

US EPA ARCHIVE DOCUMENT

EPA's Critical Path Science Plan: Overview

Multi-stakeholder Engagement on New/Revised
Recreational Water Quality Criteria

February 20, 2008

Washington, DC



EPA's Critical Path Science Plan for New/Revised Criteria

- Describes research and science for establishing the scientific foundation for new/revised criteria
- Is an integrated approach to answering key science questions for scientifically sound criteria



Goals of the Science Plan Research

- Assess Human Health Risk
- Develop Indicators
- Develop Methods
- Extrapolate Research Results



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Key Research Questions (1)

- *What is the risk to human health from swimming in water contaminated with human fecal matter as compared to swimming in water contaminated with non-human fecal matter?*
 - Risks from Human Sources of Fecal Contamination
 - Risks from Non-Human Sources of Fecal Contamination



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Key Research Questions (2)

- *How well do culture and molecular methods for various indicators (singly or in combination) correlate with swimming-related illnesses?*
 - Develop, Evaluate and Validate Indicators and Methods
 - Assess Linkages between Indicators and Methods
 - Characterize Temporal and Spatial Variability in Measurements



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Key Research Questions (3)

- *Are the indicators, methods and models suitable for use in different types of waters and for different CWA programs?*
 - Assess Variability in Diverse Geographic and Aquatic Conditions
 - Assess Methods Suitability to Different CWA Purposes
 - Develop, Evaluate and Validate Predictive Models and Tools



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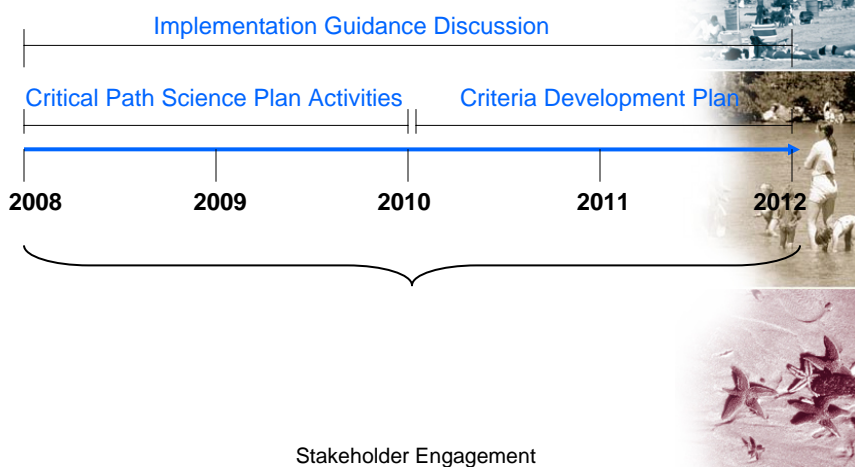
Categories of Research Activities

- Epi Studies and/or QMRA
- Indicators, Methods
- Fate & Transport Studies
- Predictive Modeling
- Site Characterization Studies
- Research to Support Extrapolation to Inland Waters



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What To Expect



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For More Information

For a copy of EPA's Critical Path
Science Plan:

Contact Shari Barash at

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or Samantha Fontenelle at

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For other information on recreational
water quality criteria:

www.epa.gov/waterscience/criteria/recreation






www.epa.gov/ord

WATER QUALITY RESEARCH PROGRAM
BUILDING A SCIENTIFIC FOUNDATION FOR SOUND ENVIRONMENTAL DECISIONS

Critical Path Science Plan Identified Research Priorities

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ORD NPD for Water Quality
February 20, 2008
Washington, DC

U.S. Environmental Protection Agency
Office of Research and Development



WATER QUALITY RESEARCH PROGRAM

CPSP Research Issues

- Freshwater and Marine Studies
 - Indicators and Microbial Survival
- Studies in POTW Impacted Waters
- Other Microbial Sources

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Water Contamination Issues

- Human Sources
 - POTWs
 - Urban
- Animal Sources
 - Domestic Animals
 - Wildlife
- Tropical Waters
 - Indicator Occurrence/Growth

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Study Indicators

- *Enterococcus* Method 1600
- *Enterococcus* qPCR
- *E. coli* qPCR
- *Bacteriodes* qPCR
- Human Specific *Bacteriodes* qPCR
- F-Specific Coliphage
- *C. perfringens* qPCR

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