

# **Bridging the valley of death: finding creative ways to manage social and environmental challenges**

**September 22, 2022**

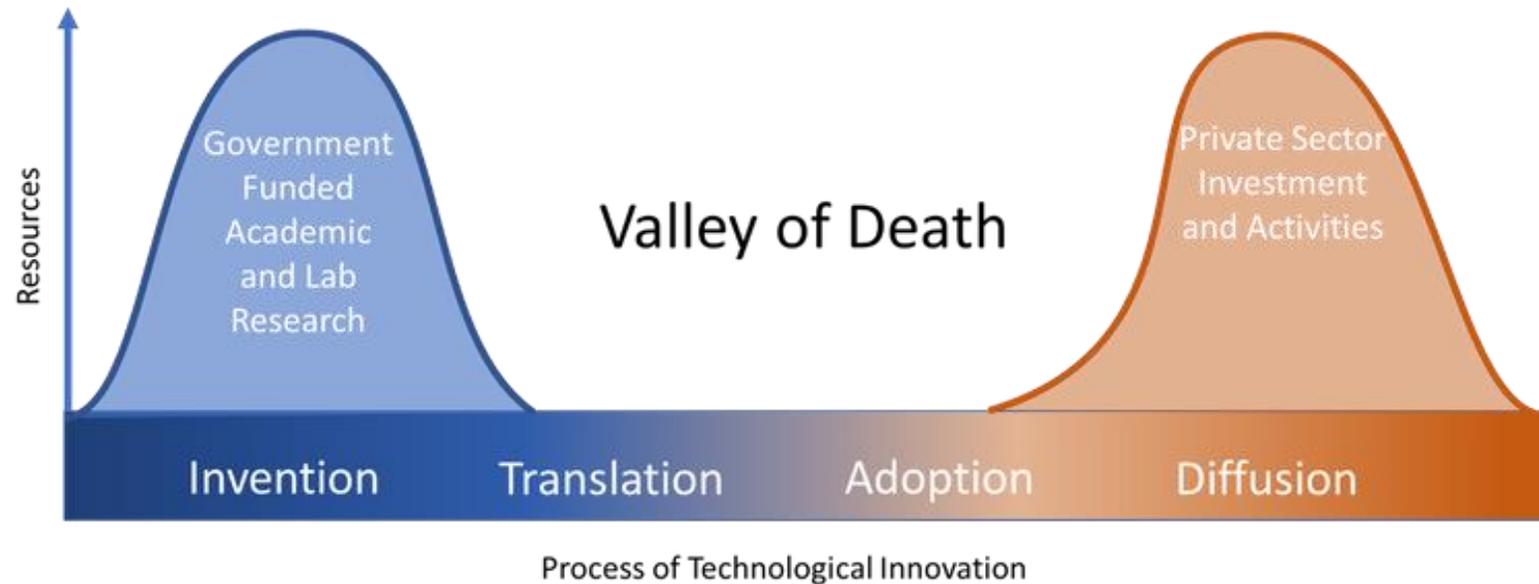
**Stories from the field:**

**A conversation series on community engaged applied research**

**Lara Fowler ([lbf10@psu.edu](mailto:lbf10@psu.edu))**

Interim Chief Sustainability Officer, Penn State  
Interim Director, Penn State Sustainability Institute  
Professor of Teaching, Penn State Law

# Challenge between problem and solution often includes the valley of death...



<https://www.marketwatch.com/story/clean-energy-technology-often-faces-a-valley-of-death-this-idea-would-change-that-2020-10-09>

# This gap exists in other ways too— between critical challenges and potential solutions— with people in between!

Who gets to store and use groundwater in the greater Los Angeles area?



How do you fix flooding in Washington State's second largest river basin?

How do you meet instream flow needs and water for municipal growth when all the water in a region has been allocated to agriculture for a 100+ years?



How do you get best management practices for water quality improvements in Pennsylvania?

# Disputes/conflicts?

- Conflict: “contest between competing interests, facts, ideas, values or people”
- Is conflict helpful/harmful?
- “The sign of a healthy, productive relationship is not necessarily an absence of disputes but rather the skill with which disputes are addressed” – Robert Creo

Chinese Symbol for “Conflict”

The image shows two large, bold Chinese characters, 衝 (chōng) and 突 (tū), written in a traditional calligraphic style. They are positioned side-by-side on a white rectangular background.

Danger

Opportunity

# Framework 1: managing a “common-pool resource” like water (and manure?) can lead to effective governance



Elinor Ostrom  
2009 Winner of Nobel Prize for Economics

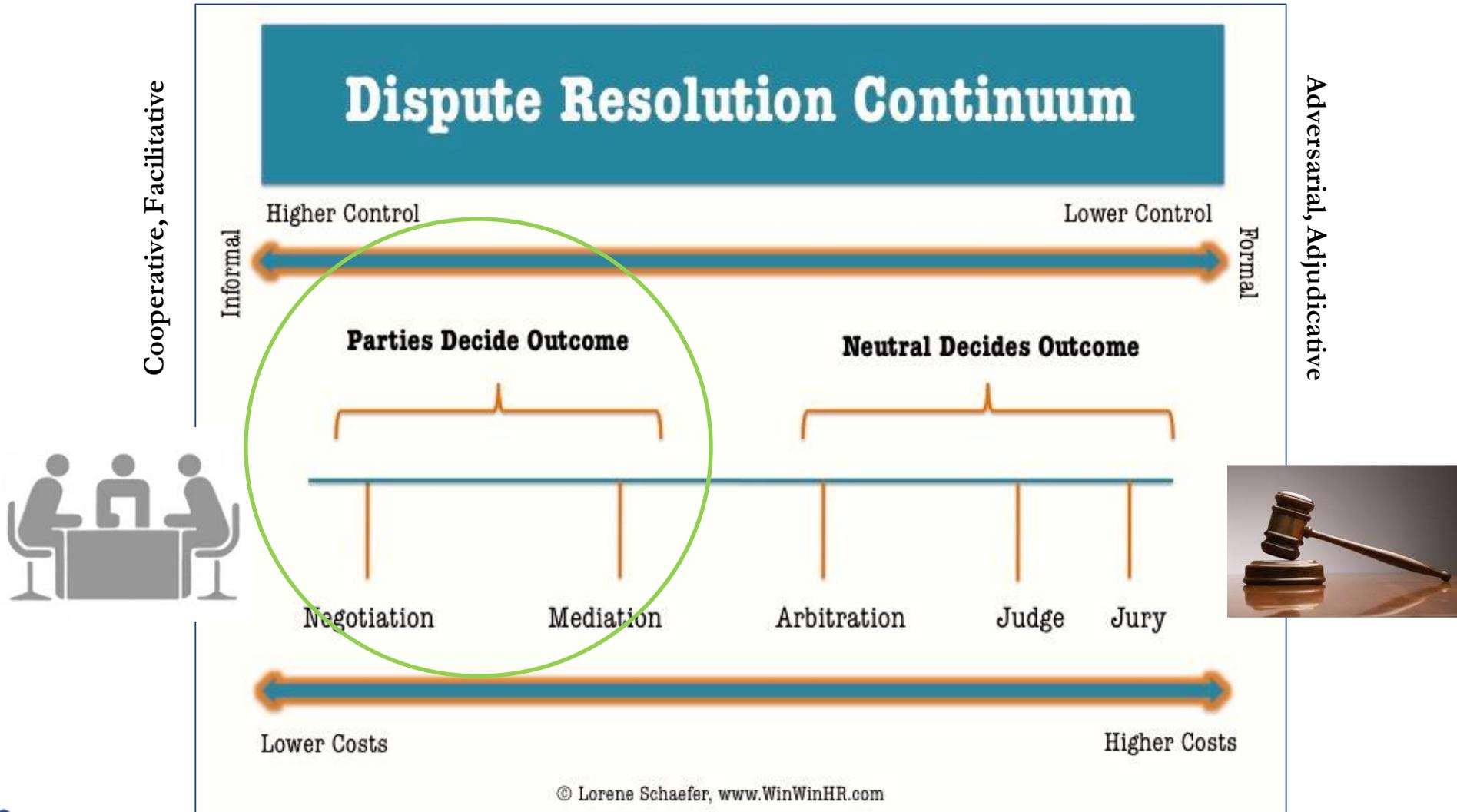
## Design principles:

1. Clearly defined boundaries
2. Congruence:
  - Proportional equivalence of benefits/costs
  - Rules restricting time, place, technology and/or quantity related to local conditions
3. Collective choice arrangements
4. Monitoring
5. Graduated sanctions
6. Conflict- resolution mechanisms
7. Recognition of right to organize
8. Nested enterprise: multiple layers

E. Ostrom, *Common-Pool Resources and Institutions: Toward a Revised Theory*. Ch. 24, *Handbook of Agricultural Economics* (2002)

# Framework 2: engagement can be helpful.

Why? Negotiated/ mediated processes provide for power, control, certainty over process & solution



See also Questions of power, control, certainty raised in Frank E.A. Sander & Lukasz Rozdeiczer, *Matching Cases and Dispute Resolution Procedures: Detailed Analysis Leading To A Mediation-Centered Approach*, 11 Harv. Negot. L. Rev. 1

# Framework #3

## Designing an effective process is critical



**Penn State Law student facilitator**  
Spring Creek Watershed Forum  
April 2018, Bellefonte, Pennsylvania  
photo: L. Fowler

1. Convening
  - Who are the potential parties, stakeholders?
  - What are the potential topics that worry people?
  - What's the potential for mediation or facilitation?
2. Clarifying Responsibilities
  - Who has what role or responsibility to create a proposal?
  - What are the ground rules, role of the neutral, and the process?
3. Deliberating
  - How do the parties exchange information, explore alternatives, gather resources?
4. Helping make decisions & implement agreements
  - What standard is needed for agreement?
  - Who needs to review a proposal to reach agreement?

\*List adapted from Lawrence E. Susskind, *Consensus Building and ADR: Why They Are Not the Same Thing* (in *The Handbook of Dispute Resolution*)

# Framework 4: people & process matter

**Substance:**  
**What are the topics people are worried about?**

Significant challenges in managing complex issues like agriculture or water when there are a lot of interests, history, issues at play

**People/Relationship:**  
**Who is involved?**  
**What is the dynamic between them?**

**Process:**  
**How do you get there?**

## Framework 5:

**A) people tend to focus on positions, not interests**

**B) it's hard to know what you want (vs. don't want)**

Position: something you've decided on

- "A dam will stop flooding"
- "Give me dynamite and I'll blow up the Mellen Street bridge"
- "I don't want a dam built"

Interests: values/concerns that motivate you

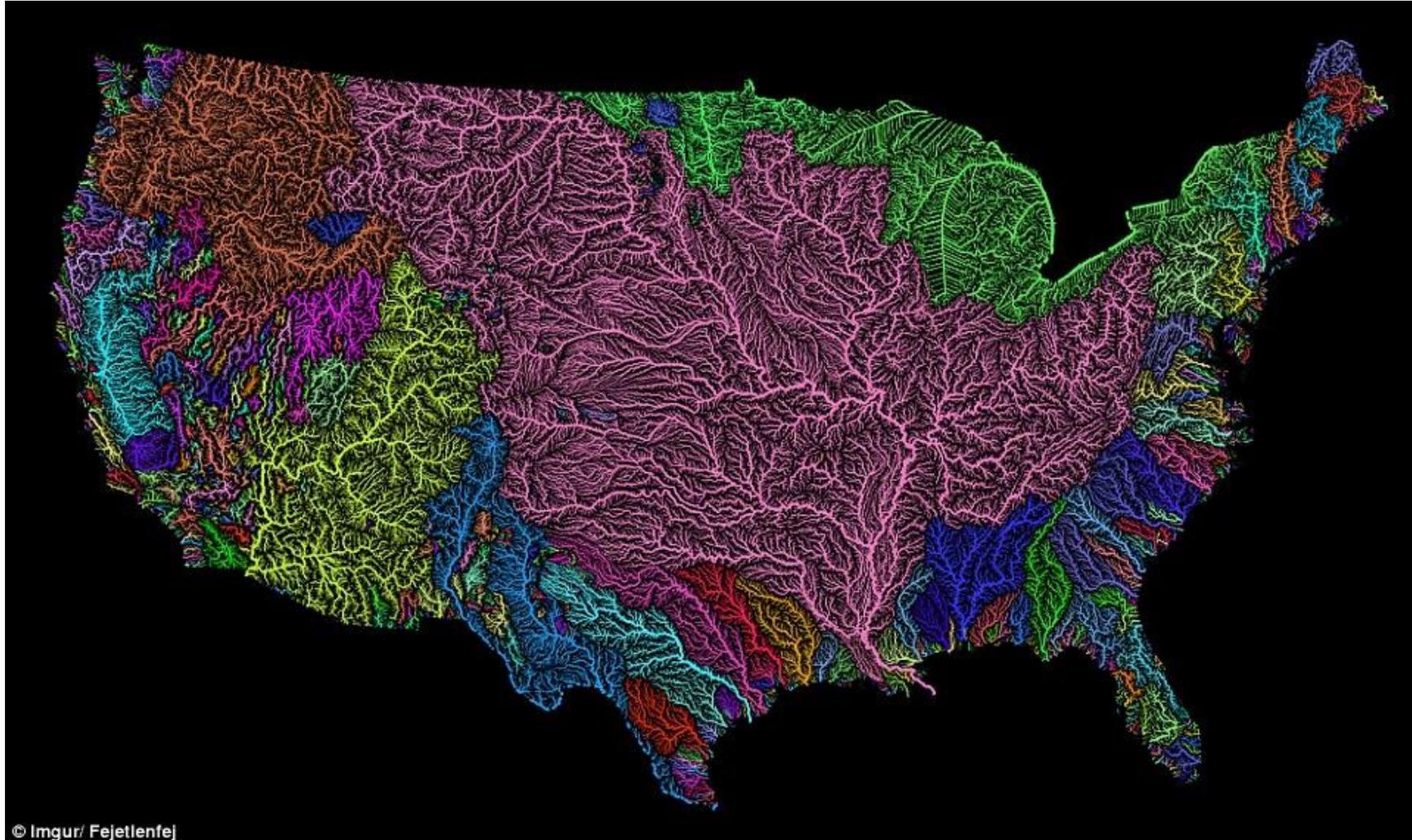
- health & safety, personal well-being
- livelihoods, economic development
- access to power, food, water, transportation
- [and many more]



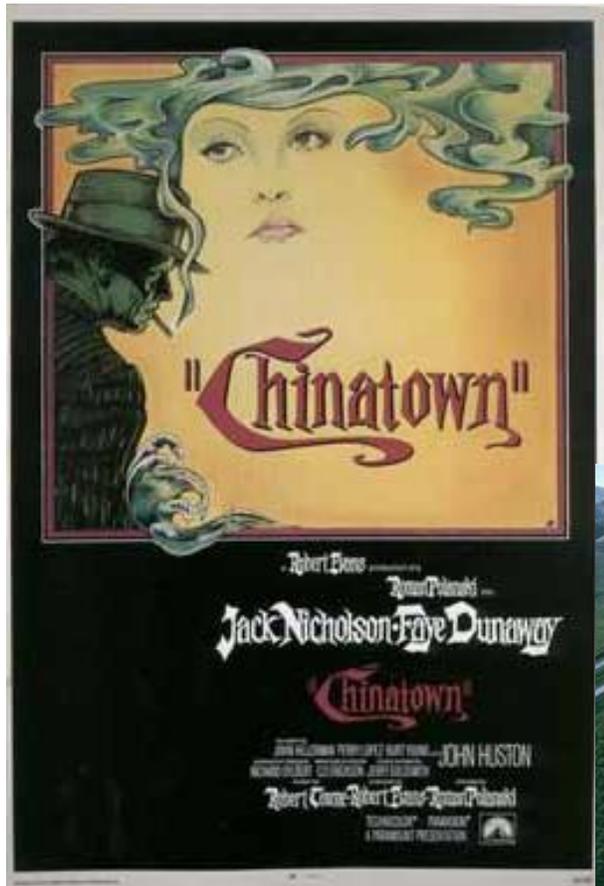
Chehalis Flood, 2007, Chehalis Chronicle

For more on positions vs. interests, see Fisher & Ury, *Getting to Yes*

# Numerous “wicked” challenges demand negotiation with multiple stakeholders



# Case study #1 (mediation): Mediating LA Groundwater Storage



Area = 420 mi<sup>2</sup>

Population = 4 Million

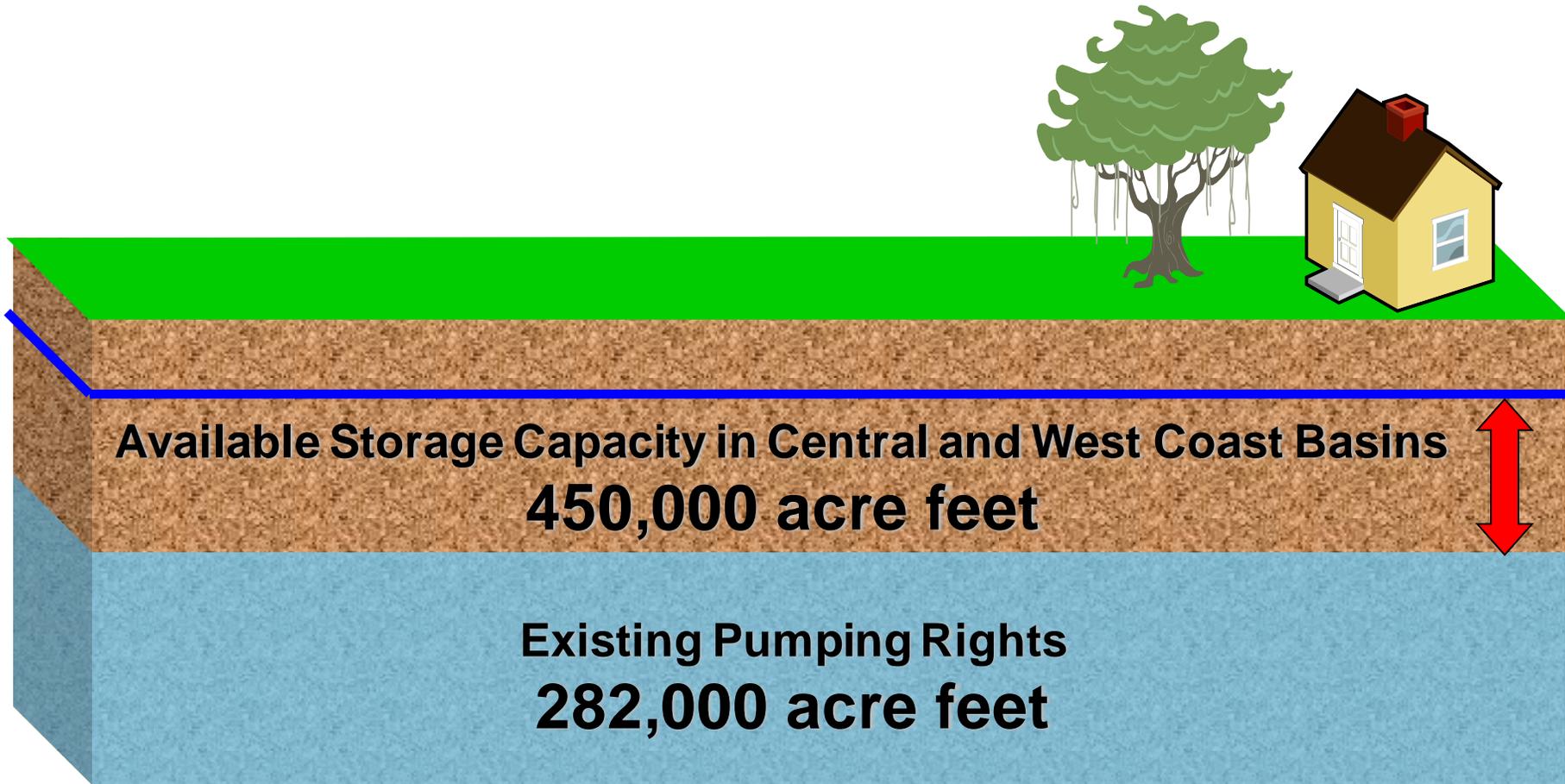


635,000 AF of water/year

43 cities

# Background

- No groundwater code in California until 2014; basin by basin judgments provide site specific law
  - Central Basin Judgment: ~350 parties
  - West Coast Basin Judgment: ~150 parties
- Mediation goal: legal certainty to store, retrieve water for future water supply needs



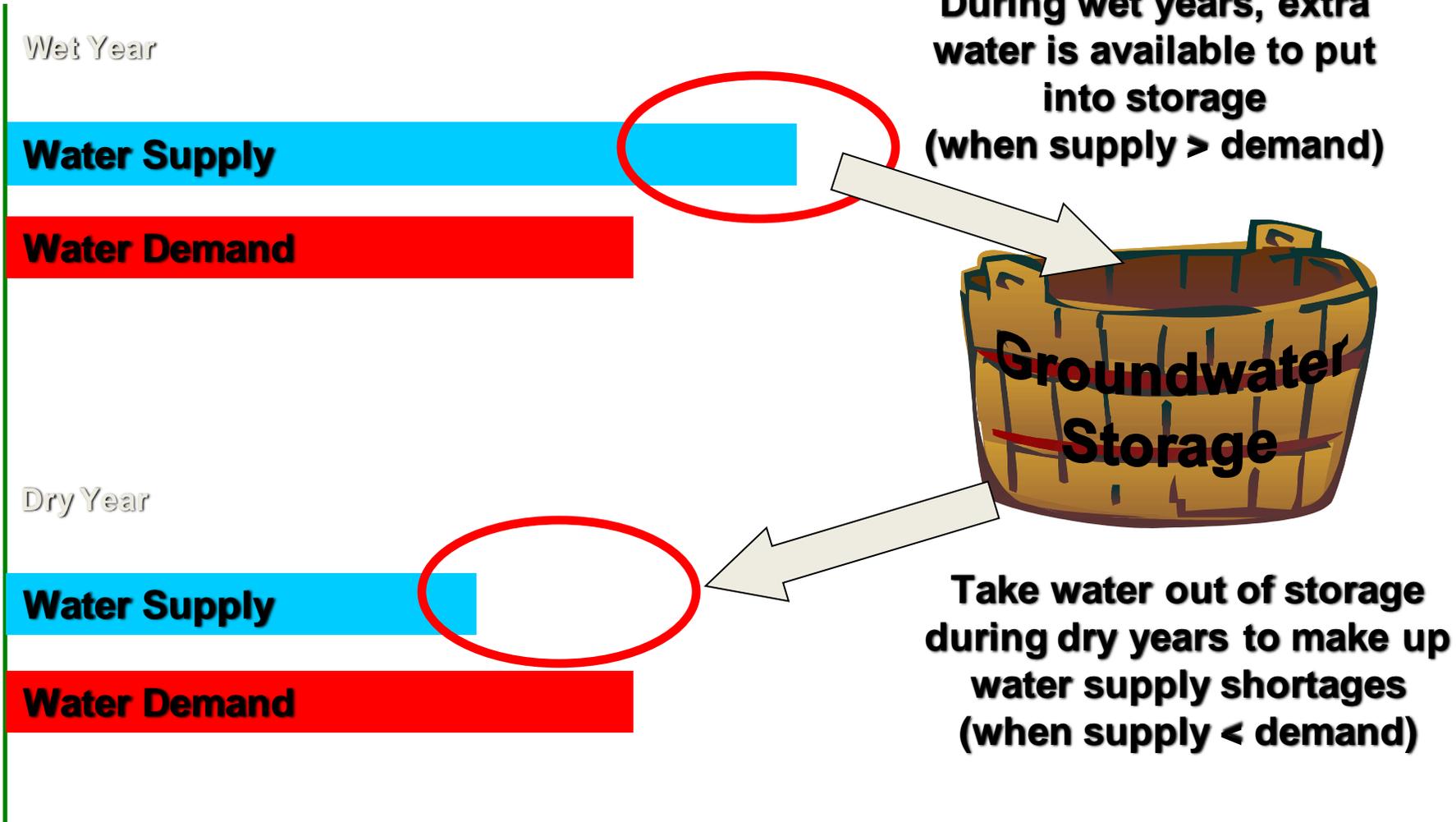
Compare MWD's Eastside Reservoir (800,000 AF, \$1.9 Billion)

# Wet Years



# Dry Years





# Addressing water challenges presents an opportunity for creative problem solving and consensus building

## EDITORIAL

### A Big Gulp for water users

Local agencies have the best sharing idea in 40 years.

**W**ater is something people mostly fight about in the West, but a group of water suppliers serving 4 million customers in Southern California has put aside their differences and come up with a storage plan that makes great sense. They call it the Big Gulp.

That's not likely the term they will be using Friday, when they petition L.A. County Superior Court to create a new framework for making better use of underground storage capacity that is the equivalent to a billion dollars worth of reservoirs. But despite the support of most water suppliers, the plan is not without controversy.

The agreement would affect an area known as the Central Basin and West Coast Basin, encompassing 43 cities and more than 4 million people. Support for the plan comes from the cities of L.A., Long Beach, Lakewood, Torrance, Compton and others; the Golden State Water Co. and other regulated water utilities; the Water Replenishment District that oversees underground water replenishment for the region; the Metropolitan Water District, which imports water for all of Southern California; and, most important from a policy and political point of view, the state Water Resources Department.

Politics has a lot to do with reasons this agreement wasn't reached decades ago. Some water agencies still are sitting on the fence and two cities, Downey and Cerritos, have been opposed, at least up to now. The reasons have little to do with concerns of the average water consumer, and a lot to do with years-old mistrust of the Water Replenishment District and a passionate desire to hold onto local control.

But it's time for those ideas to dry up and blow away in the face of a prolonged drought, development that has outstripped

water supplies, resultant rate increases and, we've got to say, good judgment. If approved by the court, the Central and West Coast Groundwater Basin Judgment Amendments, as they are known, would expand on existing rules in a change that some say history will judge as second in importance only to the recent compact that assured Southern California continued access to Colorado River water.

The existing local rules cover water rights and recordkeeping, both currently left to the supervision of the state's Department of Water Resources. The amendments would add storage approval, to be overseen by local water suppliers working with the WRD.

The amendments would create a sharing system allowing local water suppliers to make use of underground storage capacities vast enough to hold 450,000 acre feet of water. This means that in wet years, the agencies could load up on water at low rates to help tide the region over dry years.

It also would facilitate the transfer of water and increased storage of reclaimed water. An individual agency, for example the Long Beach Water Department, could put water into storage now, but would have no way to lay claim to it later without the threat of litigation. So the space goes unused.

That made no difference 40 years ago, when the judgments first were adopted and water was more plentiful. But it isn't now.

Would any of the holdouts get hurt by the amendments? There are no harmful effects, and many advantages. Not only would the storage capacity smooth out the uneven supply of water and help reduce rates, it would, according to water economist David Sunding, increase the value of water rights \$1,988 to \$3,349 an acre foot, or up to \$944 million.

It's easy to see why a court could approve the amendments quickly, and hard to see why anyone should want to delay them. The semi-arid Southland can only benefit from the Big Gulp.

Press-Telegram

Daily Breeze  
www.dailybreeze.com The South Bay's Choice for 111 years

Pasadena Star-News  
PASADENA, CA

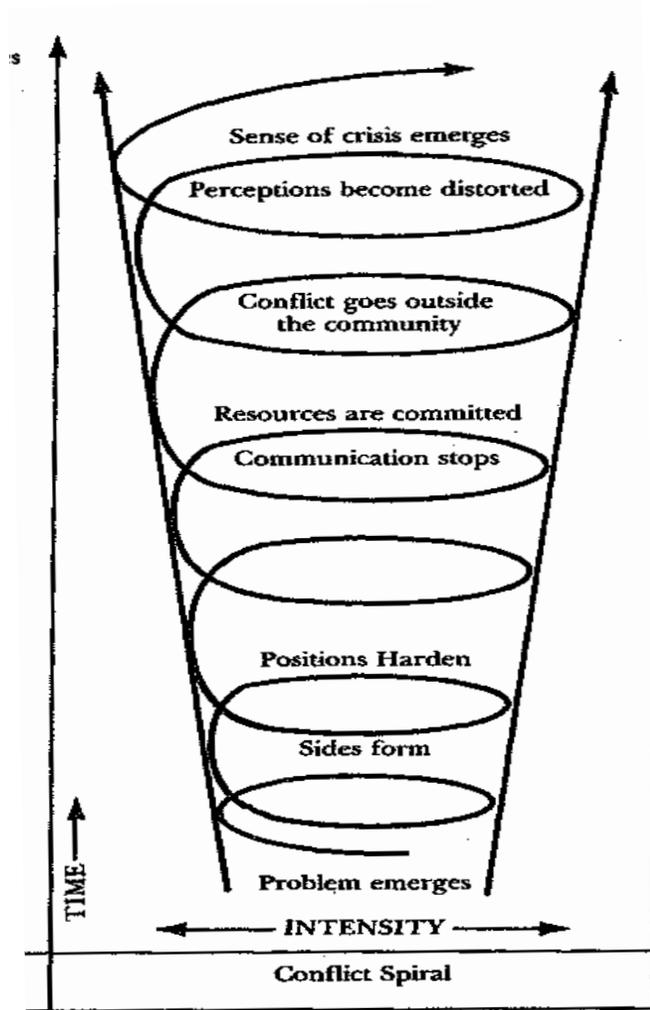
WHITTIER DAILY NEWS

## Case Study #2 (facilitation): Flooding in the Chehalis River Basin, Washington State



Bruce Ely, The Oregonian, Dec. 2007

# Spiral of unmanaged “conflict”



Carpenter & Kennedy, Managing Public Disputes (2001)

The New York Times

## Anger and Blame After Deadly Flood in Northwest

By WILLIAM YARDLEY JAN. 3, 2008



Areas of mudslides are visible along recently logged steep slopes that drain into a tributary of the Chehalis River.  
Steve Ringman/The Seattle Times

[http://www.nytimes.com/2008/01/03/us/03flood.html?\\_r=0](http://www.nytimes.com/2008/01/03/us/03flood.html?_r=0)

## Position:

- We need to stop the flooding



## Reframe to interests:

- How do we address impacts?
- How do we meet other needs?



Chehalis Basin Strategy:  
Reducing Flood Damage and Restoring Aquatic Species

<http://chehalisbasinstrategy.com/>

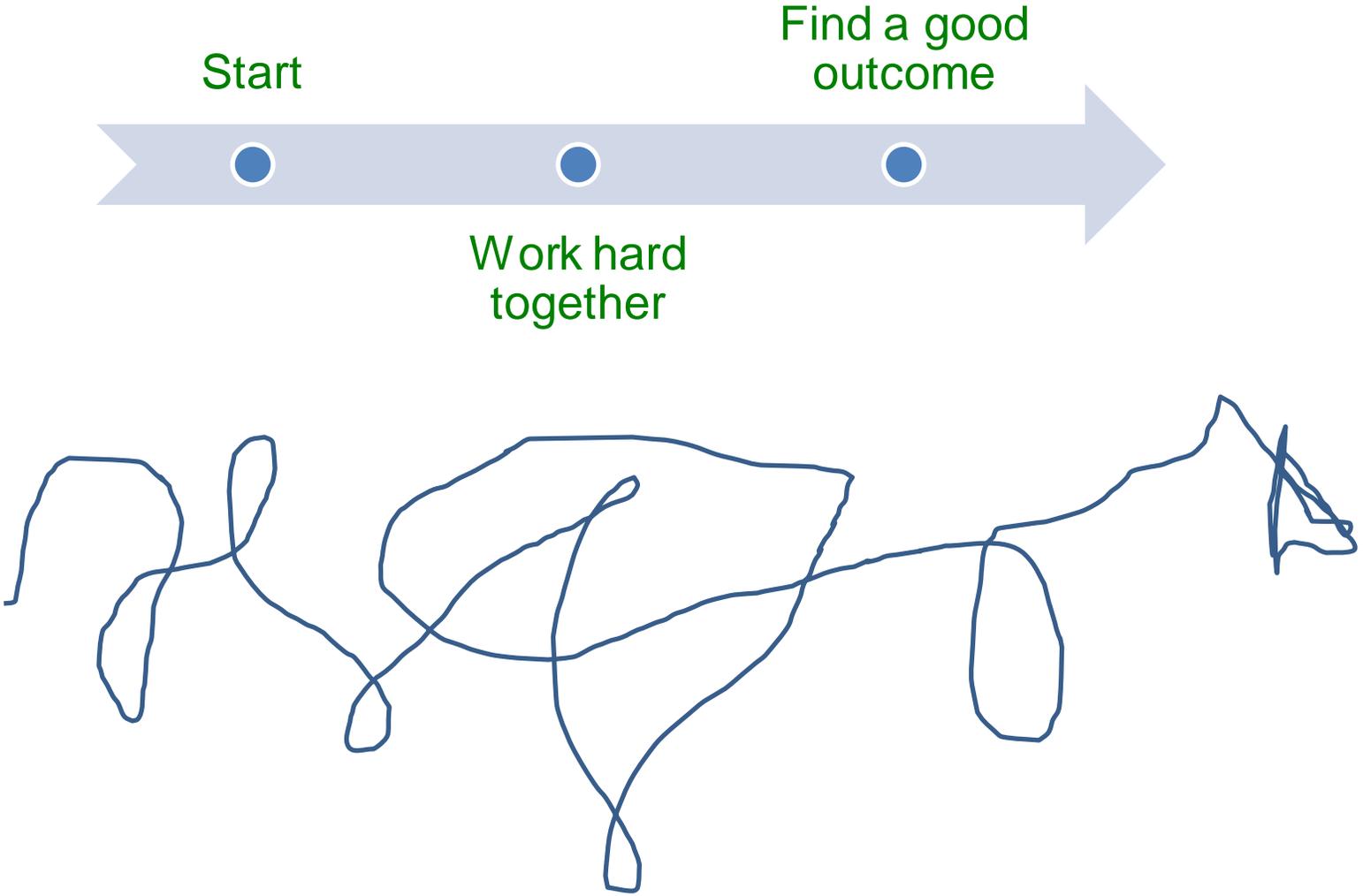
# Creation of a local “flood authority” to identify, develop potential solutions



Chehalis Basin Flood Authority Meeting (Chehalis [Chronicle Photo](#))

- Support for local process
  - Direction from Gov. Christine Gregoire to identify, develop local solutions
  - Funding from state legislature for flood authority, facilitation
  - Process adapted to meet local needs: meeting rotations, tours, workshops
  - Reinforcement for local processes
- Engagement of a broad cross section of people
  - Decision makers: cities, counties, state, federal
  - Other key stakeholders: citizens, local press, NGOs, Tribes
  - Public outreach

# What you want in a process vs. what it looks like



# Not fast, but eventually rewarding: many years from fighting to cooperation

## Locals 'Frozen Out' of New Flood Group

April 21, 2011

**The Chronicle**  
SERVING THE GREATER LEWIS COUNTY, WASH., AREA SINCE 1889

Posted: Thursday, April 21, 2011 10:50 am | Updated: 11:02 am, Thu Apr 21, 2011.

By Marqise Allen and Adam P... | 0 comments

Call it a secession, coup but a "splinter group" of the Authority sent a loud message. Lewis County leadership brought an alternative to the three-year dedicated to solving the Chehalis River basin.

Lewis County officials blame saying creation of the new end-run to grab \$1.32 million funding for the flood authority on the cusp of a major meeting designed to repair tattered relationships among Chehalis Basin leaders.

## Crucial Flood Policy Workshop to be Held This Week

■ Outside Perspective: Conclusions Will be Included in Report to Legislature

Posted: Tuesday, June 12, 2012 7:47 am | Updated: 10:13 am, Tue Jun 12, 2012.

By Bianca Fortis [bfortis@chronline.com](mailto:bfortis@chronline.com) | 0 comments

A critical workshop regarding strategies to mitigate flooding in the Chehalis River Basin will take place this Thursday and Friday at the Great Wolf Lodge.

The two-day workshop is sponsored by the Ruckelshaus Center, a nonprofit organization working to compile

## Inslee Budget Allocates \$28.2 Million to Flood Relief in the Chehalis Basin

Posted: Friday, March 29, 2013 8:51 am

**The Chronicle**  
SERVING THE GREATER LEWIS COUNTY, WASH., AREA SINCE 1889  
1889 125 YEARS 2014

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## 'Historic Step Forward' Marks Milestone in Flood Efforts

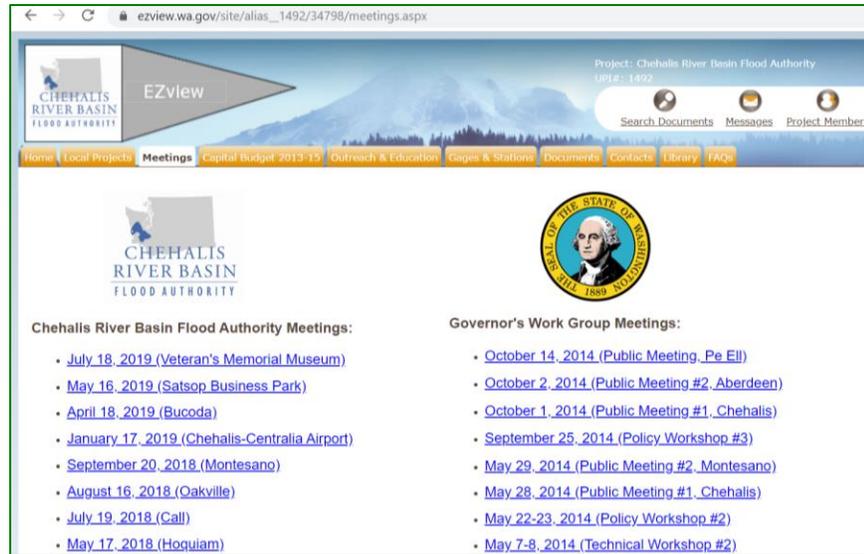
Posted: Tuesday, November 25, 2014 10:2



Floods and Fish: Proponents of Chehalis Basin Flood Protections and Fish Enhancement Joining Forces

The Chronicle · 12 hours ago

# This represents a lot of time talking (and time spent creating time to talk)



## Constructive engagement:

- Ground rules
- Use of consensus
- Work to build relationships & conversation (food helps!)
- Work to understand issues, concerns, fears, emotions
- Address each issue as it arose, and help people move forward constructively
- Small successes led to more progress
- Addressing uncertainty & unknowns
- Active listening = key



# Hope is a critical element



“Today, finally, we hold hope and see, for the first time, real efforts to mitigate the flooding that is sure to inundate the Chehalis River Basin again in the not-so-distant future.”

– Lewis County Chronicle Editorial

Photo courtesy of Pete Caster, *The Chronicle*

Chehalis Basin Strategy: Reducing Flood Damage and Enhancing Aquatic Species (2014:)  
<https://s3.wp.wsu.edu/uploads/sites/2180/2013/06/Chehalis-Strategy-Handout-030414.pdf>

# Hard work has led to recognition and – more importantly– flood risk reduction

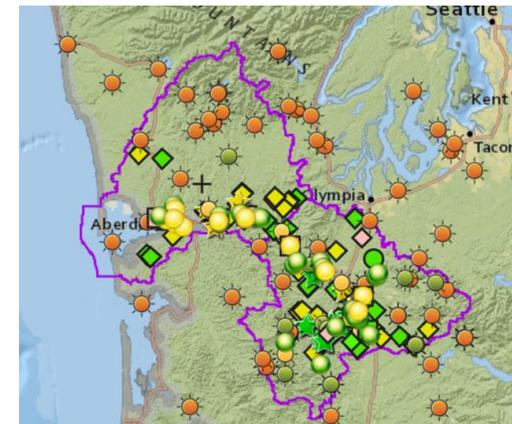


One of the Flood Authority's highlights is the small projects it's taken on, which now number more than 100 and have drawn funding totaling more than \$40 million. The group's close relationships with local municipalities has allowed it to do effective, small-scale work that has an immediate impact, said board member Ron Averill.

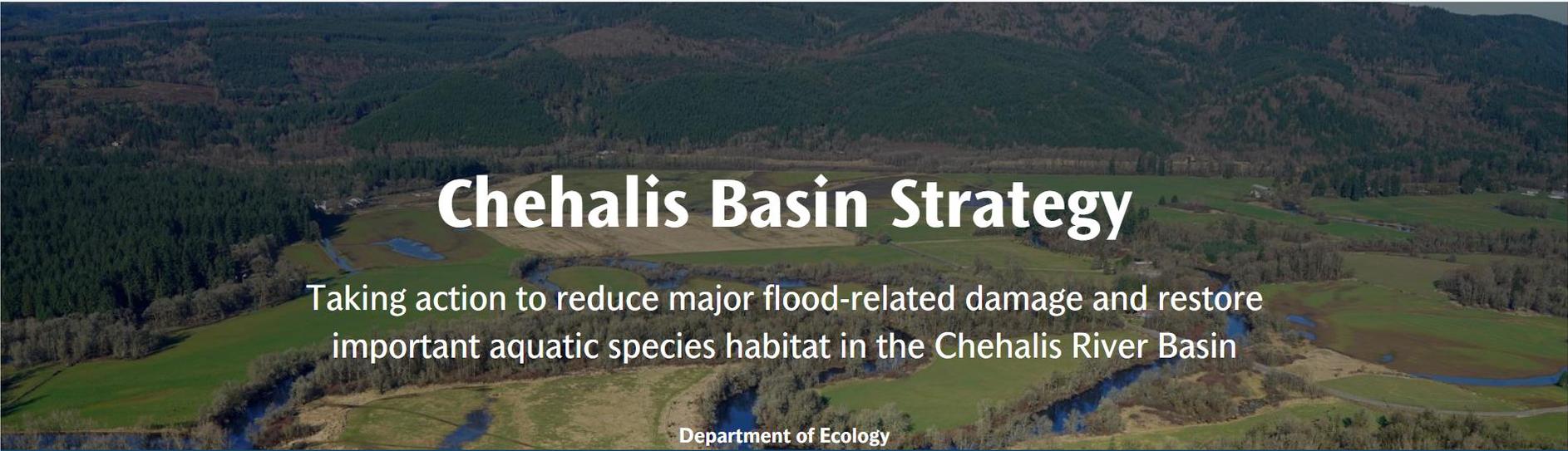


“Winning an award for getting things done — in the past, it was ‘you guys aren’t doing anything, you’re fighting, people are walking out of meetings,’” she said. **“And here we’re all together, working on the projects together.** It’s very gratifying.” - Edna Fund, County Commissioner, Flood Authority member

**“The small projects, they see the value,” he said. “Those all start from the grassroots level. They get identified at the lower level.”**



<http://chehalisbasinstrategy.com/accomplishments/>



# Chehalis Basin Strategy

Taking action to reduce major flood-related damage and restore important aquatic species habitat in the Chehalis River Basin

Department of Ecology

The Chehalis River Basin

Flood Damage Reduction

Aquatic Species Restoration

All Projects Map

Get Involved

## Flood Damage Reduction Projects

Select

All Projects

Active

Cancelled

Completed

Proposed

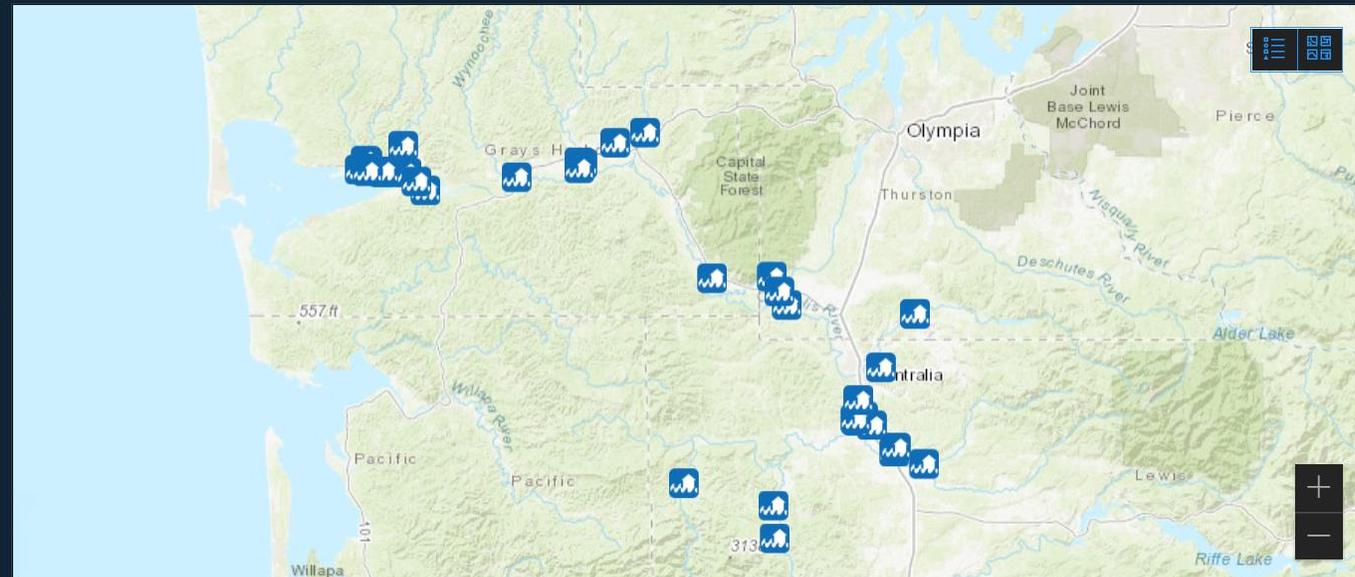
No. of Projects



39

Funding

\$48.4M



## January 2022 Flooding: What We Know Now

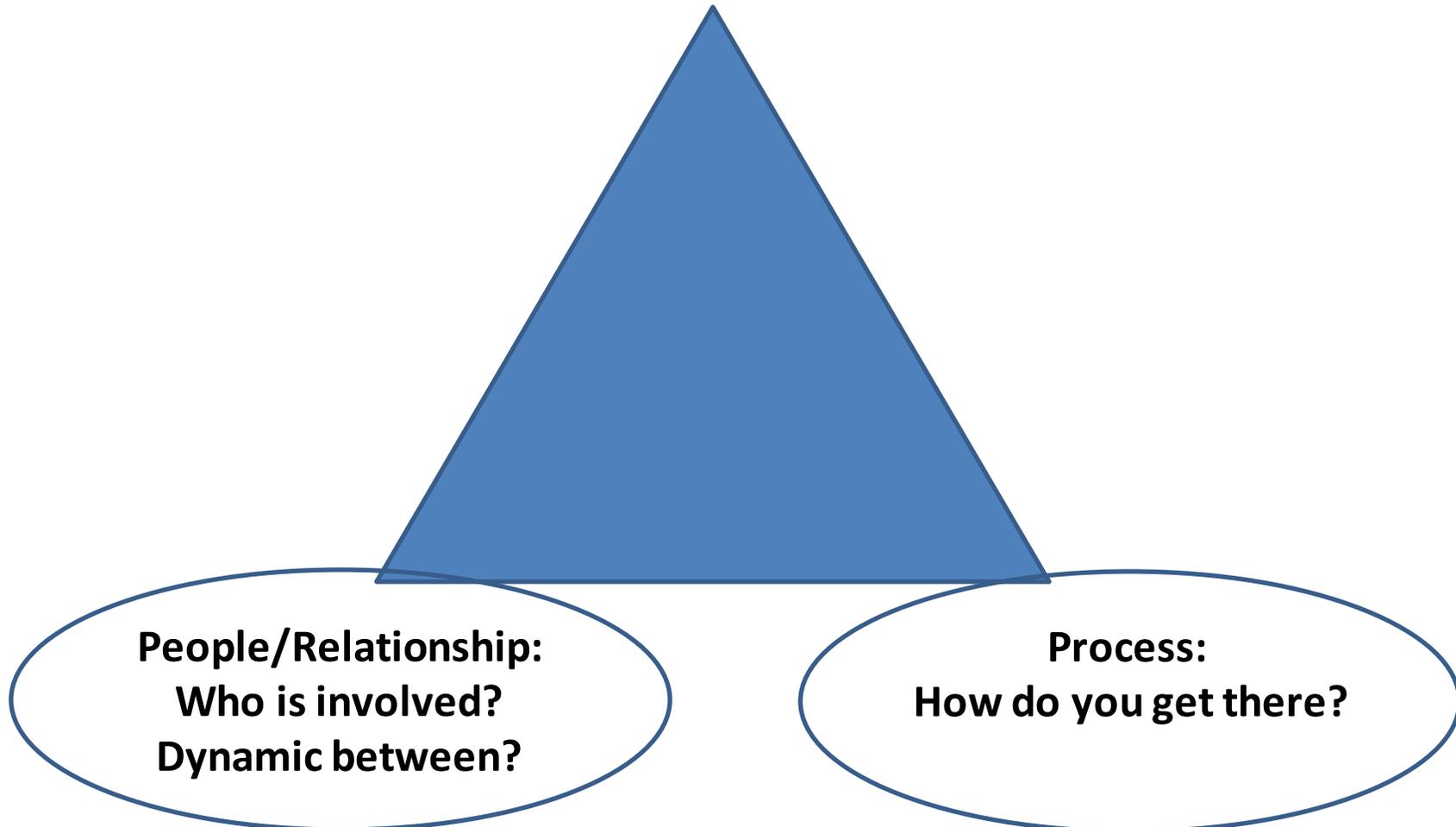
As immediate emergency flood response has given way to longer-term recovery and data collection during this past month, we have begun to gain a more complete understanding of how this January's flood events have affected various residents, communities, and projects across the **Chehalis** Basin.



- \$13.8 million in damage (public, private, infrastructure)
- 25k people logged onto Chehalis River Basin Flood Warning System; flood inundation maps had 75k hits
- Numerous “critter” pads used to protect livestock & farm equipment; no notable livestock loss (compared to widespread losses in 2007, 2009)
- Upgraded pumps in the town of Hoquiam and at the Chehalis-Centralia airport worked
- Montesano Wastewater Treatment plant worked to prevent spills; Centralia plant (not upgraded) spilled
- Various erosion, levee projects worked well, as did flood damage prevention efforts in the town of Bucoda

**Work on flooding → more collaboration on other issues like education, healthcare, transportation, and more**

**Substance:  
What are the issues?**



# Local discussions can lead to regional solutions and provide inspiration for solutions beyond

**The Talk of Grays Harbor**  
**KBKW**  
**94.7FM 1450AM**

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## Montesano Mayor thanks Flood Authority for support

Posted by David Haviland  on August 23, 2013 at 7:10 am (297 social interactions)



MONTESANO, Wash. - Montesano Mayor Ken Estes released a big thank you to members of the Chehalis River Basin Flood Authority this week. He added that the city plans to stay involved until every member has a solution to flooding on the Chehalis River.

The Flood Authority earlier this week voted to shift funding from three other Grays Harbor County projects, in order to fully fund and complete the Mary's River Lumber project in



 **KBKW**  
Locally Owned,  
Involved!  
[Listen to Station](#)  
Power

*“ Other communities in Lewis, Thurston and Grays Harbor put the interests of Montesano at the head of the line now. We won't forget. Our community is committed to stay involved until we have finished all of the needed local projects and found a basin wide solution to catastrophic flooding. - Estes*

- School Closures
- School News
- Programming
- More Radio

In Montesano we're used to trying to solve our own problems. But year by year as the Chehalis River has eroded land and moved closer and closer to our wastewater treatment plant and Mary's River lumber company we realized this problem was bigger than we could handle alone. Locally we worked hard to come up with a workable solution to stop the erosion and protect the infrastructure that supports our community. However, the project is cost is beyond the capacity of the city to fund. The Chehalis Basin Flood Authority supported our request for state funding. Our local legislators and both Governor Gregoire and now Governor Inslee, as well as the Chehalis Tribe,



## Case Study #3: PA in the Balance



In March 2016, the “Pennsylvania in the Balance” Conference brought 100+ stakeholders together to discuss how to have good water quality and healthy & productive agriculture.

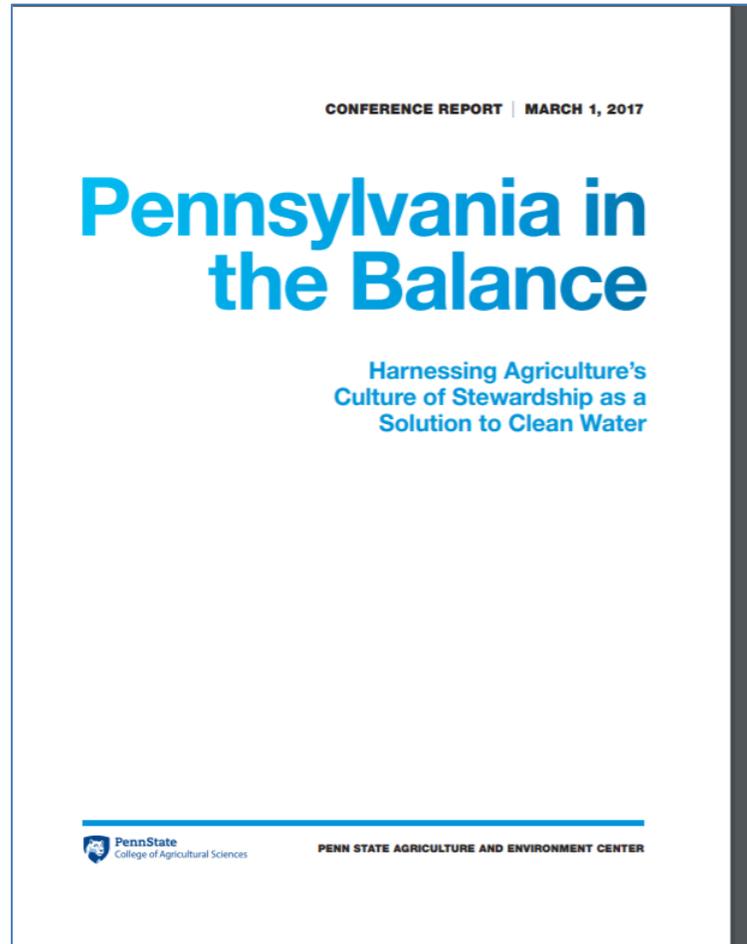
*This conference feels like “we” can all try to pull together to make things better for the watershed and the Bay. It’s real lonely feeling that ag is in this alone, and to blame for what has happened.*

- Conference Participant

# The result? A lot of good thoughts on meeting both water quality and ensuring healthy & productive farms

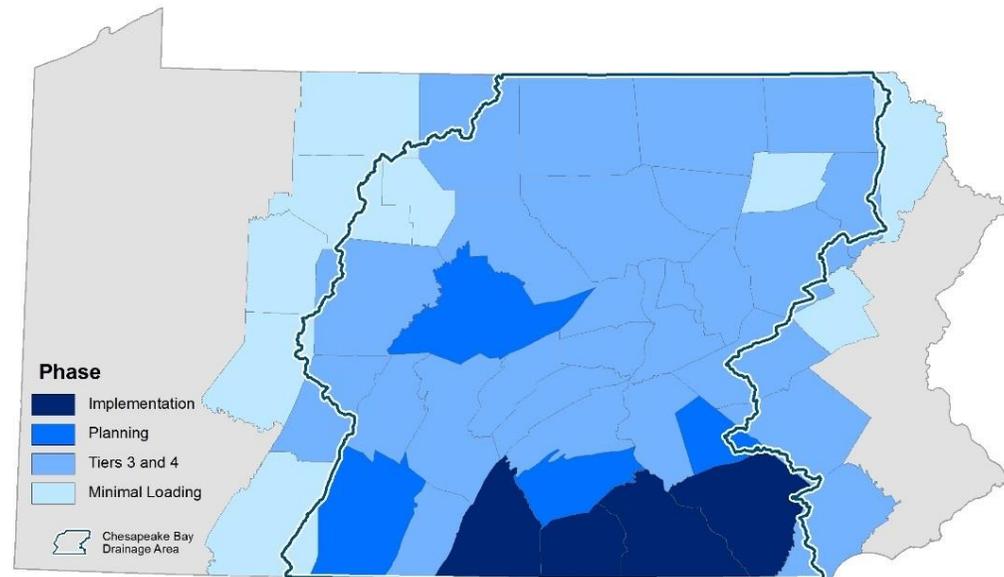


<https://twitter.com/agsciences/status/705529878414761984>



[http://files.dep.state.pa.us/Water/ChesapeakeBayOffice/Ag%20pa ge/\(2\)%20PA%20in%20the%20Balance%20Full%20Report.pdf](http://files.dep.state.pa.us/Water/ChesapeakeBayOffice/Ag%20pa ge/(2)%20PA%20in%20the%20Balance%20Full%20Report.pdf)

# A focus on stakeholder engagement has been built into the PA Department of Environmental Protection's WIP III approach. Will local action lead to effective implementation?

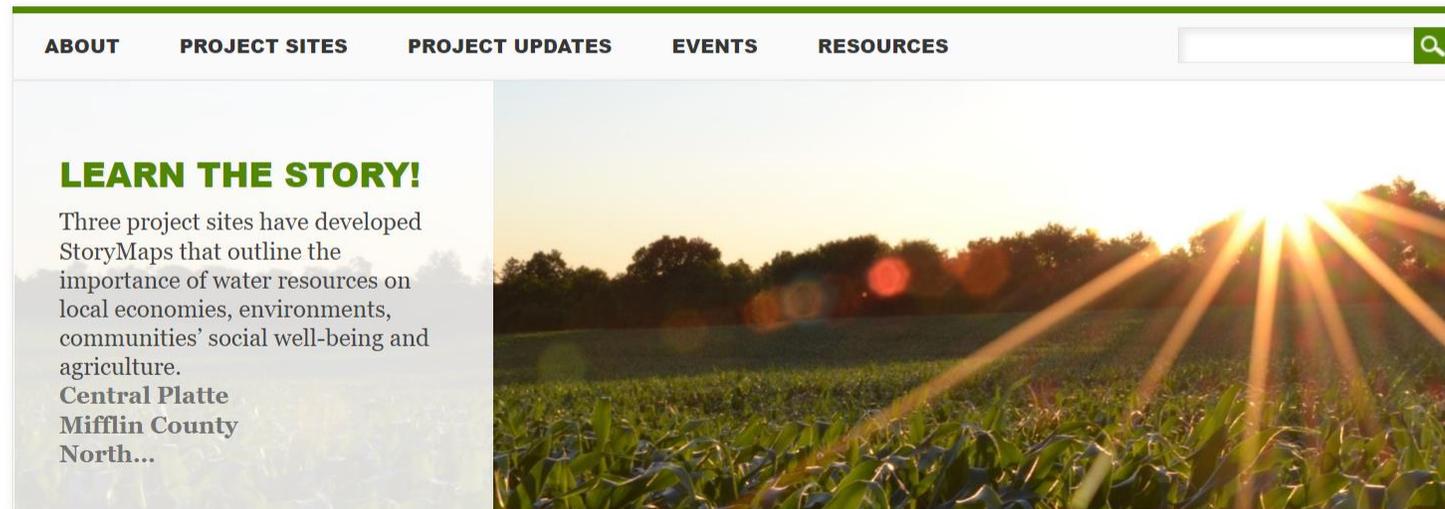


## Potential local priorities + co-benefits:

- Clean drinking water
- Food and beverage production by farmers
- Public health
- Less erosion and flooding, reducing the expense of related repairs
- Property value protection
- Outdoor experiences such as fishing, boating, and swimming
- Income from recreation and tourism businesses
- Habitat for fish, insects, birds, animals



# Research projects also illustrate this work



- 5 year USDA NIFA funded project to work with local leadership teams to identify water & agricultural related challenges and to work together to find solutions
- 3 states- PA, NE, AZ- and 5 locations
- Really interesting work on what counts as “engagement” – webinar to share results on May 10<sup>th</sup> from 1-3 PM eastern

# Penn State Initiative for Resilient Communities

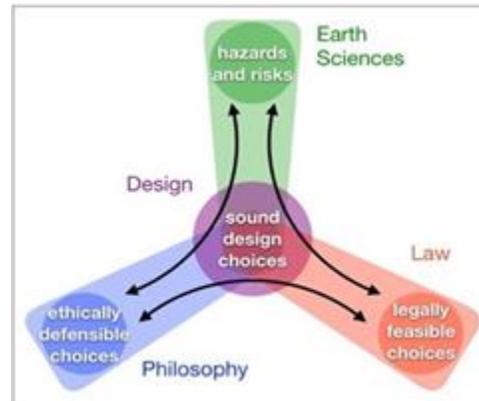
## Water Council theme: advancing resilient communities on a dynamic earth

### Research overview

- Flooding = #1 natural hazard in PA; this is the 50<sup>th</sup> Anniversary of Hurricane Agnes
- Key focus: How can we help communities facing flooding become more resilient?
- Pilot project with the borough of Selinsgrove; broader view towards Pennsylvania Riverine communities
- Strategic plan funded work to date

### Building FORWARD

- Upcoming engagement events in Selinsgrove (April 9- film with Bucknell Partners; May 7- flood resilience Fest)
- Opportunity for broader engagement on flooding issues (modeling, mapping, socioeconomic, ethics/values, legal, Etc.)
- NSF, PEMA/FEMA, more
- Hope to build lecture series on flooding



<https://www.psirc.psu.edu/>



## C-CHANGE

Consortium for Cultivating Human  
And Naturally reGenerative Enterprises

[www.agchange.org](http://www.agchange.org)



### USDA NIFA Grant

The project is powered by a five-year, \$10 million grant from the U.S. Department of Agriculture's National Institute for Food and Agriculture.

### Partners

C-CHANGE's USDA NIFA project includes Iowa State University, Penn State University, Roeslein Alternative Energy, FDCE Inc., the USDA-ARS National Laboratory for Agriculture and the Environment, and 33 partner organizations.

The Consortium for Cultivating Human And Naturally reGenerative Enterprises, or C-CHANGE, is a multi-institutional consortium working to create new value chains on U.S. farms, with emphasis on the generation of renewable natural gas, improved rural economic outcomes, and protection of the environment.



2021 Centre County Climate Action & Adaptation Forum

<https://www.crcog.net/climate-forum>



# CENTRE REGION COUNCIL OF GOVERNMENTS

## CENTRE COUNTY, PENNSYLVANIA

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### Addressing Climate Impacts in the Centre Region - Public Forum

On April 13, 2021 from 6:30 - 8:30 PM over 150 people attended the virtual public forum *Addressing Climate Impacts in the Centre Region*. The **purpose of this forum** was to bring people together to identify shared values, think about what the future might look like for the Centre Region, and explore common ground solutions.

#### What's next?

Along with the recently conducted [sustainability survey](#), the forum input and stakeholder interviews will help guide the development of a regional [Climate Action and Adaptation Plan](#).



**Don't get mad. Get curious  
(and work together to find innovative solutions).**



“Fear is the path to the dark side. Fear leads to anger. Anger leads to hate. Hate leads to suffering.”

- Yoda, *Star Wars Episode V: The Empire Strikes Back*

# Everyone's secret superpower?



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## Floods, Fires, Drought and More: The Climate is Changing and Dispute Resolution Tools are Needed (Now!)

Posted on November 9, 2020

By Lara B. Fowler

*This post originally appeared on Indisputably, the Dispute Resolution Law Professors Blog as part of the Theory-of-Change Symposium on January 19, 2020. We are reposting a revised version of the blog with the author's permission.*

The Crisis and Opportunities in Climate Change

Asking questions, seeking answers, and helping ensure effective processes!

Blog post: <https://law.utah.edu/floods-fires-drought-and-more-the-climate-is-changing-and-dispute-resolution-tools-are-needed-now/>



Thank you!

Lara B. Fowler

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