

# Development of a Seagrass Goal in Maryland's Coastal Bays

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# Developing a Seagrass Goal

*“Achieve the full potential of seagrasses throughout the Coastal Bays by 2014 “*

- **Quantifiable goal**
- STAC workgroup evaluated:
  - historical photos
  - bathymetric data
  - sediment data



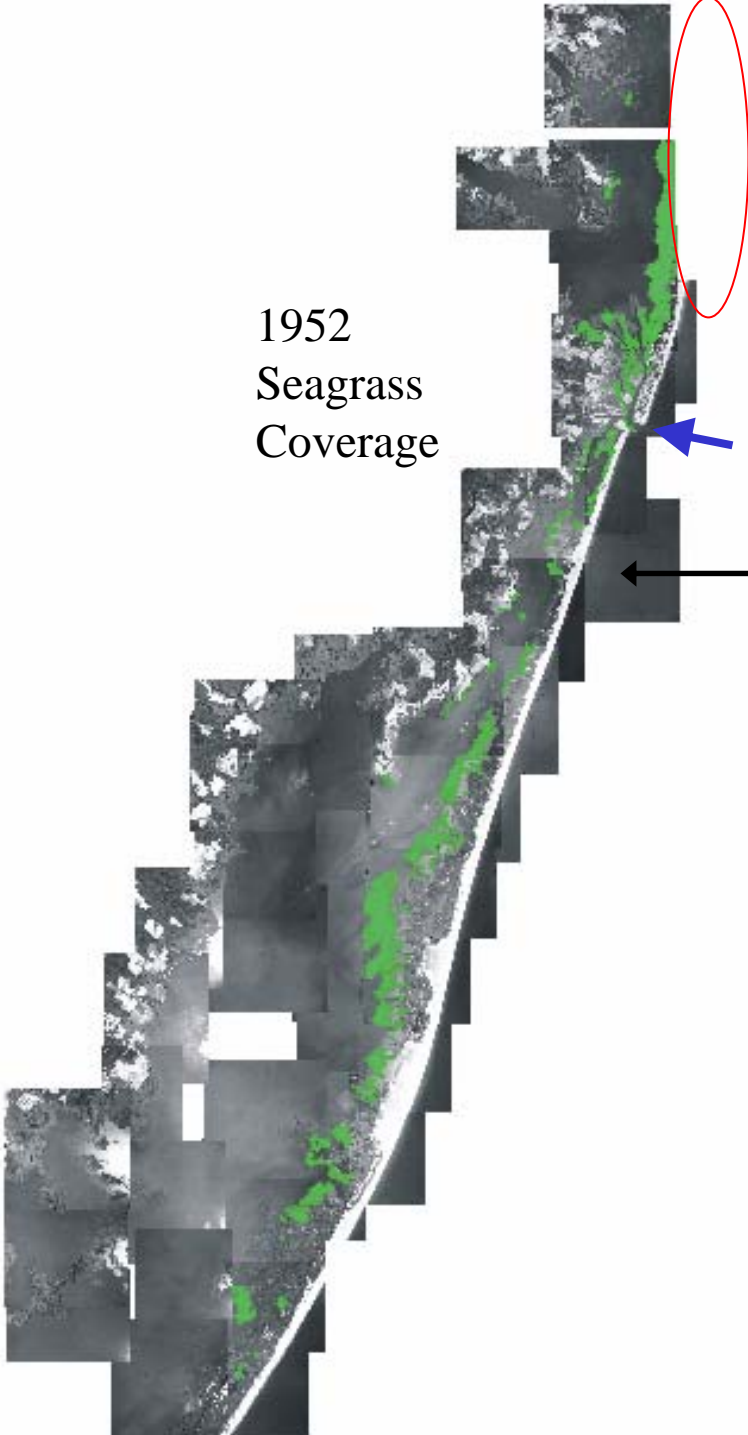
OysterToadfish

# Historical Coverage not a goal option

- No SAV in the 1938 photos
- 1952 photos = 3,218 acres
- 2003 = 11,065 acres





**Historic = 29% of  
current coverage**

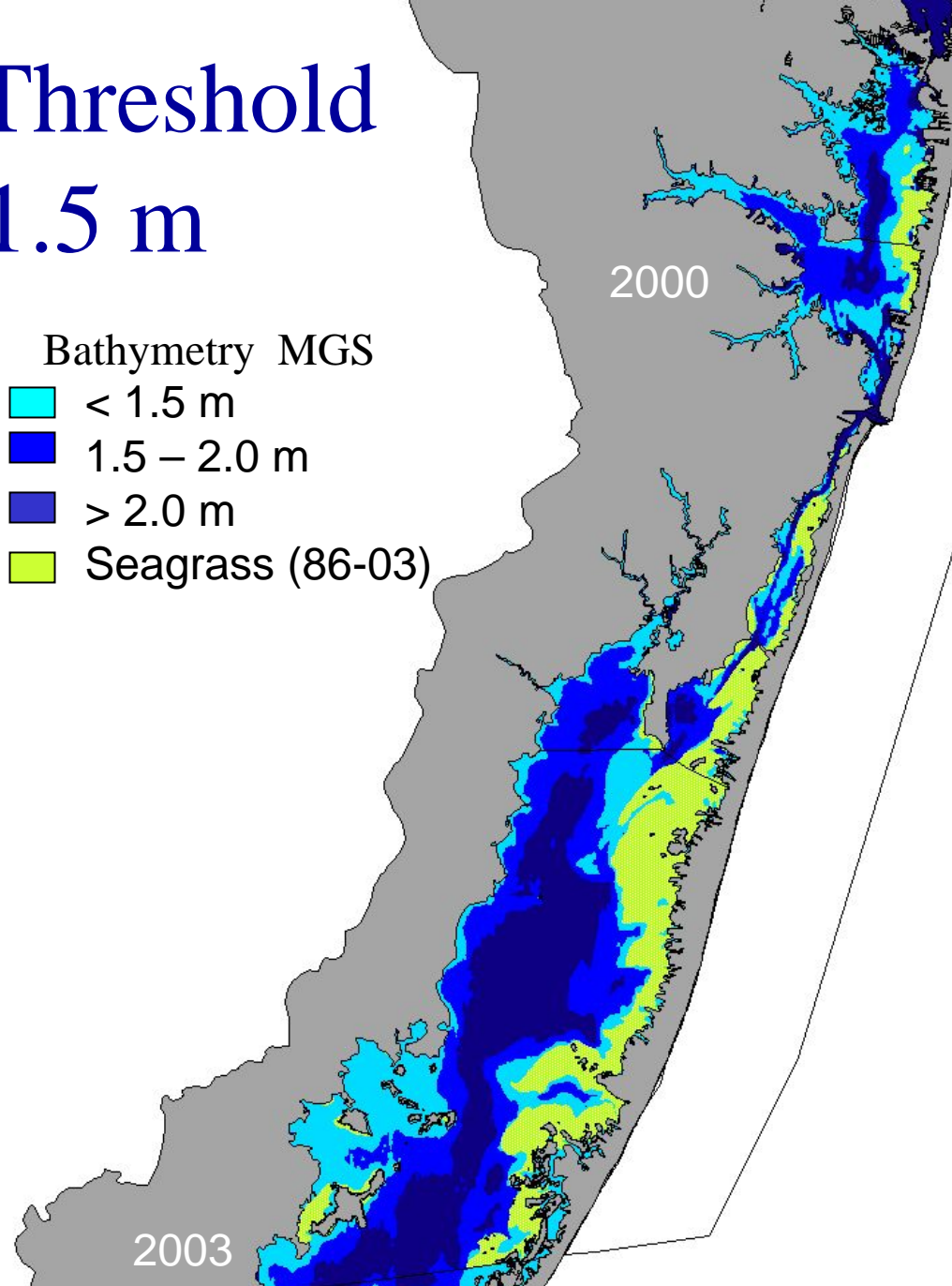
1952  
Seagrass  
Coverage



# Depth Threshold $\leq 1.5$ m

Bathymetry MGS

-   $< 1.5$  m
-   $1.5 - 2.0$  m
-   $> 2.0$  m
-  Seagrass (86-03)



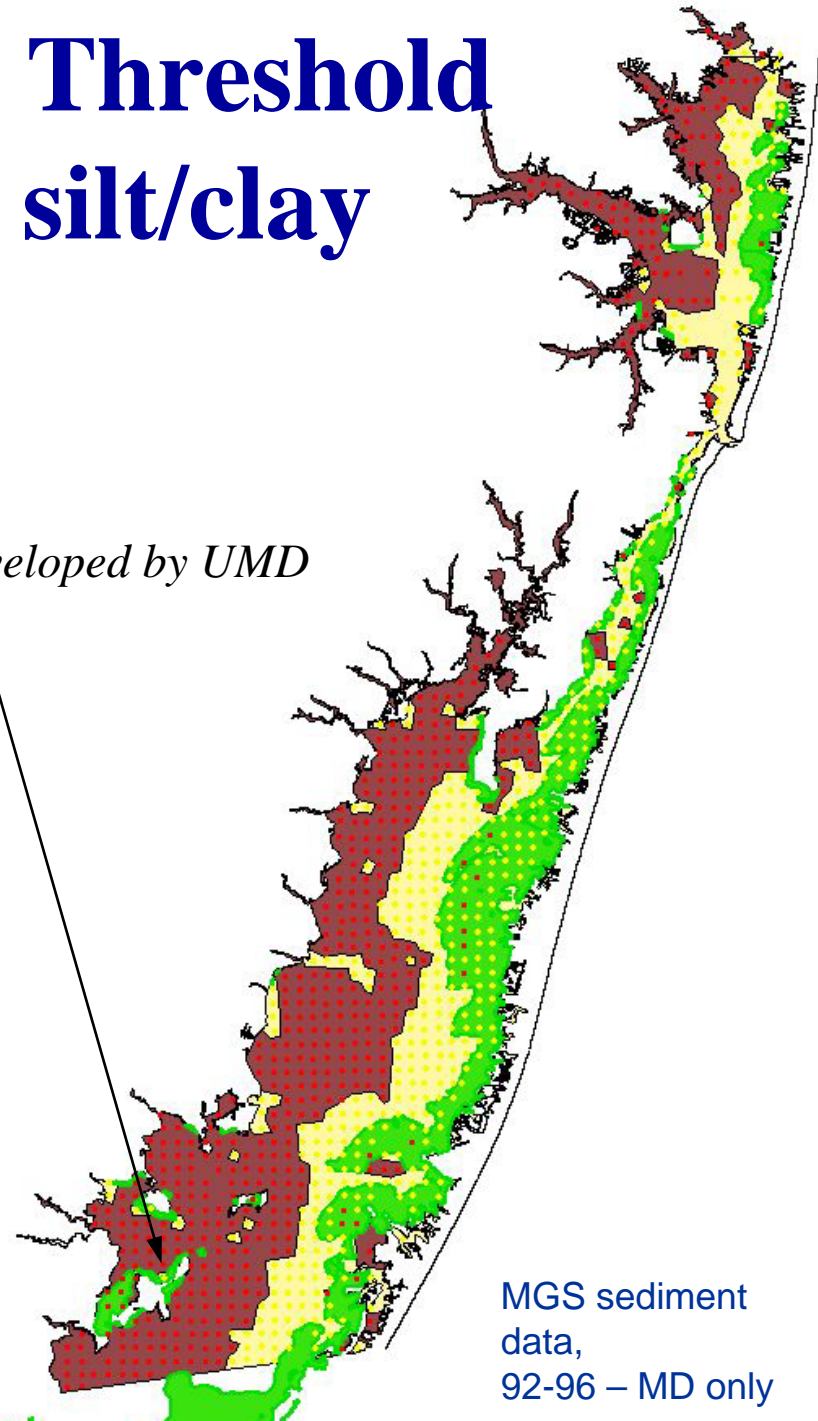
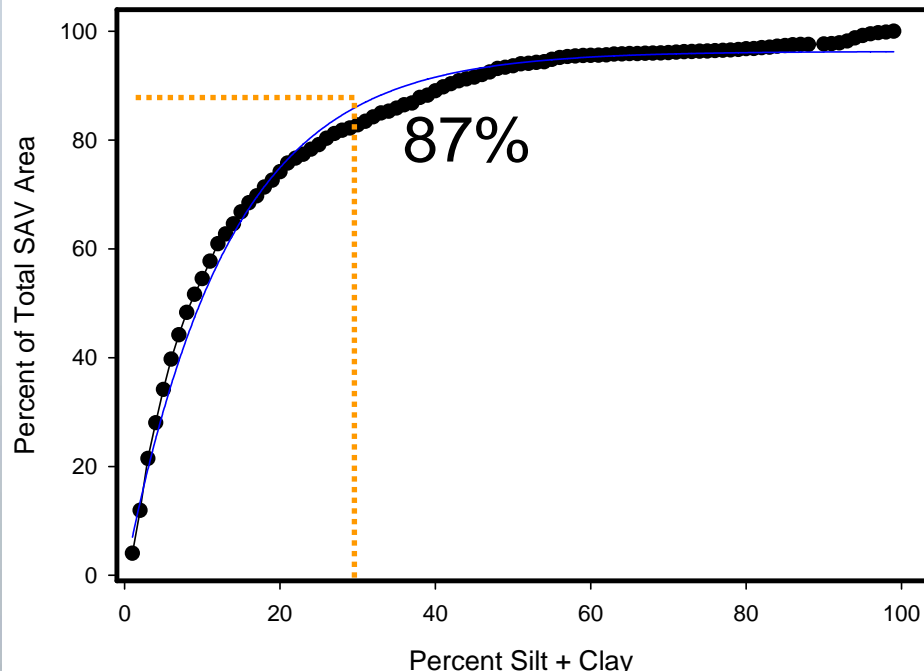


# Sediment Threshold < 35% silt/clay

Sediment Type

- $\geq 35\%$  silt/clay\*
- < 35% silt/clay
- Seagrass (86-03)

\* Threshold developed by UMD

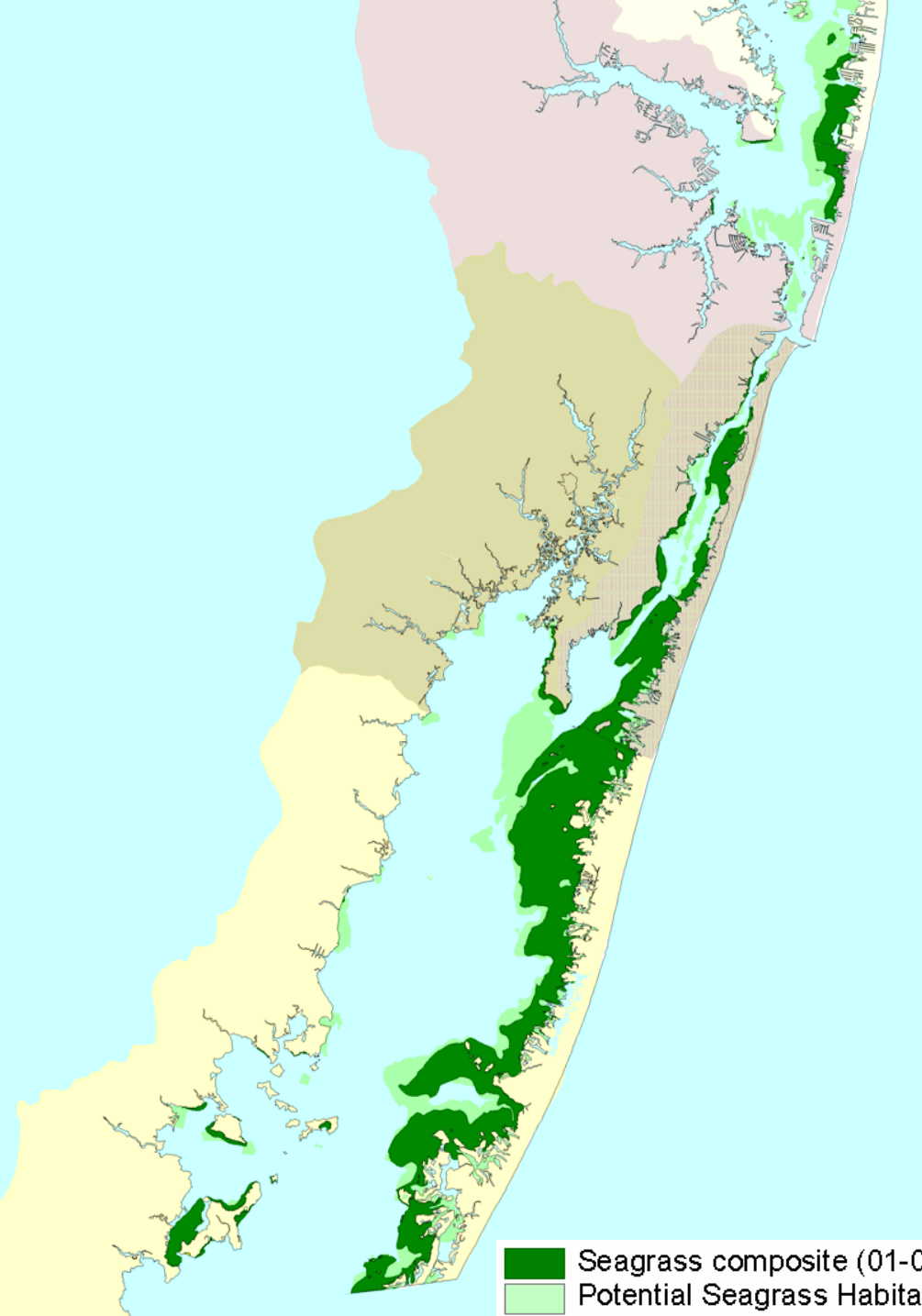


MGS sediment  
data,  
92-96 – MD only

# Seagrass Goal

18,951 acres

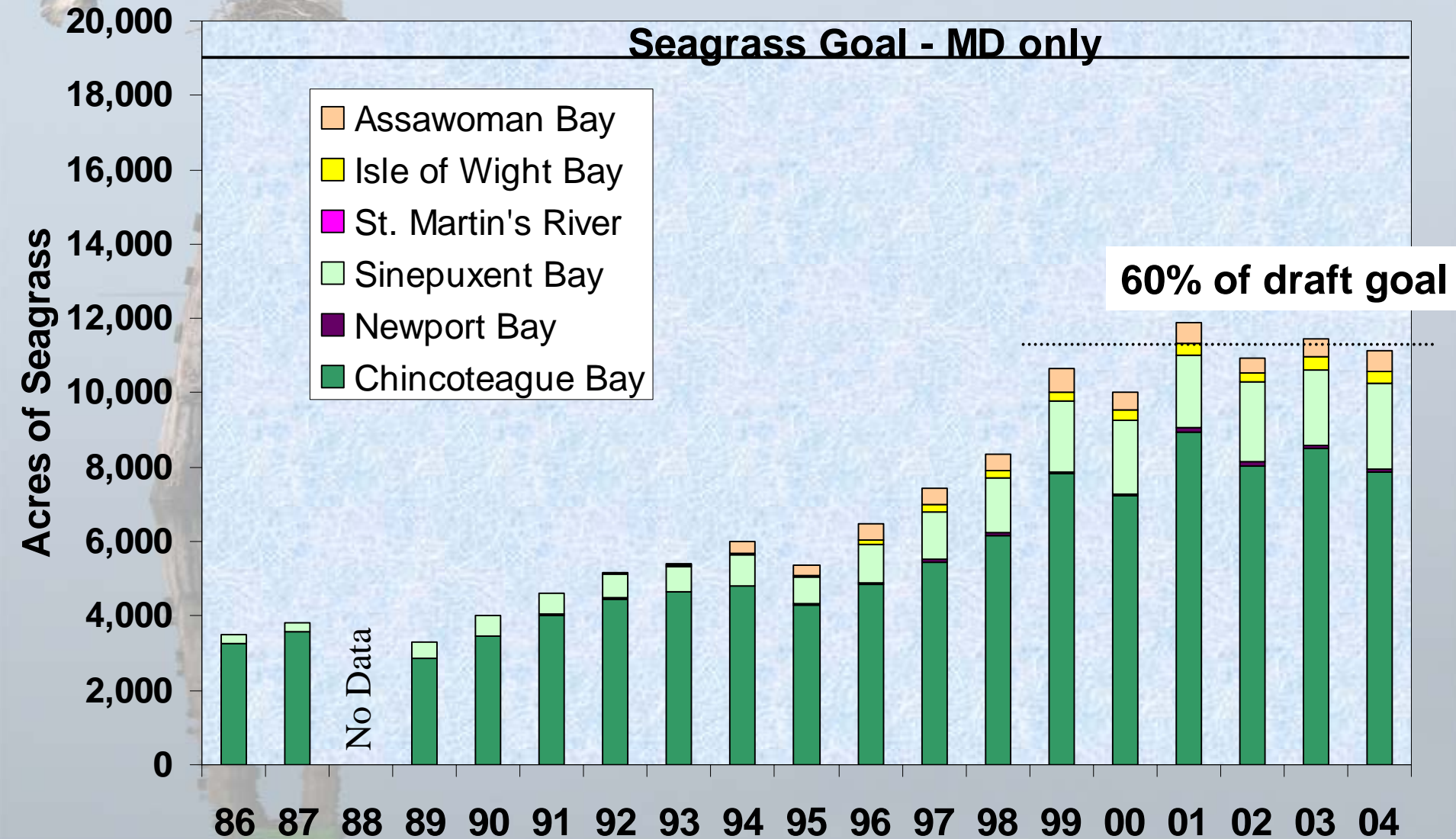
- Conservative estimate
  - could have >100% attainment
  - Seagrass <2m and 40% silt/clay = **29,754 acres**
- Why Conservative?  
*additional unknown stressors*
  - Hydrodynamic stress
  - Other



■ Seagrass composite (01-03)  
■ Potential Seagrass Habitat (<35% silt/clay and < 1.5 m)

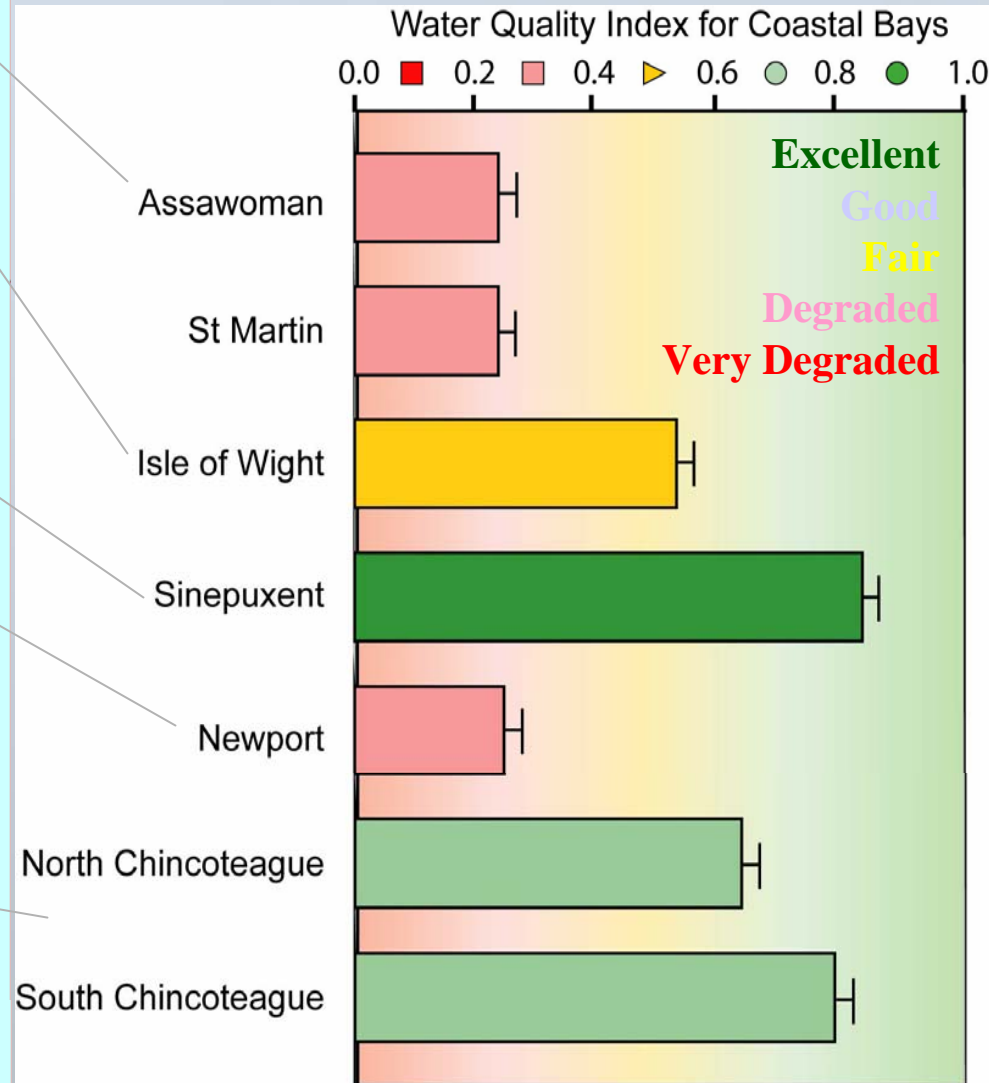
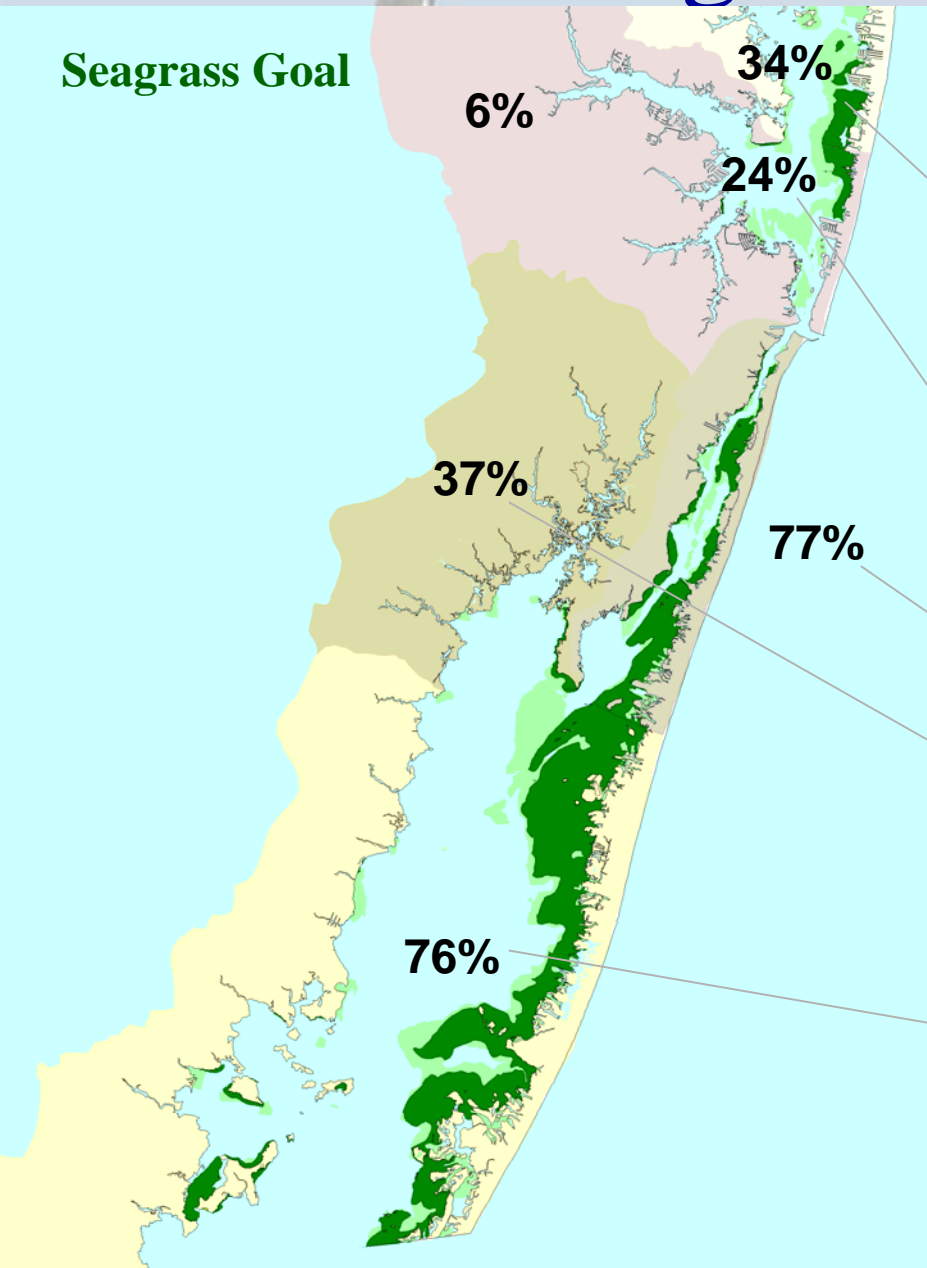
# 240% Increase in Seagrass

## *Trends stabilized*



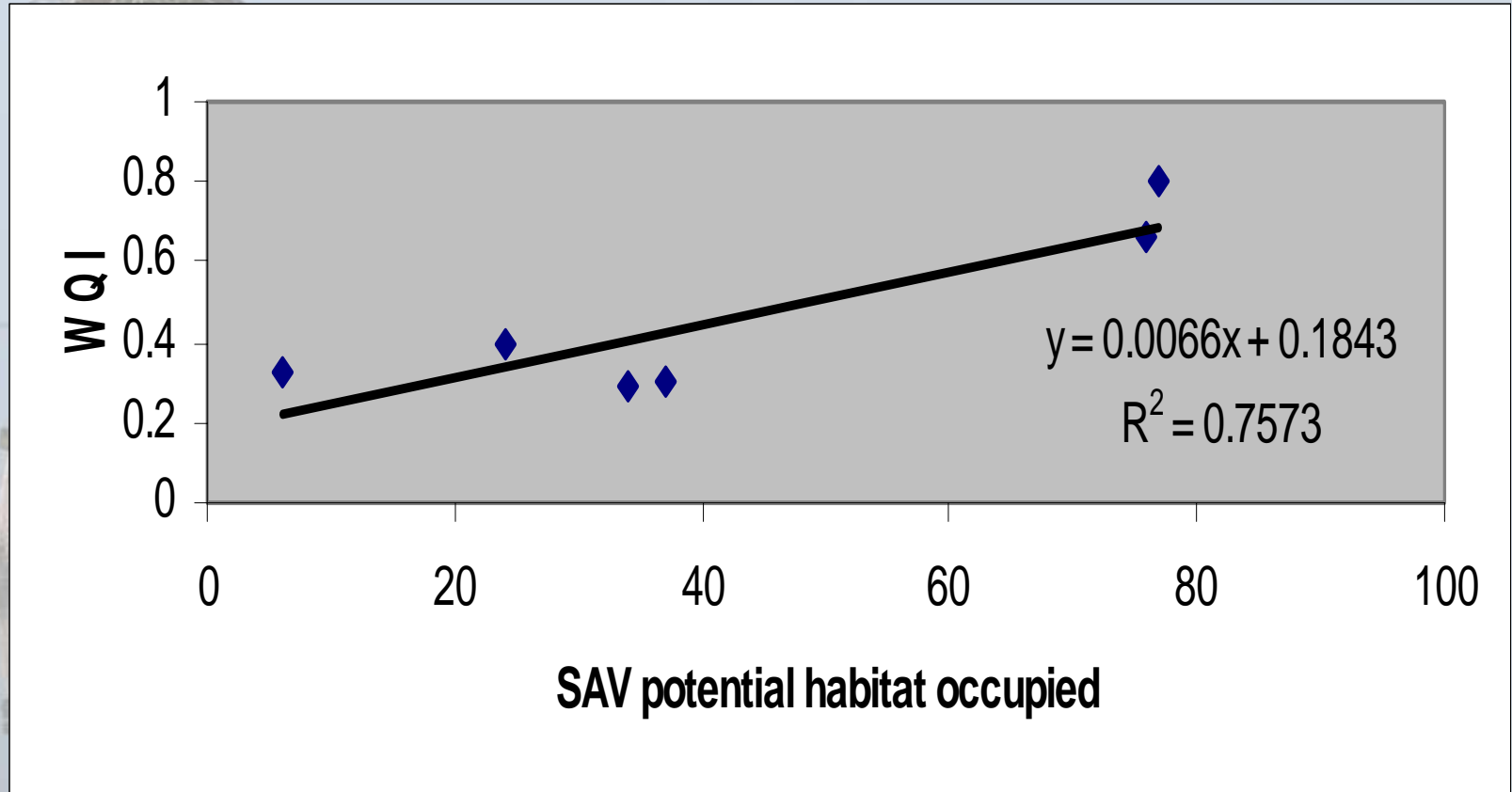
# Regional goal attainment

## Seagrass Goal

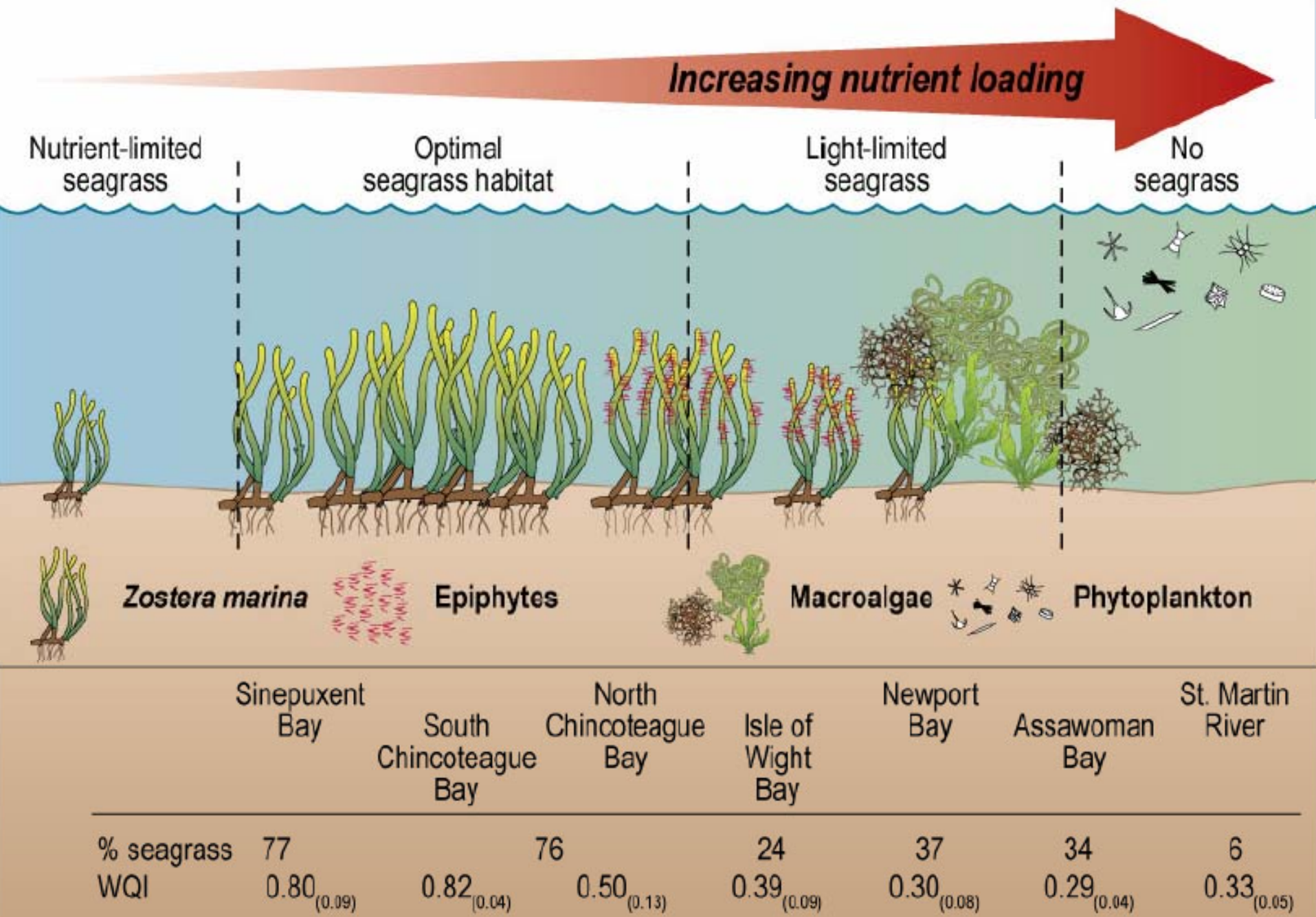




# Seagrass linked to Water quality



C.E. Wazniak, M.R. Hall, T.J.B. Carruthers, B. Sturgis, W.C. Dennison and JJ Orth. *In press* "Assessing eutrophication in a shallow lagoon: linking water quality status and trends to living resources in the Maryland Coastal Bays." Ecological Applications special issue on Eutrophication.





# Future Steps

- Create exclusion zones for SAV goal (hydrodynamic study).
- Update light model (color)
- Analyze biomass changes; not just coverage (NEEA recommendation)