

# *Carbon Status of North American Tidal Wetlands*

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# State of the North American Carbon Cycle

## The First State of the Carbon Cycle Report (SOCCR)

*The North American Carbon Budget and Implications for the Global Carbon Cycle*

13

CHAPTER

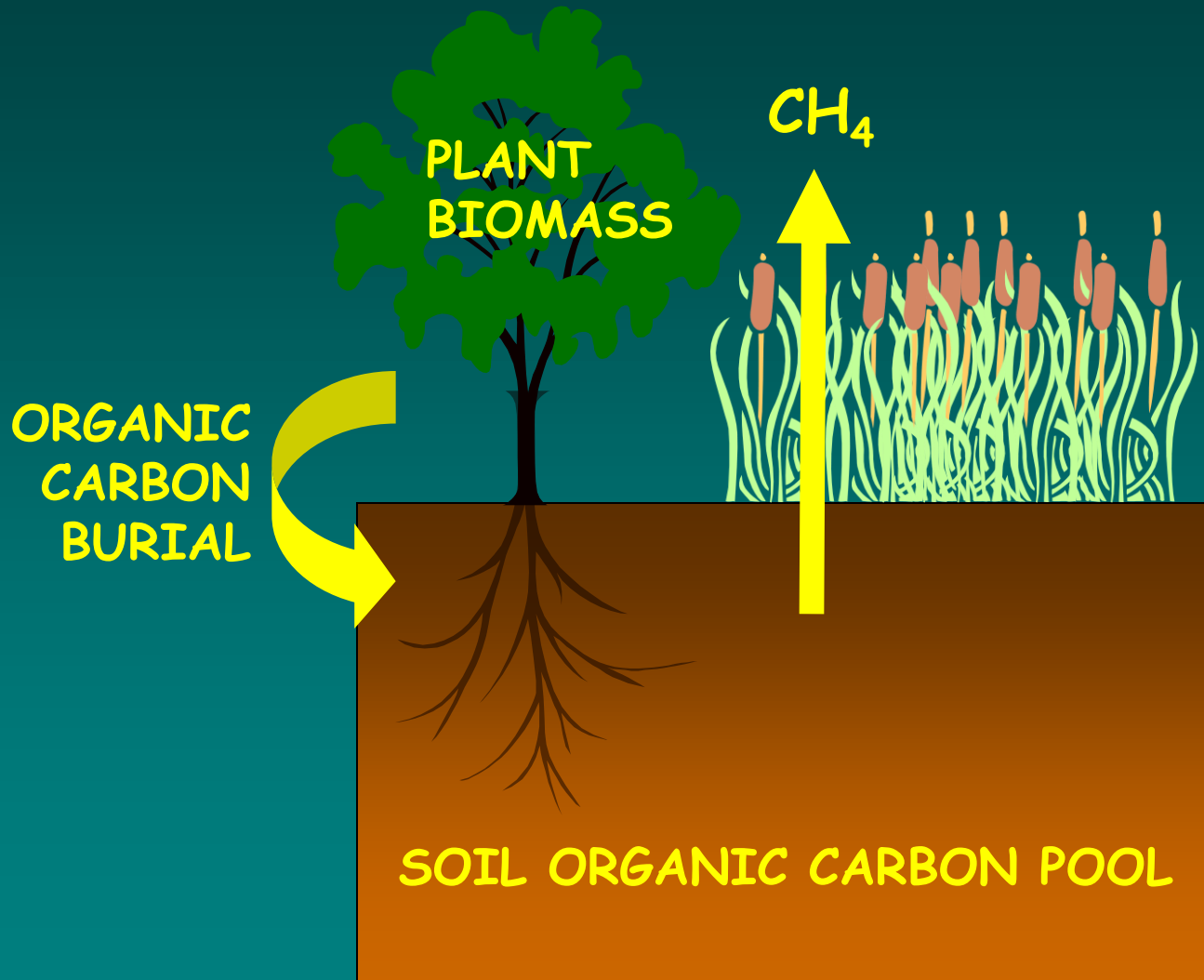


### Wetlands

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# Wetland Carbon Budget Components



# Wetland Types

## Freshwater

## Saltwater

### Mineral Soils



freshwater mineral  
soils (FWMS)



estuarine

### Organic Soils



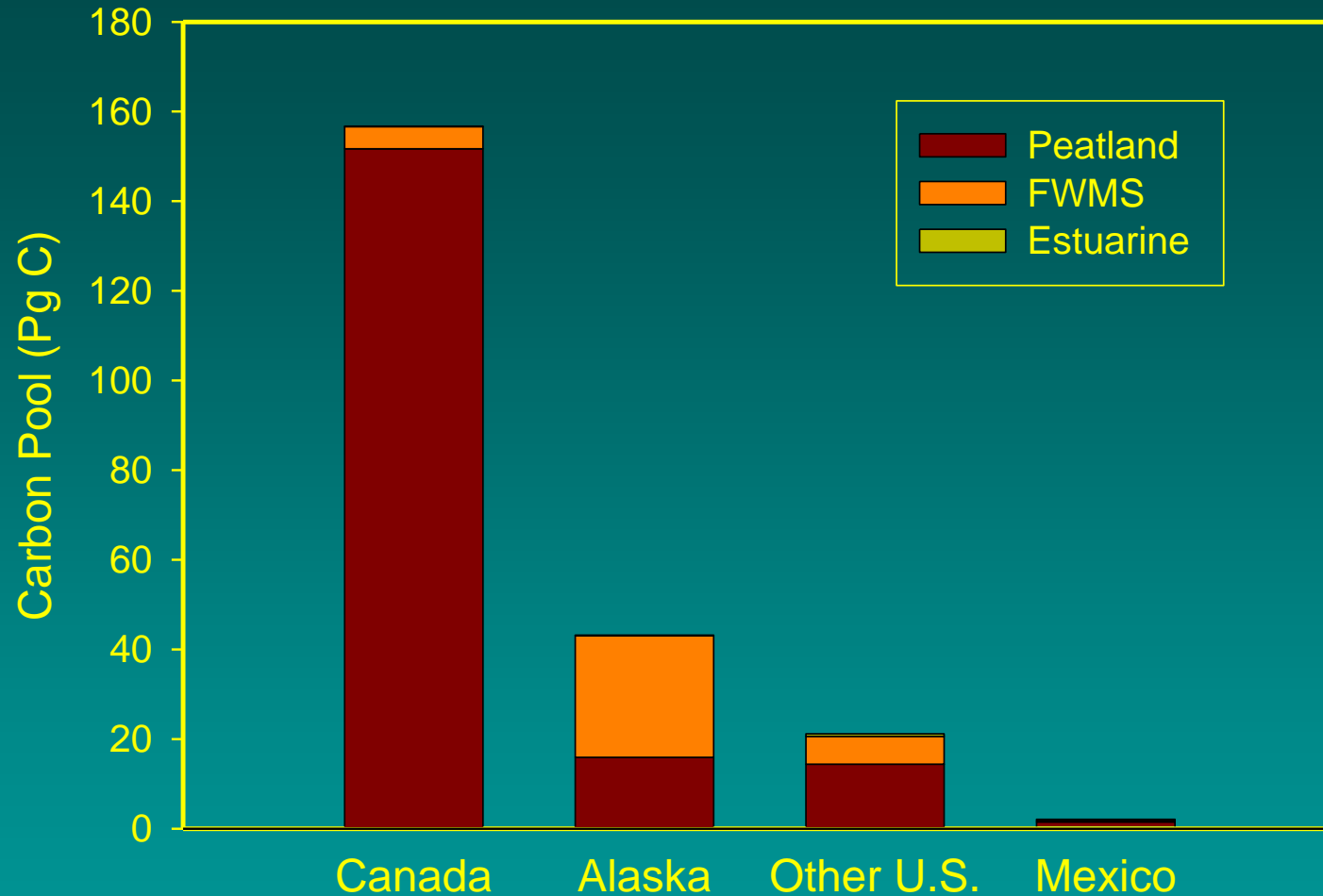
peatlands



estuarine



## North American Wetland Carbon Pool

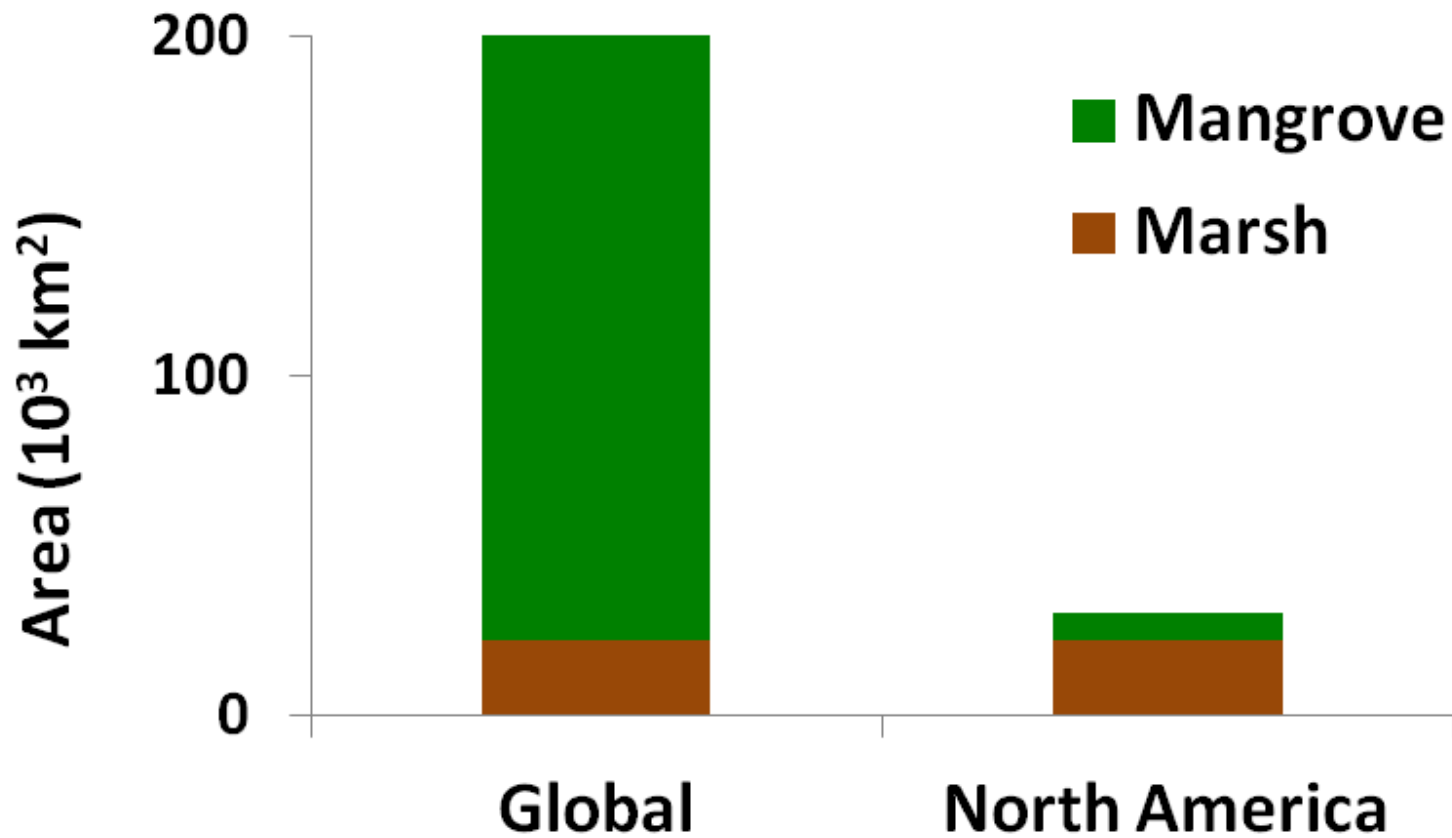


total pool = 223 Pg C  
43% of global wetland pool

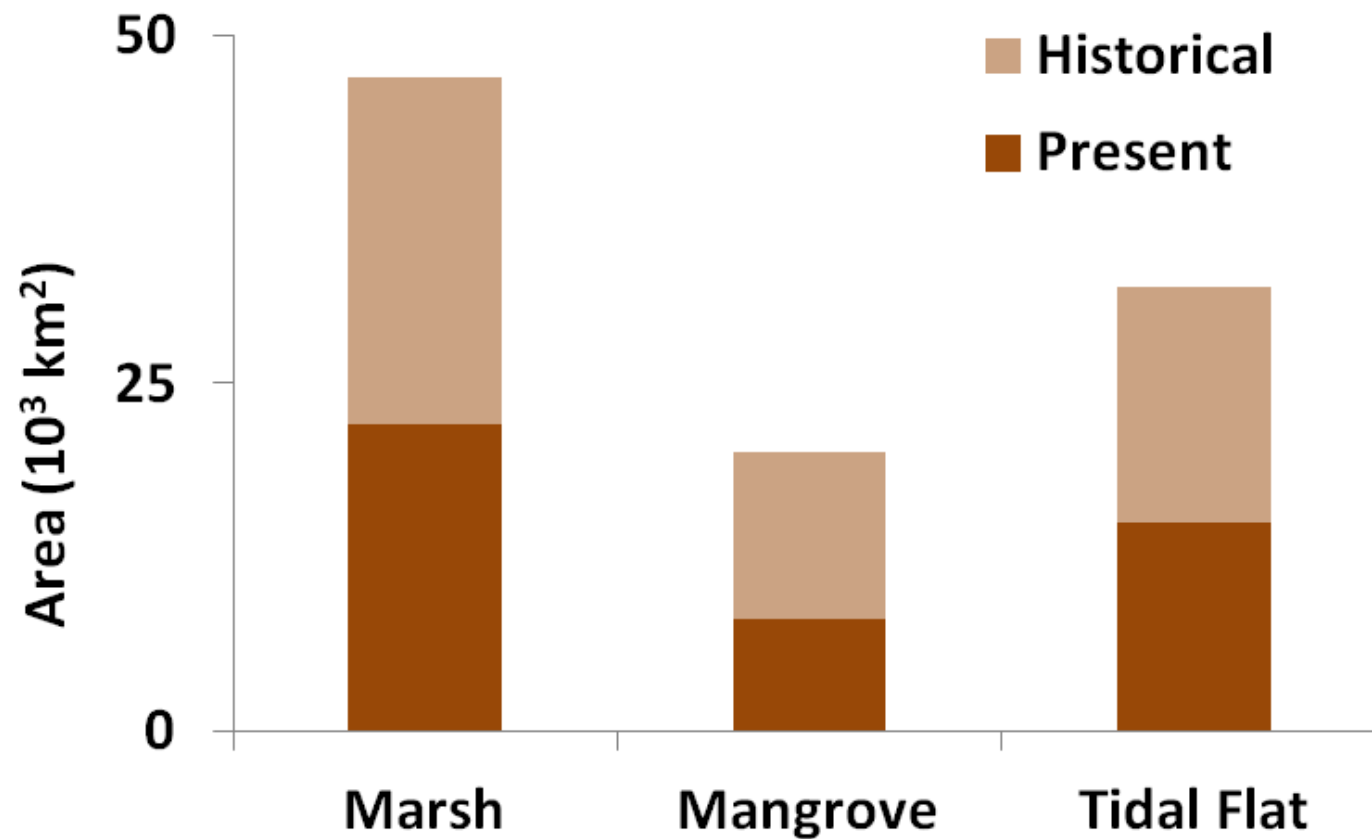
# Slow Peatland Decomposition



# North American Tidal Wetlands Area

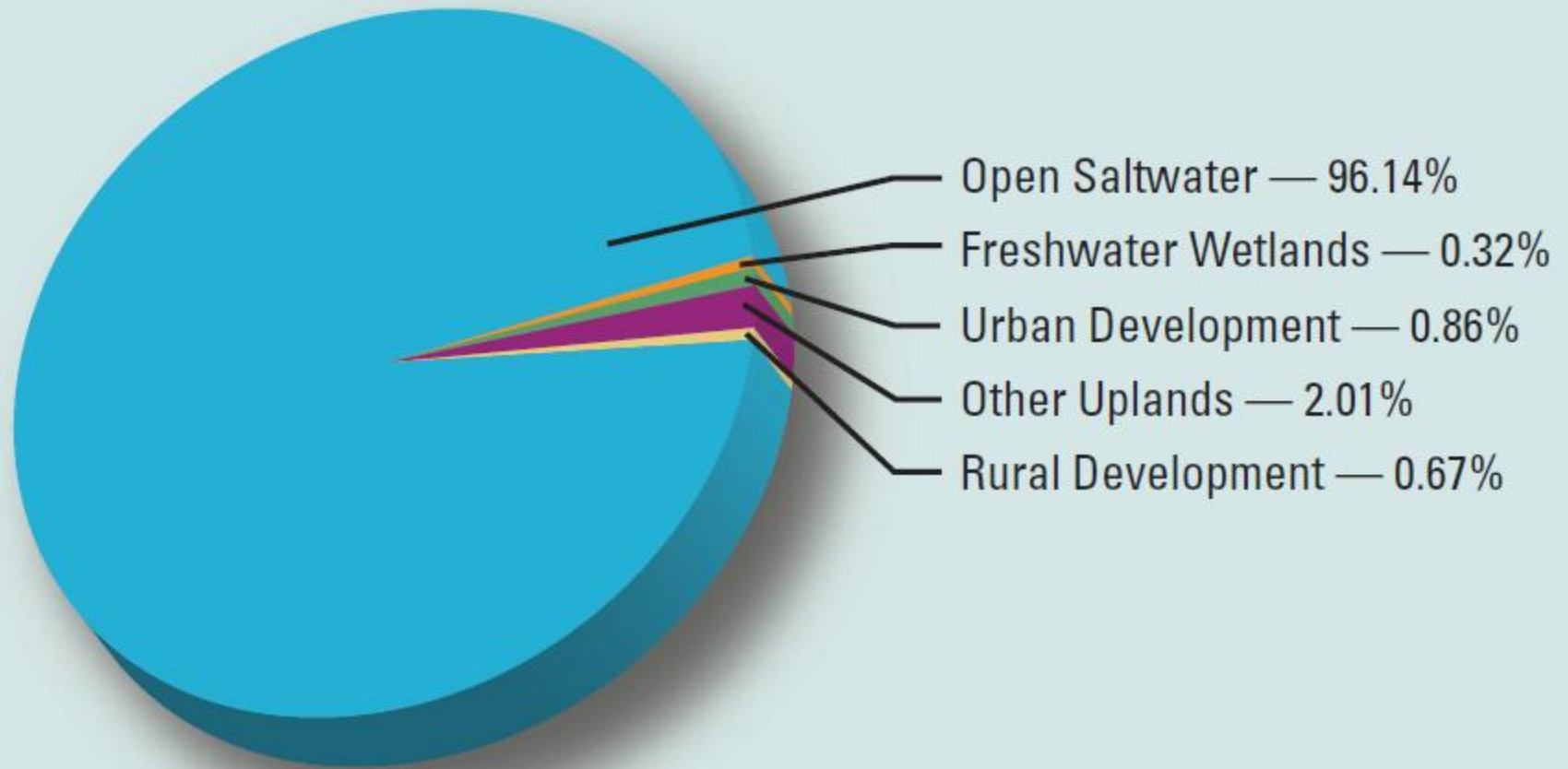


# North American Tidal Wetlands Area

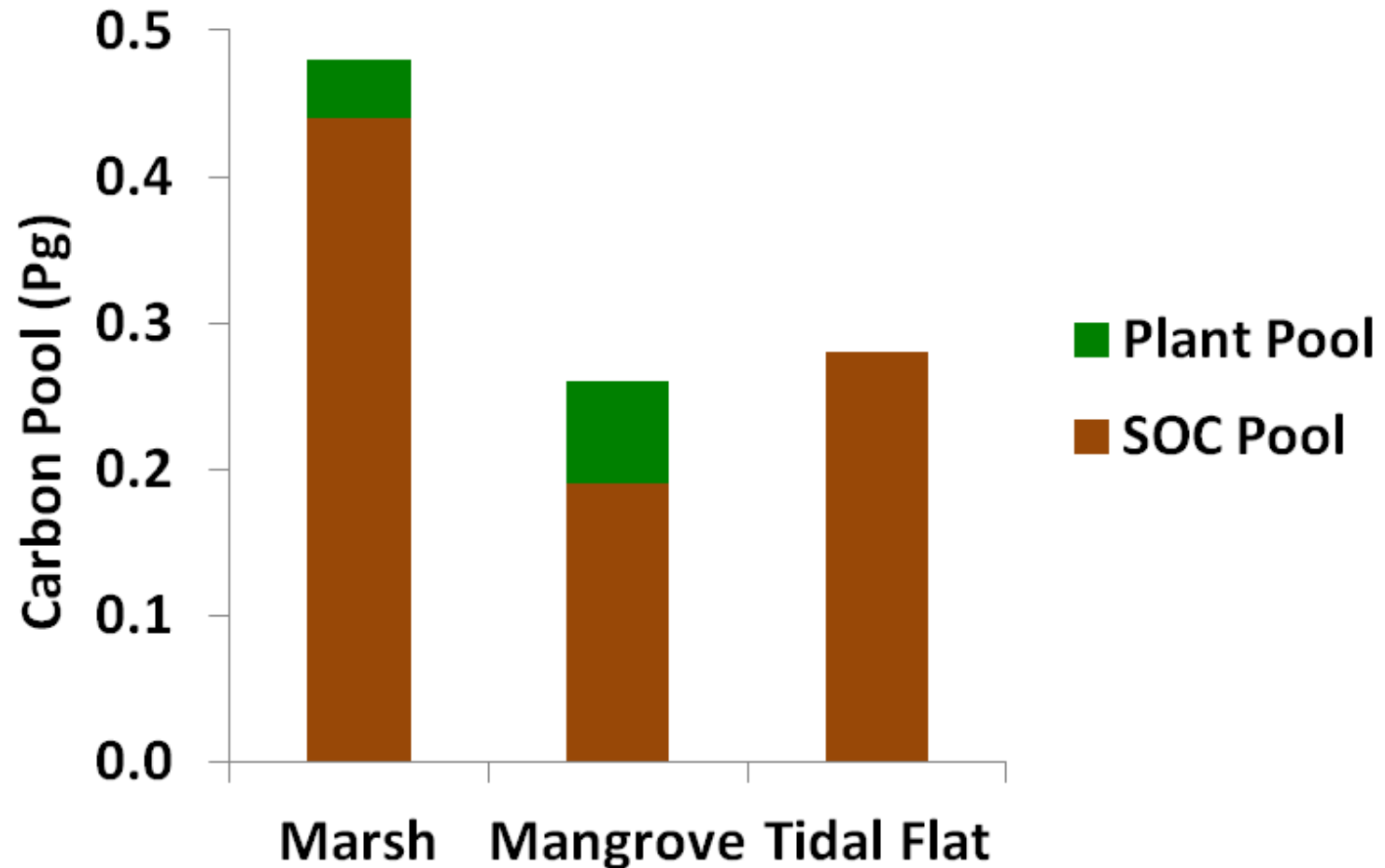




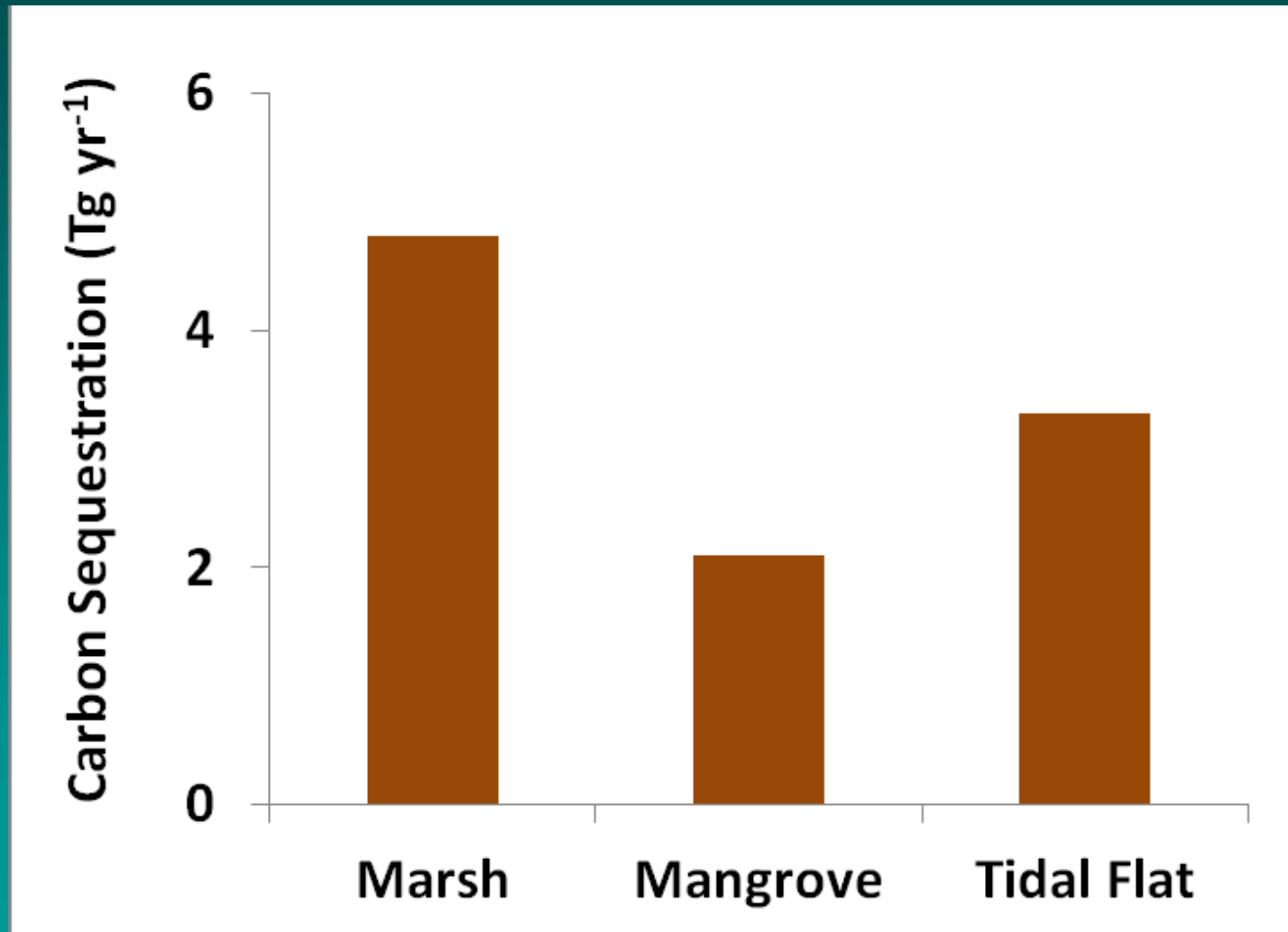
# North American Tidal Wetlands Loss in Atlantic & Gulf Coasts 1998-2004



# North American Tidal Wetlands Carbon Pools



# North American Tidal Wetlands Carbon Sequestration

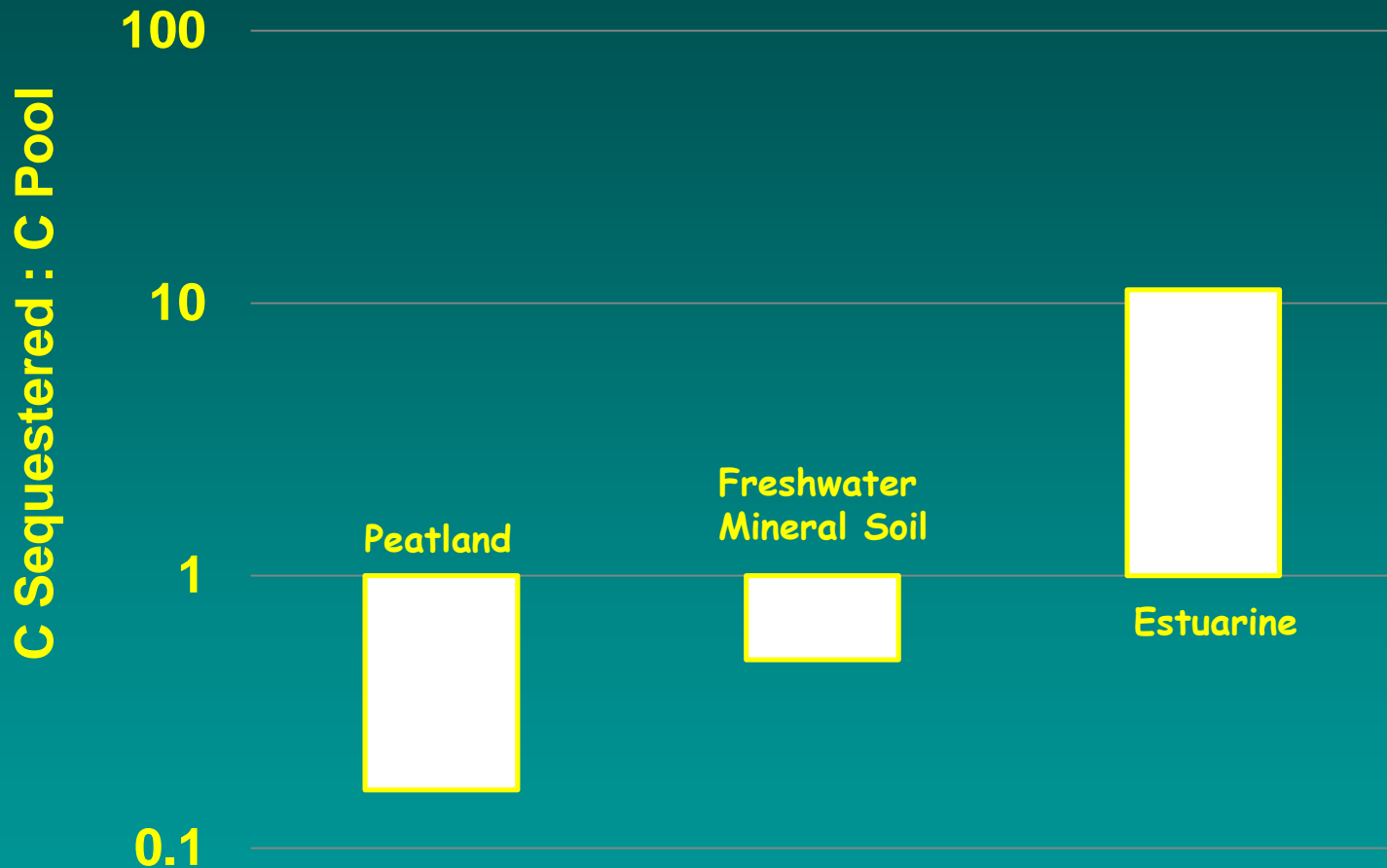


# Wetland Soils Sequester Carbon In Sediments





# North American Tidal Wetlands Carbon Pools Versus Fluxes

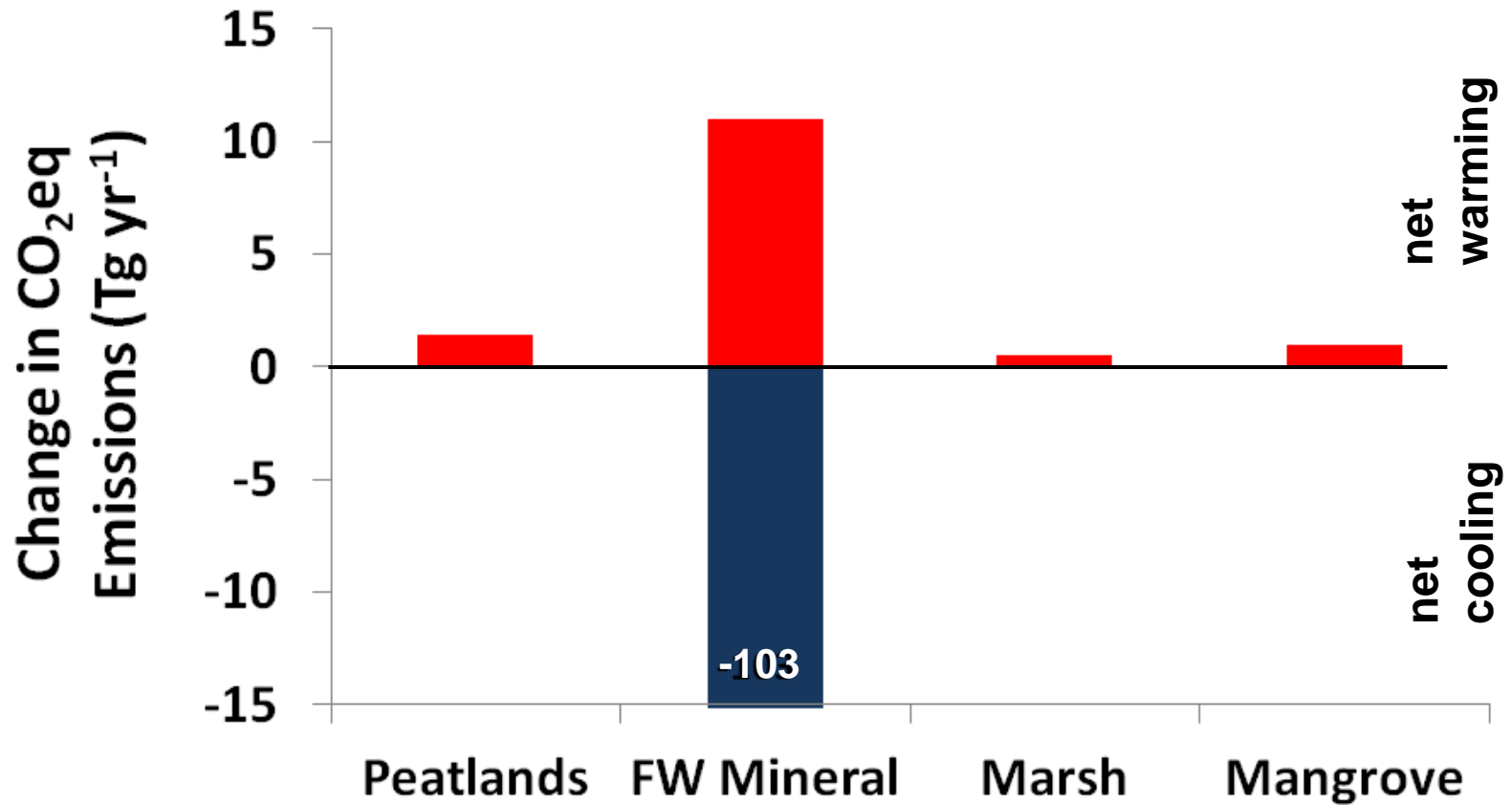


Based on Bridgham et al. (2006) *Wetlands*

# Methane Emissions



## Net GHG Effect of Historical Disturbance





# Conclusions

- Protecting FWMS wetlands for carbon sequestration is questionable.
- Protecting peatlands and estuarine wetlands for carbon sequestration is more promising.





Thank  
You!!