

A black and white photograph of two men in a field. The man on the left is wearing a light-colored shirt and dark pants, holding a rifle. The man on the right is wearing a dark shirt and light-colored pants, holding a shotgun. A dog is in the foreground, looking towards the camera. The background shows a field with some trees and a fence.

WORDS, EXPERTS AND WATER: THE PERFECT STORM FOR CONFLICT

**"Whiskey is for drinking; water is for fighting over."
-- *Mark Twain***

Water Myth

Causes of conflict include:

- Climate
- Water stress
- Population
- Level of development
- Dependence on hydropower
- Dams or development *per se*
- “Creeping” changes:
 - general degradation of quality
 - climate change induced hydrologic variability

RIVERS BASINS AT RISK PROJECT: Working Hypothesis

“The likelihood of conflict rises as the rate of change within a river basin exceeds the institutional capacity to absorb that change.”

Parameters which seem not to be indicators:

- Climate**
- Water stress**
- Population**
- Level of development**
- Dependence on hydropower**
- Dams or development *per se***
- “Creeping” changes:**
 - general degradation of quality**
 - climate change induced hydrologic variability**

What are Institutions?

Regimes – Formal agreements such as interstate compacts (North Platte River, Colorado River) and treaties (Columbia River)

Alliances and Non-State Actors– Both pro- and anti- water development (Greenpeace, Bottled Water Companies, others)

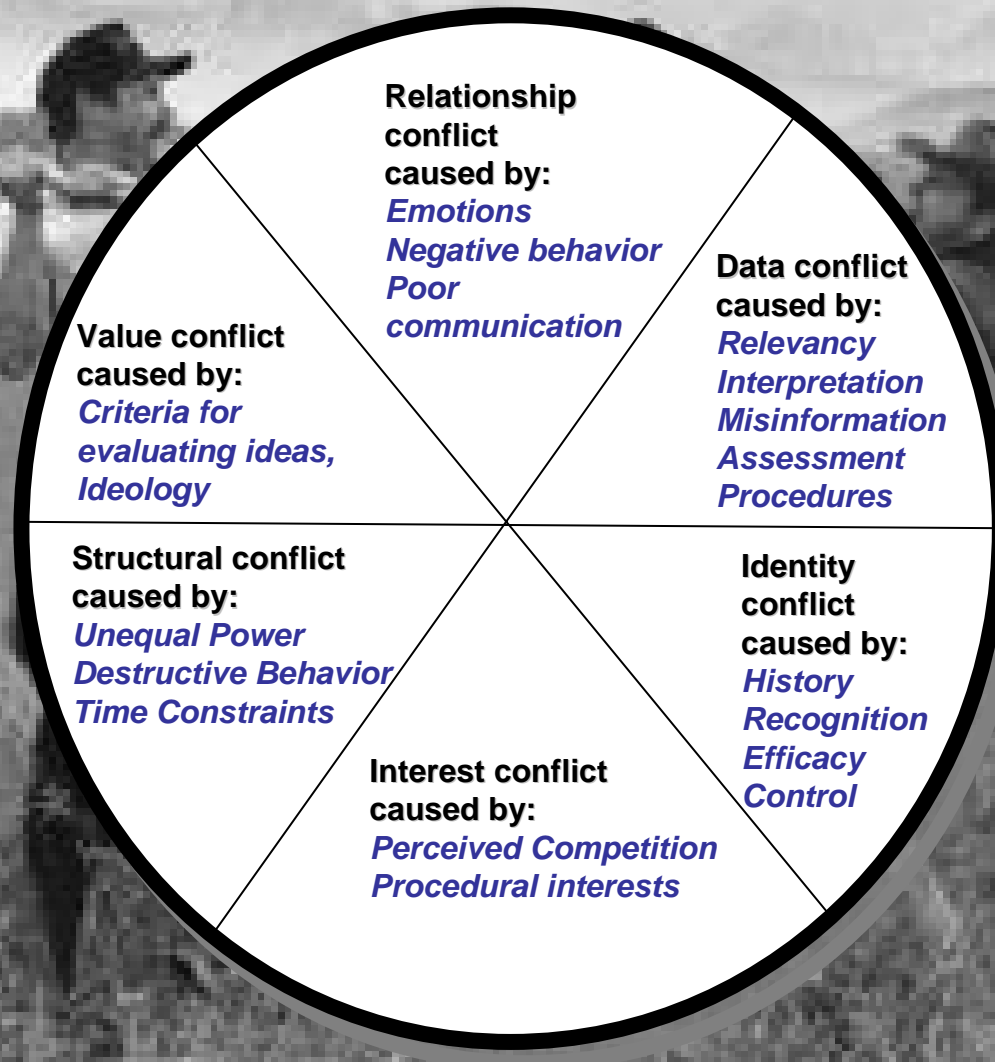
Global Neoliberalism – Marketization of water

Water Experts – “Knowledge Entrepreneurs” like you and me!

Communication is the Major Cause of Most Conflicts: The Three Theorems

- **Theorem No. 1: 50% of the problems in the world result from people using the same words with different meanings (example, water),**
- **Theorem No. 2: The other 50% comes from people using different words with the same meaning (example, “waste” versus “supply”), and**
- **Theorem No. 3: There are a significant number of problems in the world caused by people using words with no idea what they mean (example, “safe yield” and “sustainability”).**

Circle of Conflict



Managing Environmental Systems and Social Conflict

- **Conflict is inherent in water management**
- **Why? Management situations are complex and controversial**

Natural Resource Management Situations are Complex

Sources of Complexity

- Multiple Parties
- Many Issues
- Cultural Differences
- Deeply Held Values
- Scientific/Technical & Traditional Knowledge
- Legal Requirements
- Multiple Venues
- Conflict Beneficiaries

Natural Resource Management Situations are Controversial

Sources of Controversy

- Many different legitimate viewpoints exist
- Consensus is hard to achieve
- Emotional aspect
- Competitive frames and expectations
- Choices have to be made

Complexity and Controversy: Involving People and Communities

Two Major Approaches to Decisions

- **“Techno-Reg”**: Find a “best” science outcome and enforce it through regulations
- **Discourse-based approaches**: Inclusive, collaborative, often local, and progressive
- **Different ways to achieve social legitimacy**
- **People often turn to discourse-based approaches when Techno-Reg somehow falls short**

Comparing Techno-Reg and Discourse-Based Approaches

Techno-Reg

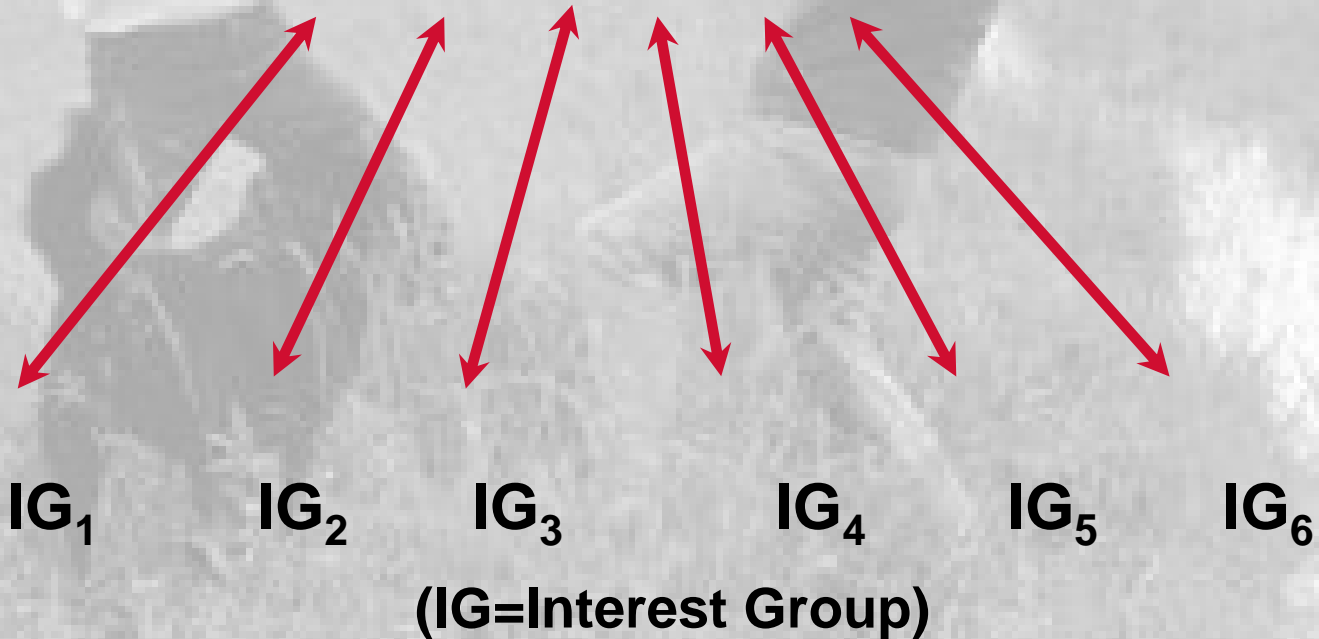
- Agency as Arbitrator
- The 3-I model

Discourse-based

- Agency as learning-based decision maker
- Partnerships
- Voice and ownership
- Collaborative

Techno-Reg: Agency as Arbitrator

**Agency
(decision authority)**



The “3 I” Model of Public Involvement

- Inform
- Invite
- *and the 3rd I?*

The “3 I” Model of Public Involvement

- Inform
- Invite
- Ignore

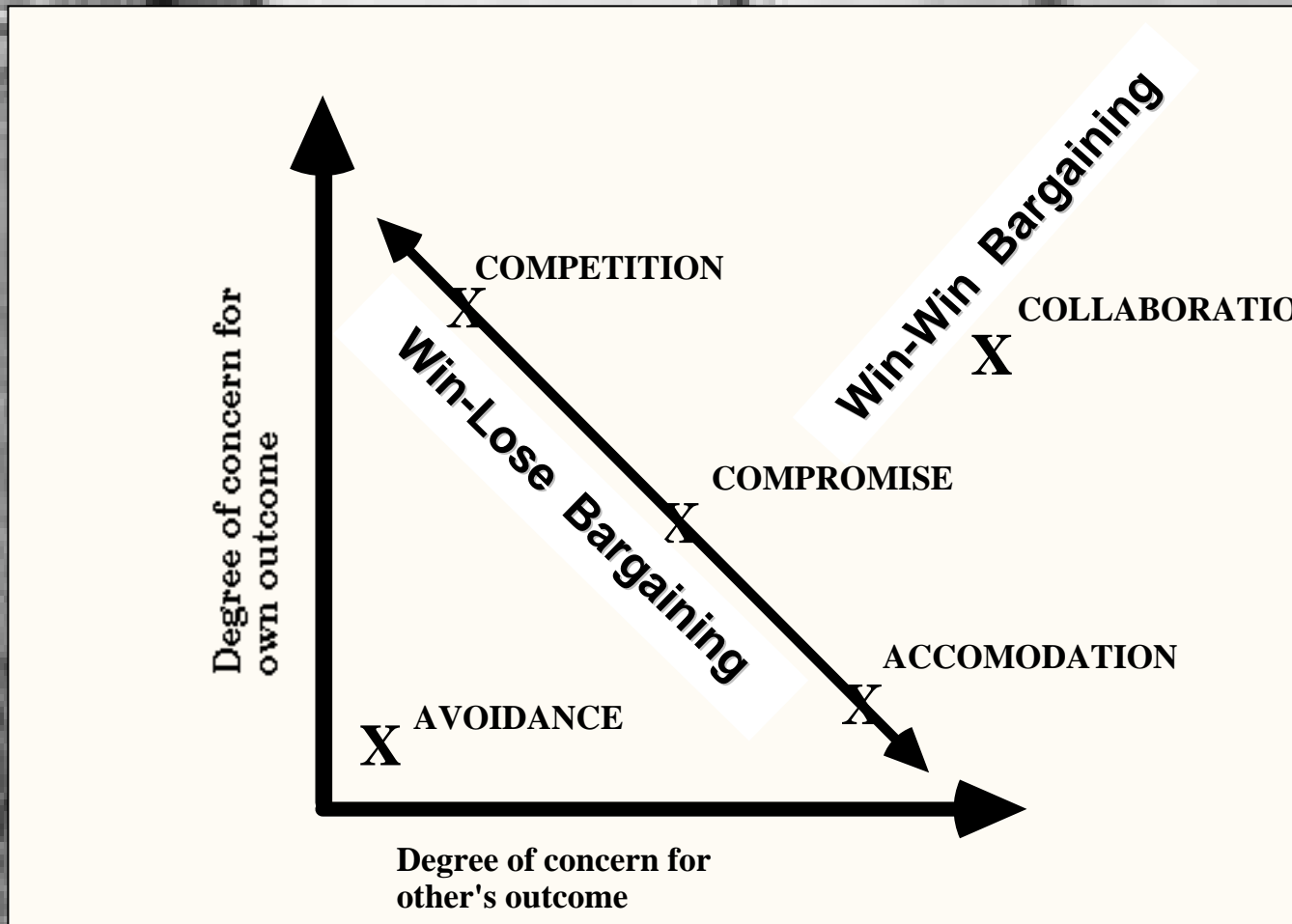
Discourse-Based Approaches Rely on Learning to go Beyond Mere Compromise

- **Stakeholders (e.g., interest groups) learn from one another.**
- **Agencies interact as stakeholders.**
- **Both technical & traditional knowledge are respected.**
- **Public participation activities are accessible and inclusive.**
- **Values diversity of parties and viewpoints.**
- **Promotes dialogue and mutual gain negotiation.**
- **Builds individual and social capacity.**

Discourse-Based Learning: Responding to Complexity and Controversy

- **Systems thinking addresses complexity.**
- **Conflict management, negotiation, and mediation address controversy.**
- **Collaborative Learning (CL) is an innovative approach that draws upon systems thinking and conflict management/ADR.**
- **CL relies on agencies as learning-based decision makers.**

Styles of Conflict Management



Collaborative Learning

- **Recent innovation-- first application by OSU was in 1992 in a conflict over forests.**
- **Combines concepts from systems thinking with conflict resolution--negotiation and mediation.**
- **Emphasizes active learning and systemic improvement.**
- **Integrates best science with relevant traditional/local knowledge.**

Collaborative Learning is...

- **Not a group hug, but is...**
- **a philosophy that values creativity and innovation,**
- **a framework that informs design choices, and**
- **a set of techniques or tactics that have been successfully used to generate progress.**

Some CL Tactics/Techniques

Informing and engaging citizens

- Issue talks, technical & local/traditional
- Newsletters, websites

Systems thinking

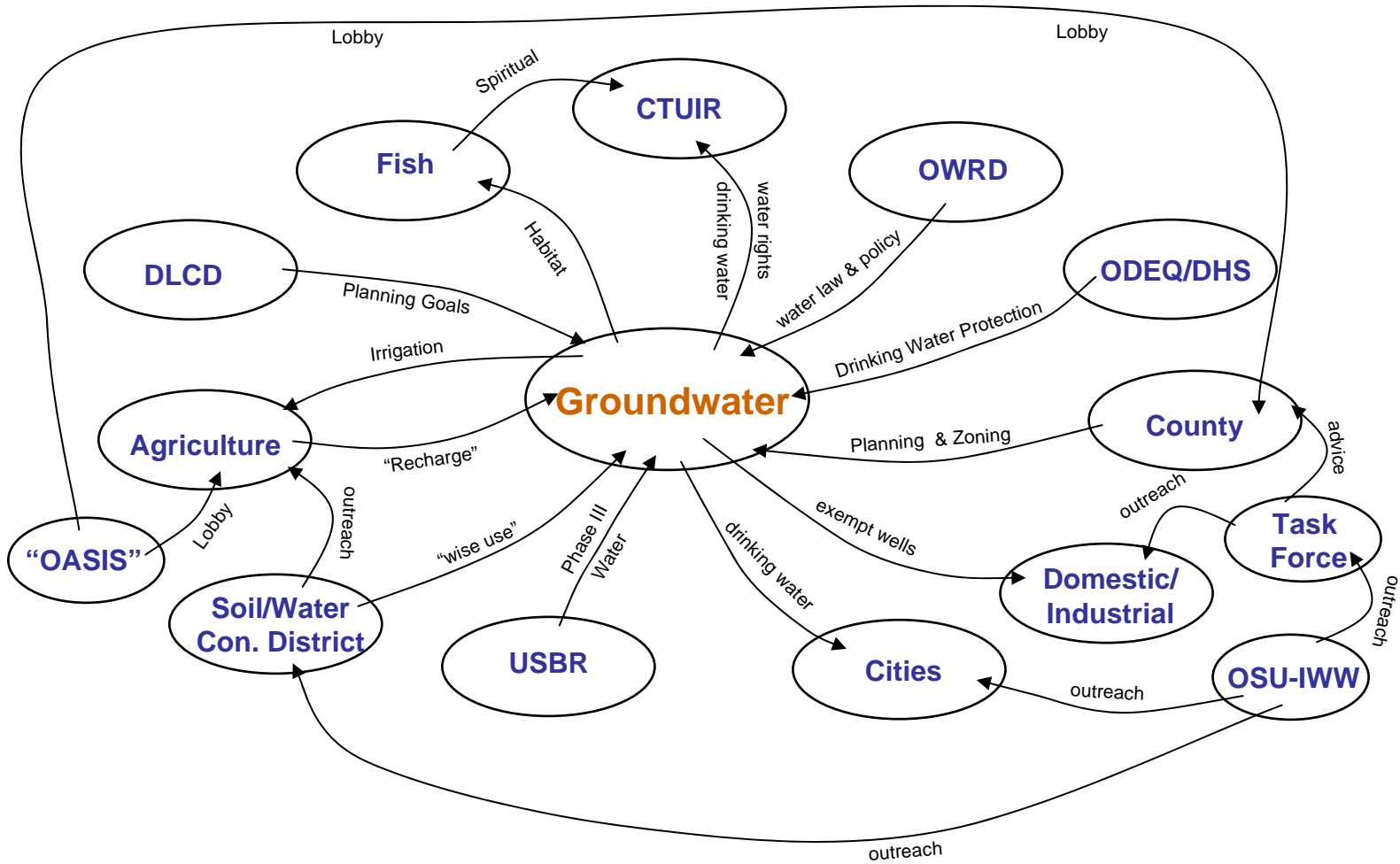
- Situation mapping
- Community mapping

Concerns & improvements

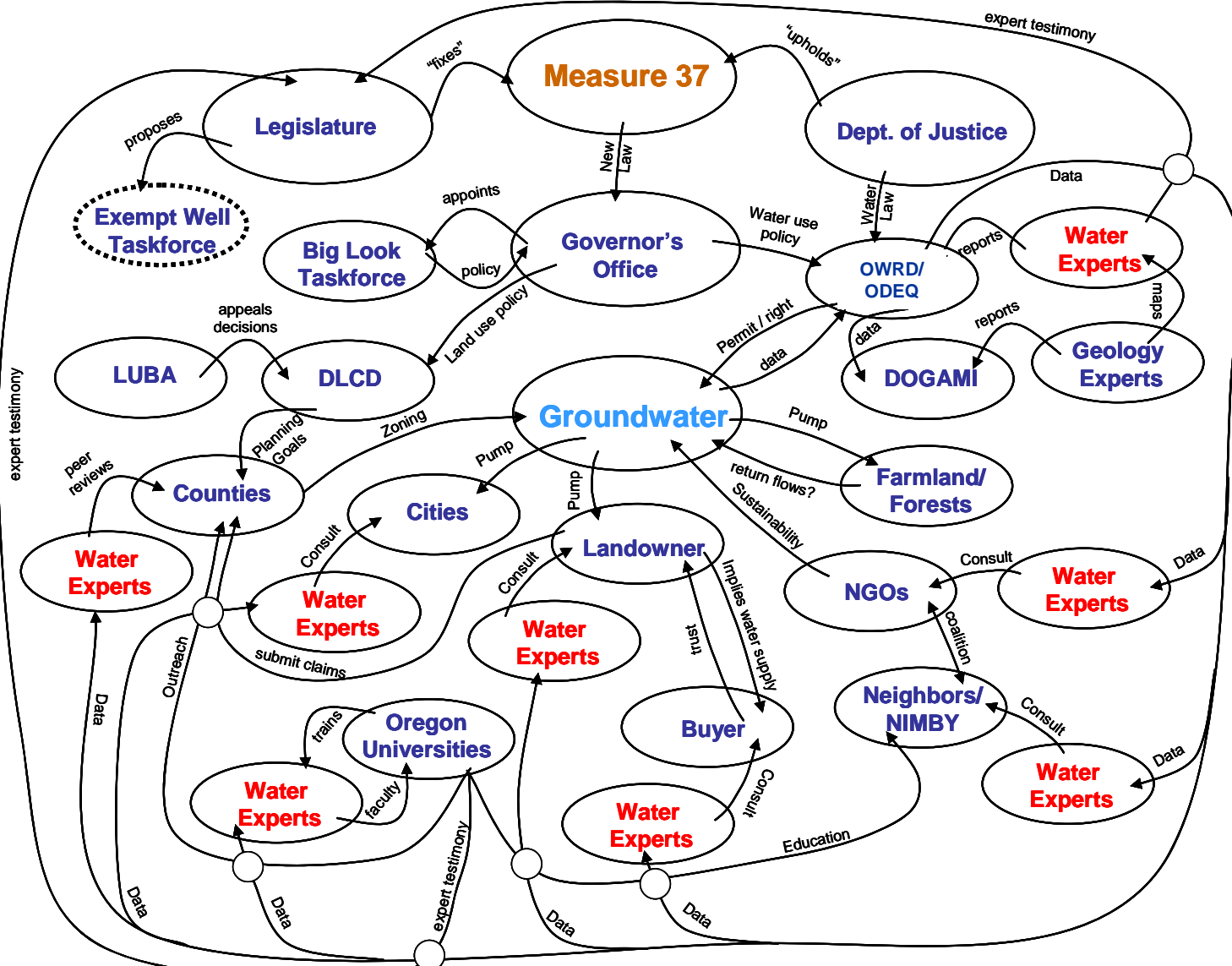
- Worksheets
- Group interaction

Desirable and feasible debate

- Action plans
- Draft improvement texts

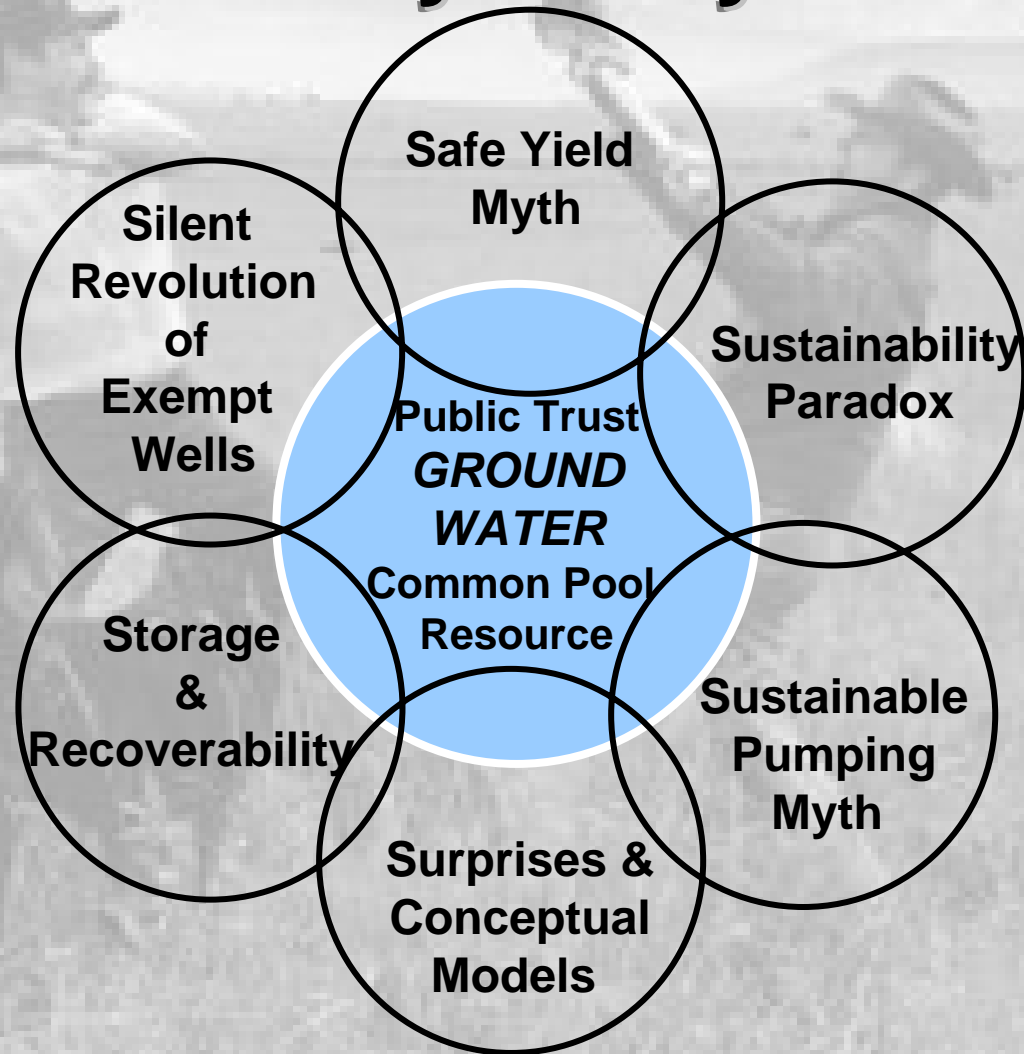


2007- UMATILLA SUB-BASIN SITUATION MAP

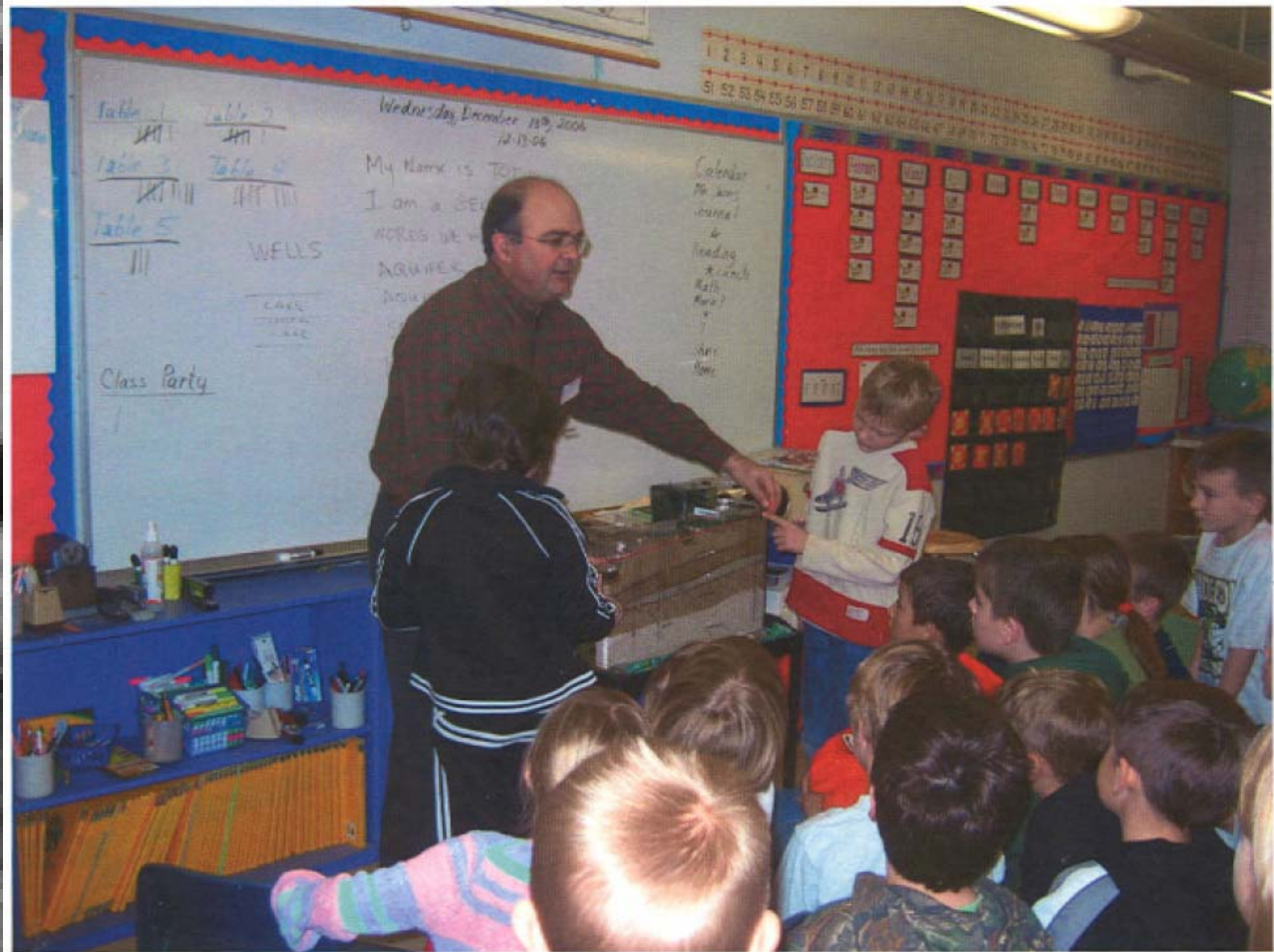


**2007 OREGON LAND USE / WATER USE
SITUATION MAP**

Dueling Expert Issues or “The Hydro-hydra”



Got a water problem? Talk it over with a first grader.



Metric of Success?

1-2-07

Dear Todd,
I didn't think about what
I said Busolt is pretty awesome,
and that model was cool.

Avery



Dear Todd,
Thank you for coming to
our class room. I learned that
water comes from basalt, it
moves by gravity.

by Dani



Lessons Learned

Situations involving water are unique and require an adaptive management approach because conceptual models of water systems developed by “knowledge entrepreneurs” are built on the premise of multiple working hypotheses.

Situations involving water are complex, but a community can act on issues without all of the technical information because the community will never have all the technical information to satisfy “knowledge entrepreneurs”.

Situations involving water require “knowledge entrepreneurs” to develop creative approaches to stimulate Public Learning and Science Learning. We must continually strive to hear from the public “I finally get it”.

Community-based approaches to Conflict Management and Institutional Capacity Building takes time - time to for Public Learning, build relationships (or rebuild relationships), trust, and for the “message” to circulate around the community. How much time? About two years is the minimum.

Thank you for your attention



You can teach an old dog new tricks.