

# Pretreatment Program - Reflections and Future

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NACWA-EPA Pretreatment and P2 Meeting

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# Topics

- Clean Water Act – Happy 40<sup>th</sup> Birthday!
- Where we have been... some of the early adventures
- Program Successes
- Current and future Issues
- Asserting Program Value
- Ideas for moving forward...

The background of the slide is a solid blue color with a gradient. At the top, there are several wavy, horizontal lines in shades of blue and cyan, creating a layered effect. The text "Disclaimer..." is positioned in the upper left area of the slide.

Disclaimer...



# Clean and Safe Water

- Vital for our health...
- Vital for our communities...
- Vital for the environment...
- And it is vital to our economy.

# The Clean Water Act at 40

We've come a long way since 1972!

- Funding
- Wastewater treatment
- Water Quality Improvements
  - technology-based requirements
  - Water quality based requirements
- Implementation of Local Pretreatment programs





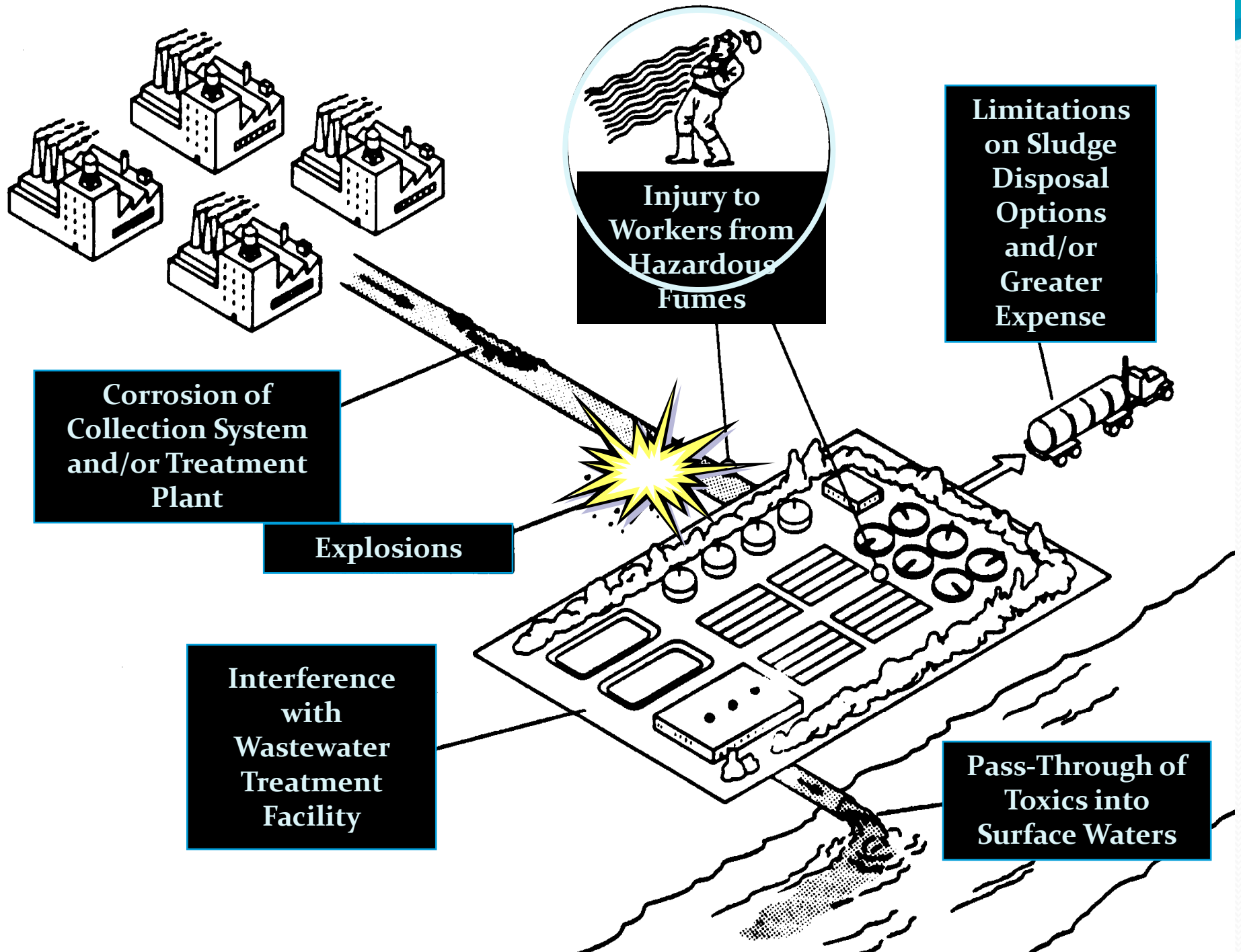
# Pretreatment's Rich History

- 1973 - 40 CFR Part 128 promulgated
- 1978 - 40 CFR Part 403 promulgated
- 1983 - POTW program approval deadline
- 1985 - Pretreatment Implementation Review Task Force
- 1986 - Domestic Sewage Study(DSS) Report to Congress
- 1988 - PIRT Rules promulgated
- 1990 - DSS regulations promulgated
- 1991 - Pretreatment Report to Congress
- 1993 - Removal credit/pollutant eligibility revised
- 1997 - Program Modification Regulation Streamlined
- 2005 - Pretreatment Streamlining

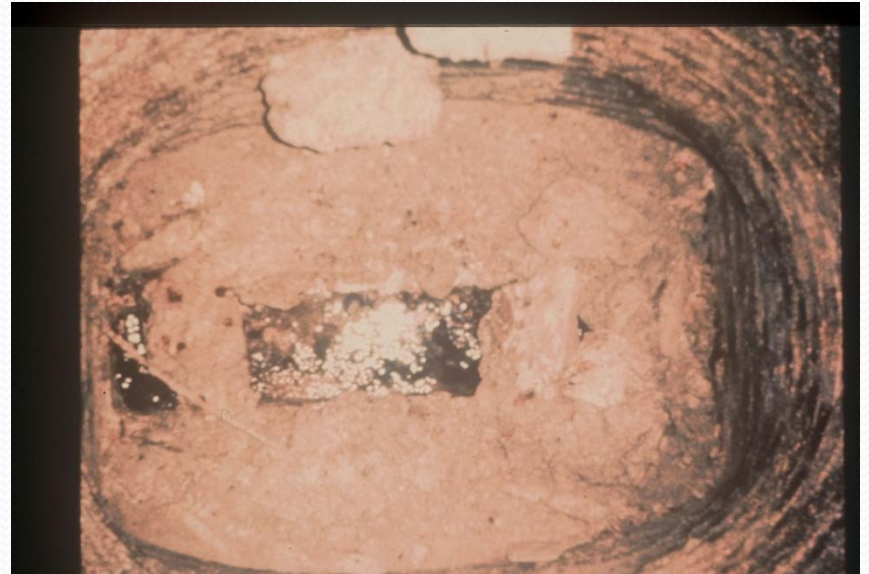
# EPA Regional Pretreatment Champions Since 1986!

## PRETREATMENT COORDINATORS - April 1986

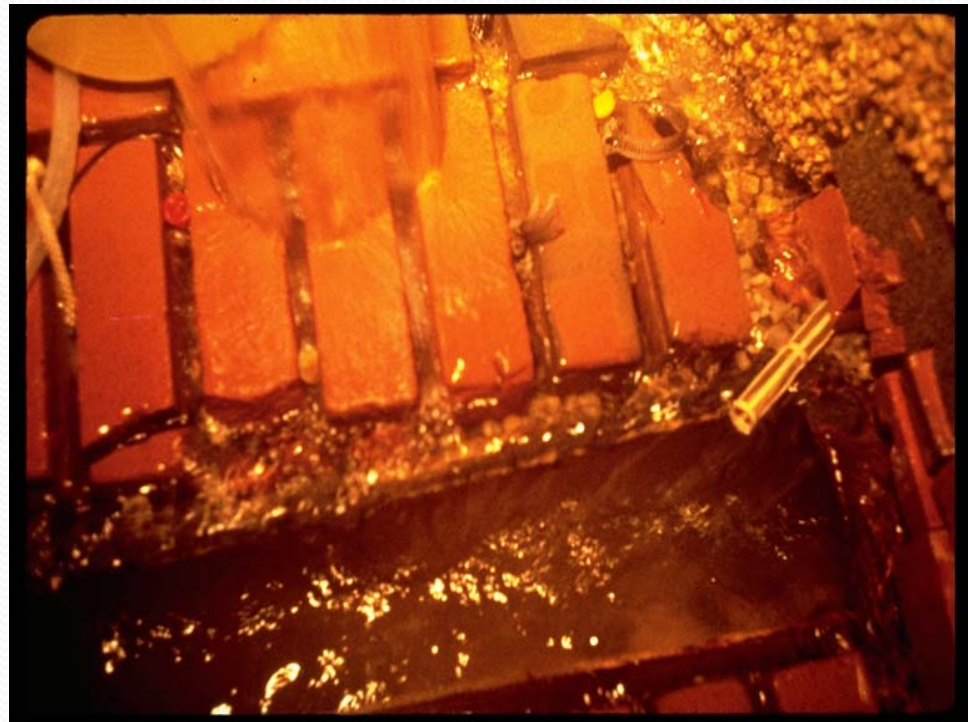
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# Oil and Grease Challenges



# Collection System Integrity



# Example Pretreatment Adventures



# Where is that manhole cover?



# The Mother of All Sewer Explosions



# Evolving Industry Practices



**Example Baseline Monitoring Report  
(Circa 1986)**

**Republic Steel Reported Discharge of  
Total Metals**

**0.64 tons per day (avg)**

**1.09 tons/day (maximum)**

# The Classic Heavy Metal Interference



# Sources on Wheels





# Pretreatment Program Accomplishments

Extensive national, state and local infrastructure...

- 1400 local pretreatment programs
- 57 Effluent Guidelines/Categorical Standards
- Protection of local infrastructure
- Locally developed “science”
- Local Catalyst
  - Public Education and Awareness
  - Pollution Prevention (e.g. household wastes, drug take back)
  - Innovative Technology
  - Stormwater Management
  - Watershed Management
- Partnerships , Peer Support and Forums for Exchange



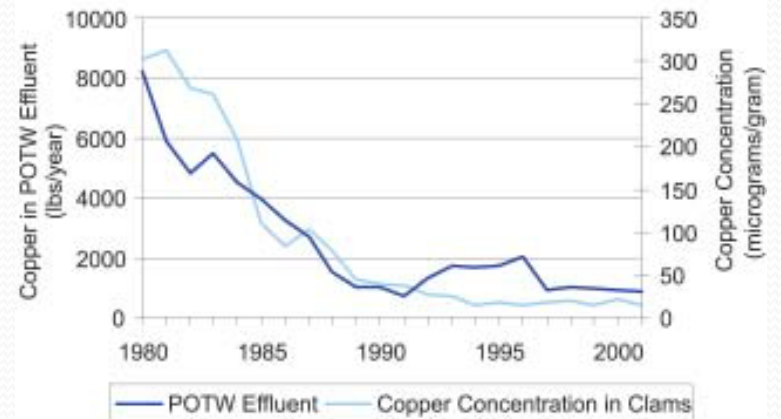
# Amazing Local Capability

- Regulatory and Voluntary Program Management
- Investigation/Surveillance/Emergency Response
- Environmental Monitoring
- Industrial Processes and Technology
- Local limits Development
- Permitting
- Compliance and Enforcement

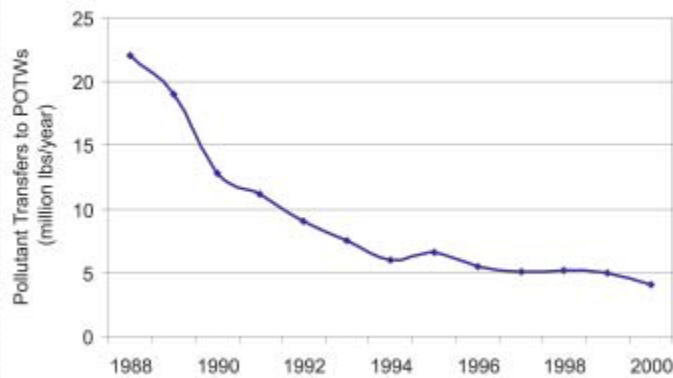
# Impressive Improvements



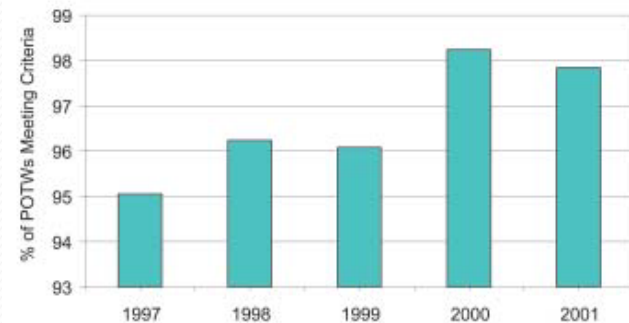
**Reduction in Copper Concentration in Clams through Pretreatment**



**Transfer of Toxic Organic Chemicals to POTWs Nationwide**



**Percentage of Midwestern POTWs with Biosolids that Meet Metals Limits for Land Application**





# Current ~~and Future~~ Issues

- Resources
- Public Support
  - Resource Protection and Sustainability
  - Infrastructure Investment
- Infrastructure Integrity
- Assessment/Treatability
  - CECs, PCPs, Pharms, EDs, Nanos
- Demand for Water Reuse
- Sustainability and Climate
- Communication and Marketing



# Proper Disposal of Prescription Drugs

Office of National Drug Control Policy 2009

Here's  
something  
we can all  
do....



## *Federal Guidelines:*

- Do not flush prescription drugs down the toilet or drain unless the label or accompanying patient information specifically instructs you to do so. For information on drugs that should be flushed visit [the FDA's website](http://www.fda.gov).
- To dispose of prescription drugs not labeled to be flushed, you may be able to take advantage of community drug take-back programs or other programs, such as household hazardous waste collection events, that collect drugs at a central location for proper disposal. Call your city or county government's household trash and recycling service and ask if a drug take-back program is available in your community.
- If a drug take-back or collection program is not available:
  1. Take your prescription drugs out of their original containers.
  2. Mix drugs with an undesirable substance, such as cat litter or used coffee grounds.
  3. Put this mixture into a disposable container with a lid, such as an empty margarine tub, or into a sealable bag.
  4. Conceal or remove any personal information, including Rx number, on the empty containers by covering it with black permanent marker or duct tape, or by scratching it off.
  5. Place the sealed container with the mixture, and the empty drug containers, in the trash.

[http://www.whitehousedrugpolicy.gov/publications/pdf/prescrip\\_disposal.pdf](http://www.whitehousedrugpolicy.gov/publications/pdf/prescrip_disposal.pdf)

Office of National Drug Control Policy  
750 17th St. NW, Washington, D.C. 20503  
p (202) 395-6618 f (202) 395-6730





# Reinforcing the Program's Value

- Protecting local infrastructure and investments
- Helping industry comply and innovate
- Promoting more effective use and value of water
- Supporting/Continuing the evolution from wastewater utilities to:
  - Clean water services?
  - Water and energy recovery enterprises?
  - Something else?

# Ideas for the Future

- Innovate
  - Market your services
  - Embrace and foster new technologies
- Integrate
  - Stormwater Management; Source Water Protection
  - Water Quality and Quantity
  - Integrated Watershed/Water Quality Monitoring
- Partner
  - Local-State- Federal Partnership
  - Local Watershed Protection (e.g. watershed groups)
  - Academics
  - Other Sources (Septics, Ag)
- Help your utility demonstrate its value “beyond wastewater management”
  - Water reuse
  - Resource Recovery
  - Environmental and Public Health Improvement



# Technology Innovation

- Valley Chrome Plating
- Brubaker Dairy
- Green Infrastructure Investments to Address CSOs and Stormwater
  - Philadelphia
  - New York

# Valley Chrome Plating

- Zero-discharge
- Committed to recycling all materials
- Eliminated lead anodes (reduced 3,000 lbs)
- Switched from hex-to tri-chrome (reduced 6,000 lbs)
- Using Stormwater for make-up



# Typical Dairy

## Inputs

- Seed Corn
- Energy (e.g. Milkhouse)
- Sawdust/Sand (cow comfort)
- Fertilizer

## Outputs

- Milk
- Manure (land applied)



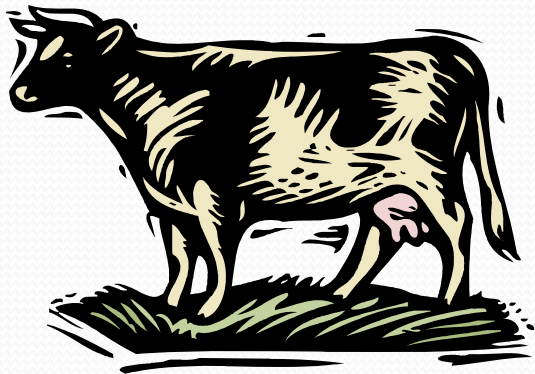
# Brubaker Dairy

## Inputs

- Seed Corn
- Fertilizer
- Food Waste (Tipping fee!)

## Outputs

- Milk
- Manure (land applied)
- Energy (sold to the grid)



# Green Infrastructure





# Stream/Infrastructure Repair

Exposed Sewer

Before



# Stream/Infrastructure Repair

**Severe Erosion**



**Before**





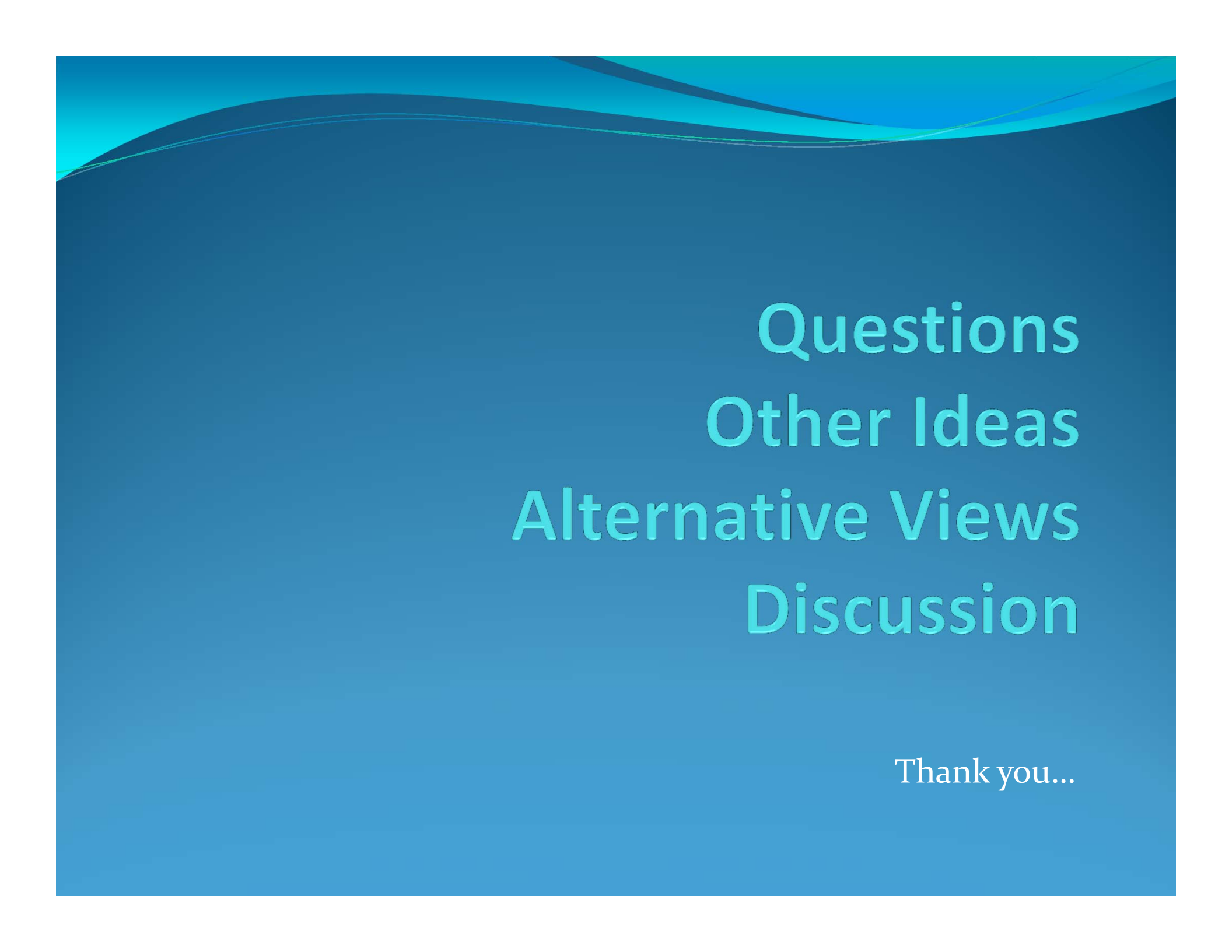
# Others' Closing Thoughts

**“When the well is dry, we learn the worth of water” - Benjamin Franklin**

**“Simply, water is surpassing oil itself as the world’s scarcest critical resource” Stephen Solomon, *Water: The Epic Struggle for Wealth, Power and Civilization***

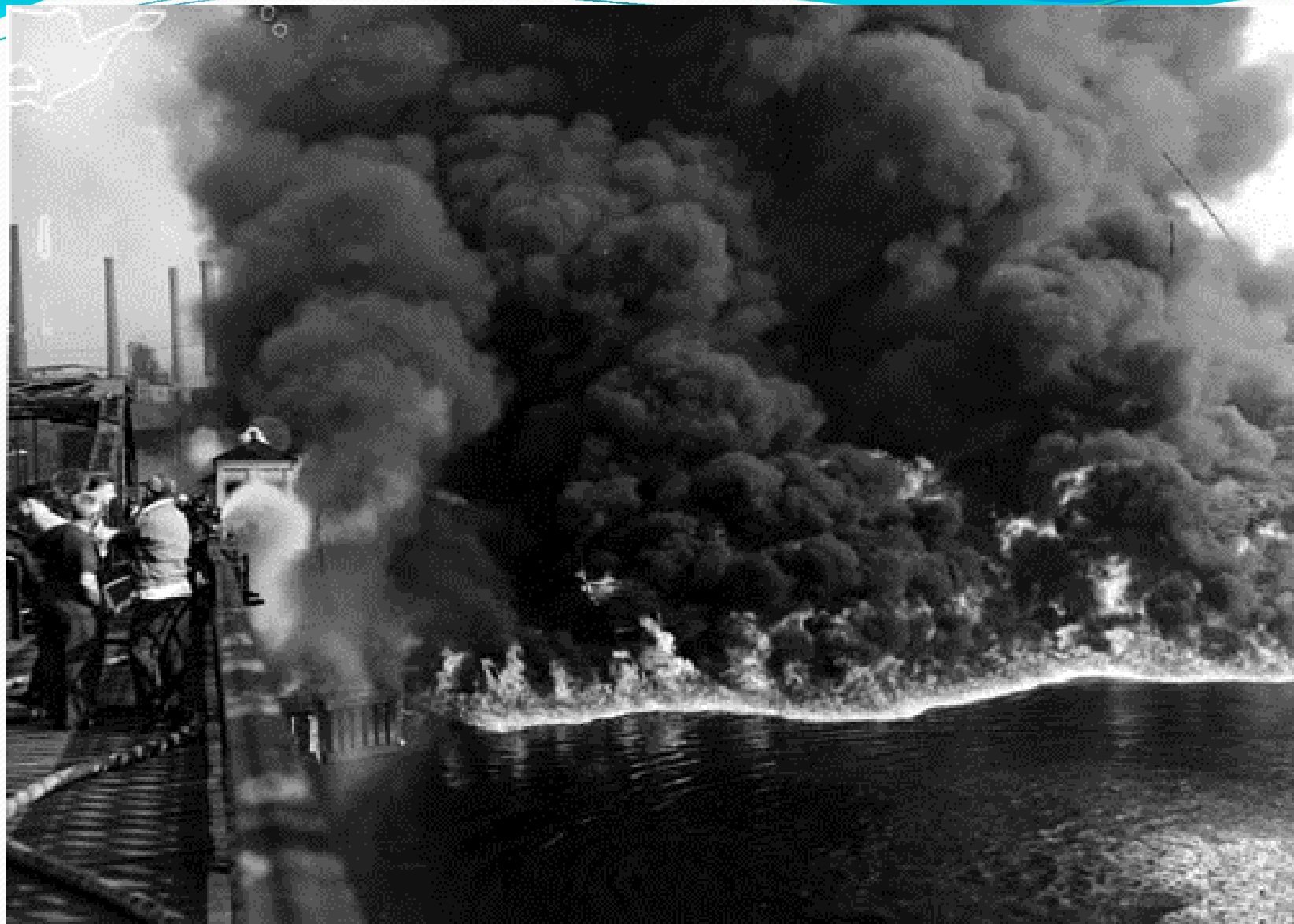
***“Water will shape the full spectrum of economic, political and social trends as well as our decision making. We will all begin to view water more as a precious resource and less as a free (or undervalued) commodity to be exploited or wasted.” – Steve Maxwell, *The Future of Water: A Startling Look Ahead****

***“Wastewater is simply water that is wasted” – a Growing Chorus***



Questions  
Other Ideas  
Alternative Views  
Discussion

Thank you...

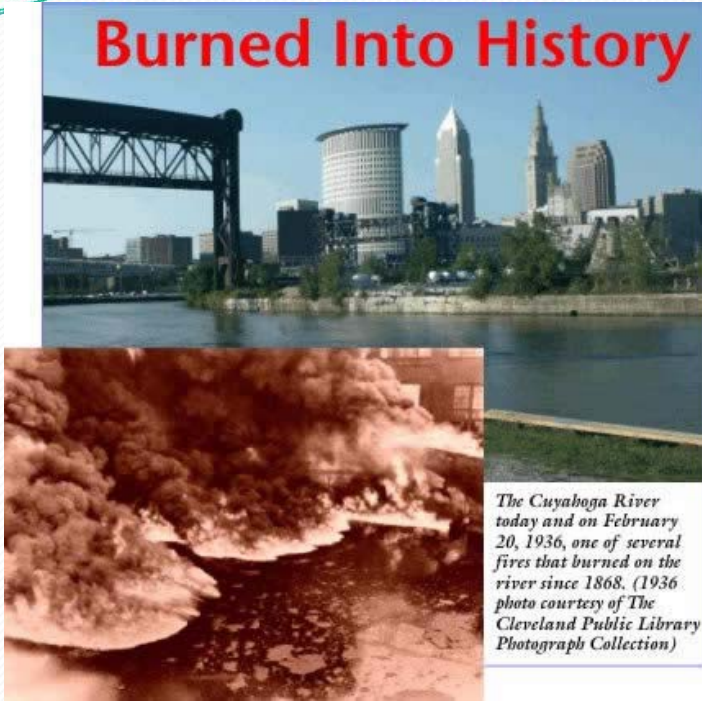






# The Cuyahoga River Fire of 1969

## Burned Into History



*The Cuyahoga River today and on February 20, 1936, one of several fires that burned on the river since 1868. (1936 photo courtesy of The Cleveland Public Library Photograph Collection)*

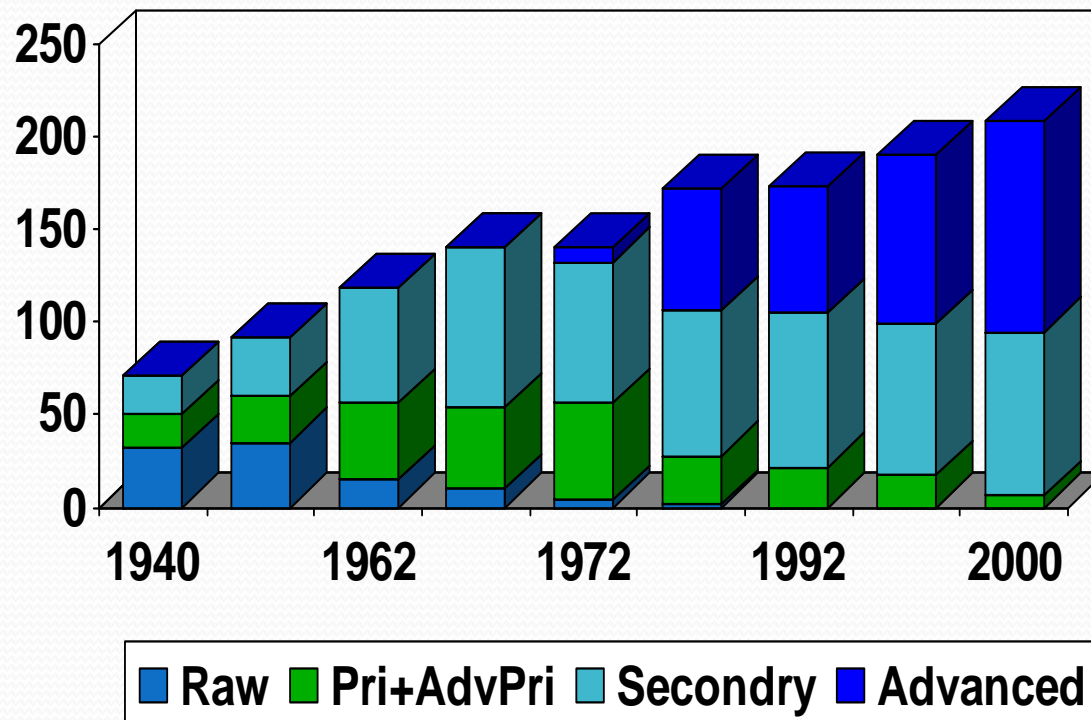


1936-11-1-CLEVELAND, O.—Firemen stood on bridge over Cuyahoga River to play water on tug involved in fire, started in an oil slick on the river, swept docks at the Great Lakes Towing Co., here today. The blaze destroyed three tugs, three buildings and the ship repair yards. Damage was not estimated. UNITED PRESS TELETYPE

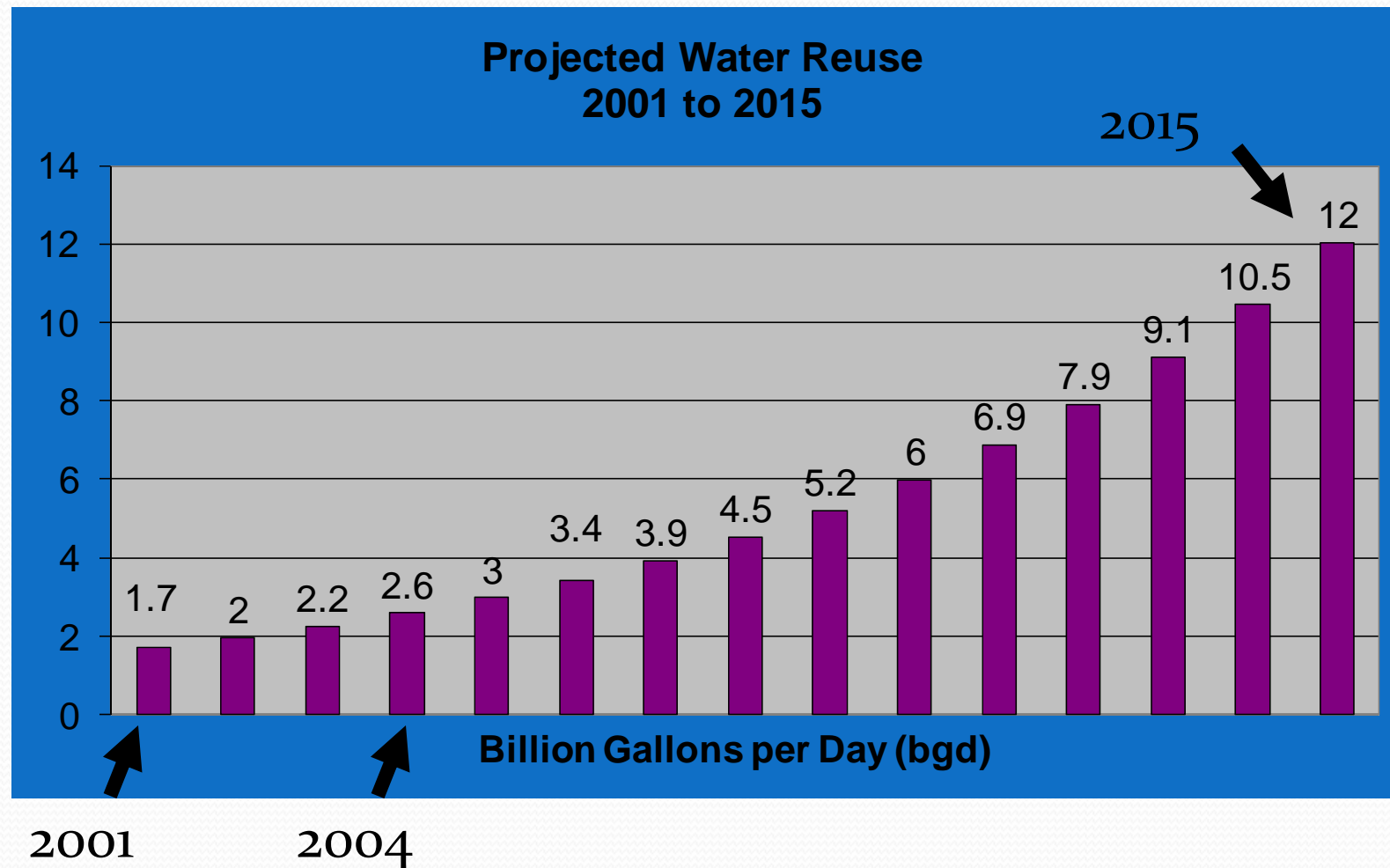


## *Increasing Proportion of the U.S. Population Served by POTWs*

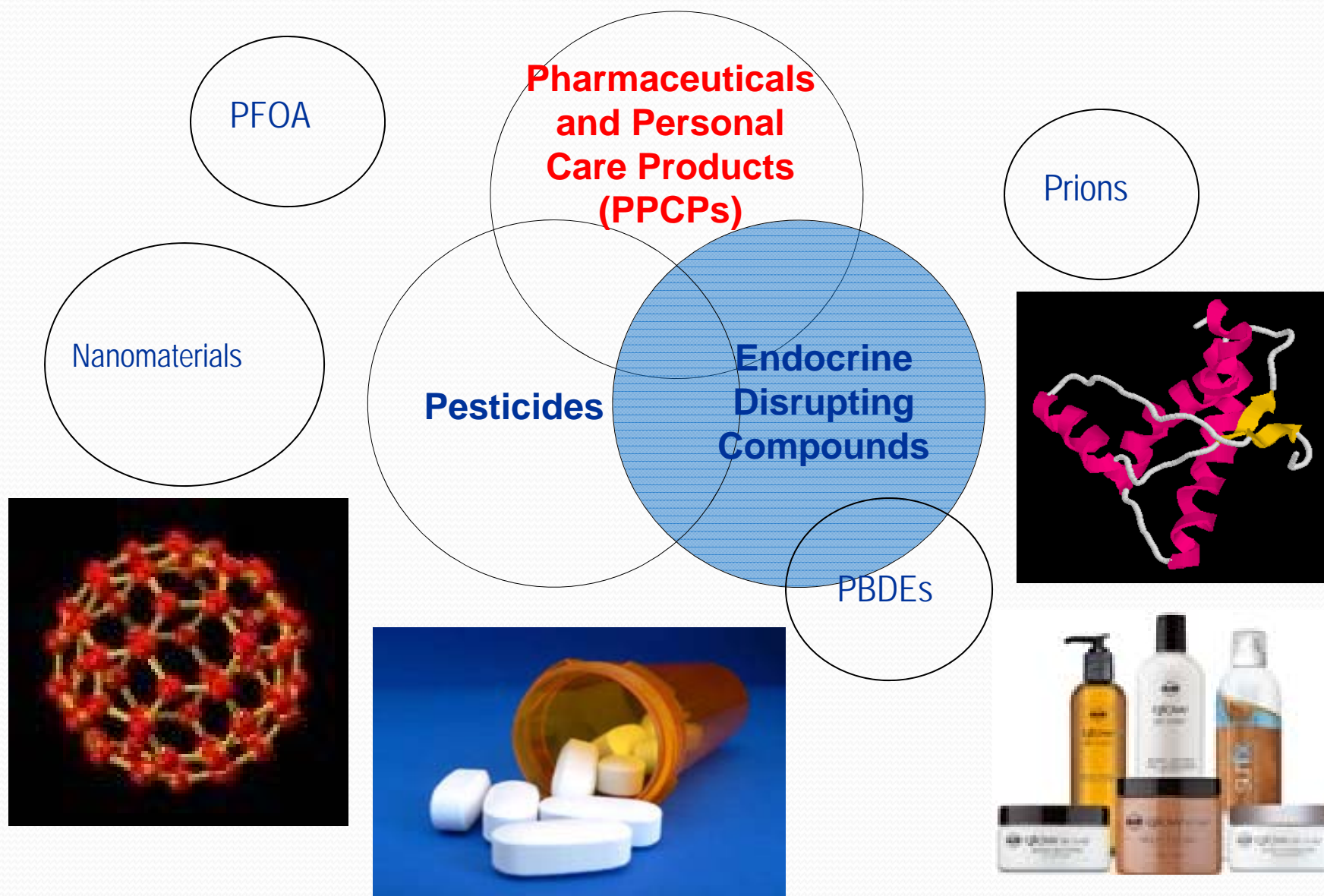
**Population Served (Millions)**

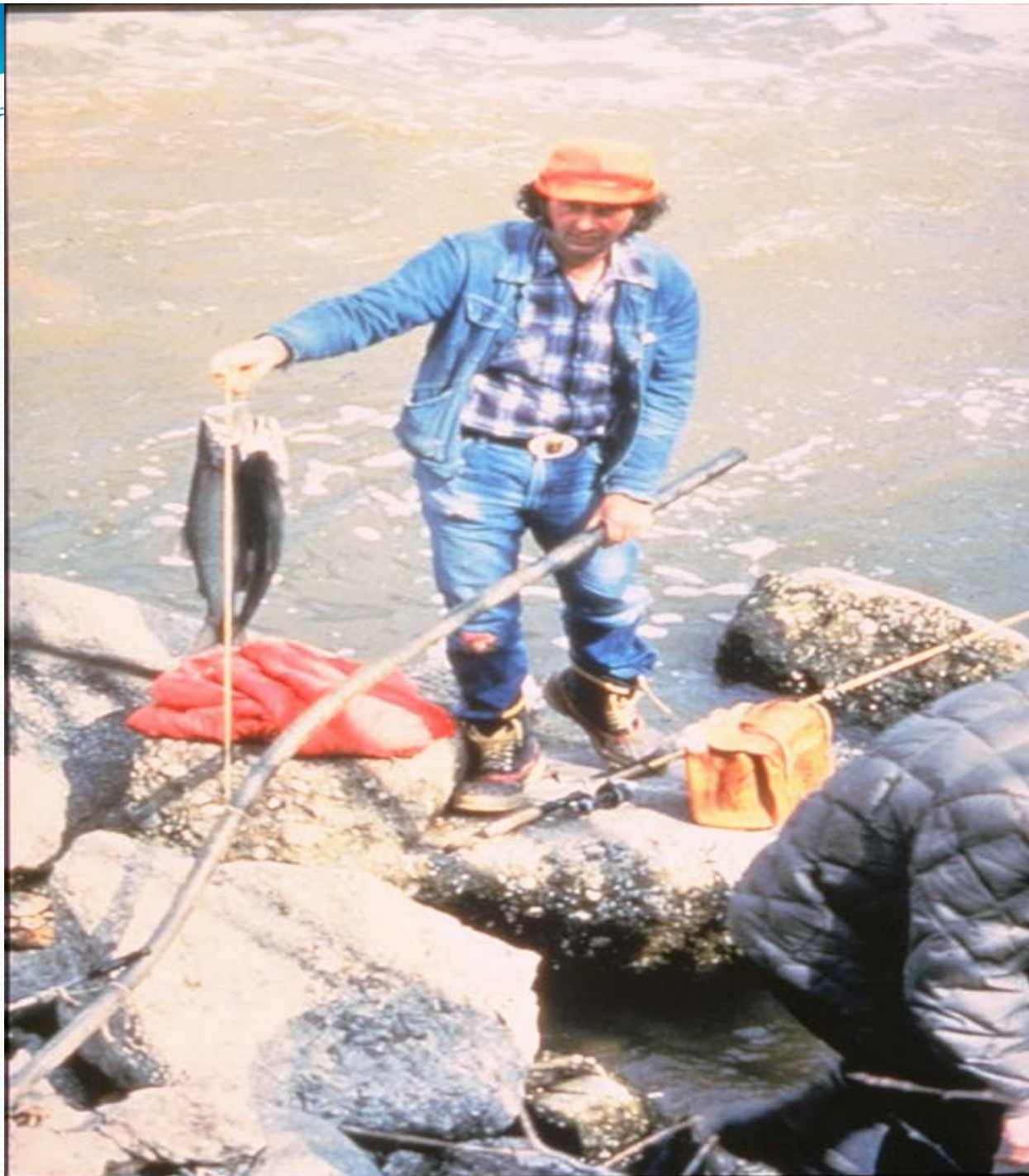


# Projected Growth of Water Reuse in the U.S.



# Contaminants of Emerging Concern in Water\*







# Ecosystem Improvements

Pair of Wood Ducks