Contesting Hidden Waters: Hydrofracking and the Hydrohydra

W. Todd Jarvis Institute for Water & Watersheds Oregon State University



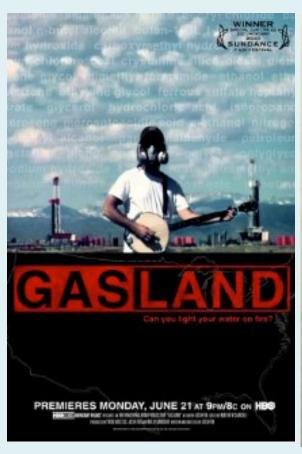
Webinar November 5, 2014

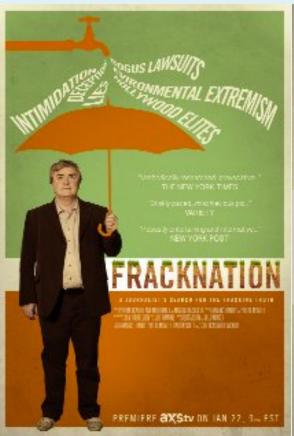
Attributes of a Groundwater "War"

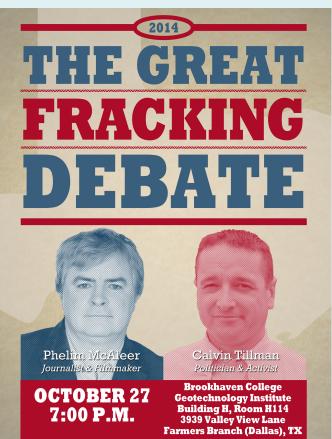
A Melodrama in Three Parts The Good, The Bad, and The Ugly

The Geography of Hydrofracking, Conflict Cartography of Hydrofracking, and Combat Hydrology

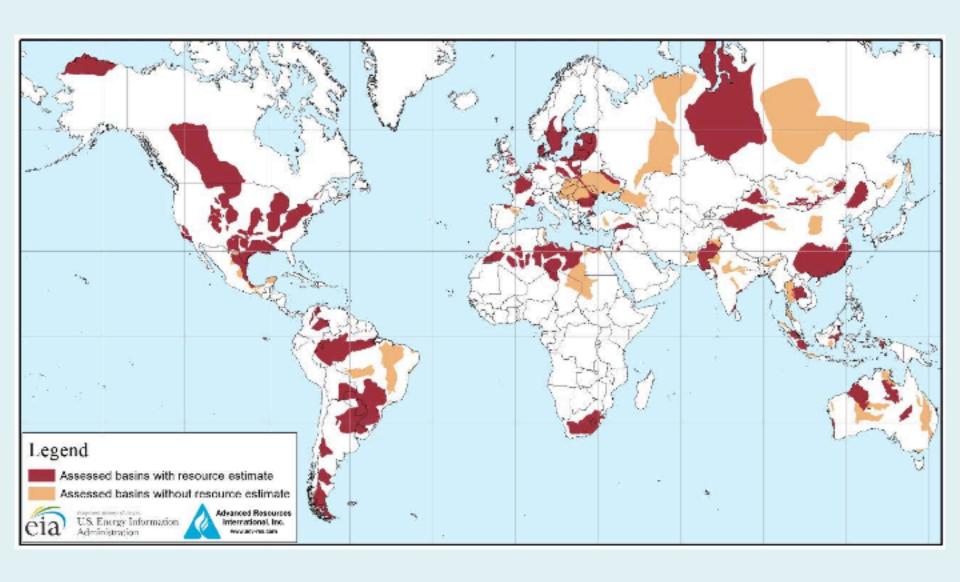
The Good and the Bad – Media Wars







Shale Gas and Oil Revolution



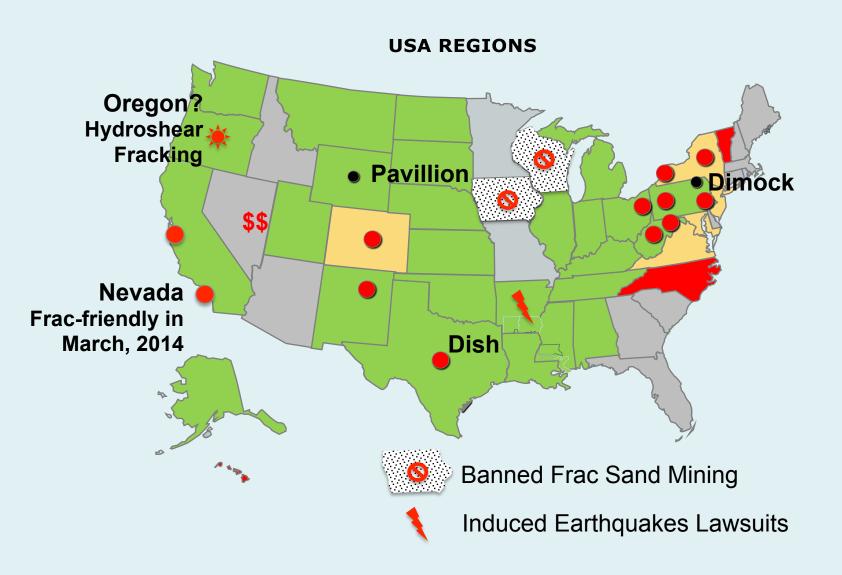
European Disunion

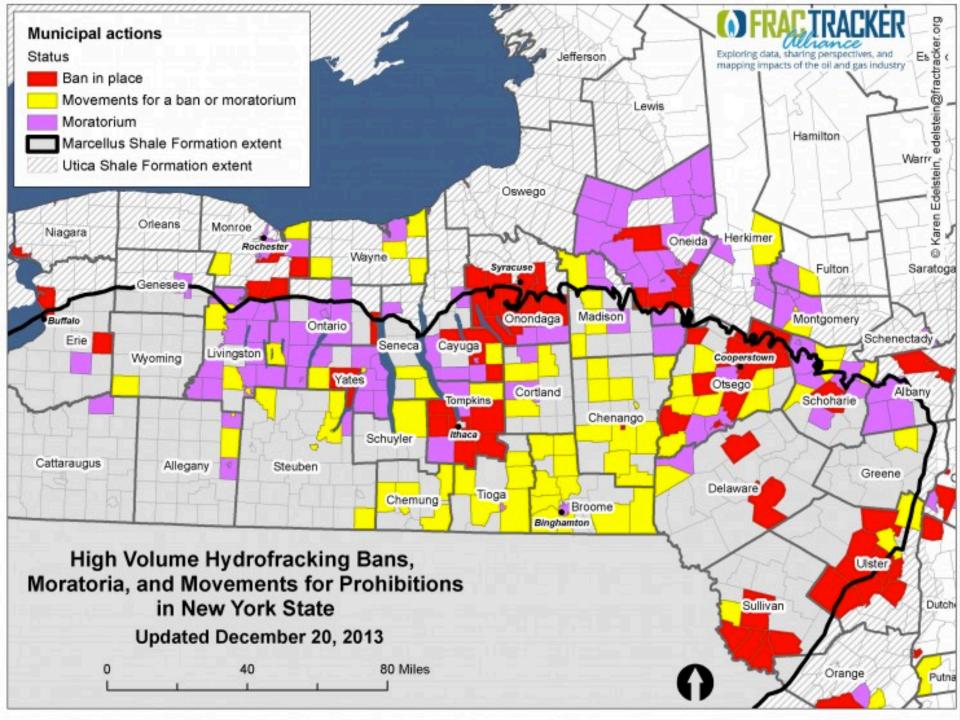


Unclearly Canadian



Fracked Nation





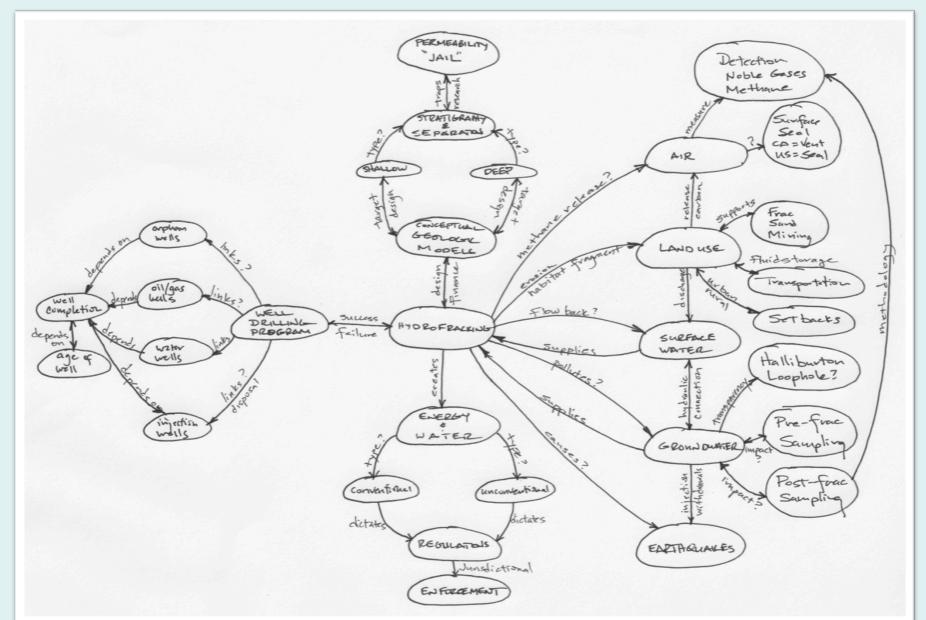
So what is the big deal with hydrofracking?

Hydrohysteria?

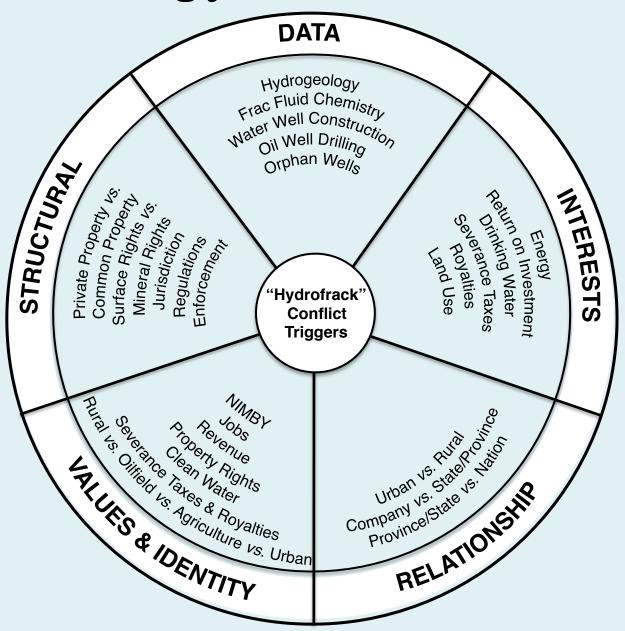
Systems Thinking via Situation Mapping

- A situation map is "conflict cartography".
- It relies more on words and less on pictures.
- It "maps" the elements and relationships of a situation.
- Elements are parties, issues, and activities—nouns.
- Relationships are verbs on lines that connect elements.

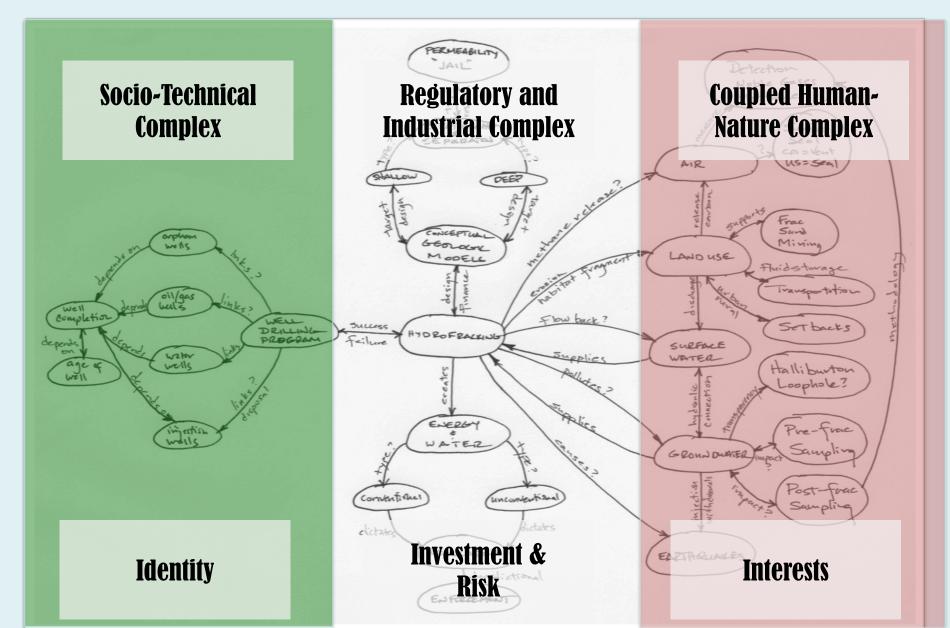
The Ugly: Hydrohysteria



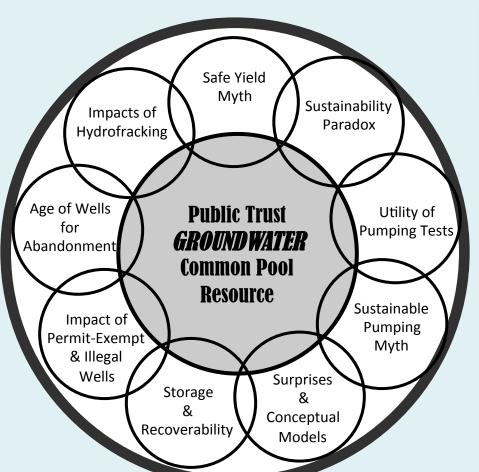
The Ugly: Circle of Conflict



i-Frackenstein



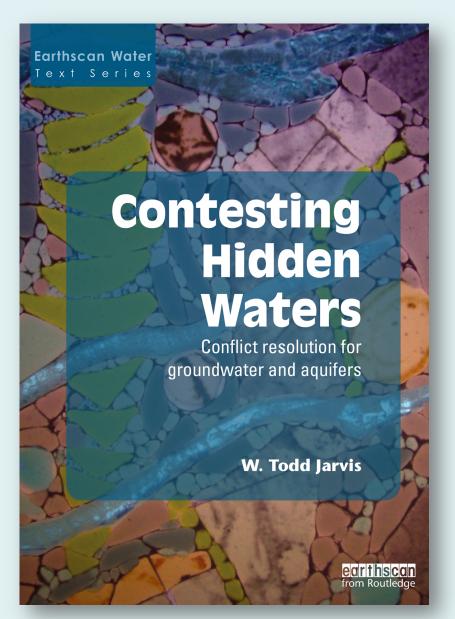
The Ugliest: "Hydrostitutes" and the "Hydro-Hydra"





How to defeat combat hydrology?

A Good Path Forward?



Seeking the Best Path Forward using a Compass — the Hydro-Trifecta Framework



Negotiation Frameworks:

Water Diplomacy = Interest-based
Water Security = Investment & Risk-Based

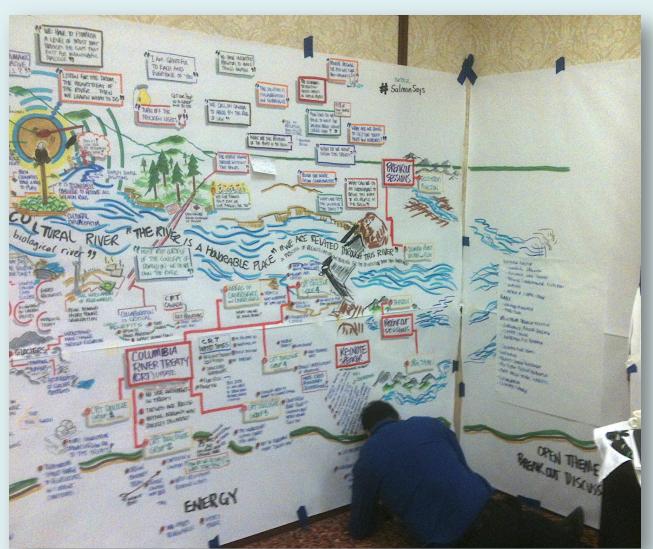
Water Conflict Transformation = Identity-based

Program Targeted Skills – Collaborative Learning...

Systems Thinking

- that responds to dynamic complexity.
- that goes beyond both linear and nonlinear thinking, looking for "ripple effects" throughout the system.
- that is integrative thinking; exploring relationships and possibilities.
- that is fostered through systems activities such as "videos", "road shows", "visual notetaking", etc.

Example Visual Notetaking — US/CA Columbia River Treaty Meeting Oct. 2014



Boundaries in the Commons

Outcrop
Watercourse
Catchment, Watershed
Megawatershed
Springshed
Primary "Domes" & "Veins"
No-recharging Aquifers
Recharge Zone

Discharge Zone GW Ecosystems Chemical "Facies" Boundaries in Hydrocommons

Land Rights
Drainage Area / Capture Area
Radius of Influence
WHPA, SWPA, "Belts"
Conservation Area
Sole Source Aquifer Area
EU "Groundwater Bodies"
Control / Mgmt. Area
Megawatersheds
Unitization

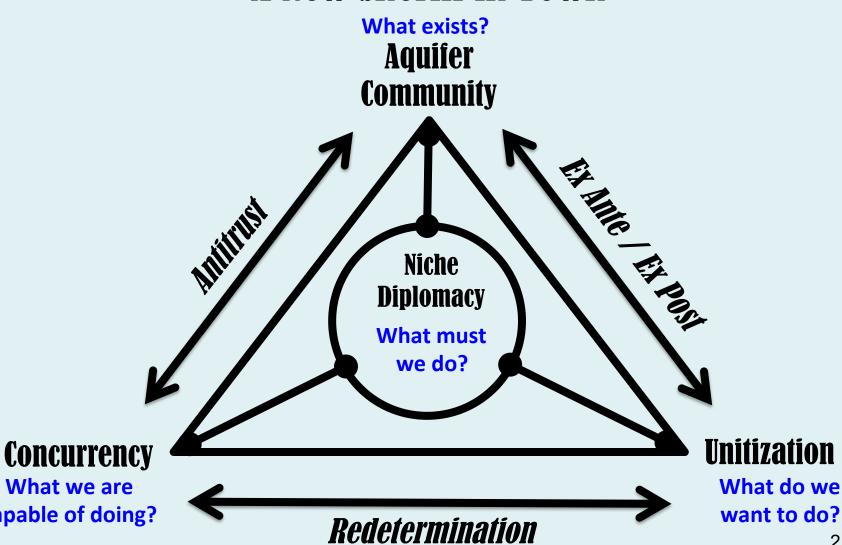
Spiritual
Therapeutic
Historical
Hydrogeological Nature Reserves
Stygoregions

Common Heritage

A Better Scale -The Geography of Groundwater

From Contesting Hidden Waters (Jarvis, 2014)

Best: New Subterranean Governance -A New Sheriff in Town



What we are capable of doing?

want to do?

From Contesting Hidden Waters (Jarvis, 2014)

Scale and Competency Targeted Skills – Rebuilding Trust...

Scientific Mediation - "agree on why dueling experts disagree."

Joint Fact Finding at all Scales

Citizen Science

Competency Skills - "Niche Diplomacy"

 Move from "Knowledge Entrepreneurs" to "Knowledge Journalists"

Hydrofracking & Hydrohysteria

Irish dramatist & poet William Butler Yeats succinctly summarized the new paradigm: "Think like a wise man but communicate in the language of the people."

Knowledge Entrepreneurs must be aware their work is increasingly political and will be used in many ways, some good, some not so good.

Knowledge Entrepreneurs must accept that the traditional methods of sharing their message through peer-reviewed journals and technical reports has little impact.

Knowledge Entrepreneurs must integrate the new modes of communication through social media, knowledge journalism, and "road shows".

Take the Word on the Road - It's Fun



Thank you