

# MARine Ecosystem Goal Setting (MARES): Connecting Science, Management, and Policy

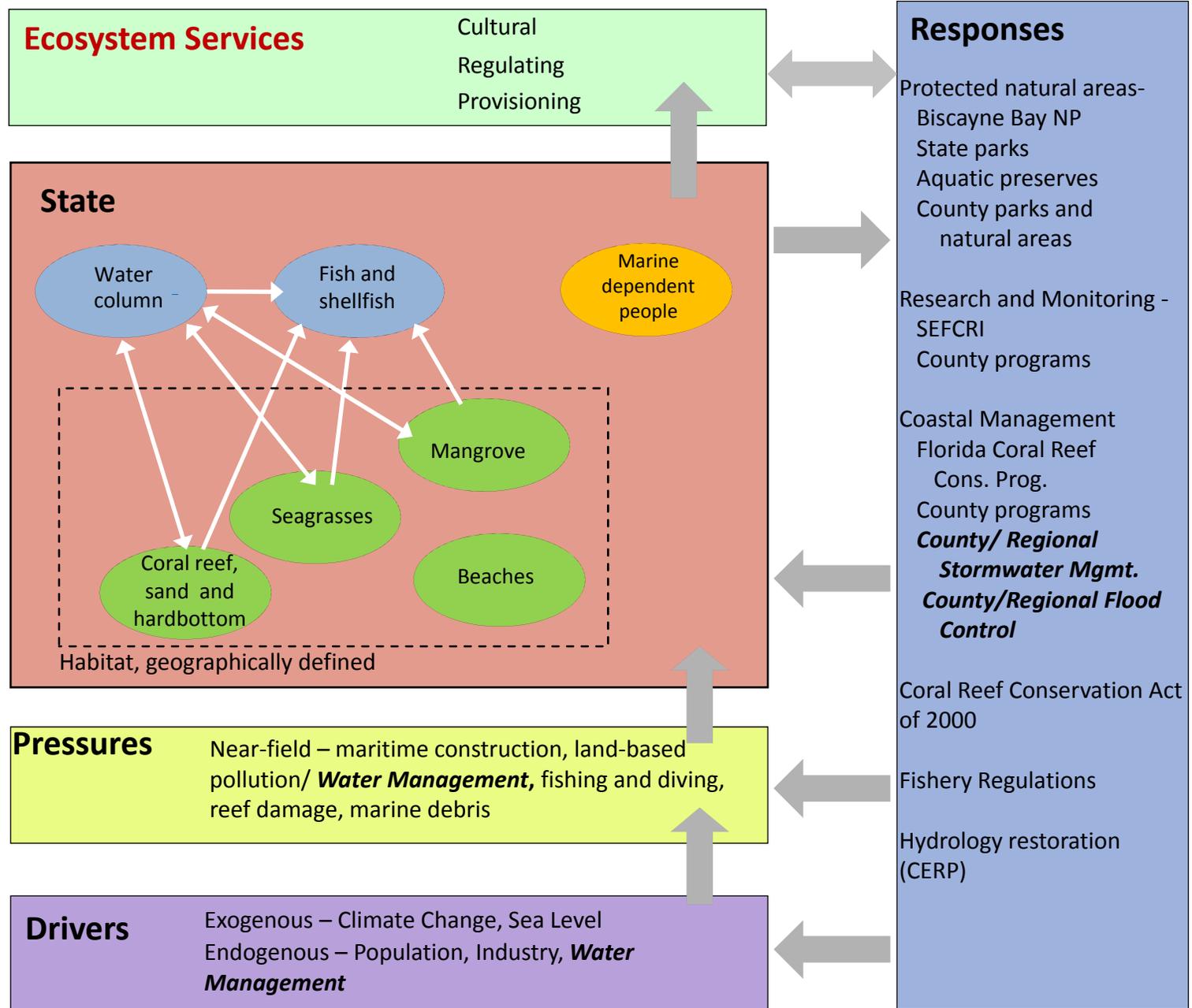
**MARES Objective**: To elucidate and communicate desired future conditions of the coastal ecosystem of South Florida by:

- Engage and communicate
- Reach science-based consensus on
  - Ecosystem Services and Processes
  - Indicators of patterns in the physical state of the environment
  - Trends in human activities that affect or are affected by the environment
  - The relationships between different parts of the system
- Address NOAA goal of Integrated Ecosystem Assessment (IEA)

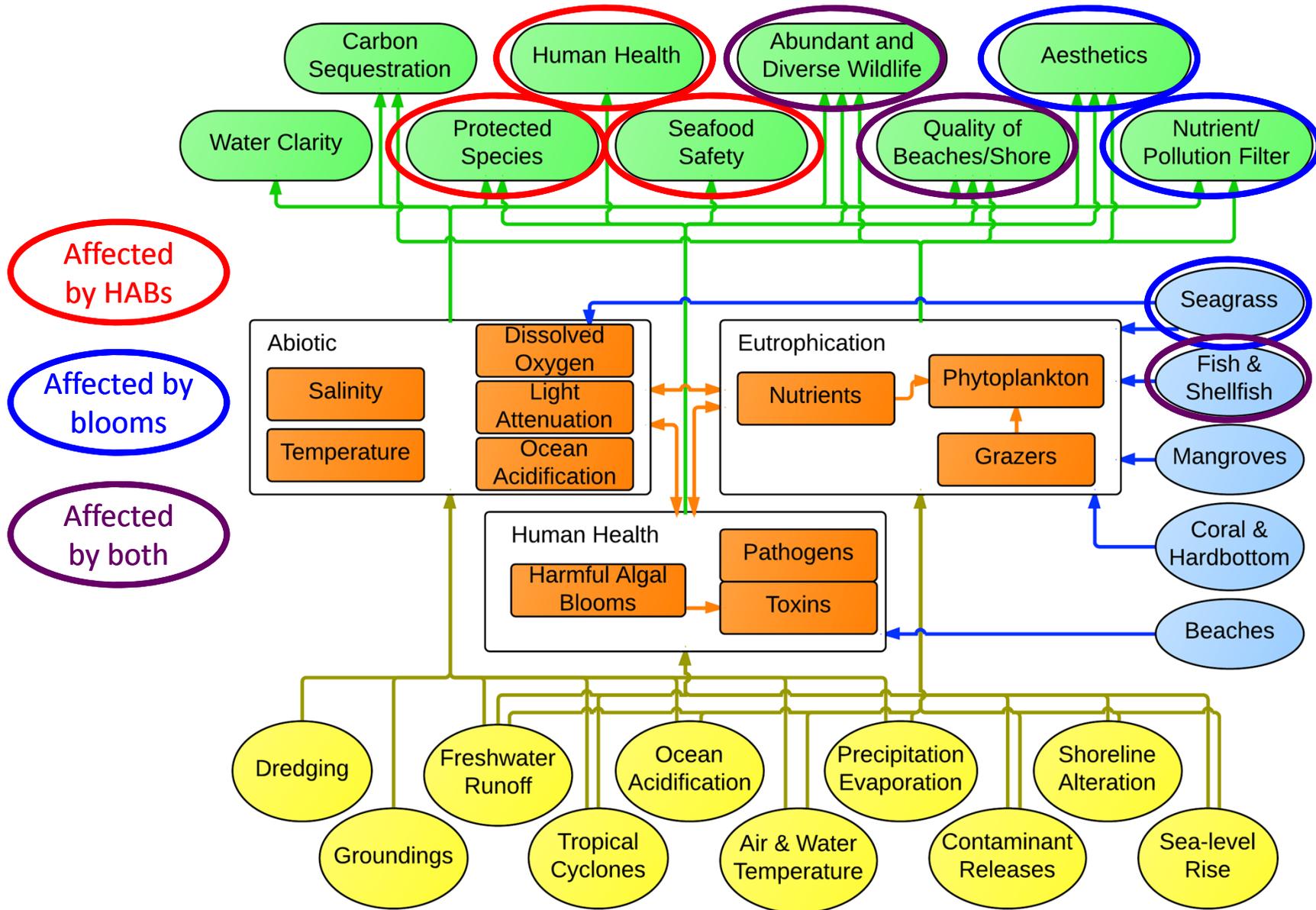


# Driver-Pressure-State-Ecosystem services-Response

## DPSER Frame work



# MARES Water Column Conceptual Model w/ Attributes that people care about



# MARES pressures that influence HABs & Phytoplankton

Attributes that people care about that are affected by HABs & Phytoplankton

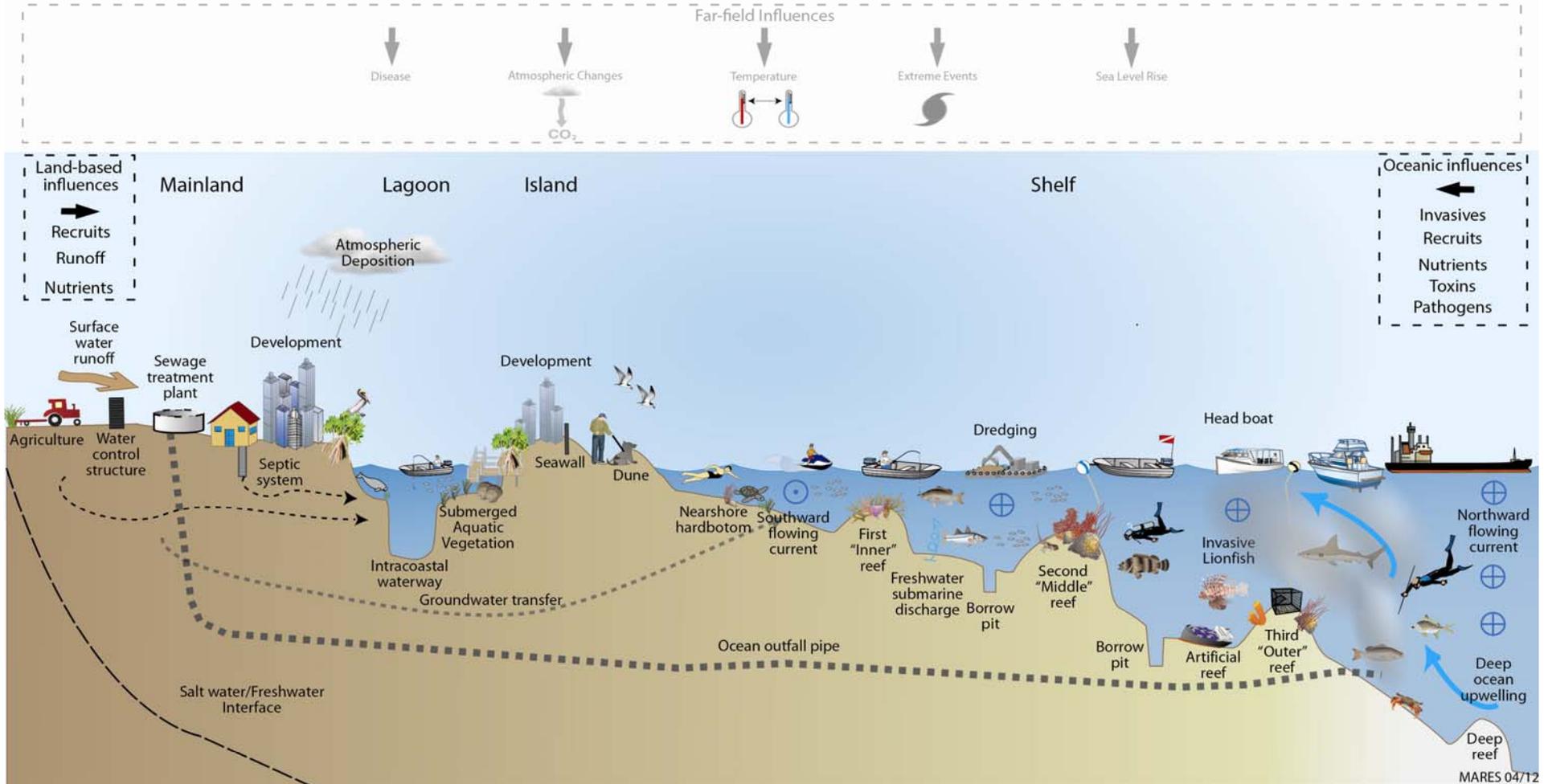
<b>Index/Indicator</b>	<b>Pressures/States</b>	<b>Attributes that People Care About</b>
<i>Harmful Algal Blooms</i>	temperature, freshwater runoff, tropical cyclones, contaminant releases	human health, protected species, seafood safety, abundant and diverse wildlife
<i>Phytoplankton</i>	nuterients, grazers, ocean acidification, temperature, light attenuation	abundant and diverse wildlife, quality of beaches and shoreline, aesthetics, nutrient/pollution filter

# MARES Ecosystem Services derived from the attributes that people care about

(affected by HABs & Phytoplankton)

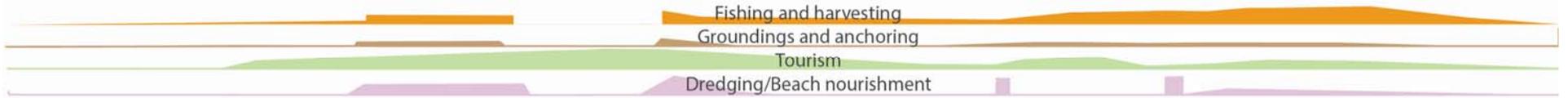
<b>Ecosystem Services</b>	<b>Attributes that People Care About</b>
<b>Commercial Fishing</b>	<b>Seafood Safety</b>
<b>Pollution Treatment</b>	<b>Nutrient/Pollution Filter</b>
<b>Scuba Diving &amp; Snorkeling</b>	<b>Human Health, Aesthetics, Abundant &amp; Diverse Wildlife</b>
<b>Beach &amp; Wildlife Recreation Activities</b>	<b>Protected Species</b>
<b>Recreational Fishing</b>	<b>Aesthetics, Quality of Beaches &amp; Shoreline, Abundant &amp; Diverse Wildlife</b>
<b>Aesthetic quality of aquatic and terrestrial environments</b>	<b>Abundant &amp; Diverse Wildlife</b>
<b>Cultural Identity</b>	<b>Aesthetics, Abundant &amp; Diverse Wildlife</b>
<b>Property Values</b>	<b>Seafood Safety, Protected Species, Aesthetics, Abundant &amp; Diverse Wildlife</b>
	<b>Aesthetics, Human Health, Quality of Beaches &amp; Shoreline</b>

# Marine and Estuarine Goal Setting for South Florida Characterization of the Southeast Florida Coast Subregion

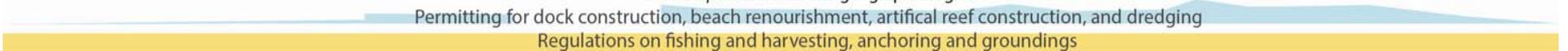


MARES 04/12

## Local pressures across the geographic region



## Local responses across the geographic region



MARES Infographic, cross-section for southeast Florida shelf, P. Fletcher (SeaGrant)

# A fourth consideration??

- What are potential mitigation strategies and their costs? (Tampa Bay has done this as an example)