



# OHIO FOOD SCRAPS RECOVERY INITIATIVE

**NEWMOA**

**November 30, 2010**

**Webinar**

**Angel Arroyo-Rodríguez, RS, AICP**



**Environmental  
Protection Agency**

Division of Solid and  
Infectious Waste Management



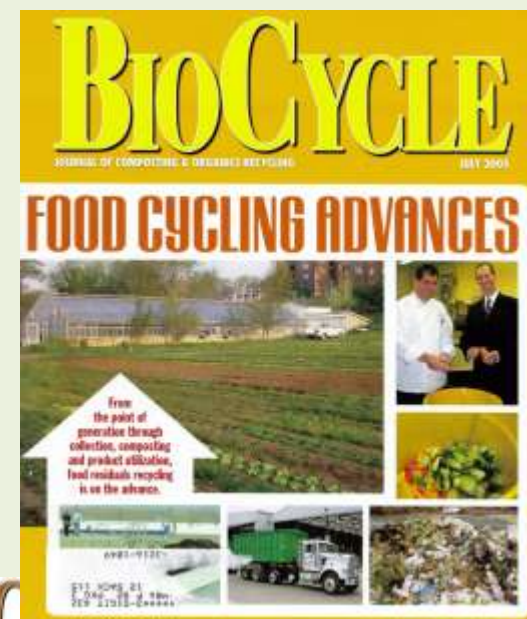
# Objectives

- Reasoning for the Initiative
- Getting stakeholders involved
- Progress and achievements since 2007
- Next steps



# Reasoning

- 2006 Grants
  - ODNR, Market Development Grant, \$250,000, grinder with radial stacking conveyor and site preparation
  - USEPA Special Assistance Grant, \$15,000, materials resource and processing capability study in northwest Ohio





# Agency Partnership

- OhioEPA
  - Division of Solid & Infectious Waste Management
  - Office of Compliance Assistance & Pollution Prevention
- ODNR
  - Division of Recycling & Litter Prevention





# Goal & Strategies

- Increase food scraps & organics diversion by:
  - Providing education
  - Identifying funding
  - Facilitating partnerships
  - Increasing infrastructure
  - Initiating regional projects



# Statewide Stakeholder Meetings

- September 2007
  - Generators, farmers, composters, haulers, Solid Waste Districts, academia, regulatory partners and others
- March 2008
  - Haulers (large and small)
- June 2008
  - Composters (commercial and institutional)
- November 2010
  - Generators, farmers, composters, haulers, Solid Waste Districts, academia, regulatory partners and others



# 1<sup>st</sup> Stakeholders Meeting September 2007

## Pre-meeting Preparation

- Developed website
- Guidance documents
  - Benefits food scraps diversion
  - Food composting regulations
- Catalogued available resources
- Identified stakeholders
- Direct contact with **all** stakeholders

## Stakeholders

- Compost facility operators
- Anaerobic digester developers
- Dept of Agriculture (CAFO permitting & Animal Industries)
- USEPA Region 5
- Ohio Grocers Association
- Livestock farmers
- Food banks
- WWTP operators
- Biocycle
- Universities
- Zoos





# Meeting Agenda

## Food Scraps Recovery Stakeholders Meeting

Ohio EPA, 50 W. Town Street

Columbus, Ohio

Center for Excellence

September 19, 2007

9:00 a.m. – 9:15 a.m.  
Welcome

Chris Korleski, Director  
Ohio EPA

9:15 a.m. – 10:30 a.m.  
Ohio's Food  
Scraps Initiative

Angel Arroyo, Ohio EPA

National Food  
Scraps Initiative

Chris Newman, U.S. EPA

Ohio Grocers Food  
Scraps Initiative

Tonya Woodruff,  
Ohio Grocers Foundation

10:30 a.m. – 10:45 a.m.  
Break

10:45 a.m. – 12:00 p.m.  
Roundtable Discussion

12:00 p.m. – 1:00 p.m.  
Lunch (on your own)

1:00 p.m. – 2:30 p.m.  
Rt. 250 Corridor (Sandusky)  
Food Scraps Composting Project

Sharon Barnes,  
Barnes Nursery

Columbus Area Food  
Waste-to-Energy Project

Tom Kurtz,  
Kurtz Bros.

Current Research for  
Food Scraps Recovery

Rick Mazur, Center for  
Innovative Food Technology

Funding Opportunities for  
Food Scraps Recovery

Chet Chaney, Ohio  
Department of Natural Resources

2:30 p.m. – 2:45 p.m.  
Break

2:45 p.m. – 3:45 p.m.  
Roundtable Discussion

3:45 p.m. – 4:00 p.m.  
Next Steps



*This stakeholders meeting is designed to explore opportunities for the recovery of food scraps generated at businesses throughout Ohio.*

*The presentations will introduce ideas essential to food scraps recovery and be followed by open discussion.*

*The exchange of ideas will provide useful information, such as barriers, that will assist stakeholders in developing successful projects.*





# Roundtable Questions

## Morning Session

- “To what extent has your company or facility looked at food scraps diversion?”
- “What are the benefits of recovering foods scraps for your industry?”

## Afternoon Session

- “What would prevent you and/or Ohio from effectively diverting food scraps?”
- “What are the next steps for promoting food scraps diversion?”
- “What role should Ohio EPA and ODNR have?”



# September 2007 Meeting Outcome

## Main Barriers

- Not enough facilities (high transportation cost)
- Lack of a hauling infrastructure
- Operational concerns (generator & facility)
- Lack of adequate equipment / technology
- Deficient / disjointed regulations

## Suggested Next Steps

- More partnerships
- Promote projects, capitalize on successes
- Training & educational resources
- Both regional & decentralized projects
- Update regulations
- All technologies & options

**Food Scraps Recovery Initiative: 2020 Vision  
Stakeholders Meeting  
November 16, 2010  
The Columbus Zoo & Aquarium • Powell, OH**

- 8:30 a.m. Registration & Networking
- 9:00 a.m. **Welcome**  
The Columbus Zoo & Aquarium  
Chris Korleski, Director, Ohio EPA  
Sean Logan, Director, Ohio DNR
- 9:30 a.m. **Food Scraps Diversion on the National Stage**  
National Trends, *Nora Goldstein*, BioCycle  
U.S. EPA Initiatives, *Chris Newman*, U.S. EPA  
Industry Trends, *John Connolly*,  
JF Connolly & Associates
- 10:10 a.m. **Ohio: What's New Since 2007?**  
Review of new facilities, mapping capabilities,  
generators and transporter trends, regulatory  
changes and available grants
- 10:40 a.m. **Break & Networking**
- 11:00 a.m. **Featured Projects Lightning Round**  
Examples of organics diversion in the  
hospitality, residential, retail, grocery,  
institutional and event venue sectors
- 11:45 a.m. **Lunch & Networking**  
*Lunch provided*
- 12:30 p.m. **Increasing Diversion**  
The Ohio Food Scraps Recovery Network  
*Terrie TerMeer*, ODNR & *Tonya Woodruff*, OGF
- 2:00 p.m. **Roundtable Discussion**  
What's holding us back?  
2020 Vision
- 2:30 p.m. **Next Steps**
- 3:00 p.m. **Adjourn**



*Envision the Future*

*Identify Trends*

*Explore Opportunities*

*Exchange Ideas*

*Diversion Goals*

*Form Partnerships*

*Lead the Way*



*Envision the Future*

*Identify Trends*

*Explore Opportunities*

*Exchange Ideas*

*Diversion Goals*

*Form Partnerships*

*Lead the Way*

# Ohio: What's New Since 2007?

Food Scraps Recovery Initiative:  
*2020 Vision*

Stakeholders Meeting  
November 16, 2010



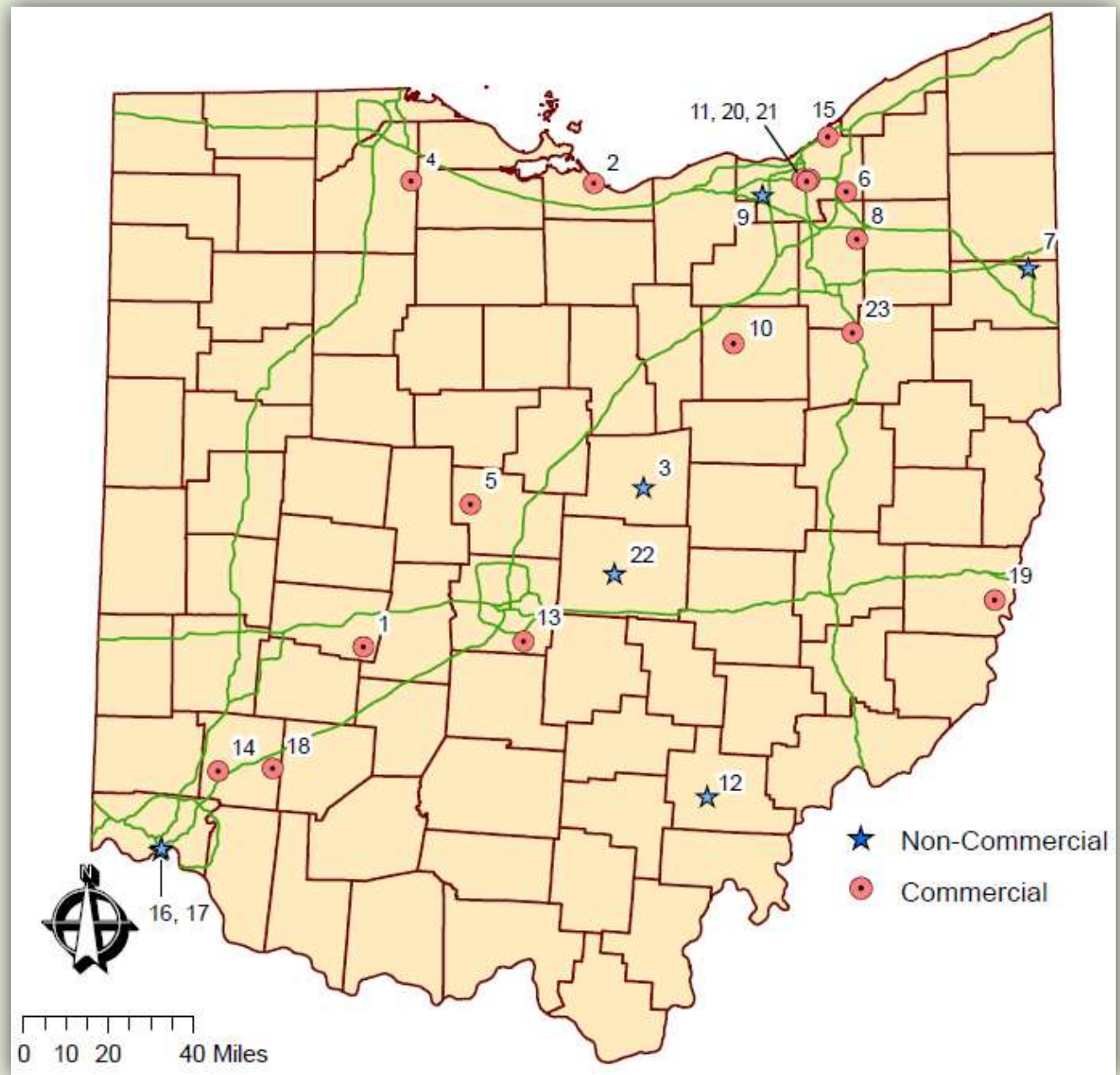
## Class II Composting Facilities

**5 in 2007**

(2 non-commercial)

**23 in 2010!!**

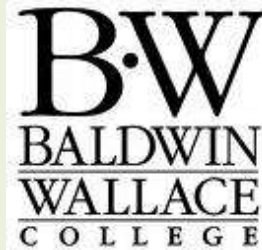
(7 non-commercial)







# Non-commercial



Kenyon College



DENISON







# Commercial

- 3 pre-2007
- 1 non-commercial to commercial
- 3 new
- 9 upgraded to class II



# Commercial Composting Facilities





**Akron WWTP**

**OSU-OARDC**

**Columbus**

**Zanesville**





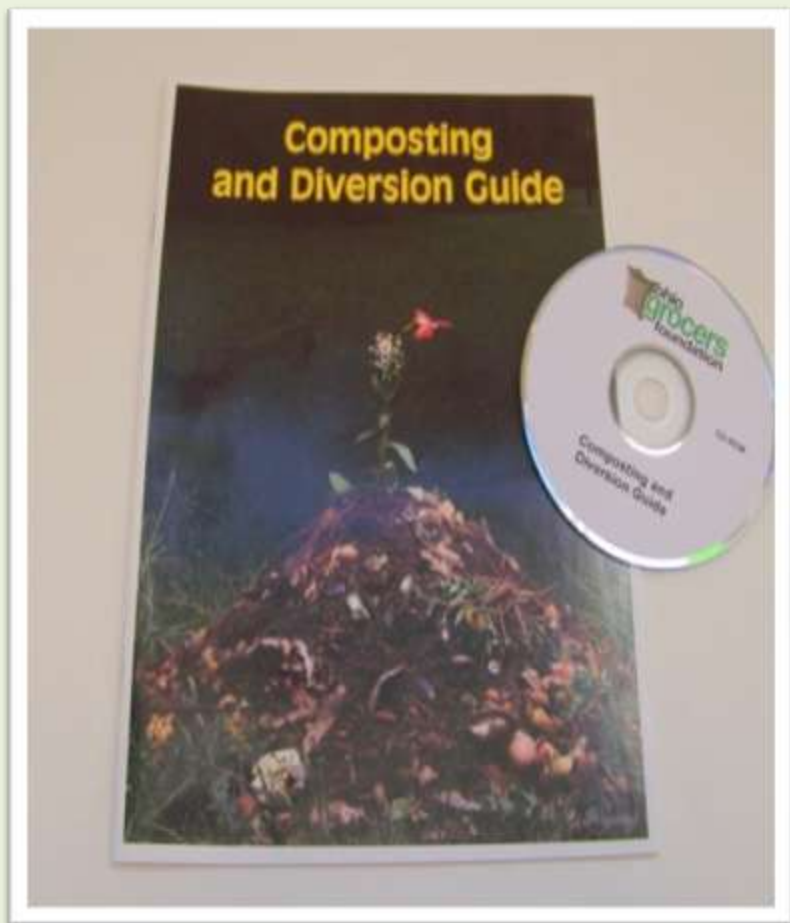
**“Dry Batch”  
Anaerobic  
Digestion  
  
&  
  
Aerobic  
Composting**







# Partnerships: Grocery Composting Pilot Project





# Partnerships: Regional Stakeholder Meetings & Projects

- Spring 2008
  - Cincinnati area, SWMD meetings
  - 2 facilities added
- Winter 2009
  - Central Ohio Task Force / MORPC
  - 1 facility added
  - Hyatt Capitol, Eartha Ltd, other developing interests
- Spring 2009
  - Cleveland Green Venues Project







**2006**

Food vendors

**2007-2010**

Food vendors  
&  
patrons





# Resources & Training

Food Scrap Management - Windows Internet Explorer

http://www.epa.state.oh.us/ocapp/food\_scrap/food\_scrap.aspx

File Edit View Favorites Tools Help

Food Scrap Management

Office of Compliance Assistance and Pollution Prevention Food Scrap Management

<b>Topic Links</b> <ul style="list-style-type: none"><li>Donations</li><li>Pollution Prevention</li><li>Funding</li><li>Links</li><li>Home Composting</li><li>Stakeholders Meeting</li><li>Presentations</li><li>Regulations</li><li>Technology</li><li>Composting Facility Map</li><li>Food Scrap Home</li></ul>	<b>Food Scrap Management</b> <p>Did you know that each American throws away an average of 1.3 pounds of food scraps every day? Each year, residents in Ohio generate enough food scraps to pile on a football field over a half mile high! Food scrap waste generated by all households in the United States could be piled on a football field more than 16 miles high.</p> <p>The top two portions of the U.S. waste stream (paper and yard waste) have been successfully diverted from landfills through recycling and composting efforts, with recovery rates of 50 percent and 62 percent, respectively. Paving the way in comparison, the food scrap recovery rate is less than three percent.</p> <p>Across the nation states are exploring ways to reduce pollution and encourage alternative methods of waste management such as recycling. Although some food</p>	<b>OCAPP Hotline</b> (800) 323-7518 Weekdays 8 AM - 5 PM
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**U.S. Waste Generation by Category**

Category	Percentage
Plastics	11.3%
Wood	5.8%
Rubber, leather and textiles	7.4%

Office Links

- Office Services
- Office Forms and Publications
- P2/Sustainability
- Recycling
- Training and News
- E-mail List
- Newsletter
- Office Topic List
- Office Web Site Redesign
- Office Contacts

**BEST MANAGEMENT PRACTICES (BMPs)**  
**FOR INCORPORATING FOOD RESIDUALS INTO EXISTING**  
**YARD WASTE COMPOSTING OPERATIONS**

**THE U.S. COMPOSTING COUNCIL**  
RONKONKOMA, NEW YORK, USA

**Ohio Compost Facility**  
**Training Manual**

Prepared by:

And

Funded by:

December 2007

The Ohio Compost Association  
Invites You to

**Create a Diversion!**

**Food Scraps Composting**  
**Conference**

**The Ramada Plaza Hotel and**  
**Conference Center**  
**Columbus, Ohio**  
**Friday, June 27, 2008**





# Regulatory Changes & Assistance

**OCAPP**  
Ohio's Cooperative Agricultural Waste Prevention Program

August 2009

**Fact Sheet**

## Regulations for Community and Commercial Food Scrap Composting Facilities

All nearly 60 million tons, food scraps are the third largest segment of waste generated each year. Unfortunately, less than three percent of this waste is diverted from landfill to more environmentally friendly disposal options such as composting. Food scraps include leftover portions of meals (post-consumer food scraps) and trimmings from food preparation activities (pre-consumer food scraps).

Diverting this material from landfill creates environmental and financial benefits. Successful composting projects may also help educate the community and encourage waste reduction.

To ensure that operations do not cause pollution or create a public health problem, composting facilities must comply with state regulations. This document provides an overview of Ohio's regulations for composting food scraps.

### Composting Facility Classification

Ohio EPA categorizes composting facilities into four classes based on the type of material the facility can accept.

Class II facilities are eligible to receive and process food scraps from external sources. Class II facilities may also accept yard and animal waste.

The remaining classes, as well as some examples of materials they can accept, are:

- Class I – all municipal solid waste
- Class III – yard waste and animal waste
- Class IV – yard waste only

### Establishing a Class II Composting Facility

The three steps needed to establish a Class II composting facility are registration, license and financial assurance.

#### Registration

Composting facilities must register with Ohio EPA at least 30 days before the business plans to start composting. Ohio EPA registration requires the completion of a form that includes facility location and general contact information, planned operation and processing information, a draft of the intended financial assurance instrument, and a statement certifying compliance with the established siting criteria. The registration form must be accompanied by a detailed plan view drawing. There is no fee for registration. Copies of the registration form are available online at [www.epa.ohio.gov/portals/34/documents/guidance/regt\\_481.pdf](http://www.epa.ohio.gov/portals/34/documents/guidance/regt_481.pdf).

#### License

Composting facilities must submit a solid waste license application to Ohio EPA or the local health department at least 30 days before the business plans to start composting. Local health departments often administer Ohio EPA's solid waste regulations and are the licensing authority.



Composting of yard waste and pre-consumer food scraps

Office of Compliance Assistance & Pollution Prevention, 50 W. Town St., Suite 100, Columbus, Ohio 43215 (603) 329-7761  
[www.epa.ohio.gov/ocapp](http://www.epa.ohio.gov/ocapp)

- Sewage Sludge Rules
  - Will allow adding food scraps
- Composting Rules
  - Less requirements for on-site
- Coordination ODA-CAFO rules
- Developing waste-to-energy rules & policies
- Legislation
  - No fees for all organics diverted



# Generators: Commercial Sector

- Up to 70% organics!
  - Grocery stores
  - Hotels
  - Restaurants
  - Hospitals
  - Government agencies
  - Zoos
  - Schools
  - Arenas
  - and so on...





# Generators: Residential



- City of Huron
- Village of Luckey
- Dayton & Montgomery County



# Transportation Trends

- National Hauling Companies
- “Niche” haulers
- Compost/AD facilities combined service







# ODNR Market Development Grants

## 2007

- Quasar, \$250K, AD's combined heat & power unit & control panels
- Ohio University, \$250K + \$50K College & University Grant, in-vessel composting
- Youngstown SU, \$4,200, College & University Grant, expand composting storage area

## 2008

- Sagamore, \$250K composting equipment
- Paygro, \$245K, collection truck
- NAT Transportation \$250K, AD, Returned



# ODNR Market Development Grants

## 2009

- Fultz & Sons, \$134,147, truck for residential food waste collection
- Sherrington Foods / “Marvin’s Organic Gardens”, \$250K, equipment

## 2010

- Waste Management (Cuyahoga Landfill), \$76,500 conveying system, skid-steer composting facility
- Rosby Resource Recycling, \$250K, windrow turner

Rules and Laws  
Pollution Prevention  
Funding Sources  
Publications  
Public Records  
Public Participation  
Resources for Citizens  
Jobs  
Ohio EPA Home

### Learn More About...

2011 Ohio Brownfield  
Conference  
Fish Consumption Advisory  
Stimulus Projects  
Great Lakes Restoration  
Initiative  
Climate Change  
ToxMinus  
E-Check  
High-Interest Sites

## MAPPING SOURCES AND SOLUTIONS FOR FOOD SCRAPS

Ohio EPA, in collaboration with ODNR and U.S. EPA Region 5, has been working with stakeholders to develop and implement food scraps recovery projects. In many cases, communities and businesses have launched food scraps recovery programs on their own. Since 2009, City of Huron (Erie County), Village of Luckey (Wood County), Fairborn (Greene County), West Milton (Miami County), and Miami Township (Montgomery County) residents have been offered food scraps collection along with their yard waste collection. The Kroger Company has diverted more the 3,500 tons from Ohio landfills and this material has been converted into a nutrient-rich resource. Cleveland venues including Browns Stadium, Cleveland Metroparks Zoo, Progressive Field, and Quicken Loans Arena began collecting and sending food scraps to area composting facilities. Colleges, universities, and other organizations continue to compost on site, when available as an option. Oftentimes, interested communities and businesses are unaware of opportunities and resources available to begin recovering food scraps.

Ohio EPA and U.S. EPA Region 5 have developed a map to offer a visual display of opportunities to the many communities, businesses, and other organizations that are interested in recovery food scraps. Since the launch of Ohio's Food Scraps Recovery Initiative in 2007, the infrastructure of composting and anaerobic digestion facilities has developed considerably and offers most regions of the state an alternative solution to landfills. The map includes the location of all licensed composting facilities authorized to accept food scraps and rings to display varying distances that may affect the economic feasibility of a program. Supermarket locations for various grocers illustrate the opportunities that exist in just this industry alone. The map also includes supermarkets currently participating in food scraps recovery programs.

This map is intended to assist communities and businesses in identifying opportunities to recover food scraps by displaying local solutions and existing programs. Communities and businesses that are participating in food scraps recovery programs and want to be included in this map are encouraged to forward their information to [angel.arroyo@epa.ohio.gov](mailto:angel.arroyo@epa.ohio.gov). For more information about food scraps recovery, please contact the Division of Solid and Infectious Waste Management at 614.644.2621.

Check out the following features:

- Food Scraps Composting and Anaerobic Digestion Facilities
- Distances from your location
- Driving directions from your location
- Existing Food Scraps Recovery Programs
- Local Food Banks

Right click [HERE](#) or on the image to download the ".kml" file (right click and save the link) and view the Map in Google Earth.

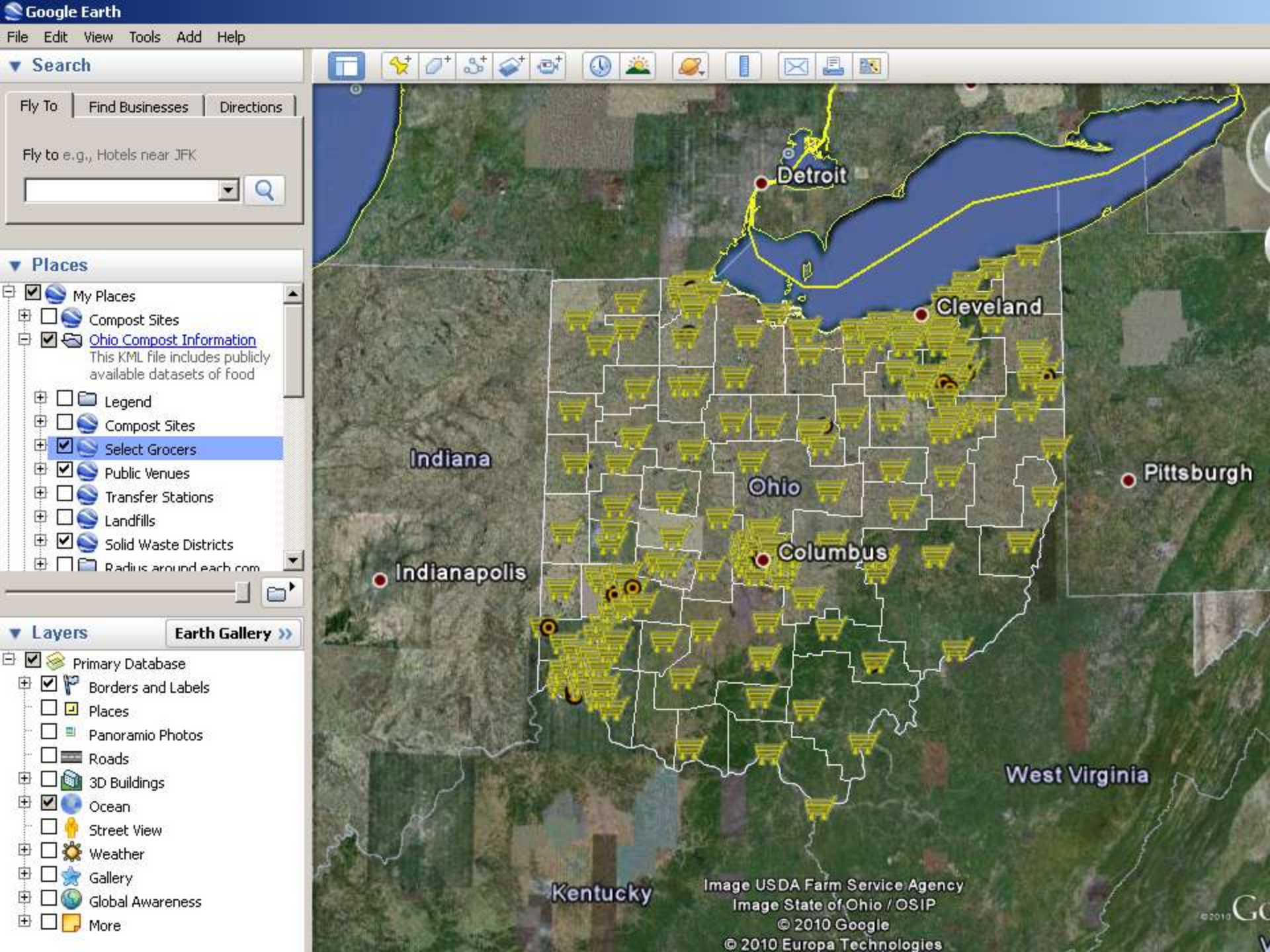
If you don't have Google Earth installed on your computer, you



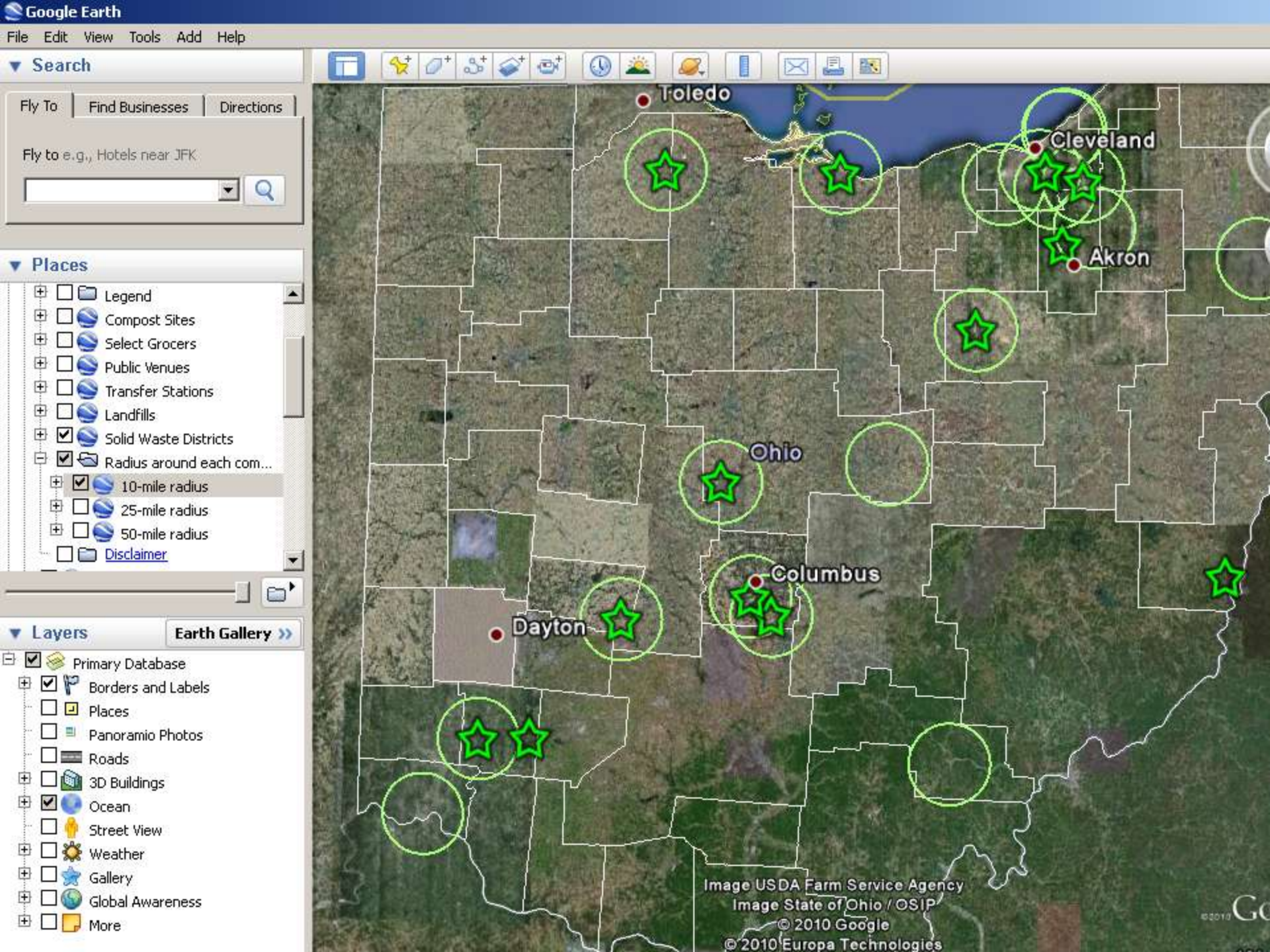
Ohio Awards  
for  
Outstanding  
Achievement  
in  
Environmental  
Stewardship

Mercury  
Reduction









Search

Fly To Find Businesses Directions

Fly to e.g., Hotels near JFK

Places

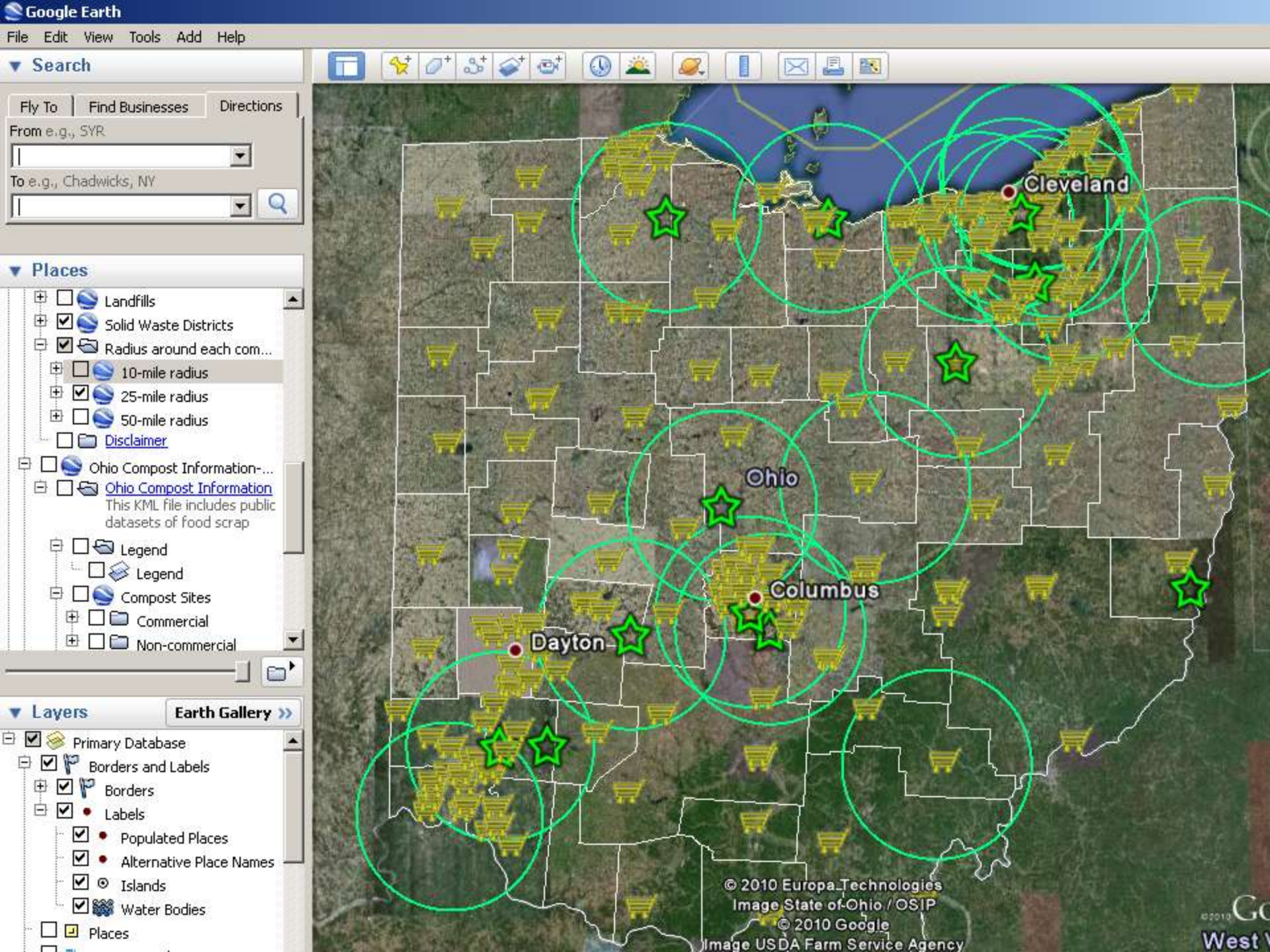
- ☐ Legend
- ☐ Compost Sites
- ☐ Select Grocers
- ☐ Public Venues
- ☐ Transfer Stations
- ☐ Landfills
- ☒ Solid Waste Districts
- ☒ Radius around each com...
- ☒ 10-mile radius
- ☐ 25-mile radius
- ☐ 50-mile radius
- [Disclaimer](#)

Layers

Earth Gallery >>

- ☒ Primary Database
- ☒ Borders and Labels
- ☐ Places
- ☐ Panoramio Photos
- ☐ Roads
- ☐ 3D Buildings
- ☒ Ocean
- ☐ Street View
- ☐ Weather
- ☐ Gallery
- ☐ Global Awareness
- ☐ More







## Search

Fly To Find Businesses Directions

From e.g., SYR

To e.g., Chadwicks, NY

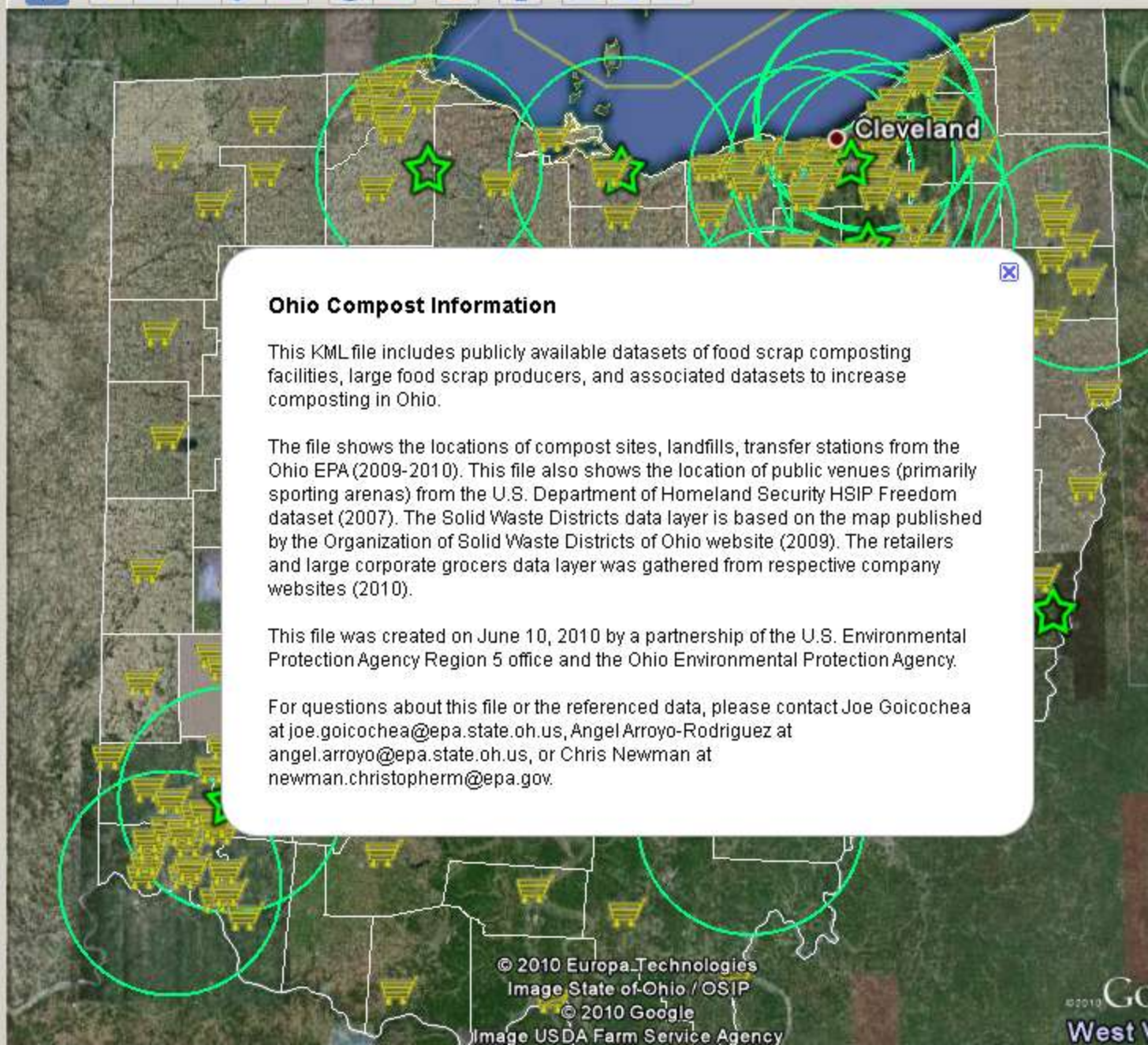
## Places

- ☒ ☒ ☒ [Quasar Energy Group](#)
- ☒ ☒ [Quasar Energy Group](#)
- ☒ ☒ [River Valley Compost](#)
- ☐ ☐ Non-Commercial
- ☒ ☒ [Ohio Compost Information](#)  
This KML file includes publicly available datasets of food
- ☐ ☐ Legend
- ☐ ☐ Compost Sites
- ☒ ☒ Select Grocers
  - ☒ ☒ Walmarks & Sam's Clubs
  - ☒ ☒ Costco, Kmart, Target...
- ☐ ☐ Public Venues
- ☐ ☐ Transfer Stations
- ☐ ☐ Landfills
- ☒ ☒ Solid Waste Districts

## Layers

Earth Gallery >>

- ☒ ☒ Primary Database
- ☒ ☒ Borders and Labels
  - ☒ ☒ Borders
  - ☒ ☒ Labels
    - ☒ ☒ Populated Places
    - ☒ ☒ Alternative Place Names
    - ☒ ☒ Islands
    - ☒ ☒ Water Bodies
- ☐ ☐ Places



### Ohio Compost Information

This KML file includes publicly available datasets of food scrap composting facilities, large food scrap producers, and associated datasets to increase composting in Ohio.

The file shows the locations of compost sites, landfills, transfer stations from the Ohio EPA (2009-2010). This file also shows the location of public venues (primarily sporting arenas) from the U.S. Department of Homeland Security HSIP Freedom dataset (2007). The Solid Waste Districts data layer is based on the map published by the Organization of Solid Waste Districts of Ohio website (2009). The retailers and large corporate grocers data layer was gathered from respective company websites (2010).

This file was created on June 10, 2010 by a partnership of the U.S. Environmental Protection Agency Region 5 office and the Ohio Environmental Protection Agency.

For questions about this file or the referenced data, please contact Joe Goicochea at [joe.goicochea@epa.state.oh.us](mailto:joe.goicochea@epa.state.oh.us), Angel Arroyo-Rodriguez at [angel.arroyo@epa.state.oh.us](mailto:angel.arroyo@epa.state.oh.us), or Chris Newman at [newman.christopherm@epa.gov](mailto:newman.christopherm@epa.gov).

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Image State of Ohio / OSIP

© 2010 Google  
Image USDA Farm Service Agency

© 2010  
Go  
West V





# **Food Waste Composting: Downtown Cleveland & University Circle efforts and backyard composting**

## **(Downtown) Clev Composting Timeline**

- **4/30/09:** NEO Compost Summit at E4S ([www.e4s.org](http://www.e4s.org))
- **7/30:** FCE internal meetings with restaurant tenants
- **9-10/09:** Pilot planning meetings
- **11 – 12/09:** Pilot program
- **12/9/09:** Composting company presentations to pilot participants
- **1/11/10:** RFP released
- **4/10/10:** Browns, Progressive Field, Q, Forest City, others Composting on permanent basis!





## Pilot Participants

- Tower City Center (7 tenants)
- Quicken Loans Arena
- GSA (Courthouse Cafe)
- Constantino's Market
- Great Lakes Brewing Company
- URS
- Flannery's
- Cleveland Metroparks Zoo

**Composting everything  
but plastic, glass, metal**





# University Circle composting efforts

- **Cleveland Clinic Foundation (CCF):**
  - Largest employer in Ohio
  - 3,000 lbs./week to a class II facility & growing...
- **University Hospitals (UH)**
  - 3,192 lbs./week to Rosby
- **Cleveland Botanical Garden** worked with OH EPA to make sites compliant



# Composting at Work



Cleveland State University  
*engaged learning*

NASA Glenn



University Hospitals

FEDERAL RESERVE BANK of CLEVELAND




Cleveland Clinic





**Recycle and Compost at Work:**  
[www.zerowasteneo.org](http://www.zerowasteneo.org)





# Roundtable

## “What’s Holding Us Back?”

Questions	General Responses
<ul style="list-style-type: none"><li>• Categorize barriers as:<ul style="list-style-type: none"><li><b>No longer a barrier</b></li><li><b>Significant progress, but there’s work to be done</b></li><li><b>No progress made and still a barrier</b></li></ul></li><li>• If still a barrier<ul style="list-style-type: none"><li><b>What needs to happen to eliminate barrier?</b></li><li><b>Potential solutions?</b></li><li><b>Who should lead the way in implementing solutions?</b></li></ul></li></ul>	<ul style="list-style-type: none"><li>• Disposal infrastructure becoming less of a barrier</li><li>• Regulations not a barrier for most part</li><li>• Transportation still main barrier</li><li>• Education efforts crucial to overcome barriers</li></ul>





# Roundtable “2020 Vision”

## Questions

- What achievable goals should Ohio aim to attain in the next 10 years? (What will be our vision for 2020?)
- What achievable goals should **your industry or sector** aim to attain in the next 10 years? (What will be **your** vision for 2020?)

## General Responses

- Ban organics from landfills
- 100% diversion by hotels and grocers
- More energy recovery
- Increase on both regional and local solutions



# Next Steps

- Develop an organics diversion goals and strategy guidance for Ohio
- Annual stakeholders meeting
- Educational opportunities (webinars)
- More stakeholder engagement opportunities



# Diversion Rates

- 2006 – 2009: 225% increase
- 2008 – 2009: 25% increase

Year	Food Scraps	
	cu. yds.	Tons
2005	44,665	14888
2006	35,149	11716
2007	58,847	19616
2008	68,017	22672
2009	90,572	30191



**Contact us**

# THANKS!

**[www.epa.ohio.gov/dsiwm](http://www.epa.ohio.gov/dsiwm)**

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