**Blue Planet DVD – Tidal Seas**

*This episode features several types of coastal ecosystems. Keep an eye out for:*

***Sandy Beach –*** *Small grains or particles of sediment. May be white, brown, or black.*

***Mudflat –*** *Smaller particles of sediment than beaches. Found in sheltered bays and lagoons.*

***Rocky Shore*** *– Heavy wave action washes away fine sediments, leaving only large rocks behind.*

***Mangrove Swamp –*** *A coastal wetland containing partially submerged trees.*

1. What forces control the strength of the tides?
2. Describe what makes the **finback** whales such effective hunters of fish.
3. What source of food to the **sand bubbler crabs** take advantage of during low tide?
	1. How exactly do they gather this food source?
4. **Clams** will bury themselves in sand in anticipation of the low tide. Why is this behavior so vital to their survival?
5. What two adaptations do the **sand snails** have that helps them take advantage of the dead fish on the shore?
6. Which type of coastal ecosystem are the knot (wader birds) feeding in?
	1. How are the beaks of the wader birds specifically designed for this type of shore?



1. Flounders have an extremely unusual body design. Describe and relate it to how they hunt and hide from predators.
2. How do the **sand lancets** adapt their behavior to movements of plankton and the tides?

1. What happens to benthic creatures on rocky shores, such as mussels and barnacles, when the tide goes out?
2. When do the strongest tides occur?

1. Describe how **raccoons** are well-adapted for scavenging invertebrates like the **red rock crab** from exposed shoreline.
2. **Bull kelp** is a type of seaweed that is able to grow in areas of rapid current. How does it survive?
3. Why do **sting rays** prefer sheltered areas like the Poor Knight islands?

1. What do **demoiselle fish** do during periods of weak current to avoid predation?
2. The **thimble jellyfish** have a symbiotic relationship with brown algae. Describe it.

Is this an example of mutualism, commensalism, parasitism, or competition?

1. **Razor fish** bury themselves in the sand for protection. How do **bottlenose dolphins** find them?
2. Why do the larger sea predators not hunt during low tide?
3. The **giant horse conch** is called a “Ferrari” by the narrator. What is the basis of this analogy?
4. Why are the **hermit crabs** so desperate to claim the shell of the tulip snail?
	1. Is this an example of intraspecific or interspecific competition?
5. How does the composition of the water in mangrove swamps change with the tides?
	1. How do the tarpon adapt to this change?
6. The Bahamas are low-lying islands that easily flood during a large storm. What happens to the ecosystem once the storm is over?
7. The Caribbean flamingo is one of the few animals that can thrive in brine fields like this. Give two ways that it benefits or is adapted to this ecosystem.
8. Explain how land crabs use the power of the tides to reproduce.
9. Describe the teamwork strategy employed by the dolphins.

**Discussion Questions**

Identify the correct phylum of each of these invertebrates featured in this episode.

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| **Species** | **Phylum** |
| Sand Bubbler Crab |  |
| Clam |  |
| Barnacles |  |
| Thimble Jellyfish |  |
| Soft Coral |  |
| Giant Horse Conch |  |
| Tulip Snail |  |
| Hermit Crab |  |