No need to wait... we can act now

Lisa Suatoni, Ph.D.
Natural Resources Defense Council
Hazard/Exposure
- northern/cold
- proximity to sewage plant
- discharge of acidic river waters at bivalve repro.

Sensitivity

Capacity
- low science investment
- low employment diversity
Opportunity

Hazard/Exposure
- northern/cold
- proximity to sewage plant
- discharge of acidic river waters at bivalve repro.

Sensitivity

Capacity
- low science investment
- low employment diversity

→ regulatory
→ non-regulatory (Brad)
CO₂

stormwater runoff

NOₓ, SOₓ

acid rain

CO₂

CAFOs

N runoff

septic leakage

Pulp mills

effluent

fertilizer

Kelly and Caldwell, 2013
Clean Water Act: Point Sources

Stringent technology-based standards

Upgrade standard POTWs
Clean Water Act: Water Quality Criteria

revise criteria
more acidic

new criteria

TMDLs drivers

new designated uses

Δ 0.2

7.0

less acidic

pH scale

Aragonite
CaCO₃
Aragon, Spain

Total Alkalinity
Dissolved Inorganic Carbon
Clean Water Act: Non-Point Sources

Establish Best Manag. Practices §319(h) CWA and §306 CZMA

Smart Growth

National Estuary Program/NERRS
Opportunity

Hazard/Exposure
- northern/cold
- proximity to sewage plant
- discharge of acidic river waters at bivalve repro.

Sensitivity

Capacity
- low science investment
- low employment diversity