AGENDA ITEM #15: KEY TAKE-AWAY FROM DAYS 1 AND 2

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THANK YOU
INSERT EPA DISCLAIMER HERE…

AKA WE’RE JUST GETTING STARTED ON

BOILING IT DOWN
WHAT DO WE HOPE TO ACHIEVE?

• ISSUE LEARNING AND IMPROVED RELATIONSHIPS
  • BUILD A TEAM OF ENGAGED AND COLLABORATIVE PROBLEM SOLVERS

• PRIORITY ACTIONS (INDIVIDUAL AND COLLECTIVE)
  • LONG-TERM TO ACHIEVE OUR GOALS
  • SHORT-TERM TO ALIGN WITH LONG-TERM GOALS

Waters that are safe to swim
Shellfish that are safe to eat
DAY 1

SHARED GOALS:
Waters that are safe to swim;
Shellfish that are safe to eat
DAY 1

• EPA’S 2012 CRITERIA BASED ON RISK LEVEL
  • ALLOWS CONSIDERATION OF OTHER METHODS AND INDICATORS PROTECTIVE OF THE USE

• SCIENCE CONTINUES TO ADVANCE OUR UNDERSTANDING OF RISK IN RECREATIONAL WATERS AFFECTED BY FECAL CONTAMINATION

• SOURCE (Fecal Source) MATTERS FOR RISK
  • OF ALL THE PATHOGENS IN A WATERBODY, VIRUSES MOST LIKELY TO MAKE PEOPLE SICK
  • IN WATERS NOT IMPACTED BY HUMAN FECAL SOURCES, VIRUSES LIKELY NOT PRESENT
  • NATURE AND MAGNITUDE OF SOURCE(S) ARE IMPORTANT

• RISKIEST SOURCES ARE HUMAN AND CATTLE

• FIB CAN DO A GOOD JOB INDICATING RISK, BUT NOT ALL OF THE TIME
DAY 1

• RAPID METHODS WOULD INCREASE TIMELY RISK COMMUNICATION TO THE PUBLIC
  • IS IT ACTUALLY SAFE TO SWIM TODAY? NOT YESTERDAY OR TOMORROW…

• QMRA IS A TOOL TO BETTER CHARACTERIZE RISK / RISK MANAGEMENT QUESTIONS
  • ALLOWS MODELING DIFFERENT SCENARIOS, WHILE EPI STUDIES LIMITED TO STUDY DESIGN
  • SCIENTIFIC COMMUNITY HAS DEVELOPED RISK BASED THRESHOLDS / FRAMEWORK
  • SENSITIVE TO INPUTS
DAY 1

• NEW TOOLS UNDER DEVELOPMENT TO IDENTIFY SPECIFIC HUMAN SOURCES
  • E.G., SEPTIC, SEWER, UNHOUSED COMMUNITIES
  • DISTINGUISHING SOURCE IMPORTANT FOR RESOLVING THE INPUT

• COLIPHAGE ANOTHER TOOL FOR IDENTIFYING RAW SEWAGE
  • RESEARCH TO DATE: BEACHES ARE CLEAN; FOUND AT IMPERIAL BEACH (IMPACTED BY TIJUANA)
DAY 2: SOURCE REDUCTION

• SOURCE NOT ONLY MATTERS FOR RISK, IT MATTERS FOR IMPLEMENTATION
  • ARE OUR ACTIONS REMOVING THE RISK?

• DRY WEATHER = SIGNIFICANT SUCCESS

• WET WEATHER = MORE QUESTIONS ABOUT WHAT WORKS

• INLAND
  • SCOPE BIGGER (MORE WATERBODIES) INLAND
  • LESS STUDIES; BIGGER DATA GAPS
DAY 2: SOURCE REDUCTION (CASE STUDIES PRESENTED)

- Indicator bacteria did not correlate with human waste markers
  - Human waste was not detected at some project sites
  - Human waste was detected in some storm drains
- Removal of human markers (HF183) does not always remove FIB
- Finding the source of human waste is hard; resolving the issue is the easier part
- Communicating safety of swimming just as important as when it’s not safe to swim (Environmental Justice = Access to Wild Waters)
DAY 2: REGULATORY

• 1970s: Investment in sewer and treatment
• 1990s: Stormwater ID as remain source
• How do we focus on human sources in stormwater?
• How do we connect the work of stormwater and wastewater?
• Wastewater has been so successful in this area
DAY 2: REGULATORY

- CONTROL CONTROLLABLE SOURCES
- MOVE TO A MORE PROACTIVE STATEWIDE APPROACH
- WHAT’S THE BASELINE LEVEL OF ACTIVITIES THAT EVERYONE SHOULD BE DOING?
- MOVE AWAY FROM REACTIVE ACTIONS
- IDEAL WORLD = ACTIONS TO ADDRESS THE PROBLEM
- REALITY = ENFORCE WQOS
- HOW LOW CAN GO?
- CHALLENGES WITH TREATING / DISINFECTING STORMWATER
DAY 2: REGULATORY

• A RISK BASED APPROACH REQUIRES LINKAGE TO ILLNESS RATE IN STATE STANDARDS

• EXISTING REGULATORY TOOLS BUILT INTO STATE STANDARDS
  • NATURAL SOURCE EXCLUSION
  • SEASONAL SUSPENSIONS OF USE

• NEED TO FIGURE OUT WHAT TO DO WHEN SOURCE ID SHOWS NO HUMAN SOURCES

• WORKING TO FILL DATA GAP TO COMMUNICATE WHAT IT MEANS TO BE SAFE TO SWIM IN INLAND WATERS

• DESIRE TO WORK WITH HEALTH AGENCIES
WHAT RESONATED: SOURCE REDUCTION

Risk-Based
- Assessment & Identification
- Control
- Human
- Dry weather / wet weather

Prioritize and Fix
- Sewer / septic
- Broken pipes

Collective Action
- Stormwater and Wastewater
- Community Analysis
- Monitoring

Communication
- Public Education
- Risk Communication
- Agency collaboration
WHAT RESONATED: REGULATORY OPPORTUNITIES
• ACKNOWLEDGEMENT THAT MORE RESEARCH IS NEEDED TO EVALUATE USES AND OBJECTIVE
• DESIRE FOR CDPH, FDA, LOCAL PUBLIC HEALTH AGENCIES, AND WATER BOARD TO WORK TOGETHER
• INTEREST IN A SHELLFISH INDEX TO COMMUNICATE SAFETY TO PUBLIC
• THEY ARE TASTY 😊
WHAT ELSE NEEDS TO BE CONSIDERED AS WE MOVE FORWARD…

• TRIBAL AND CULTURAL BENEFICIAL USES
• EQUITY
SAFE TO SWIM / SAFE TO EAT

Fecal Source Matters
• Riskiest Sources = Humans and cattle

Implementation Matters
• Prioritize riskiest sources
• Control controllable sources
• Accountability

Allowing for these Outcomes Varies
• Different regional approaches
• Different TMDLs / permits
Waters that are safe to swim / shellfish that are safe to eat

Permits / WDRs

Water Quality Standards

Public Communication

Public Health

303(d) List

Research

Source Reductions
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GOING FORWARD...