

Water: The Current Brings us Together



Moline

IL

Designed by TownMapsUSA.com

Moline Water Treatment Plant

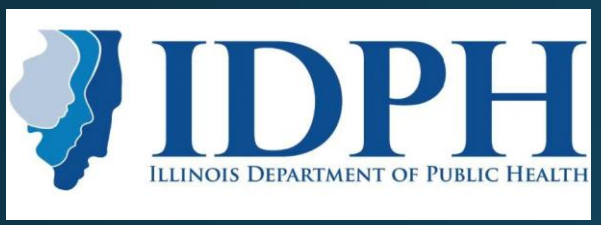


Swim Together





Partners



Moline's Source Water

- Upper Mississippi River
- Watershed = 88,500 square miles
- Water quality highly variable



QC UMR Water Supplier Coalition



5 Surface Water Supplies
~ 250K People

WATER Potential Contamination Sources



- ❑ Barge Transport
- ❑ Railroads & Highways
- ❑ Coal Ash Impoundments
- ❑ Pipeline Crossings
- ❑ Nuclear Energy Plant
- ❑ Industrial Facilities
- ❑ POTWs



Stephen Colby Incident

November 2013



- ❑ Tug strikes object & sinks
- ❑ Hull & storage tanks breached
- ❑ 90K gallons diesel fuel
- ❑ 1K gallons lubricant
- ❑ Iowa shoreline
- ❑ ~10 miles upstream QCA
- ❑ Successful containment
- ❑ Cause human error

Dubuque CP Derailment

February 2015



- ❑ 2 locomotives & 21 cars derailed
- ❑ 8 cars w/ denatured ethanol
- ❑ Outdated tanker cars
- ❑ 55k gallons released
- ❑ Significant portion entered water
- ❑ Isolated area
- ❑ ~110 miles upstream QCA
- ❑ Ice & low flow minimized impact
- ❑ Cause undetermined

Galena BNSF Derailment

March 2015



- ❑ 21 of 105 cars derailed
- ❑ 630K gallons Bakken crude
- ❑ Isolated area
- ❑ Mississippi backwaters
- ❑ Adjacent to Galena River
- ❑ ~79 miles upstream QCA
- ❑ Successful containment
- ❑ Cause: defective wheel

Coalition Genesis

- Key staff from five QC UMR water utilities – Fed, Muni, Private
- Shared ideas & concerns
- Established vision, mission & goals



Local Water Supplies Hear the Wake-Up Call and Unite Moline, East Moline, Rock Island, Rock Island Arsenal & Iowa American Water



Quad Cities Area Mississippi River Water Suppliers Coalition

July 2014

Vision

Continuous safe, high quality, economical water for the communities we serve

Mission

Collaborating to advance the mutual interests of the Quad Cities water utilities that utilize the Mississippi River as their source water

Goals:

- Enhanced spill response readiness
- Increased understanding of potential spill sources and associated risks
- Improved spill detection and monitoring capabilities
- Improved source water protection
- Enhanced monitoring of natural river changes
- Enhanced communications between the QCA Mississippi River Water Suppliers (routine and emergency)

Key Coalition Partners

- Upper Mississippi River Basin Association (UMBRA)
 - Hazard Spills Group
 - Water Quality Task Force
- USEPA
 - Region 5 Superfund Division/Regional Response Team 5 (RRT5)
 - Office of Research and Development (ORD)
- Illinois & Iowa SDWA Primacy Agencies
- Scott & Rock Island County LEPCs
- US Coast Guard Maritime Safety Attachment (USCG-MSA)
- QC Area Maritime Security Committee (QC-AMSC)
- US Army Corps of Engineers (USACE)
- Railroads & Local Industries

Ongoing Activities

- Strengthen established partnerships
 - Plan & conduct Coalition table-top exercise(s)
- Development of real-time river monitoring
 - Refine emergency water supply strategies
- Formation of CAER Group (Community Awareness & Emergency Response)
- Understand & manage presence HABs, PFAs,

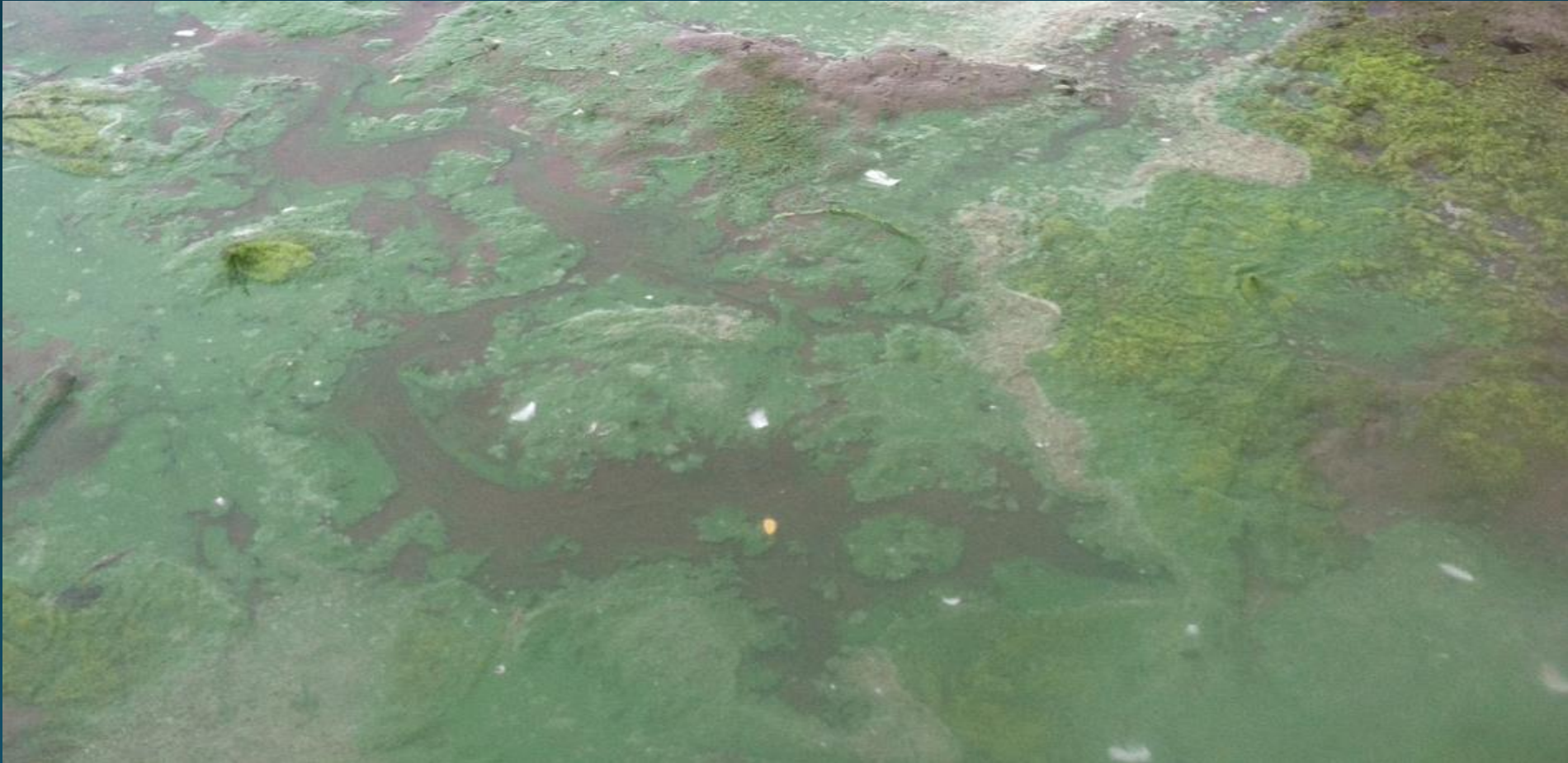
Secrets of Success



*“Most of the great learning happens in groups.
Collaboration is the stuff of growth.”*

Ken Robinson

Cyanobacteria Bloom @ Moline WTP



“TRUE ” ALGAE

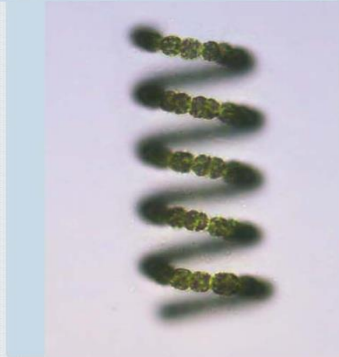
Algae: The World's Most Important Plants



Images: Sarah Rushforth, Mindy Morales, and Kalina Monoylov

Cyanobacteria

Blue-Green Algae



Dolichospermum crassum



Gloeotrichia sp.

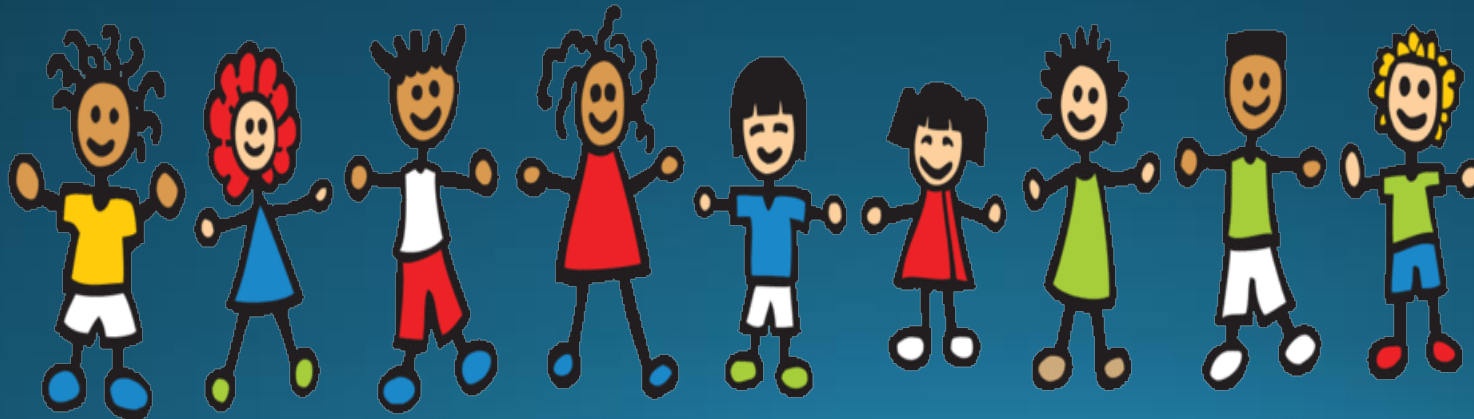


Aphanizomenon sp.

Images: Sarah Rushforth, Mindy Morales, and Kalina Monoylov

Why

- Public Health Protection
- Health Advisories /Regulations
- Community Relations
- Odor and Taste
- Increased Water Treatment Plant efficiency





Quad City Monitoring Station



@ MEC Riverside Generating Station



Mussel Teamwork



Secrets of Success



“Unity is Strength...when there is teamwork and collaboration, wonderful things can be achieved.”

Mattie Stepanek

Never Swim Alone



Moline Water Stability & Corrosion Study



Moline Water
Treatment Plant

The Issue

- Variable source water chemistry
- Improved alkalinity and pH control
- Investigate strategies for water quality modifications

Moline Utilities Lab Team



Time for Collaboration!



Bring into the Current



**CDM
Smith**

WQI Water Quality
Investigations

Solving problems from source to tap



 **QC Analytical Services**
Environmental Lab



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Never Swim Alone



The Journey Never Ends

Examples of Current and Emerging Challenges

- HABs and Algal Toxins
- Perfluoroalkyl and Polyfluoroalkyl Substances (PFAS)
- Extreme Weather & Climate Change
- Anomalies in Raw Water Quality
- Silver Tsunami
- Ai
- ???????




Are there careers in the water field?



Yes

Swim with us

What's cool about H₂O careers?

- ❑ Water industry is ever-changing 
- ❑ Ground-breaking technology advancements
 - ❑ Need for new water leaders
- ❑ Making a difference in the world...EVERYDAY!



The overflowing benefits

☐ Careers in water are
SECURE!

☐ Careers in water
have room for
GROWTH!

☐ Careers in water
have **COMPETITIVE**
salaries, benefits and
more!

Water Career Opportunities

- Distribution System Mechanic
- Water Plant Operator
- Laboratory Technician
- GIS Specialist
- Customer Service Representative
- Utility Manager
- Civil Engineer
- Environmental Research Scientist



Lessons Learned

- Environmental Professionals never succeed alone; it takes a whole community of people who through awareness, attitude, and action create lasting change.
- **Start small and grow a network of partners that can create shared successes.**
- In the environmental sector, opportunities for personal and professional growth keep expanding follow every opportunity you can


Always swim with others

- Teamwork + Fun

= Success



Put Into Action



UPPER MISSISSIPPI RIVER CONFERENCE + NEXT GEN. SUMMIT

Learning From

EACH

OTHER

The graphic features the words 'EACH' and 'OTHER' in large, bold, white letters. Each letter is filled with a different nature or landscape photograph: 'E' shows a forest, 'A' shows a swan in a pond, 'C' shows a waterfall, 'H' shows a bridge over a river, 'O' shows a sunset over water, 'T' shows a river with a dam, 'H' shows a bridge over a river, 'E' shows a river with a dam, and 'R' shows a sunset over water.

