

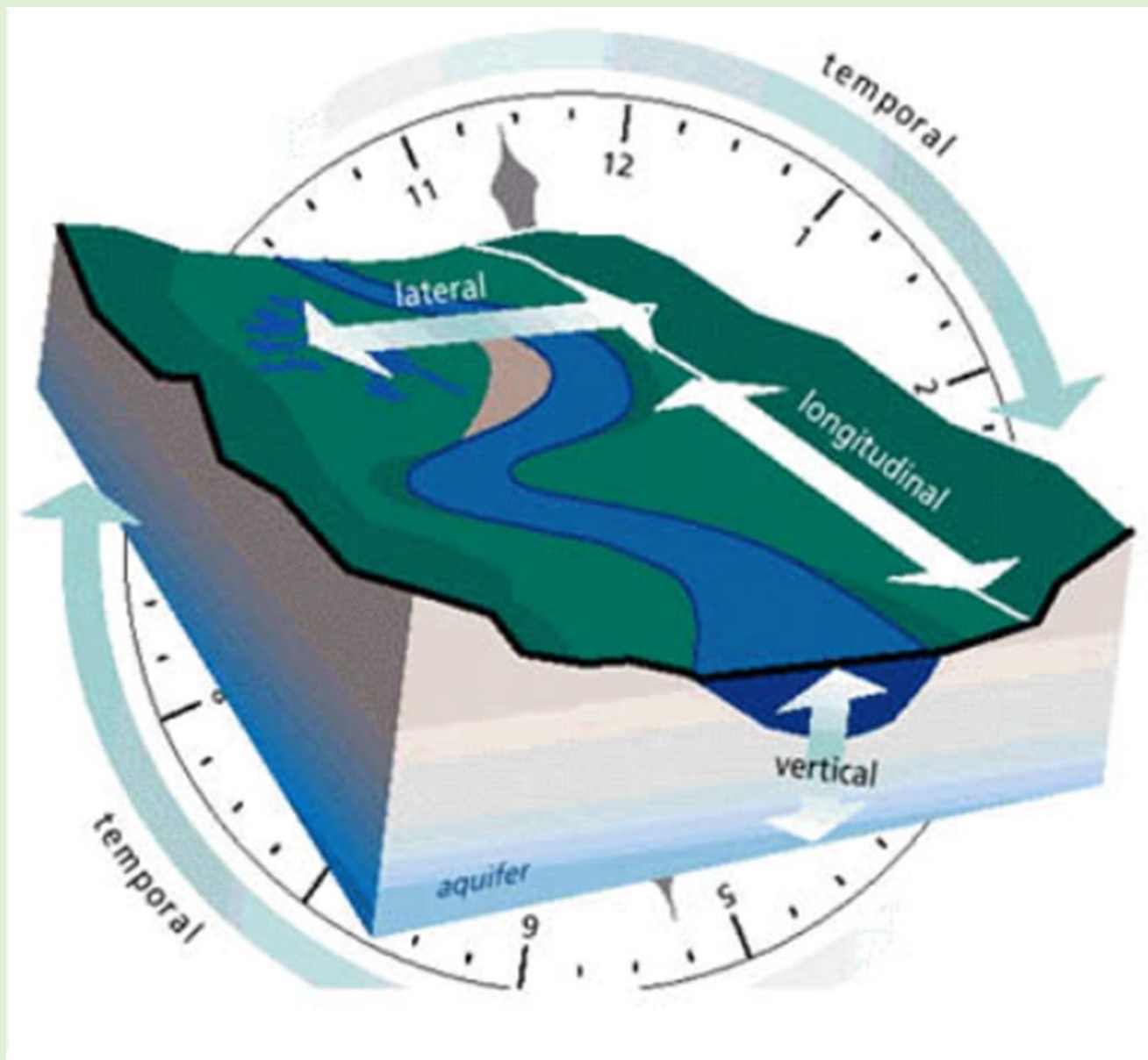
Intact Fresh Water Systems Build Climate Resilience



Testimony to the House Committee on Environment & Energy, April 9, 2024

Karina Dailey, Restoration Ecologist, VNRC

WATERSHED SCIENCE



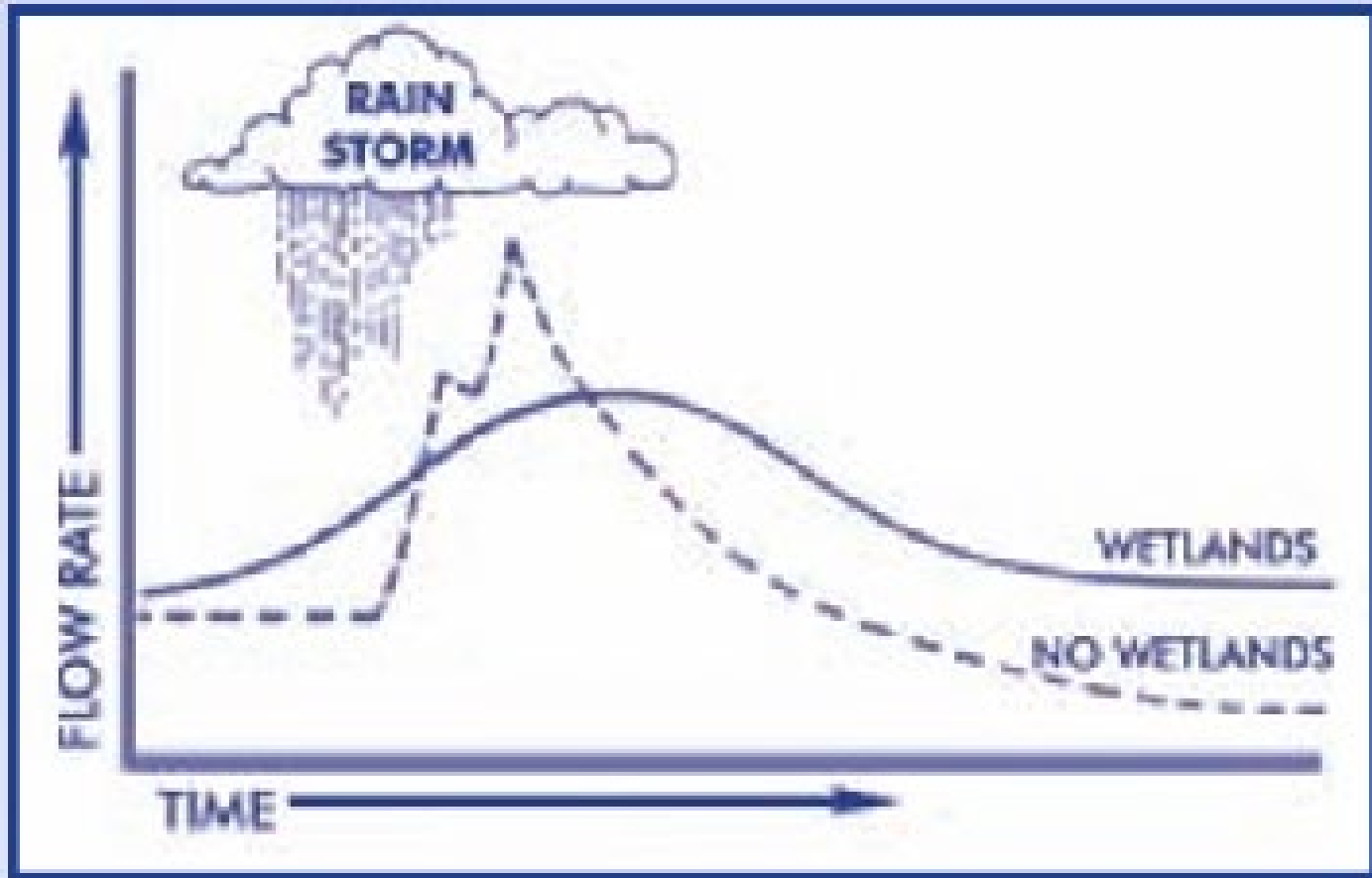
S.213 – Flood Safety Act - An Improved Statewide Approach to protecting our Watersheds

- For Public Safety
- To Reduce Economic Burden
- Provide Community Resilience - Improve Water Quality and Habitat Diversity



Wetland Science

- Wetlands are those unique areas where Land and Water Intersect
- The Clean Water Act was enacted to protect and preserve the functions (storage, filtration, wildlife habitat, stabilization) wetlands provide to society at large
- Net Gain Value of Wetland Ecosystem Services – wetlands reduce peak stormwater flows, enhance protection for the future.



(Source: Kusler 1983)

Wetland Concerns

- Lack of understanding of VT Wetlands – We need Better Data!
- Physical Disruption to the Wetland Function
- Rate of wetland loss is significant
- Capacity to get the job done



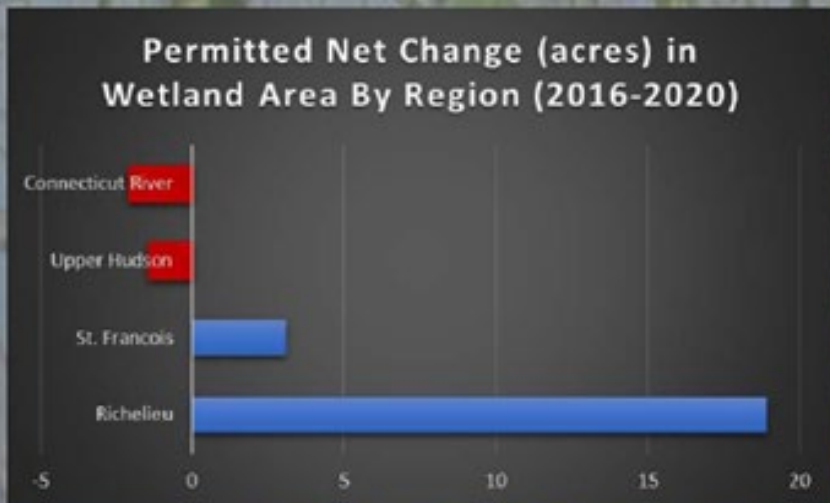
Wetlands Policy

- State Policy for a net gain of wetland Acreage - Wetlands Impacted from Development are Restored 2:1 Ratio, within watershed
- High Quality NWI Mapping Statewide by 2030 with A ground Truthing Component – (updates every 5yr)
- VSWI Updated Annually Starting January 1, 2026
- Annual Wetland Report on Wetland loss and gain
- 5yr detailed reporting on wetland permits, NWI mapping, and trends.



Wetlands Policy

Permitted Net Gain of 18.5
Wetland Acres
2016-2020



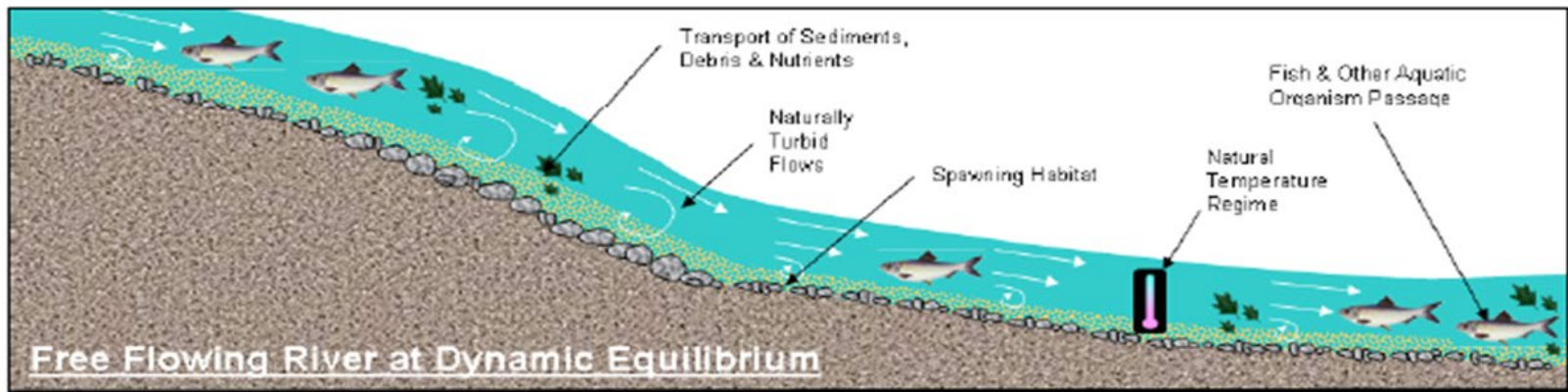
Reconnected Freshwater System



Connolly Pond Dam Removal and Wetland Restoration, Photo by Marc Cimonetti

River Science and Dam Disruption

- River continuum concept- Biota-Flow-Habitat...



UPSTREAM IMPACTS:

Reduced:

Natural Function, Water Quality, Oxygen, Turbid Flow, Circulation, Available Habitat
Rivers ability to adjust horizontally and vertically (reduced resilience to change)

Increased:

Pollutant Accumulation, Stratification, Temperatures, Algae Blooms

Loss of:

Natural Transport Processes of Sediments, Nutrients and Debris
Fish & Other Aquatic Organism Passage
Self-sustaining Nature

DOWNSTREAM IMPACTS:

Reduced:

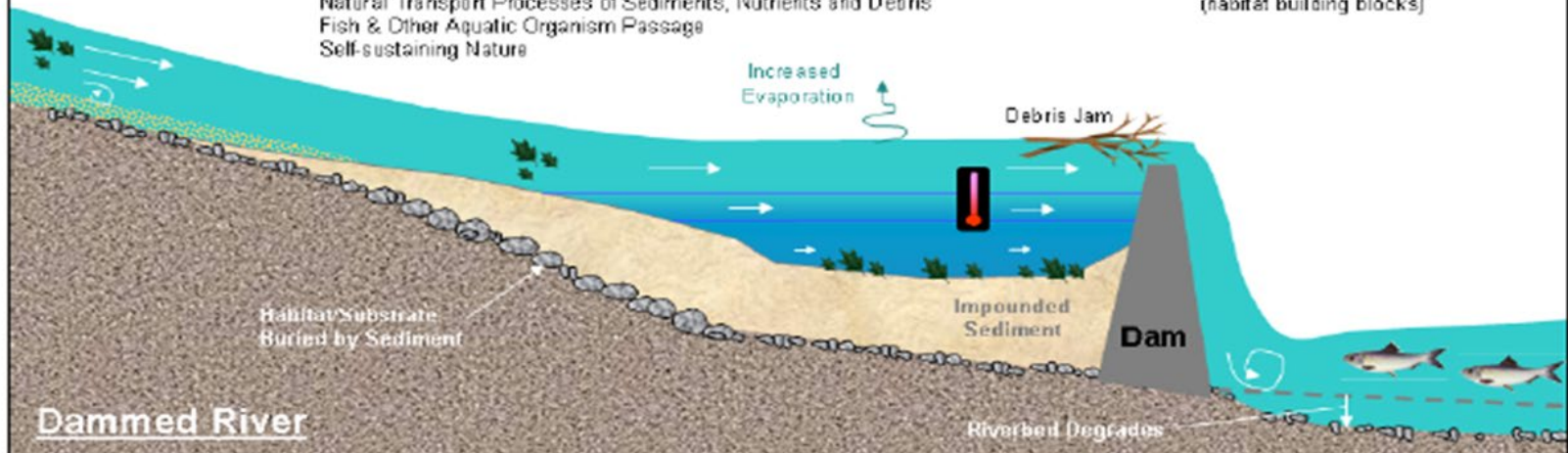
Water Quality & Riverbed Elevation

Altered:

Flow Regime & Temperatures

Starved of:

Sediment, Nutrients & Debris
(habitat building blocks)



Dam Concerns

- Public Safety
- Exacerbates Flooding
- Loss of River/
Riparian/Floodplain Function
- Public Health/Water Quality
- Biodiversity
- Economic Burden
- Capacity



Dam Concerns



Before



After

Dam Safety Policy

Remove Derelict Dams and
Safely Maintain and Routinely
Inspect Remaining Dams:

- Unsafe Dam Petition
- Inspection of Dams
- Dam Safety Revolving Loan Fund
- Transfer of Jurisdiction of Dam Safety for 21 Dams (PUC to DEC)
- Study committee on dam emergency operations

