**Blue Planet – The Open Ocean**

1. There are three predator fish in the feeding frenzy. Compare the different feeding style and adaptations of each as they compete with each other.
   1. Striped Marlin –
   2. Tuna –
   3. Sei Whale –
2. The **Manta Ray** is specifically designed to conserve energy. Explain how.
   1. What is its relationship with the remora?

**Finding Food**

1. What is the basis of energy in the open ocean?
2. Describe an adaptation each of the following organisms has to help it gather food.
   1. **Comb Jellyfish**
   2. **Sardines**
   3. **Sailfish**
3. How does floating material such as human trash or seaweed affect the ecosystem?
4. Describe the relationship between the sunfish and the half-moon fish (and seagulls).
5. What are seamounts? Why do they contain so much more life than the rest of the open ocean?
   1. What causes the shimmering effect seen in waters near the seamounts?
6. Prey fish like mackerel and anchovetta don’t really have anywhere to hide for shelter from predators. What do they do in the open ocean to defend themselves?
7. What unique social interactions are used by spinner dolphins and pilot whales?
8. Describe the relationship between the Cory’s Shearwaters and the common dolphins. Is this an example of mutualism or interspecific competition?

**Discussion Questions**

1. Explain why the open ocean is often called a “marine desert”.
2. Why is migration so important to open-ocean animals?
3. What are some of the abiotic factors that influence food availability in the open ocean?
4. Why is it so vitally important that animals like the manta ray conserve energy?