Surface Water Quality and Its Impact on Customers

Bill Stowe
CEO & General Manager
Des Moines Water Works
Flood of 1993
Des Moines Water Works at Fleur Drive
Flood of 2008
Des Moines Water Works at Fleur Drive
Drought of 2012

Raccoon River at 63rd Street

photo credit: The Des Moines Register
Nutrient Reduction Strategy

- Strategy lacks urgency, timelines, goals
- Strategy has no numeric criteria or a strategy to get to a numeric goal
- Misconception that one number has to cover the whole state
- Knowing that farming practices and weather patterns differ across the state, individual watersheds should be assigned a numeric nutrient criteria
Nutrient Reduction Strategy

- Voluntary conservation practices have been around for 30 years and we haven’t achieved water quality improvement.
- Using wastewater industry as an example, water quality did not improve in this country until practices began being regulated.
- It will take some level of regulation to achieve the same for non-point sources.
Summer of 2012: Quality not Quantity
Summer of 2012: Quality not Quantity

Raccoon River Algae

Units per mL

Julian Date

2010 RR Algae
2011 RR Algae
2012 RR Algae
Summer of 2012: Quality not Quantity

Chlorine Demand

mg/L

Julian Date

2010 Demand
2011 Demand
2012 Demand
Summer of 2012: Quality not Quantity

Finished Water Total Organic Carbon

mg/L

Julian Date
Summer of 2012: Quality not Quantity

Finished Water Temp

Degrees F

Julian Date
Historic River Loading Trends

Annual Metric Tons Nitrate-N in the Raccoon

Load vs. Flow chart showing the load and flow trends over the years from 1997 to 2012.
Historic River Loading Trends

Raccoon River Annual Average Nitrate-N, 1974-2008
#1
“CITY FOR CLEAN DRINKING WATER”
- FORBES
What Can I Do?

- Use Phosphorus free fertilizer ($P = 0$)
- Irrigate responsibly and choose plantings that are resistant to drought
- Recycle water and household goods (avoid bottled water!)
- Keep hazardous chemicals out of water ways
- Talk with leaders about environmental concerns
- Join an advocacy group