E. coli and Microcystin Monitoring at Iowa’s State Park Beaches

Presenters:
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&
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Description of talk

• Intro to the State Beach Monitoring Program
  – Brief History
  – Elements of the program
  – Program Objectives

• What we have learned
  – E. coli Trends
  – Microcystin Trends
  – Health Reports

• Questions
Introduction to program

• History
  – When did it start?
    • Beach Monitoring Program started 1999.
    • Microcystin added in 2006.
  – How big was it?
    • 12 Beaches sampled weekly in 1999.
    • E. coli only.
  – How big is it now?
    • 39 State Park Beaches and 29 County/City Beaches sampled weekly.
    • E. coli and Microcystin Toxins.
Introduction to program

Elements of the program

- 39 State Beaches are each sampled E. coli and Microcystin toxins the week before Memorial Day through Labor Day.
- 29 County and City Beaches are each sampled E. coli the week before Memorial Day through Labor Day.
- E. Coli Samples are analyzed by end of business on Thursday of each week.
- Data is reported out, Public website is updated, and beach signage is updated Friday of each week.
Introduction to program

• Elements of the program
  – Parameters collected:
    • Field (Beach):
      – Temperature
      – pH
      – Dissolved Oxygen (mg/L and % saturation)
      – Turbidity
      – Wave Height and Direction
      – Current Weather Conditions
    • Laboratory:
      – E. Coli (Indicator Bacteria) by SHL
      – Microcystin toxin by IDNR
Introduction to program

- Beach Sampling Design
  - 9 point composite
Introduction to program

- Program Objectives
  - Safeguard public health at Iowa’s state-owned and locally managed beaches.
  - Informing the Public
    - General information and Advisory signs at State Owned Beaches.
    - Park staff, Iowa Department of Public Health notified
    - Beach Monitoring Website
    - Beach Monitoring Hotline
    - Press releases
      - Tracking long term trends.
      - Biannual Water Quality Assessments, listing and reporting as a part of the 303(d) and 305(b) sections of the Federal Clean Water act.
What we have learned?

Beach Status - Advisory Events due to Indicator Bacteria
(Memorial Day - Labor Day)

Swimming Season
- Single Sample or Geo Mean E. coli Violation
- Events with No E. coli violation
What we have learned?

% Advisory Events due to Microcystin Toxins
(Memorial Day - Labor Day)

Year


# of Advisories

0% 1% 2% 3% 4% 5% 6% 7% 8% 9% 10%
What we have learned?

% Advisory Events due to Microcystin Toxins
(Memorial Day - Labor Day)
What we have learned?
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Number of Suspected Cases of Microcystin Poisoning Reported to IDPH
Questions