



CALIFORNIA BACTERIA SUMMIT

SEPTEMBER 14-16, 2022

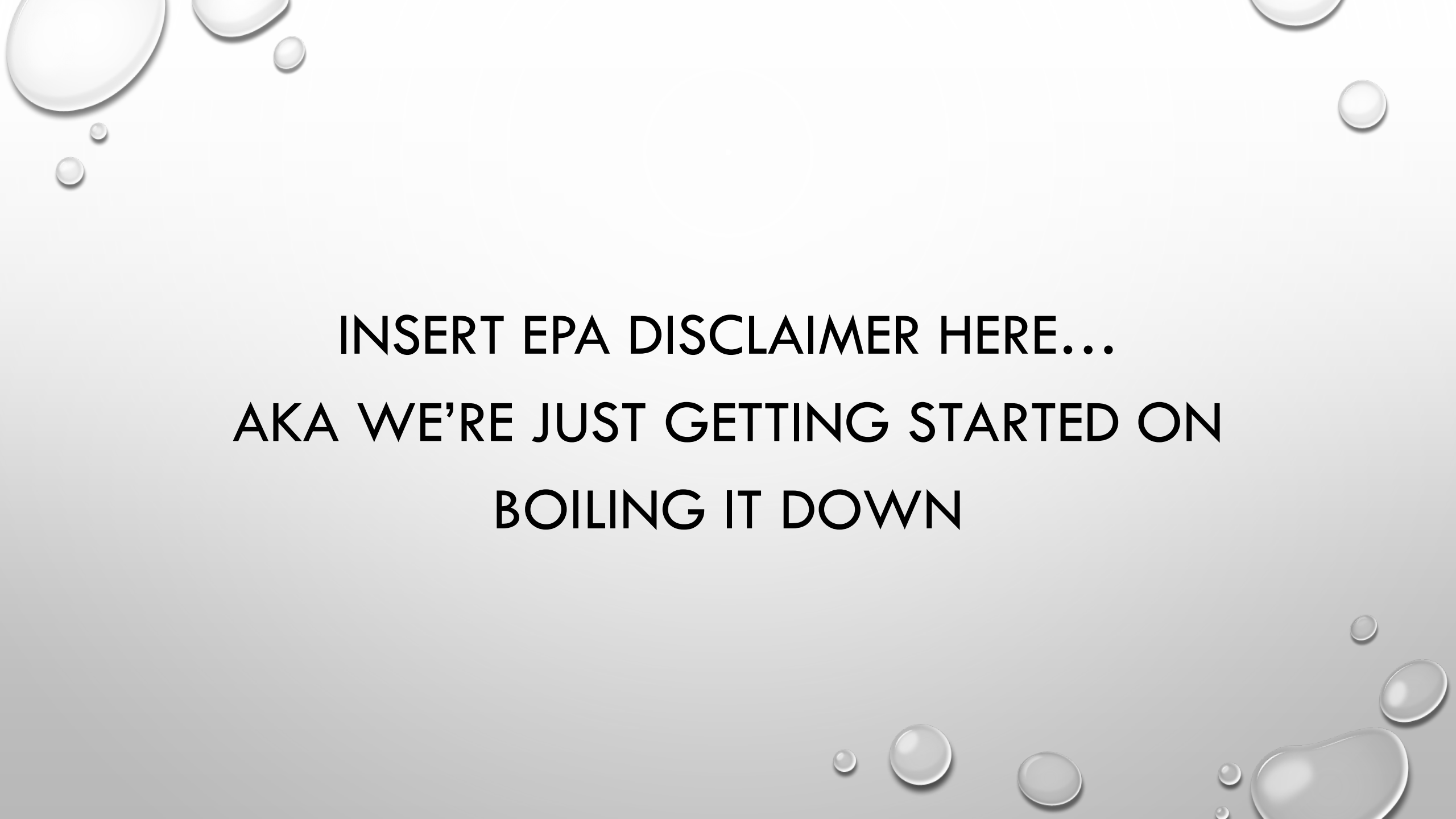
AGENDA ITEM #15: KEY TAKE-AWAY FROM DAYS 1 AND 2

Jonathan Bishop: State Water Board

Karen Cowan: CASQA

The image features a light gray background with a subtle gradient. In the top-left and bottom-right corners, there are several realistic water droplets of varying sizes, rendered with soft shadows and highlights to give them a three-dimensional appearance. The text "THANK YOU" is centered in the middle of the frame.

THANK YOU

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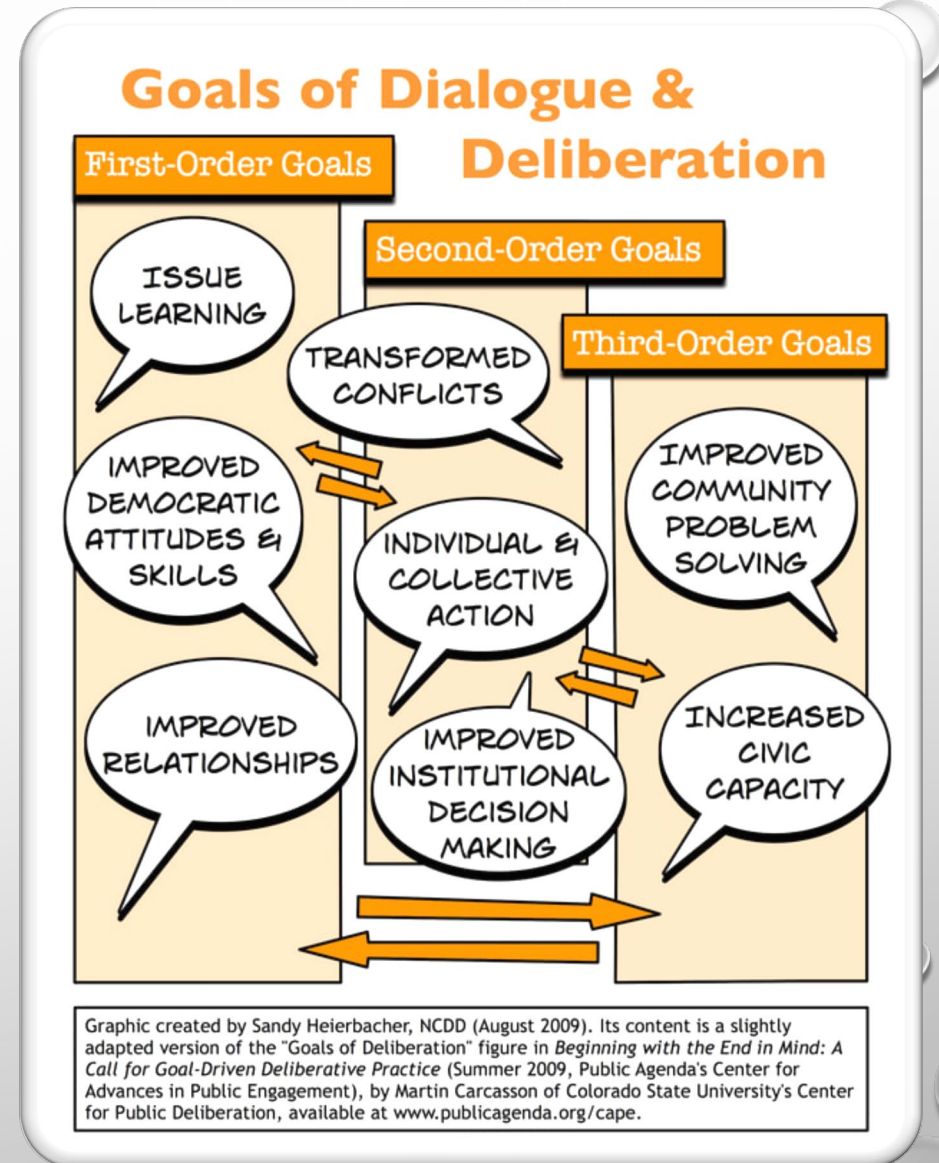
INSERT EPA DISCLAIMER HERE...
AKA WE'RE JUST GETTING STARTED ON
BOILING IT DOWN

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

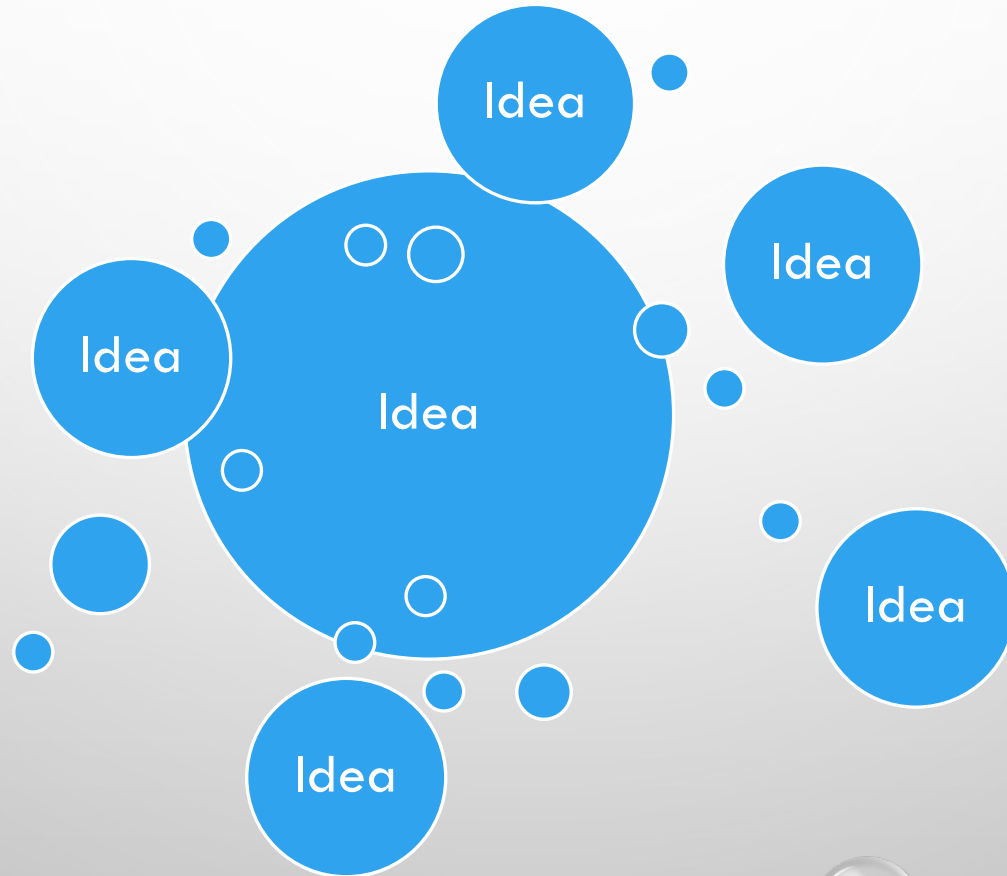
Collective Action

- Stormwater and Wastewater
- Community Analysis
- Monitoring

Communication

- Public Education
- Risk Communication
- Agency collaboration

WHAT RESONATED: REGULATORY OPPORTUNITIES



SHELLFISH

- 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





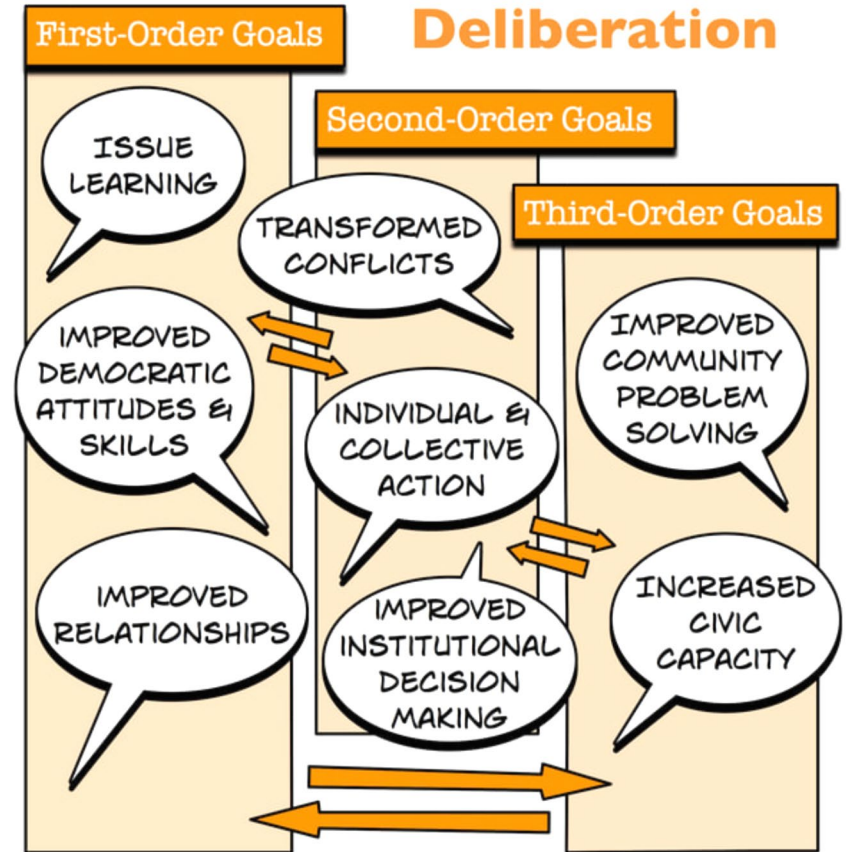
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Goals of Dialogue & Deliberation



Graphic created by Sandy Heierbacher, NCDD (August 2009). Its content is a slightly adapted version of the "Goals of Deliberation" figure in *Beginning with the End in Mind: A Call for Goal-Driven Deliberative Practice* (Summer 2009, Public Agenda's Center for Advances in Public Engagement), by Martin Carcasson of Colorado State University's Center for Public Deliberation, available at www.publicagenda.org/cape.

The background of the slide is a light gray gradient. It is decorated with several realistic water droplets of various sizes. Some droplets are clustered in the top left corner, while others are scattered in the bottom right. Each droplet has a soft shadow and a highlight, giving it a three-dimensional appearance.

GOING FORWARD...