

OCE2001.650U21 Introduction to Oceanography

Coastal Ecology *Virtual* Field Trip Assignment (70 points)

Start by watching the Coastal Ecology Field Trip videos, which can be found at the link below:

<http://usfweb.usf.edu/courseresources/ms/oce2001/videos/coastal-ecology/index.html>

15 pts

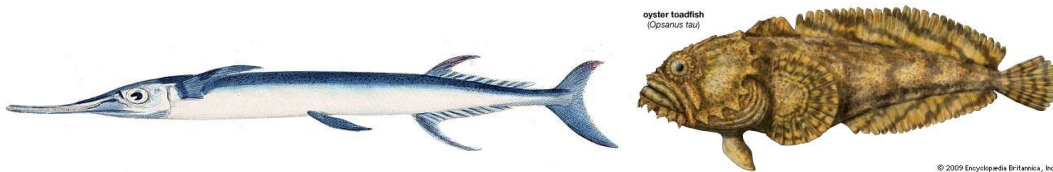
1) Mangroves are salt tolerant trees. List the three types of mangroves found in Tampa Bay that are discussed in the videos, and describe the anatomical differences mentioned in the videos. Dig deeper—using the review article provided (Parida and Jha 2010), discuss physiological adaptations in mangroves for water uptake and water conservation. Finally, discuss the three salt-eliminating mechanisms mangroves use to live in saltwater, as listed in the article.

10 pts

2) Mangroves and seagrasses provide similar benefits to the ecosystem. Discuss at least three benefits of mangroves and seagrasses.

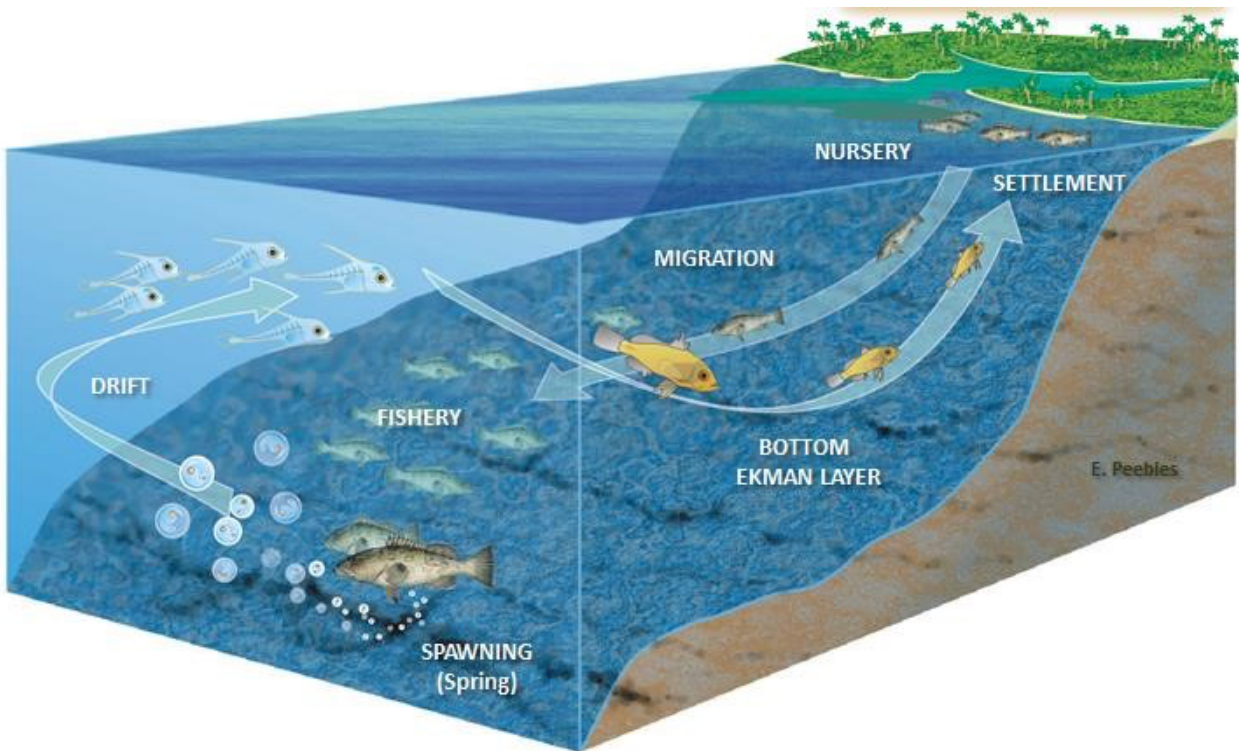
15 pts

3) Discuss the difference in camouflage techniques of needlefish and toadfish discussed in the video. What does the camouflage technique used by each fish tell you about where it lives? Looking at the cartoons below, what does the anatomy of each fish tell you about how it swims and how it feeds? Be sure to answer these questions for both fish, needlefish and toadfish.



10 pts

4) Below is a figure depicting the life history of a gag (species of grouper). Their life history is complex, involving many different habitats, including inshore seagrasses as nursery habitat. Dig deeper- using the article provided (Switzer et al. 2012), discuss characteristics of the habitat that the authors found juvenile gags prefer (i.e. salinity and vegetation type and coverage). How are these habitats beneficial to gags and other juvenile fishes? How could the loss or decline of seagrasses impact local fisheries?



10 pts

5) Provide two characteristics that are different between the mangrove sediment core and the low-energy beach sediment core. Describe two other differences in these two habitats from observing the videos in each location. Which one is a better habitat for most juvenile organisms? Why?

10 pts

6) Seagrass coverage in Tampa Bay was dangerously low, down by approximately 80%, a few decades ago. Name two factors that contributed to this decline. Describe three changes in Tampa Bay that have helped to restore seagrass habitats. What is the current state of seagrass coverage in Tampa Bay? There are a variety of reputable references on the subject so look here for the answers--- websites by Tampa Bay Watch, Florida Fish and Wildlife, NOAA, and USGS.