

AquaQuest Answers

Grades 9-12

Tropical Cove

1. Barbs on their tails and camouflage (counter shading)
2. Manduvi tree
Part 2 – answer not on graphic – habitat destruction, poachers for the pet trade and nest predators (toucans and cockroaches) are some threats
3. By-catch during fishing trips, habitat destruction, poaching for medicines just to name a few threats against sharks

Butterfly Garden

4. Proboscis, a tube-like tongue they use to drink nectar from
5. Camouflage, bright warning colors and eyespots help protect a butterfly from predators

Penguins' Rock

6. Global warming, over-fishing, habitat loss, oil spills
7. Provides camouflage from predators. The birds' dark back blends into the dark ocean when viewed from above, while its light belly helps it blend into the surface when viewed from below. This is called counter-shading.
8. 1. Body covered with about 80 feathers per square inch. 2. Feathers are fit tightly together to keep cold water out. 3. Use beaks to spread oil on their feathers to make the feathers waterproof. 4. Layer of body fat to keep them warm.

Boneless Beauties

9. Numbers will vary (any number); they blend in with their exhibit (gravel, rocks or background of exhibit); by being able to switch color fast, they will be able to adapt to their surroundings in case of a predator and hide, or to flash a warning color to scare off predators.
10. Their leg span can reach 12 feet. If a leg falls off they will re-grow another one.

Boneless Beauties

11. Strobila forms by a polyp developing multiple body segments. Each separates and floats away becoming a free-swimming ephyra.
12. 95 – 98%
13. Overfishing removes competing predators. Water pollution and climate change both affect temperature, chemical make-up and levels of water which may also lead to algal blooms producing more food for jellies. Invasive species are introduced and have no natural predator; therefore, they out compete jellies for food and space.

Secret Reef

14. Sand Tigers always shows its teeth, mouth more in front of head, is more brown in color, has small beady eyes, shorter dorsal fin, swims slower, etc...
Sand Bar do not see teeth, mouth more on bottom, gray in color, big eyes, tall dorsal fin, swims faster, etc...
15. Answers will vary—Example: all Jacks, Lookdowns, Spadefish; advantages of schooling are finding food more easily and confusing predators.
16. Animals. Corals are made up of thousands of tiny animals called polyps.
17. Corals provide the algae a protected environment in which to live and the elements necessary for the algae to carry out photosynthesis. In return, 90% of the corals food source comes from the sugars and other compounds made by zooxanthellae.

Seahorse Gallery

18. Answers may vary and may include: Camouflage, prehensile tails, maneuver eyes to see 360 degrees, bony plates, etc...

19. Seahorses are collected from the wild for medicinal purposes and sold to hobbyists for home aquariums. They are also crafted into souvenirs such as jewelry, paperweights, and ornaments. Development destroys vital habitat such as seagrass beds. Pollution can affect water quality.

Cove Forest

20. The resemblance might fool predators into thinking the corn snake is a venomous copperhead, causing them to leave the corn snake alone rather than to risk being bitten and injected with venom.

21. Often corn snakes are confused with copperheads by humans. In fear, humans kill the harmless corn snake. Corn snakes are a beneficial non-venomous snake. They feed on mice and are no threat to humans if unprovoked.

Discovery Hall

22. A flattened head and body help it hold its place among the rocks of the streams it inhabits. The hellbender breathes through its skin in the water. Wrinkles and flaps increase the surface area of skin through which gas exchange can take place.

23. Over-fishing, water pollution, habitat loss, and changes in spawning routes due to dam construction.

24. Most immediate threat is a parasitic fungus called 'amphibian chytrid', which is deadly to amphibians and responsible for the extinction of dozens of frog species over past decades.

Delta Swamp

25. Provide nurseries for young, habitat for migratory birds and homes for a wide diversity of wildlife. Remove sediments, toxic chemicals and other pollutants thus improving water quality.

26. The "buttressed" bases provide stability, helping the tree withstand high winds and heavy flooding.

27. Alligator Snapping Turtles use lures that look like worms on their tongues to attract fish.

Gulf of Mexico

28. Barracuda: Top of the water column. Have upturned mouths, therefore feed from the surface. Spend most of their time at the surface.

Porkfish: Near the mangrove roots or sand flats. If they are eating they prefer the sand flats to forage for shrimp and other invertebrates. They rest in the protection of the mangroves.

29. Answers will vary. Examples are blue tang, squirrelfish, porkfish, grunts, angelfish (many of the smaller fish). Smaller fish prefer the shelter and protection provided by the roots.

30. Answers may vary: TED's (Turtle Excluder Devices) help protect turtles from being caught as bycatch in fishermen's nets. Federal laws and international agreements protect all sea turtles. These laws are now being enforced. Headstart programs allow turtles to grow to a larger size before being released into the wild, giving them a greater chance of survival. Volunteer groups are working to protect sea turtle nests and babies as they hatch and head to the ocean.

Rivers of the World

31. Aggressive behavior in feeding groups (dry season)
Native people in South America often swim with piranha's (rainy season)

32. 1) human population
2) much of the land has been converted to agriculture
3) rely on wild animals for food and medicines

33. The fish have a similar body shape to sharks.
They have a bony skeleton and no gill slits.

34. Nishikigoi (nee she kee goy) - 1938

Turtle Gallery

35.

34. Flatten their head to the side of their body. Advantage: Provides some protection. Disadvantage: Can still be attacked in the head/neck region.

36. Become disoriented and wander, become prey to wild and domestic carnivores, killed on roads, become victim to lawnmowers, and picked up for pets.

Tennessee River Gallery

37. This question might need some research and discussion. When water is released suddenly, water depth and temperature can drastically change. In many cases, these drastic water changes can kill fish. Sudden swift flowing water can sweep fish into the dam or away from vital habitat.

Such changes can also affect breeding grounds of fish – depth is an important factor in determining the spawning location of fish.

Lake Nicaragua

38. The male fish protect the nests and the babies (fry). Most fish species do not protect their young once they have hatched.

Flooded Amazon Rainforest Exhibit

39. Arapaima. Top of the tank. Any reasonable answer such as its mouth is upturned and feeds at the surface, therefore spends the majority of its time there.

40. Answers will vary. Refer to signs next to the exhibit.
Ripsaw catfish.