Ruckelshaus INSTITUTE

A DIVISION OF THE
HAUB SCHOOL OF ENVIRONMENT AND NATURAL RESOURCES

Handling Scientific & Technical Information in Contentious Water Management Issues

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Objectives:

Participants will...

- Differentiate between data conflicts and substantive conflicts in public issues.
- Become familiar with collaborative learning
- Learn appropriate methods of integrating science and technological information into collaborative processes.

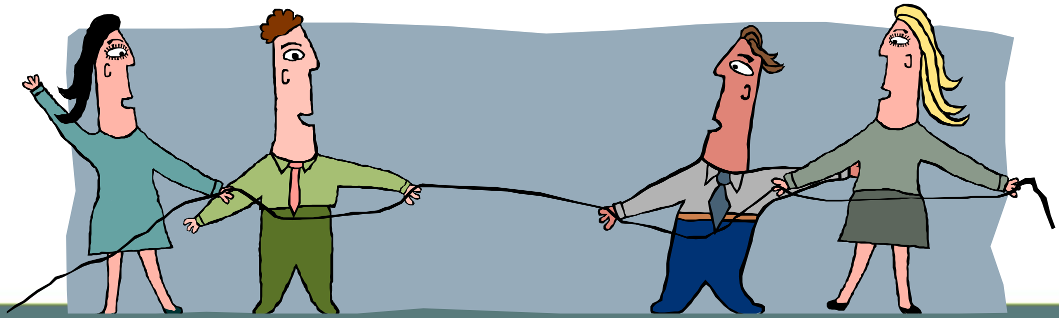
Objectives:

Participants will...

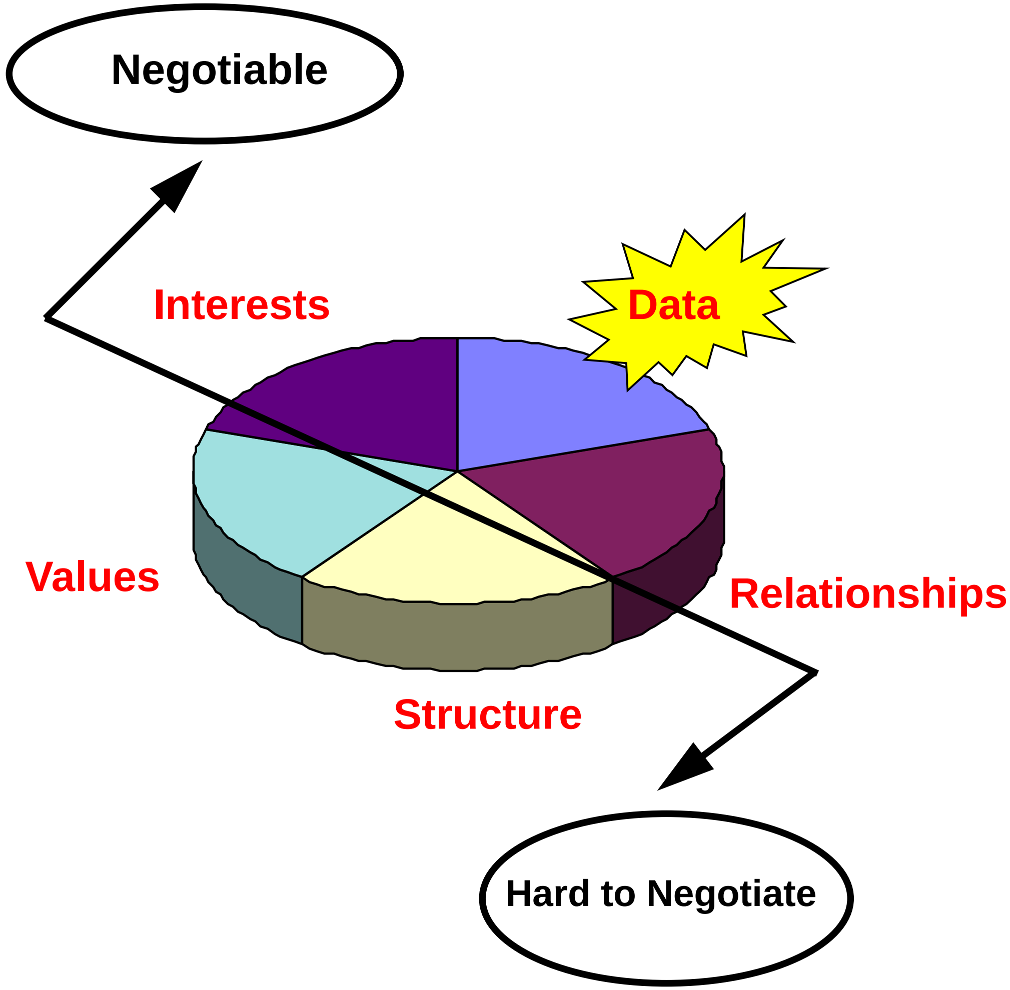
- Learn tools and techniques to:
  - manage warring or contested science (also manage distrust in the science from your own agency or organization).
  - manage scientific and technical uncertainty (including lack of good data)

Information Controversies

- Information is often disseminated by warring experts
- People can mistrust source of the data
- Equal access to data can become a focus of the debate



Sources of Conflict



Data Conflicts

- Lack of information
- Misinformation
- Distrust in the information (and sources)
- Different views on what is important
- Different interpretations of data
- Different assessment procedures

“Rockslides”

Key Concepts and Principles

Working With Scientific and Technical Information in Contentious Water Management Issues

On The Nature Of Knowledge

- Research rarely provides definitive, unequivocal answers. All information is subject to questions of validity, accuracy, authenticity and reliability.
- We can examine and debate information, but not always test. Intuition and hunches loom large.
- Complex public issues often deal with systems -- the whole is different than sum of the parts.

On Uncertainty

- Biological and social uncertainties are facts of life. We will never know everything we need to make perfect decisions - predictions of impacts.
- Uncertainties arise from
  - Insufficient measurements or observations
  - Conflicting measurements
  - Competing or fragmentary theoretical frameworks
- Most decisions have unintended consequences, not merely calculated risks, side effects or trade-offs.

On Research & Information Gathering

- Stakeholders are often faced with a need or desire for more information than available. However, too much data can be overwhelming.
- Credible information commissioned or produced by some parties may be distrusted by others.
- The presumption that people implicitly trust scientists is not necessarily true.
- Information and research costs money, usually a lot.

On Modeling

- The promise of modeling may seduce stakeholders into believing models are infallible.
- Models may appear to be in opposition, when in fact they are designed with different assumptions. They are not comparable.

On Experts, And Other 3rd Parties

- Uncertainty and division exist even among scientists, but disagreements may be less than you think.
- Scientists with a stake in the issue may not be sufficiently impartial.

On Stakeholders

- People’s tolerance for complexity and ambiguity varies.
- Some don’t do their homework as they should.
- Life experiences influence our view of the issues.

On Information And Conflict

- Politics and values – underlying values often affect political decisions even when a profusion of scientific information is available.
- Information that is usable by all stakeholders requires trust in the information and the methods by which it is produced..
- Scientific and technical complexity can escalate conflict alarming and overwhelming people -- too many counter-ideas or unclear options.

Collaborative Learning

Working with Stakeholders

Working With Scientific and Technical Information in Contentious Water Management Issues

Fundamental Paradox

- People want to have a voice in public decisions that affect their lives, but how can that voice be meaningful if the terms, concepts and technical trade-offs are new or distrusted by them?

Collaboration

- Solutions emerge by dealing constructively with differences
- Decisions are jointly owned
- Stakeholders assume collective responsibility for the future direction of the situation

Collaborative Learning

- Collaboration is an iterative process and **Collaborative Learning** is the mechanism that can facilitate each iteration
- It is a collaborative orientation toward multiparty learning
- Collaborative decisions <u>may</u> emerge

Collaborative Learning

- Appropriate when there are multiple stakeholders who are interdependent (affected by same situation) and see the problem from many sides
- Involves events that promote creative thought, constructive debate and option generation/evaluation

Collaborative Learning

- Stresses improvement rather than decisions
- Emphasizes progress rather than conflict resolution
- Encourages systems thinking
- Recognizes that considerable learning will have to occur before progress is possible
- Is built on communication and trust building

Collaborative Learning

- Accommodates different learning styles
- Information is provided in accessible ways
- Allows stakeholders to triangulate information with their values, previous knowledge, etc.
- Is discussion-focused and uses individual and small group activities

Tools & Techniques

Working With Scientific and Technical Information in Contentious Water Management Issues

Introduction

- Focus is to help people proceed thoughtfully through a learning process
- Strategies are "rules of thumb" not hard and fast techniques
- Strategies are appropriate to context

Tools & Techniques: **When**

- Assessing the problem
- Designing a process
- Defining the problem
- Working with experts
- Problem-solving and negotiating
- Making decisions

Assessing the Problem

- Identify the players; consider their level of scientific and technical sophistication
- Assess the issues
  - Potential information needs and data conflicts
  - Kinds of data people rely on
  - Sources of information
  - Potential risks, benefits, impacts and precautions likely to emerge

Assessing the Problem

Question assumptions that science-related issues are actually at the core of the controversy. A narrow scientific focus may miss or distort the issues or process

Designing the Process

- Design a process strategy that anticipates and intentionally incorporates scientific and technical issues
- Timing is critical. Pace the data gathering and flow so information is available when needed

Designing the Process

- Develop a process that allows stakeholders to:
  - Define the information they need
  - Decide where they will get it
  - Decide what they will do with it
  - Determine how it will be incorporated into their decisions

Designing the Process

- Examples of learning strategies:
  - Technical study team appointed by parties
  - Science summit
  - Moderated panel discussion
  - Poster session
  - Jointly created background papers
  - “Fish bowl” science discussion
  - Expert-drafted proposal

Defining the Problem

- Generate multiple descriptions of the scientific and technical problems as opposed to an inflexible, single-problem definition
- Jointly agree on studies to be undertaken and methods to produce and analyze them

As an Expert…

- Keep on target with what is relevant to the group
- Explicitly discuss the assumptions behind your conclusions
- Use plain language and good visuals
- State your understanding of pertinent risks, benefits, and cautions

Problem-Solving & Negotiation

- Frame the discussion on how the stakeholders as a group can find a livable solution
- The greater the uncertainty, the more adaptable the solution should be
- Explore alternatives to a negotiated solution to understand how parties propose to handle scientific uncertainties

Making Decisions

- Help parties understand when they have enough information to make a decision
- When decisions are made on key scientific assumptions, make those assumptions as explicit as possible
- Craft decisions that allow for change