

## Coastal Ecosystems

1. Describe the basic features (e.g. physical gradients, vegetation) of each of the following coastal ecosystems: salt marsh, rocky intertidal, sandy shore, kelp forest, oceanic zone.
2. Describe strategies used by salt marsh plants to deal with excess salt and anoxia.
3. What are the values of tidal marshes and bordering mudflats?
4. Give an example of resource partitioning in mudflats.
5. Where do rocky intertidal communities occur? Why do these communities display distinct zones?
6. What strategies are used by organisms living in the rocky intertidal to cope with water loss & changes in temperature & salinity? wave shock & scour?
7. What is the major limiting resource in the rocky intertidal? What are strategies used by organisms to deal with competition?
8. How do organisms avoid predation in the rocky intertidal?
9. What is a keystone predator? Describe the importance of keystone predators to rocky intertidal habitats and kelp forests.
10. Compare/contrast the following intertidal zones (highlighting balance between biotic and abiotic factors and giving examples of organisms found in each zone): splash, upper, middle, lower.
11. Where are sandy shores found? What is the major source of productivity in these systems? What are some of the challenges of living in this intertidal zone?
12. Describe seasonal changes in sandy shore habitats.
13. Where are kelp forests distributed? What are the 2 main kelps that make-up kelp forests and why do they typically not overlap?
14. Describe the 3 zones of the oceanic habitat.
15. What factors affect oceanic productivity? Where is phytoplankton productivity highest?
16. How do baleen whales differ from toothed whales? Give an example of each that are found in California waters.
17. Name the 4 major pinnipeds found in California.
18. Why were elephant seals and gray whales nearly extinct? Describe their recovery.