

Jun 20th, 3:30 PM - 3:45 PM

# Dam Removal I: Listen to the River: Dam Removal Resiliency & Flexibility

Gwen Macdonald

*Habitat Restoration CFE/Save the Sound*

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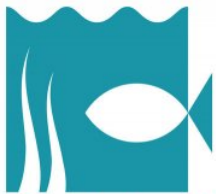
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Listen to the River

# Dam Removal Resiliency & Flexibility

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**Save the Sound**<sup>®</sup>

A program of  
Connecticut Fund for the Environment

Fish Passage Conference  
UMass, Amherst  
June 19, 2016

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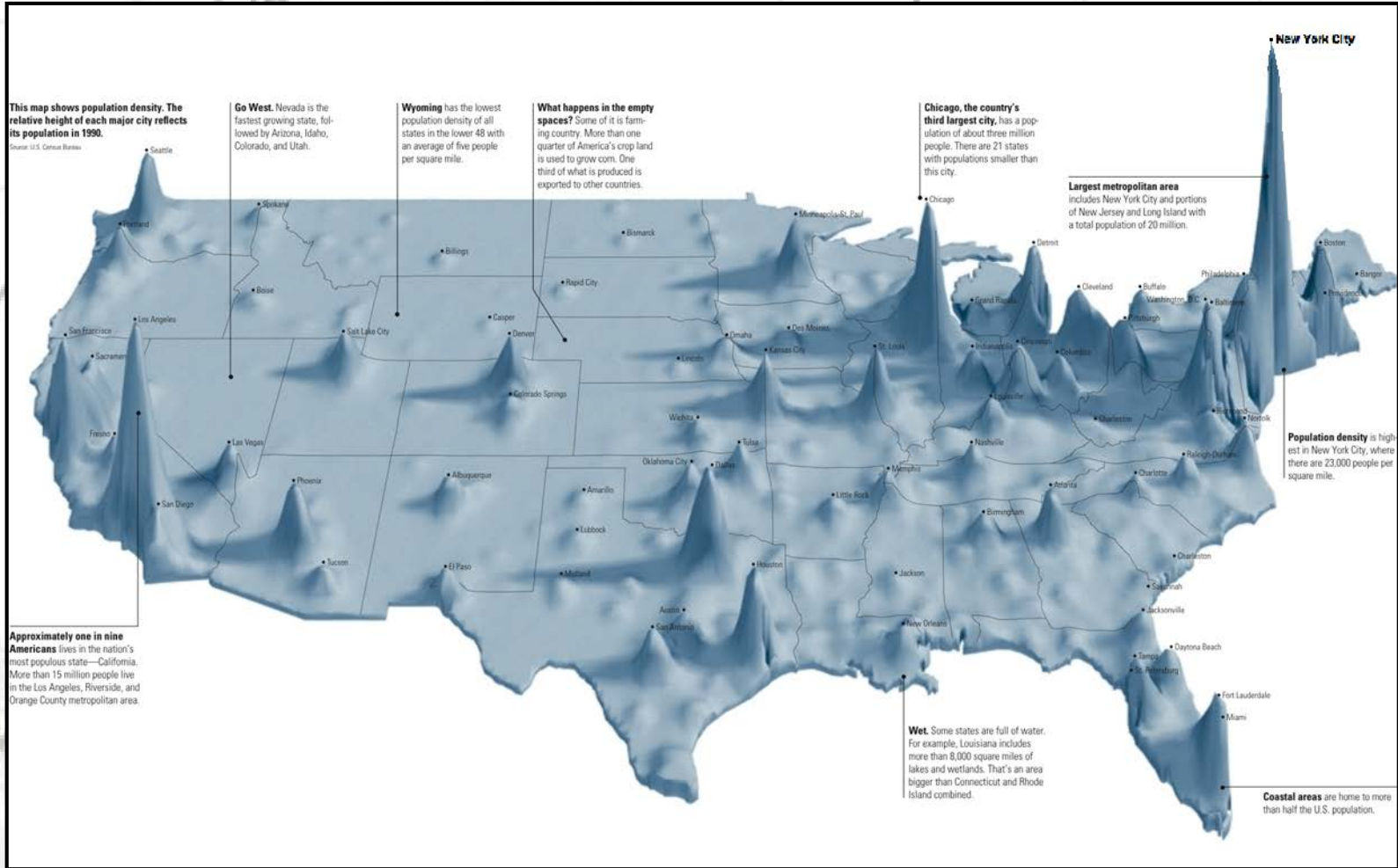
# Save the Sound Program Goal

Make all of Long Island Sound  
healthy for fish and wildlife



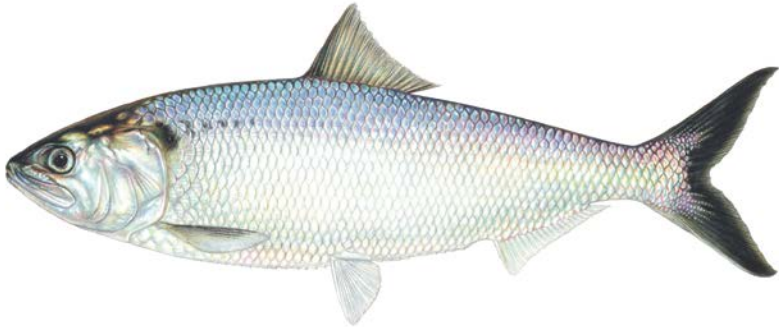
# CONNECTICUT How We Work





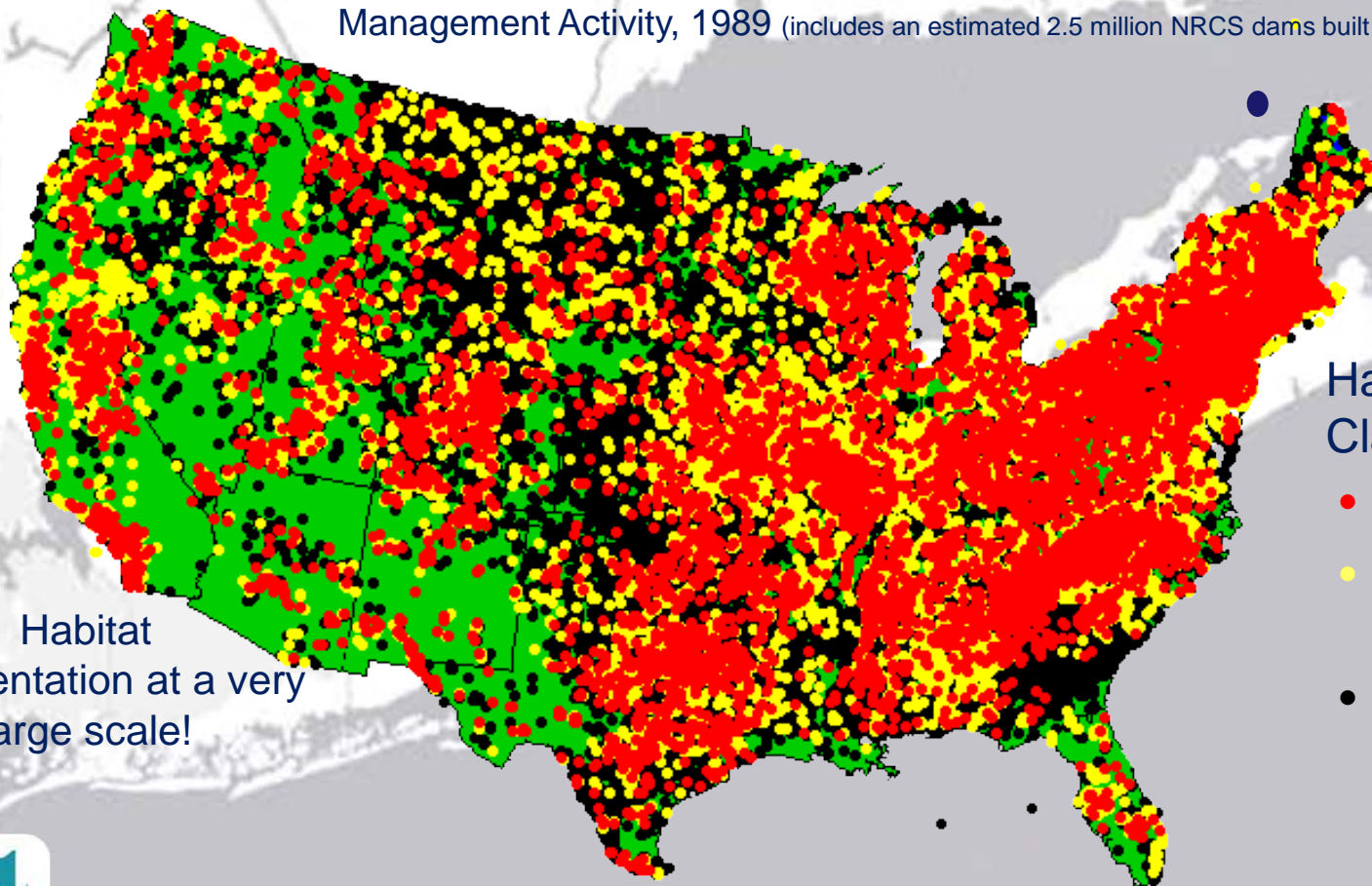
# Restoring Long Island Sound

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# National Inventory of Dams

- 85,000 Dams >25 ft w/ 15ac-ft capacity or >6ft w/ 50ac-ft capacity
- ~99,000 Dams regulated by states & in the USFWS Barrier Database
- Several Million Dams Status Report on the Nation's Floodplain Management Activity, 1989 (includes an estimated 2.5 million NRCS dams built as of 1977)



## Hazard Classifications

- High Hazard
- Significant Hazard
- Low Hazard

Habitat Fragmentation at a very large scale!



L. Wildman, 2014



# 7 DAM REMOVALS IN CONNECTICUT 2015





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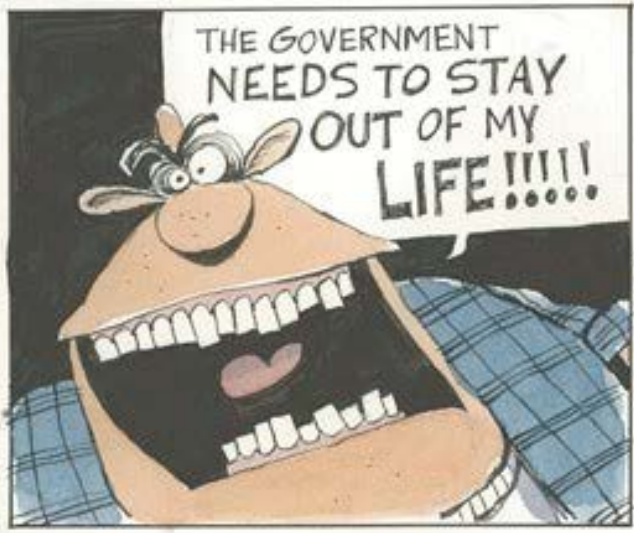
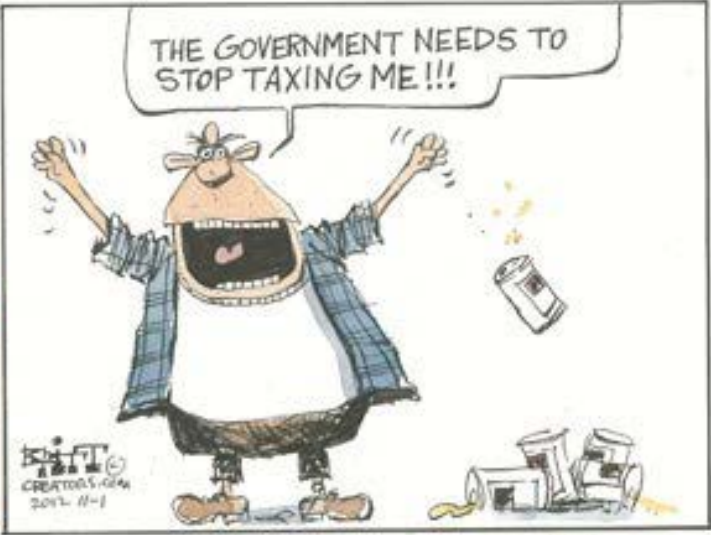
# MAJOR STORMS HIT NORTHEAST



IRENE 2011

SANDY 2012





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RESILIENCE

# re·sil·ience:

the ability to bounce back when faced with stress or pressure.

- Economic
- Wildlife populations
- Coastal/riverine habitats

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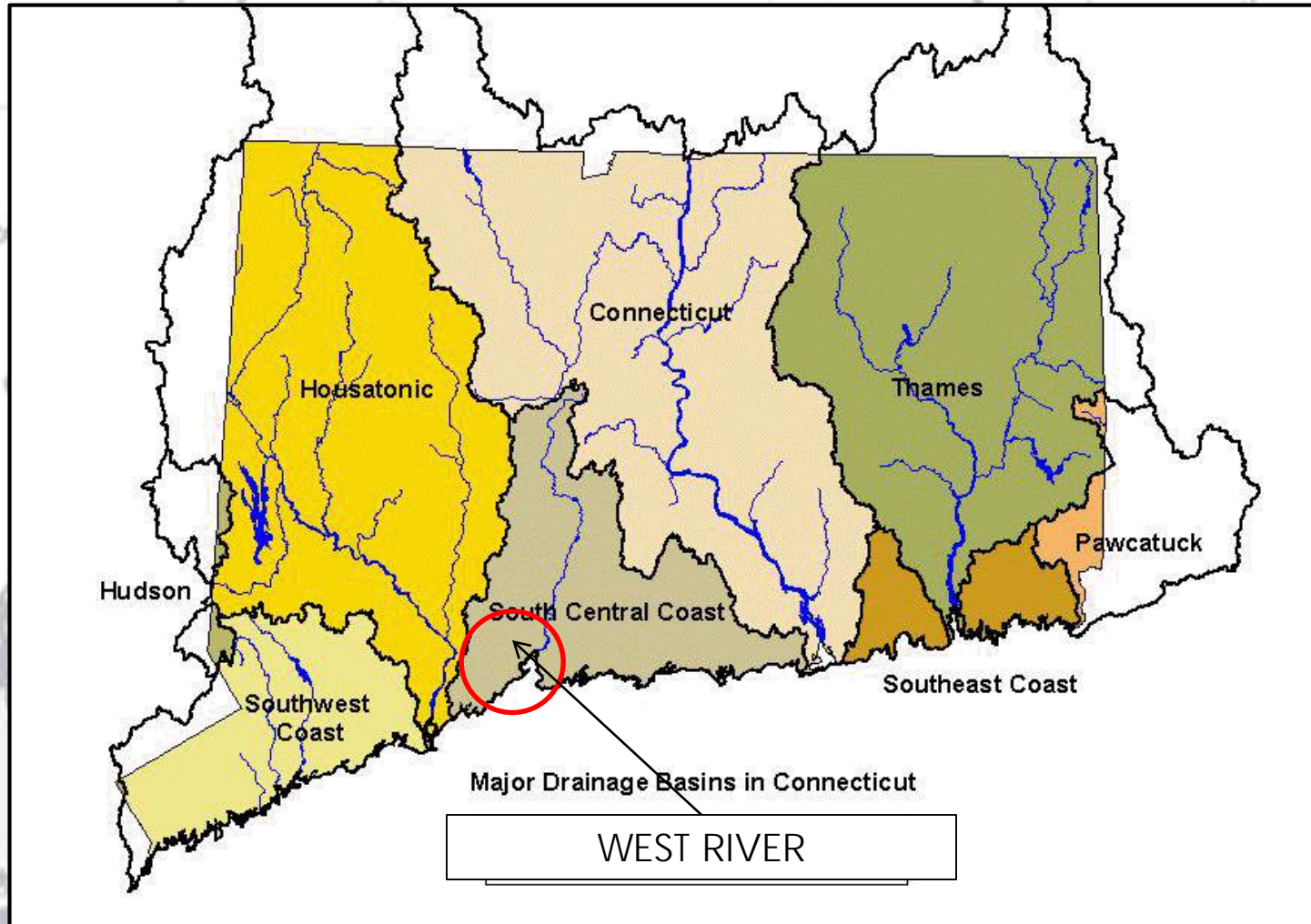
## WHY DO WE REMOVE DAMS?

- Fish passage
- Aquatic organism restoration
- Connectivity
- Water quantity
- Water quality
- Public safety
- Reduce liability
- Recreational use



- Single, permanent restoration project that creates a more resilient, sustainable condition in our watershed

# West River Restoration – New Haven CT





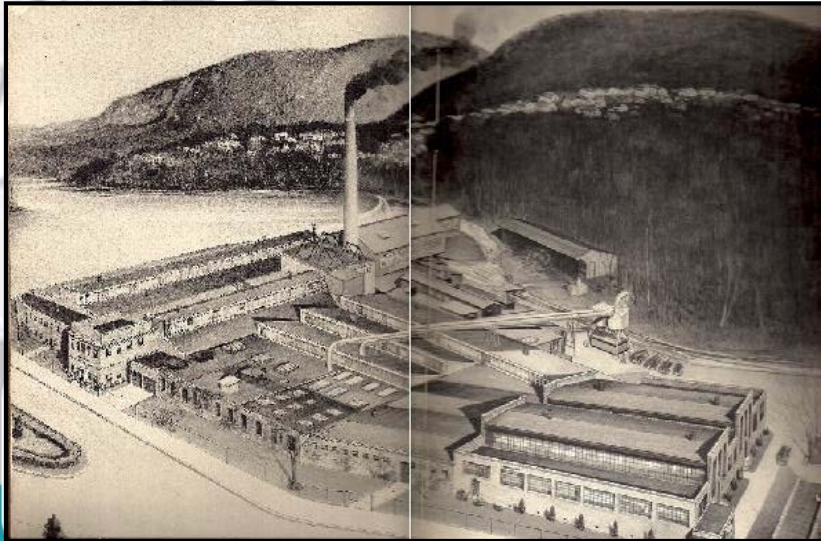
# POND LILY DAM REMOVAL – NEW HAVEN CT



Mill Impoundment



Transitional stream





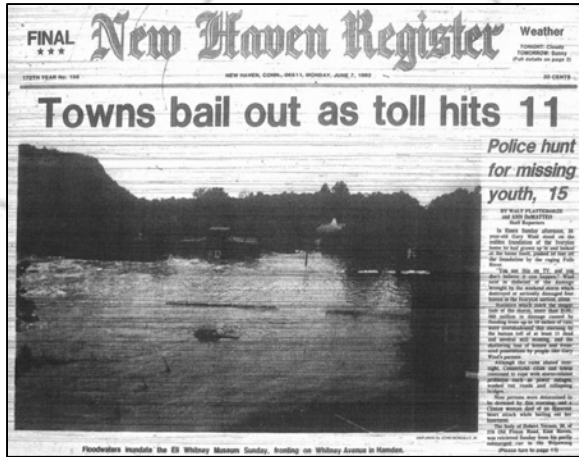
# POND LILY DAM REMOVAL – NEW HAVEN CT

- Restores riparian ecosystem
- Reduces upstream flooding
- Eliminates a public safety hazard
- Fishway will be moved





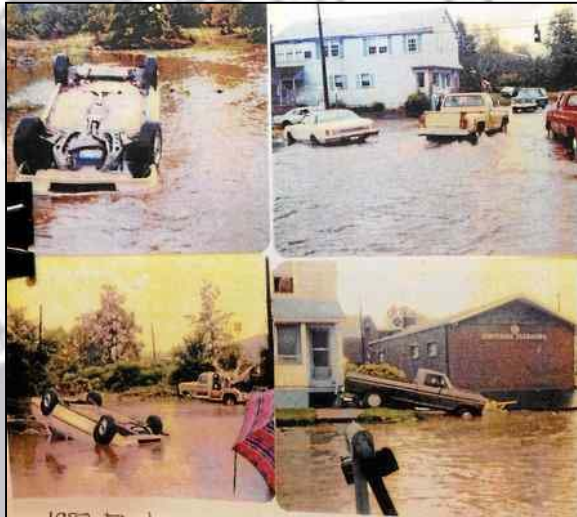
# POND LILY DAM REMOVAL – NEW HAVEN CT



1982



2013



1 • Pond Lily Dam



2 • Dam Removal



3 • Cleanup



4 • Planting





# POND LILY DAM BREACH MONTAGE



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# POND LILY DAM BREACH





# POND LILY 3.0

- Reinvestigate
- Redesign
- Re-notify
- Re-permit
- Re-budget
- Renegotiate
- **Return to work**



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# POND LILY DAM REMOVAL



January 16, 2015



February 17, 2016

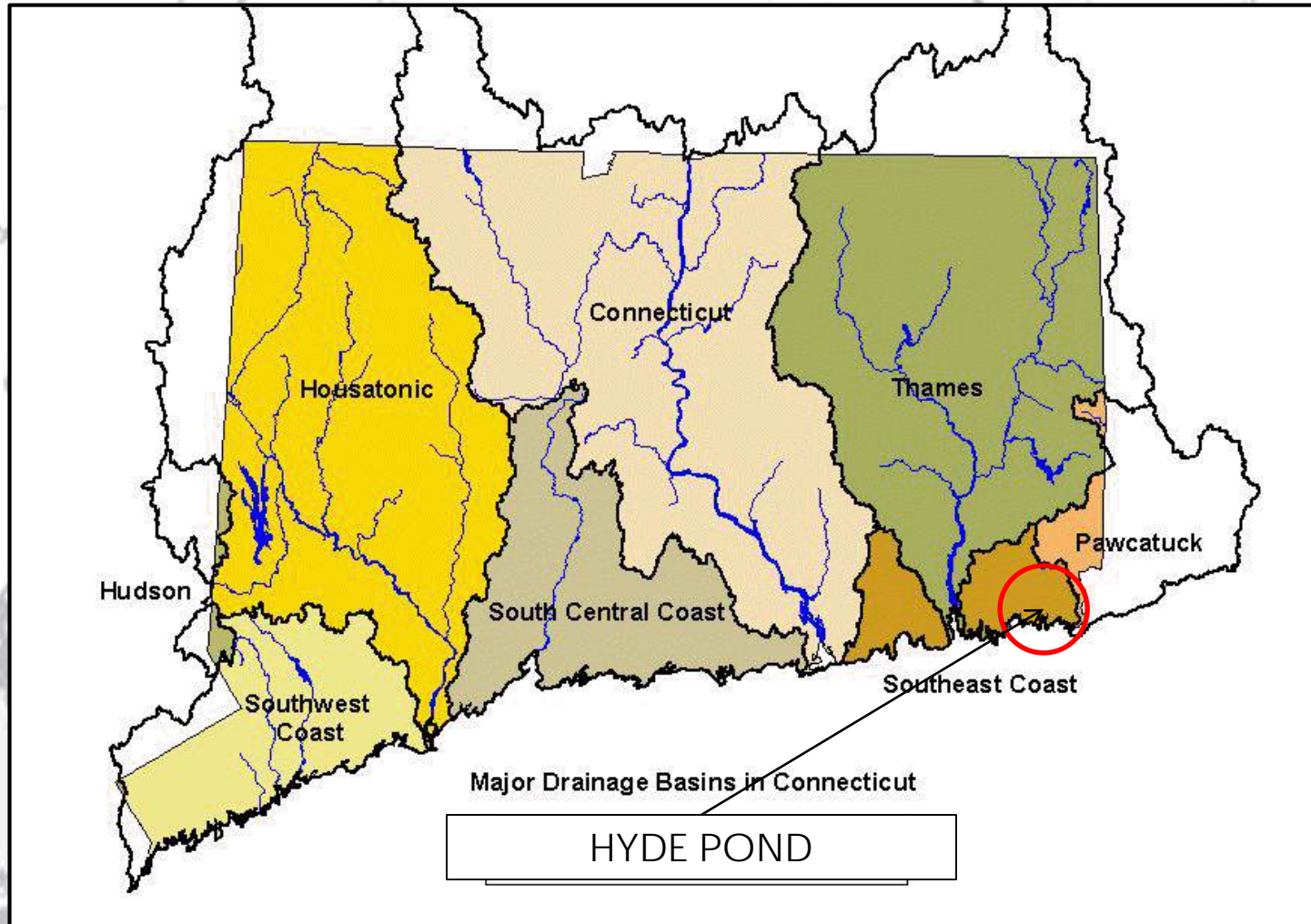


June 9, 2016

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# Whitford Brook Restoration– Mystic CT





# HYDE POND - PERSPECTIVE



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# HYDE POND - FLEXIBILITY





## HYDE POND 2.0

- Meet with regulators
- Field visit
- Redesign
- Submit
- Redesign
- Submit
- Draft permit
- Monitoring plan
- Permit
- Public Notice
- **Begin work**





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# HYDE POND DAM REMOVAL MONTAGE





# LESSONS LEARNED

- Why dam removal?
- Resiliency
- Funding waves
- Flexibility
- Adaptive management
- Relationships
- Nearby examples
- Local partners



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[youtube.com/user/SavetheSoundCT](https://www.youtube.com/user/SavetheSoundCT)

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