

# **Charting a Course for Educating People about Safe Practices of Unwanted Medicines: An Innovative Model**

**Terri Hallesy and Marti Martz  
Sea Grant Program**

**2010 International Symposium  
on Safe Medicine**

**Portland, Maine  
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# Sea Grant: A Dynamic Network Across the Country

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- The National Sea Grant College Program includes 32 state Sea Grant programs located in every coastal and Great Lakes state and Puerto Rico.
- These programs serve as the core of a dynamic, national university-based network of over 300 institutions involving more than 3,000 scientists, engineers, educators, students and outreach experts.
- This network works on a variety of topics vital to human and environmental health—topics such as water quality coastal hazards and biotechnology.
- Through their research, education and outreach activities, Sea Grant has helped position the United States as the world leader in marine research and the sustainable development of coastal resources.

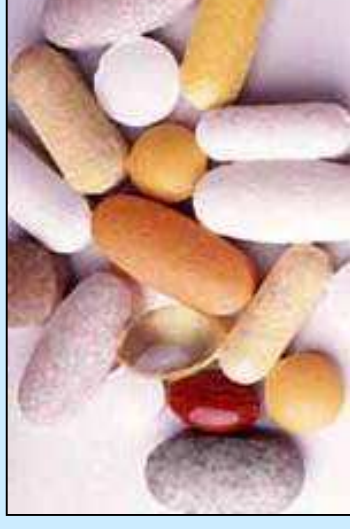
# Overview

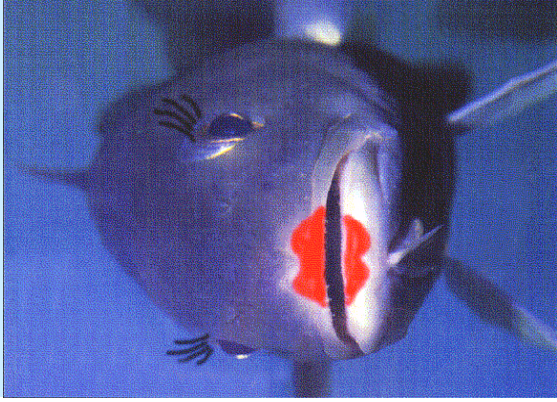
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The Medicine Chest curriculum

4-H Activity Guide

Undo the Great Lakes Chemical Brew:  
Proper PPCP Disposal





# What do you do with your unwanted medicines?

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Informal poll of the room:

1. Flush down the toilet
2. Throw in the trash unaltered
3. Throw in the trash after removing name from bottle or altering the leftover meds
4. Save for a collection event
5. Return to your pharmacist

# Engage Youth in Community Stewardship Projects

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- Inform adults about critical action steps.
- Protect our waterways.
- Reduce medicine poisoning in children.
- Reduce identification theft.
- Reduce impacts on environment from medicines given to livestock.


# Community Stewardship Activities

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- One-time consumer collection events
- Short-term collection campaigns
- Permanent collection locations
  - On-going one-day events
  - Collection boxes at pharmacies
  - Police stations
  - HHW facilities
- Mail-back programs
- Education



# Example Promotion for a Collection Event



The poster features a central graphic of a map of Michigan composed of various colorful pills and capsules. To the left of the map is a small cluster of pills. The background is light blue with a subtle pattern of pills.

## MEDICINE COLLECTION DAY

A prescription for clean water and safe kids

**June 9th, 2007**  
**9:00 a.m. to 1:00 p.m.**

**Miller Park, Milwaukee WI**  
(Miller lot by the "sausage haus")

**BRING:**  
Prescription or Over-The-Counter Medication

**DO NOT BRING:**  
Illegal Drugs, Needles/Sharps  
or Biohazardous Material

Help protect Lake Michigan, prevent accidental poisonings and reduce substance abuse.  
Bring your expired and unused medicine to a special "Medicine Collection Day"  
**(for Milwaukee County Residents ONLY).**

**NEVER FLUSH** or pour unused medicine down the drain. Wastewater treatment plants are not designed to remove all medications from wastewater. Pouring drugs down the drain can send it on a ride to Lake Michigan.

**For more information please visit [www.mmsd.com](http://www.mmsd.com)**

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# The Medicine Chest - Curriculum

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- Inform youth and their families about the harmful effects of improper disposal of medicines
- Provide teachers with best practices for creating a community awareness campaign
- Incorporate a variety of educational approaches for instructing youth





# The Medicine Chest (cont'd)

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- Inform high school teachers about the Prescription Pill and Drug Disposal Program (P<sup>2</sup>D<sup>2</sup>)
- Provide supplemental activities to encourage students to become actively engaged
- Support community stewardship by offering models, resources, and guidance



# P2D2 Program

## Pontiac High School

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### How do I begin?

- Select classes to involve in project
- Create a list of pharmacies
- Research problems associated with pharmaceuticals in the water
- Investigate current accepted disposal methods of pharmaceuticals
- Contact area pharmacists and local officials to determine their level of interest in participating

## [www.p2d2program.org](http://www.p2d2program.org) (cont'd)

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- Students present findings to pharmacists and local officials
- Discuss disposal methods that are available in their area
- Develop brochure/poster for display at local businesses
- Create flyer with information that can be easily stapled to small paper bags
- Contact all media outlets to inform about the program and its benefits
- Branch out to other schools, corporations, etc.



# Sensible Disposal of Unwanted Medicines — 4-H Guide

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- Increase environmental stewardship, knowledge and engagement
- Share knowledge with others – parents, siblings, and friends
- Incorporate reflection activities
- Provide sample stewardship project ideas



# Sensible Disposal of Unwanted Medicines — 4-H Guide

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- Active learning
- Discovery learning
- Enhanced knowledge retention
- National 4-H mandate  
Increasing science, engineering, and technology learning

# What is Still Needed?

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## Research

- Humans, pets, livestock will always be taking meds, so solutions at the WWTP are needed for the long run
- Impact of designer medications
- Curb medicine waste and stop over-prescribing

## Education and Outreach



# Erie, Pennsylvania: Medicine Collection event

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## Collection Results

- 120 gallons (600 lbs) of ppcps were collected at the event
- Five gallons of controlled substances
- 3,839 controlled pills
- 69,232 non-controlled pills
- 384 pcps
- Cost = \$25,000



# Making Progress on Multiple Fronts

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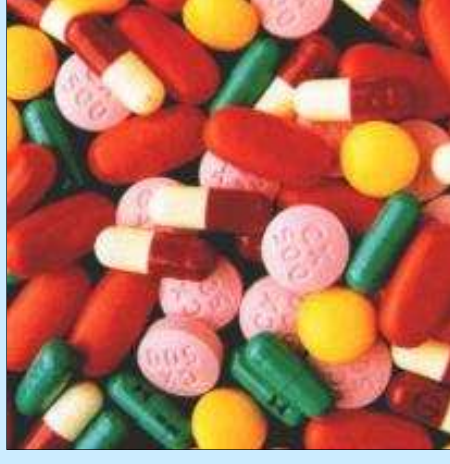
- 2010 - DEA take back 121 tons!
- PA DEP 1 page guidance document
- Legislative progress
- Green Chemistry initiatives
- Common sense issue that resonates with almost everyone



# Green the Chain - Education and Outreach at Every Level

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- Drug companies - Green Chemistry
- Doctors, Pharmacists, Veterinarians, Nurses...both professionals and students – prescribe mindfully  
understand ecological effects
- Consumers use meds correctly and live proactively
- Municipal Waste/Water
- Researchers – still work to do



# Undo the Great Lakes Chemical Brew: Proper PPCP Disposal

- Great Lakes wide
- Two years
- Six audiences
- Curricular and outreach materials
  - Dose of Reality
- Collection events-tail end of chain

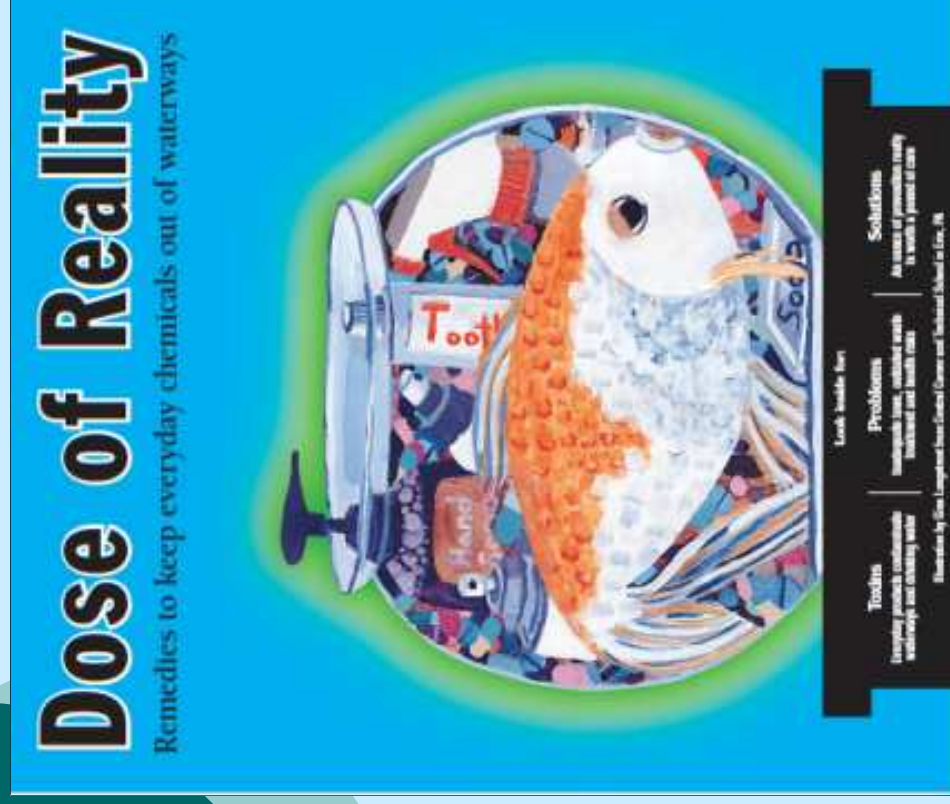


Great Lakes  
RESTORATION

The logo for Great Lakes Restoration, featuring a stylized blue map of the Great Lakes region.

# Dose of Reality

- 132,000 copies distributed from Buffalo to Duluth
- Geared to general public and middle/high schools students
- Journal PPCPs used by your family for a week
- Read labels, which chemicals do you find? Which ones have safer alternatives?
- Visit a wastewater treatment plant
- Questions to ask your-
  - ✓Self
  - ✓Doctor
  - ✓Pharmacist
  - ✓Insurance Company
  - ✓Elected officials



# To Learn More

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