

An aerial photograph showing a massive, undulating mat of brown Sargassum seaweed floating on the surface of the blue ocean. The mat stretches across the entire frame, with its texture appearing as a complex, wavy pattern of brown and tan against the deep blue water.

Habitat use and feeding ecology of fishes associated with *Sargassum* mats in the Gulf of Mexico

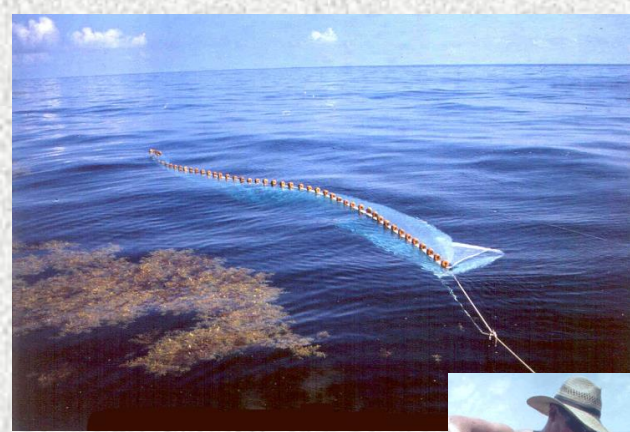
R. J. David Wells* and Jay R. Rooker

**Texas A&M University, Department of Marine Biology, 1001 Texas
Clipper Rd., Galveston, TX 77553**

Background

- ◆ *Sargassum fluitans* & *S. natans*
- ◆ Sargasso Sea
- ◆ Formation of “weedlines”
- ◆ Essential Fish Habitat (EFH)

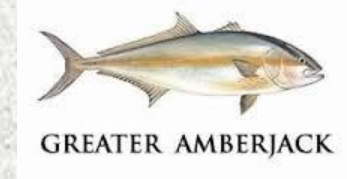
Sampling Methods



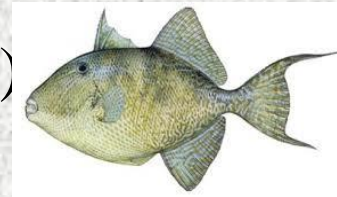


Most common fishes inhabiting *Sargassum* off the Texas coast

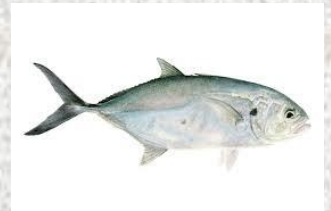
Greater amberjack (*Seriola dumerili*)



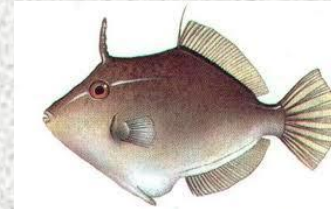
Gray triggerfish (*Balistes capriscus*)



Blue runner (*Caranx crysos*)



Planehead filefish (*Monacanthus hispidus*)



Sargassum fish (*Histrion histrio*)



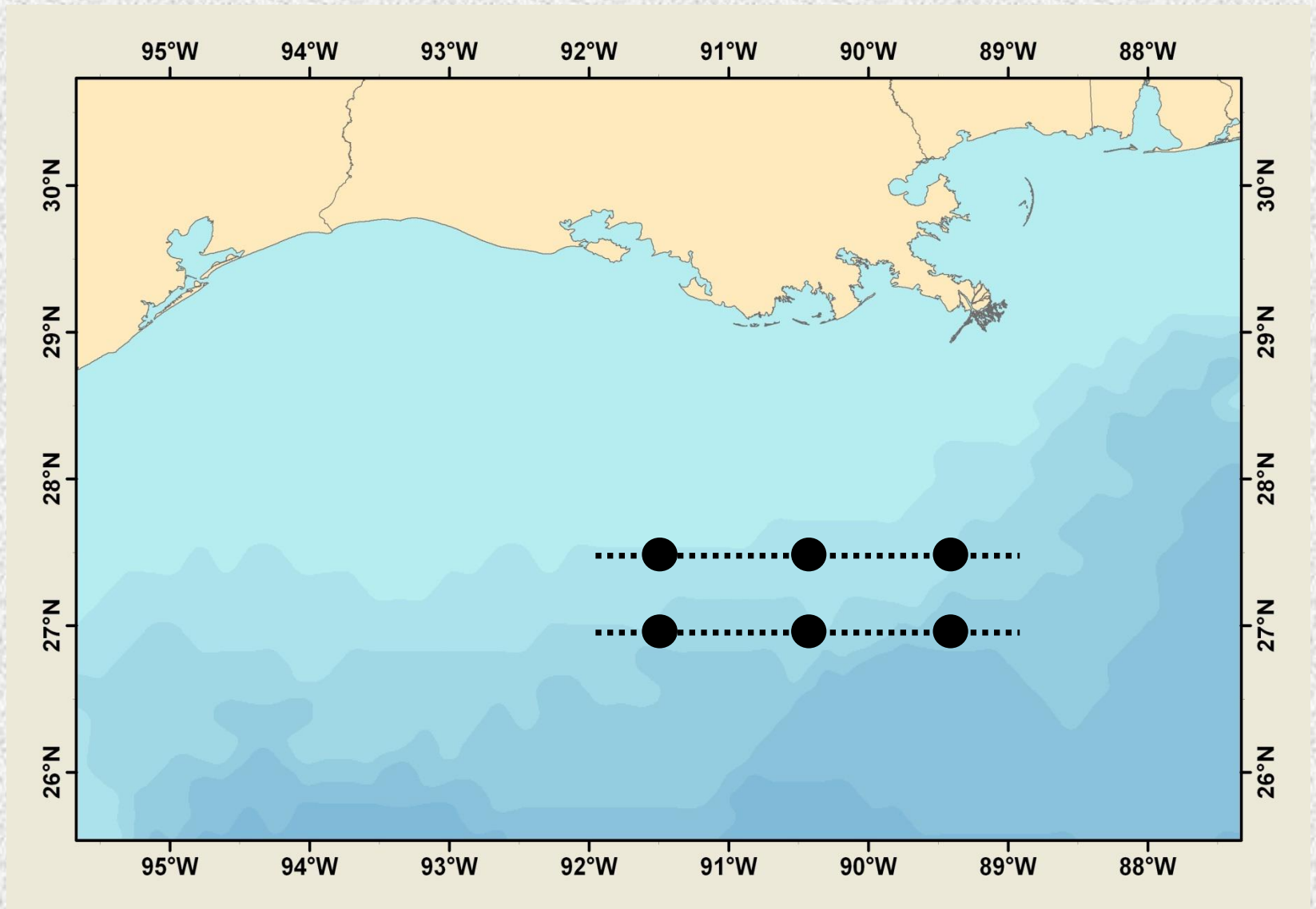
Sergeant major (*Abudefduf saxatilis*)



Chain pipefish (*Syngnathus louisianae*)



Offshore Study Location

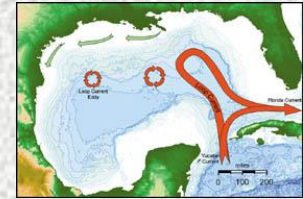


Northern Gulf of Mexico

A unique study region

- Northern Gulf of Mexico is a highly productive region

Mississippi River
Gulf Loop Current



- Examples of fish species collected in offshore waters:

Blue marlin (*Makaira nigricans*)



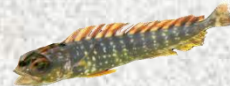
Sailfish (*Istiophorus platypterus*)



Swordfish (*Xiphias gladius*)



Dolphinfish (*Coryphaena hippurus*)



Pompano dolphinfish (*Corypheana equiselis*)



- Few available carbon sources in slope waters

POM

Pelagic *Sargassum*

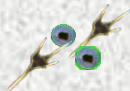


Objectives

1. Examine feeding ecology of larval and early juvenile stages of pelagic fishes



2. Estimate the organic contribution of POM and pelagic *Sargassum* supplied to fishes

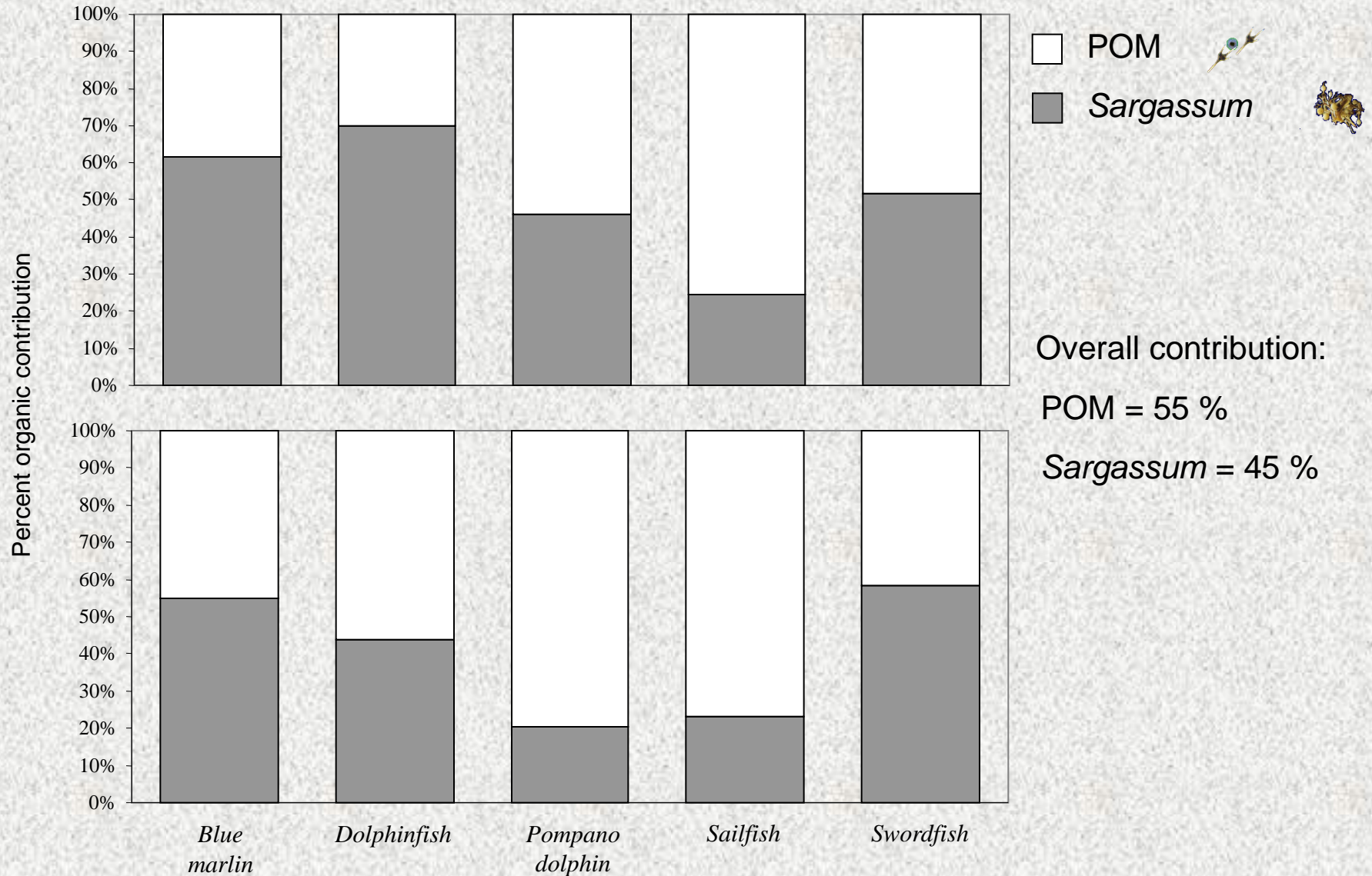


POM



Sargassum

Percent Organic Contribution



Conclusions



- Pelagic *Sargassum* mats serve as essential nursery habitat for some fish and invertebrate species such as pipefish, frogfish, shrimp, and crabs
- Survival and recruitment success of several large pelagic species may be linked to *Sargassum* dynamics
- Organic contribution of *Sargassum* appears important to early life stages of some species
 - more studies needed here on Trichodesmium and other nitrogen fixing organisms