

DEVELOPING AN ENVIRONMENTAL HEALTH DATABASE COMMUNITY HEALTH PORTAL

Combining the EPA's Toxic Release
Inventory with county, state and
other federal data sources.

Presented by:

Anne Helms

Mercyhurst Institute
for Public Health

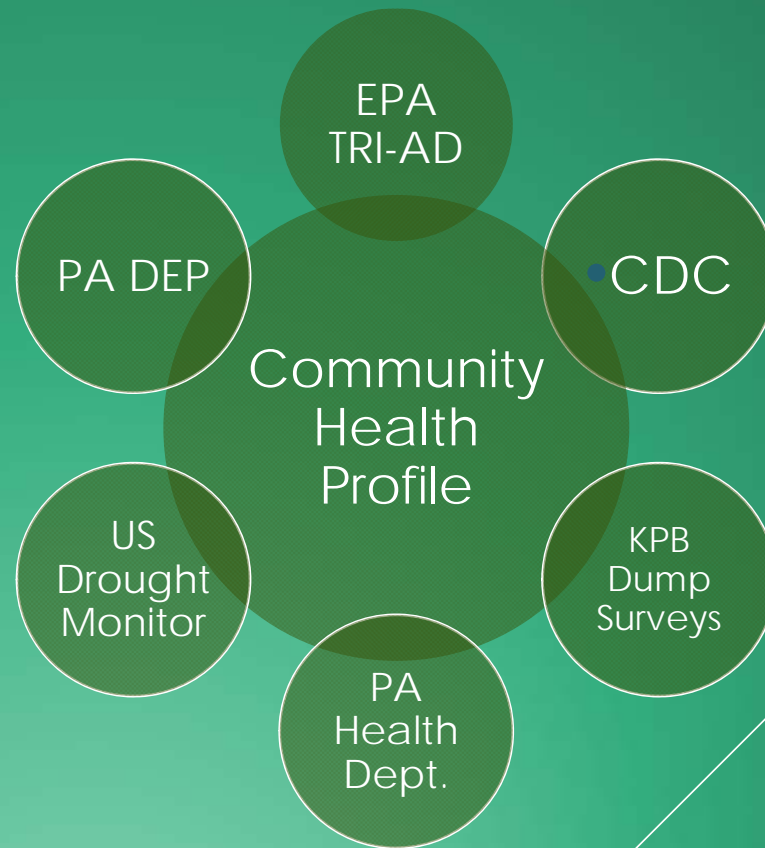
MERCYHURST UNIVERSITY INSTITUTE FOR PUBLIC HEALTH

We are leading the way in the Erie Area for Environmental Research and committed to providing solutions for the community to achieve a more sustainable future for Erie City and the county.



SUMMARY

Mercyhurst University is participating in the EPA's **TRI University Challenge** to help develop an accessible information platform for stakeholders in the community that advances both the educational mission of the TRI and brings multiple data points from other federal and state sources together into one portal



MAIN PURPOSE: SYNTHESIZE IMPORTANT ENVIRONMENTAL HEALTH INDICATORS FOR THE GREATER COMMUNITY

Learn the Issues Science & Technology Laws & Regulations About EPA Search EPA.gov

Impaired Waters and TMDLs

You are here: EPA Home > Impaired Waters and TMDLs > Impaired Waters and TMDLs in Region 3

Impaired Waters and TMDLs in Region 3

Learn About the 303(d) Program Program Vision Impaired Waters and TMDLs Throughout the U.S. Technical Tools and Resources

KEEP PENNSYLVANIA Beautiful
Empowering Pennsylvanians to make our communities clean and Beautiful

ABOUT US & AFFILIATES CALENDAR OF EVENTS BECOME A MEMBER COUNCIL & PARTNERS GRANTS & AWARDS ILLLEGAL DUMP SURVEYS ILLLEGAL DUMP FAQ REPORT LITTER AND DUMPING THE BEAUTIFUL SHOP NEWSROOM CONTACT US FOLLOW US

United States Drought Monitor

Home Maps And Data Supplemental Info About USDM USDM News

U.S. Drought Monitor Northeast

March 29, 2016 (Released Thursday March 31, 2016) Valid 8 a.m. EDT

Statistics type: Traditional Percent Area Exportable

Week	None	D0-D4	D1-D4	D2-D4	D3-D4
Current 2016-03-29	94.29	5.71	0.00	0.00	0.00
Last Week 2016-03-22	96.00	4.00	0.00	0.00	0.00
3 Months Ago 2015-12-28	62.10	37.90	6.60	0.00	0.00
Start of Calendar Year 2015-12-29	62.10	37.90	6.60	0.00	0.00
Start of Water Year 2015-09-29	42.41	57.59	9.00	0.00	0.00
One Year Ago 2015-03-31	54.55	45.45	0.00	0.00	0.00

Estimated Population in Drought Areas: 0 View More Statistics

Intensity:

pennsylvania HEALTH STATISTICS A DIVISION OF THE PENNSYLVANIA DEPARTMENT OF HEALTH

TOM WOLF, GOVERNOR | DR. KAREN MURPHY, SECRETARY

Health Statistics Home > Health Statistics A to Z > Asthma - Health Statistics

HEALTH STATISTICS A TO Z
ASTHMA

ABCDEF GHIJ KLMN O

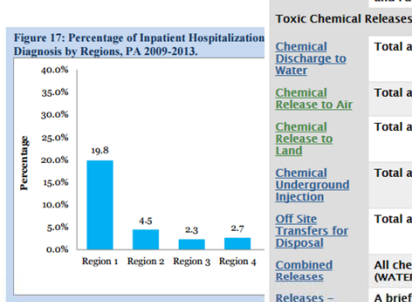


Table 6: Total Number of Inpatient Hospitalization Diagnosis by Regions, PA 2009-2013.

Regions	2009		2010	
	2009	2010	2009	2010
Region 1	4,848	4,574		
Region 2	1,196	1,026	893	757
Region 3	576	496	479	443
Region 4	671	538	575	542
Region 5	1,794	1,366	1,487	1,409
Region 6	1,363	1,129	1,104	948
Region 7	1,980	1,774	1,870	1,711
Region 8	3,817	3,187	3,194	2,932
Region 9	8,213	6,971	7,458	7,170
Total	24,458	21,061	21,410	19,639

Data Source: Pennsylvania Health Care Cost Containment Council (PHCC)

TRI EZ Search Form

STEP 3: Enter Search Criteria and Organize the Output

Data Element Search Tool will provide you information on database data element (column), tables and subject areas that are used in the search.

STEP 1: Select a Subject Area to Focus your Search

Facility Information
Address and other location information about the facility.

Submissions
Toxic Chemical Release Inventory Reporting Form and Facility Information

Chemical Releases to the Environment
Total annual toxic chemical release to each receive
Total annual toxic chemical air emissions.
Total annual toxic chemical release to land.
Total annual toxic chemical amount injected into
Total annual toxic chemical amount transferred to
All chemical releases for a facility. Categorized by (WATER, LAND, etc.).
A brief view of release information for a facility.
An extended view of release information for a facility.
A complete view of release information for a facility.

Cleanups In My Community List Results

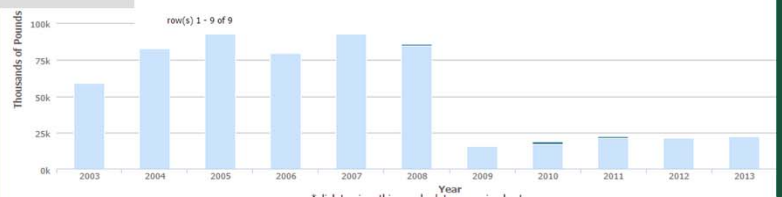
This is a list of only the sites, properties and facilities which reside within the boundaries of the geographic area you have specified and which meet the criteria you have specified.

*Click on the column header to sort in ascending or descending order.
*To directly view any profiles and reports available for a cleanup, click on the associated report(s) found in the "Reports Available" column.
*To see a map on a cleanup, click on the "Map It" link found in the "Map Site" column.
Click Here to Redefine Search Criteria

Results List

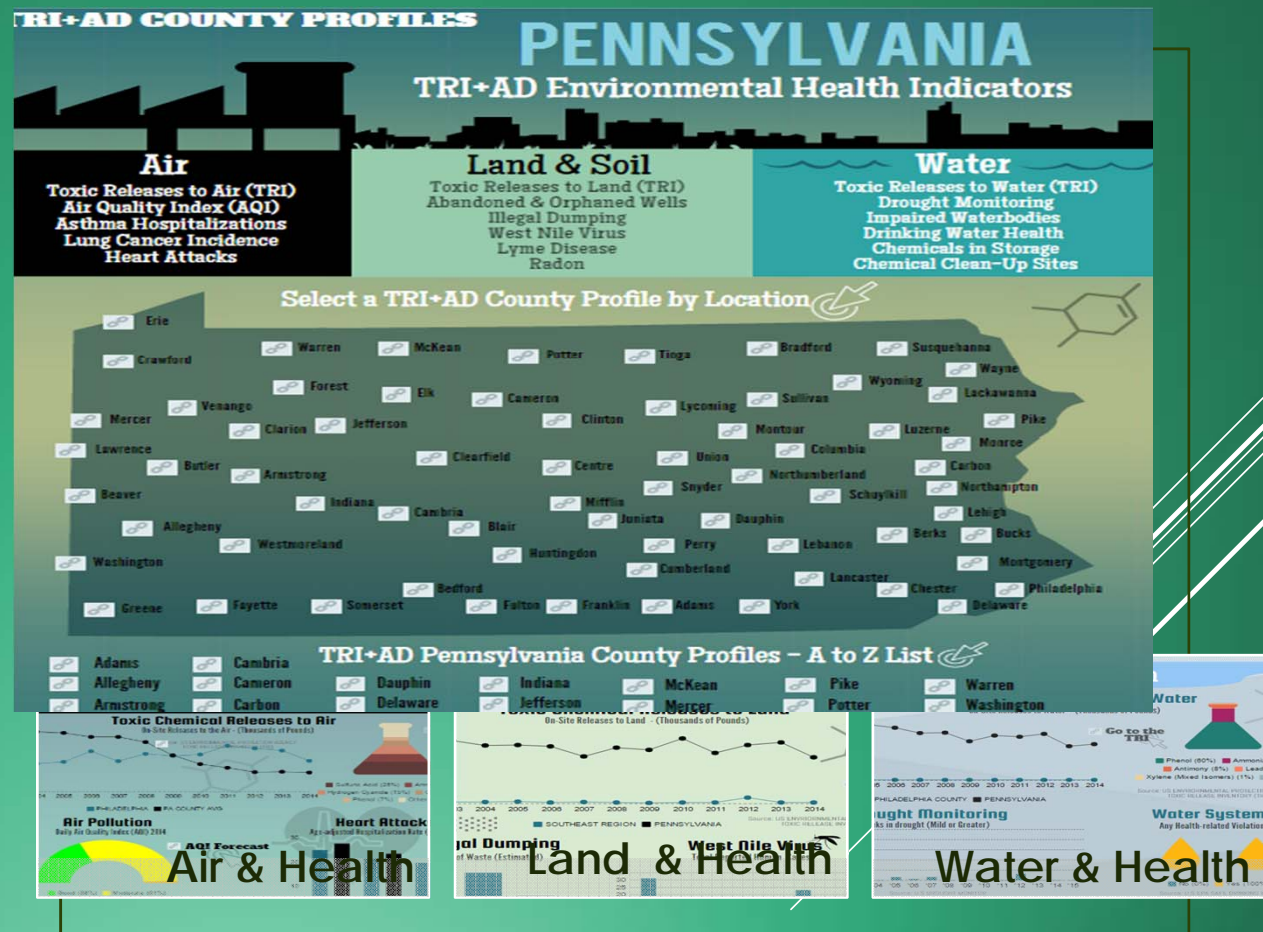
Cleanup Name	Location Address	City Name	State Code	Postal Code	County Name	Reports Available	Map Site
ACCURIDE ERIE	1015 E. 12TH ST.	ERIE	PA	16503	ERIE	RCRA ECHO	Map It
BUCHYRUS ERIE CO	1521 RASPBERRY ST	ERIE	PA	16512	ERIE	RCRA ECHO	Map It
FORMER US METAL PRODUCTS	18th St and Fillmore Ave	ERIE	PA	16505	Erie	OSC	Map It
GE TRANSP SYS ERIE	2901 EAST LAKE ROAD	ERIE	PA	16531	ERIE	RCRA ECHO	Map It
GREATER ERIE IND DEV CORP	1015 EAST 12TH STREET	ERIE	PA	16503	ERIE	Brownfields	Map It
HILL CREEK DUMP	3081 W 17TH ST	ERIE	PA	16505	ERIE	Superfund	Map It
FRESQUE ISLE	ROUTE 40/PRESQUE ISLE ST PARK	ERIE	PA	16505	ERIE	Superfund	Map It
SAFETY-KLEEN SYSTEMS (415791)	1606 PITTSBURGH AVE.	ERIE	PA	16505	ERIE	RCRA ECHO	Map It
STERIS CORP	2424 W. 23RD ST.	ERIE	PA	16506	ERIE	RCRA ECHO	Map It

Column Display Order	Sort Order	Where Only
Ascending	Ascending	Ascending



MAIN GOAL

- Build a replicable architecture of **Community Health Profiles**
- Uniformity
Structure
Accessibility
- Easy to Use
- Visual
- Includes local data
- Inclusive of all Communities
- Encourages questions



MAIN PORTAL PAGE

- Highly Visual Presentation
- Popular Infographic Format
- Easy Map Locator –
Find your County
- Links to Data Sources
- Simple Breakdown of Health Indicators:
 - Air
 - Land
 - Water

TRI+AD COUNTY PROFILES

PENNSYLVANIA

TRI+AD Environmental Health Indicators

Air
Toxic Releases to Air (TRI)
Air Quality Index (AQI)
Asthma Hospitalizations
Lung Cancer Incidence
Heart Attacks

Land & Soil
Toxic Releases to Land (TRI)
Abandoned & Orphaned Wells
Illegal Dumping
West Nile Virus
Lyme Disease
Radon

Water
Toxic Releases to Water (TRI)
Drought Monitoring
Impaired Waterbodies
Drinking Water Health
Chemicals in Storage
Chemical Clean-Up Sites

Select a TRI+AD County Profile by Location

TRI+AD Pennsylvania County Profiles - A to Z List

Adams	Cambria	Dauphin	Indiana	McKean	Pike	Warren
Allegheny	Cameron	Delaware	Jefferson	Mercer	Potter	Washington
Armstrong	Carbon	Elk	Juniata	Mifflin	Schuylkill	Wayne
Beaver	Centre	Erie	Lackawanna	Monroe	Snyder	Westmoreland
Bedford	Chester	Fayette	Lancaster	Montgomery	Somerset	Wyoming
Blair	Clarion	Forest	Lawrence	Montour	Sullivan	York
Bradford	Clearfield	Franklin	Lebanon	Northampton	Susquehanna	
Bucks	Columbia	Fulton	Lehigh	Northumberland	Tioga	
Butler	Crawford	Greene	Luzerne	Perry	Union	
	Cumberland	Huntingdon	Lycoming	Philadelphia	Venango	

AIR QUALITY & HEALTH

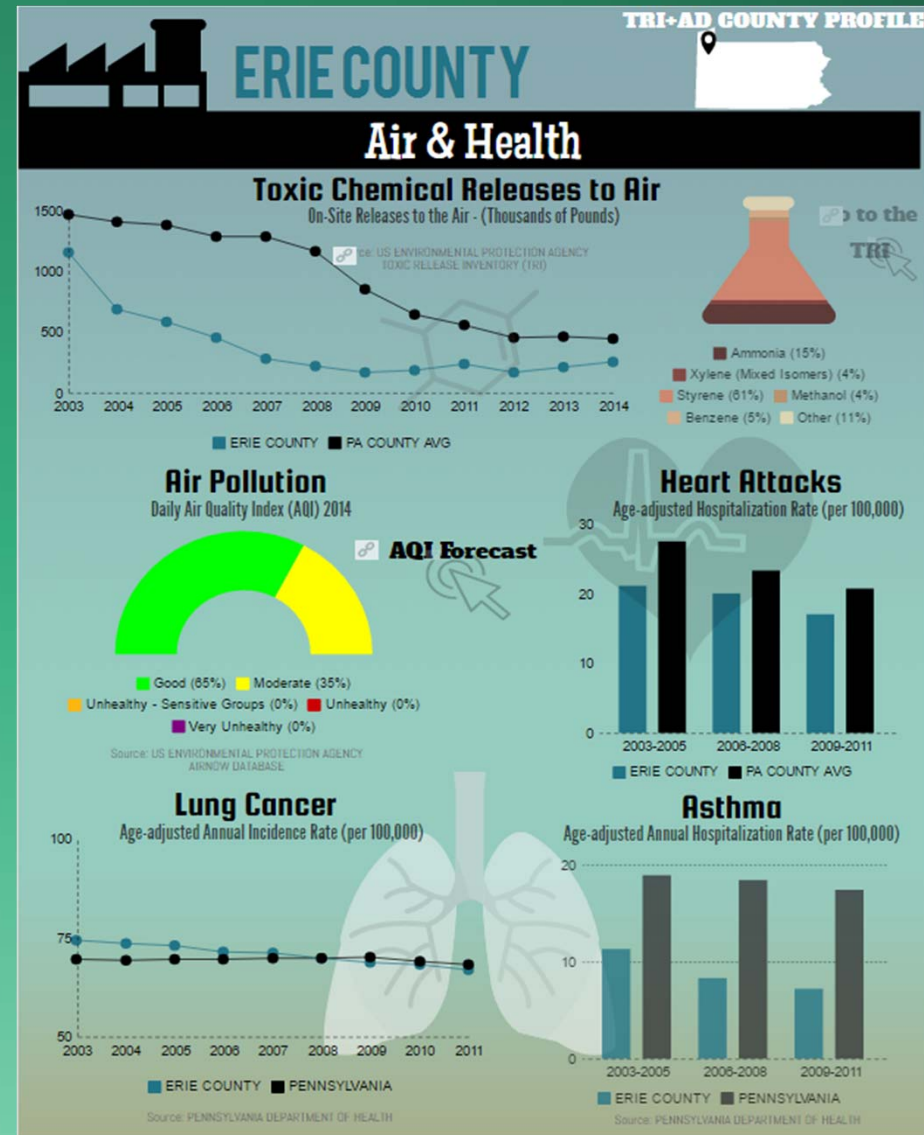
Environmental

- Toxic Chemical Releases
- Air Quality Monitor

Health

- Heart Attacks
- Lung Cancer
- Asthma

Regional and State Comparisons



LAND & HEALTH

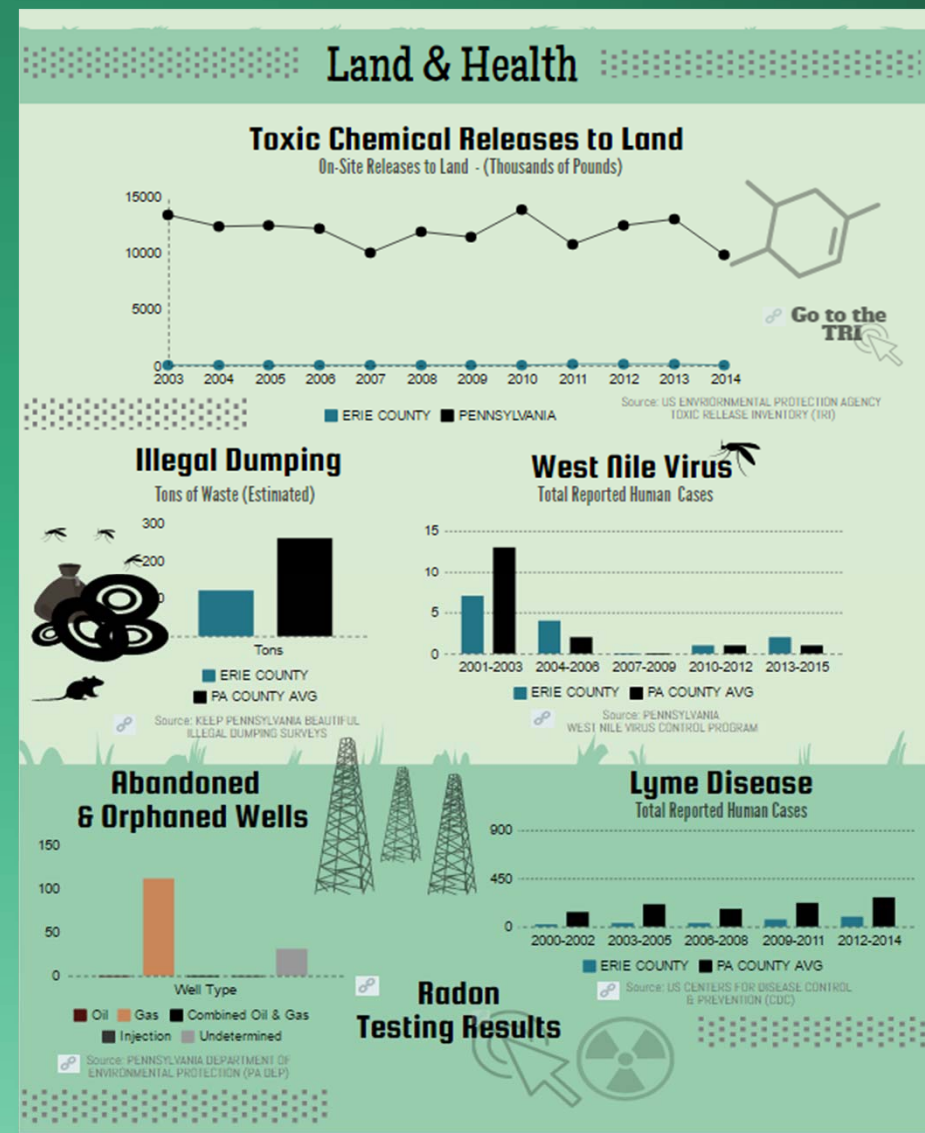
Environmental

- Toxic Chemical Releases
- Illegal Dumping
- Abandoned & Orphaned Wells

Health

- West Nile Virus
- Lyme Disease
- Radon Testing Results

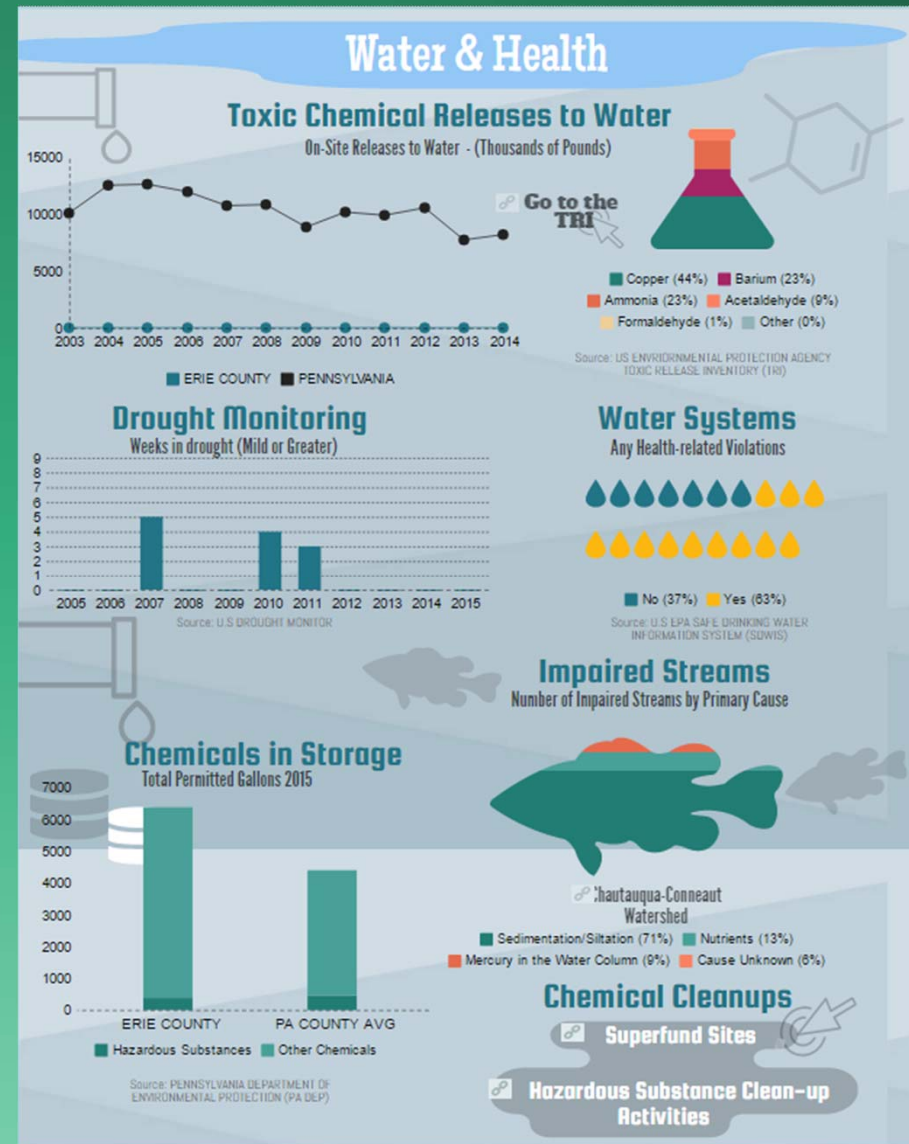
Regional and State Comparisons



WATER QUALITY & HEALTH

- Environmental
 - Toxic Chemical Releases
 - Chemical Clean-Ups
 - Chemicals in Storage
 - Drought Monitor
 - Impaired Streams

- Health
 - Water Systems
 - Regional and State Comparisons



FIRST OBJECTIVE

- Increase the public's awareness and understanding of the EPA's Toxic Release Inventory Website

EZ Search

Home | Multisystem Search | Topic Searches | System Data Searches | About the Data | Data Downloads | Widgets | Services | Mobile | Other Datasets

TRI

Land & Health

Toxic Chemical Releases to Land

On-Site Releases to Land - (Thousands of Pounds)

Year	Southwest Region	Pennsylvania
2003	5,500	13,500
2004	5,500	12,500
2005	5,000	12,500
2006	5,000	12,500
2007	4,000	10,000
2008	6,000	12,000
2009	6,000	11,500
2010	9,500	14,000
2011	6,500	11,000
2012	7,500	12,500
2013	8,000	13,000
2014	6,500	10,000

Source: US ENVIRONMENTAL PROTECTION AGENCY TOXIC RELEASE INVENTORY (TRI)

Go to the TRI

Illegal Dumping

Tons of Waste (Estimated)

West Nile Virus

Total Reported Human Cases

Year	Allegheny County	PA County Avg
2001-2003	35	10
2004-2006	10	5
2007-2009	5	2
2010-2012	5	2
2013-2015	5	2

Source: PENNSYLVANIA WEST NILE VIRUS CONTROL PROGRAM

Lyme Disease

Total Reported Human Cases

Year	Allegheny County	PA County Avg
2000-2002	100	50
2003-2005	100	50
2006-2008	100	50
2009-2011	100	50
2012-2014	850	50

Source: US CENTERS FOR DISEASE CONTROL & PREVENTION (CDC)

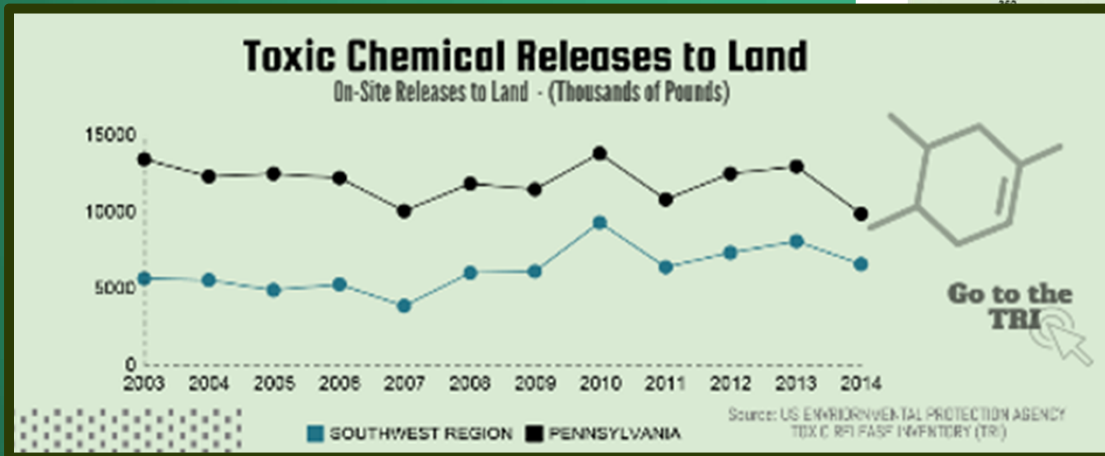
Radon Testing Results

Go to the TRI

Reporting Year Equal to 2015

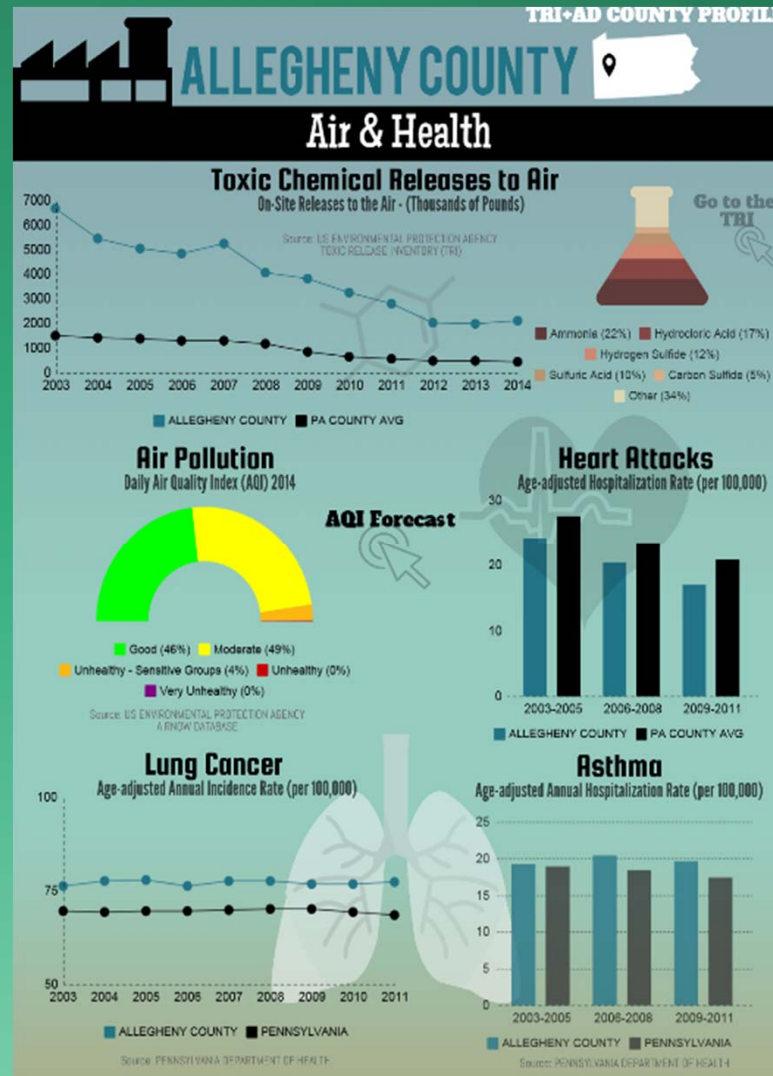
TRI_LAND_EZ where (V_TRI_LAND_EZ.REPORTING_YEAR = '2015') and (V_TRI_LAND_EZ.COUNTY_ABBR = '00')

Abbreviation	SUM(Total Release)
00	252



SECOND OBJECTIVE

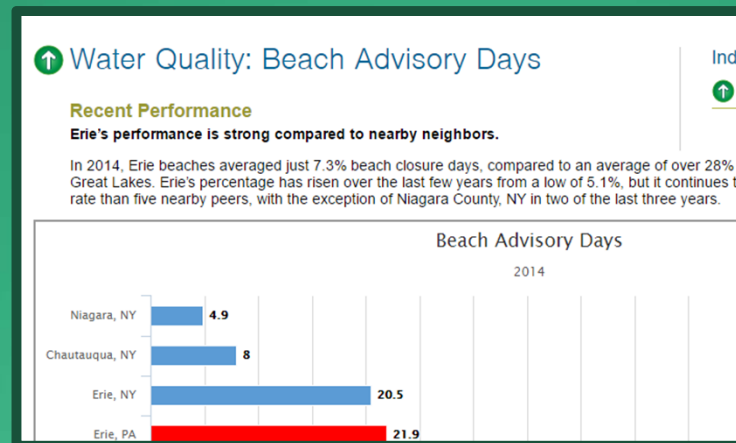
- Provide interpretable data to **Empower** community decision makers and non profit organizations to write quality evidence-based grants
- Example: AQI Index Data and Asthmas Rates



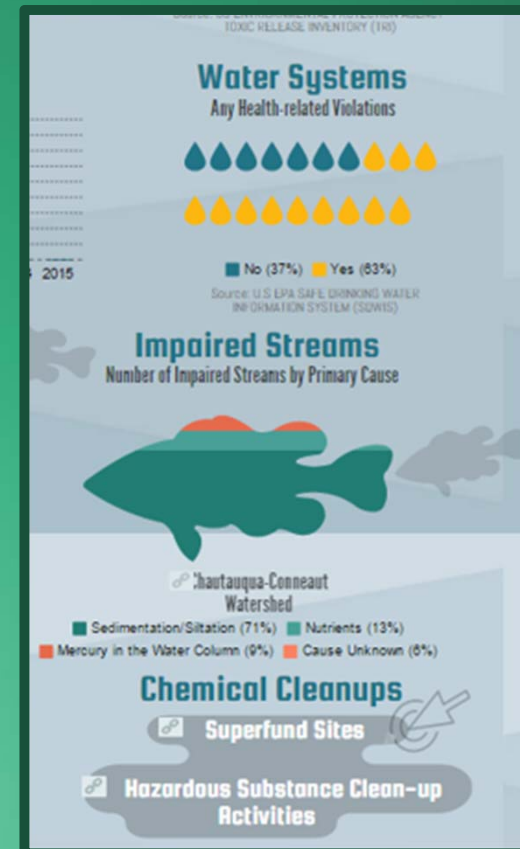
THIRD OBJECTIVE

Diminish data gaps in health indicators by providing verifiable annually updated information for community stakeholders

Regional Data Source lacks Water Quality Data

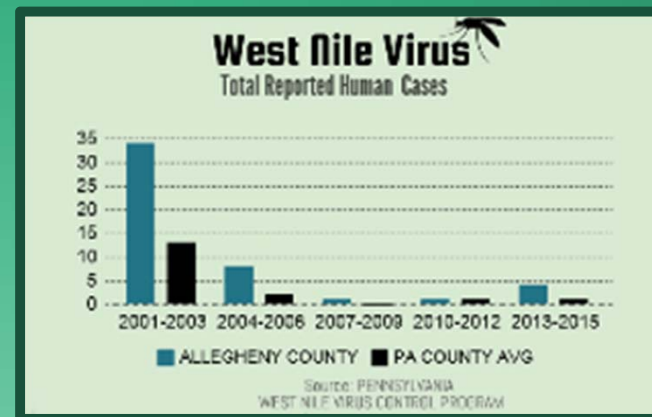
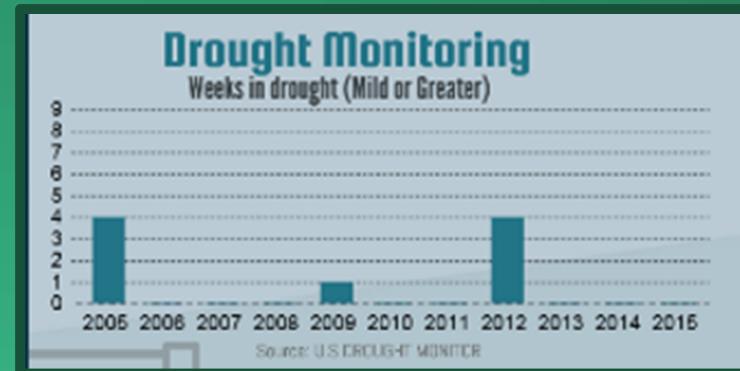


Community Portal contains several different indicators from multiple sources



FOURTH OBJECTIVE

- Give students and researchers a starting point for topical searches
- Tool for undergraduates to answer key research questions
 - Q: Are outbreaks in WNV Virus related to recent drought events?



FIFTH OBJECTIVE

▶ Give communities the **autonomy** to make the decisions based on their needs. The **Shared Solutions** page serves as a jumping off point for the public to get involved. Key features include:

- ▶ Pollution Prevention Activities by Industry
- ▶ Community Organizations
- ▶ Recycling Activity
- ▶ Ways to get involved

Shared Solutions

Pollution Prevention (P2)

Production-related Waste Managed

Category	Waste Managed (Approximate)
Recycling	450,000
Energy Recovery	150,000
Treatment	250,000
Disposal	100,000

More desirable ← → Less desirable

PENNSYLVANIA 2013

■ Recycling ■ Energy Recovery ■ Treatment ■ Disposal

Community Organizations

- Environment Erie
environmenterie.org
- Penn Environment
pennenvironment.org
- Asbury Woods
asburywoods.org
- Western Pennsylvania Conservancy
waterandlife.org
- Presque Isle Partnership
discoverpi.org
- Sea Grant Pennsylvania
seagrant.psu.edu
- Greeneriepa
greeneriepa.org
- Lake Erie & St Clair Binational Forum
lakeerieforum.org

Environmental Protection

Pennsylvania Department of Environmental Protection
NW Regional Office
230 Chestnut St.
Meadville, PA 16335-3481
(814) 332-6945

Environmental Complaints

Recycling Info

Brittany Prischak
Sustainability Coordinator
Erie County Dept. of Planning
140 W. Sixth St.
Erie, PA 16501
(814) 451-6336
[Website](#)

[Go to the US EPA's TRI Website](#)

Annual Recycling Per Person (Tons)

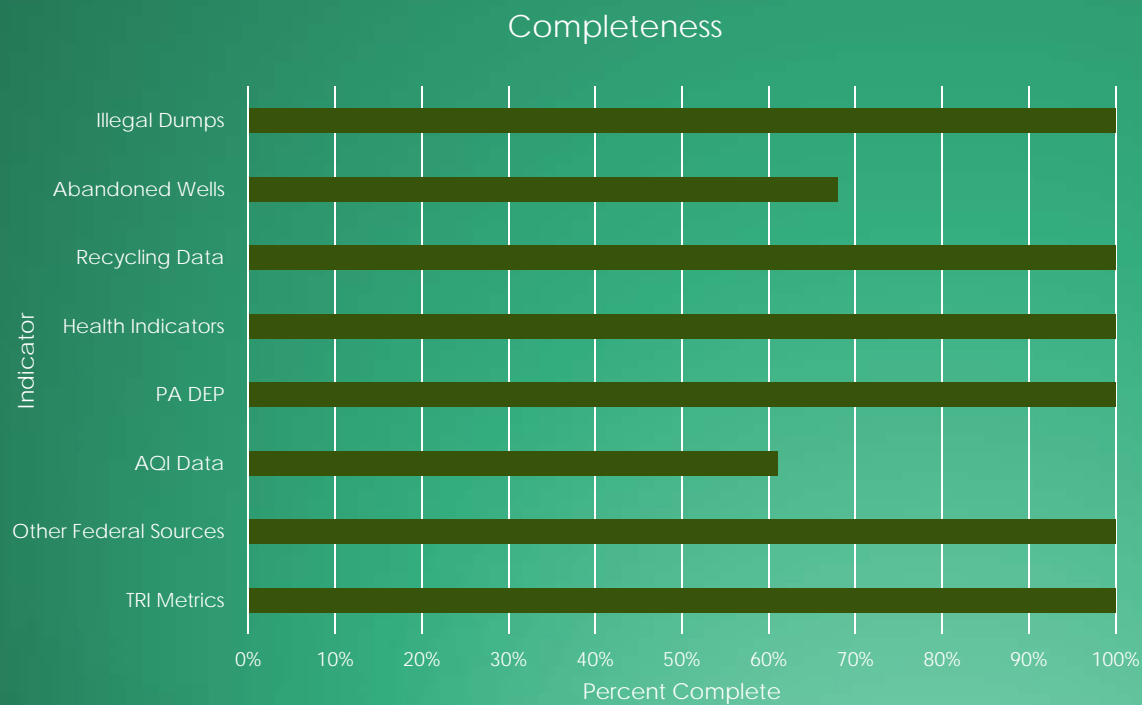
Entity	Annual Recycling Per Person (Tons)
ERIE COUNTY	0.4
PENNSYLVANIA	0.6

2010-2013

■ ERIE COUNTY ■ PENNSYLVANIA

United States EPA Region 3
Environmental Protection Agency
1650 Arch Street
Philadelphia, PA 19103-2029
(800) 438-2474

LEVEL OF COMPLETENESS OF SOURCES



- Abandoned Wells
 - Not all Counties have wells
 - 21 Counties No data to report
- Air Quality Data
 - Not all counties have Air Monitors
 - 26 Counties use Regional Data

MEASURES AND DATA SOURCES

Environmental Health Measures	Data Sources	Level of Completeness & Qualifiers
Air Quality <ul style="list-style-type: none"> • Toxic Releases to Air • Air Quality Index 	EPA Toxic Release Inventory EPA Air Now	100% Updated Annually 100% but w/Regional Data substitutes for counties w/ no AQ Stations
Water Quality <ul style="list-style-type: none"> • Toxic Releases to Water • Impaired Streams 	EPA Toxic Release Inventory EPA Impaired Streams	100% Updated Annually 2 year reporting cycles
Land Quality <ul style="list-style-type: none"> • Toxic Releases to Land • Illegal Dumping (Tires) • Abandoned & Orphaned Oil & Gas Wells 	EPA Toxic Release Inventory Keep PA Beautiful Survey Pennsylvania DEP	100% Updated Annually 2 year reporting cycles 21 counties w/o wells

MEASURES AND DATA SOURCES

Human Health Measures	Data Source	Level of Completeness & Qualifiers
Epidemiological <ul style="list-style-type: none"> • West Nile Virus • Lyme Disease • Heart Attack Hospitalizations • Asthma Hospitalizations • Lung Cancer Incidence 	PA West Nile Virus Control Program US Center for Disease Control & Prevention Pennsylvania Department of Health Pennsylvania Department of Health Pennsylvania Department of Health	100% Updated Annually 100% Updated Annually 100% 3 Yr Reporting Cycle 100% 3 Yr Reporting Cycle 100% 3 Yr Reporting Cycle
Environmental Impacts <ul style="list-style-type: none"> • Drought Exposure 	US Drought Monitor	100% Updated Annually

MEASURES AND DATA SOURCES

Other Measures	Data Source	Level of Completeness & Qualifiers
Municipal Water Quality Recycling Rates	EPA Safe Drinking Water Information System Municipal or County Recycling Data	100% Annually updated 100% w/2 year reporting cycle
Stored Chemicals Pollution Prevention	EPA Toxic Release Inventory EPA Toxic Release Inventory	100% Annually updated 100% Annually updated

FUTURE OF THE PROJECT

Adding New Indicators from the TRI to the Portal

- Radnet
- Clean Ups

Search Results

Home | Multisystem Search | Topic Searches | System Data Searches | About the Data | Data Downloads | Widgets | Services | Mobile | Other Datasets

RadNet

Location: **PITTSBURGH, PA**
 Medium: **DRINKING WATER**
 Nuclides/Radiation: **Cesium-137**

Units: **Traditional**
 Year Date Range: **1978 - 2016**

The following results are based on the temporal changes in radiation level or radionuclides concentration over a specific date range for a specified location and medium, or the nationwide distribution medium.

Location Average vs. Overall Average Results or [Graph It](#)

Location	Medium	Sample Date	Procedure Name	Nuclides/Radiation	Result	Combined Standard Error
PITTSBURGH, PA	DRINKING WATER	01-JUL-79	Gamma spectroscopy	Cesium-137	-1.2	3.9
PITTSBURGH, PA	DRINKING WATER	01-JUL-80	Gamma spectroscopy	Cesium-137	-0.4	4
PITTSBURGH, PA	DRINKING WATER	01-JUL-81	Gamma spectroscopy	Cesium-137	-0.5	4
PITTSBURGH, PA	DRINKING WATER	01-JUL-82	Gamma spectroscopy	Cesium-137	-3.8	4
PITTSBURGH, PA	DRINKING WATER	01-JUL-83	Gamma spectroscopy	Cesium-137	-4.3	4.1
PITTSBURGH, PA	DRINKING WATER	01-JUL-84	Gamma spectroscopy	Cesium-137	4	4
PITTSBURGH, PA	DRINKING WATER	01-JUL-85	Gamma spectroscopy	Cesium-137	-1.9	4.1
PITTSBURGH, PA	DRINKING WATER	01-JUL-86	Gamma spectroscopy	Cesium-137	-0.7	4.1
PITTSBURGH, PA	DRINKING WATER	01-JUL-87	Gamma spectroscopy	Cesium-137	0.6	4.1
PITTSBURGH, PA	DRINKING WATER	01-JUL-88	Gamma spectroscopy	Cesium-137	3.6	4
PITTSBURGH, PA	DRINKING WATER	01-JUL-89	Gamma spectroscopy	Cesium-137	-0.4	4
PITTSBURGH, PA	DRINKING WATER	01-JUL-90	Gamma spectroscopy	Cesium-137	ND	---

Cleanups In My Community List Results

This is a list of only the sites, properties and facilities which reside within the boundaries of the geographic area you have specified and which meet the criteria you have specified.

*Click on the column header to sort in ascending or descending order.

*To directly view any profiles and reports available for a cleanup, click on the associated report(s) found in the "Reports Available" column.

*To see a map on a cleanup, click on the "Map It" link found in the "Map Site" column.

[Click Here to Redefine Search Criteria](#)

Cleanup Name	Location Address	City Name	State Code	Postal Code	County Name	Reports Available	Map Site
ACCURIDE ERIE	1015 E. 12TH ST.	ERIE	PA	16503	ERIE	RCRA ECHO	Map It
BUCYRUS ERIE CO	1521 RASPBERRY ST	ERIE	PA	16512	ERIE	RCRA ECHO	Map It
FORMER US METAL PRODUCTS	18th St and Fillmore Ave	ERIE	PA	16505	Erie	OSC	Map It
GE TRANSP SYS ERIE	2901 EAST LAKE ROAD	ERIE	PA	16531	ERIE	RCRA ECHO	Map It
GREATER ERIE IND DEV CORP	1015 EAST 12TH STREET	ERIE	PA	16503	ERIE	Brownfields	Map It
MILL CREEK DUMP	3081 W 17TH ST	ERIE	PA	16505	ERIE	Superfund	Map It
PRESQUE ISLE	ROUTE 6N/PRESQUE ISLE ST PARK	ERIE	PA	16505	ERIE	Superfund	Map It
SAFETY-KLEEN SYSTEMS (405701)	1606 PITTSBURGH AVE.	ERIE	PA	16505	ERIE	RCRA ECHO	Map It
STERIS CORP	2424 W. 23RD ST.	ERIE	PA	16506	ERIE	RCRA ECHO	Map It

row(s) 1 - 9 of 9

- Educate public by providing context for releases and other data
- Active site clean ups?
- What do these numbers mean?

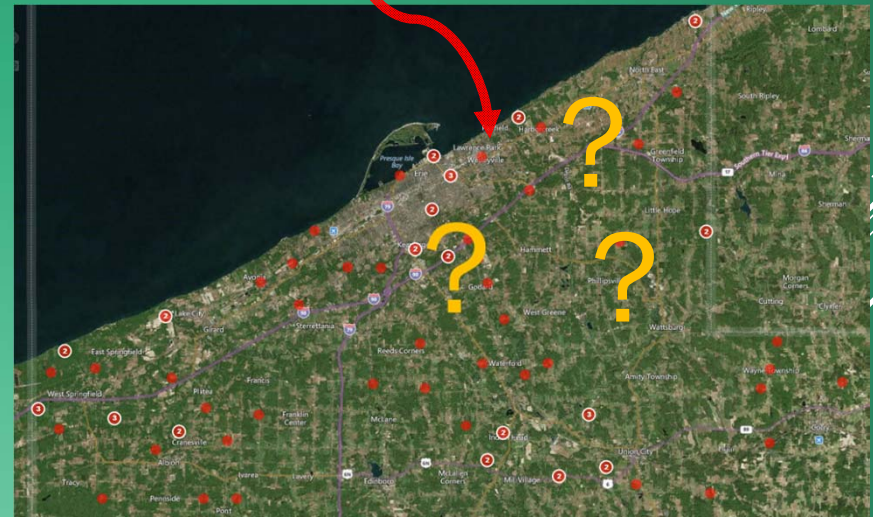
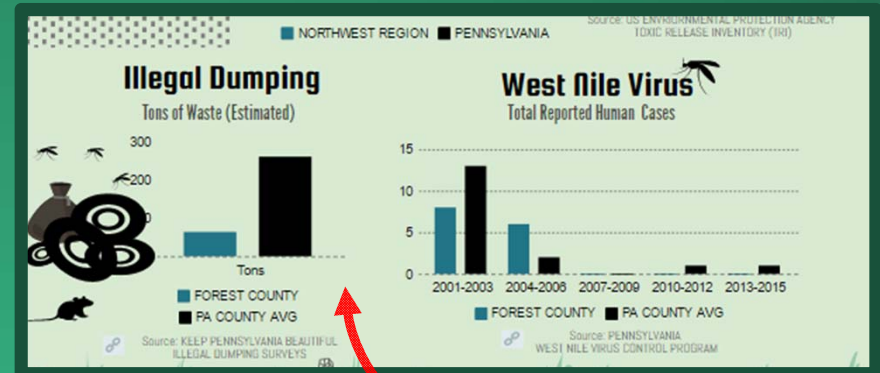
FUTURE OF THE PROJECT

Geographic Information Systems

Mapping Illegal Tire Dumps & WNV Mosquito Populations

Predicting Outbreaks in human populations before they happen

Limited usefulness of data displayed without geographic orientation of tire dump or location of outbreak



FUTURE OF THE PROJECT

Case Studies to demonstrate how to link local sources of data to TRI+AD indicators

Data Analysis Tools

- ▶ Environmental Health Priority Areas
- ▶ Composite Indices of Risk

Outreach

Provide hands-on demos to help users identify and use environmental data



USEFULNESS OF PROJECT

- ▶ **GRANT PROPOSALS** for local communities
 - ▶ **EVALUATION** of community programs and initiatives
 - ▶ **EMPOWERING** community members to access and use data
EDUCATION and **OUTREACH**
IMPROVED ACCESS to “Right-to-Know” environmental data
TRANSLATION to Spanish and other Language Communities
 - ▶ **SHARING** of data and best practices
 - Communities
 - Industry
- 



MERCYHURST TRI-AD TEAM

THANK YOU!

Questions?

Contact Info:

Anne Helms

mhelms27@Lakers.Mercyhurst.Edu

A decorative graphic consisting of several parallel white lines of varying lengths, slanted diagonally from the bottom right towards the top right, set against the green background.