**Chapter 11 Summary**

1. Aquatic biodiversity refers to the composition of plants and animals in the fresh and salt waters of the planet. The economic importance of aquatic diversity lies in the conservative estimate of the value of their ecological services, which is $21 trillion a year. Additionally, at least 3.5 billion people depend on the seas for their primary source of food and this number could double to 7 billion in 2025. Many medicines have been developed from sea organisms: sponges, anemones, puffer fish, porcupine fish, seaweeds, etc. The waters are used for extensive recreational activities, not to mention commercial transportation.

2. Human activities are undermining aquatic biodiversity by destroying and degrading coastal wetlands, coral reefs, seagrass beds, kelp beds, mangroves, and the ocean bottom.

3. We can protect and sustain marine biodiversity by using laws, international treaties, and education. We must identify and protect species that are endangered and/or threatened. This entails cleaning up aquatic environments, as well as inventing fishing methods that do not destroy animals and birds inadvertently caught in fishing nets. Poaching and illegal harvesting of marine creatures must also be eliminated. Public aquariums can also educate the public about protecting marine animals and birds. Marine sanctuaries and coastal management can protect aquatic environments as well as their creatures.

4. The world’s marine fisheries can be managed by setting catch limits below the maximum sustained yield limits, by reducing/eliminating fishing subsidies, and by charging fees for fishing in publicly owned offshore waters. Some areas can be protected from any kind of fishing; there should be more marine protected areas and more integration of coastal management practices. Develop net-escape devices for fishing boats. Restriction of coastal locations for fish farms, control of pollution, and decreasing the pollution of ship ballast water into the sea will all protect marine fisheries. Multispecies management of large marine systems offers hope for conserving marine resources and for renewing those resources.

5. Wetlands can be protected, sustained, and restored by government regulations that prevent wetland loss. Destroyed wetlands can also be restored and adequately monitored for their protection. Development can be kept away from wetland areas and control of nonnative species needs to be instituted to prevent invasion into wetlands.

6. Freshwater fisheries, lakes, and rivers can be protected, sustained, and even restored by building and protecting populations of desirable species, by prevention of overfishing, and by decreasing populations of less desirable species. Laws can be enacted, and enforcers of these laws must be funded to protect scenic rivers; they should be protected from development and dam construction projects.