

Resilience Dialogues

Building skills for Designing and Facilitating
Collaborative Processes

Social Coast Forum 2020



February 3, 2020 Charleston, SC

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Wells National Estuarine Research Reserve (NERR), Wells, Maine

A decade of projects funded by the NERRS Science Collaborative is changing the way we do science in the National Estuarine Research Reserve System (NERRS)

Project Title:

Synthesizing NERR Sentinel Site data to improve coastal wetland management across New England

D. Burdick, C. Feurt, C. Peter, J. Goldstein, M. Tyrrell, K. Raposa

Stakeholder Engagement:

Are salt marshes responding to climate change?
What is their message to us?



Crommet Creek – in Great Bay, NH

The Resilience Dialogues Project Has Three Goals



1. Synthesize lessons learned by the CTP Collaborative Leads & P.I.s in the practice of collaborative science in the NERRS, identifying sources and types of conflict.
2. Increase the capacity of NERRS and others to understand and mediate conflict and facilitate dialogue in their roles as Collaborative Lead by providing case studies, resources and training for practitioners.
3. Improve collaboration among teams engaged in collaborative science to foster resilience in coastal communities and ecosystems.

AGENDA

Resilience Dialogues: Building Skills for Designing and Facilitating Collaborative Processes

9:00 Welcome

- Collaborative learning provides an adaptable, scientifically rigorous approach for conducting stakeholder assessments and designing, implementing, and evaluating multi-stakeholder processes.
- Building an understanding of the system where learning is taking place and the mental and cultural models being used to make sense of new information and to solve problems can overcome cognitive barriers to progress.

10:15 Break

10:30 Learn and practice techniques for revealing mental and cultural models, recognizing shared goals, and engaging stakeholders to improve coastal communities' resilience.

11:50 Bringing learning home and Evaluation

12:00 Adjourn

Learning Objectives: *At the conclusion of this workshop...*

You will be able to connect the concept of *Resilience Dialogues*, developed in the National Estuarine Research System, to your work in community and ecosystem resilience.

Learning Objectives: *At the conclusion of this workshop...*

You will be able to describe the 4 phases of the Collaborative Learning approach and compare it to approaches that you use in your work building community resilience.

Learning Objectives: *At the conclusion of this workshop...*

You will be able to recognize how the mental and cultural models used by stakeholders in a collaborative process can be both barriers and bridges to understanding and making progress in a situation.

Learning Objectives: *At the conclusion of this workshop...*

You will learn and practice techniques for revealing mental and cultural models knowledge in a collaborative process in order to improve coastal community resilience.

Learning Objectives: *At the conclusion of this workshop...*

You will be able to say, “Wow, this was super fun!”



What are Resilience Dialogues?



Resilience Dialogues are conversations that occur among people with diverse perspectives who have agreed to collaborate to improve a situation that contributes to building social and ecological resilience.



Building shared meaning is vital to collaborative processes



Resilience Dialogues are conversations that occur among

people with diverse perspectives who have

agreed to collaborate to

improve a situation that

contributes to building social and ecological resilience.



What is your current collaborative project?

1. My name is:
2. I am collaborating with:
3. We are working together to:
4. In order to:
(your resilience bottom line)



What is your current collaborative project?

1. My name is: Chris Feurt

2. I am collaborating with: The Ocean and Marine Working Group of the Maine Climate Council

3. We are working together to: Develop strategies for mitigating and adapting to climate change in marine and coastal zones of Maine for the Maine Climate Action Plan.

4. In order to: reduce green house gasses and foster ecological and social resilience along Maine's coast (your resilience bottom line)



Resilience has many meanings



RESILIENCE DIALOGUES REQUIRE ACTIVITIES THAT

- **ALLOW PARTICIPANTS TO DEVELOP A
SHARED SENSE OF MEANING**
- **BY VOICING INDIVIDUAL MEANINGS AND**
- **APPRECIATING AND RESPECTING THE
DIVERSITY OF MEANINGS HELD BY
OTHERS**

The need for Resilience Dialogues
has never been greater

Disaster Resilience

A NATIONAL IMPERATIVE



THE NATIONAL ACADEMIES

Resilience is the ability to prepare and plan for, absorb, recover from, and more successfully adapt to adverse events.

Building resilience in the face of disaster risk can also have benefits for a community even in the absence of a disaster in advancing the social capital for dealing with more mundane community challenges. p117

<https://www.nap.edu/catalog/13457/disaster-resilience-a-national-imperative>



COASTAL RESILIENCE

Bouncing back & *building beyond.*

PLAN & BUILD RESILIENCE

Develop and implement plan to become more resilient.



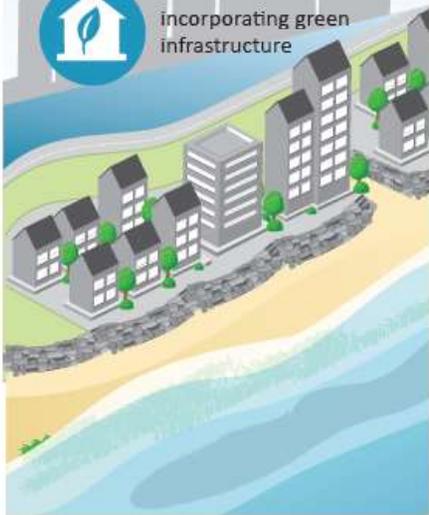
improving forecasts, observation models, computer systems



getting information to decision makers faster



incorporating green infrastructure



DISASTER STRIKES

Disasters can be imminent or strike unexpectedly.



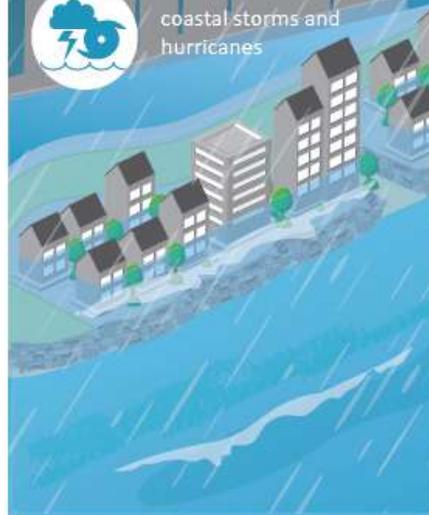
sea level rise



tsunamis



coastal storms and hurricanes



RESPOND

Immediately take action following a disaster.



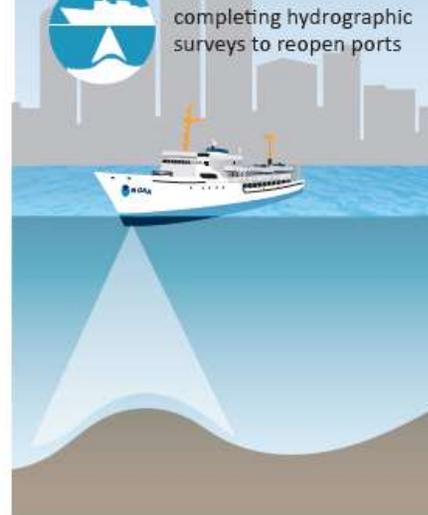
pollution response



damage assessment imagery



completing hydrographic surveys to reopen ports



RECOVER

Assess resilience and manage adaptively.



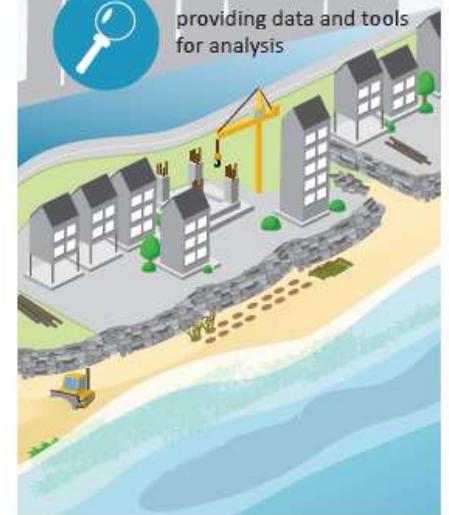
assessing damage to communities, economy, and environment



issuing grants to rebuild and restore habitat



providing data and tools for analysis



Assess resilience and begin planning for the next disaster.

Building resilience is an iterative process.

Ecological Resilience



“The ability to absorb disturbance and still retain basic functions and structure.”

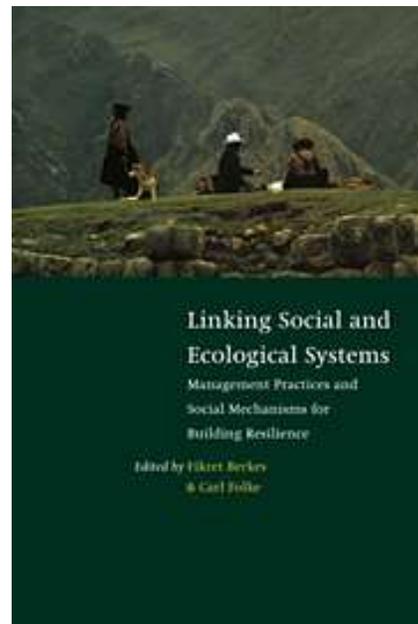
“A resilient system can adapt to changes without losing the essential qualities that define what it is and what it does”

The Community Resilience Reader
By Daniel Lerch, page 12

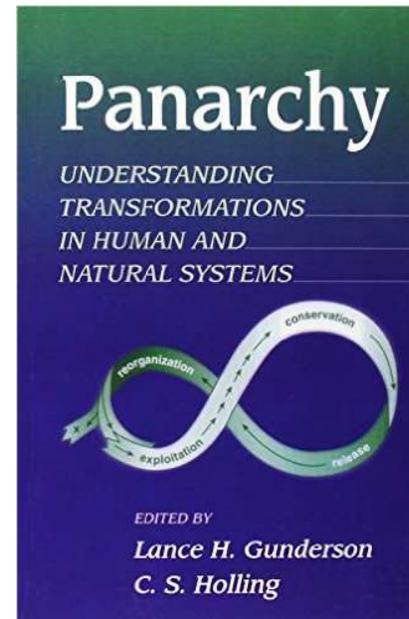
Evolving Perspectives in Ecosystem Resilience



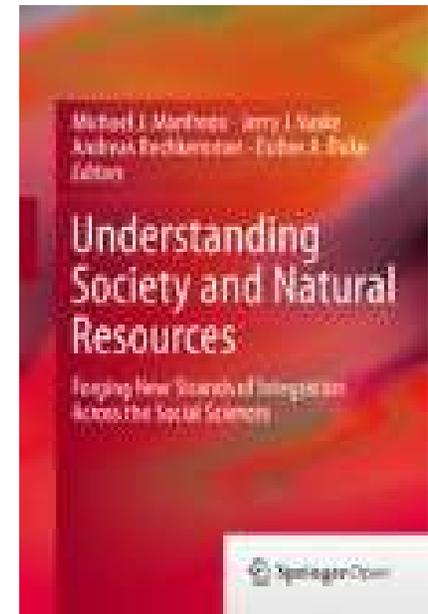
1995



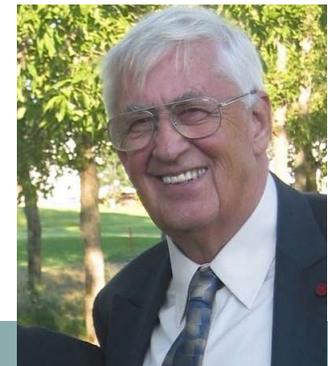
1998



2002



2014

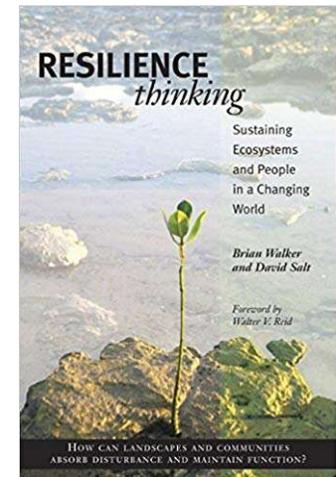


The 47 year legacy of Canadian ecologist “Buzz” Holling
Holling, C.S. (1973). "Resilience and stability of ecological systems". Annual Review of Ecology and Systematics. 4: 1–23.

Resilience Thinking is Systems Thinking



1. We live in socio-ecological systems that are inextricably linked. Shifts in social or ecological conditions creates feedback in the other.
2. These systems are constantly adapting and can be in more than one regime (stable state). These changes cannot be predicted based on studying individual components due to the complexity of the system.
3. **Resilience** is the capacity of the system to absorb shocks.



You had me at “hello”...



**HOW DO WE *DO*
RESILIENCE DIALOGUES?**

What makes Collaborative Learning a useful approach for Resilience Dialogues?



Robust scientifically based methodology
Practical for natural resource managers and planners
Flexible and adaptable techniques

Integrates Principles and Practices of:

Systems Theory
Conflict Theory
Adult Learning Theory

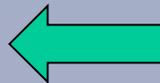
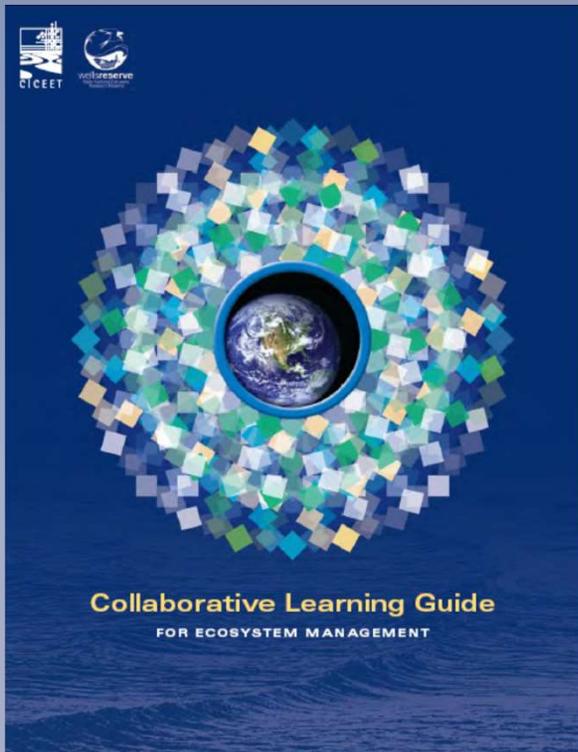
What is Collaborative Learning?

Working Through Environmental Conflict, The Collaborative Learning Approach
By Steven E. Daniels and Gregg B. Walker (2001)

“A framework and set of techniques intended for multiparty decision situations... A means of designing and implementing a series of events to promote:

**Creative thought,
Constructive debate and the
Effective implementation of proposals
that the stakeholders generate.”**

Theoretical Grounding:
Systems Thinking,
Conflict Resolution,
Adult Learning



**Practitioners guide
Case Study from Wells NERR including cultural models
See “Clickable Links”**



INSIDE THIS TOOLKIT

Planning

- Frame your project
- Build your team
- Choose your approach
- Budget for success

Doing

- Manage your project
- Collaborate with stakeholders
- Communicate

Wrapping up

- Share your work
- Evaluate your project
- Continue to collaborate

COLLABORATIVE PROJECT TOOLKIT



Collaboration may be key to understanding and managing coastal and estuarine environments, but no one ever said it would be easy. Reserve-based projects routinely involve a mix of scientists from different disciplines, public officials and agencies, partners from nongovernmental organizations, educators, students, and citizens. Bringing such diverse partners and stakeholders together for a common purpose can be challenging, time consuming, and resource intensive.

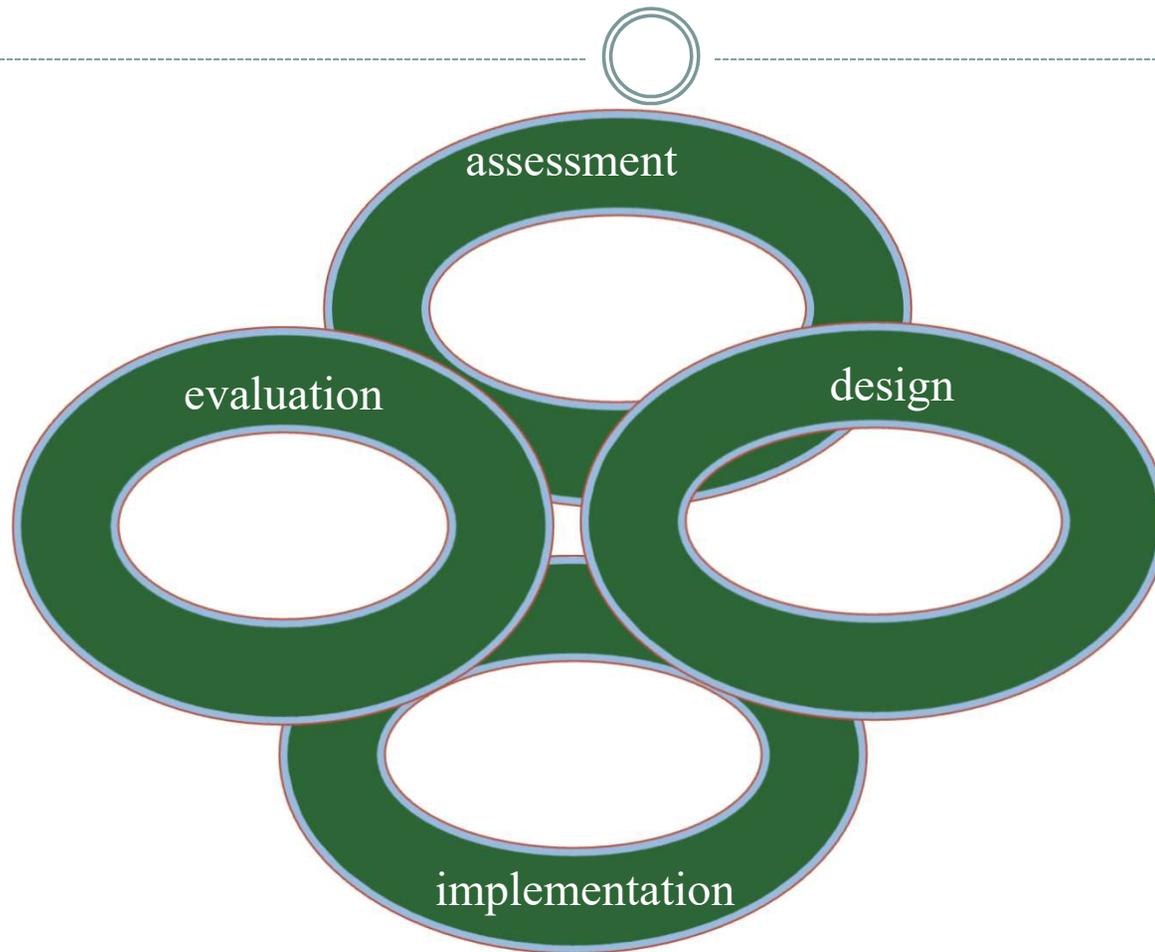
This toolkit was created to help. It is designed to support large teams working on complex natural resource problems that can only be addressed by working across disciplinary, organizational, and cultural boundaries. It includes best practices, case studies, templates, and other resources to improve project design and management, engage diverse stakeholders, and enhance communication among all involved. While it is more appropriate for projects that take place over the course of a few years, it includes information that will be relevant

<https://nerra.org/archive/how-we-work/collaborative-project-toolkit/>

“Our Collaborative Learning field experiences ...generally affirm the sets of best practices developed by ...NERRA.

(Walker, G. and S. Daniels. 2019)

Collaborative Learning is a Four Phase Process



The Social Contract of Collaborative Learning

1. Safe space to share ideas
2. Based on a solid assessment
3. Respect expertise in the room
4. Learn by doing with self reflection
5. Iterative process
6. Mindful of adult learning principles
7. Aims to make progress on a situation

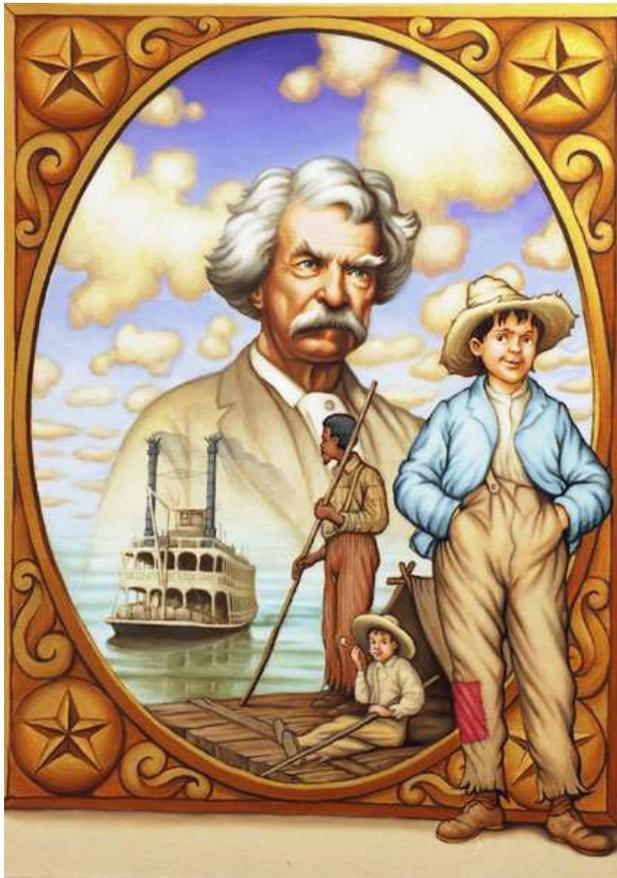
Protecting Our Children's Water
Using Cultural Models and Collaborative Learning to
Frame and Implement Ecosystem Management (Feurt, 2007)



Wells National Estuarine Research Reserve Maine

national estuarine research reserve system

Our mental and cultural models can get us into trouble



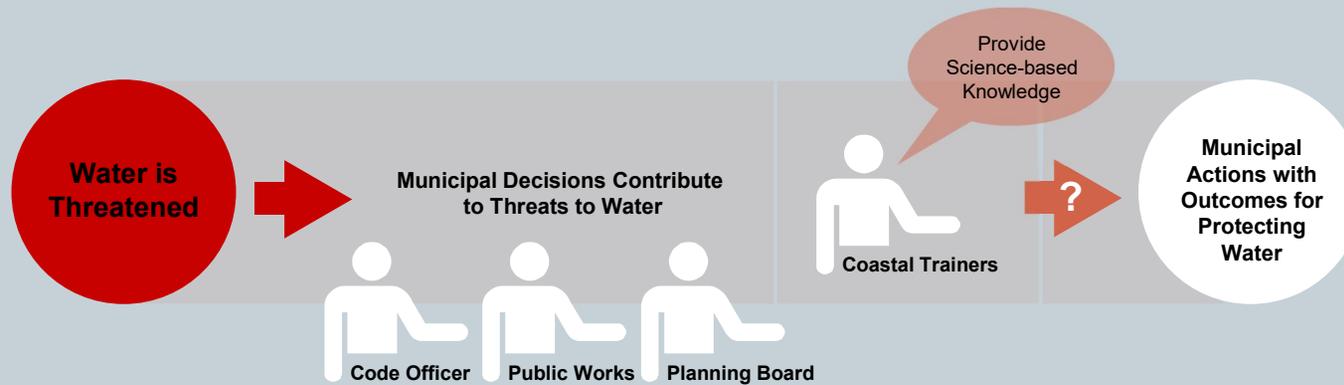
It ain't what you don't know that gets you into trouble.

It's what you know for sure that just ain't so.

Mark Twain

Developing the Coastal Training Program at Wells NERR Using the Traditional "Delivery" Method of Education

(Our first collaborative science project)



Mental & Cultural Models Defined

Mental models are a simplified representation of the world used by people to *interpret observations, infer from what is known to unknown and solve problems.*

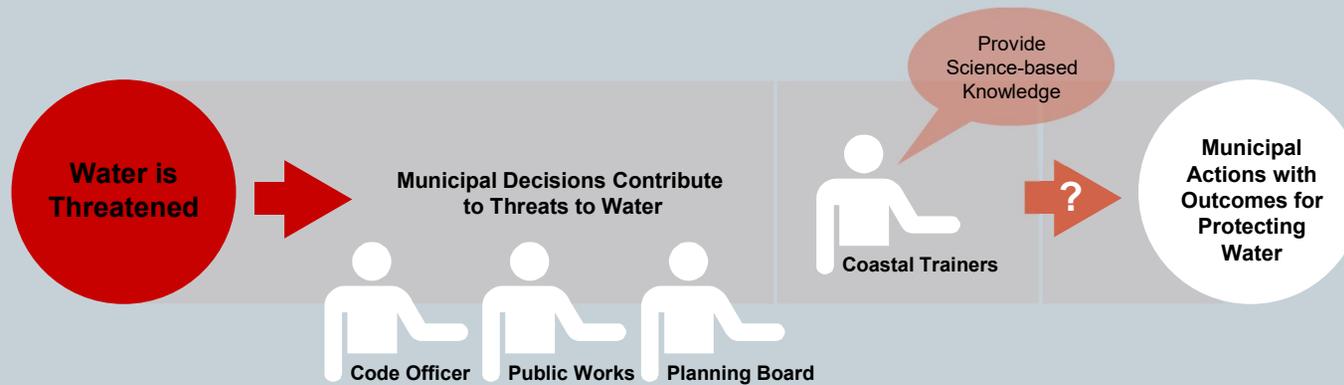
Mental models that are shared within a culture or social group are cultural models. People organize their culture's beliefs and values with cultural models.

(Kempton, et al., 1995, emphasis added)

Cultural models are shared perceptions and attitudes about how the world works. They are implicit, taken for granted and operate below the level of consciousness.

(Holland and Quinn, 1987; Strauss & Quinn, 1997)

Developing the Coastal Training Program at Wells NERR Using the "Science Deficit" cultural model



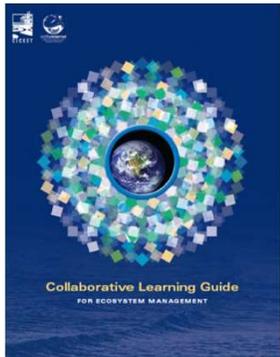
What I learned from actively listening to water managers in southern Maine



- Why is water important?
- What are the threats to water?
- How can water be protected?



Collaborative Learning Guide for Ecosystem Management

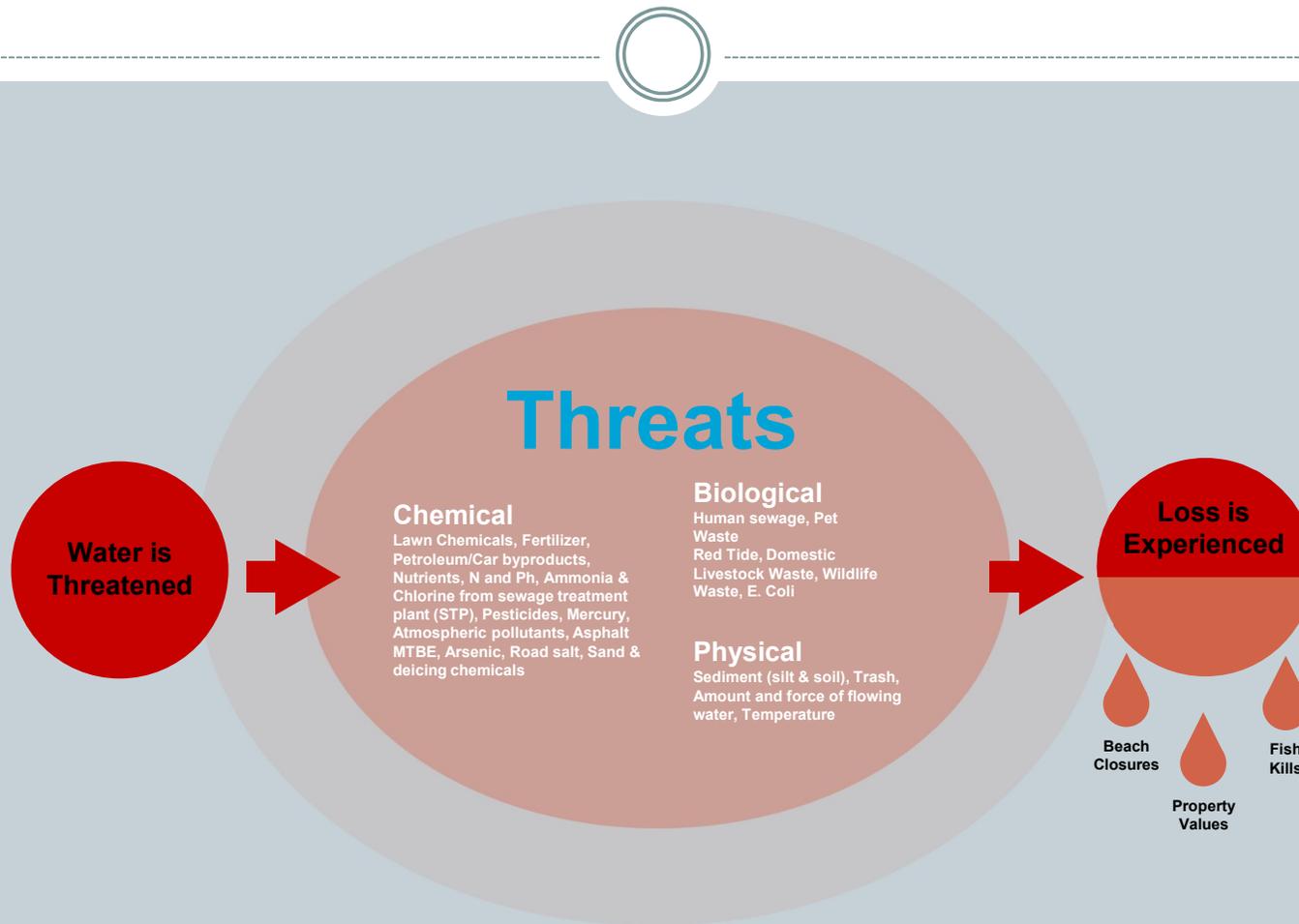


Cultural Models of Water: How water is valued



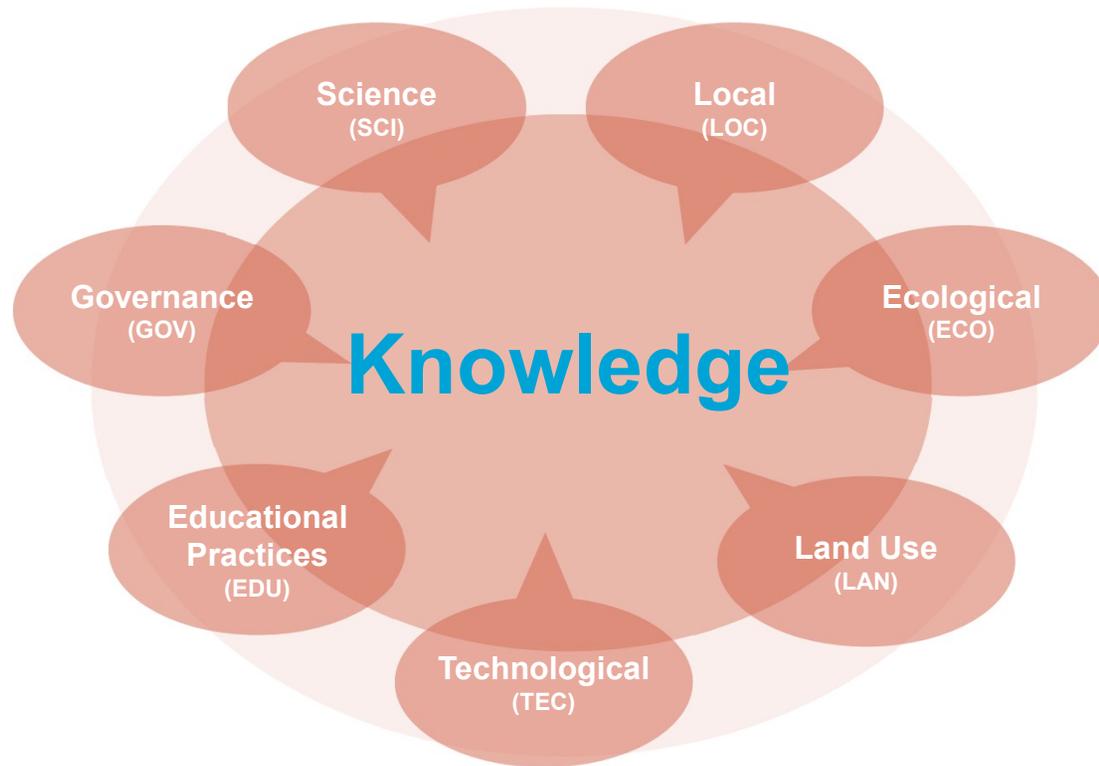
Perceptions of Threats to Water's Value

A Diagnostic Cultural Model

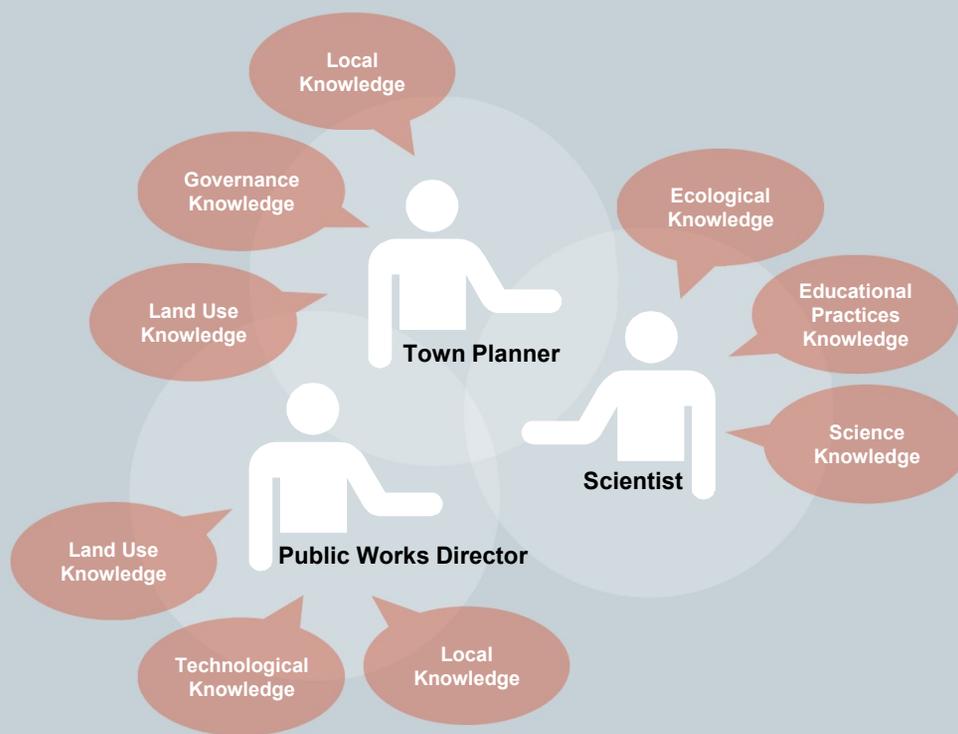


7 Ways of Knowing

A Knowledge Resource for Collaborative Learning



Multiple Ways of Knowing are activated in dialogues

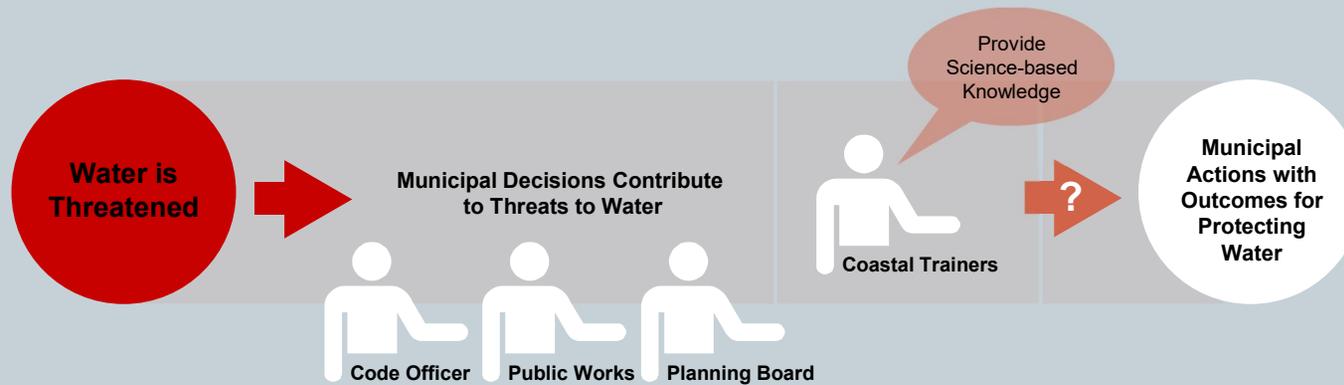


The Kaleidoscope of Expertise

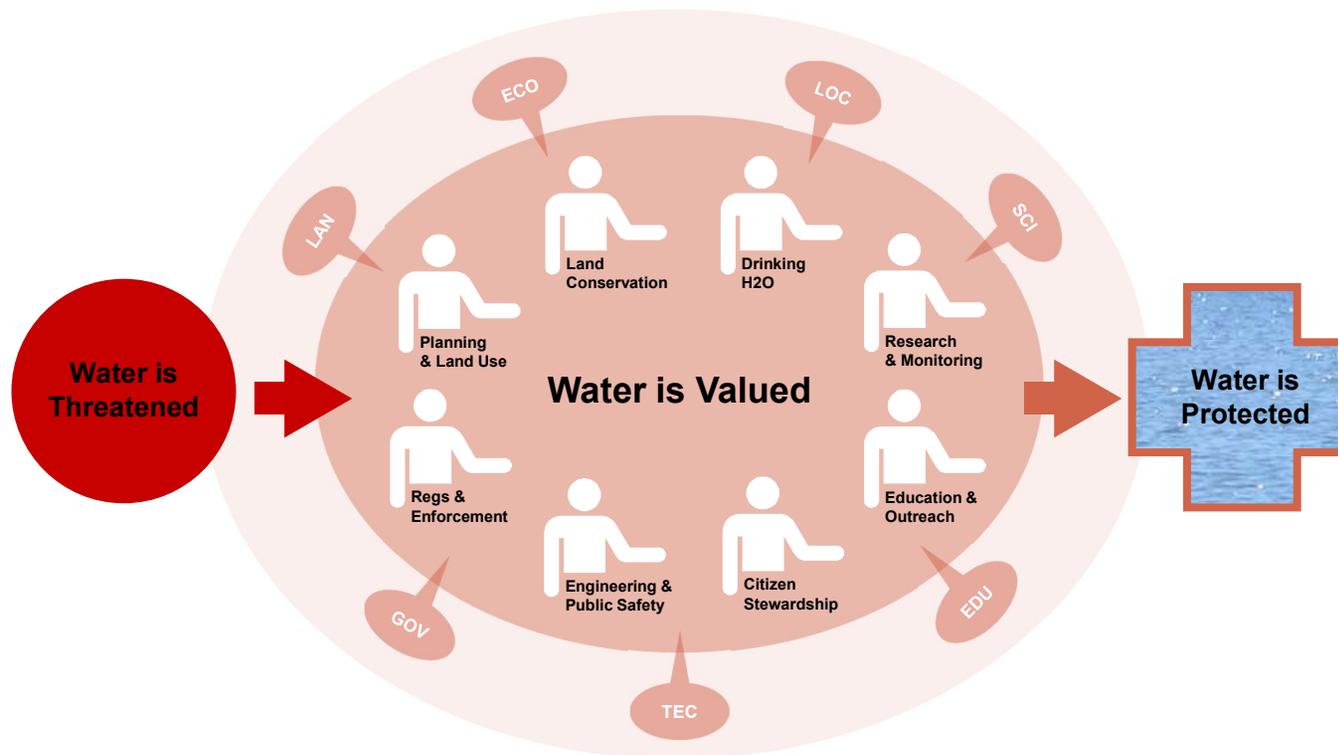
*Multiple lenses of professional practice with a core of shared values =
Collaborative Potential for Resilience Dialogues*



Transforming the Coastal Training Program at Wells NERR from the Traditional “Delivery/Science Deficit” Cultural Model of Education



To a Resilience Dialogue People are a *Resource* not a *Receptacle*





Top Priority
What's Next? Management
Hard to Plan
Hard to Plan
Small Budget
Lowest Cost
Recent Work

Ken
10/10/10

Break



[This Photo](#) by Unknown Author is licensed under [CC BY-SA-NC](#)

Activity

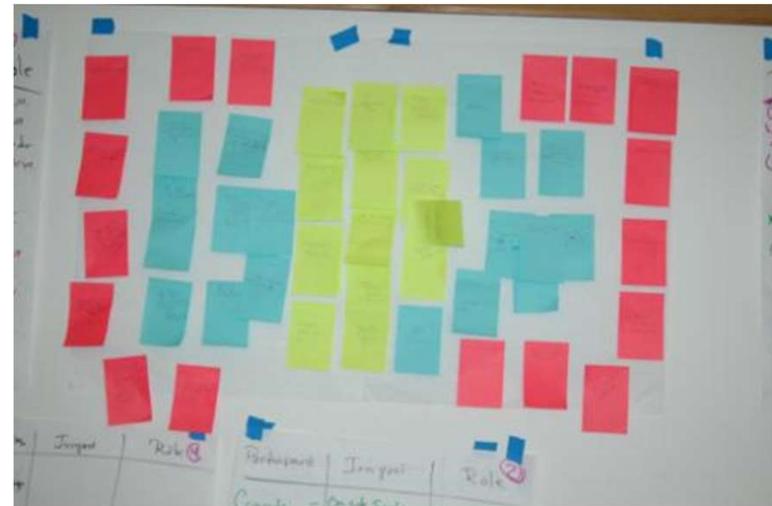
Mental Models of Coastal Wetlands Resilience

Situation Map Activity: Revealing Mental and Cultural Models to Find & Describe Common Ground Part I

Worksheet Page 2

Protecting coastal wetlands from erosion

- Green note – Values
- Pink/red note – Threats
- Blue note – Protections



The Three Questions Strategy for Revealing Mental & Cultural Models

Protecting coastal wetlands from erosion

Part I Worksheet page 2

The way we think about the value of a resource,
threats to what we value and ways to protect what we value
influences the choices we make for
Improving a Situation

How are coastal wetlands valued?(1 green)

What are the threats to coastal wetlands?(1 pink/red)

What can be done to protect coastal wetlands? (1 blue)

END by 10:45

Debrief Situation Map with Coding Questions in Mind



Start at 10:45

End and 11:00

Move to Part II

Situation Map Activity Part II Worksheet pages 3-4 Mental Models of Coastal Wetlands Resilience



Choose one of eight questions

**Each person collects the ideas from
the situation map to answer one of the
eight questions on the Activity Sheet**

10 minutes

Transfer notes to master Flip Charts

10 minutes

Debrief activity large group

30 minutes



Situation Map Activity: Revealing Mental and Cultural Models to Find & Describe Common Ground Part II

Analyzing the qualitative data in the situation map to reveal mental and cultural models requires you to look for patterns in the way people are thinking about the situation. This analysis is normally done by the planning team or you as an individual facilitator after the meeting. Begin by making a simple list of the responses for each question. Use the situation map generated earlier for your responses.

Protecting coastal wetlands from erosion.

1. How do people value coastal wetlands?
2. What do people think are threats to coastal wetlands?
3. How did people attach blame or responsibility for threats?
4. How do people think about cause of threats and effects on what they value?
5. How did people talk about a **path** from the source of a threat to its impact on a value?
6. How did people talk about loss of something they value?
7. What do people think are the ways to protect the values of coastal wetlands?
8. What did you learn about the ways people assign responsibility for solutions?



The dialogue during the creation of the situation map helps to build shared meaning and contributes to learning

Bringing Learning Home to Build Resilience



The Collaborative Learning approach provides the architecture for a collaborative process where the cycle of assessment, design, implementation and evaluation proceeds in an iterative adaptive cycle of learning in order to improve a situation.

Bringing Learning Home to Build Resilience



Understanding the system and the mental and cultural models knowledge of participants can be used to design, implement and evaluate progress to improve a situation.

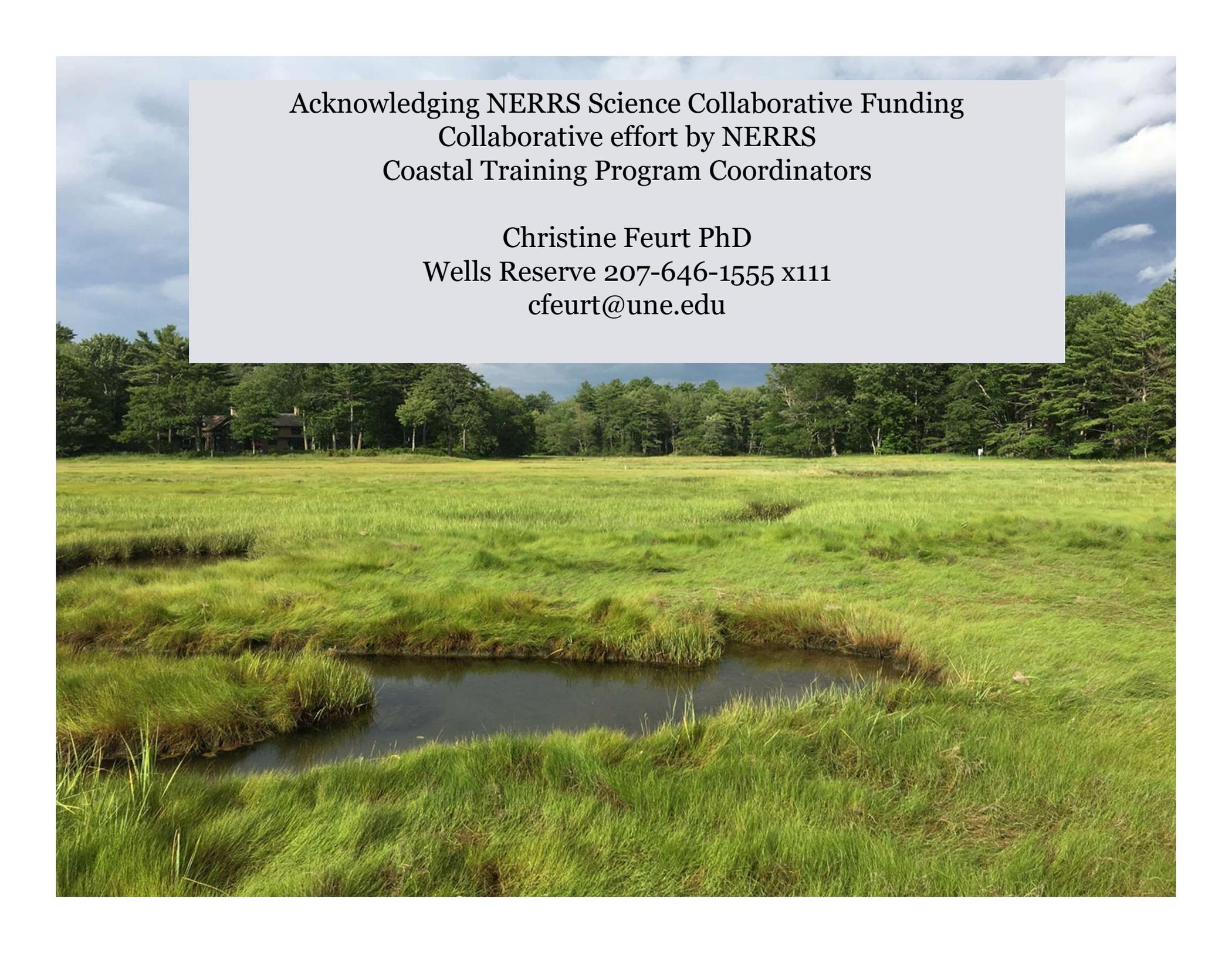
Bringing Learning Home to Build Resilience



The three questions method can be used during assessment conversations and facilitation of collaborative groups to reveal mental and cultural models, build shared understanding and manage conflict to improve a situation.



Wow! That was fun!



Acknowledging NERRS Science Collaborative Funding
Collaborative effort by NERRS
Coastal Training Program Coordinators

Christine Feurt PhD
Wells Reserve 207-646-1555 x111
cfeurt@une.edu

2020 Trainings for Resilience Dialogues



Resilience Dialogues (1 – 2 day, skills modules)

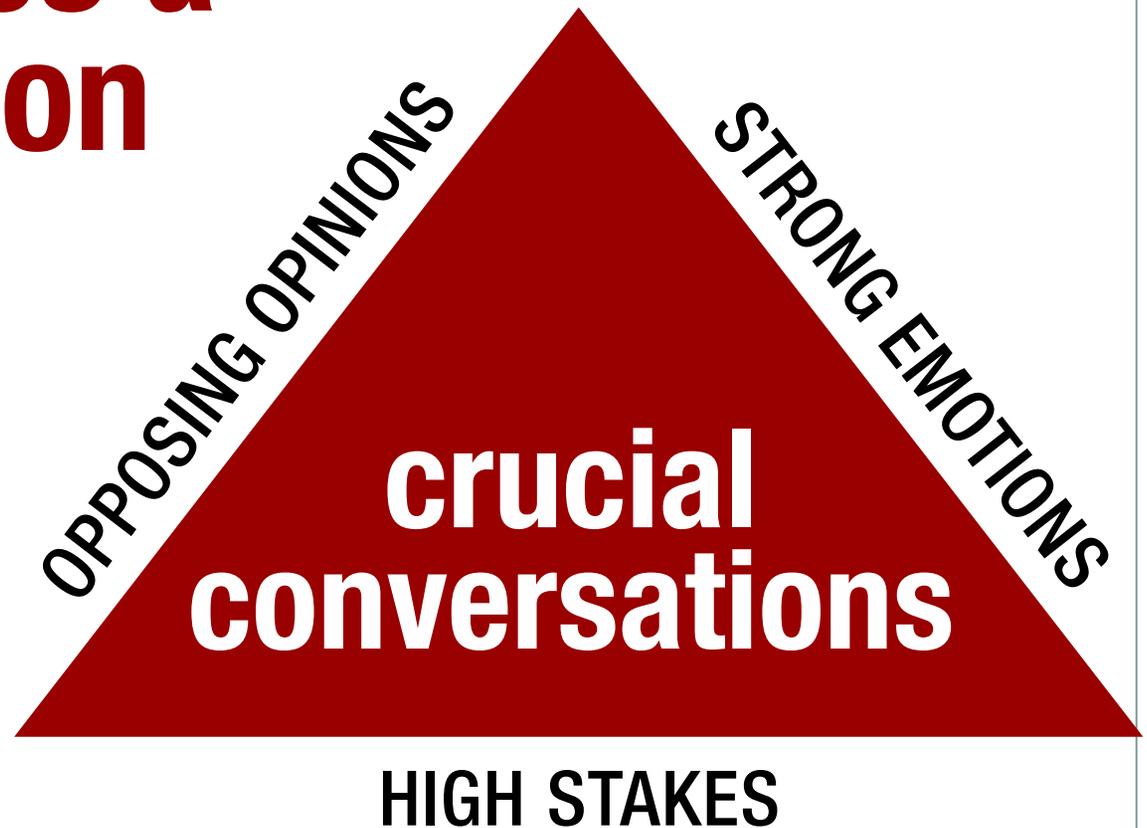
Working Together to Get Things Done (2 day
Collaborative Learning, project based, team building)

Crucial Conversations (Vital Smarts certified training
through the NERRS)

Resilience Dialogues Project resources available
through the NERRS Science Collaborative June 2020

What Makes a Conversation Crucial?

Three elements.



Additional collaborative process resources



NOAA'S DIGITAL COAST WEBSITE

[HTTPS://COAST.NOAA.GOV/DIGITALCOAST/](https://coast.noaa.gov/digitalcoast/)



<http://www.nerrssciencecollaborative.org/>

**Collaboration Resources from the University of Michigan NERRS
Science Collaborative**

Information and tools for developing and managing a collaborative process

<http://www.nerrssciencecollaborative.org/applicant-resources>

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- Manage your project
- Collaborate with stakeholders
- Communicate

Wrapping up

- Share your work
- Evaluate your project
- Continue to collaborate

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(Walker, G. and S. Daniels. 2019)

Outside Resources



<http://ctb.ku.edu/en/table-of-contents/participation/encouraging-involvement/involve-those-affected/main>



Stakeholder Analysis

Winning Support for Your Projects

https://www.mindtools.com/pages/article/newPPM_07.htm#Interactive

Stakeholder Management

Planning Stakeholder Communication

https://www.mindtools.com/pages/article/newPPM_08.htm





Employing Model-Based Reasoning in Socio-Environmental Synthesis

Using Frameworks

Dr. Deana Pennington, Associate Professor
Department of Geological Sciences
University of Texas at El Paso

October 19, 2017



Frameworks

- A standardized “model” for representing particular kinds of problems
 - Designed to be used by a wide community of researchers and practitioners
 - Permit structured, interdisciplinary reasoning about complex problems
 - A dozen often used frameworks, designed for different purposes
-