

# *Watersheds 101*

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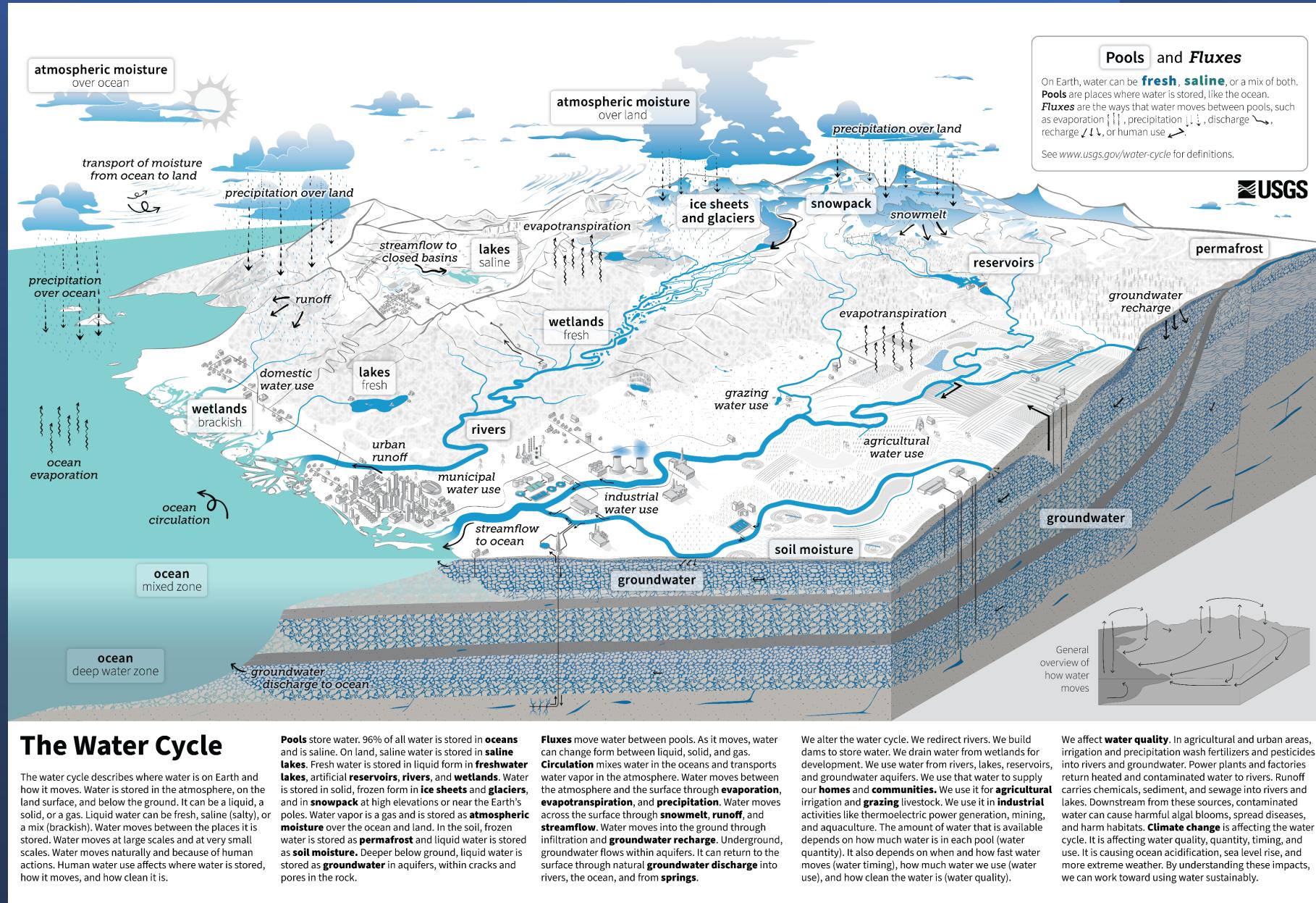
**Hosted by: Connecticut Equity and Environmental Justice Advisory Council – March 6, 2025**

**Presented by**

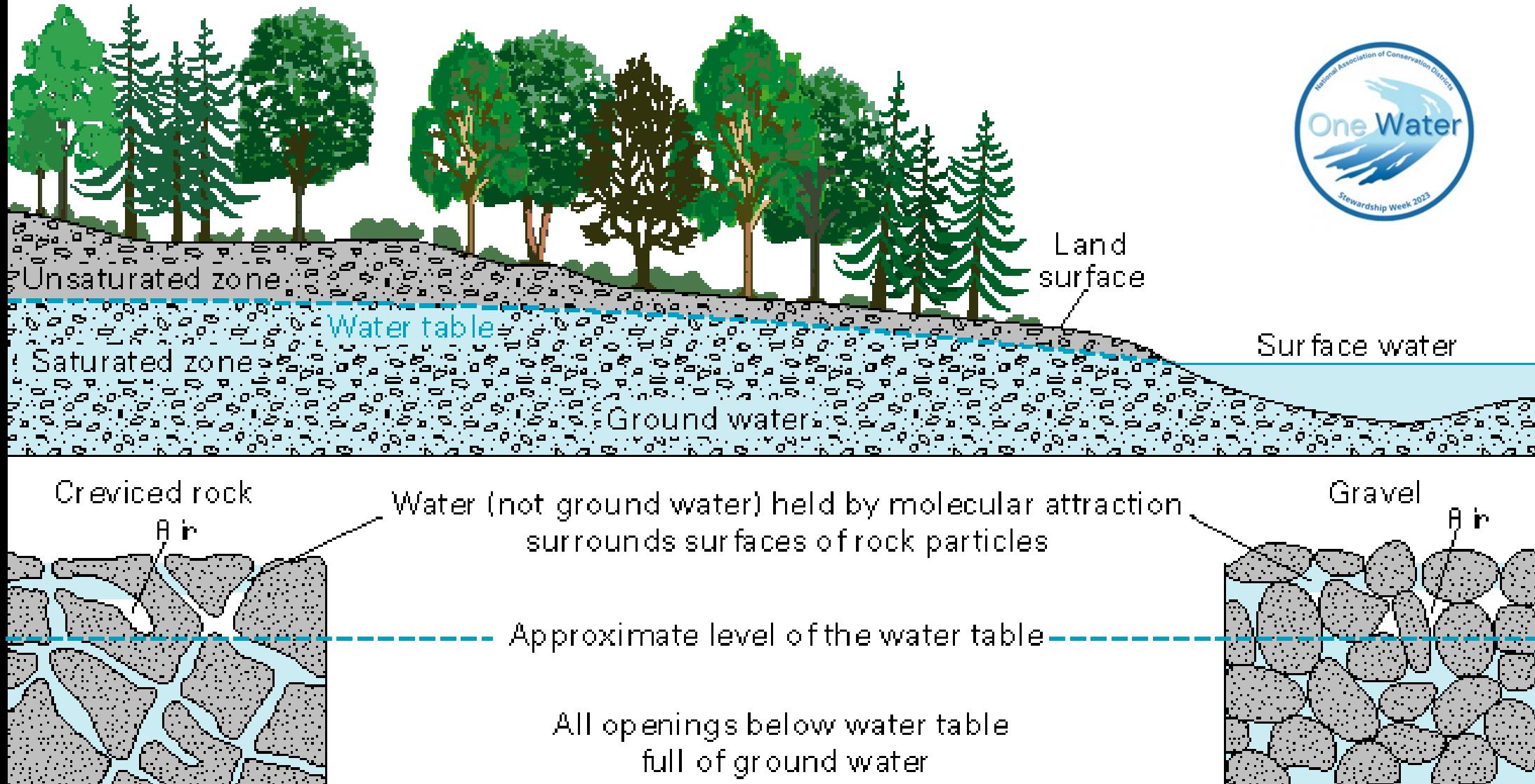
***Denise Savageau, Chair, Council on Soil and Water Conservation and President of the CT Association of Conservation Districts***

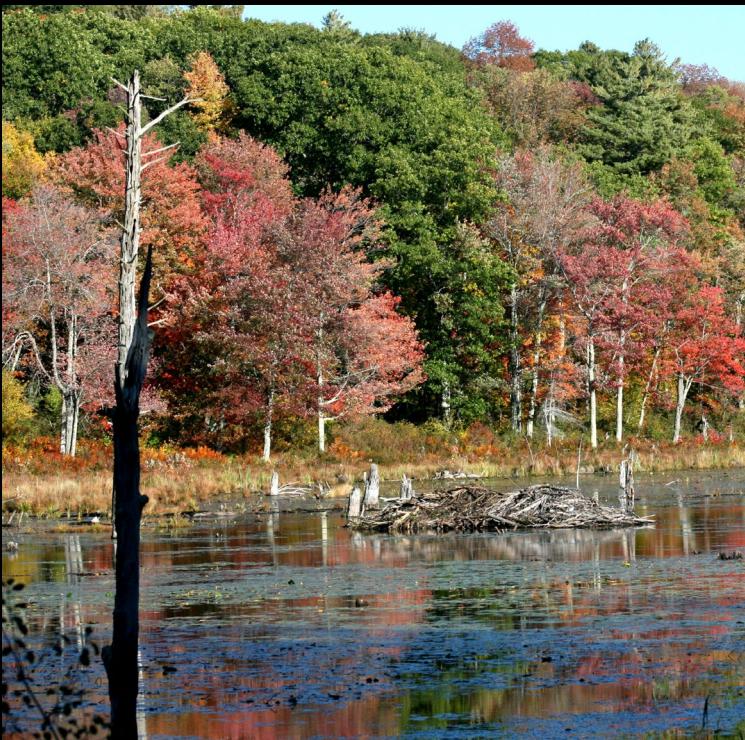
***Christopher J. Bellucci, Assistant Director  
Water Planning and Management Division  
Bureau of Water Protection and Land Reuse  
Connecticut Department of Energy and Environmental Protection***

- Earth is known as the water planet
  - Over 75% of the Earth's surface is water, 70% is ocean
  - More than 97% of the water is in salty oceans and seas
  - 2% is frozen in glaciers
  - Less than 1% is fresh water found in rivers, lakes, streams, and aquifers



# It is *One Water!*





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## Connecticut is a state rich in water resources.

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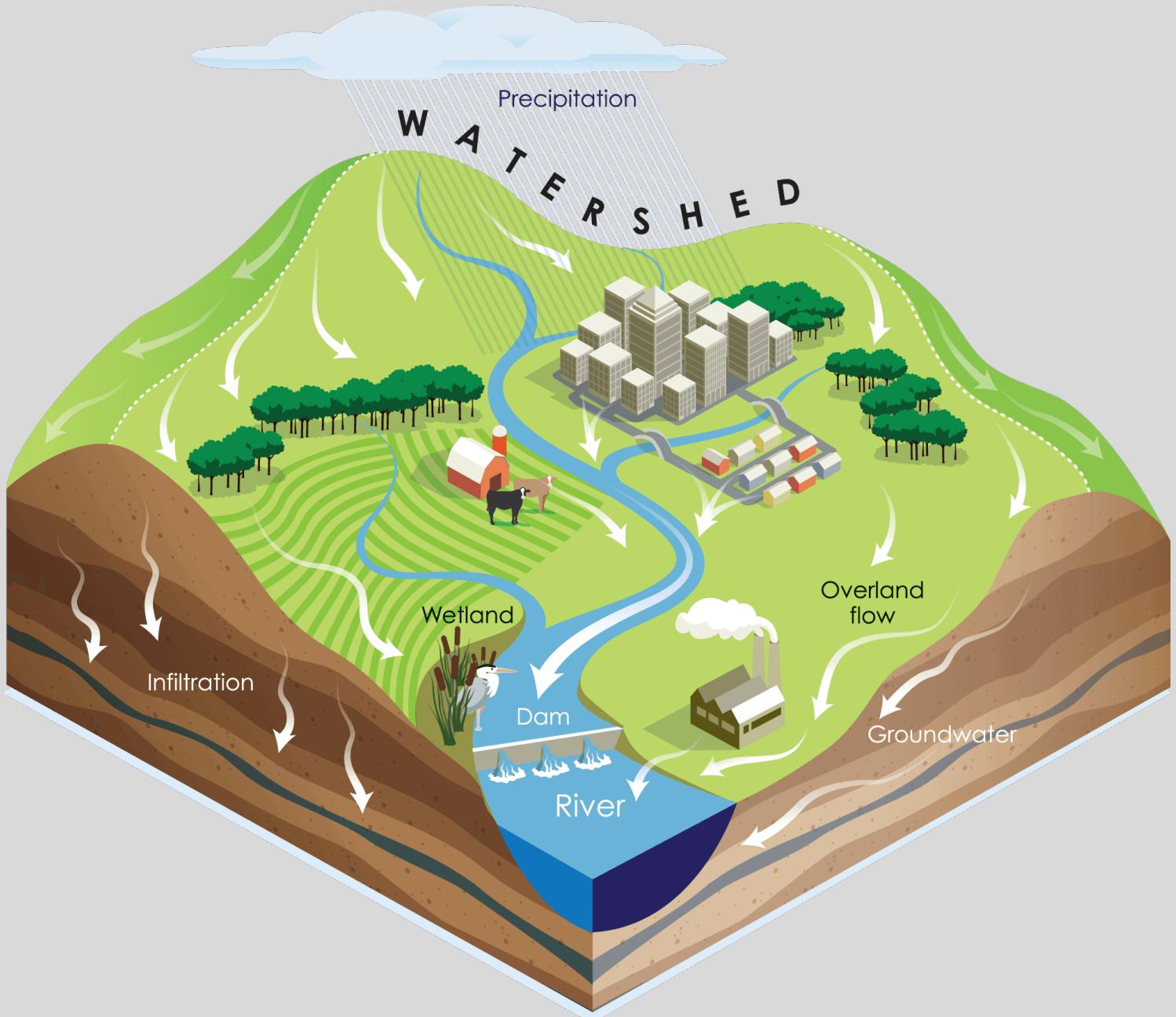
According to the CT Dept of Energy and Environmental Protection, within the State's borders there are approximately

450,000 acres of wetlands,

6,000 miles of streams and rivers,

over 2,000 lakes and reservoirs, and

600 square miles of estuarine water in Long Island Sound.



**A watershed (aka drainage basin) is an area of land that drains to a common area. This is usually a body of water such as a river, lake or ocean. When the land area within a watershed gets precipitation, the runoff drains to that common water body.**

**Watersheds are the lifeblood of the water bodies they drain to such as Long Island Sound. The health of the receiving water body is determined by the health of the watershed and the land within its boundaries.**

**Water resource planning and management is often done at the watershed level.**

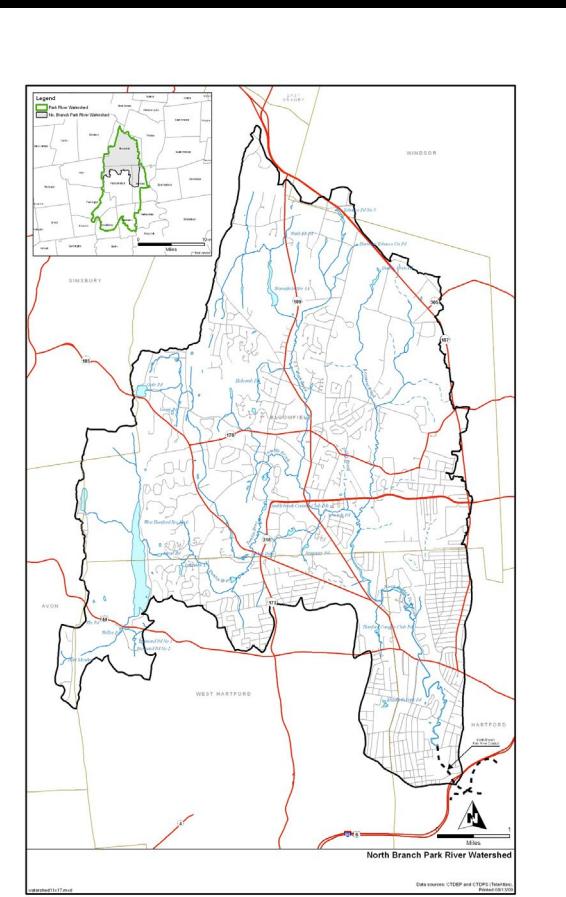
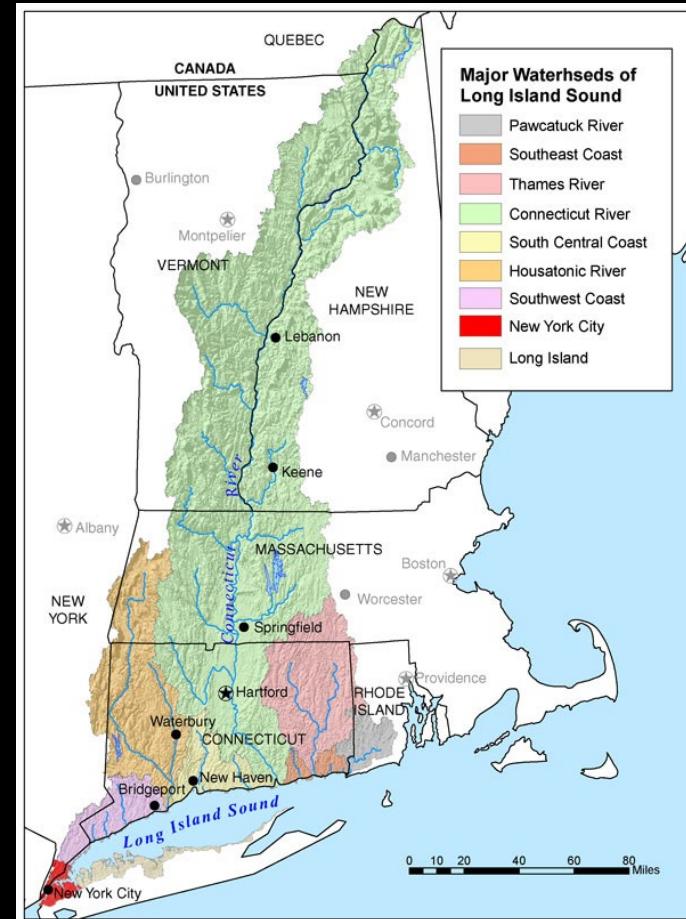
**Watersheds can be very large such as the Long Island Sound**

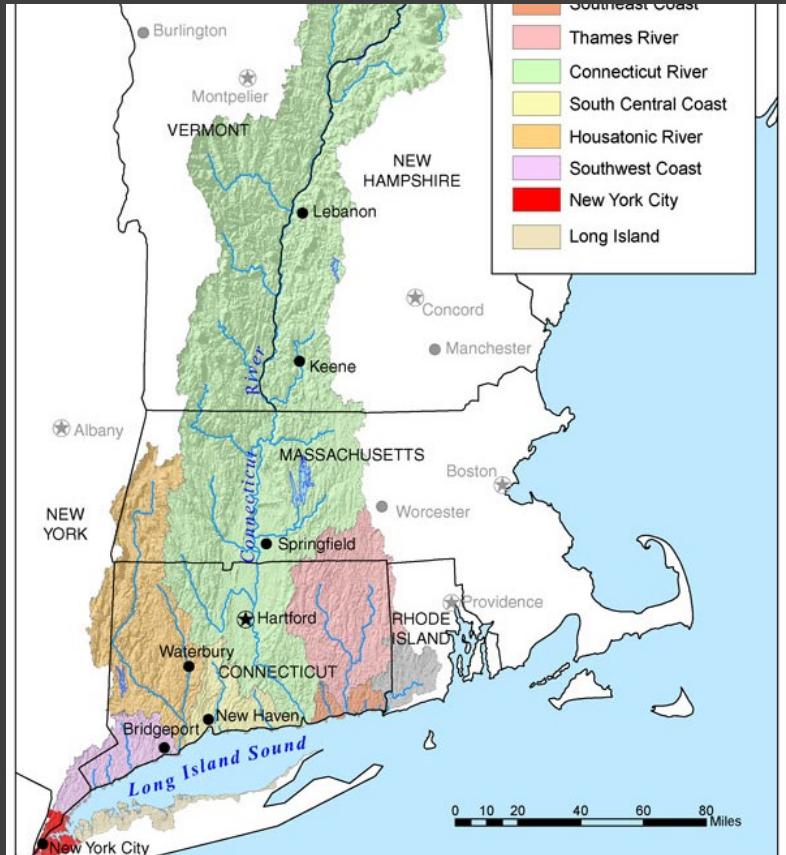
**Watershed that starts in Canada and ends in Long Island Sound ...**

**... for small like the Park River Watershed in Hartford, CT**

**To better understand watersheds UConn has a great story map on the Long Island Sound Watershed and it's smaller subwatersheds**

<https://storymaps.arcgis.com/stories/1d4b55a254524c34a458ff7384de8028>





**Connecticut River after Storm Irene resulted in major flooding in Vermont and Massachusetts and a sediment plume entering Long Island Sound**

# Watershed Management

Uses drainage areas rather than political boundaries for planning and management

Balances conservation and development needs of the community

Coordinates land use planning and management between state and local governments in the watershed

Uses long range planning to protect resources for future generations

Engages local community members in planning and implementation

# **Watershed management deals with the impacts of land use including:**

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- Conversion of natural lands to impervious areas
  - Degradation of soils and forestland across the landscape
  - Loss of wetlands and riparian vegetation
  - Channelization of streams
  - Increases in stormwater runoff; quantity and quality
  - Reduction of infiltration
  - Nutrient and toxic pollutant loading
  - Septic system failures
- All within the context of climate change and loss of biodiversity**





Watershed Management employs best land use practices to protect natural lands and the ecosystem services they provide to ensure clean abundant water.

No Net Loss of Forest

Land Preservation

Riparian and Inland Wetlands Protection

Minimize Impervious Cover

Nonpoint Source Pollution Control

Distributed Energy Generation



*The best and most cost-efficient way to protect water resources, including drinking water supplies, local streams, and Long Island Sound, is to protect the land in the watershed.*

## At Home

- Less lawn, more garden and natural areas – native plants
- Eliminate fertilizer and chemical inputs on lawns
- Practice outdoor water conservation
- Leave lawn clippings and mulch in leaves to improve soil health and water filtration and infiltration.
- Good Housekeeping – properly handling chemicals and waste

## Towns

- Promote low impact development
- Wetland and riparian zone protection
- Implement BMPs for stormwater management
- Low impact landscaping with native plants
- Less curbing, more infiltration
- Open space protection
- Good Housekeeping – including maintenance of storm drains

## Businesses

- Good Housekeeping – keep dumpster area free of litter
- Low impact landscaping with native plants
- Practice outdoor water conservation
- Restoring/maintain riparian buffers
- Maintenance of stormwater infrastructure

## Communities

- Supporting the town's stormwater management programs
- Promoting community forests
- Protecting open space
- Supporting Good Housekeeping by the town (e.g. storm basin cleaning)
- Participating in Plan of Conservation and Development and other town planning processes
- Supporting environmental education

# NORTH BRANCH PARK RIVER WATERSHED MANAGEMENT PLAN

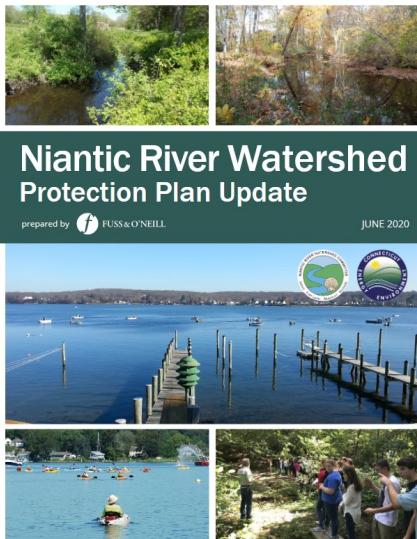
ABOUT    **COMMUNITY**    MAPS    PROCESS    GREEN INFRASTRUCTURE    PROJECTS    2024 PLAN UPDATE

Project Advisory Committee

Project Partners

Outreach and Engagement

SIGN UP FOR EMAIL UPDATES



## Niantic River Watershed Protection Plan Update

prepared by FUSS & O'NEILL

JUNE 2020



## Farm River Watershed Management Plan

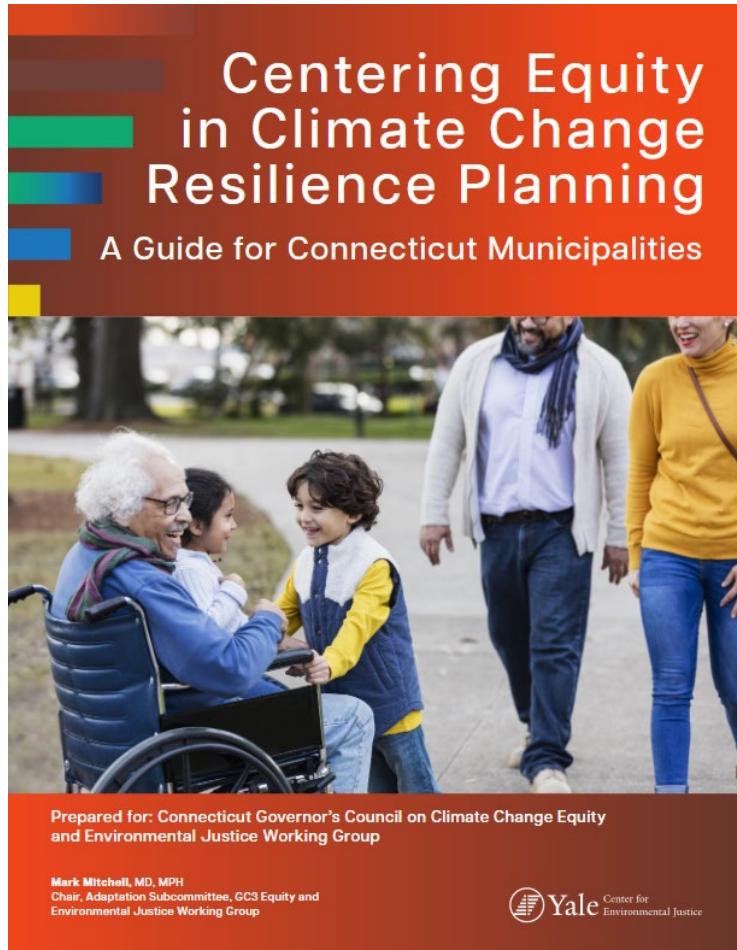
prepared by FUSS & O'NEILL

AUGUST 2021

## Watershed Planning Involves the Entire Community – including our EJ communities

### Community engagement should:

- Reconnect communities to water resources establishing a “Sense of Place”
- Involve community leaders/groups to facilitate community engagement efforts
- Be inclusive from the start of the planning process listening to community needs and interests
- Clearly define roles of everyone involved in the watershed planning process
- Provide for exchange of placed based information/knowledge that flows both ways



Links on DEEP Website to Participation Documents

<https://portal.ct.gov/deep/climate-change/gc3/public-participation-documents>

## Equitable Climate Action/Watershed Planning Is:

**Relationship-Oriented:** Treat the process as "living," meaning it is a moment within our long-term future with climate change and the relationships established with stakeholders are ongoing.

**Community-Led:** Leadership teams should center representatives from groups most affected by climate change. Knowledge will be co-developed with the community through joint-fact finding of latest science as well as the knowledge of lived experiences.

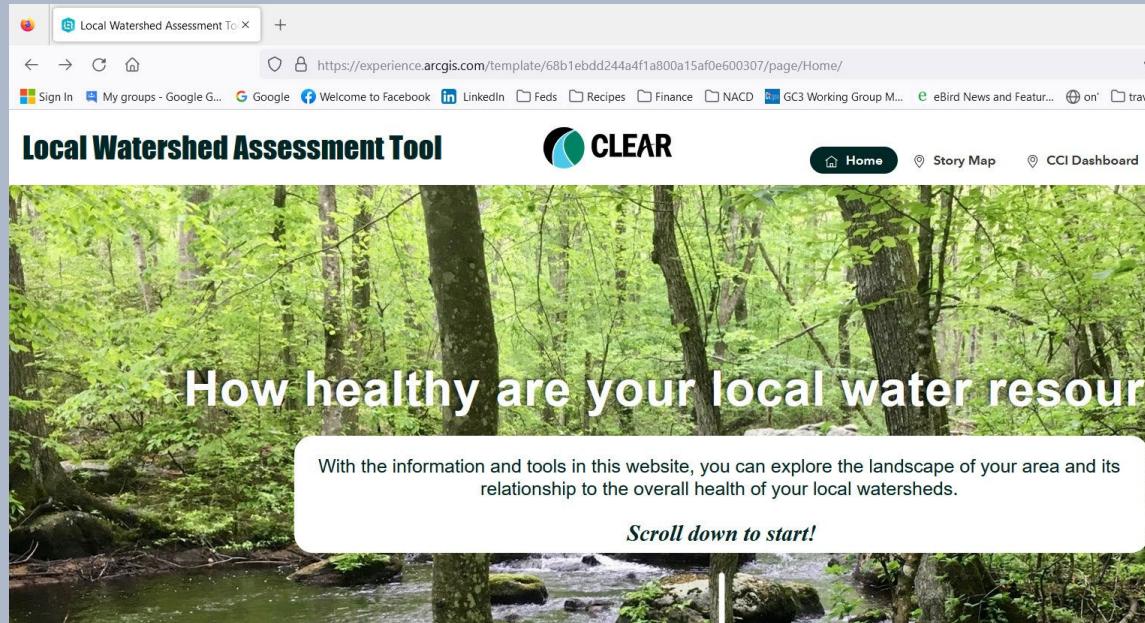
**Compensation-Based:** Compensate people for their time and support community-led organizations within the process.

**Driven by Meaningful Participation:** Plan for barriers to participation and allot abundant time to practice listening and incorporating input. Be open to and welcome changes to the plan based off of community feedback.

**Designed to Address History:** Be honest about how planning and local government decisions of the past have created challenges including systemic racism, environmental injustice, and climate injustice.

New tools are available for local governments for assessing watershed health and looking at real-time flood and drought conditions. These can be used for better planning and management, including emergency preparedness, by town planners, land use officials, and community leaders.

## Local Watershed Assessment Tool – UConn Clear



Local Watershed Assessment Tool

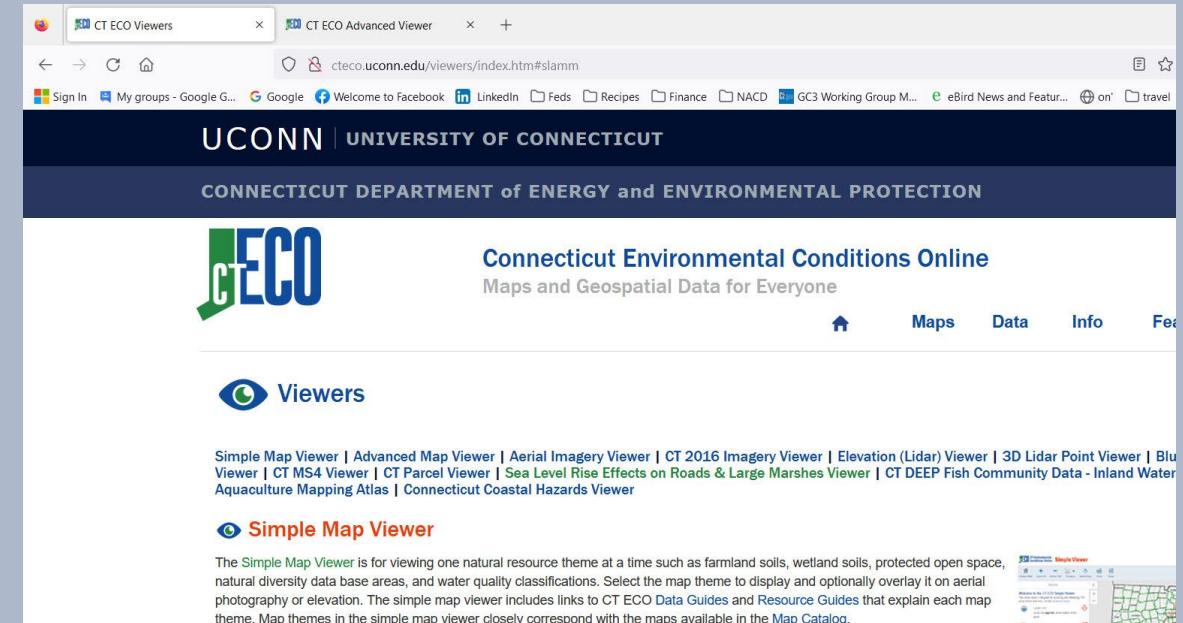
How healthy are your local water resources?

With the information and tools in this website, you can explore the landscape of your area and its relationship to the overall health of your local watersheds.

Scroll down to start!

<https://experience.arcgis.com/template/68b1ebdd244a4f1a800a15af0e600307/page/Home/?org=UConnCLEAR>

## CT ECO Online Mapping – UConn and CT DEEP



CT ECO Viewers

UCONN | UNIVERSITY OF CONNECTICUT

CONNECTICUT DEPARTMENT of ENERGY and ENVIRONMENTAL PROTECTION

GEICO

Connecticut Environmental Conditions Online  
Maps and Geospatial Data for Everyone

Viewers

Simple Map Viewer | Advanced Map Viewer | Aerial Imagery Viewer | CT 2016 Imagery Viewer | Elevation (Lidar) Viewer | 3D Lidar Point Viewer | Blue  
Viewer | CT MS4 Viewer | CT Parcel Viewer | Sea Level Rise Effects on Roads & Large Marshes Viewer | CT DEEP Fish Community Data - Inland Water  
Aquaculture Mapping Atlas | Connecticut Coastal Hazards Viewer

Simple Map Viewer

The Simple Map Viewer is for viewing one natural resource theme at a time such as farmland soils, wetland soils, protected open space, natural diversity data base areas, and water quality classifications. Select the map theme to display and optionally overlay it on aerial photography or elevation. The simple map viewer includes links to CT ECO Data Guides and Resource Guides that explain each map theme. Map themes in the simple map viewer closely correspond with the maps available in the Map Catalog.

<http://cteco.uconn.edu/viewers/index.htm#slamm>

# Funding Opportunities for Watershed Planning

- EPA 319 program – through CT DEEP

<https://portal.ct.gov/deep/business-and-financial-assistance/grants-financial-assistance/clean-water-act-section-319-nonpoint-source-grants>

- EPA Long Island Sound Partnership

<https://longislandsoundstudy.net/about/grants/>

For more info on DEEP Funding Opportunities

<https://portal.ct.gov/deep/business-and-financial-assistance/grants-financial-assistance/grants-and-financial-assistance>

For more information on water resources and watershed management visit the following websites

Connecticut Conservation District:

<https://www.conservect.org/>

Council on Soil and Water Conservation at:

<http://www.ctcouncilonsoilandwater.org/>

CT Department of Energy and Environmental Protection

<https://portal.ct.gov/portal/ct.gov/deep/water/watershed-management/watershed-management>



**Questions?**

**Contact info:**

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