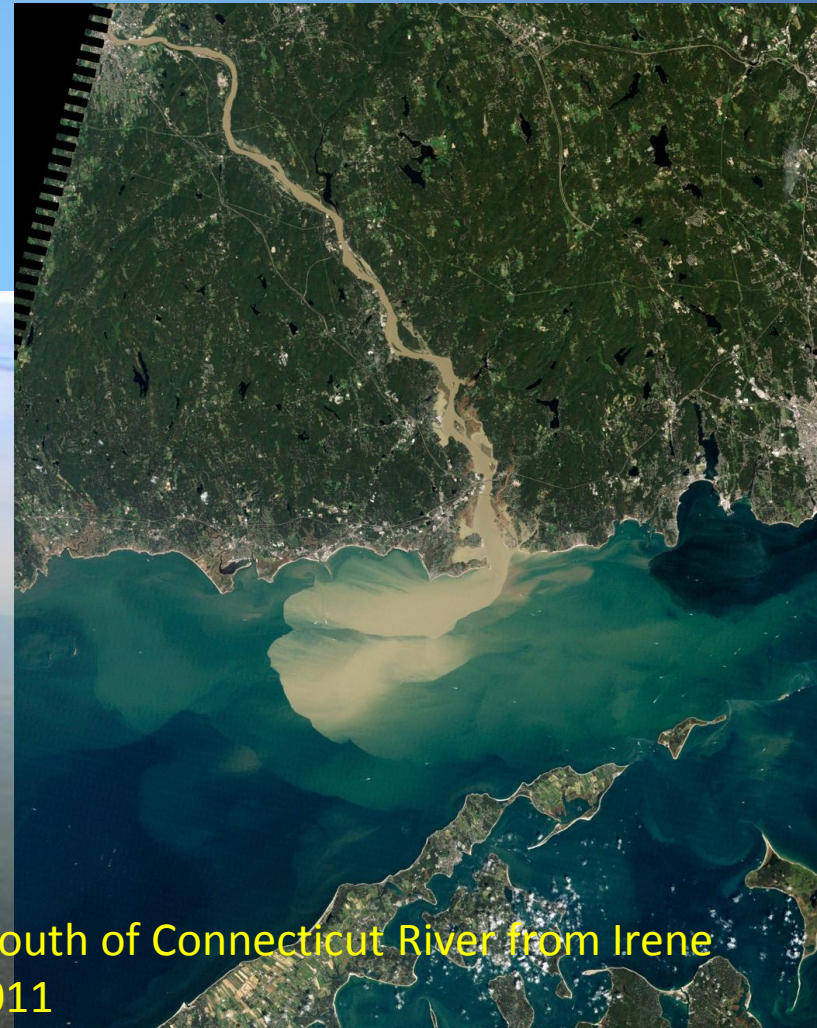


# Alternative Futures

## Climate Change: Environmental Implications

- Increased precipitation
  - Increased runoff
  - Increased erosion
  - Increased load

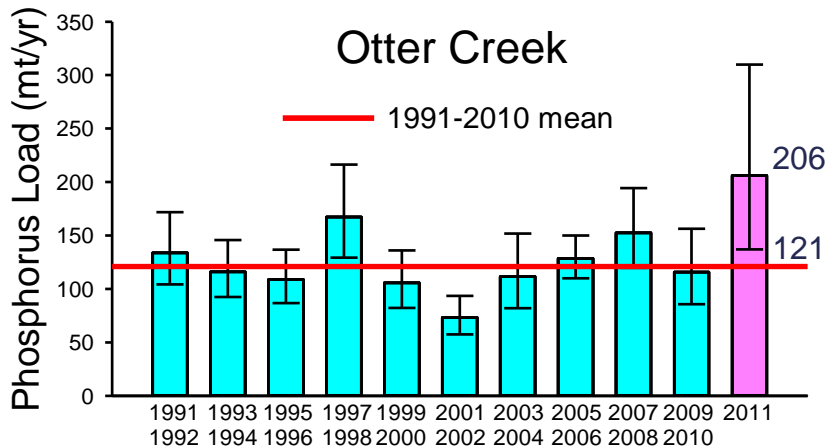
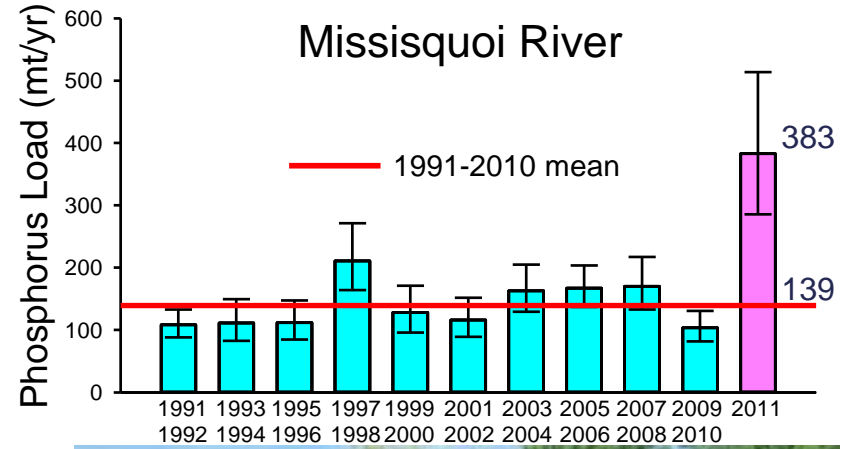
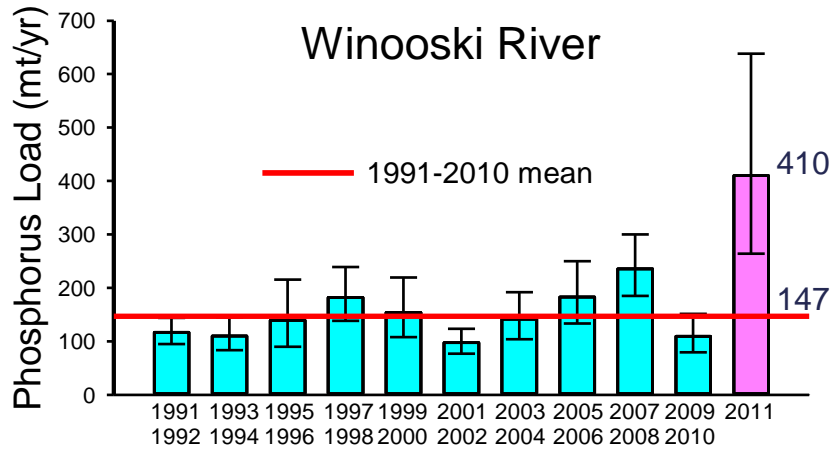


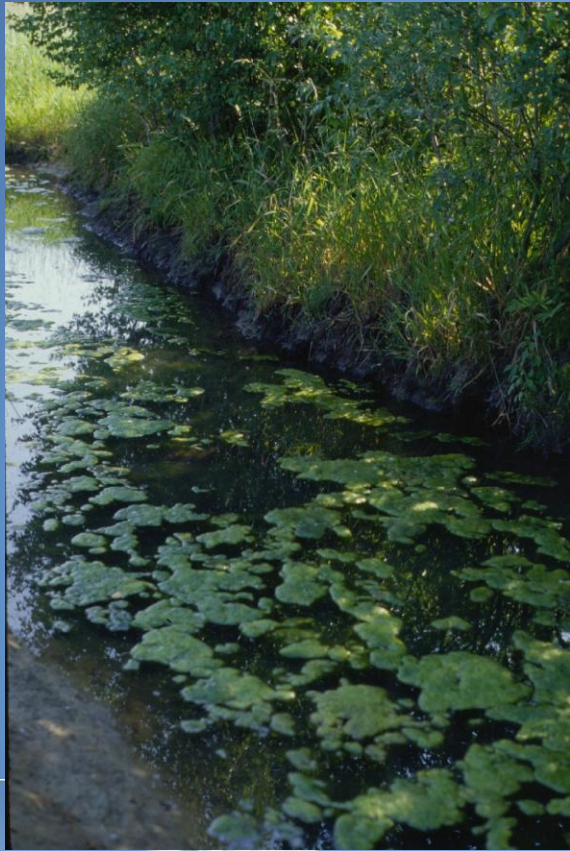
Lake Champlain, Spring 2011, Courtesy LCBP

Mouth of Connecticut River from Irene  
2011

# What's at Risk?

Annual mean phosphorus loads from three Lake Champlain tributaries during water years 1991-2011.





Missisquoi Bay, Aug. 18, 2012, Photo: Courtesy Phil Carpenter

# In-lake Phosphorus Criteria

**Low  
phosphorus**



**Medium  
phosphorus**



**High  
phosphorus**



**Very high  
phosphorus**



# Otter Creek Clarendon, Vermont

Drainage Area: 187 sq. mi.

2003

1994

1986

1895







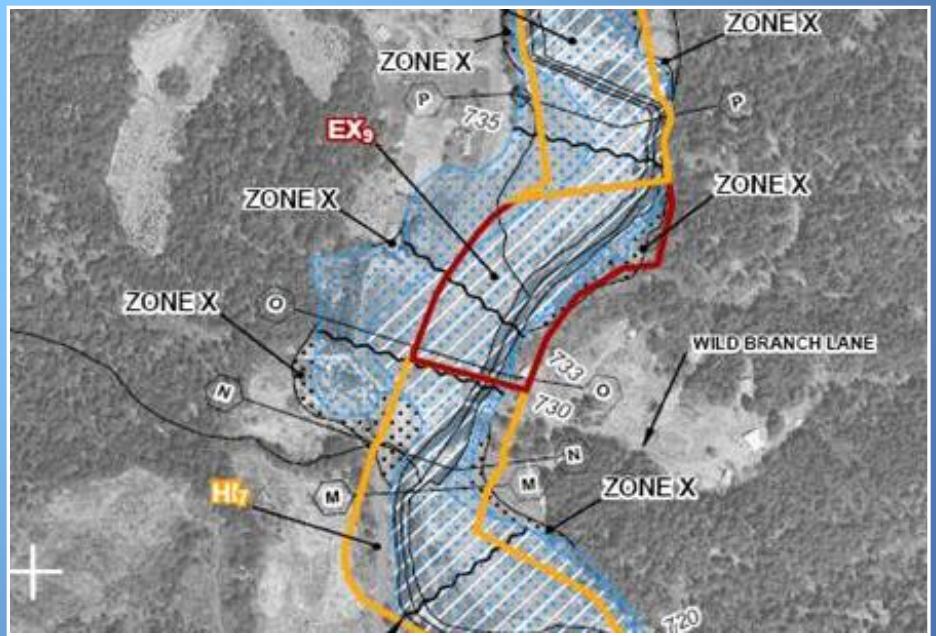






Wetland Restoration, Franklin County, VT





# What's at risk?



Photo courtesy VTFWD



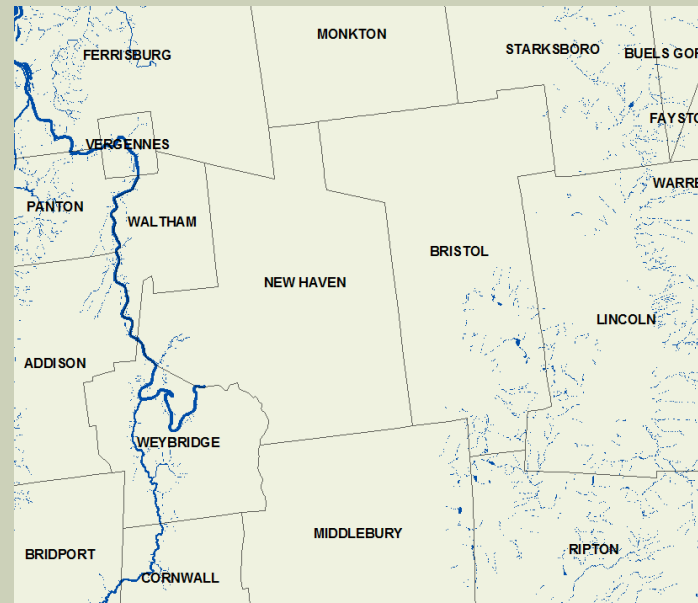
# EXEMPLARY SURFACE WATERS



Vermont Agency of Natural Resources



- Lakes, ponds, rivers & streams that support important aquatic habitats and species assemblages.



# SURFACE WATERS & RIPARIAN AREAS



Vermont Agency of Natural Resources



Water quality,  
aquatic biota,  
river processes,  
wildlife  
movement



## Inputs

- Lakes, ponds, rivers, and streams from the VHD
- Valley bottoms and riparian areas are from Land Type Associations

# Options:

- Manage uncertainty, risk
- Minimize impacts and vulnerabilities to the impacts of climate change
- Recognize multiple benefits
- Improve resiliency
- Enhance adaptive capacity
- Promote local initiatives using incentives
- Educate