

An underwater photograph showing a dense field of green seagrass. In the center, a sea turtle is swimming, its head and front flippers visible. The water is clear and blue.

Tampa Bay Seagrass Target Re-evaluation

Panel Discussion: Seagrass
Resources and Management

BASIS 5

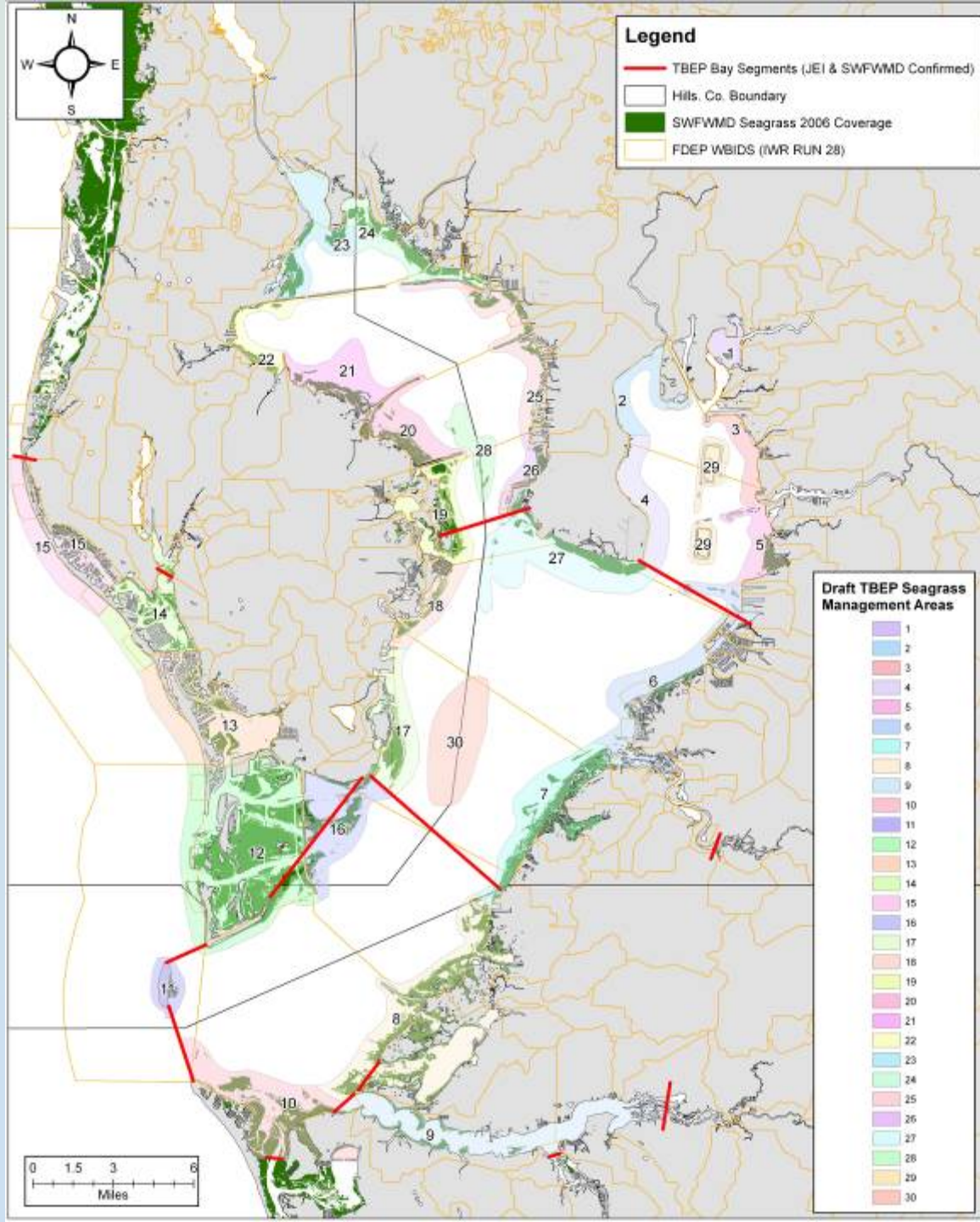
Tuesday, October 20, 2009

Tampa Bay Seagrass Target Re-evaluation

- Seagrass Management Areas
- Define light quantity
- Define light quality
- Bio-Optical Model
- Define persistent and ephemeral seagrass beds

Defining Management Areas

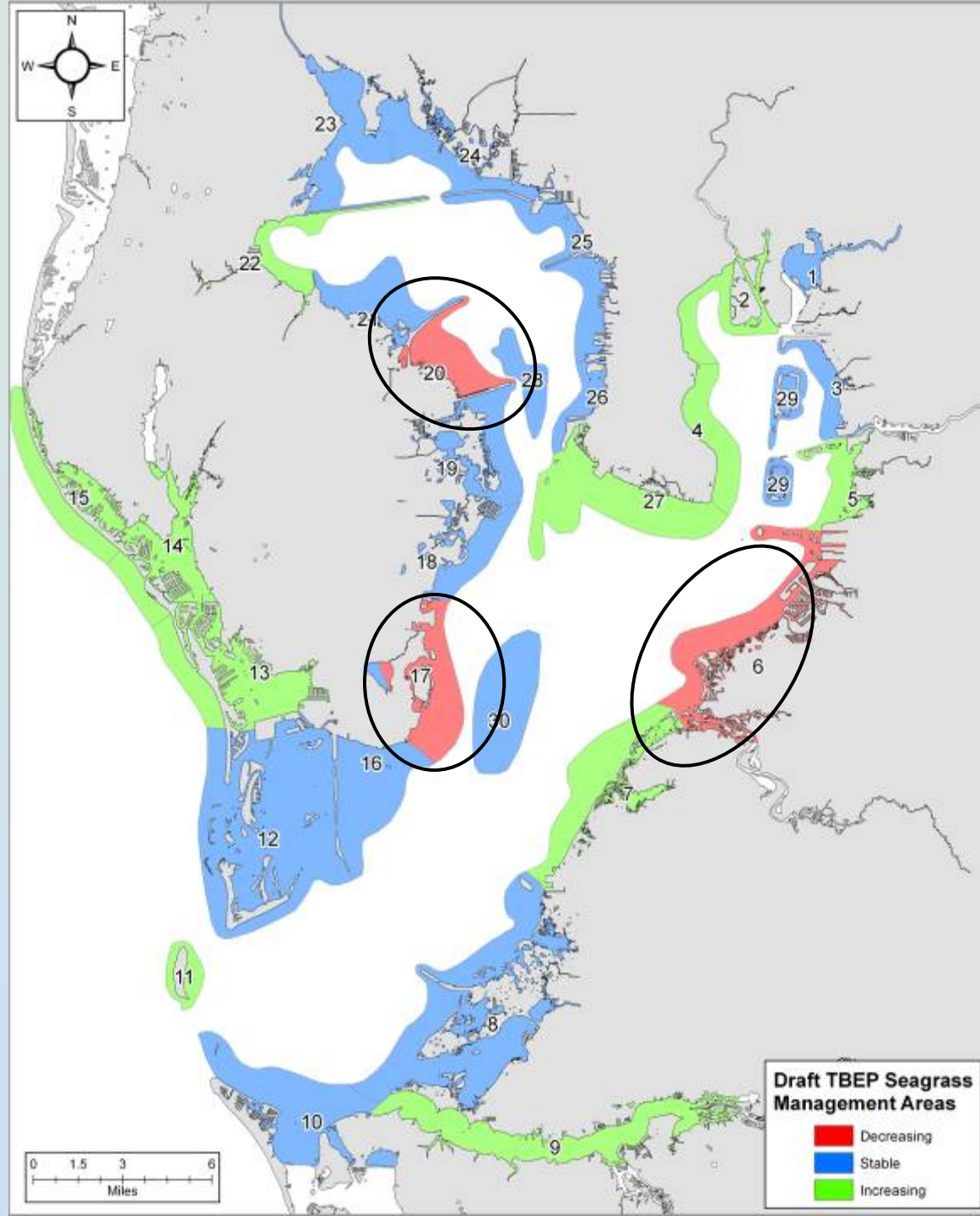
- 30 Areas
- Originally to the 12' contour
- Extent includes portions of the land
- Area 30 never has had mapped seagrasses



EPCHC

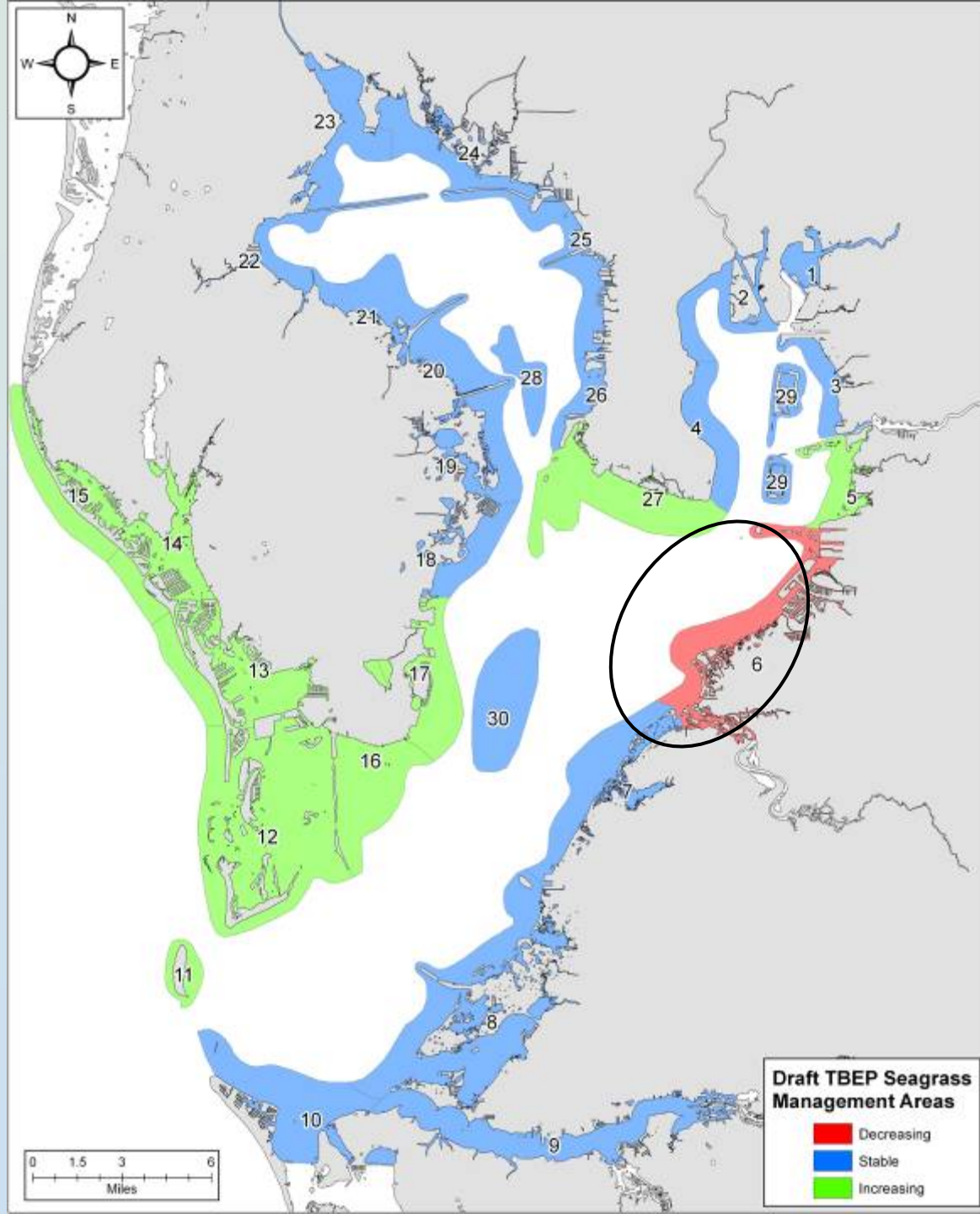
Patchy Seagrass Trends

- Areas 6, 17, & 20 showed decreasing trends in patchy seagrasses



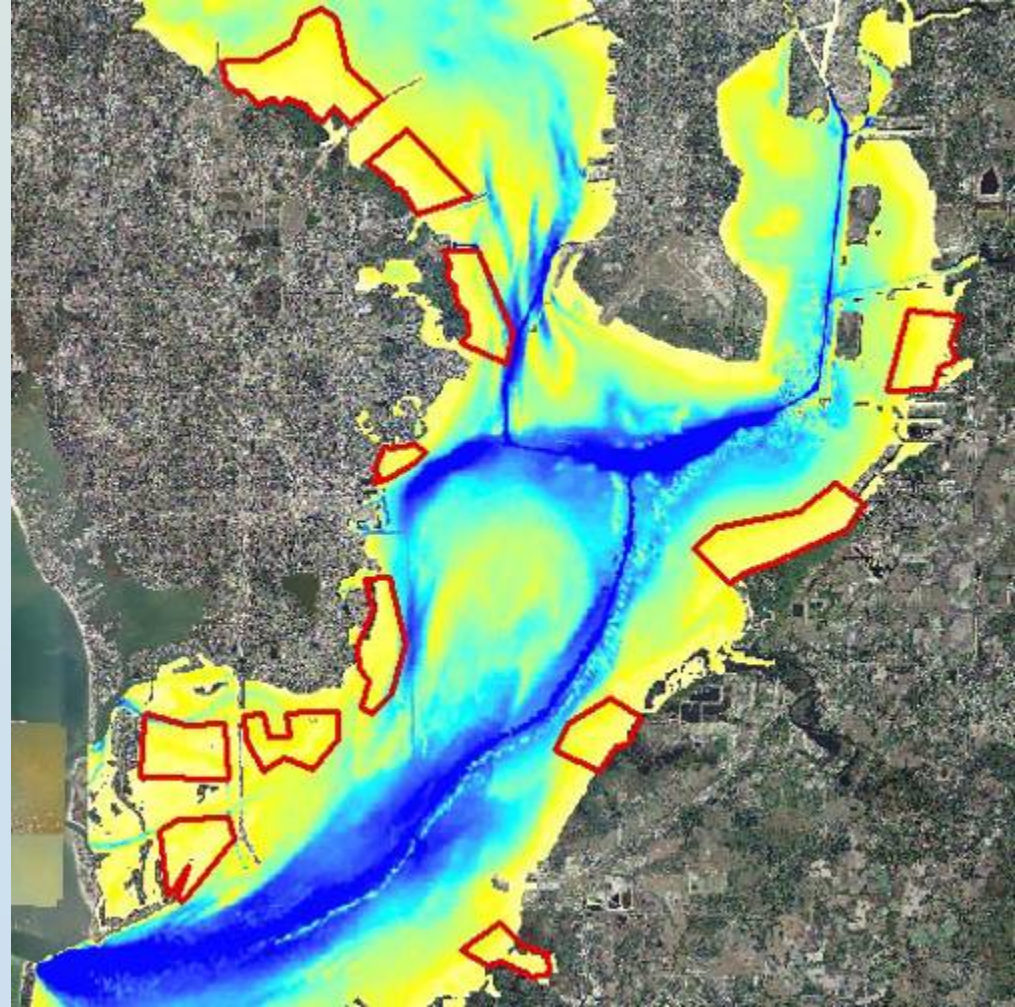
Continuous Seagrass Trends

- Area 6 showed decreasing trend in continuous seagrass coverage



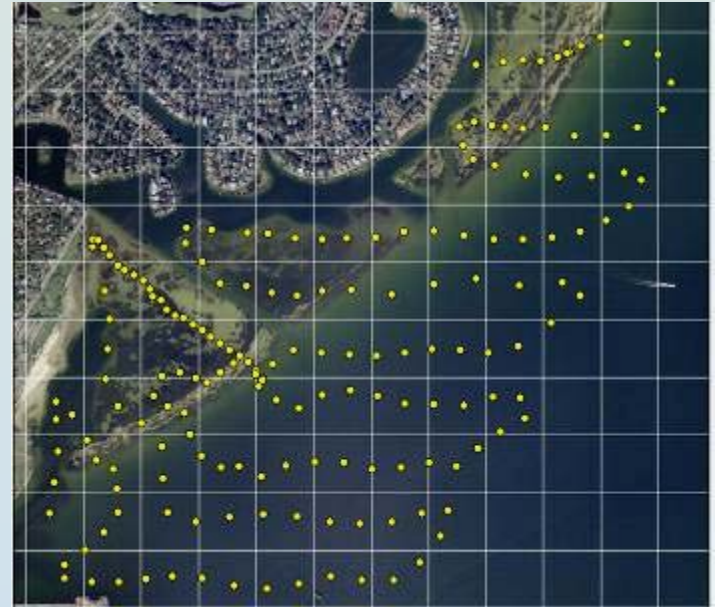
Define Light Quantity

- Strengthen the predictive relationship between optical water quality parameters and Kpar
- Compare changes in the depth distribution of seagrass with changing water quality at 12 sites
- Empirically validate, or possibly adjust, seagrass optical water quality requirements used in nutrient loading models.



Define Light Quality

- Propose area-specific minimum light requirement targets
- Determine how different seagrass species respond to light quality
- Demonstrate the utility of using a “connect-the-dots” approach to monitoring both light and water quality using a real-time flow-through system
- Predict light conditions in the Bay using an optical modeling approach and empirical light and water quality data
- Provide a methodology to incorporate light quality as part of existing routine monitoring networks

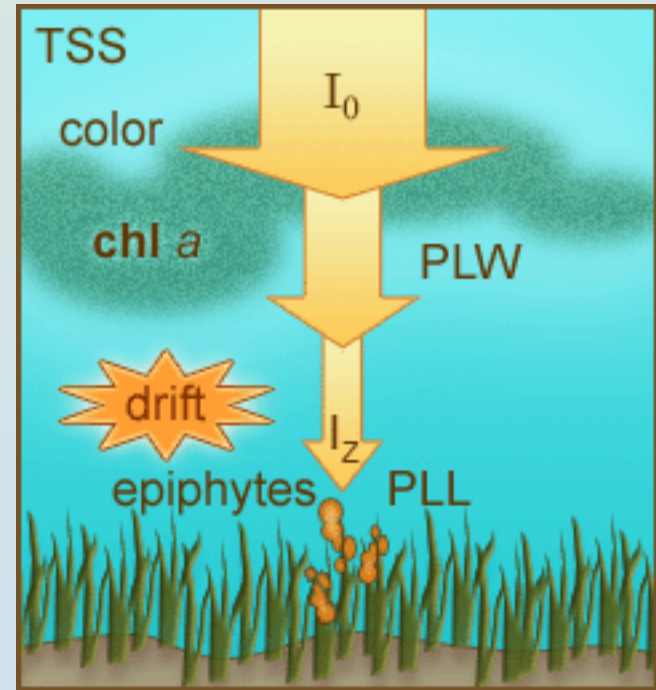


Coffeepot Bayou June
2008 Survey

FDEP, FWRI

Bio-optical Model

- Provide refinements to the Tampa Bay optical model already provided by Dr. Gallegos
- Attempt to develop PAR, and potentially PUR, light requirements for Tampa Bay seagrass meadows at the species level for the proposed Seagrass Management Areas with sufficient water quality, bathymetry, and seagrass information available



Light attenuation down the water column (PLW), and the relative contributions of turbidity, chlorophyll, and color to attenuation C.L. Gallegos

Persistent & Ephemeral Seagrass

- Conduct GIS-based analysis of temporal and spatial changes in seagrass coverage utilizing the SWFWMD seagrass coverages
- Each grid within each year will be classified as containing seagrass coverage of 50% or greater, or less than 50%
- Develop a “knowledge-based” map of seagrasses, incl. species

