include all stakeholders in the process.
- Cheryl Schmidt, Dart Container Corporation – Tired of being a target and has a lot of concerns about extended producer responsibility. Dart is being a good steward.
- Chad Rogers, MI DEQ – Is interested in getting everyone's perspective.
- Lewis Wooster, Ingham County Health Department – They have been doing one day events. He would like to see more sustainability.
- Nate Briggs, Display Pack – Has been a part of the recycling team for the last 7 years. They are about a 90% post-consumer manufacturer recycler. He looks at waste as value. Most of their waste goes out of the state.
- Ruben Nance, Dart Container Corporation – Engineering and recycling coordinator and a recent MSU graduate.
- Julie Kavulich, TABB Packaging Solutions – Is here to sponsor and listen to everyone's concerns and what people are thinking. Interested in what the professors are teaching.
- Jenn Hoelzel, TABB Packaging Solutions – MSU graduate. Wants to promote more recycling and wants everyone to realize there is a closed loop.
- Kimberly Weir, MSU School of Packaging Outreach coordinator – Wants to learn about what MI is doing. She talks to people nationwide and globally and wants to give a MI perspective.
- Jeff Wooster, Dow Chemical Company – Wants to find out how to collaborate with everyone to drive up recovery rates in MI. He wants everyone to keep in mind that we recycle products after their use.

- Ashley Carlson, Ashley Carlson Consulting – Representing the American Chemistry Council. In her role as a consultant to the American Chemistry Council, Ashley serves as the Secretariat for the Global Declaration for Solutions on Marine Litter. The Global Declaration brings together over 50 associations representing 34 countries. For more information, visit: [www.marinelittersolutions.com](http://www.marinelittersolutions.com).
- Ruth Daoust, MSU Surplus Store and Recycling Center – Will pass along what is happening at MSU and what their impact is. Looking for partnership opportunities.
- Dave Keeling, Steel Recycling Institute – Represents 90% of domestic steel production. They have taken a hands-off approach to the product stewardship discussion but have a point person now. Their concern is similar to the waste industry. They have invested billions on creating a network. They want to take back steel recycling and are leery of product stewardship.
- Mike Csapo, RRRASOC – Represents 300,000 people in 8 communities. They have a public/private partnership. He is here to advocate for programs that helps communities and to engender support for the MRC. He also wants feedback from stakeholders.
- Kate Neese, Clinton County Department of Waste Management – Is here to listen and get as much information as she can. They only have one drop-off for polystyrene in their county.
- Rafael Auras, MSU School of Packaging – Trains students to use science as a basis for making decisions. As a research component they are looking at what other areas would benefit from science based information.
- David France, ConAgra Foods Packaging – Would like to understand what is going on at this level. He can then go back and influence what is happening with packaging design. He would like to know how we could drive end-user behavior.
- Joe Hotchkiss, MSU School of Packaging – The primary mission is to influence students. These are the people who will be influencing the future. Research is their second mission. They think that fact-based research should be the guide for decisions in this area. Their job is to provide research based information to help people make informed decisions. They have an outreach component and want to bring the best research they have to stakeholders. Is here to learn what they should be doing in the classroom, the research labs and for stakeholders.

### **Introduction:**

Kerrin O'Brien, Michigan Recycling Coalition – We (the MRC) are bringing information to you that will be waste and recycling-based. But we need want to understand from the packaging people what their issues are and what waste and recyclers can do bridge the gap.

### **The Problem:**

- Waste - Sarah Archer, Iris Waste Diversion Specialists – On a national level we produce 250 million tons of solid waste. That number is made up of homes, commercial and institutional solid waste. Over 50% is from residential and the remaining is from the other areas. Americans generate over 4lbs of waste per person per day and only a quarter of that is recycled. Of that waste, 30% is packaging and container waste. Plastic containers and packaging = 14 million tons. 1.8% is recovered in recycling. Steel has been recycled forever. It represents about 3 million tons and has a 69% recovery rate. Aluminum has a 36% recovery rate. MI waste impacts – In 2011 we generated 46 million cubic yards of solid waste. That is up by 3% from 2010. That was MI generated, not from Canada. That means we are losing a lot of great resources to the landfill. The raw material value of those materials is estimated at \$4.3 million dollars. MI has roughly, a 20% recycling rate which ranks us 42 out of 48. That rate was established in 2000 and it may have been flawed. We are the lowest recycling state out of all the Great Lakes states. The bottle deposit law has helped increase the recovery rate. The implications of waste: We are trashing billions of dollars of resources, dwindling resources = increased costs. We need to focus on products and packaging at the end-of-life. The complexity of materials

that are out there that we can't capture is a big problem. How can we change packaging of snack foods to be able to recover that material?

- Marine Debris & Impacts on the Great Lakes - Allen Burton, Director U of M Water Center – Impressed with the MRC that we are on top of this issue. The Water Center started this fall with a \$9 million gift. They called for proposals and had a huge response. The proposals submitted did not deal with plastics. The Water Center is going to fill in the gaps with some of the money and fund some projects. Talking about the aquatic ecosystems: If you look at our human dominated watershed there are a huge number of stressors. Of the Great Lakes Erie, gets hammered the most. It is the most shallow and surrounded by the most people. Billions of gallons of raw sewage goes into Lake Erie from Detroit. Erie had harmful algal blooms in 2011. This destroys the recreational industry. Most of the problems are in the habitat. Every chemical that enters the water attaches to a particle and goes into the muck. This becomes very toxic. Our fish are contaminated because they are eating contaminated food. The EPA looks at MI data every two years. The two biggest impairments to aquatic life are nutrients and sediment. What about plastics? There has been a dramatic increase in plastics. Most of the uncontained plastic debris finds its way into aquatic environments. Sources are: garbage dumping into ocean, sewer overflows, plastic processing plants and transportation spills. Some plastics float and some sink depending on density. The floating plastic will slowly be colonized with algae and become heavier. That means a lot of plastics will end up down in the sediment. Plastic debris is concentrated based on large-scale ocean circulation patterns. Currents in the Great Lakes change seasonally. Plastic debris has been found in sand samples from around the world. Urban areas are the most concentrated. Fleece particles go straight through the waste water plants. Fish mistake plastics for food and their stomach fills with plastic and the fish die. Picture of albatross that has been highly affected by plastics. They get their food by skimming the surface of the water with their beaks open. They are indiscriminatory feeders and their guts fill up with plastics. Sediment consumption correlates with fish consumption advisories. The water is pretty clean, but the sediment is not. Plastic pellets were found along the shores of Lake Huron. They were nurdles. It was found that these nurdles were different ages and types so may be coming from many different sources. A recent survey found micro-plastics in the Great Lakes. The lowest concentrations are in Lake Superior. As we move south the concentrations get higher and higher with the highest being in Lake Erie. There are light levels of PAHs (?). Coming from all activities in urban areas.

What's next? The focus on plastic pollution will continue to grow. The extent and ecological relevance of micro-plastics in the Great Lakes is unknown. Once we know the exposure and the effects, then we can talk about the ecological risk.

- Matt Flechter – Likes how the conversation has been started by looking at the whole system and not just the recycling side. California had a problem with plastics and tracked it back to the rail yard. Matt would like to know if this is a domestic problem from manufacturers in Michigan or from some other source.
- Ashley Carlson – Pellet makers have a partnership with the plastics industry on a program called Operation Clean Sweep. For more information on the program, visit [OpCleanSweep.org](http://OpCleanSweep.org). This is for companies who make pellets. They educate the members on best practices.
- Allen Burton – Asked if there are statistics on Operation Clean Sweep to see if it is making an impact? Ashley said they are brainstorming a way to track metrics. Matt Flechter asked Ashley Carlson if there is action to find out where pellets are coming from when a spill occurs. At this time the focus is on education. They try to help companies see what they should do to stop the problem before it happens. Not focused on the clean-up side.

- Dave Keeling – Asked about sewage. A big discussion in Chicago is that waste is being sent down river. That introduces a lot of nasty stuff into the environment.
- Kerrin O'Brien asked about pre-consumer vs. post-consumer contamination. That analysis hasn't been done. Dave Keeling says that folks would be very supportive because of the tourism industry in Michigan and all the Great Lakes. Ashley Carlson said a study has been done about contamination along the waterways.
- Dave Keeling says he thinks that the aluminum recycling rate is now about 50%.
- Allen Barton says the students are the ones that have pushed U of M into sustainability. The next generation really gets it.
- Dave Keeling questions Michigan's state recycling ranking of 48. Michigan doesn't have data for recovery facilities. He thinks the Michigan recycling rate is closer to 14%. About the deposit law: Do residents think the bottle bill creates an industry that bottles are all they need to recycle? Sue Selke said there are many other bottle deposit states that do a much better job of recycling. Michigan hasn't done its job to push recycling broadly.
- Mike Csapo – Data collection is really critical and we can't make fact based decisions in a vacuum. The idea is to change behaviors and this forum is really critical. RRRASOC did a random telephone survey and curbside recycling is driven by convenience. But, the perception of convenience is driven by a person's value set.
- Lisa Pershke to Matt Flechter – The State of Michigan could create a program for recycling information similar to the Michigan Clean Water Corps so that we have a standard and uniform process of collecting this type of data with volunteers.
- Matt Flechter – The data we do have is about access, infrastructure, disposal and recycling data. Other states have done studies and collected recycling data. They required facilities to report. That has never happened in Michigan. Universities haven't done much.
- Dave Keeling - asked Allen Burton how he is working with the metals industry? Allen Burton said he has been helping develop standards for what is safe and what isn't in terms of chemicals use.
- Ashley Carlson – ACC does not yet have Michigan specific data, but is working to get the data pulled from the national report. For the national reach report, visit: <http://plastics.americanchemistry.com/Education-Resources/Publications>.
- Dave Keeling has a national database but doesn't break the information out by state. They want to know if there is access for aerosol can recycling.
- Kerrin O'Brien – The MRC and our members need to reach out and do a better job of getting the information and communicate to the public.
- Julie Kavulich – What happens to the recyclables after they are recycled? It is important to her because her plastic pellets could be in the water. Companies are fighting for recycled materials they don't have enough.
- Sue Selke – Not all recyclables are recycled.

#### **Dialogue: Is there a problem?**

- Susan Selke-Wants to keep the conversation flowing. Do we have an agreement on what the problem is? Mike Csapo said it is a set of problems.
- Susan Selke – Asked if all packaging should be recyclable? Jeff Wooster says no. It shouldn't be the sole basis for picking the material. If the whole is better than recycling then pick that rather than recycling. Mike Csapo agrees. We should encourage recycling but it isn't the end all, be all.
- Abigail Eaton– Thinks we are saying people are lazy. If that is the case then we haven't done a good job of educating.
- Julie Kavulich – Cost in another consideration. Is the consumer going to be able to pay for it?

- Ashley Carlson– Plastics recycling is confusing but there are tools to help with that. Should all packaging be recyclable? There is a trend with packaging groups working on end of life for their packaging. There is a lot of industry that cares about that.
- Mike Csapo- Agrees that there is confusion about plastics. The answer he gives to non-professional groups is that we need to be less picky about our packaging and the packaging industry needs to have more uniformity.
- Cheryl Schmidt – Plastics isn't the only thing we need to worry about.
- Matt Flechter – Matt is here to find out what the role is for each stakeholder in the product stewardship line. Matt is wondering if there is agreement that there is a role for every stakeholder?

### **Set of Problems**

1. Degree that we are capturing recyclables?
2. Of those materials, what is not recyclable?
3. Recycling is not the answer to every problem. Other EOL options?
4. People are lazy? Or uneducated? Picky about their products? Wide population – communication gaps.
5. Cost of making everything recyclable –  
Getting it recycled?  
Recycling can be confusing...
6. Who are the stakeholders, what are their roles?
7. Resource gap – Need to share info/resources
8. Volatility in commodity market
9. Complexity of process, stakeholders, products, materials
10. Communication issues about the larger and smaller issues.
11. Diversity of population leads to language barriers.

### **Goals: Brainstorm Common Goals**

- Sue Selke – Does everyone have a role? Mike Csapo – Says the burden will fall disproportionately on some groups. State policy will drive it.
- Jeff Wooster says there is shared responsibility.
- Ashley Carlson – Find the value for each of the participants. A voluntary company buy-in with a pay-as-you-throw program for residents could work well. Nathan Briggs agrees.
- Lisa Pershke – When we are talking about recycling rates, we have to look at the amount of space and landfills available. She thinks that the tipping fees should be \$200 vs. \$20. If tipping fees were higher than recycling would be more attractive.
- Matt Flechter – What about the cost issue? Should costs be shared for recycling? Does everyone agree there is a responsibility among all stakeholders to pay the cost for Product Stewardship?
- Jeff Wooster – Make sure there is value and a reason or it is just another government program that doesn't work. Dow is committed to spending money and finding solutions. They are looking for products that are bringing value.
- Sarah Archer- It is about the three R's. Recycling is just one option. She looks for packaging that is reusable, recyclable, etc. She tries to lower her consumer footprint and reduce her use of products that aren't that way.
- Dave Keeling – SC Johnson came up with a wonderful package that consumers hated. Consumers aren't buying into the new packaging. Kerrin O'Brien asked – what is the reason for that?
- Kerrin O'Brien – We have not talked about cost. Government generally bears the burden.
- David France- Any thinking on how fees would be assessed? Around the world, places that have implemented EPR have a cost structure that spreads across many layers.

### **Stakeholders – WIFM**

- Government – Landfill Ban, Funding Mechanisms, Policy, PAYT, deposit laws, analysis/research
- Consumers – PAYT, recycle, purchasing decisions
- Business
- Manufacturer – Research, account for externalities, design for recycling/sustainability (meeting product standards)
- Retailer
- Recycler

### **Needs**

- Money
- Research – Measurement
- Investment
- Technical Assistance
- Education

### **Infrastructure Development**

- Take a diversity of material
- Take stuff that wasn't taken before
- Modernize Systems
  - Single Stream
  - Carts (wheels)
- Standardize recycling programs
- Partnerships with Associations to bring technical assistance to Michigan businesses/corporations
  - Role of Associations – pool resources of members
- ADF – High recycled products exempt
- Landfill Surcharge
- Sustainability Fee
- Changes to the Bottle Bill
  - \$0.05 back to fund
  - Depots
- General Fund
- PAYT?
- EPR
- Require hauler to offer recycling
- Mandatory recycling access
  - Voluntary policing

### **Data Gaps**

- Infrastructure
- Access
- Data (Disposal)
  - American Chemistry Council Data – Packaging
  - Ability to recycle
  - State and national data
  - AFPA – American Forest and Paper Association
  - Beverage Association
  - SRI – Steel Recycling Institute
    - National data



-Where is the recycled material going? What is still going to disposal and how do we capture?

### **Concern/Interest**

- Recycle foam
- Legislation for Product Stewardship
- How to increase recycling – collection to processor
- Better understanding of stakeholder issues
- How big of a step towards Product Stewardship can we take?
- EPR – blister packs
- Strategy to develop sustainable programs
- Waste as value – leaving Michigan – how to raise awareness
- Connect education to recycling processor
- Learn about what's happening in Michigan
- Drive recovery rates at end-of-life
- Actionable plans
- What is our impact within organizations & in the State? Partnerships
- Concern – Investment in current infrastructure & EPR impact on recovery
- Advocate for support of municipal programs & advancement of recovery
- Lack of collection opportunities for plastics
- Knowledge to take students for making science based decisions
- Understanding for take-back to design products
- Behavior modification
- Use fact-based research in decision making.

### **Dialogue: Which of these goals can we agree upon?**

- Sue Selke – So for the sake of argument, say that the multi-layered packaging isn't recyclable. So we put the chips in a steel can. The carbon footprint to mine the steel and manufacture the can is larger than throwing the plastic film away.
- Ruth Daoust – Doesn't care what type of packaging we use, but we need to put it where it belongs instead of letting it get into the waterways or somewhere else.
- Julie Kavulich – How does a manufacturer take responsibility for what the consumer does with the packaging after it has been purchased and used?
- Matt Flechter – The State of Michigan is looking at the waste stream in a different way than in the past. It is making sure all the stakeholders take responsibility instead of putting it on the backs of municipalities and residents.
- Sue Selke – We are talking about two circles that overlap. One is what kinds of packages we use and what happens to them and the other is what do people really do? How do we get them to do the right thing?
- Mike Csapo - Agrees with the long-term impact of the package. One thing missing is what happens to it at the end.
- Ashley Carlson – There are a lot of things going on in other states that could help Michigan. Pay-as-you-throw, landfill bans, programs, etc. We should look at a suite of options instead of just focusing on Product Stewardship.
- Lisa Pershke – Look at the environmental impact of plastics as well. We could go back to selling items in bulk instead of packaging things individually.
- Cheryl Schmidt – If we put the responsibility on manufacturers then that will push them to create a better product. Dart would have it if it was available. What does Dart do about the whole life cycle? Public perception is a battle too. Consumers have different ideas about recycling. Some care, some don't.

- Jenn Hoelzel – Educating the public is important to turn this around.
- Julie Kavulich – APR is working to define guidelines to make all plastics recyclable. They are dealing with issues like what is good to put in a bottle and what problems sleeve labels create for recycling bottles.
- Sue Selke – 20 years ago the Association came out with guidelines for creating plastics that are easily recyclable, like not coloring milk caps. But, milk bottlers still color the cap on the milk jug even though they shouldn't.
- Dave Keeling – The consumer is paying one way or another. The Steel Recycling Institute was formed as a trade association to figure out how to be better than aluminum.
- Jeff Wooster – is there any analysis on what it would cost to educate, and help make current recyclables recycled more? What would the environmental impact be? Kerrin O'Brien said the Carton Council is doing that with their aseptic packaging.
- Sue Selke – East Lansing has voluntary curbside pickup. Lansing is mandatory but isn't enforced. If you want to recycle in Meridian Township it costs extra. This is dysfunctional. How can we expect to increase recycling in that type of environment? Why doesn't the State government mandate more streamlined programs across the state?
- Matt Flechter – Agrees that there should be a system to increase the collections of easy to collect, high-volume items. The State of Michigan is on the cusp of making some pretty big decisions and catching up with the rest of the country. Matt hears some confusion between Product Stewardship and EPR.
- Abigail Eaton – The big issue is having an unfunded mandate. The government can mandate all across the state but unless it's funded it won't go anywhere. The State doesn't have the funding or jurisdiction.
- Sue Selke said that the State can drive the program with policy.
- Sarah Archer – The commercial sector needs to be addressed, not just residential.
- Sue Selke – OCC has the highest recycled rate of any packaging material.
- Jeff Wooster – Michigan's recycling rate is lower than the national average.
- Abigail Eaton – What is the possibility of using landfill and recycling to create energy. Sarah Archer said Covanta isn't looking to take recyclables and make energy out of it. Abigail says can we manufacture packaging with co-generation in mind. Matt Flechter – We are shifting to more single stream, which in the back end creates stuff that isn't recyclable. The energy industry could utilize those unrecyclable items to make energy.
- Mike Csapo – State of Michigan policy calls for 50% recycling rate. He encourages the State to talk to MSU and set up metrics.
- Ashley – ACC first looks at the three R's.

#### **Potential Solutions – Mike Csapo, RRRASOC/MRC Policy Committee Chair**

- Startling fact: If we moved the Michigan recycling rate to 30% then we would decrease the unemployment rate by 3/10%. That is a lot for one industry. We know that there is a problem. That we agree on. There are dominant regulatory approaches that could be taken: Landfill Bans, Deposit Laws, Local Contracting (municipalities), (this varies widely across the state) and Local Ordinances. Voluntary Product Stewardship is another approach. Some of the companies that do this are Call2Recycle, ACRC and Thermostat Recycling. Extended Producer Responsibility is required. Michigan has one EPR law. It is the e-waste take back law and it has been pretty successful.
- The MRC has been looking at best practices from other states and wants to bring them back to Michigan. The Best-In-Class recycling concept has two key components – 1) Community Services and Collection Infrastructure and 2) Administrative and Support Infrastructure: (Benchmarking Best Practices: Data Collection, Measuring Progress to Goals). Education and Technical Assistance, Market

and Economic Development. County Planning. State Policy Administration (Leadership & Funding). MRC says the State has a way to fund community programs and bring our state up to other Great Lake States standards.

- Lewis Wooster – What would Mike’s advice be to carry out what he said? Become a MRC member! Talk to Matt and Chad at the DEQ. Know your audience and tailor your advice to them. Kerrin asked if updating the solid waste plan might facilitate discussion? Possibly. Don’t just update the plan for the sake of updating though.
- Dave Keeling - How many pay-as-you-throw programs are in the state? We don’t know but it isn’t the common model. Is PAYT part of the best in class program? It is in there but not a key part.
- Matt Flechter – There is a survey out of Kalamazoo County that was done about 8 years ago on PAYT. It is on the EPA website. He thinks we have more PAYT programs in MI than out east.
- Mike Csapo – How this intertwines with EPR is that e-waste is a voluntary program and they need to offer free and convenient places to recycle.
- Kerrin O’Brien asked Mike to make a direct connection between EPR and the funding mechanism in the report. The big one is the sustainability fee or the penny plan. Charge a penny or two on every retail transaction to fund the sustainability program in Michigan. While this is not exactly EPR, it does place an amount on our consumptive habits. It involves the consumer because they are paying the fee. We could then use that fee to advance recycling in MI.
- Dave Keeling - Would the fee be tied to a transaction? Yes. Everything we buy at the cash register is tied to products that need to have end-of-life recycling. Could be used for other environmental regulatory things as well.

#### **Dialogue: Options for accomplishing goals.**

- Sue Selke – Are we in agreement that we don’t need to recycle everything but we need to do a better job at it? Yes. What can be done to increase recycling?
- Lisa Pershke – Increase tipping fees.
- Mike Csapo – Education for consumers (what will I get out of recycling) and communities (why and the economic impact).
- Ashley Carlson – The MRC or some entity should endorse the Sustainable Packaging Coalitions “How To” recycling label. To learn more about the How2Recycle label, please visit: <http://www.how2recycle.info>.
- Sue Selke said the labels aren’t seen by most consumers. The label should be an aide, but not the end all be all.
- Ruth Daoust - Belongs to CURC and there are talks all the time about getting people to read signs. It is a challenge everywhere. How do we get the best practices out to people?
- Kerrin O’Brien – Education is the last thing to get funded and the first thing to get cut. We need a funding mechanism.
- Ruth Daoust said the faculty at MSU is the hardest group to get to recycle.
- Ashley Carlson – The Greenopolis program focuses on schools. It is run by Waste Management. It doesn’t cost the schools any money and they earn money for school supplies. Brand owners help fund the program to collect data. Greenopolis program: <http://www.prnewswire.com/news-releases/waste-management-announces-strategic-investment-in-recycle-rewards-131811748.html>.

- Mike Csapo said the Waste Management corporate office doesn't give much support for Greenopolis. There are two things we should recognize: 1) We need a broad message at the state level and 2) We also need specific education at the local level.
- Ruth Daoust – At MSU the Child Development Lab and Education Department are creating a program that targets kids 18 months to 5 years. This program could be in any community.
- Julie Kavulich – It needs to be easy for them.
- Sue Selke – What makes it easy?
- Cheryl Schmidt says that MRF's should be given an incentive to pull out things they didn't recycle before.
- Mike Csapo – 2 things drive participation: 1) Single stream recycling and 2) Switching from bins to carts.
- Matt Flechter – An overall statewide campaign for education is key.
- Dave Keeling – There is a community that uses "Wanted" posters and they show pictures of recycling items. Have to try and fit education about recycling in to schools without overtaxing the teachers.
- Ashley Carlson - Curbside Value Partnership - <http://www.recyclecurbside.org>.
- David France – People are passionate about sports. Get the sports team to integrate recycling into their message. People will get excited about it if their sports team is involved.
- Bill Haagsma – the MRC has made it easier because of the marketing campaign.
- Cheryl Schmidt– Beyond communities and consumers, public television hosts offered two show ideas but neither was used because no one would get back to her.
- Ashley Carlson – We are missing companies under educate. A mall owner in NC is piloting a recycling program. <http://www.plasticpackagingperspective.com/getting-more-businesses-to-recycle-flexible-film-packaging>.
- Sue Selke – Is educating sufficient or do we need to mandate? In New Jersey, a law was passed that every community had to recycle at least three things. They could do more if they wanted to.
- Dave Keeling – Is New Jersey more densely populated than Michigan?
- Sue Selke - Yes. In Wisconsin there is a mandate as well.
- Cheryl Schmidt asked how this is policed.
- Matt Flechter says there is a landfill ban on certain things unless the communities have a recycling program. We are asking a broader question. Will education be enough or do we need a mandate as well?
- Kerrin O'Brien – Call2Recycle said they have hit a ceiling in the voluntary model. Some companies have stepped back because they don't want that to happen to them.
- Mike Csapo – How do we fund this?
- Ashley Carlson – Would education move the bar? Ashley can share resources and provide assistance where possible to help get the activity going in Michigan with malls, and other companies, in recycling certain plastics. <http://www.plasticpackagingperspective.com/getting-more-businesses-to-recycle-flexible-film-packaging>.
- Dave Keeling – If the sustainability fee passed, how would that connect to the consumer?
- Kerrin O'Brien said education would come first.
- Kerrin O'Brien asked what this group would advocate for in the end. What kind of model?
- Mike Csapo said educate to get it approved and then continue ongoing education.
- Sue Selke - It is not fair for someone to pay the same sustainability fee for a t-shirt as someone else who is buying a Rolls Royce.
- Mike Csapo - That is good feedback and the sustainability fee is only one way to do it.
- Sue Selke - The sustainability fee does nothing to change the way manufacturers make their packages.
- Mike Csapo - That has been recognized. The MRC has not endorsed any one funding approach.
- Abigail Eaton– said that pesticides disposal program is funded by monies from clean water. EPR?

### **What can be done to increase recycling?**

- Raise cost to landfill
- Educate - Statewide campaign, messaging (recognized personalities)
  - Communities:
    - Best practices of how, why
    - Economic impact to officials, leaders
  - Consumers:
    - Sustainable packaging logo
    - WIFM (What's in it for me?)
    - Education in schools
      - Greenopolis program
      - MSU Pre K-Kindergarten program
      - Curbside Value Partnership
      - New Mexico Hub & Spoke
      - Education Model "Wanted" posters
  - Companies:
    - Best practices
    - Plastics, films
    - Post consumer plastics, recyclers
- Easy to do
  - Bins
  - Single stream – No sorting, switch to carts

### **Does everyone have a role?**

- Varying levels of role
- Entire chain should participate
  - Recycling – Why are we doing this?
  - Recycling one means to end (reduce landfill)
- Find value for each stakeholder
  - Economic
  - Emotional
  - What's in it for me? (WIFM)
- Equitable system for collecting & paying for system – Challenge to companies who have to comply with EPR in a variety of states.
- Transparency in fees/costs to the consumer
- PAYT

### **EPR – Global practice**

- Weight-based
- Goal is to reduce environmental impacts, including end-of-life
- Manufacturing responsible for educating consumers about packaging?
- Learn from other states
- Analysis of existing recyclability of materials in Michigan to learn where most of the economic impact is.
  - High volume commodities – OCC
  - Disparity in programs & availability

### **Where is the material going?**

- There are waste streams from recycling
- ACC reports
  - Domestic vs. Exports
- By-types of plastics

#### **Should all packaging be recyclable?**

- Not a sole decision
- When it can be, it should be
  - Technologically
  - Markets
- Cost
- Multi-layered pouches
  - Life cycle analysis
- Paper

#### **What are some policies the state could consider?**

- Require haulers to offer recycling.
- Dave Keeling – If the sustainability fee goes in, then some may question why Michigan has the Bottle Bill. In Florida they have advanced disposal fees.
- Mike Csapo – When ADF's were discussed in relation to e-waste it wasn't received favorably. When considering changes to the bottle bill it may only change in that we have a depot system and returns aren't taken to stores anymore. Stores would like that very much.
- Jeff Wooster - Is there an issue in Michigan with multi-family dwellings? Yes, most don't have recycling.
- Lisa Pershke - Ann Arbor has an ordinance mandating businesses and apartments to offer recycling. There are fines for businesses that are caught not recycling.
- Ashley Carlson – Used to live in DC and companies have to recycle, but funding was not available. The local chapter of the Sierra Club went around and checked businesses.
- Lisa Pershke – Would be willing to volunteer for measurement issues.
- Cheryl Schmidt– It is hard for an international company to follow different laws in different states. The long term goal should be to have standardized rules across state lines.
- MRC did not put EPR on the list of funding options in their 2011 report.
- Mike Csapo – The requirement for support can be any one of a number of those mechanisms. There will be no policy that will pass the legislature without funding.
- Cheryl Schmidt – What is good for me has to be for companies too.
- Matt Flechter – Says that it always happens that the stakeholders think if they don't support funding mechanisms then EPR will be thrown at them. Then if EPR is thrown at them then the company will leave. The discussion should be about which stakeholder has what role, take responsibility for that and move forward.
- Sue Selke – Do you think the average person in MI would support a fee like this?
- Abigail Eaton - People won't even support a fee for roads.
- Ashley Carlson– People talk past each other when they are actually saying the same things in different terms.
- Abigail Eaton - It is a chicken and egg thing. You need education to get people to support a fee, but you need money for education.
- Sue Selke – People who have more should pay more. She would be more comfortable with a fee based on the value of goods purchased vs. transaction fees. We are trying to run our world in a more sustainable way with less pollution.
- Mike Csapo – Doesn't disagree with her theory on EPR.

- Matt Flechter – EPR hasn't even been brought up to companies.
- Mike Csapo – People writing campaign checks have heard of EPR even if the politicians haven't mentioned it.
- Abigail Eaton – The Clean Michigan Initiative and other environmental things have sold in Michigan. It depends how you frame the issue if it will sell or not.
- Sue Selke – Could the sustainability fee be for transactions over \$100?
- Kerrin O'Brien – Exemptions could be looked at for different areas. Agrees that it should not unduly tax the poor.
- Mike Csapo – It can be implemented in a way to not unduly tax people. Mike Csapo is expecting some sort of proposal from the Governor based on the conversations that have been going on. Then the MRC will react.
- Kerrin – This report has brought us a long way. The fact that there are so many new people around the table is a good thing. We may call on you in the future for more input.

### **Dialogue Summary**

Everyone at the table recognizes we don't need to recycle everything but we do need to do a better job at recycling. Products need to be produced more sustainably and easier to manage at the end of life. Some manufacturers have or are putting voluntary programs in place but those voluntary efforts are generally focused on curbing the problem through education, not cleaning up.

The trend toward better end of life management is growing. While there is also agreement that all stakeholders have a role to play in the lifecycle of a product, there remain differences on what those roles should be. The manufacturers represented in this group did not buy into the EPR funding model, rather promoted the more traditional waste management funding and policy strategies such as, PAYT, landfill bans, research, and education.

While the group had some difficulty identifying where manufacturer responsibility ends and the consumer responsibility begins, manufacturers seem increasingly responsive to the pressure to create better products, but must respond to the market and that's not always in line with environmental interests. State policy is critical to creating an equitable and sustainable foundation upon which producers engage in business in Michigan.

Michigan's recycling effort is hampered by the fact that programs differ wildly. Closing the gap and building consistency across programs will lead to better participation. Stakeholders in attendance all agreed that the State of Michigan has an important role to play in establishing the policy that makes it all work.



## **Packaging & Product Stewardship in Michigan: Moving Recycling Forward Feedback Workshop Conference Call Notes**

**July 9, 2013**

**Participants:** Kerrin O'Brien – Michigan Recycling Coalition, Tina Andrews – Michigan Recycling Coalition, Dave Keeling – Steel Recycling Institute, Chip Foley - Steel Recycling Institute, Cheryl Schmidt - Dart Container, Chad Rogers – MI DEQ, Kate Neese – Clinton County, Sue Selke – MSU School of Packaging, Jenn Hoelzel – TABB Packaging, Sarah Archer – Iris Waste Diversion Specialists, Lisa Pershke – Recycle Ann Arbor, Allen Kennedy – Recycle Ann Arbor, Ira Shaughnessy - Dow Chemical, Ashley Carlson – Representing the American Chemical Council, Matt Biolette – Chef Container

**Did everyone receive the Packaging workshop notes?** Yes.

**Did we accurately record your input during the workshop on April 10?** The notes were very comprehensive.

**Did we get the tone and intent of the conversation?** Yes.

### **What is your take away from the workshop?**

Dave Keeling: Thought it was a work in progress. He thought the main purpose of the discussion was to find a way to increase package recycling in Michigan. A lot of the discussion was about EPR and he found that everything was on the table. He is intrigued by the sustainability fee. Was there any change in the way you thought about this issue since the meeting? Dave thinks the entire EPR environment has changed. There is a lot of push back and issues are being re-examined. The Steel Recycling Institute has worked very hard to get their recycled content the way it is and feel like traditional EPR punishes them.

Lisa Pershke: Likes that we are putting things on the table. There is a need to account for how much recycling is happening in Michigan. The only way to go up is to know how much we are truly recycling in Michigan. She would like to talk about the volunteer program to see how much recycling has changed and would also like to talk about raising tipping fees. Was there any change in the way you thought about this issue since the meeting? She understands both sides of the issue better. She wondered why we don't use more basic materials like glass or cardboard vs. plastics. She now understands that those materials are heavier and harder to handle and transport.

Cheryl Schmidt: There are many other considerations and not just one thing is the problem. There are many items that go into the landfill that are harmful and we need to be aware of those as much as packaging.

Kate Neese: Is observing and doesn't have any input at this time.

Jenn Hoelzel: After reading through some of the notes, it was interesting to see how many people were talking about promoting recycling through education. It is challenging to do it in a universal way.

Chip Foley: There really is growing concern about EPR in this country. He has been working on EPR exclusively for a year. There are other things that can be pursued like improving programs we already have, endorsing programs that are already out there, PAYT or landfill bans.



Ira Shaughnessy: This is a lot to digest. Put more PAYT out there. Putting more expense on the consumer will increase the rate of recycling.

Allen Kennedy: One of his biggest concerns is how to deal with styrofoam. In Ann Arbor it is mostly thrown away. He sees styrofoam in the river and along roads.

Sue Selke: Would like to listen for now.

Sarah Archer: Was impacted by Allen Burton's presentation about water contamination. It made her more aware of the need to recycle and clean up the environment.

Chad Rogers: Would like to see what the elements are for product stewardship and would like that put in the final report. A few of the ideas are in there like all the stakeholders having some responsibility. Define the metrics we don't have and the data gaps. Give a vision for what product stewardship would look like.

Ashley Carlson: A lot of the points mentioned by fellow stakeholders like EPR balanced with PAYT need to be looked at.

**Do we have agreement that there is a role for every stakeholder in recycling and proper waste management?** Yes. What that role actually is, is in the details.

**Is State policy necessary to drive that responsibility?**

Sue Selke says yes. It will not happen without State leadership. If you look at it from a company perspective, they want to do the right thing, but they have competitors. If they embrace this and their competitors don't, they are at a disadvantage. Companies aren't going to do things that cost them money unless they have to.

Ashley Carlson agrees with the last comment. There are ways that government can help spur industry action that may not necessarily require legislation.

**Is there gray area between voluntary vs. mandatory product stewardship?**

Sue Selke says yes. There are many actions the government can take to enhance a program. The companies could have targets to meet, but leave it up to them as to how they meet them.

Lisa Pershke: Suggests using your purchasing power to boycott products that don't do product stewardship.

Sarah Archer: Whether a program is voluntary or mandatory, it can have guidelines that need to be met and should include education for the consumer.

Matt Biolette: The sustainability fee should be tied to both the manufacturer and the consumer. It should fall on the consumer side, but have incentives for the manufacturer to follow guidelines. Similar to what Coke and KAB are doing.

**Does everyone agree that we don't need to recycle everything but need to be better at what we can recycle?**  
Yes, everyone agrees.

Chad Rogers: Mentioned that a part of the solution would be to reduce the amount of material used to package products.

Sue Selke: Hard to recycle materials that are efficient shouldn't be gotten rid of. We should look at the overall environmental impact. Ashley Carlson agrees. Kerrin O'Brien asked how much life cycle assessment is going on in Sue's group? They are doing very serious research, but it is not yet an accurate tool.

Dave Keeling: The Steel Recycling Institute does a lot of research of life cycle assessments. This is to make sure that the entire environmental impact is looked at, not just recyclability.

Ashley Carlson asked if anyone is familiar with the Sustainability Consortium. They are doing a life cycle assessment of all of Wal-Mart products.

**One reason we are talking about EPR at all is because government is taxed. Recycling programs have been discontinued or are just getting by. Can we all agree funding is an important aspect?**

Lisa Pershke said yes, to a degree. A cohesive message is important and can be done through social media without much funding.

Kerrin O'Brien says funding is very important because infrastructure is lacking in Michigan and that takes funding to build up.

Ashley Carlson says money drives a lot of decisions. That is why PAYT works. The Curbside Valued Partnership is a low cost option compared to starting a program from scratch.

Cheryl Schmidt: One voice that is missing is the haulers. In all of the different states she has been in, the haulers aren't particularly excited about adding new materials in. It takes more time and money to sort and they don't see the value.

Sarah Archer: There is a need to distinguish between the haulers and the hauler who is also the processor.

Matt Biolette: The more products you blend into the curbside program, such as styrofoam which is a bulky, low value item, the more the tipping fee is increased. It costs money to line separate.

Sue Selke: Underneath this conversation is the fact that we don't have State policy and guidance and every community does it a little differently. If we had a more uniform approach then best practices could be shared. A lot of these problems would be less complicated.

**Product Stewardship Roles:**

Manufacturer – Safety of the product and resource efficiency.

Distributor – not always separate from manufacturers or retailers

Retailer – can influence manufacturers

Consumer – Make a thoughtful purchase. Recycle and properly dispose of the packaging. Will pay through fees, higher costs, etc.

Local/state Government – Policy-making

Hauler – Reliant on the market scape and commodities. Is the tipping fee reasonable? Does the community have a recycling program already in place? Landfills need to work with MRF's to make this feasible.

Kerrin O'Brien: Do haulers have a responsibility to provide recycling services?

Matt Biolette: Yes, but only if the economics will support it.

Cheryl Schmidt: Waste Management makes their money on landfill tipping fees, but are looking to the future and forcing themselves to look at recycling.

Processor – provide good, clean commodities to the marketplace, expand as recycling opportunities evolve

**What are the responsibilities of each of these groups, and can we identify the costs of the goals?**

Chad Rogers: Maybe we should agree on the goals first. Increasing diversion rates or reducing environmental impacts due to packaging. Cleaner environment. Increasing efficiency and conserving resources. The cost of the transaction should reflect the true cost of managing the materials. All costs should be recognized.

Ashley Carlson: Says the safety of the product is very important when looking at packaging.

Sue Selke: Large retailers have a significant ability to influence manufacturers. Distributors aren't always a separate entity from the manufacturer or the retailer. They are an arm of one or the other.

Chad Rogers: Consumers already pay, the costs are watered down and we can't account for it.

Kerrin O'Brien: There is a whole set of tools we can use and ultimately we need to decide if or how EPR and/or product stewardship are a part of the tools.

Ashley Carlson: Suggested taking the notes from the workshop and make a grid of a program. EPR and voluntary EPR should be a part of that grid.

Sue Selke: If the State of Michigan is serious about increasing recycling then they should come out with an announcement with some sort of goal and have a policy for all communities to follow. She is not convinced that the state has come out loud and clear that they are going to do something.

**What are the data gaps?**

Dave Keeling: Haulers have the responsibility to report tonnages. They should have to tell the State what is happening out there.

Matt Biolette: Haulers don't like to share that information and it would have to be DEQ mandated.

Cheryl Schmidt: Wonders why the recycling percentages are so low given that we have recycling programs out there?

Sarah Archer: There are a lot of take-back programs, like manufacturer paper take-back, and their numbers aren't being captured. How do we collect this data?

**Are there tools that we haven't talked about that we should throw into the mix?**

Ashley Carlson: Yes. She will email us a link to the Ameripen matrix.

**Is there anything pressing that we didn't touch on?**

Chad Rogers: Would like to know the costs of the current waste management machine and what we aren't paying for like cleanup.

## Participants in E-Waste Programs

		<b>Green Innovators Breakfast:</b>	
<b>Total Attendees 6</b>	<b>October 21, 2011</b>	<b>Building Awareness &amp; Outreach</b>	
Karen	Bever	SOCRRA	
Mike	Csapo	General Manager, RRRASOC	
Claire	Galed	DPW Manager, Huntington Woods	
Jenny	Gogan	Sustainable Agency	
Dan	Moody	Solid Waste Coordinator, Washtenaw County	
Megan	Thomas	Sustainable Agency	
<b>Total Attendees</b>	<b>November 21, 2011</b>	<b>Legislation: Lessons Learned from High Performing Programs</b>	
<b>Total Attendees 37</b>	<b>November 29, 2011</b>	<b>Fall Into Recycling Enhancing E-Waste and Pharmaceutical</b>	
Jill	Adams	Berrien Co. Community Developm	jadams@berrienc 269-983-7111 x8234
Steve	Alworden	Saginaw County Department of Pl	salworden@sagin 989) 758-3685
Chris	Angel	Great Lakes Clean Water-Yellow J	info@greatlakescleanwater.org
Sarah	Archer	Iris Waste Diversion Specialists	sarah@iriswastedi 734-476-2186
Karen	Bever	SOCRRA	kbever@socrra.org 248-288-5150
Kari	Bliss	Padnos	kari.bliss@padnos 616-260-4320
Liz	Browne	MI Dept. of Environmental Quality	brownee@michigan.gov
Sandy	Cottle	Iris Waste Diversion Specialists	sandra@iriswastediversion.com
Mike	Csapo	RRRASOC	mcsapo@rrrasoc.c 248-208-2270
Pat	Czaiczynski	Shelby Twp Recycling Committee	patandraycz@com 586-749-5535
Lucas	Dean	SOCRRA	lucasd@socrra.org 248-288-5150
Lucy	Doroshko	MRC	lucydoro@broadst 517/230-2794
Jeff	Drolshagen	Information Systems Resources	jdrolshagen@is-re 313-274-6400
Tiffany	Eichorst	Calhoun County	teichorst@calhour 269-781-9841
Matthew	Flechter	MI Dept of Environmental Quality	flechterm@michig 517-373-8422
Angela	Francis	Drug Enforcement Agency	angela.francis@us 313-226-7521
Claire	Galed	Huntington Woods	cgaled@ci.hunting 248-288-5150
Todd	Gibson	Vintage Tech Recyclers	todd.gibson@vint 887-786-4715

## Participants in E-Waste Programs

Jim	Grutza	Information Systems Resources	jgrutza@is-resourc 313-274-6400
Neese	Kate	Clinton Co. Dept Waste Managem	neesek@clinton-co 989 224 5186
Paul	Kehoe	Comprenew	pkehoe@compren 616-988-8282
Jeff	Krcmarik	Washtenaw County	krcmarij@ewashtenaw.org
Marsha	Livermore	Shelby Twp Recycling Committee	mjl33@wowway.c 586-254-5671
Marcus	McKissic	Michigan Recycling Coalition	mckissicmrc@gmail 517-614-6439
Joe	Meyers	Antrim County	meyersj@antrimcounty.org
Lori	Miller	City of Lansing	lmiller@lansingmi. 517-483-4599
Dan	Moody	Washtenaw County	Moodyd@ewashtc 734-222-3827
William	Munday	Great Lakes Electronics Corp.	wmunday@ewastc 586-258-5500 x 325
Kerrin	OBrien	Michigan Recycling Coalition	kerrino@gmail.com
Dave	Oostindie	City of Wyoming	doostindie@wyom 616-249-3487
Saundra	Porter-Riley	Iris Waste Diversion Specialists	saundra@iriswastc 517-980-0328
Chad	Rogers	MDEQ	rogersc1@michiga 517-373-2838
Elisa	Seltzer	Emmet County DPW	eseltzer@emmetc 231 348-0640
Randy	Slikkers	Goodwill Association of MI	rslikkers@goodwil 616-723-7847
Fran	Valluzzo	Dell	francis_valluzzo@ 919-720-2194
Mary	Vangieson	Wayne County DPS	mvangies@co.way 734-326-3936
Lindsey	Walker	Emmet County DPW	lwalker@emmetcc 231-348-0648

<b>Total Attendeess 36</b>	<b>December 19, 2011</b>	<b>MRC E-Waste Takeback</b>
Pat	Summers	<b>Legislation Call</b>
Todd	Gibbons	NEC
Seth	Smith	Vintage Tech
Mike	Csapo	Vintage Tech
Nick	Carlson	RRRASOC
Erick	Logan	Goodwill
Rich	Farnum	IT Industry Council
Kate		Panasonic
Sierra	Fletcher	PSI
Randy	Slikkers	PSI
Shawn	Fehey	Goodwill
		Steelcase

## Participants in E-Waste Programs

Brendon	Ringlover	HP
Shannon	Donovan	Universal Technologies
Kate	Neese	Clinton County
Matt	Flechter	MDEQ
Brenda	Mathison	Electronic Recyclers International
Fran	Vazullo	Dell
Kari	Bliss	Padnos
Chad	Rogers	MDEQ
Becky	Andrews	Recycle Ann Arbor
Crag	Daniels	Technologies Conservation Group
Johnny	Sunski	
Tom	Stride	Resource Partners
Don	Pyle	Delta
Megan	Thomas	Sustainability Agency
Bob	Sanders	STSM
Trisha	Conry	MRM
Leslee	Rohs	Muskegon County

Michigan Legislative Consultants

Apple

Microsoft

E4 Partners

Valley City

Marcus	McKissic	MRC
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Lucy	Doroshko	MRC
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Kerrin	O'Brien	MRC
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### MRC E-Waste Takeback

**Total Attendees 36    December 19, 2011    Legislation Call**

### **Total Attendees 41    December 4, 2012    Increasing Electronic Recovery Feedback Workshop**

Name	CO	ADDRESS	CITY	ST	ZIP	EMAIL
Jill Adams	Berrien County Commi	701 Main Street	St. Joseph	MI	49085	jadams@berriencounty.org
Tina Andrews	Michigan Recycling Co	453 Avocet Drive	East Lansing	MI	48823	tandrews@michiganrecycles.org

Participants in E-Waste Programs

Sarah Archer	Iris Waste Diversion Sp	PO Box 5708	Saginaw	MI	48603	sarah@iriswastediversion.com
David Behnke	Franklin Iron & Metal	120 South Ave	Battle Creek	MI	49014	dbehnke33@gmail.com
Karen Bever	SOCRRA	3910 West Webster Road	Royal Oak	MI	48073	kbever@socrra.org
AJ Brucks	Van Buren Conservatio	1035 E Michigan Ave	Paw Paw	MI	49079	alison.brucks@mi.nacdn.net
Steve Chalker	Vintage Tech Recyclers	1105 Windham Pkwy	Romeoville	IL	60446	schalker@vintagetechnology.com
Tricia Conroy	MRM	PO Box 3908	Minneapolis	MN	55403	tricia@MRMrecycling.com
Mike Csapo	RRRASOC	20000 West 8 Mile Road	Southfield	MI	48075	mcsapo@rrrasoc.org
Rick Curtis	Kalamazoo Gospel Mis	448 North Burdick St	Kalamazoo	MI	49007	rescuedtreasures@kzoogospel.org
Jeff Depew	Grand Rapids Iron & M	1701 Clyde Park SW #15	Grand Rapids	MI	49509	jeff.depew@grimrecycle.com
Tom Dewhirst	Kalamazoo County	1301 Lamont	Kalamazoo	MI	49001	tmdewh@kalcounty.com
Jeff Drolshagen	Information Systems R	1800 Bailey Street	Dearborn	MI	48124	jdrolshagen@is-resources.com
Whitney Ehresman	Advanced Technology	702 Hall Street	Grand Rapids	MI	49508	w.ehresman@atrecycle.com
Tiffany Eichorst	Calhoun County	13300 Fifteen Mile Road	Marshall	MI	49068	teichorst@calhouncrc.net
Matt Flechter	Michigan Department	PO Box 30241	Lansing	MI	48909	flechterm@michigan.gov
Claire Galed	City of Huntington Wo	12795 W 11 Mile Rd.	Huntington Woods	MI	48070	cgaled@ci.huntington-woods.mi.us
Todd Gibson	Vintage Tech Recyclers	1105 Windham Pkwy	Romeoville	IL	60446	todd.gibson@vintagetechnology.com
Bill Gurn	Haworth Inc	One Haworth Center	Holland	MI	49423	bill.gurn@haworth.com
Muhammad Hashamu	Green Turtle Recycling	1304 Hilton Road	Ferndale	MI	48220	mhaq@greenturtlerecycling.com
Tim Heckaman	MSU Surplus Store and	468 Green Way	East Lansing	MI	48824	heckama5@msu.edu
Shelley Huard	Comprenew Environm	629 Ionia Ave SW	Grand Rapids	MI	49503	shuard@comprenew.org
Kristopher Jolley	MSU Surplus Store and	468 Green Way	East Lansing	MI	48824	jolleykr@msu.edu
Paul Kehoe	Comprenew Environm	629 Ionia Ave SW	Grand Rapids	MI	49503	pkehoe@comprenew.org
Andriana Kontovrakis	Sims Recycling Solutio	401 Mill Road	Edison	NJ	08837	andriana.kontovrakis@simsmm.com
Brodie Ehresman	Advanced Technology	601 E Prairie Street	Pontiac	IL	61764	<a href="mailto:brodie@atrecycle.com">brodie@atrecycle.com</a>
Joe Meyers	Antrim County	PO Box 187	Bellaire	MI	49615	meyersj@antrimcounty.org
Travis Mikulenas	Padnos	2125 Turner Avenue NW	Grand Rapids	MI	49534	travis@padnos.com
Dan Moody	Washtenaw County	705 North Zeeb Road, PO Box 864	Ann Arbor	MI	48107	moodyd@ewashtenaw.org
John Morrissey	Great Lakes Recycling	2051 Bristol Rd.	Flint	MI	48507	john.morrissey@go-glr.com
Kate Neese	Clinton County Dept of	1307 East Townsend Road, Suite 1	St. Johns	MI	48879	neesek@clinton-county.org
Steve Nobel	Michigan Department	PO Box 30241	Lansing	MI	48909	
Kerrin O'Brien	Michigan Recycling Co	804 Downer Ave.	Lansing	MI	48912	kerrinmrc@gmail.com
Dave Perry	Valley City Environmen	1040 Market Ave SW	Grand Rapids	MI	49503	dperry@email.valleycityes.com
Katie Reilly	Electronic Recyclers Int	1101 Pennsylvania Ave, NW	Washington	VA	20003	kreilly@electronicrecyclers.com
Randy Slikkers	Goodwill Association o	PO Box 426	Pentwater	MI	49449	rslikkers@goodwillmichigan.org

# Participants in E-Waste Programs

Seth Smith	Vintage Tech Recyclers	1105 Windham Pkwy	Romeoville	IL	60446	seth.smith@vintagetechrecyclers.com
Scott Vanderkooy	Comprenew Environm	629 Ionia Ave SW	Grand Rapids	MI	49503	svanderkooy@comprenew.org
Ben VanDyk	Drug & Laboratory Dis	331 Broad Street	Plainwell	MI	49080	bvandyk@dld-inc.com
Lori Welch	City of Lansing	601 East South Street	Lansing	MI	48910	lwelch@lansingmi.gov
Benjamin Williams	Allegan County Health	3255 122nd Ave Suite 200	Allegan	MI	49010	bwilliams@allegancounty.org



## Participants in Pharmaceutical Programs

### Total

**Attendees 16    November 16, 2011    MPSC Quarterly Networking Meeting**

Illinois			
Indiana			
Iowa			
Michigan			
Minnesota			
Missouri			
Ohio			
Wisconsin			
Michael	Bender	Hg Vermont law	
Steve	Brachman	Federal Pharmaceutical Legislation	
Alison	Keane	Paint Legislation	
Chris	Newman	Packaging Dialogue	
Margaret	Shields	Federal Pharmaceutical Legislation	
Theresa	Stiner	Carpet MOU	
Michael	Washburn	Director of Sustainability	Nestle Waters North America
Marjaneh	Zarrehparvar	Paint Legislation	

### Total

**Attendees 37    November 29, 2011    Fall Into Recycling Enhancing E-Waste and Pharmaceutical Collection**

Jill	Adams	Berrien Co. Community Development	jadams@berriencounty.org	269-983-7111 x8234
Steve	Alworden	Saginaw County Department of Public Health	salworden@saginawcounty.com	(989) 758-3685
Chris	Angel	Great Lakes Clean Water-Yellow Jug Old Drugs	info@greatlakescleanwater.org	
Sarah	Archer	Iris Waste Diversion Specialists	sarah@iriswastediversion.com	734-476-2186
Karen	Bever	SOCRRA	kbever@socrra.org	248-288-5150
Kari	Bliss	Padnos	kari.bliss@padnos.com	616-260-4320
Liz	Browne	MI Dept. of Environmental Quality	brownee@michigan.gov	
Sandy	Cottle	Iris Waste Diversion Specialists	sandra@iriswastediversion.com	
Mike	Csapo	RRRASOC	mcsapo@rrrasoc.org	248-208-2270
Pat	Czaiczynski	Shelby Twp Recycling Committee	patandraycz@comcast.net	586-749-5535
Lucas	Dean	SOCRRA	lucasd@socrra.org	248-288-5150
Lucy	Doroshko	MRC	lucydoro@broadstripe.net	517/230-2794
Jeff	Drolshagen	Information Systems Resources	jdrolshagen@is-resources.com	313-274-6400
Tiffany	Eichorst	Calhoun County	teichorst@calhouncrc.net	269-781-9841
Matthew	Flechter	MI Dept of Environmental Quality	flechterm@michigan.gov	517-373-8422
Angela	Francis	Drug Enforcement Agency	angela.francis@usdoj.gov	313-226-7521
Claire	Galed	Huntington Woods	cgaled@ci.huntington-woods.mi.us	248-288-5150
Todd	Gibson	Vintage Tech Recyclers	todd.gibson@vintagetechrecyclers.	887-786-4715

## Participants in Pharmaceutical Programs

Jim	Grutza	Information Systems Resources	jgrutza@is-resources.com	313-274-6400
Neese	Kate	Clinton Co. Dept Waste Management	neesek@clinton-county.org	989 224 5186
Paul	Kehoe	Comprenew	pkehoe@comprenew.org	616-988-8282
Jeff	Krcmarik	Washtenaw County	krcmarij@ewashtenaw.org	
Marsha	Livermore	Shelby Twp Recycling Committee	mjl33@wowway.com	586-254-5671
Marcus	McKissic	Michigan Recycling Coalition	mckissicmrc@gmail.com	517-614-6439
Joe	Meyers	Antrim County	meyersj@antrimcounty.org	
Lori	Miller	City of Lansing	lmiller@lansingmi.gov	517-483-4599
Dan	Moody	Washtenaw County	Moodyd@ewashtenaw.org	734-222-3827
William	Munday	Great Lakes Electronics Corp.	wmunday@ewaste1.com	586-258-5500 x 325
Kerrin	OBrien	Michigan Recycling Coalition	kerrino@gmail.com	
Dave	Oostindie	City of Wyoming	doostindie@wyomingmi.gov	616-249-3487
Sandra	Porter-Riley	Iris Waste Diversion Specialists	saundra@iriswastediversion.com	517-980-0328
Chad	Rogers	MDEQ	rogersc1@michigan.gov	517-373-2838
Elisa	Seltzer	Emmet County DPW	eseltzer@emmetcounty.org	231 348-0640
Randy	Slikkers	Goodwill Association of MI	rslikkers@goodwillmichigan.org	616-723-7847
Fran	Valluzzo	Dell	francis_valluzzo@dell.com	919-720-2194
Mary	Vangieson	Wayne County DPS	mvangies@co.wayne.mi.us	734-326-3936
Lindsey	Walker	Emmet County DPW	lwalker@emmetcounty.org	231-348-0648

### Total

**Attendees 13    December 12, 2011    PSI Pharm Conference Call**

### Total

**Attendees 25    January 26, 2012    Model Pharmaceutical Programs (Part 1)**

Abigail	Eaton	eatona@michigan.gov		
Achiles	Malta	amalta@kazoocmh.org	269-553-7076	Subst. Abuse
Allison	Skinner	allison@cec-mi.org		
Claire	Galed	cgaled@ci.huntington-woods.mi.us	248-547-1888	DPWManager - City
Dave	Oostindie	doostindie@wyomingmi.gov	616-261-3564	Environmental
Gary	Bunschoten	gbunschoten@hollandbpw.com	616.355.1275	Environmental
Holly	Joseph	hjoseph@dhd10.org	231-316-8558	Health Educator/Case
Jamie	Dean	jamie_dean@monroemi.org	734-240-7909	Recycling and Green
Jeff	Krcmarik	krcmarij@eashtenaw.org	734-222-6865	Environmental
Kaitlin	Fink	thelcca@sbcglobal.net	517-545-5944	Substance Abuse
Kate	Neese	neesek@clinton-county.org	9892245187	Waste Mngt

## Participants in Pharmaceutical Programs

Kate	Hagemann	kate@productstewardship.us	617-236-4771	Assoc Policy and
Kelly	Conley	kconley@cmdhd.org	989 426-9431	Personal Health
Kris	Jolley	jolleykr@msu.edu	517-432-9446	
Margaret	Weber	weber@igc.org	313-938-1133	Coordinator,
Marie	Helveston	marieh@nmsas.net	989-732-1791	
Martha	Hall	mhall@hline.org	517 264 5222	EH Director/HHW
Matthew	Allen	mallen@miottawa.org	616-494-5569	solid waste program
Michelle	Crandell	crandellm@michigan.gov	517-241-2924	Secretary
Robert	MacDonald	robert.macdonald@macombcountymi.gov	586.469.5236	Program Specialist
Sandy	Rosen	sandy@go-glr.com		
Sandy	Rosen	san325@hotmail.com		
Sarah	Kile	skile@1016.org		
Steven	Aguinaga	aguinagas@sanilachealth.com	(810) 648-4098, ext 127	Director-
Tracy	Eckel	tracy.eckel@eqonline.com	734-547-2543	Retail Accounts

### Total

<b>Attendees 18</b>	<b>February 15, 2012</b>	<b>Model Pharmaceutical Programs (Part 2)</b>			
Barb	Swierzbin	barb@midlandpartnership.org	989.835.8699	Midland Area	Event Coordinator
Bob	MacDonald	robert.macdonald@macombcountymi.gov			
Catherine	Morse	ycbnmorse@comcast.net	734-394-6952	City of Romulus	Chairman Environmental Protection Board
Chad	Rogers	rogersc1@michigan.gov			
Chris	Angel	info@greatlakescleanwater.org	989-736-8179	great lakes clean	Pres.Volunteer Board
Dan	Moody	moodyd@ewashtenaw.org	734-320-0101	Washtenaw County	Solid Waste Coordinator
Debra	King	dking@dmc.org	313-966-3920	Sinai-Grace Hospital	Pharmacy Tech Coordinator
Duane	Roskoskey	roskoskeyd@michigan.gov	517-335-4712	MDEQ	Engineer
Floyd	Vitale	fvitale@dmc.org		Sinai-Grace Hospital	Manager
Jeff	Roberts	jeff.roberts@eqonline.com	734-547-2578	EQ	Manager, Technical Support Group
Jordan	Dickinson	intern49@house.mi.gov			
Kate	Hagemann	kate@productstewardship.us	617-236-4771	PSI	Assoc.
Martha	Hall	mhall@hline.org	517 264 5222	Lenawee County	EH Director

## Participants in Pharmaceutical Programs

Matt	Allen	mallen@miottawa.org	616-494-5569	ottawa county health	solid waste program
Mike	Ruffing	mruffing@dmc.org			
Mike	Dorsey	mike.dorsey@fauquiercounty.gov	540-422-8840	Fauquier County	Director
Nancy	Hunt	nhunt@dmc.org		DMC Surgery Hospital	Safety
Sheila	Finch	sfinch@dmc.org	313 745-8223	Detroit Medical	Executive Director

### Total

#### Attendees 10 August 15, 2012 Great Lakes Pharmaceutical Initiative Voluntary Take-Back Workgroup Call

Chris	Angel	Great Lakes Clean Water Organization	MI
Kaitlin	Fink	Livingston County Catholic Charities	MI

Joan	Kennedy	NY State Dept of Environmental Conservation	NY
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Bill	Leonard	Hennepin County, Dept of Environmental Services	MN
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Amy	Roering	Hennepin County, Dept of Environmental Services	MN
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Kerrin	O'Brien	Michigan Recycling Coalition	MI
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Lori	Podsiadlik	Royal Oak Community Coalition	MI
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Lisa	Thibodeau	Chisago County Household Hazardous Waste Facility	MN
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Scott	Cassel	PSI	
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Stefanie	Wnuck	PSI	
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#### Total Attendees October 17, 2012 PS GL Pharmaceutical Call

#### Total Attendees November 20, 2012 PSI GL Pharmaceutical Call

#### Total Attendees December 18, 2012 PSI GL Pharmaceutical Call

#### Total Attendees March 25, 2013 Pharmaceutical Waste Feedback Workshop

Adams Jill	Berrien County Community Development	jadams@berriencounty.org
------------	---	--------------------------

## Participants in Pharmaceutical Programs

Andrews Tina	Michigan Recycling Coalition	tandrews@michiganrecycles.org
Angel Chris	Yellow Jug Old Drugs Iris Waste Diversion	info@greatlakescleanwater.org
Archer Sarah	Specialists, Inc	sarah@iriswastediversion.com
Battiata Sarah	Recycling Concepts of WM, Inc.	sales@recyclingconceptsmi.com
Beste Kevin	Waste Management - Wixom	kbeste@wm.com
Carney Joe	Livingston County Community Alliance	joeandkathycarney@netzero.net
Chardoul Nicole	Resource Recycling Systems Inc	nmokszycki@recycle.com
Cullen Patrick	Wayne County	pcullen@co.wayne.mi.us
Damm Sara	Muskegon County	dammsa@co.muskegon.mi.us
Fiebing Mike	Benzie County	benzierecycler@benzieco.net
Fink Kaitlin	Livingston County Catholic Charities	kaitlin@livingstoncatholiccharities.org
Gjonaj Mike	Waste Management - Novi	mgjonaj@wm.com
Jabara Josephine	World Medical Relief Community Action	jjabara@worldmedicalrelief.org
Jameson-Heise Lei	Agency	JHEISE@CAAJLH.ORG
Jorgensen Melanie	Washtenaw Community College	mjorgens@wccnet.edu
Kimmel Michael	Cleanlites Recycling	mikek@cleanlites.com
Kimmel Timothy	Cleanlites Recycling	mikek@cleanlites.com
Krcmarik Jeff	Washtenaw County	krcmarij@ewashtenaw.org
Kuklewski Paul	City of Grand Rapids	pkuklews@grcity.us
Madden Terry	Covanta Energy - Kent County	tmadden@covantaenergy.com
Moody Dan	Washtenaw County	moodyd@ewashtenaw.org
Moore Amy Ann	Ingham County Health Dept.	amoore@ingham.org
Neese Kate	Clinton County Dept of Waste Management	neesek@clinton-county.org
Newman Kent	Sierra Club	kentnew1@earthlink.net
O'Brien Kerrin	Michigan Recycling Coalition	kobrien@michiganrecycles.org
Ortner Pamela	Trinity Health	ortnerp@trinity-health.org
Penny Nichole	Walgreen Company	nichole.penny@walgreens.com

## Participants in Pharmaceutical Programs

Rogers Chad	Michigan Department of Environmental Quality	rogersc1@michigan.gov
VanDyk Ben	Drug & Laboratory Disposal	bvandyk@dld-inc.com
Vangieson Mary	Wayne County Charter Township of	mvangies@co.wayne.mi.us
Vignoe Susan	Plymouth	svignoe@plymouthtp.org
Vitale Floyd	Sinai-Grace Hospital Michigan Pharmacists Association	fvitale@dmc.org
Wagenknecht Larry		Larry@MichiganPharmacists.org
Wan Angela		angewan@umich.edu
Wilkins Barry	Washtenaw Community College	blw@wccnet.edu

### **Total Attendees June 19, 2013**

Sarah Archer	IRIS Waste Diversion Specialists
Jeff Krcmarik	Washtenaw County
Dan Moody	Washtenaw County
Kate Neese	Clinton County
Kerrin O'Brien	MRC
Chad Rogers	DEQ
Larry Wagenkne	Michigan Pharmacists Association

### **Pharmaceutical Conference Call follow-up**

## Participants in Packaging Programs

### Making the Case for a Sustainability

#### Attendees 18

**Feb 16,12**

Amanda	Stitt	amanda@statevoices.org		
Bill	Gurn	bill.gurn@haworth.com	616-393-1215	MRC
Chad	Rogers	rogersc1@michigan.gov		
Cheryl	Schmidt	cheryl.schmidt@dart.biz	517-244-2206	Dart Container Corporation
Christina	Miller	millerc1@michigan.gov		
Dusty	Fancher	fancher@midweststrategy.com	517-853-0537	Midwest
Ewa	Jarosz	ejarosz@michiganforest.com	517-853-8880	Michigan Forest Products Council
Jeff	Fielkow	jeff.fielkow@recommunity.com	414-801-1881	ReCommunity
Jim	Frey	frey@recycle.com	734-417-4415	Resource Recycling Systems
Katie	Hallaway	katie.n.hallaway@lowes.com		
Linda	Gobler	lgobler@aol.com	517-372-6800	Michigan Grocers Assoc
Liz	Browne	brownee@michigan.gov	517-333-6995	MI DEQ - RMD
Lucius	Vassar	lvassar@clarkhill.com	313-965-8241	
Matt	Flechterm	flechterm@michigan.gov	517-373-8422	DEQ
Mike	Gallagher	mike_gallagher@spartanstores.com	616-878-2469	Spartan Stores Inc.,
Paul	Condino	pcondino@afpdonline.org	248-514-9603	AFPD
Rich	Olson	rich.olson@fibrek.com		Fibrek
William	Lobebherz	msda@voyager.net	517-371-4499	MI Soft Drink Assn

### Spring into Recycling "Helloooo!

#### Governor" E-Rally

#### Attendees 36

**Mar 27, 12**

Allison	Skinner	allison@cec-mi.org		Clean Energy Coalition
Andrew	Gale	andy@mybarc.org	231-884-3417	Bay Area Recycling for Charities
Bernice	Berens	ibcompost@allcom.net	616-895-6743	composter-owner I B Compost
Bonnie	Bochniak	bbochniak@michbusiness.org		Michigan Food and Beverage
Chad	Rogers	rogersc1@michigan.gov		mdeq
Eaton	Township	eatontwp@cablespeed.com		Eaton Township MI
Edwin	Dowell	dowelledwin@gmail.com		URBAN EVOLUTION
Elisa	Seltzer	eseltzer@emmetcounty.org	231-348-0640	Emmet County Dept. Public Works
Evelyn	McGovern	emcgovern@saginaw-mi.com	989-759-1662	City of Saginaw
Heidi	Wayco-Berden	heidi@tweaknut.com	231-587-8512	TweakNut
Jamie	Dean	jamie_dean@monroemi.org		County of Monroe
Jim	Alderden	jalderden@wastezero.com		WasteZero
John	Kuschell	jkuschell@gmail.com		adrianrecycling

### Participants in Packaging Programs

Kelly	Ignace	kellyi@americanwaste.org	231-313-0908	American Waste
Kendra	Pyle	kendra@recycleannarbor.rog	734-662-6288	Recycle Ann Arbor
Leslee	Rohs	rohsle@co.muskegon.mi.us	231.724.8846	Muskegon County
Linda	Berch	recycleliv@sbcglobal.net	517-548-4439	Recycle Livingston
Linda	Kamble	stritt27@yahoo.com	616-214-1376	self
Lisa	Lafferty McGill	llafferty17@gmail.com		Iris Waste Diversion Specialists
Lori	Miller	lmiller@lansingmi.gov	517-483-4599	City of Lansing
Marge	Mooney	marge@wkar.org	517-432-3120 ext 410	WKAR -TV/MSU
Matt	Biolette	mbiolette@chefcontainer.com	616-494-0561	CHEF CONTAINER
Matthew	Maffucci	maffucci.matt@webasto.com	734-582-5924	Webasto-Edscha Cabrio USA Inc.
Meghan	Leahy	meghan@lepfa.com		LEPFA
Nancy	Stone	nstone@a2gov.org	734-794-6000 x 43112	City of Ann Arbor
Paul	Condino	pcondino@afpdonline.org	248-514-9603	AFPD
Phil	Mikus	pmikus@grangernet.com	517-371-9761	Granger Recycling Center
Randy	Slikkers	rslikkers@goodwillmichigan.org	616-723-7847	Goodwill Association of Michigan
Roger	Cargill	rcargill@schupan.com	517-881-9152	Schupan Recycling
Sandra	Cottle	sandy@iriswastediversion.com	989-272-5057 Ext. 2	Iris Waste Diversion Specialists, Inc.
Seth	Smith	seth.smith@vintagetechnologyrecyclers.com	815-931-8318	Vintage Tech, LLC
Shannon	Donovan	sdonovan@universalrecyclers.com	317-664-8706	Universal Recycling Technologies
Shelley	Huard	shuard@comprenew.org	616-988-2870	Comprenew
Sherry	Blaszak	sherry.blaszak@macd.org	231-839-7193	Missaukee County Recycling
Tracy	Artley	artleyt@umich.edu		University of Michigan
William	Lobenherz	msda@voyager.net	517-371-4499	mi soft drink assn

### Attendees 3

**July 10, 12**

### PSI Packaging Call Series #1

Kerrin	O'Brien	kobrien@michiganrecycles.org	517-974-3672	MRC
Dan	Moody	Moodyd@ewashtenaw.org	734-222-3827	Washtenaw County
Dave	Norwood		313-943-2159	City of Dearborn

### Attendees 3

**July 25, 12**

### PSI Packaging Call Series #2

Kerrin	O'Brien	kobrien@michiganrecycles.org	517-974-3672	MRC
Dan	Moody	Moodyd@ewashtenaw.org	734-222-3827	Washtenaw County
Dave	Norwood		313-943-2159	City of Dearborn



Participants in Packaging Programs

<b>Attendees 3</b>	<b>Aug 8, 12</b>	<b>PSI Packaging Call Series #3</b>		
Kerrin	O'Brien	kobrien@michiganrecycles.org	517-974-3672	MRC
Dan	Moody	Moodyd@ewashtenaw.org	734-222-3827	Washtenaw County
Dave	Norwood		313-943-2159	City of Dearborn

<b>Attendees 1</b>	<b>Aug 15, 12</b>	<b>PSI Great Lakes Pharmaceutical Initiative Call</b>		
Kerrin	O'Brien	kobrien@michiganrecycles.org	517-974-3672	MRC

<b>Attendees</b>	<b>Nov 01, 12</b>	<b>PSI Life Cycle Analysis</b>		
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<b>Attendees</b>	<b>Nov 13, 12</b>	<b>PSI EPR and Product Design</b>		
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<b>Attendees</b>	<b>Dec 11, 12</b>	<b>PSI Bag the Bag</b>		
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<b>Total Attendees 29</b>	<b>Apr 10, 13</b>	<b>Statewide Dialogue on Packaging Recovery</b>		
Alquetrani, Sebba	Ingham County Health	salquetrani@ingham.org		
Andrews, Tina	Michigan Recycling	tandrews@michiganrecycles.org		
Archer, Sarah	Iris Waste Diversion	sarah@iriswastediversion.com		
Auras Ph.D., Rafael	MSU School of Packaging	aurasraf@msu.edu		
Biolette, Matt	Chef Container LLC	mbiolette@chefcontainer.com		
Briggs, Nathan	Display Pack	nbriggs@displaypack.com		
Burton, Ph.D., Allen	U of M School of Natural	burtonal@umich.edu		
Carlson, Ashley	Ashley Carlson Consulting	ashley_carlson@ashleycarlsonconsul		
Csapo, Mike	RRRASOC	mcsapo@rrrasoc.org		
Daoust, Ruth	MSU Surplus Store and	daoust@msu.edu		
France, David	ConAgra	David.France@CONAGRAFOODS.CO		
Haagsma, Bill	Speed-Tech Equipment	bill.haagsma@speedwrench.com		
Hablott, Elodie	MSU Chemical	hablote@gmail.com		
Hoelzel, Jennifer	TABB Packaging Solutions	jhoelzel@tabbpackaging.com		
Holt, Kim		holtkim@aquinas.edu		
Hotchkiss Ph.D., Joseph	MSU School of Packaging	jhotchki@msu.edu		
Kavulich, Julie	TABB Packaging Solutions	jkavulich@tabbpackaging.com		
Keeling, Dave	Steel Recycling Institute	dkeeling@steel.org		
Kennedy, Allen	Recycle Ann Arbor	allen@recycleannarbor.org		

Participants in Packaging Programs

Nance, Ruben	Dart Container	ruben.nance@dart.biz	
Neese, Kate	Clinton County Dept of Wa	neesek@clinton-county.org	
O'Brien, Kerrin	Michigan Recycling	kobrien@michiganrecycles.org	
Pershke, Lisa	Recycle Ann Arbor	lisap@recycleannarbor.org	
Rogers, Chad	Michigan Department of	rogersc1@michigan.gov	
Schmidt, Cheryl Ann	Dart Container	cheryl.schmidt@dart.biz	
Selke Ph.D., Susan	MSU School of Packaging	sselke@msu.edu	
Weir, Kimberly	MSU School of Packaging	cimberly@msu.edu	
Wooster, Jeff	Dow Chemical Company -	jeff.wooster@dow.com	
Wooster, Lewis	Ingham County Health	lwooster@ingham.org	

**Total Attendees 14**

**July 9, 2013**

**Packaging Follow-up Call**

Andrews, Tina	Michigan Recycling Coalition	tandrews@michiganrecycles.org	
Archer, Sarah	Iris Waste Diversion Specialists, Inc	sarah@iriswastediversion.com	
Biolette, Matt	Chef Container LLC	mbiolette@chefcontainer.com	
Carlson, Ashley	Ashley Carlson Consulting	ashley_carlson@ashleycarlsonconsulting.com	
Foley, Chip	Steel Recycling Institute	<a href="mailto:cfoley@steel.org">cfoley@steel.org</a>	
Hoelzel, Jennifer	TABB Packaging Solutions LLC	jhoelzel@tabbpackaging.com	
Keeling, Dave	Steel Recycling Institute	dkeeling@steel.org	
Kennedy, Allen	Recycle Ann Arbor	allen@recycleannarbor.org	
Neese, Kate	Clinton County Dept of Wa	neesek@clinton-county.org	
O'Brien, Kerrin	Michigan Recycling Coalition	kobrien@michiganrecycles.org	
Pershke, Lisa	Recycle Ann Arbor	lisap@recycleannarbor.org	
Rogers, Chad	Michigan Department of Environmental Quality	rogersc1@michigan.gov	
Shaughnessy, Ira	Dow Chemical		
Schmidt, Cheryl Ann	Dart Container Corporation	cheryl.schmidt@dart.biz	
Selke Ph.D., Susan	MSU School of Packaging	sselke@msu.edu	

## Running List of Contacts Stakeholders

### Identified Company/Organization

5R Processors	Q1
Adrian College	Q3, Q4, Q6
Adrian Recycling	Q3, Q4
Advanced Technology Services	Q3, Q4
AFPD	Q3, Q4
Aging Services of Michigan	Q3, Q6
Albion College	Q3, Q6
Alcona County Recycling	Q3, Q6
Alcona County Sheriff's Office	Q3
Alger County Recycling	Q3, Q6
Alger County Sheriff's Office	Q3
All Green Electronics Recycling	Q1
Allegan County	Q4
Allegan County Health Department	Q3, Q6
Allegan County Recycling	Q3, Q6
Allegan County Sheriff's Office	Q3, Q6
Alliance of Rouge Communities	Q6
Alma College	Q3, Q6
Alpena Community College	Q3, Q6
Alpena County Recycling	Q3, Q6
Alpena County Sheriff's Office	Q3
American Association of Retired Persons (AARP)	Q3, Q6
American Waste	Q3, Q4
Andrews University	Q3, Q6
Antrim	Q2
Antrim County Recycling	Q3, Q6
Antrim County Sheriff's Office	Q3, Q6
Apple	Q2
Aquinas College	Q3, Q6
Arenac County Recycling	Q3, Q6
Arenac County Sheriff's Office	Q3, Q6
Augusta Creek Watershed Association	Q6
AuSable Manistee Action Council	Q6
Baker College of Cadillac	Q3, Q6
Baraga County Recycling	Q3, Q6
Baraga County Sheriff's Office	Q3
Barry County Recycling (compost only)	Q3, Q6
Barry County Sheriff's Office	Q3
Barry-Eaton District Health Department	Q3, Q6
Bay Area Recycling for Charities	Q3, Q4
Bay Arenac Behavioral Health Riverhaven Coordinating Agency	Q6
Bay City Watershed	Q6
Bay County Health Department	Q3, Q6
Bay County Recycling	Q3, Q6
Bay County Sheriff's Office	Q3

## Running List of Contacts Stakeholders

Bay Mills Indian Community	Q6
Bear Creek Watershed Council	Q6
Benzie County Recycling	Q3,Q6
Benzie County Sheriff's Office	Q3, Q6
Benzie-Leelanau District Health Department	Q3, Q6
Berrien County	Q3, Q4, Q6
Berrien County Community Development	Q2
Berrien County Health Department	Q3, Q6
Berrien County Sheriff's Office	Q3, Q6
Best Buy	Q1
Black River Watershed Group	Q6
Boardman River Restoration and Protection	Q6
Branch County Conservation District	Q6
Branch County Recycling	Q3, Q6
Branch County Sheriff's Office	Q3
Branch-Hillsdale-St. Joseph Community Health Agency	Q3, Q6
Calhoun Conservation District	Q6
Calhoun County	Q2
Calhoun County Public Health Department	Q3, Q6
Calhoun County Recycling	Q3, Q6
Calhoun County Sheriff's Office	Q3
Calvin College	Q3, Q6
Campus Pharmacy Agencies	Q1
Capital Area Pharmacists Association	Q3, Q6
Cass County Recycling/MSU Extension	Q3, Q6
Cass County Sheriff's Office	Q3
Cass River Corridor Authority	Q6
Central Michigan District Health Department	Q3, Q6
Central Michigan University	Q3, Q6
Charlevoix County Recycling	Q3, Q6
Charlevoix County Sheriff's Office	Q3, Q6
Cheboygan County Recycling	Q3, Q6
Cheboygan County Sheriff's Office	Q3, Q6
Chef Container	Q3, Q4
Chippewa County Health Department	Q3, Q6
Chippewa County Recycling	Q3, Q6
Chippewa County Sheriff's Office	Q3, Q6
Chocolay River Watershed	Q6
Citizens Against Pollution, Inc.	Q6
Citizens Empowerment for a Clean Environment	Q6
City of Ann Arbor	Q3, Q4
City of Lansing	Q2, Q3, Q4
City of Saginaw	Q3, Q4
City of Wyoming	Q2
Clare County Recycling	Q3, Q6
Clare County Sheriff's Office	Q3
Clark Hill	Q3, Q4

## Running List of Contacts Stakeholders

Clean Energy Coalition	Q3, Q4
Clean Water Action Lansing	Q1
Cleary University	Q3, Q6
Clinton Co. Dept Waste Management	Q2
Clinton County	Q4
Clinton County Recycling	Q3, Q6
Clinton County Sheriff's Office	Q3
Clinton River Watershed Council	Q6
Community Sustainability Partnership	Q3, Q6
composter-owner I B Compost	Q3, Q4
Comprenew	Q2, Q3, Q4
Conservation Resource Alliance	Q6
Cornerstone University	Q3, Q6
County of Monroe	Q3, Q4
Covanta	Q1
Crawford County Recycling	Q3, Q6
Crawford County Sheriff's Office	Q3, Q6
Crystal Lake Wastershed Fund	Q6
Dart Container Corporation	Q2, Q3, Q4
DEA	Q1
Dell	Q1, Q2
Delta	Q2
Delta College	Q3, Q6
Delta County Recycling	Q3, Q6
Delta County Sheriff's Office	Q3, Q6
DEQ	Q3
Detroit Department of Health and Wellness Promotion	Q3, Q6
Detroit Health Dept., Bureau of Substance Abuse	Q6
Dickinson County Sheriff's Office	Q3
Dickinson-Iron District Health Department	Q3, Q6
District Health Department #10	Q3, Q6
District Health Department #2	Q3, Q6
District Health Department #4	Q3, Q6
Drug & Lab Disposal	Q1
Drug Enforcement Agency	Q2
E4 Partners	Q2
East Michigan Environmental Council	Q6
Eastern Michigan University	Q3, Q6
Eaton County Recycling	Q3, Q6
Eaton County Sheriff's Office	Q3
Eaton Township MI	Q3, Q4
Ecology Center	Q3, Q6
Electronic Recyclers International	Q2
Emmet County Dept. Public Works	Q2, Q3, Q4
Emmet County Recycling	Q3, Q6
Emmet County Sheriff's Office	Q3
Environmental Advisory Group	Q3, Q6

## Running List of Contacts Stakeholders

EPA	Q1
ERG	Q1
Ferris State University	Q3, Q6
FibreK	Q3, Q4
Flint River Watershed Coalition	Q6
Friends of the Detroit River	Q6
Friends of the Rouge	Q6
Friends of the St. Clair River Watershed	Q6
Genesee County Community Mental Health	Q6
Genesee County Health Department	Q3, Q6
Genesee County Pharmacists Association	Q3, Q6
Genesee County Recycling	Q3, Q6
Genesee County Sheriff's Office	Q3, Q6
Gladwin County Recycling	Q3, Q6
Gladwin County Sheriff's Office	Q3
Glen Oaks Community College	Q3, Q6
GLR	Q1
Gogebic County Recycling	Q3, Q6
Gogebic County Sheriff's Office	Q3
Goodwill Association of Michigan	Q1, Q2, Q3, Q4
Goodwill Industries of West Michigan	Q3, Q4
Grand Rapids Community College	Q3, Q6
Grand Traverse Band of Ottawa and Chippewa Indians	Q6
Grand Traverse County Health Department	Q3, Q6
Grand Traverse County Recycling	Q3, Q6
Grand Traverse Sheriff's Office	Q3, Q6
Grand Valley Metropolitan Council	Q3, Q6
Grand Valley State University	Q3, Q6
Granger Recycling Center	Q3, Q4
Gratiot County Sheriff's Office	Q3, Q6
Great Lakes Clean Water Org	Q1
Great Lakes Clean Water-Yellow Jug Old Drugs	Q2
Great Lakes Electronic Corporation	Q1, Q2
Great Lakes Renewable Energy Association	Q3, Q6
Green Earth Michigan	Q3, Q6
Greenbriar Consulting, LLC	Q3, Q4
Habitat for Humanity	Q1
Hannahville Potawatomi Indian Community	Q6
Health Care Association of Michigan	Q3
Health Department of Northwest Michigan	Q3, Q6
HilexPoly	Q1
Hillsdale County Sheriff's Office	Q3
Hope College	Q3, Q6
Hospital Council of East Central Michigan	Q3
Houghton County Sheriff's Office	Q3, Q6
HP	Q1, Q2
Huntington Woods	Q2

## Running List of Contacts Stakeholders

Huron County Health Department	Q3, Q6
Huron County Sheriff's Office	Q3, Q6
Huron River Watershed Council	Q6
Indiana SEA Grant website	Q1
Information Systems Resources	Q2
Information Technology Industry Council	Q2
Ingham County	Q4
Ingham County Health Department	Q3, Q6
Ingham County Health Dept Environmental Justice	Q1
Ingham County Recycling	Q3, Q6
Ingham County Sheriff's Office	Q3, Q6
Ionia County Health Department	Q3, Q6
Ionia County Recycling	Q3, Q6
Ionia County Sheriff's Office	Q3, Q6
Iosco County Sheriff's Office	Q3, Q6
Iris Waste Diversion Specialists	Q2, Q3, Q4, Q6
Iron County Sheriffs Office	Q3, Q6
Isabella County Recycling	Q3, Q6
Isabella County Sheriff's Office	Q3, Q6
Jackson Community College	Q3, Q6
Jackson County Health Department	Q3, Q6
Jackson County Recycling	Q3, Q6
Jackson County Sheriff's Office	Q3, Q6
Kalamazoo College	Q3, Q6
Kalamazoo County	Q4
Kalamazoo County Community Mental Health	Q6
Kalamazoo County Health and Community Services	Q3, Q6
Kalamazoo County Recycling	Q3, Q6
Kalamazoo County Sheriff's Office	Q3, Q6
Kalkaska County Recycling	Q3, Q6
Kalkaska County Sheriff's Office	Q3
Kellogg Community College	Q3, Q6
Kent County Health Department	Q3, Q6
Kent County Recycling	Q3, Q6
Kent County Sheriff's Office	Q3
Kettering University	Q3, Q6
Keweenaw County Sheriff's Office	Q3, Q6
Keweenaw Bay Indian Community	Q6
Kirkland College	Q3, Q6
Lac Vieux Desert Band of Lake Superior Chippewa Indians	Q6
Lake County Sheriff's Office	Q3, Q6
Lake Michigan College	Q3, Q6
Lake Superior State University	Q3, Q6
Lakeshore Coordinating Council	Q6
Lansing Community College	Q3, Q6
Lapeer County Health Department	Q3, Q6
Lapeer County Recycling	Q3, Q6

## Running List of Contacts Stakeholders

Lapeer County Sheriff's Office	Q3
Leelanau County Recycling	Q3, Q6
Leelanau County Sheriff's Office	Q3
Lenawee County Health Department	Q3, Q6
Lenawee County Recycling	Q3, Q6
Lenawee County Sheriff's Office	Q3, Q6
LEPFA	Q3, Q4
Little River Band of Ottawa Indians	Q6
Little Traverse Bay Band of Odawa Indians	Q6
Livingston County	Q4
Livingston County Department of Public Health	Q3, Q6
Livingston County Recycling	Q3, Q6
Livingston County Sheriff's Office	Q3, Q6
Livingston/Washtenaw CMH Organization	Q6
Lowes	Q3, Q4
LTBB Odawa Environmental Services	Q1
Luce County Sheriff's Office	Q3
Luce-Mackinac-Alger-Schoolcraft District Health Dept.	Q3, Q6
Mackinaw County Sheriff's Office	Q3
Macomb County	Q4
Macomb County Community Mental Health	Q6
Macomb County Health Department	Q3, Q6
Macomb County Recycling	Q3, Q6
Macomb County Sheriff's Office	Q3, Q6
Manistee County Sheriff's Office	Q3
Marinette/Menominee Clean-up	Q3, Q4
Marquette County Health Department	Q3, Q6
Marquette County Recycling	Q3, Q6
Marquette County Sheriff's Office	Q3, Q6
Mason County Sheriff's Office	Q3, Q6
Match-E-Be-Nash-She-Wish Band of Pottawatomi Indians	Q6
MDCH - Community Mental Health Services	Q1
Mecosta County Recycling	Q3, Q6
Mecosta County Sheriff's Office	Q3, Q6
Menominee County Sheriff's Office	Q3
MI Association of Counties	Q3
MI Dept of Agriculture	Q1
MI Dept of Environmental Quality	Q1, Q2, Q3, Q4
MI Health & Hospital Assoc	Q1
MI Soft Drink Association	Q3, Q4
Michigan Assisted Living Association	Q1
Michigan Association of Counties	Q3, Q4, Q6
Michigan Center for Medicare and Medicaid Services	Q3
Michigan Counties	Q1
Michigan Environmental Council	Q3, Q6
Michigan Food & Beverage Association	Q3, Q4
Michigan Forest Products Council	Q3, Q4



## Running List of Contacts Stakeholders

Michigan Green	Q3, Q6
Michigan Green Business	Q3, Q6
Michigan Green Consortium	Q3, Q6
Michigan Grocers Association	Q1, Q3, Q4
Michigan Health & Hospital Association	Q3, Q6
Michigan Home Health Association	Q3, Q6
Michigan Hospice - MHPCO	Q1
Michigan International Speedway	Q3, Q4
Michigan Legislative Consultants	Q2
Michigan Manufacturers Assoc	Q1
Michigan Municipal League	Q3, Q4, Q6
Michigan Nurses Association	Q3, Q6
Michigan Pharmacists Association	Q1, Q3, Q6
Michigan Recycling Coalition	Q2, Q3
Michigan Recycling Partnership	Q3, Q6
Michigan Retailers Association	Q3, Q4
Michigan Section AWWA	Q3, Q6
Michigan Small Business Association	Q3, Q6
Michigan State Medical Society	Q3, Q6
Michigan State University	Q3, Q6
Michigan Township Association	Q3, Q6
Microsoft	Q2
Mid Michigan Environmental Action Council	Q3, Q6
Mid Michigan Waste Authority	Q3, Q4
Mid South Substance Abuse Commission	Q6
Midland County Health Department	Q3, Q6
Midland County Recycling	Q3, Q6
Midland County Sheriff's Office	Q3
Mid-Michigan District Health Department	Q3, Q6
Midwest	Q3
Midwest Product Stewardship Council	Q4
MI-SBTDC Capital Team	Q3, Q6
MI-SBTDC Genesee/Lapeer Team	Q3, Q6
MI-SBTDC Great Lakes Bay Team	Q3, Q6
MI-SBTDC Macomb/St. Clair Team	Q3, Q6
MI-SBTDC Mid Michigan Team	Q3, Q6
MI-SBTDC Northeast Michigan Team	Q3, Q6
MI-SBTDC Greater Washtenaw Team	Q3, Q6
MI-SBTDC Northwest Michigan Team	Q3, Q6
MI-SBTDC Southeast Michigan Team	Q3, Q6
MI-SBTDC Southwest Michigan Team	Q3, Q6
MI-SBTDC State Headquarters	Q3, Q6
MI-SBTDC Upper Peninsula Team	Q3, Q6
MI-SBTDC West Michigan Team	Q3, Q6
Missaukee County Recycling	Q3
Missaukee County Recycling	Q3, Q4, Q6
Missaukee County Sheriff's Office	Q3, Q6

## Running List of Contacts Stakeholders

Monroe County	Q4
Monroe County Community College	Q3, Q6
Monroe County Health Department	Q3, Q6
Monroe County Recycling	Q3, Q6
Monroe County Sheriff's Office	Q3
Montcalm County Recycling	Q3, Q6
Montcalm County Sheriff's Office	Q3, Q6
Montmorency County Recycling	Q3, Q6
Montmorency County Sheriff's Office	Q3
Mott Community College	Q3, Q6
MRM	Q1, Q2
MSU School of Packaging	Q1
Muskegon Area Sustainability Coalition	Q3, Q6
Muskegon Community College	Q3, Q6
Muskegon County	Q3, Q4
Muskegon County Public Health	Q3, Q6
Muskegon County Recycling	Q3, Q6
Muskegon County Sheriff's Office	Q3
Muskegon River Watershed Assembly	Q6
NEC Displays	Q2
Network 180	Q6
Newaygo County Recycling	Q3, Q6
Newaygo County Sheriff's Office	Q3
North Central Council of MHA	Q3
Northern Michigan Environmental Action Council	Q3, Q6
Northern Michigan Substance Abuse Services	Q6
Northern Michigan University	Q3, Q6
Northwest Michigan Sustainable Business Forum	Q3, Q6
Nottawaseppi Huron Band of Potawatomi	Q6
Oakland County Health Division	Q3, Q6
Oakland County Health Division Office of Substance Abuse Services	Q6
Oakland County Recycling	Q3, Q6
Oakland County Sheriff's Office	Q3, Q6
Oakland University	Q3, Q6
Oceana County Recycling	Q3, Q6
Oceana County Sheriff's Office	Q3
Ogemaw County Sheriff's Office	Q3
Oliver-Tolas Healthcare Packaging	Q1
Olivet College	Q3, Q6
Ontonagon County Sheriff's Office	Q3
Osceola County Recycling	Q3, Q6
Osceola County Sheriff's Office	Q3, Q6
Oscoda County Recycling	Q3, Q6
Oscoda County Sheriff's Office	Q3, Q6
Otsego County Recycling	Q3, Q6
Otsego County Sheriff's Office	Q3, Q6
Ottawa County	Q4

## Running List of Contacts Stakeholders

Ottawa County Health Department	Q3, Q6
Ottawa County Recycling	Q3, Q6
Ottawa County Sheriff's Office	Q3
Padnos	Q2
Panasonic	Q2
Pathways to Healthy Living	Q6
Peace, Love & Planet	Q3, Q4
Petoskey Plastics	Q1
PFPG	Q1
Pokagon Band of Potawatomi	Q6
Polly Products	Q3, Q4
Presque Isle Sheriff's Office	Q3
Presque Isle Sheriff's Office	Q6
Prevention Network	Q6
Product Stewardship Initiative	Q2
Project Green House	Q3, Q4
PSI	Q3
Public Health-Delta & Menominee Counties	Q3, Q6
ReCommunity	Q3, Q4
Recycle Ann Arbor	Q2, Q3, Q4
Recycle Here, Detroit	Q4
Recycle Livingston	Q3, Q4
Resource Partners	Q2
Resource Recycling Systems	Q1, Q3, Q4
Retailers Association	Q1
Roscommon County Recycling	Q3, Q6
Roscommon County Sheriff's Office	Q3, Q6
RRRASOC	Q2, Q4
Saginaw Bay Watershed Initiative Network	Q6
Saginaw Chippewa Indian Tribe	Q6
Saginaw County	Q4
Saginaw County Dept of Public Health	Q2
Saginaw County Health Department	Q3, Q6
Saginaw County Recycling	Q3, Q6
Saginaw County Sheriff's Office	Q3, Q6
Salvation Army	Q1
Sanilac County Health Department	Q3, Q6
Sanilac County Recycling	Q3, Q6
Sanilac County Sheriff's Office	Q3
Sault Ste. Marie Tribe of Chippewa Indians	Q6
Schoolcraft County Sheriff's Office	Q3, Q6
Schupan Recycling	Q3, Q4
Sensible Earth Stewardship	Q3, Q4
Shelby Twp Recycling Committee	Q2
Shiawassee County Health Department	Q3, Q6
Shiawassee County Recycling	Q3, Q6
Shiawassee County Sheriff's Office	Q3, Q6

## Running List of Contacts Stakeholders

Sienna Heights University	Q3, Q6
SOCRRA	Q2
Southeast Michigan Community Alliance	Q6
Southeast Michigan Sustainable Business Forum	Q3, Q6
Southwest Michigan Pharmacists Association	Q3, Q6
Southwest Michigan Sustainable Business Forum	Q3, Q6
Sparrow Hospital	Q1
Spartan Stores Inc.	Q3, Q4
St. Clair County Community Mental Health	Q6
St. Clair County Recycling	Q3, Q6
St. Clair County Sheriff's Office	Q3
St. Clair County Health Department	Q3, Q6
St. Joseph County	Q3, Q6
St. Joseph County Sheriff's Office	Q3
State Voices	Q3, Q4
Steelcase	Q2
Stericycle	Q1
Storm Water Discharge Permittees	Q1
STSM	
Sustainability Agency	Q2
Sutton P.T.O.	Q3, Q4
Technologies Conservation Group	Q2
Textile Bag and Packaging Assoc	Q1
Tip of the Mitt Watershed Council	Q6
Tuscola County Health Department	Q3, Q6
Tuscola County Recycling	Q3, Q6
Tuscola County Sheriff's Office	Q3, Q6
TweakNut	Q3, Q4
Uni-Dig, Inc.	Q3, Q4
Universal Recycling Technologies	Q3, Q4
Universal Technologies	Q2
University of Michigan	Q3, Q4
Urban Evolution	Q3, Q4
Valley City Environmental	Q1, Q2
Van Buren County Sheriff's Office	Q3, Q6
VanBuren/Cass County District Health Department	Q3, Q6
Vintage Tech Recyclers	Q1, Q2, Q3, Q4
Visiting Nurses Association of Southeast Michigan	Q3, Q6
Visiting/Nurses Association	Q1
Washtenaw County	Q2, Q4
Washtenaw County Public Health Department	Q3, Q6
Washtenaw County Recycling	Q3, Q6
Washtenaw County Sheriff's Office	Q3
Waste Water Treatment Operators	Q1
WasteZero	Q3, Q4
Wayne County DPS	Q2
Wayne County Health Department	Q3, Q6

## Running List of Contacts Stakeholders

Wayne County Pharmacist Association	Q3, Q6
Wayne County Recycling	Q3, Q6
Wayne County Sheriff's Office	Q3
Webasto-Edscha Cabrio USA Inc.	Q3, Q4
West Michigan Environmental Action Council	Q3, Q6
West Michigan Sustainable Business Forum	Q3, Q6
Western UP Coordinating Agency	Q6
Western Upper Peninsula Health Department	Q3, Q6
Wexford County Recycling	Q3, Q6
Wexford County Sheriff's Office	Q3, Q6
WKAR-TV/MSU	Q3, Q4
Your Hometown Pharmacy	Q1

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## Working List of PSI Contacts as of 11-5-12

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			sheriff Todd	Purcell	Mecosta County Sheriff's Office	<a href="mailto:tpurcell@co.mecosta.mi.us">tpurcell@co.mecosta.mi.us</a>
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			Dan	Rajzier	Cass County Recycling/MSU Extension	<a href="mailto:rajzer@anr.msu.edu">rajzer@anr.msu.edu</a>
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			Barb	Stauffer	Roscommon County Recycling	
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			Art		Environmental Advisory Group	
	X		Barb		DNR	
	X		Dell			
X			E4 Partners			
	X		Ellie		NE	
					Glen Oaks Community College	
	X				State of Illinois	
	X				State of Indiana	
	X				State of Iowa	
	X		Karen		Livingston	
	X		Lyman			
	X		Mark			
	X		Marty		PA Seagrant	
	X		Melissa			
	X				Strate of Michigan	
X					Microsoft	
	X				State of Minnesota	
	X				State of Missouri	
	X				State of Ohio	
					Otsego County Recycling	
			Sheriff Dar Leaf		Barry County Sheriff's Office	
	X		Tony		MN	
X			Valley City			
	X		Wisconsin			
X					Michigan Legislative Consultants	
		X				
					E4 Partners	
					Michigan Legislative Consultants	
					Microsoft	
					Recycle Ann Arbor	
					Valley City	
					Baker College of Cadillac	
					E4 Partners	
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Working List of PSI Contactsas of 11-5-12

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					Michigan Health & Hopital Association	
					Michigan Legislative Consultants	
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					North Central Council of MHA	
					Recycle Ann Arbor	
					Valley City	
					Wayne County Recycling	

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County Recycling Contact							
College/University							
solid waste program supervisor	616-494-5569						
Businesses							
				225 Commerce SW	Grand Rapids	MI	49503
	(989) 758-3685			1600 N. Michigan	Saginaw	MI	48602
	734-476-2186			PO Box 5708	Saginaw	MI	48603
				200 Division St., Ste. G76	Petoskey	MI	49770
				1500 Scribner NW	Grand Rapids	MI	49504
College/University							
Law Enforcement							
Law Enforcement							
County Recycling Contact							
Law Enforcement							
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Law Enforcement						
	616-494-0561		4368 60th Street	Holland	MI	49423
Executive Director	231-839-7193		6180 West Sanborn Road, Suite 3	Lake City	MI	49651
	616-260-4320					
College/University						
VP Government Relations						
			8025 Werkner Rd.	Chelsea	MI	48118
			705 North Zeeb Road, PO Box 86	Ann Arbor	MI	48107
Law Enforcement						
Law Enforcement						
			339 Dakota	Ypsilanti	MI	48198
Law Enforcement						
County Recycling Contact			E5917 US 2	Ironwood	MI	49938
			8550 Arlington Blvd Suite 203	Fairfax	VA	22031
			PO Box 893	Alpena	MI	49707
College/University						
			111 Grant Ave., Room 101	Endicott	NY	13760
Public Health						
Asst. Division Chief	517-333-6995					
	616.355.1275					
Public Health						

# Working List of PSI Contacts as of 11-5-12

Public Health						
			5400 Cogswell	Wayne	MI	48184
			2100 Pontiac Lake Road, Bldg 41	Waterford	MI	48328
			PO Box 530267	Livonia	MI	48153
manager	5178819152		2394 Rolfe Road	Mason	MI	48854
			3035 Prairie St.	Grand Rapids	MI	49418
			601 East South Street	Lansing	MI	48910
			416 Longshore Drive	Ann Arbor	MI	48105
			PO Box 893	Alpena	MI	49707
Law Enforcement						
			219 East PawPaw Street Suite 20	Paw Paw	MI	49079
			1424 Brian's Way	Rochester Hills	MI	48307
County Recycling Contact						
			12 North Carlotte St.	Mulliken	MI	48861
VP Government Relations	248 514 9603					
	989 426-9431					
			24 Brydges Dr.	Battle Creek	MI	49037
			PO Box 5708	Saginaw	MI	48603
			2362 Jolly Oak	Okemos	MI	48805
	517-241-2924					
Law Enforcement						
Public Health						

### Working List of PSI Contacts as of 11-5-12

General Manager	248-208-2270		20000 West 8 Mile Road	Southfield	MI	48075
	586-749-5535		56535 Ledien Drive	Macomb Township	MI	48042
			PO Box 611666	Port Huron	MI	48061
Businesses						
			PO Box 167	Bowling Green	OH	43402
Recycling and Green Energy Director	734-240-7909					
			3910 West Webster Road	Royal Oak	MI	48073
			56625 Woodhouse	Dowagiac	MI	49047
Law Enforcement						
			PO Box 248	Grandville	MI	49468
			1701 Clyde Park SW	Wyoming	MI	49509
Public Health						
			1401 West Easterday Ave	Sault Sainte Marie	MI	49783
Public Health						
College/University						
			1307 East Townsend Road, Suite	St. Johns	MI	48879
Businesses						
Regional Sales Representative			317-664-8706			
	517/230-2794		4799 Bunker Rd.	Mason	MI	48854
Director	540-422-8840					
			36255 Michigan Ave	Wayne	MI	48184
	313-274-6400					
			3474 Alaiedon Pkwy #500	Okemos	MI	48864
County Recycling Contact						
			PO Box 727	South Lyon	MI	48178

# Working List of PSI Contactsas of 11-5-12

	734-547-2543					
County Recycling Contact	269-781-9841			13300 15 Mile Road	Marshall	MI 49068
				PO Box 1367	Jackson	MI 49204
College/University						
				10332 Shaver Road	Kalamazoo	MI 49024
				831 West 5th Street	Lansdale	PA 19446
partner	517-853-0537					
Health Care						
Law Enforcement						
Businesses						
Executive Vice President	414-801-1881					
Law Enforcement						
Executive Director Environment of ca	313 745-8223					
	517-545-5944					
Law Enforcement						
	517-373-8422			525 West Allegan St	Lansing	MI 48933
Public Health						
College/University						
Public Health						
County Recycling Contact						
Businesses						
	313-226-7521					
				809 Williams Street	Fenton	MI 48430
				1001 40th Street SE	Grand Rapids	MI 48905
CEO	7344174415			416 Longshore Drive	Ann Arbor	MI 48105
Law Enforcement						
				4450 Linden Creek Parkway	Flint	MI 48507

# Working List of PSI Contacts as of 11-5-12

President			231-884-3417			
County Recycling Contact						
			8527 East Government Center Dr	Suttons Bay	MI	49682
Government relations	616.878.2469					
			PO Box 358	Manistee	MI	49660
Misc. Contacts						
			3145 Irish Road	Davison	MI	48423
County Recycling Contact						
Public Health						
			1105 Windham Parkway	Romeoville	IL	60446
	887-786-4715		1105 Windham Pkwy	Romeoville	IL	60446
			1633 Highland West	Pontiac	MI	48340
President and CEO	517-372-6800					
Public Health						
			143 Caddy Centre 74	Northville	MI	48167
Public Health						
			2323 West 3rd St.	Cleveland	OH	44113
Law Enforcement						
Businesses						
Law Enforcement						
			PO Box 5708	Saginaw	MI	48603
			70 Grove St.	Coopersville	MI	49404
Businesses						
	313-274-6400					
Chair	6163931215					
			One Haworth Center	Holland	MI	49423
			3364 Quincy Ave	Hudsonville	MI	49426
Assoc Policy and Programs	617-236-4771					
College/University						
			4820 Hoiltz Dr.	Wixom	MI	48393
EH Director/HHW	517 264 5222					



# Working List of PSI Contacts as of 11-5-12

Public Health						
Public Health						
			1001 40th Street SE	Grand Rapids	MI	49508
			1001 40th St. SE	Grand Rapids	MI	49508
			1001 40th Street SE	Grand Rapids	MI	49508
Law Enforcement						
County Recycling Contact						
Law Enforcement						
			5151 Marsh Road	Okemos	MI	48864
			3430 E Jefferson Ave. #633	Detroit	MI	48207
			1304 Hilton Road	Ferndale	MI	48220
			500 North Dunham Street	Dundee	MI	48131
			30700 Edison Drive	Roseville	MI	48066
			1025 Lake Jason Dr.	White Lake	MI	48386
Law Enforcement						
	989-732-1791					
			25678 Northline	Taylor		48180
			270 South River Ave	Holland	MI	49423
			PO Box 1967 - Mail Code GH-2E-C	Grand Rapids	MI	49501
			1391 Judson Road	Spring Lake	MI	49456
			223 Surplus Store & Recycling Ce	East Lansing	MI	48824
Law Enforcement						
Public Health						
			8430 East Jefferson Ave Apt 217	Detroit	MI	48214
New Business Rep	616-988-2870					
Safety Director/Epidemiology Manag						
Dir. Marketing & PR			231-313-0908			
County Recycling Contact						
			21535 Summerside Ln	Northville	MI	48767
	517-853-8880					
County Recycling Contact						
			6215 West St. Joseph Highway	Lansing	MI	48917

### Working List of PSI Contacts as of 11-5-12

	517-432-9446		223 Surplus Store & Recycling Ce	East Lansing	MI	48824
			CAY Mun Center, 2 Woodward A	Detroit	MI	48226
	231-316-8558					
			1500 Scribner NW	Grand Rapids	MI	49504
house wife	616-214-1376					
Health Care						
			27250 Gloede Drive	Warren	MI	48088
			PO Box 160	Big Bend	WI	53103
Public Health						
	616-988-8282		629 Ionia Ave SW	Grand Rapids	MI	49503
Businesses						
Public Health						
			PO Box 212, 655 Hull Road	Mason	MI	48854
Pharmacy Tech Coordinator	313-966-3920					
Public Health						
			1500 Scribner NW	Grand Rapids	MI	49504
County Recycling Contact						
Law Enforcement						
			Maplehurst Drive	Clinton Township	MI	48036
Environmental Program Supervisor						
Public Health						
			PO Box 7013	Grand Rapids	MI	49510
College/University						
			8300 C Street SW	Cedar Rapids	IA	52404
advocate						
Law Enforcement						

# Working List of PSI Contactsas of 11-5-12

Public Health						
College/University						
Operations						
			200 Division Street Suite G76	Petoskey	MI	49770
County Recycling Contact						
			416 Longshore Drive	Ann Arbor	MI	48105
	586-254-5671		48262 Red Oak Drive	Shelby Township	MI	48315
Health Care						
president	517 371 4499		124 West Allegan, Suite 634	Lansing	MI	48933
County Recycling Contact			1423 West Easterday Ave	Sault Sainte Marie		49783
Public Health						
Law Enforcement						
			1319 Edward Street	Lansing	MI	48910
County Recycling Contact						
Health Care						
	586.469.5236					
Law Enforcement						
Public Health						
Public Health						
Quality and Environemental Manage	734-582-5924					
Calhoun County Public Health Dept						
			PO Box 302	Zeeland	MI	49464
	269-553-7076					
College/University						
			200 Division Street Suite G76	Petoskey	MI	49700
			PO Box 363	Richmond	MI	48062

## Working List of PSI Contacts as of 11-5-12

Public Health						
County Recycling Contact						
College/University						
Businesses						
College/University						
Law Enforcement						
Public Health						
Public Health						
Public Health						
Staff Professional	989-759-1662					
Businesses						
			6180 Grand Blanc Road	Swartz Creek	MI	48473
			3910 West Webster Road	Royal Oak	MI	48073
Businesses						
	517-614-6439		119 E Elm	Lansing	MI	48910
Law Enforcement						
			PO Box 8647, 100 North Fifth Ave	Ann Arbor	MI	48107
			221 S. Quarterline Rd.	Muskegon	MI	49442
			1221 Oakes Avenue	Grand Haven	MI	49417
			200 Division Street Suite G76	Petoskey	MI	49770
			14100 Civic Park Drive	Riverview	MI	48193
			225 Commerce Ave SW	Grand Rapids	MI	49503
			3338 Coolidge Highway	Berkley	MI	48072
Solid Waste Program Manager						
Manager of Recycling	517-371-9761		16936 Wood Road	Lansing	MI	48906
			4950 37th Street SE	Grand Rapids	MI	49512
			9395 Taft Road	Ovid	MI	48866
			605 North Birch	Kalkaska	MI	49646
	517-483-4599		601 East South Street	Lansing	MI	48910
			1123 Mertz Road	Caro	MI	48723

## Working List of PSI Contacts as of 11-5-12

Law Enforcement						
Solid Waste Coordinator						
TV programmer	517 432-3120 ext 4					
			PO Box 1764	East Lansing	MI	48826
Businesses						
			PO Box 701452	Plymouth	MI	48170
County Recycling Contact						
Chairman Environmental Protection	734-394-6952					
Law Enforcement						
	586-258-5500 x 32		31912 Mound Rd.	Warren	MI	48092
			14511 Romine Road	Carleton	MI	48117
Waste Mngt Coordinator	989 224 5186					
			54445 Bates Road	Chesterfield Township	MI	48051
Health Care						
			5300 Miller Road	Kalamazoo	MI	49048
			4170 Platt Rd	Ann Arbor	MI	48107
County Recycling Contact						
			4717 N Parma Rd.	Parma	MI	49269
College/University						
			8425 Sylvania-Metamora Road	Sylvania	OH	43560
Businesses			PO Box 506	Traverse City	MI	49685
County Recycling Contact			Cheboygan County Bldg, 870 Sou	Cheboygan	MI	49721
			39525 West 13 Mile Road, Suite	Novi	MI	48377
Environmental Services Supervisor	616-261-3564		616-249-3487			
			269 Jewell	Ferndale	MI	48220
Health Care						
Solid Waste Program Manager			2650 LaFranier Road	Traverse City	MI	49686
Businesses						
			119 Pere Marquette Drive, Suite	Lansing	MI	48912

# Working List of PSI Contacts as of 11-5-12

			PO Box 1979	Holland	MI	49423
Law Enforcement						
Public Health						
County Recycling Contact						
County Recycling Contact						
County Recycling Contact						
Businesses						
			1040 Market Ave, SW	Grand Rapids	MI	49503
Public Health						
College/University						
			619 Dane Dr.	Monroe	MI	48162
			521 East Cambourne	Ferndale	MI	48220
Law Enforcement						
County Recycling Contact			817 South Stewart Ave	Fremont	MI	49412
	517-980-0328		PO Box 5708	Saginaw	MI	48603
			PO Box 42270	Portland	OR	97242
Businesses						
			1500 North Pitcher Street	Kalamazoo	MI	49007
Law Enforcement						
			903 N Vermont Ave.	Royal Oak	MI	48067
County Recycling Contact			PO Box 198, 5701 19th Ave N	Escanaba	MI	49829
Senior Recycling Coordinator	734-662-6288					
			6465 Wyoming	Dearborn	MI	48126
Law Enforcement						
			28932 Grandon	Livonia	MI	48150
			461 Burroghs	Detroit	MI	48202
Health Care						
			10690 West Six Mile Road	Northville	MI	48167
Public Health						
County Recycling Contact						
Manager, Technical Support Group	734-547-2578					
	517-373-2838					
			131 E. Apple	Muskegon	MI	49442

# Working List of PSI Contactsas of 11-5-12

Engineer	517-335-4712					
			6000 Caniff St.	Detroit	MI	48212
			6000 Caniff Street	Detroit	MI	48212
County Recycling Contact						
			800 South Water Street	Bay City	MI	48708
			32401 West Eight Mile Road	Livonia	MI	48192
Law Enforcement						
Environmental Services Specialist	517-244-2206					
Law Enforcement						
			264 McMillan Rd.	Grosse Pointe Farms	MI	48236
County Recycling Contact						
Businesses						
			416 Longshore Drive	Ann Arbor	MI	48105
County Recycling Contact						
Public Works Director	231 348-0640					
			23500 Northwestern Hwy. #WM	Southfield	MI	48075
			PO Box 517	Potterville	MI	48876
			2279 South Airport Road W	Traverse City	MI	49684
Public Health						
Executive Director	616-723-7847		PO Box 426	Pentwater	MI	49449
				East Lansing	MI	48823
Businesses						
			PO Box 408	Acme	MI	49610
Business Development Manager	815-931-8318		1105 Windham Parkway	Romeoville	IL	60446

# Working List of PSI Contacts as of 11-5-12

Public Health							
Public Health							
				5900 Brighton Pines Court	Howell	MI	48843
				2300 East Grand River, Suite 105	Howell	MI	48843
County Recycling Contact							
				A4368 60th Street	Holland	MI	49423
Health Care							
				100 East State Street, PO Box 47	St. Johns	MI	48879
				518 Wyngate Drive	Rochester	MI	48307
Law Enforcement							
County Recycling Contact							
Businesses							
Communications Public Services	734.794.6000 x 431			PO Box 8647, 100 North Fifth Ave	Ann Arbor	MI	48107
Businesses							
				15550 Garden Stone Drive	Monroe	MI	48161
Businesses							
Event Coordinator	989.835.8699						
Businesses							
Public Health							
Law Enforcement							
				300 Rockford Park Drive	Rockford	MI	49341
College/University							
				1060 Kennesaw	Birmingham	MI	48009
Businesses							
				1101 Beach St., Room 223	Flint	MI	



# Working List of PSI Contacts as of 11-5-12

			1912 Sherwood	Sylvan Lake		48320
			5877 Bethuy	Casco Township	MI	48064
			1200 Academy Street	Kalamazoo	MI	49006
			2767 LeRoy Circle	Saginaw	MI	48601
County Recycling Contact						
			10505 Tuthill Road	South Lyon	MI	48178
			39240 Ann Arbor Trl	Livonia	MI	48150
Law Enforcement						
	919-720-2194					
Businesses						
	734-326-3936		3600 Commerce Court, Bldg E	Wayne	MI	48184
Public Health						
College/University						
			117 North Division Street	Ann Arbor	MI	48104
			30700 Edison Drive	Roseville	MI	48066
	313-965-8241					
			6180 West Sanborn Road, Suite 3	Lake City	MI	49651
			1371 East Foxhill #171	Fresno	CA	93720
			PO Box 1284	Escanaba	MI	49829
Misc. Contacts			9955 North Haggerty Road	Plymouth	MI	48170
Businesses						
Manager						
Law Enforcement						
			200 Division Street	Petoskey	MI	49770
			5834 Michigan Road	Dimondale	MI	48821
			PO Box 515, Market Street	Mackinac Island	MI	49757
			2121 West Main, PO Box 308	Stanton	MI	48888
Director of Sustainability						
Owner	231-587-8512					
Coordinator	313-938-1133		15015 Piedmont	Rosedale	MI	48223
Public Health						

# Working List of PSI Contactsas of 11-5-12

			108 Worden Ave	Ann Arbor	MI	48103
Businesses						
			437 Holtzman Ave	Columbus	OH	43205
Law Enforcement						
Businesses						
Public Health						
Law Enforcement						
			1500 Scribner NW	Grand Rapids	MI	49504
			4100 Grand Avenue	Pittsburgh	PA	15225
Public Health						
			5400 E Huron Dr.	Ann Arbor	MI	48105
County Recycling Contact						
Public Health						
Public Health						
			1500 Scribner NW	Grand Rapids	MI	49504
County Recycling Contact			448 Court Place, Box 377	Beulah	MI	49617
College/University						
			PO Box 167	Bowling Green	OH	43402
			1945 West Parnell Road	Jackson	MI	49201
Solid Waste Program Manager						
Solid Waste Program Manager						
County Recycling Contact						
Misc. Contacts						
Solid Waste Program Manager						
Misc. Contacts						
College/University						
Health Care						

Contacted Stakeholders Q6 - October 1, 2012 - December 31, 2012

Organization	Contact Name	Email
Adrian College	Jerry Wright, VP Business Affairs	jwright@adrian.edu
Adrian College	Jerry Wright, VP Business Affairs	jwright@adrian.edu
Adrian College	Jerry Wright, VP Business Affairs	jwright@adrian.edu
Aging Services of Michigan	Deanna Ludlow Mitchell, Senior VP for Performance and Education	Deanna@AgingMI.org
Albion College		facops@albion.edu
Albion College		facops@albion.edu
Alcona County Recycling	Bill Thompson/Michael Crick	
Alger County Recycling	Jim Isleib	isleibj@msu.edu
Alger County Recycling	Jim Isleib	isleibj@msu.edu
Alger County Recycling	Jim Isleib	<a href="mailto:isleibj@msu.edu">isleibj@msu.edu</a>
Allegan County Health Department	Health	bhinz@allegancounty.org
Allegan County Health Department	Health	bhinz@allegancounty.org
Allegan County Health Department	Health	<a href="mailto:bhinz@allegancounty.org">bhinz@allegancounty.org</a>
Allegan County Recycling	Ben Williams	bwilliams@allegancounty.org
Allegan County Recycling	Ben Williams	bwilliams@allegancounty.org
Allegan County Recycling	Ben Williams	<a href="mailto:bwilliams@allegancounty.org">bwilliams@allegancounty.org</a>
Allegan County Sheriff's Office	Sheriff Blaine Koops	sheriff@allegancounty.org
Alliance of Rouge Communities	James Ridgway	jridgway@allianceofrougecommunities.com
Alma College	Douglas Dice, Director of Facilities and Services Management	dice@alma.edu
Alma College	Douglas Dice, Director of Facilities and Services Management	dice@alma.edu
Alma College	Douglas Dice, Director of Facilities and Services Management	dice@alma.edu
Alpena Community College	Sally Shuber	
Alpena County Recycling	Tom Pelkey	moalandfill@wildblue.net
Alpena County Recycling	Tom Pelkey	moalandfill@wildblue.net
Alpena County Recycling	Tom Pelkey	<a href="mailto:moalandfill@wildblue.net">moalandfill@wildblue.net</a>
American Association of Retired Persons (AARP)		<a href="mailto:miaarp@aarp.org">miaarp@aarp.org</a>
Andrews University	Martin Bradfield, Facilities Manager	
Antrim County Recycling	Peter Garwood	recycling@antrimcounty.org
Antrim County Recycling	Peter Garwood	recycling@antrimcounty.org
Antrim County Recycling	Peter Garwood	<a href="mailto:recycling@antrimcounty.org">recycling@antrimcounty.org</a>
Antrim County Sheriff's Office	Sheriff Daniel S. Bean	beand@antrimcounty.org
Aquinas College	Dale Haisma, Physical Plant Director	maint.reguest@aquinas.edu
Aquinas College	Dale Haisma, Physical Plant Director	maint.reguest@aquinas.edu
Aquinas College	Dale Haisma, Physical Plant Director	maint.reguest@aquinas.edu
Arenac County Recycling		arenac@sbcglobal.net
Arenac County Recycling		arenac@sbcglobal.net
Arenac County Recycling		<a href="mailto:arenac@sbcglobal.net">arenac@sbcglobal.net</a>
Arenac County Sheriff's Office	Sheriff James Mosciski	jmosciski@arenacountygov.com
Augusta Creek Watershed Association		ecovision@aol.com

Contacted Stakeholders Q6 - October 1, 2012 - December 31, 2012

Organization	Contact Name	Email
AuSable Manistee Action Council		amacdam@freeway.net
Baker College of Cadillac	Campus Safety and Grounds	
Baraga County Recycling	Mike Jensen	jensenm@msu.edu
Baraga County Recycling	Mike Jensen	jensenm@msu.edu
Baraga County Recycling	Mike Jensen	<a href="mailto:jensenm@msu.edu">jensenm@msu.edu</a>
Barry County Recycling (compost only)	Tim Girrback	
Barry-Eaton District Health Department	Eric Pessell, Environmental Health Director	epessell@bedhd.org
Barry-Eaton District Health Department	Eric Pessell, Environmental Health Director	epessell@bedhd.org
Barry-Eaton District Health Department	Eric Pessell, Environmental Health Director	<a href="mailto:epessell@bedhd.org">epessell@bedhd.org</a>
Bay Arenac Behavioral Health Riverhaven Coordinating Agency	Joe Sedlock	jesdlock@babha.org
Bay City Watershed		ogarl@baycounty.net
Bay County Health Department	Barbara MacGregor, Administrative Health Officer	macgregorb@baycounty.net
Bay County Health Department	Barbara MacGregor, Administrative Health Officer	macgregorb@baycounty.net
Bay County Health Department	Barbara MacGregor, Administrative Health Officer	<a href="mailto:macgregorb@baycounty.net">macgregorb@baycounty.net</a>
Bay County Recycling	Michael Morin	mmorin@baycintymi.org
Bay County Recycling	Michael Morin	mmorin@baycintymi.org
Bay County Recycling	Michael Morin	<a href="mailto:mmorin@baycintymi.org">mmorin@baycintymi.org</a>
Bay Mills Indian Community	Kurt Perron	kuperron@baymills.org
Bay Mills Indian Community	Kurt Perron	<a href="mailto:kuperron@baymills.org">kuperron@baymills.org</a>
Bear Creek Watershed Council		contact@chippewanaturecenter.com
Benzie County Recycling	Marlene Wood-Zylstra	benzierecycler@benzieco.net
Benzie County Recycling	Marlene Wood-Zylstra	benzierecycler@benzieco.net
Benzie County Recycling	Marlene Wood-Zylstra	<a href="mailto:benzierecycler@benzieco.net">benzierecycler@benzieco.net</a>
Benzie County Sheriff's Office	Sheriff Rory Heckman	rheckman@benzieco.net
Benzie-Leelanau District Health Department	William Crawford, Environmental Health Director	wcrawford@bldhd.org
Benzie-Leelanau District Health Department	William Crawford, Environmental Health Director	wcrawford@bldhd.org
Benzie-Leelanau District Health Department	William Crawford, Environmental Health Director	<a href="mailto:wcrawford@bldhd.org">wcrawford@bldhd.org</a>
Berrien County	Jill Adams	jadams@berriencounty.org
Berrien County	Jill Adams	jadams@berriencounty.org
Berrien County	Jill Adams	<a href="mailto:jadams@berriencounty.org">jadams@berriencounty.org</a>
Berrien County Health Department	Services Manager	gwickowski@bchdmi.org
Berrien County Health Department	Services Manager	gwickowski@bchdmi.org
Berrien County Health Department	Services Manager	<a href="mailto:gwickowski@bchdmi.org">gwickowski@bchdmi.org</a>
Berrien County Sheriff's Office	Sheriff L. Paul Bailey	Pbailey@berriencounty.org
Black River Watershed Group		citydnc@macatawa.org
Boardman River Restoration and Protection		slargent@boardmanriver.org
Branch County Conservation District	Janice Gallop	janice-gallop@mi-nacdnet.org

Contacted Stakeholders Q6 - October 1, 2012 - December 31, 2012

Organization	Contact Name	Email
Branch County Recycling	Michael Hard	mhard@countyofbranch.com
Branch County Recycling	Michael Hard	mhard@countyofbranch.com
Branch County Recycling	<ichael Hard	<a href="mailto:mhard@countyofbranch.com">mhard@countyofbranch.com</a>
Branch-Hilldale-St. Joseph Community Health Agency	Rebecca Burn, Environmental Health Director	burnsr@bhsj.org
Branch-Hilldale-St. Joseph Community Health Agency	Rebecca Burn, Environmental Health Director	burnsr@bhsj.org
Branch-Hilldale-St. Joseph Community Health Agency	Rebecca Burn, Environmental Health Director	<a href="mailto:burnsr@bhsj.org">burnsr@bhsj.org</a>
Calhoun Conservation District		calhoun@calhouncd.org
Calhoun County Public Health Department	Paul Makowski, Environmental Health Manager	pmakowski@calhouncountymi.gov
Calhoun County Public Health Department	Paul Makowski, Environmental Health Manager	pmakowski@calhouncountymi.gov
Calhoun County Public Health Department	Paul Makowski, Environmental Health Manager	<a href="mailto:pmakowski@calhouncountymi.gov">pmakowski@calhouncountymi.gov</a>
Calhoun County Recycling	Riffany Eickhorst	teickhorst@calhouncrc.net
Calhoun County Recycling	Riffany Eickhorst	teickhorst@calhouncrc.net
Calhoun County Recycling	Riffany Eickhorst	<a href="mailto:teickhorst@calhouncrc.net">teickhorst@calhouncrc.net</a>
Calvin College	Phil Beexhold, Physical Plant Director	pdb2@calvin.edu
Calvin College	Phil Beexhold, Physical Plant Director	pdb2@calvin.edu
Calvin College	Phil Beexhold, Physical Plant Director	pdb2@calvin.edu
Capital Area Pharmacists Association	Elizabeth Nettleman, Chairman of the Board	<a href="mailto:elizabeth.nettleman@sparrow.org">elizabeth.nettleman@sparrow.org</a>
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Citizens Empowerment for a Clean Environment		guzmart@outdoors.hoec.saginaw.k12.mi.us
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Grand Rapids Community College	Facilities Manager	facilities@grcc.edu
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Grand Traverse County Recycling	Cheri Tuller	<a href="mailto:ctuller@grandtraverse.org">ctuller@grandtraverse.org</a>
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Grand Valley Metropolitan Council	Don Stypula, Executive Director	stypulad@gvmc.org
Grand Valley Metropolitan Council	Don Stypula, Executive Director	stypulad@gvmc.org
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Grand Valley State University	Tim Thimmesch, Asst VP of Facilities Services	thimmest@gvsu.edu
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Ingham County Health Department	Director	jwilson@ingham.org
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Jackson County Recycling	Steve Noble	recyclingjackson@yahoo.com
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Livingston County Recycling	Robert Spaulding	<a href="mailto:solidwaste@co.livingston.mi.us">solidwaste@co.livingston.mi.us</a>
Livingston County Sheriff's Office	Sheriff Bob Bezotte	sheriff@co.livingston.mi.us
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Luce-Mackinac-Alger-Schoolcraft District Health Dept.	Nicholas Derusha, Environmental Health Director	nderusha@lmasdhd.org
Luce-Mackinac-Alger-Schoolcraft District Health Dept.	Nicholas Derusha, Environmental Health Director	nderusha@lmasdhd.org
Luce-Mackinac-Alger-Schoolcraft District Health Dept.	Nicholas Derusha, Environmental Health Director	<a href="mailto:nderusha@lmasdhd.org">nderusha@lmasdhd.org</a>
Macomb County Community Mental Health	Randy O'Brien	randy.O'Brien@mccmh.et
Macomb County Health Department	Steven Gold, Director	steve.gold@macombcountymi.gov
Macomb County Health Department	Steven Gold, Director	steve.gold@macombcountymi.gov
Macomb County Health Department	Steven Gold, Director	<a href="mailto:steve.gold@macombcountymi.gov">steve.gold@macombcountymi.gov</a>
Macomb County Recycling	Steve Lichota	steve.lichota@macombcountymi.gov
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Macomb County Recycling	Steve Lichota	<a href="mailto:steve.lichota@macombcountymi.gov">steve.lichota@macombcountymi.gov</a>
Macomb County Sheriff's Office	Sheriff Anthony Wickersham	Sheriff@MacombSheriff.com
Marquette County Health Department	Fred Benzie, Director	fbenzie@mqctcy.org
Marquette County Health Department	Fred Benzie, Director	fbenzie@mqctcy.org
Marquette County Health Department	Fred Benzie, Director	<a href="mailto:fbenzie@mqctcy.org">fbenzie@mqctcy.org</a>
Marquette County Recycling	Rick Aho	rica@tm.net
Marquette County Recycling	Rick Aho	rica@tm.net
Marquette County Recycling	Rick Aho	<a href="mailto:rica@tm.net">rica@tm.net</a>
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Mason County Sheriff's Office	Sheriff Jeff Fiers	jfiers@masoncounty.net
Match-E-Be-Nash-She-Wish Band of Pottawatomis Indians	D. K. Sprague	dksprague@mbpi.org

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Organization	Contact Name	Email
Match-E-Be-Nash-She-Wish Band of Pottawatomis Indians	D. K. Sprague	<a href="mailto:dksprague@mbpi.org">dksprague@mbpi.org</a>
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Mecosta County Recycling	Chris Luchies	<a href="mailto:luchies@charter.net">luchies@charter.net</a>
Mecosta County Recycling	Chris Luchies	<a href="mailto:luchies@charter.net">luchies@charter.net</a>
Mecosta County Sheriff's Office	Sheriff Todd Purcell	<a href="mailto:tpurcell@co.mecosta.mi.us">tpurcell@co.mecosta.mi.us</a>
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Michigan Association of Counties	Mr. MoReno Taylor, Legislative Coordinator	<a href="mailto:taylor@micounties.org">taylor@micounties.org</a>
Michigan Association of Counties	Mr. MoReno Taylor, Legislative Coordinator	<a href="mailto:taylor@micounties.org">taylor@micounties.org</a>
Michigan Environmental Council	Elizabeth Fedorchuk	<a href="mailto:elizabeth@environmentalcouncil.org">elizabeth@environmentalcouncil.org</a>
Michigan Environmental Council	Elizabeth Fedorchuk	<a href="mailto:elizabeth@environmentalcouncil.org">elizabeth@environmentalcouncil.org</a>
Michigan Environmental Council	Elizabeth Fedorchuk	<a href="mailto:elizabeth@environmentalcouncil.org">elizabeth@environmentalcouncil.org</a>
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Michigan Green Business	Kevin Pachla	<a href="mailto:info@migreenbusiness.com">info@migreenbusiness.com</a>
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Michigan Municipal League	Aaron Weinfeld, Director of Strategic Initiatives	<a href="mailto:aweinfeld@mml.org">aweinfeld@mml.org</a>
Michigan Municipal League	Aaron Weinfeld, Director of Strategic Initiatives	<a href="mailto:aweinfeld@mml.org">aweinfeld@mml.org</a>
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Michigan Nurses Association	John Karebian, Executive Director	<a href="mailto:john.karebian@minurses.org">john.karebian@minurses.org</a>
Michigan Pharmacists Association	Education	<a href="mailto:mary@michiganpharmacists.org">mary@michiganpharmacists.org</a>
Michigan Recycling Partnership	Linda Groebler	<a href="mailto:linda@michiangrocers.org">linda@michiangrocers.org</a>
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Michigan State University	Ronald Flinn, Asst. VP for the Physical Plant	<a href="mailto:rtflinn@pplant.msu.edu">rtflinn@pplant.msu.edu</a>
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Michigan Township Association	Debra McGuire, Communications and Education Clerk	<a href="mailto:debra@michigantownships.org">debra@michigantownships.org</a>
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Mid Michigan Environmental Action Council	Julie Powers	jpowers155@gmail.com
Mid South Substance Abuse Commission	Gary Van Norman	gvannorman@mssac.com
Midland County Health Department	C. Michael Krecek, Director of Environmental Health	mkrecek@co.midland.mi.us
Midland County Health Department	C. Michael Krecek, Director of Environmental Health	mkrecek@co.midland.mi.us
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Midland County Recycling	Esther Seaver	eseaver@midlandrecyclers.org
Midland County Recycling	Esther Seaver	eseaver@midlandrecyclers.org
Midland County Recycling	Esther Seaver	<a href="mailto:eseaver@midlandrecyclers.org">eseaver@midlandrecyclers.org</a>
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MI-SBTDC Greater Washtenaw Team	Charles Penner, Regional Director	cpenner@wccnet.org

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Missaukee County Recycling		info@missaukee.org
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Monroe County Community College	Jim Blumberg, Director of Physical Plant	jblumberg@monroeccc.edu
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Mott Community College	Amanda Krok, Assistant Director - Physical Plant	Amanda.krok@mcc.edu
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Muskegon Area Sustainability Coalition	Jon VanderMolen	sustainability@muskegonasc.org
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Muskegon Community College	Gerald Nyland, Director Physical Plant	gerald.nyland@muskegoncc.edu
Muskegon Community College	Gerald Nyland, Director Physical Plant	gerald.nyland@muskegoncc.edu
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Muskegon County Public Health	Vicki Webster, Environmental Health Supervisor	webstervi@co.muskegon.mi.us
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Newaygo County Recycling		recycle4nc@comcast.net
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Northern Michigan Environmental Action Council	Ken Smith, Executive Director	nmeac@charter.net
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Northern Michigan Substance Abuse Services	Dennis Priess	dpriess@nmsas.net
Northern Michigan University	Esko Alasimi, Associate Director of Plant Operations	ealasimi@nmu.edu
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Oakland County Health Division	Kathy Forzley, Manager	<a href="mailto:forzleyk@oakgov.vom">forzleyk@oakgov.vom</a>
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Oceana County Recycling	Tim Tariske	
Olivet College	Ute Chase, Physical Plant Office Coordinator	
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Otsego County Recycling	Recycling Committee	
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Saginaw County Health Department	Bryant Wilke, Environmental Health Services Director	<a href="mailto:bwilke@saginawcounty.com">bwilke@saginawcounty.com</a>
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Saginaw County Recycling	Monica Duebbert	mduebbert@yahoo.com
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Saginaw County Sheriff's Office	Sheriff William Federspiel	wfedersiel@saginawcounty.com
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Sanilac County Health Department	Assistant	mcconnachiel@sanilachealth.com
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Sanilac County Recycling	Jeremy Abrego	
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Sault Ste. Marie Tribe of Chippewa Indians	Aaron Payment	<a href="mailto:apayment@saulttribe.net">apayment@saulttribe.net</a>
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Shiawassee County Recycling	John Gall	jgall@wmc.com
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VanBuren/Cass County District Health Department	Mike Laufer, Director of Environmental Services	<a href="mailto:mlaufer@vbcassdhd.org">mlaufer@vbcassdhd.org</a>
Visiting Nurses Association of Southeast Michigan	Office of the President	vna@vna.org
Washtenaw County Public Health Department	Richard Fleece, Environmental Health Director	fleecer@ewashtenaw.org
Washtenaw County Public Health Department	Richard Fleece, Environmental Health Director	fleecer@ewashtenaw.org
Washtenaw County Public Health Department	Richard Fleece, Environmental Health Director	<a href="mailto:fleecer@ewashtenaw.org">fleecer@ewashtenaw.org</a>
Washtenaw County Recycling	Kjeff Krcmarik	krcmariji@ewashtenaw.org
Washtenaw County Recycling	Kjeff Krcmarik	<a href="mailto:krcmariji@ewashtenaw.org">krcmariji@ewashtenaw.org</a>
Washtenaw County Recycling	Jeff Krcmarik	krcmariji@ewashtenaw.org
Wayne County Health Department	Carol Austerberry, Acting Director of Environmental Health	
Wayne County Pharmacist Association	Daniel Lobb	gandalf480@aol.com
Wayne County Recycling		
West Michigan Environmental Action Council	Rachel Hood	rhood@wmeac.org
West Michigan Environmental Action Council		info@wmeac.org
West Michigan Environmental Action Council		info@wmeac.org

Contacted Stakeholders Q6 - October 1, 2012 - December 31, 2012

Organization	Contact Name	Email
West Michigan Sustainable Business Forum	Lisa Locke, Administrator	<a href="mailto:llocke@wmsbf.org">llocke@wmsbf.org</a>
West Michigan Sustainable Business Forum	Lisa Locke, Administrator	<a href="mailto:llocke@wmsbf.org">llocke@wmsbf.org</a>
West Michigan Sustainable Business Forum	Lisa Locke, Administrator	<a href="mailto:llocke@wmsbf.org">llocke@wmsbf.org</a>
Western UP Coordinating Agency	Mark Halkola	<a href="mailto:lsauvola@ccisd.k12.mi.us">lsauvola@ccisd.k12.mi.us</a>
Western Upper Peninsula Health Department	Lynn Madison, Director Environmental Health Services	
Wexford County Recycling	John Divozzo	
Wexford County Sheriff's Office	Sheriff Gary Finstrom	<a href="mailto:sheriff@wexfordcounty.org">sheriff@wexfordcounty.org</a>

Packaging Contacts

Electronics Contacts

Pharmaceutical Contacts

**Calls Made on behalf of the Pharmaceutical workshop**

Bay Mills Indian Community	Kurt Perron	<a href="mailto:kuperron@baymills.org">kuperron@baymills.org</a>
Grand Traverse Band of Ottawa and Chippewa Indians	Joseph R. Huhn	<a href="mailto:joe.huhn@gtbindians.com">joe.huhn@gtbindians.com</a>
Hannahville Potawatomi Indian Community	Carol Bergquist	<a href="mailto:carolbergquist@hannahville.org">carolbergquist@hannahville.org</a>
Keweenaw Bay Indian Community	Pam Nankervis	<a href="mailto:pnankervis@kbic-nsn.gov">pnankervis@kbic-nsn.gov</a>
Lac Vieux Desert Band of Lake Superior Chippewa Indians	Alan Shively	<a href="mailto:alan_shively@yahoo.com">alan_shively@yahoo.com</a>
Little River Band of Ottawa Indians	Larry Romanelli	<a href="mailto:lromanelli@lrboi.com">lromanelli@lrboi.com</a>
Little Traverse Bay Band of Odawa Indians	Dexter McNamara	<a href="mailto:chairman@ltbbodawa-nsn.gov">chairman@ltbbodawa-nsn.gov</a>
Match-E-Be-Nash-She-Wish Band of Pottawatomi Indians	D. K. Sprague	<a href="mailto:dksprague@mbpi.org">dksprague@mbpi.org</a>
Nottawaseppi Huron Band of Potawatomi	Homer Mandoka	<a href="mailto:hmandoka@nhbpi.com">hmandoka@nhbpi.com</a>
Pokagon Band of Potawatomi	Matt Wesaw	<a href="mailto:matthew.wesaw@pokagonband-nsn.gov">matthew.wesaw@pokagonband-nsn.gov</a>
Saginaw Chippewa Indian Tribe	Dennis V. Kequom Sr.	<a href="mailto:DKequom@sagchip.org">DKequom@sagchip.org</a>
Sault Ste. Marie Tribe of Chippewa Indians	Aaron Payment	<a href="mailto:apayment@saulttribe.net">apayment@saulttribe.net</a>
Alliance of Rouge Communities	James Ridgway	<a href="mailto:jridgway@allianceofrougecommunities.co">jridgway@allianceofrougecommunities.co</a>
Clinton River Watershed Council	Anne Vaara	<a href="mailto:anne@crwc.org">anne@crwc.org</a>
Conservation Resource Alliance	Amy Beyer	<a href="mailto:amy@rivercare.org">amy@rivercare.org</a>
East Michigan Environmental Council	Diana Copeland	<a href="mailto:diana@emeac.org">diana@emeac.org</a>
Flint River Watershed Coalition	Rebecca Fedewa	<a href="mailto:rfedewa@flinriver.org">rfedewa@flinriver.org</a>
Friends of the Detroit River	David Howell	<a href="mailto:river@detroitriver.org">river@detroitriver.org</a>

Contacted Stakeholders Q6 - October 1, 2012 - December 31, 2012

Organization	Contact Name	Email
Friends of the Rouge	Karen Hanna	<a href="mailto:khanna@therouge.org">khanna@therouge.org</a>
Friends of the St. Clair River Watershed	Kristen Jurs	<a href="mailto:info@scriver.org">info@scriver.org</a>
Huron River Watershed Council	Laura Rubin	<a href="mailto:lrubin@hrwc.org">lrubin@hrwc.org</a>
Muskegon River Watershed Assembly	Gary Noble	<a href="mailto:mrwa@ferris.edu">mrwa@ferris.edu</a>
Saginaw Bay Watershed Initiative Newtwork	Mike Kelly	<a href="http://saginawbaywin.org">saginawbaywin.org</a>
Tip of the Mitt Watershed Council	Gail Gruenwald	<a href="mailto:gail@watershedcouncil.org">gail@watershedcouncil.org</a>
West Michigan Environmental Action Council	Rachel Hood	<a href="mailto:rhood@wmeac.org">rhood@wmeac.org</a>
Aging Services of Michigan	Deanna Ludlow	<a href="mailto:Deanne@AgingMI.org">Deanne@AgingMI.org</a>
American Association of Retired Persons (AARP)		<a href="mailto:miaarp@aarp.org">miaarp@aarp.org</a>
Capital Area Pharmacists Association	Elizabeth Nettleman, Chairman of the Board	<a href="mailto:elizabeth.nettleman@sparrow.org">elizabeth.nettleman@sparrow.org</a>

**Press Release sent regarding Pharmaceutical workshop**

Newspaper	City/County	Email Address
Oscoda Press	Oscoda/Alcona-Iosco	<a href="mailto:editor1@oscodapress.com">editor1@oscodapress.com</a>
Allegan County News	Allegan/Allegan	<a href="mailto:dpepper@allegannews.com">dpepper@allegannews.com</a>
Holland Sentinel	Holland/Allegan-Ottawa	<a href="mailto:jim.hayden@hollandsentinel.com">jim.hayden@hollandsentinel.com</a>
Alpena News	Alpena/Alpena	<a href="mailto:newsroom@thealpenanews.com">newsroom@thealpenanews.com</a>
Town Meeting	Elk Rapids/Antrim	<a href="mailto:erneditor@sbcglobal.net">erneditor@sbcglobal.net</a>
Antrim County News	Antrim/Antrim	<a href="mailto:manager@antrimreview.net">manager@antrimreview.net</a>
L'Anse Sentinal	L'Anse/Baraga	<a href="mailto:sentinel@up.net">sentinel@up.net</a>
Bay City Times	Bay City/Bay City	<a href="mailto:rclark2@mlive.com">rclark2@mlive.com</a>
New Buffalo Times	New Buffalo/Berrien	<a href="mailto:info@newbuffalotimes.com">info@newbuffalotimes.com</a>
Berrien County Record	Buchanan/Berrien	<a href="mailto:bcrnews@bcrnews.net">bcrnews@bcrnews.net</a>
St. Joseph Herald-Palladium	St. Joseph/ Berrien	<a href="mailto:dbrown@theh-p.com">dbrown@theh-p.com</a>
Benton Spirit Community News	Berrien/Berrien	<a href="mailto:myvoices@bentonspiritnews.com">myvoices@bentonspiritnews.com</a>
Harbor Country News	New Buffalo/Berrien	<a href="mailto:news@harborcountry-news.com">news@harborcountry-news.com</a>
Daily Star	Niles/Berrien-Cass	<a href="mailto:katie.johnson@leaderpub.com">katie.johnson@leaderpub.com</a>
Coldwater Daily Reporter	Coldwater/Branch	<a href="mailto:cludwick@thedailyreporter.com">cludwick@thedailyreporter.com</a>
Battle Creek Enquirer	Battle Creek/Calhoun	<a href="mailto:saboyd@battlecreekenquirer.com">saboyd@battlecreekenquirer.com</a>
Charlevoix Courier	Charlevoix/Charlevoix	<a href="mailto:news@charlevoixcourier.com">news@charlevoixcourier.com</a>
Straightsland Resorter	Cheboygan/Cheboygan	<a href="mailto:editor@resorter.com">editor@resorter.com</a>
Straitsland Resorter	Indian River/Cheboygan	<a href="mailto:editor@resorter.com">editor@resorter.com</a>
Soo Evening News	Sault Ste. Marie/ Chippewa	<a href="mailto:edit@sooeveningnews.com">edit@sooeveningnews.com</a>
Bay Mills News	Sault Ste. Marie/ Chippewa	<a href="mailto:newspaper@bmic.net">newspaper@bmic.net</a>
Clinton County News	St. Johns/Clinton	<a href="mailto:gpcompany@kih.net">gpcompany@kih.net</a>
St. Johns Reminder	St. Johns/Clinton	<a href="mailto:sjreminder@michigannewspapers.com">sjreminder@michigannewspapers.com</a>
Daily Press	Escanaba/Delta	<a href="mailto:dmcdonald@dailypress.net">dmcdonald@dailypress.net</a>
Daily News	Iron Mountain/Dickinson	<a href="mailto:news@ironmountaindailynews.com">news@ironmountaindailynews.com</a>
State News (MSU)	Lansing/Eaton-Ingham	<a href="mailto:gm@statenews.com">gm@statenews.com</a>

Contacted Stakeholders Q6 - October 1, 2012 - December 31, 2012

Organization	Contact Name	Email
Lansing State Journal	Lansing/Eaton-Ingham	krouse@lsj.com
Mackinac Journal	Mackinaw City/Emmet	gary@mackinacjournal.com
Petoskey News-Review	Petosky/Emmet	petoskeynews@petoskeynews.com
Tri-County Times	Fenton/Genesee	news@tctimes.com
Gladwin County Record	Gladwin/Gladwin	sbuffman@thegladwincountyrecord.com
Daily Globe	Ironwood/Gogebic	lholcombe@yourdailyglobe.com
Grand Traverse Herald	Traverse City/Grand Traverse	features@record-eagle.com
Northern Express	Traverse City/Grand Traverse	info@northernexpress.com
Hillsdale Daily News	Hillsdale/Hillsdale	avanauker@thedailyreporter.com
Daily Mining Gazette	Houghton/Houghton	msscott@mininggazette.com
Huron Daily Tribune	Bad Axe/Huron	hdt_news@hearstnp.com
Sentinel-Standard	Ionia/Ionia	milinda.wilson@sentinel-standard.com
Iosco County News Herald	Tawas City/Iosco	editor@iosconews.com
Iron County Reporter	Iron River/Iron	news@ironcountyreporter.com
Ironwood Daily Globe	Iron River/Iron	news@yourdailyglobe.com
Mt. Pleasant Morning Sun	Mt. Pleasant/Isabella	news@michigannewspapers.com
Jackson Citizen Patriot	Jackson/Jackson	http://myevent.mlive.com/web/event.php
Exponent	Brooklyn/Jackson	news@theexponent.com
Springport Signal	Springport/Jackson	springportsignal@springcom.com
Times of Grass Lake	Grass Lake/Jackson	thegrasslaketimes@gmail.com
Leader & Kalkaskian	Kalkaska/Kalkaska	dmansfield@michigannewspapers.com
Cedar Springs Post	Cedar Springs/Kent	newsreleases@cedarspringspost.com
Towne Courier	Lansing/Eaton-Ingham	tbrooker@gannett.com
County Press	Lapeer/Lapeer	cpeditor@mihomepaper.com
Belleville Enterprise	Belleville/Lapeer	editor@bellevilleview.com
Belleville Area independent	Belleville/Lapeer	rotzman@ameritech.net
Hills Herald	Farmington Hills/Lapeer-Oakland	editor@thenewsherald.com
Novi News	Novi/Lapeer-Oakland	gkowalski@hometownlife.com
Observer Eccentric	Birmingham/Lapeer-Oakland	jgrossman@hometownlife.com
Oakland Press	Pontiac/Lapeer-Oakland	julie.jacobson@oakpress.com
Southfield Eccentric	Southfield/Lapeer-Oakland	sarmbruster@hometownlife.com
Northville Record	Northville/Lapeer-Oakland-Wayne	domeara@hometownlife.com
Plymouth Observer	Plymouth/Lapeer-Wayne	bkadrich@hometownlife.com
Grosse Pointe News	Grosse Pointe Farms/Lapeer-Wayne	editor@grossepointenews.com
Dearborn Press & Guide	Southgate/Lapeer-Wayne	editor@pressandguide.com
Heritage Sunday	Southgate/Lapeer-Wayne	lkhzouz@heritage.com
Redford Observer	Redford/Lapeer-Wayne	lruehlen@hometownlife.com
Dearborn Times Herald	Dearborn/Lapeer-Wayne	timesheraldads@yahoo.com
Leelanau Enterprise	Leelanau/Leelanau	alan@leelanaunews.com
Blissfield Advance	Blissfield/Lenawee	advance@cass.net
Hudson Post Gazette	Hudson/Lenawee	editor@hudsonpg.net
Daily Telegraph	Adrian/Lenawee	marge@lenconnect.com
Daily Press & Argus	Livingston/Livingston County	mmalott@gannett.com
Mackinac Island Town Crier	Mackinaw Island/Mackinac	editor@mackinacislandtowncrier.com
Saint Ignace News	Saint Ignace/Mackinac	news@stignacenews.com
Macomb Daily	Mount Clemens/Macomb	ken.kish@macombdaily.com
Romeo Observer	Romeo/Macomb	news @ romeoobserver.com



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Organization	Contact Name	Email
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Voice News	New Baltimore/Macomb	yournews@voicenews.com
Manistee News Advocate	Manistee/Manistee	mnainfo@pioneergroup.com
Mining Journal	Marquette/Marquette	dweingarten@miningjournal.net
Ludington Daily News	Ludington/Mason	ldn@Ludingtondailynews.com
Big Rapids Pioneer	Big Rapids/Mecosta	pioinfo@pioneergroup.com
Ferris State Torch	Big Rapids/Mecosta	stevenfox@ferris.edu
Midland Daily News	Midland/Midland	jtelferii@mdn.net
Monroe Journal	Monroe/Monroe	news@monrojournal.com
Monroe Evening News	Monroe/Monroe	Saul@monroenews.com
Greenville Daily News	Greenville/Montcalm	callen@greenvillenews.com
Lakeview Times	Lakeview/Montcalm	lakeviewonline@gmail.com
Montmorency County Tribune	Hillman/Montmorency	yswager@montmorencytribune.com
Times Indicator	Fremont/Newaygo	tinews@comcast.net
Oxford Eccentric	Oxford/Oakland	bkadrich@hometownlife.com
South Lyon Herald	South Lyon/Oakland	dandreassi@hometownlife.com
Clarkston News	Clarkston/Oakland	don@shermanpublications.org
Daily Tribune	Royal Oak/Oakland	editor@dailytribune.com
White Lake Beacon	White Lake/Oakland	editor@whitelakebeacon.com
Lake Orion Eccentric	Lake Orion/Oakland	mjachman@hometownlife.com
Clarkston Eccentric	Clarkston/Oakland	sarmbruster@hometownlife.com
South Oakland Eccentric	Oakland/Oakland	sarmbruster@hometownlife.com
Oxford Leader	Oxford/Oakland	shermanpub@aol.com
Milford Times	Milford/Oakland	ssteinmueller@hometownlife.com
Spinal Column NewsWeekly	Highland/Oakland	timdmoch@thescnrgroup.com
Oceana's Herald- Journal	Oceana/Oceana	editor@oceanaheraldjournal.com
Ontonagon Herald	Ontonagon/Ontonagon	maureen@ontonagonherald.com
Evart Pioneer	Evart/Osceola	pioinfo@pioneergroup.com
Gaylord Herald-Times	Gaylord/Otsego	editor@gaylordheraldtimes.com
Grand Haven Tribune	Grand Haven/Ottawa	events@grandhaventribune.com
Presque Isle County Advance	Rogers City/Presque Isle	editor@piadvance.com
Houghton Lake Resorter	Houghton Lake/Roscommon	news@houghtonlakeresorter.com
Saginaw News	Saginaw/Saginaw	jmcfarlan@mlive.com
Marlette Leader	Marlette/Sanilac	hdt_news@hearstnp.com
Argus-Press	Owosso/Shiawassee	news@argus-press.com
Three Rivers Commercial News	Three Rivers/St. Joseph	elena@threeriversnews.com
Sturgis Journal	Sturgis/St. Joseph	phelps@sturgisjournal.com
Independent Times	Ann Arbor/Washtenaw	jim@jjadvpub.com
Ypsilanti Courier	Ypsilanti/Washtenaw	editor@bellevilleview.com
Chelsea Standard	Chelsea/Washtenaw	editor@chelseastandard.com
Manchester Enterprise	Manchester/Washtenaw	editor@manchesterenterprise.com
Saline Reporter	Saline/Washtenaw	editor@salinereporter.com
Ann Arbor Journal	Ann Arbor/Washtenaw	news@a2journal.com
AnnArbor.com	Ann Arbor/Washtenaw	news@annarbor.com
Building Tradesman	Detroit/Wayne	bgohs@boynegazette.com
Canton Observer	Canton/Wayne	bkadrich@hometownlife.com
Metro Times	Detroit/Wayne	cguyette@metrotimes.com

Contacted Stakeholders Q6 - October 1, 2012 - December 31, 2012

Organization	Contact Name	Email
Telegram Newspaper	Ecorse/Wayne	editor@telegramnews.net
News Herald	Southgate/Wayne	editor@thenewsherald.com
Detroit News	Detroit/Wayne	gmiles@detnews.com
Detroit Free Press	Detroit/Wayne	localnews@freepress.com
Michigan Echo News	Detroit/Wayne	news@easternecho.com
Garden City Observer	Garden City/Wayne	smason@hometownlife.com
MiBizWest / MiBizSouthwest	Southwest/West Michigan	editor@mibiz.com



**Date:** January 29, 2012 9:29:19 PM EST  
**To:** Michael Csapo <[mcsapo@rrrasoc.org](mailto:mcsapo@rrrasoc.org)>

Mike,

Sorry I didn't thoroughly read the document prior to the meeting. Below is my feedback (a bit anal, I'll admit):

I think the first sentence should use "valuable resources" instead of "materials that have value." I think it sounds more valuable that way and doesn't use "material" twice. **Makes sense.**

In the bullet list describing the law, the 4<sup>th</sup> bullet and the last bullet seem to say almost the same thing. **This was Matt's list. Check with him to see if he means two different things.**

Page 3, paragraph 3, first sentence should probably clarify that the 60% is by weight. **Fair point.** As a matter of style regarding the last two sentences, I'm not a fan of starting sentences with "therefore" or "however." **I don't mind starting with "However", but I think my original draft combined those into a single sentence. I suggest this line: However, Part 173 does not require computer manufacturers to report sales and, as a consequence, Michigan does not have data on the percentage of computers or printer sales that were recycled. (Also note that the our copy says "manufactures" not "manufacturers".**

Page 3, bullet 4, second sentence: Seven states have enacted... **Good catch.**

Bottom of page 3; do we have any data estimates on the volume of e-waste that is going into the landfills? **No but also not necessary for this report. Even though we likely could estimate it, it would be extra work that doesn't need to be done. It would be an estimate at best anyway.**

On page 4, first paragraph following the gray box, last sentence: is it true that the goal does not apply to computer monitors? **Yes.**

Page 5 middle, in the paragraph beginning with "mandatory", "mandatory" is misspelled. **Good catch.**

Page 6 in the paragraph headed with Education, the last sentence should read "in particular." **Another good catch.**

Hope this helps,

Sandy

**Sandy Rosen**  
30700 Edison Dr.  
Roseville, MI 48066

\_ [586.779.1310](tel:586.779.1310) Ext: 818  
[www.go-qlr.com](http://www.go-qlr.com)

Deb, a couple of other good online overviews include Solving the E-Waste Problem (StEP)'s "What is e-waste?" page (<http://www.step-initiative.org/initiative/what-is-e-waste.php>) and the Electronics TakeBack

Coalition's "E-waste Problem Overview"

(<http://www.electronicstakeback.com/resources/problem-overview/>).

Unfortunately, neither page has a printer-friendly version, so I'm not sure if you could print them off and use them as a fact sheet.

**Michael Csapo** mcsapo@rrrasoc.org

Ja  
n  
17

to Matt, me, Roger, Sandy, Nick, Don, Michael

Policy Committee Members,

Attached is a draft set of recommendations developed for review by the Policy Committee. The recommendations are intended to improve Michigan's e-waste takeback law so that it is more consistent with the laws of other Great Lakes states, and thereby improving performance while leveling the playing field among manufacturers and among e-waste processors.

As indicated in the document, the recommendations were developed based on considerable input from stakeholders and MRC membership as well as based on a review of best practices and laws found elsewhere.

Once the document is vetted by the Policy Committee, it will be forwarded to the MRC Board of Directors for review and consideration.

I am hosting a Policy Committee meeting on January 24 at 1:00 pm at the RRRASOC offices (20000 W. 8 Mile Rd., Southfield, MI 48075). For those of you that cannot make it in person, we will establish a "call-in" line (details will be sent later). If you are not able to make the meeting at all, please feel free to forward your comments on the document to me so that we may have the benefit of considering them when we discuss the recommendations next Tuesday.

Thanks,  
Mike

Michael Csapo  
General Manager  
Resource Recovery and Recycling Authority of Southwest Oakland County  
20000 W. 8 Mile Rd.

## Email from Jeffrey Kuypers, HP 12/31/12

Hello Kerrin,

Thanks again for reaching out to HP to participate in your workshop, below. I am still trying to see if I can have a local HP associate join the workshop, and I am sorry that I was not able to make arrangements to attend personally. HP is very interested in the topic.

I am writing here to provide some input after reviewing “The State of Electronic Recycling in Michigan”. This report prepared by MRC is concise and includes many points that HP appreciates. We also have a few cautions that I would like to share regarding how one key recommendation is implemented—namely that when volume targets are used (as recommended by MRC), **then care must be taken to avoid cross-subsidization of TV product recycling by computer companies**. Below I offer a few brief comments:

- The MRC report notes that performance by manufacturer may not be readily available today. By way of introduction of HP’s commitment to serve consumers in MI, I offer the following **performance information for HP**:
  - HP program volume: **4.76M lbs collected and recycled during the 2012 program year** (up from 2.51M lbs in PY 2011, as we have been building our program).
  - HP program collection sites: **Approx 50 ongoing drop-off sites** for multi-brand, plus additional sites for HP-brand. See [www.hp.com/us/go/recycling](http://www.hp.com/us/go/recycling) and select Michigan from the Map to see location detail and geographic spread.
- Assertion related to HP comments that follow—**the most expensive challenge is ensuring proper management of CRT TVs**, as evidenced by the following recent example data:
  - In the last newsletter from the Washington Materials Management & Financing Authority (WMMFA), which runs the only approved manufacturer take-back program in WA, cumulative 2012 collections show 73% of all collections by weight have been televisions, 19% monitors.
  - Based on recent reports from South Carolina DHEC regarding available county and city collection data, 85% of CRT devices returns are TVs, 15% monitors.
  - The price of managing CRTs has skyrocketed. One report says that it has gone from recyclers paying \$205/ton in 2004 to charging \$200/ton today (“Tube tied—Why millions of CRTs are being stockpiled, no recycled”, [www.greenbiz.com](http://www.greenbiz.com)). Conversely, recyclers are commonly known to return credits to process computers, especially desktop computers.
- **The MRC report recommends imposing volume mandates on manufacturers based on market share. HP submits that unless this is managed carefully, it is not consistent with the “individual**

**producer responsibility” principles that the report expresses support for.** This also is a specific area where Michigan should not simply “make the law more consistent with surrounding states”—many of those states have implemented systems that warrant improvements based on experienced gained. **Specifically, the problem is that volume targets have been implemented in other states in a way that forces IT companies to substantially subsidize TV recycling. This occurs as follows:**

- 1) A state sets an arbitrary volume target that is “one-size-fits all” for both IT equipment and TV/TV peripherals, such as the same %-of-sales target for both categories.
- 2) Some computer equipment such as, in particular, desktop computers are sufficiently valuable in recycling that they are collected by many parties without the motivation of law. These parties then may charge manufacturers a bounty to let them have computers back. Also, many simply keep the computers for their own benefit and either do not make them available to manufacturers, or TV mfrs obtain them to reduce TV pounds collected and thereby reduce the cost of their programs to comply with volume targets.
- 3) Because of the financial incentive for others to recycle computers, computer manufacturers can’t get sufficient volumes of equipment from their industry back to meet targets, and they are forced to collect significant volumes of televisions instead. For example, in MN, WI and NY, HP has had to collect roughly 70% televisions by weight to meet volume targets, while not producing televisions for sale. Because TVs are so much more expensive to recycle than computers, IT mfrs bear a cost for recycling that is not commensurate with their rightful obligation to take care of consumer needs, while TV mfrs do not bear the full cost to recycle the types of devices their industry has produced. This is not “individual producer responsibility” because it does not allocate equitable responsibility to each manufacturer by brand (like Maine) or even by category.

- **Solutions:**

- One solution within the framework of what MRC has recommended (sales based volume mandates) would be to exclude the weight of high value products like desktop PCs from the calculation of manufacturer take-back weight obligations. This is a logical approach from the perspective that products of sufficient value motivate collection and recycling without targets, and also because it reduces cross-subsidization (it does not force IT manufacturers to take care of an equivalent weight of TVs and enable TV mfrs to reduce their obligation for their product type).
- Another solution within the framework of what MRC has recommended (sales based volume mandates) would be address the biggest problem by only placing a volume target on televisions, *and* requiring television manufacturers to meet their target with televisions and not other devices instead. In this way, the biggest, most expensive problem cannot be shifted to other industries like computer manufacturers. (Alternatively, place the target on all CRT device types—televisions and computer monitors—which could be met only by pounds of TVs and monitors. Note as

reflected by data above, however, monitors are a much smaller share of the expensive CRT volume needing recycling.)

- Outside of MRCs recommended framework are many approaches that HP prefers, such as a geographic coverage target. I have attached a related white paper that expands on HP's recommendations here.
- Lastly, HP suggests that product scope needs to be balanced. For example, if all major computer peripherals are covered, then so also should all major TV peripherals be covered. Or if TV peripherals are going to be exempted, then the exemption must be defined and extended to computer peripherals as well. I have attached an HP white paper on this topic as well.

I am happy to discuss further as interested. I hope the workshop goes well.

Sincerely,  
Jeff

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Printing and Personal Systems Group

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# A Balanced Approach to Product Scope for US hardware take-back law



## White paper

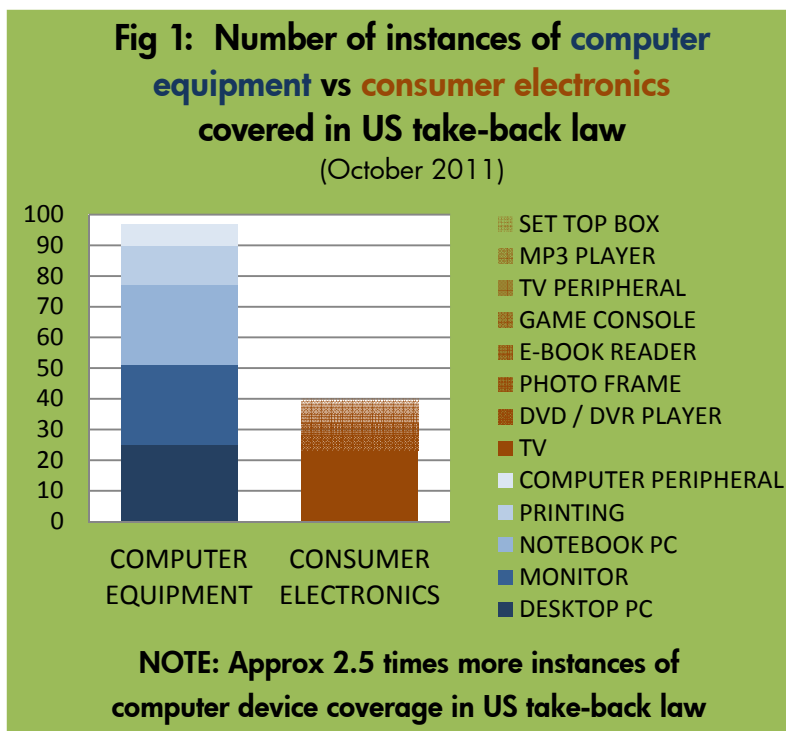
### Introduction

**In this document, HP briefly reviews four primary assumptions that have contributed to the historical focus on computer equipment in US take-back laws, and provides recommendations for a more balanced approach to product scope going forward.**

Early US electronic hardware take-back laws focused on video display devices such as televisions and computer monitors. There was some logic behind this in the sense that these products share compositional features (e.g., they all contain a display screen). Some states have added other devices as well, with a noticeable focus on computer equipment. This focus is apparent if one compares the cumulative number of instances of computer devices versus consumer electronics<sup>1</sup> defined as covered in state take-back laws, as shown in Figure 1.

Unlike the earlier focus on display devices, the expansion to other types of electronic devices has disproportionately targeted computer equipment without recognizing the similar composition of many excluded devices. For example, similar to computers, devices such as game consoles and video players (e.g., DVD / DVR players) all contain disk drives or memory, processor chips, power supplies, etc., in a plastic and/or metal case, but often only the computers have been covered in state take-back law.

So, why the computer-centric focus of product scope? In some cases, HP has learned that new legislation simply based product scope on that of legislation in another state. Harmonization is helpful so long as the model used is sound, but in this case we believe that it warrants review. In this document, we examine assumptions behind the focus on computer equipment and suggest a more balanced approach to product scope in US take-back legislation.



### Assumptions reviewed

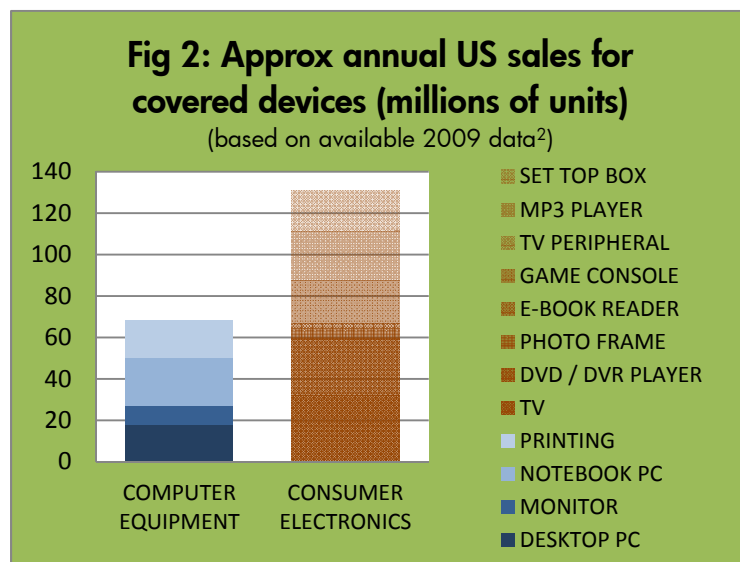
In this section, we'll examine some assumptions that HP has noted over a number of years, and that may have contributed to the historical focus on computer equipment in US take-back laws.

**Assumption 1:** “Besides TVs, most of the devices received by recyclers are computer products. We only need to require manufacturers to implement take-back programs for these devices.”

**Review:** One might surmise that if recycling programs in fact are not seeing many consumer electronics devices (besides TVs), a reason might be that various consumer electronics do not sell in large quantities relative to computer equipment. However, this generally does not appear to be the case—note in Figure 2 that the sales volume for consumer electronics is significant relative to computer products.<sup>2</sup> If some types of well established and popular electronic products are being recycled in lower rates than others<sup>3</sup>, this might be grounds for greater focus rather than exemption from take-back law.

It also is worth noting a significant inconsistency here: some stakeholders want the scope of products covered to be based on *recycling rates*, but then suggest that each manufacturer’s share of performance targets should be based on *sales rates* for covered devices.

HP suggests that future take-back laws be consistent: if manufacturer responsibility for targets is based on *sales*, then the scope of products covered also should include all commonly *sold* electronic devices. If on the other hand stakeholders want to base product scope on the rate of products being *recycled*, then each manufacturer’s share of targets also should be based on *recycling rate* data rather than sales data.



**Assumption 2:** “Consumer electronic devices often are smaller or lighter than covered computer equipment and don’t warrant the same coverage under take-back law.”

**Review:** The weight and size of a product does not necessarily govern end-of-life environmental impact. The University of Florida performed waste toxicity testing that yielded some notable results, such as: “*Smaller devices . . . (e.g., cellular phones, remote controls) tended to leach lead above the TC [US EPA test] limit at a greater frequency than devices with more ferrous metal (e.g., printers).*”<sup>4,5</sup> *Emphasis added.* Also, the size argument further breaks down considering that many of the common consumer electronics often excluded from manufacturer take-back mandates in the US (e.g., DVD/DVR players, game consoles, audio-video receivers, set-top/cable boxes, etc) can have similar weight as many covered computer devices.

Major take-back laws in other jurisdictions have not ruled out devices based on size, and there is no objective rationale to apply such relief only to a limited industry segment in the US.

**Assumption 3:** “Many collection opportunities already exist for used consumer electronics, so these devices do not need to be covered under take-back laws.”

**Review:** The same argument could be made for computer equipment. In fact, devices such as desktop PCs have high value for recyclers (relatively easy to process and/or rich in reusable materials) and consequently are in demand by many collection and recycling programs. (Some parties use recycling value of computers to subsidize funding to recycle other devices.) Further, in addition to the many independent recycling programs for computers, most major computer manufacturers have product reuse and recycling programs which often include buy-back or free recycling opportunities for their products. Logically, then, *Assumption 2* should result in exclusion of *computer equipment* such as



desktop and notebook PCs from take-back law scope, yet this has not occurred. HP suggests that future take-back laws should treat consumer electronics and computer equipment equally in evaluating existing collection programs.

**Assumption 4:** “Adding consumer electronic devices to take-back law would mean that government agencies would have to process the registrations of a greater number of manufacturers, and this would be too difficult for agencies to manage.”

**Review:** The “too difficult to manage” claim does not appear to have been born out in practice. Many state agencies have successfully registered makers of computer equipment and televisions already, and received registration fees from manufacturers to compensate for the activity. Also, the number of manufacturers that would have to be registered in order to cover not only computer equipment and TVs, but also other consumer electronics, remains small by comparison with what other jurisdictions handle. For example, in one US state that covers some major consumer electronic devices (DVD players, set-top-boxes, game systems, etc) in addition to computers and TVs, registrations only number about 100<sup>6</sup>. By comparison, European countries with *much* broader product coverage in take-back laws (also covering appliances, power tools, etc.—not proposed in the US case) have successfully registered thousands<sup>7</sup> of manufacturers and distributors. Therefore, it does not appear that the US situation in terms of numbers of registered manufacturers is at any real risk of becoming unmanageable.

If it is acceptable for agencies to work to register all major computer manufacturers, then there is no substantial reason that they cannot register manufacturers of major consumer electronic devices as well.

## Recommendation

After considering the above, and based on HP’s extensive experience with electronic hardware take-back worldwide, HP recommends that the following two key considerations be addressed in order to create a balanced US product scope where take-back laws are deemed necessary:

1. **Timing for coverage:** In the legislation, define computer equipment *and* consumer electronic equipment as covered devices either:
  - a. at the same time, or
  - b. subject to a *definite* schedule for phase-in of products over time that considers both consumer electronics and computer equipment. Below is an example of products that are covered in other jurisdictions<sup>8</sup> and might fit into a phased approach:

PHASE I (common video display devices, examples)	PHASE II (other common consumer electronics & computer equipment, examples)
<ul style="list-style-type: none"><li>• televisions</li><li>• portable DVD players</li><li>• digital picture frames</li><li>• e-readers</li><li>• computer monitors</li><li>• notebook computers</li><li>• tablet computers</li><li>• all-in-one computers</li></ul>	<ul style="list-style-type: none"><li>• set-top / cable / satellite TV boxes</li><li>• video recorders and players (DVD, etc)</li><li>• video game consoles</li><li>• audio equipment (MP3 players &amp; docking equipment, home theater, etc)</li><li>• desktop computers (CPUs)</li><li>• desktop / personal printers</li></ul>

2. **Scope of coverage:** If any major consumer electronic equipment is exempted, then define the exemption criteria (in the legislation or other documented, publicly-accessible forum) and apply it equally to computer equipment.

## Summary and final remarks

HP’s observation is that most US take-back laws reflect a bias to cover computer equipment while excluding most consumer electronic (non-computer) equipment from “covered device” scope. HP

believes that a more balanced approach would be beneficial. If conditions such as the existence of take-back opportunities are considered sufficient basis to exempt various consumer electronic equipment, then the same exemptions should be applied to various computer equipment (e.g., desktop and notebook computers that already have many take-back opportunities due to their relatively high recycling value). Alternatively, if electronic product take-back legislation is deemed necessary for all major computer equipment, then there is no substantial reason *not* to cover all major consumer electronic equipment as well. (Consumer electronics and computer equipment have many similarities in composition, and consumer electronic devices are put on the market in significant quantities relative to computer equipment.) While HP also observes that state agencies are able to register and accommodate *both* computer and consumer electronic devices in take-back laws, HP's recommendations include the option of a phased-in schedule to help ensure manageability by government. We believe these recommendations to be responsible and fair, with potential benefits including but not limited to more consistent recycling programs for consumers, increased electronic hardware recycling rates overall, and more equitable division of responsibility among all electronics manufacturers.

## About HP

HP is a pioneer in environmental sustainability, and we continue to raise the bar across all aspects of our business. While we are significantly reducing our own impact, we are also applying our size, expertise and partnerships to uniquely help customers save money and be more efficient while reducing their environmental footprint. We design our products and services to have less impact throughout their entire lifecycles compared with previous generations. We offer customers convenient product reuse and recycling solutions, and we set, meet and promote high standards in our global operations and supply chain. See [www.hp.com/environment](http://www.hp.com/environment) for more information.

### *Environmental leadership, examples:*

*1950s – Global Citizenship objectives established*  
*1987 – Hardware recycling program launched*  
*1991 – First environmental report published*  
*1992 – Product Design for Environment (DfE) program launched*  
*2002 – Supply Chain Code of Conduct released*  
*2004 – Vendor Requirements for Hardware Recycling released*  
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*2007 – Reached initial goal of recycling 1 billion pounds of computer hardware and supplies*  
*2007 – Achieved voluntary goal to meet then-current EU RoHS 1 substance restrictions worldwide (covered products except where widely recognized as no technically feasible alternative)*  
*2010 – Publicized policy on banning exports of nonworking electronics to developing countries*

<sup>1</sup> In this document, the term "consumer electronics" excludes computer equipment.

<sup>2</sup> Sources for unit shipment / sales data estimates included several syndicated market research firm reports. Exception: "Desktop / AiO PC" and "notebook PC" unit shipments were estimated based on HP's market share and internal consumer shipment data. Data for some product types was obtained for North America where US data was not readily available—the substantial share of these sales is expected to be in the US.

<sup>3</sup> US EPA has noted: "... electronic products, including VCRs, stereos, and video cameras ... are recycled at lower rates than the ... scope of products studied [e.g., PCs, TVs, printers] ... " (*Fact Sheet: Management of Electronic Waste in the United States*, USEPA, July 2008)

<sup>4</sup> RCRA Toxicity Characterization of Computer CPUs and Other Discarded Electronic Devices, Townsend et al, July 15, 2004.

<sup>5</sup> Note: Modern RoHS (Restriction of Hazardous Substances) compliant devices may perform better than older devices that the U of FL tested. As of January 1, 2007, HP specifically achieved its internal voluntary goal to meet the then-current EU RoHS 1 substance restrictions on a worldwide basis for virtually all HP branded products in scope, except where it is widely recognized that there is no technically feasible alternative.

<sup>6</sup> New York, with the largest covered product scope in the US, reported 68 manufacturers registered in April of 2011.

<sup>7</sup> The WEEE Register Society listed over 1,600 registered parties as of Sept 7, 2011.

<sup>8</sup> For example, Annex 1B of the EU WEEE Directive (Directive 2002/96/EC of the European Parliament and of the Council of 27 January 2003 on waste electrical and electronic equipment) lists the following as covered in the category of "consumer equipment": radio sets; television sets; video cameras; video recorders; hi-fi recorders; musical instruments; and "other products or equipment for the purpose of recording or reproducing sound or images, including signals or other technologies for the distribution of sound and image than by telecommunications."

# Targets in US Electronics Take-back Law: challenges and recommendations



## White paper

HP has decades of recycling and compliance experience worldwide—HP launched recycling programs in 1987 and has recycled roughly two billion pounds of equipment. Based upon this experience, HP has identified some recurring challenges related to use of performance drivers (“targets”) in product take-back legislation. In particular, these challenges seem most evident with arbitrary volume targets (binding volume targets that are set at levels which are disconnected from the amount of a manufacturer’s devices that are available to that manufacturer to collect at any given time.) **This paper explores some challenges with the use of arbitrary volume targets and recommends alternatives to drive strong performance in a manner that is equitable among manufacturers and accounts for actual volumes of devices available for recycling.**

## Challenges with arbitrary volume targets

The following are examples of challenging situations or conditions that have resulted when arbitrary volume targets are employed:

- Some electronic devices such as personal computers can net a return when recycled, and therefore these devices are in demand by non-manufacturer programs that reuse or recycle them. As evidence of this, a recent study by 2CV for HP (*2011 Select and Buy Study*)<sup>1</sup> revealed that only about 16% of computers recycled by consumers in the US are submitted directly to manufacturer take-back programs. **Arbitrary volume targets measured only at a manufacturer level do not recognize the volume of equipment processed by non-manufacturer programs, and may drive manufacturers to divert material and inadvertently interrupt non-manufacturer programs without necessarily adding environmental benefit.**
- **The weight of material that manufacturers can obtain and recycle changes over time** due to many factors (product weight, longevity, reuse rates, etc). As a result, **it is very difficult to predict reasonable volume target values over time.** One problem if the target is set too high is that manufacturers may be forced to take actions to try to divert devices from consumers before the end of the product’s natural lifespan, though ultimate consumer behavior remains beyond manufacturer control. When the target is too low on the other hand, and when some manufacturers may stop paying for recycling or stop purchasing volume after meeting their target, some processors may be left with incomplete reimbursement for recycling costs.
- **Some manufacturers face an unlevel playing field relative to other manufacturers when subject to volume targets. For example:**
  - Some manufacturers are forced to subsidize the cost of devices that are much more expensive to recycle than those they put on the market. For example, during the most recent program year in MN, NY and WI, approximately 70% of the material that HP ended up having to recycle to meet required volume targets was televisions, even though HP produced *none*. HP pays a much higher rate to recycle televisions than devices HP produces (computer equipment)—in fact, HP often

receives credit or payment from recyclers for computers (which are relatively easy to process and have relatively high materials value), while HP must pay vendors for recycling televisions. As a result, HP's financial obligation for recycling is disproportionate to and disconnected from the products we sell. This outcome decouples the cost of recycling from the products a manufacturer produces and thereby diminishes design for recycling incentives.

- Rather than ensuring that targets accurately reflect the availability of devices defined as “covered devices” under a take-back law, some states have added a category of devices that are optional to collect and called them “eligible devices”. Manufacturers of covered devices may—and often must—collect *eligible* devices in order to meet targets, while the laws place no responsibility on manufacturers of eligible devices. Consequently, covered device manufacturers bear recycling responsibility—and cost—effectively subsidizing the exempt eligible device manufacturers, and the realistic target for covered devices is obscured. (Also see HP's white paper titled *A Balanced Approach to Product Scope*.<sup>ii</sup>)

## Recommendations

Given the issues that have arisen under existing US volume targets, illustrated by the examples above, HP recommends the adoption of one of the following models where jurisdictions are considering options for achieving strong performance in mandatory take-back programs.

1. **“Maine model”:** The electronics take-back model used in Maine avoids many common challenges with targets while delivering high recycling rates. There are three basic components to the operation of the Maine take-back model. First, there is one body—the state environmental agency—that solicits, approves and lists collection sites. These sites are obligated by law to send collected covered devices to consolidators, which also are approved by the state environmental agency.<sup>iii</sup> Second, after receiving the collected electronics and with manufacturer funding, the consolidators sort the devices by brand or device type. (Maine sorts by brand, but in Europe similar programs sort by covered device type—e.g. computers in one category, televisions in another<sup>iv</sup>—which has the potential to be more efficient.) Third, after segregation of devices, manufacturers must then arrange to recycle devices bearing their brand (or alternatively, their share of devices of a given type). Manufacturers can either arrange to transfer their products to the manufacturer's approved recyclers, or pay the consolidators to perform the recycling service.<sup>v</sup>

An important strength of the Maine model is that, because manufacturers must recycle their brand or type of products, the cost of recycling that each manufacturer bears is commensurate with the type, design and durability of products that they put on the market. This model maintains design-for-recycling motivation and avoids inappropriately burdening manufacturers of products that are inexpensive to recycle with the obligation of subsidizing recycling more expensive devices that may not possess the same recycling features. An arbitrary volume target is unnecessary because manufacturers must recycle whatever volume of their branded products is deposited by consumers in the approved collection network. Notably, Maine's model—which couples disposal bans and reasonably convenient consumer access to collection sites—has been effective in generating some of the highest volume results among mandated US take-back programs.

2. **“Convenience target model”:** If the Maine model is *not* used, and the jurisdiction believes a law with targets is necessary, HP recommends the use of a convenience (a.k.a. “geographic coverage”) model. Under this model, manufacturers must arrange for collection sites to be available in a certain density throughout a jurisdiction, and the sites must be operational on a published, ongoing schedule. This type of model naturally adjusts to consumer needs over time (consumers can drop off unwanted devices whenever needed), and avoids the challenges of adjusting a volume target for changes in product weight, consumer behavior, and other factors over

time. States using the convenience target model also have been effective in generating some of the highest volume results among all mandated US take-back programs.

Another benefit of the convenience target model is that it better accommodates existing, self-sustaining non-manufacturer programs (e.g., programs that collect computers or other devices with reuse or recycling value) than programs with volume targets. With volume targets imposed on manufacturers, manufacturers typically are incented to divert as much material as possible away from non-manufacturer programs and into their own programs in order to meet the targets. Some independent programs then may lose access to, or capture a much smaller volume of, devices such as computers that they might previously have obtained value from. This risk increases if the volume targets are arbitrarily set too high. Under the convenience target model, it does not matter whether consumers deposit items of value into the manufacturer network or into independent collection programs, so long as consumers have sufficient opportunities to divest unwanted devices.

Regarding establishment of the target value in the convenience model, HP recommends defining geographic coverage (convenience) on a sliding scale to calibrate to different size manufacturers or groups (consortiums). See Table 1 for an example.

**Table 1—Example\* tiers for a convenience target**

MARKET** OR RETURN SHARE (mfr or sum of all mfrs in a consortium, by weight)	STANDARD TO MEET:	
	One collection site per county with . . .	+ One collection site in XX% of remaining counties
Over 10%	25K+ people	50%
1+% to 10%	50K+ people	25%
1% or less	75K+ people***	0
* Some jurisdictions may warrant different tiers / coverage. An “over 20%” share tier might also be added for consortiums.		
** If market share is used, it is critical that the product scope include all major consumer electronic devices and not focus primarily on computers. See HP’s white paper, <i>A Balanced Approach to Product Scope</i> , for recommendations. <sup>ii</sup>		
*** Consider counting events as “sites” in the small share (1% or less) category.		

It also may be helpful to consider an example application of data in Table 1. There are 3,143 counties in the US, and 1,587 have a population of over 25,000 people. Therefore, a manufacturer or consortium with over 10% market share would need to have 2,365 collection sites (1,587 plus half of the remaining counties). This coverage, for just one consortium or manufacturer, translates into an average driving distance of about 11 miles for a consumer to reach a collection point.<sup>vi</sup> Multiple manufacturer programs likely would increase the total number of collections sites and reduce the average driving distance. Also, note that most computer manufactures offer buy-back or free mail-back programs for their products, augmenting options for consumers.

3. **“Target choice model”:** It is recognized that implementation of a take-back law adopting a convenience target model (2) may be more difficult for some manufacturers than others. For example, a small number of manufacturers have brick and mortar retail locations that serve conveniently as collection sites, while others do not. Those that do not have captive collection systems typically must partner with retailers or other collectors, or join consortiums that have collection capability. If there is significant concern among stakeholders in a jurisdiction, then **consider employing a “target choice model” that would:**
- a. define both a volume and convenience (geographic coverage) target, and**
  - b. allow each manufacturer to choose which target to meet.**

Such flexibility afforded to manufacturers with different infrastructure and preferences related to delivering take-back services may be viewed as more equitable than a one-size-fits-all target. Unfortunately, this “target choice model” would retain the challenges associated with setting and

managing a volume target for manufacturers that choose that program option, and for this reason it is not HP's first recommendation.

## Concluding remarks

Imposing targets on manufacturers for take-back of electronics presents challenges. Where jurisdictions are considering options to drive performance in mandatory programs, HP has recommendations based on extensive experience managing take-back programs world-wide. In particular, adopting the "Maine model"—where manufacturers must arrange to recycle any quantity of their brand of devices (or category of devices) received and consolidated in a shared collection infrastructure—avoids many of the challenges and couples manufacturer recycling costs with the type of devices they produce. If the Maine model is not used, then HP suggests use of a "convenience target model" (geographic coverage) because—similar to Maine's model—it naturally adjusts to real consumer recycling volume needs, avoiding the challenges of adjusting a volume target for changes in product weight, consumer behavior, and other factors over time. The convenience target model also accommodates independent programs, and has shown strong results in states that have employed it. Lastly, jurisdictions may wish to consider providing manufacturers with a choice of meeting *either* a volume or a geographic coverage target ("target choice model"). Outside of the "target choice model", HP urges against imposition of an arbitrary volume mandate—the volume target is unlikely to match real consumer demand over time, even with intensive oversight, resulting in ongoing dissatisfaction among many stakeholders.

### **HP also recommends that where electronics take-back mandates are deemed necessary, legislators and regulators address the following:**

- Facilitate evaluation of the total performance of electronics take-back activity by requiring all electronics collectors in the jurisdiction to report their collection data, regardless of whether they are working with a manufacturer. In this manner, non-manufacturer programs that choose to capture devices with value (such as many computers) and operate independently will be recognized.
- Consider instituting landfill bans to help drive covered devices into the take-back program.
- Require that recycling facilities used in hardware take-back programs be certified under the eSteward or R2 standard at a minimum.<sup>vii</sup>

To discuss implementation of concepts in this document, contact your HP government affairs or compliance representative. If you do not have an HP representative, send an inquiry to [AmericasEnvironmental@hp.com](mailto:AmericasEnvironmental@hp.com) with the subject "discuss US take-back targets". Thank you for your interest in HP's recommendations.

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<sup>i</sup> HP retained consultant 2CV in 2011 to study key customer choice criteria and behaviors when purchasing new computer products. In the personal computer case, 2,289 customers responded to multiple choice questions including: "After purchasing your new product, what did you do with your old product?" Those who selected "recycled" were further asked to specify the channel, and 16% selected "mfr program". Alternatives that the customer could select included storage, continued use, donation, sales, disposal and recycling options.

<sup>ii</sup> Legislators or regulators may request a copy of HP's white paper on product scope by sending a request to [AmericasEnvironmental@hp.com](mailto:AmericasEnvironmental@hp.com).

<sup>iii</sup> Alternatively, such entities could be reviewed and approved by a private party or board of manufacturers and government representatives.

<sup>iv</sup> See European Union electronics waste categories 3 and 4 at <http://www.weeeregistration.com/categories-of-electrical-and-electronic-equipment-covered-by-WEEE-directive.html>.

<sup>v</sup> Maine also has a process for managing "orphans" (covered devices that cannot be tied to a manufacturer that has registered to participate in Maine's program). These devices represent a small portion of the total volume of material managed in Maine's program. Registered manufacturers are responsible for recycling a "return share" of the orphan material. (Return share for brand-A = the weight of brand-A devices divided by the total weight of all devices of registered-brands collected in a given time period).

<sup>vi</sup> Estimation: 2,365 collection sites divided by the area of the US (3.79M mi<sup>2</sup>) equals one collection site per 1,600 square miles. A circle with this area would have a radius of 22.6 miles. Assuming a collection center located centrally in the area, and consumers located on average about midway between the collection center and border, consumers would be approximately 11.3 miles from the collection center on average.

<sup>vii</sup> Recycling standard and certification websites—eSteward: <http://e-stewards.org/certification-overview/>; R2: <http://www.r2solutions.org/>.

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