**Ch. 9 Chapter Summary**

1. Biologists estimate extinction rates in one of three levels. Local extinction occurs when a species in a specific area is lost but the species is still found in other places. Ecological extinction describes a species that is so small it cannot play out its ecological role where it is found. Biological extinction means that the species is gone from the earth. Scientists use measurement and models to estimate extinction rates: studying past records, identifying species-area relationships, examining lists of threatened species. Extinction rates are increasing because of human activities. Our growing population, degrading and eliminating biological environments and biological hot spots all contribute to growing extinction rates.

2. Biodiversity and species extinction are important because species provide enormous economic and ecological services we need to survive. In 100 years, mankind will destroy species that it would take five million years to rebuild. These species may provide genetic information, medicines, and information about natural processes we need to discover. These wild plants and animals are economic, recreational, and health resources.

3. Many human activities endanger wildlife, such as degradation/loss of habitat; capture of wild animals, which prevents their breeding; overfishing, oil spills, and exposure to pesticides; and extinction from nonnative species, which we introduce.

4. To prevent premature extinction of species, we must reduce threats from nonnative species; end illegal poaching and hunting; provide means for people to survive economically without killing native animals for food; maintain predator species, not destroy them; reduce greenhouse emissions and deforestation throughout the world; develop governmental policies to support biodiversity; and protect wild species in sanctuaries.