NC DEQ
ENVIRONMENTAL STEWARDSHIP INITIATIVE

2026 ESI CONFERENCE

OCTOBER 29, 2026

KNOW BEFORE IT FLOWS

A Pretreatment Perspective on
Industrial Discharges, Wastewater Treatment,
and Environmental Stewardship







INDUSTRY ▸ COLLECTION SYSTEM ▸ WASTEWATER TREATMENT ▸ CLEANER TOMORROWS

PEOPLE | PARTNERSHIPS | CLEANER WATER | BRIGHTER TOMORROWS

TWO RIVERS UTILITIES

We are TRU to our customers!

Wastewater Treatment Division

3

WASTEWATER TREATMENT PLANTS

3.5B

GALLONS TREATED / 12 MONTHS

375

SWIMMING POOLS PER DAY

Eagle Road WWTP



Crowders Creek WWTP



Long Creek WWTP



Treatment Capacity & Average Daily Flow

LONG CREEK

16 MGD

DESIGN CAPACITY

6.4 MGD

FY 2026 ADF

CROWDERS CREEK

6 MGD

DESIGN CAPACITY

2.2 MGD

FY 2026 ADF

EAGLE ROAD

4 MGD

DESIGN CAPACITY

0.5 MGD

FY 2026 ADF

Plant Operations

45

EMPLOYEES

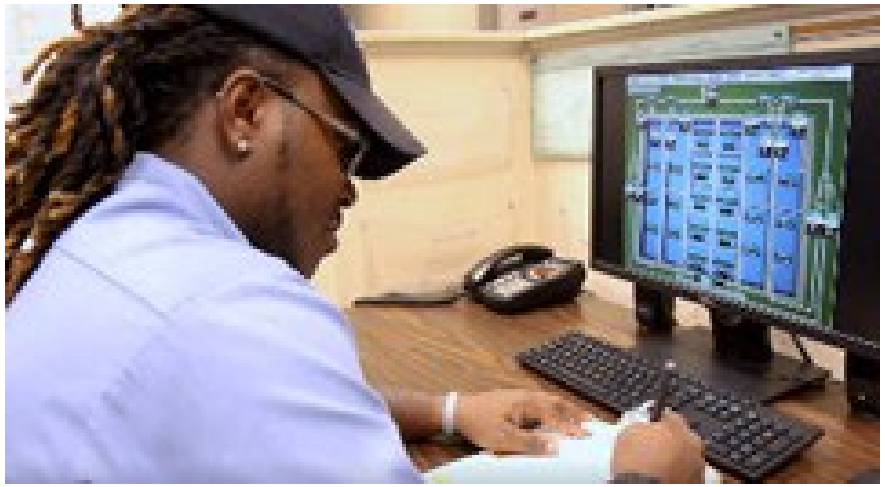
$10M

ANNUAL BUDGET

24/7

CONTINUOUS OPERATION

- Biological wastewater treatment
- SCADA monitoring and operational oversight



Biosolids & Resource Recovery

~25 MGY

CLASS B BIOSOLIDS LAND APPLIED

3,000

PERMITTED ACRES IN NC / SC

173

CITY-OWNED FARM ACRES

- Two 4-MG storage lagoons
- 0.65-MG decant basin



From Compliance to Stewardship

OUR ESI JOURNEY

The NC DEQ Environmental Stewardship Initiative (ESI) encourages organizations to go beyond minimum regulatory compliance by integrating environmental responsibility into daily operations.

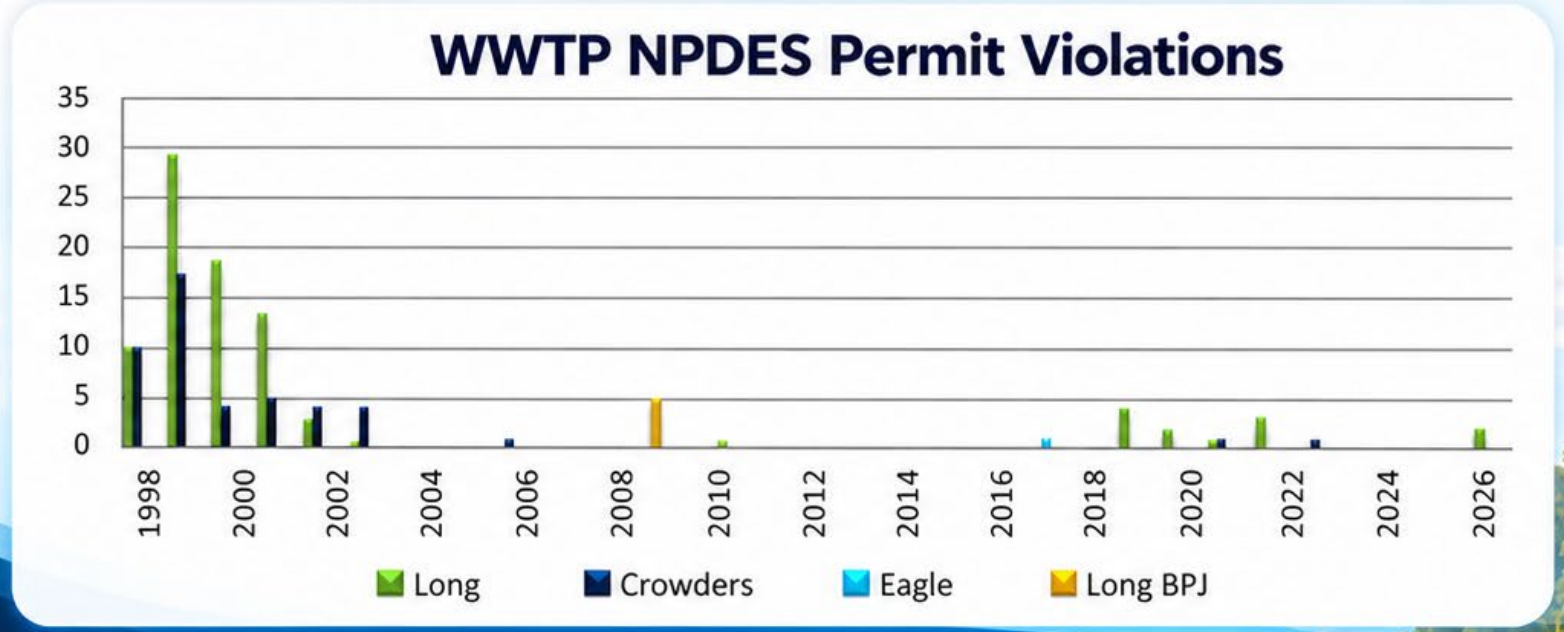
2001
ISO 14001 Certified

2002
Became an ESI Member

2004
Achieved Environmental Steward Designation

First municipality in **North Carolina** to receive the Environmental Steward **designation.**





*From **REACTIVE** compliance to **PROACTIVE** environmental management*

ISO 14001 & ESI

DIFFERENT FOCUSES. A SHARED GOAL.

ISO 14001

ENVIRONMENTAL MANAGEMENT SYSTEM (EMS)

- International standard
- Framework for managing environmental responsibilities
- Focus on continual improvement
- Applies to all aspects of operations.

ENVIRONMENTAL COMPLIANCE

Both support compliance with environmental laws, regulations and other requirements by integrating environmental responsibility into daily operations.

ESI

ENVIRONMENTAL STEWARDSHIP INITIATIVE

- North Carolina DEQ program
- Voluntary partnership
- Goes beyond minimum regulatory compliance
- Focus on people, partnerships and measurable progress
- Recognizes environmental stewardship achievements


IT ALL FLOWS TOGETHER
PRETREATMENT CONNECTS TODAY'S DECISIONS TO A CLEANER TOMORROW.
INDUSTRY
Makes decisions at the source.
PRETREATMENT
Keeps harmful substances out of our system.
CLEANER TOMORROWS
Protects our people, our infrastructure, and our environment.

Where Does It All Go?

FROM THE SOURCE | THROUGH THE SYSTEM | TO A CLEANER TOMORROW



INDUSTRY

Industrial customers generate wastewater from their operations.



COLLECTION SYSTEM

Wastewater flows through the collection system to the treatment plant.



WASTEWATER TREATMENT PLANT

Wastewater is treated to remove pollutants and meet permit requirements.



RECEIVING STREAM

Treated, cleaner water is returned to our local rivers and streams.



The wastewater treatment plant is ***downstream of everybody's decisions.***

Why Pretreatment Matters

All POTWs are required to have a Pretreatment Program & follow specific rules

PROTECTION

- **PEOPLE**
  Workers and public safety
- **INFRASTRUCTURE**
  Collection system and treatment plant
- **RESOURCES**
  Biosolids and reuse water
- **ENVIRONMENT**
  Receiving waters and downstream quality

PREVENTION & IMPROVMENT

Industry and Utility staff work to create and implement best practices

COMPLIANCE

Understand the permit requirements and the monitoring frequency and inspection expectations

Understanding Each Other: Utility & Industry

- Inspect and observe wastewater processes
- Have open/frequent communication internally and externally
- Ask questions to understand impacts
- Obtain/analyze representative samples
- Recognize abnormalities and changes



KNOW BEFORE IT FLOWS Acronym

K – Know your industry
N – Notice changes
O – Observe the process
W – Watch the waste stream

Recognizing the Red Flags

- Unusual colors or odors
- Abnormal pH, DO or field data
- Excess solids, oils, grease or foam
- Unexpected discharge patterns

- Poor or no documentation
- Potential bypasses and spill pathways

- Ethics – do not hide noncompliance

KNOW BEFORE IT FLOWS

B – Be curious
E – Evaluate the risk
F – Follow the flow
O – Open communication
R – Recognize red flags
E – Engage early

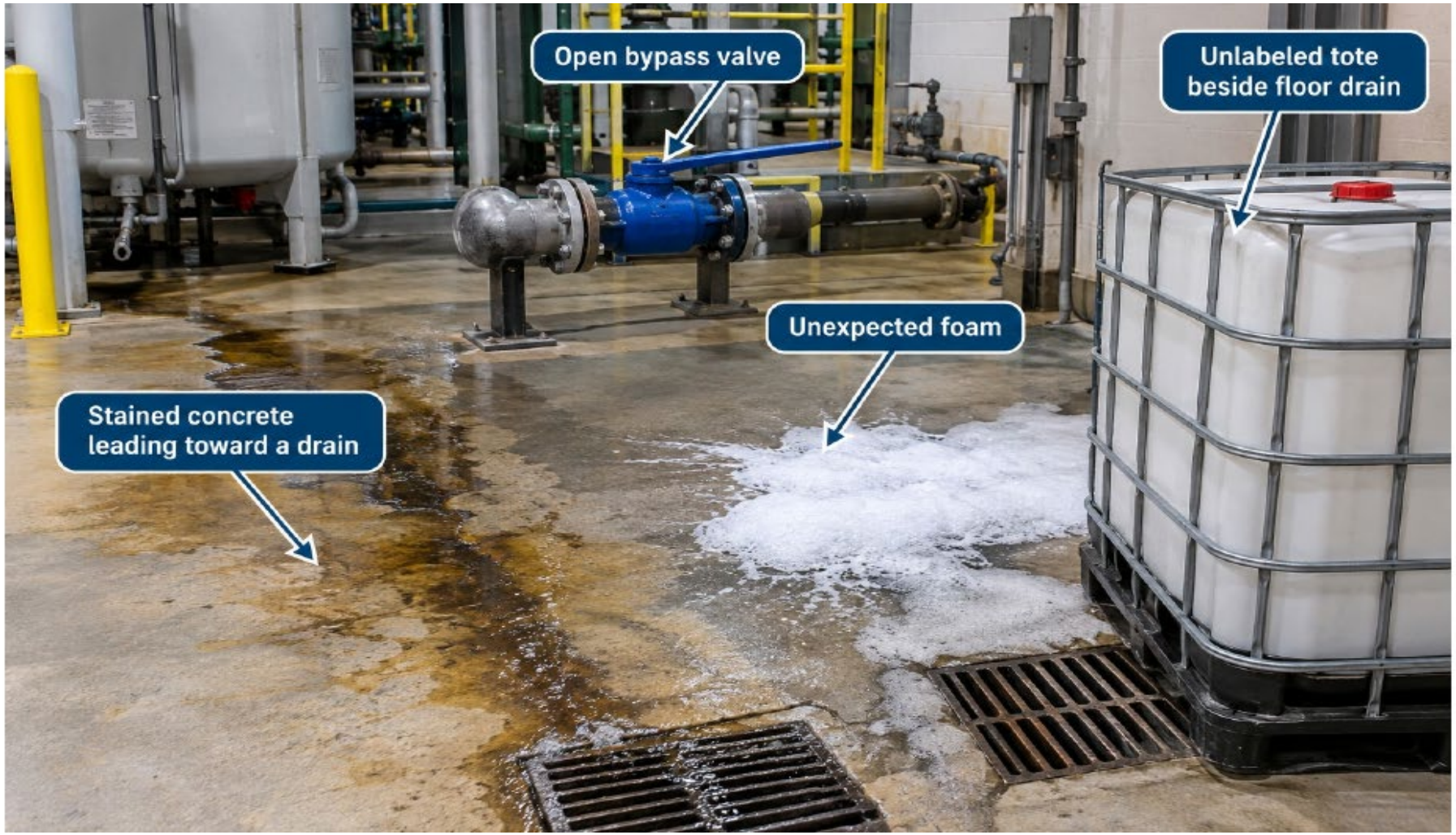




The Red Flags: What Do You See?



The Red Flags: What Did You Notice?



Finding it at the Wastewater Plant

- Treatment plant upsets
- Biosolids impacts
- Worker hazards
- Permit compliance issues
- Act quickly to reduce impacts





KNOW BEFORE IT FLOWS Acronym

I – Identify impacts
T – Think downstream

F – Find the source
L – Limit the impact
O – Operate proactively
W – Work together
S – Steward the environment

PARTNERS IN COMPLIANCE

WHAT INDUSTRIES CAN DO

Your Actions Make a Difference Before It Flows



SUBMIT REPORTS ON TIME

- Submit required reports and sampling results by the established due dates.
- Utilities do not have the flexibility to accept late reports due to regulatory timelines.
- If you anticipate a delay, communicate early so we can work together on next steps.

IF YOU RECEIVE AN NOV

- An NOV is a formal notice of noncompliance, not a penalty.
- Use it as an opportunity to identify issues and improve.
- Take it seriously, but don't take it personally.
- Respond within the required timeframe.
- Provide a clear plan for corrective actions and preventive measures.

TIPS FOR RESPONDING TO NOVs

- Acknowledge receipt promptly.
- Be factual and concise.
- Identify the root cause(s).
- Include specific corrective actions and a realistic timeline.
- Provide supporting documentation.
- Keep open communication with the utility.

UNDERSTAND HOW MUNICIPAL WWTPs WORK

- Municipal WWTPs are single pass-through systems.
- Once wastewater enters the plant, we cannot recirculate flow back through the treatment process.
- This means the quality and characteristics of the water you discharge directly impact our treatment process, effluent quality, and compliance with our NPDES Permit.

SAME GOAL. CLEANER WATER.

Your compliance helps protect our collection system, our treatment process, our permit compliance, and our community's waterways.

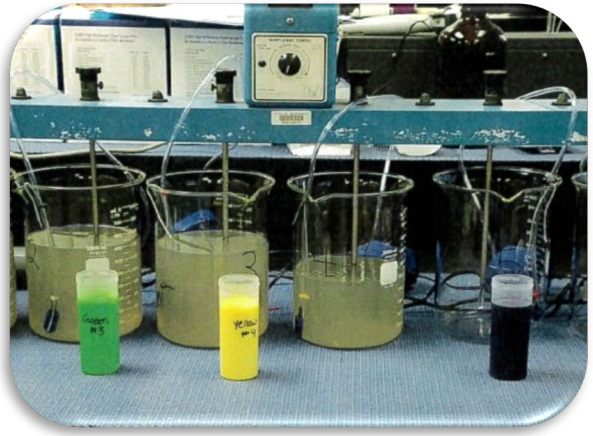
Color Slugs



Lessons Learned: Color Slugs

Investigate and Evaluate

- Utilities should not assume color slug is from same industry, confirm with field evaluations
- Evaluate harm and treatability
- Inform and discuss with others
- Compare data for treatment process to color events













Glass Fibers







Lessons Learned:

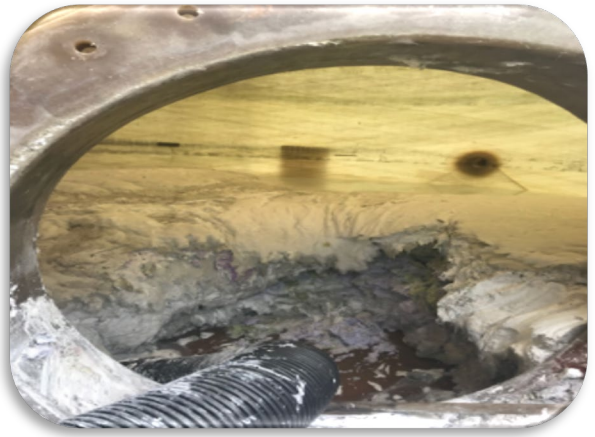
Glass Fibers

GLASS FIBERS

- Originated from a new industry's manufacturing process
- Did not fully understand the extent of material that made it to sewer

Negative affects

- Removal and/or treatment costs
- Collection system impacts - clogged pipes/pumps and equipment
- Additional lab testing
- Land application concerns











Lessons Learned: Glass Fibers

Double-Unit Bow Screen



Material removed by screens



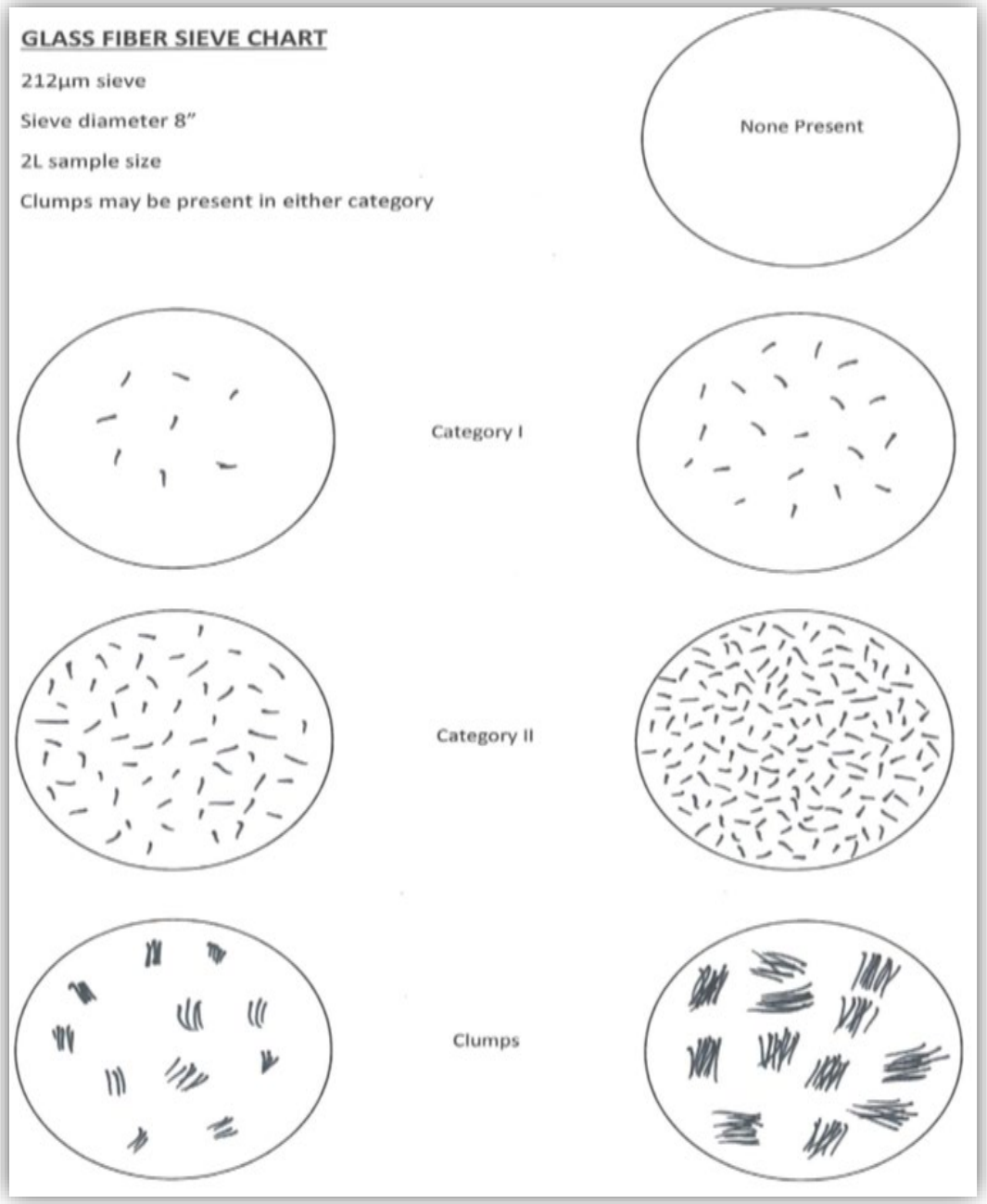
Lessons Learned: Glass Fibers

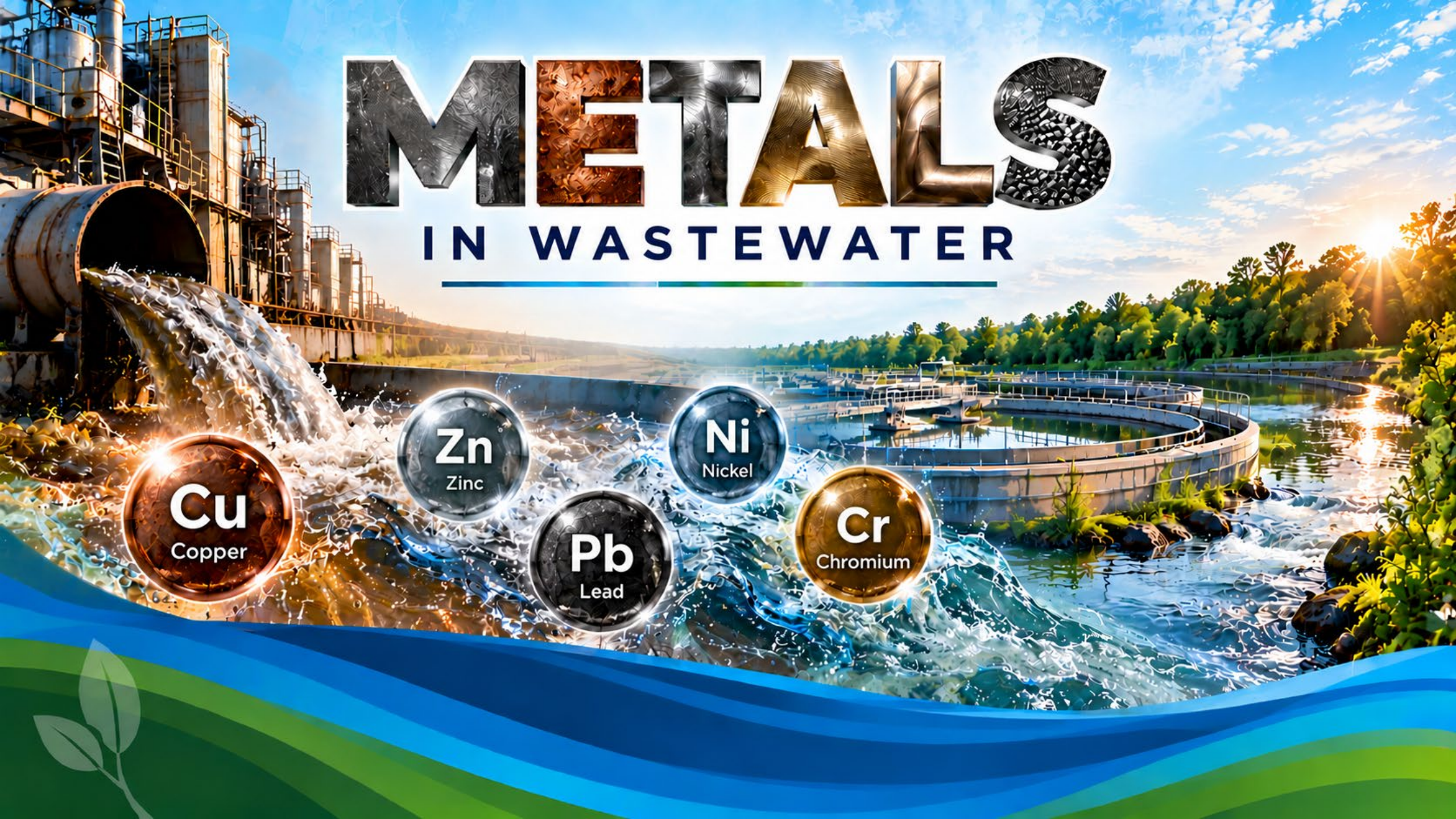


Category I



Category II




METALS
IN WASTEWATER
Cu
Copper
Zn
Zinc
Pb
Lead
Ni
Nickel
Cr
Chromium

Lessons Learned:

Metals

Metals

- 3rd shift industrial employee discharged wastewater with extremely high levels of metals present

Negative affects

- Biosolids out of compliance
- No land application
- Months of sewer trunkline sampling to locate source

Industry Takeaway

- Monitor internal processes & staff for SOP training
- POTWs are required to publicize industries in SNC status
  - Unlikely for ESI Members
- Cost for removal/repairs are passed to industry
  - Including civil penalties

KEY TAKEAWAYS & RESOLUTIONS

Different Pollutants.
Same Goal.
A Cleaner, Stronger System.



COLOR SLUGS

MAIN ISSUES

- Sudden, high-strength discharges
- Aesthetic and process impacts
- Potential for permit violations



GLASS FIBERS

MAIN ISSUES

- Non-biodegradable material
- Operational challenges (clogging, wear, solid handling)
- Increased maintenance and costs



METALS

MAIN ISSUES

- Toxic to aquatic life
- Can inhibit biological treatment
- Risk of permit limit exceedances

OVERALL RESOLUTION

KNOW YOUR DISCHARGE

Identify potential pollutants and manage them at the source before they enter the collection system.

COMMUNICATE EARLY

Notify the utility in advance of planned changes or upset conditions.

IMPLEMENT BMPS

Use best management practices to reduce or eliminate discharges.

PARTNER FOR SOLUTIONS

Work with the utility to find practical solutions and maintain compliance.

*From **REACTIVE** compliance to **PROACTIVE** environmental management*

Education, Enforcement & Partnership

EDUCATION

Help industries prevent pollution

ENFORCEMENT

Demonstrate regulatory accountability

PARTNERSHIP

Build relationships and stewardship



Better decisions at the source. Better outcomes downstream.

Pretreatment is where compliance, operations, and environmental stewardship meet.

Know Before It Flows

Somebody downstream will be affected

QUESTIONS?

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