

# Conservation Biology and Human Health

Conservation Biology · Answer Key · 18 Questions

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**1. Which class of life-saving medical treatments is derived from approximately 25% of all modern pharmaceutical drugs, often originating from protected plant species?**

A) Synthetic antihistamines

**B) Plant-based compounds**

C) Mineral supplements

D) Radioactive isotopes

**2. The loss of apex predators in an ecosystem often leads to an increase in rodent populations, which directly increases the human risk of contracting which zoonotic disease?**

A) Lyme disease

**B) Hantavirus**

C) Influenza

D) Tuberculosis

**3. Which phenomenon describes how high biodiversity in ecosystems can reduce the prevalence of infectious diseases in humans by diluting the pool of available hosts for pathogens?**

**A) The dilution effect**

B) The saturation threshold

C) The bottleneck effect

D) The trophic cascade

**4. What is the primary human health concern associated with the rapid decline of global pollinator populations?**

A) Increased frequency of pollen allergies

**B) Reduced availability of micronutrient-rich foods**

C) Greater reliance on synthetic fertilizers

D) Rise in respiratory illnesses

**5. The pharmacological study of which marine organism, often protected in conservation zones, has led to breakthroughs in treating human chronic pain and cancer?**

**A) Sea sponges**

B) Coral reefs

C) Jellyfish

D) Giant kelp

**6. Exposure to diverse soil microbiota, preserved in undisturbed natural habitats, is linked to a lower incidence of which category of human health conditions?**

**A) Autoimmune and allergic diseases**

B) Bone density disorders

C) Neurological degenerative diseases

D) Viral infections

**7. Which human organ system is most directly affected by the decline in air quality resulting from the loss of urban green spaces and forest cover?**

A) Digestive system

**B) Respiratory system**

C) Reproductive system

D) Integumentary system

**8. The destruction of mangrove ecosystems decreases natural filtration of water, increasing human exposure to which type of waterborne pathogens?**

A) Prions

**B) Vibrio bacteria**

C) Common cold virus

D) Fungal spores

**9. Which natural product, originally extracted from the Pacific Yew tree, is a critical chemotherapeutic agent for treating human ovarian and breast cancers?**

**A) Paclitaxel**

B) Quinine

C) Morphine

D) Aspirin

**10. What is the relationship between the preservation of large wild mammals and the incidence of tick-borne encephalitis in humans?**

A) Large mammals increase tick bites

**B) Large mammals act as 'dead-end' hosts, reducing tick infection rates**

C) Large mammals provide no protection

D) Large mammals carry more pathogenic viruses

**11. Which essential human nutrient is significantly more abundant in the diets of populations living in high-biodiversity regions compared to those in degraded environments?**

**A) Vitamin A**

B) Starch

C) Complex carbohydrates

D) Sodium

**12. The loss of genetic diversity in wild crop relatives creates a human health risk related to:**

- A) Reduced caloric intake
- B) Lower nutritional variability and food security**
- C) Increased heavy metal toxicity
- D) Excessive fat consumption

**13. Natural wetlands serve as vital filters that remove which human-health-threatening substances from water supplies?**

- A) Oxygen molecules
- B) Nitrates and heavy metals**
- C) Gases like neon
- D) Dissolved nitrogen

**14. Which psychoactive substance, essential for treating malaria and extracted from the Cinchona tree, relies on the conservation of tropical forest biodiversity?**

- A) Quinine**
- B) Caffeine
- C) Nicotine
- D) Tetrahydrocannabinol

**15. What is a major consequence of habitat fragmentation on human exposure to spillover viruses from bats?**

- A) It creates more space for bats
- B) It brings human settlements into closer proximity with wildlife reservoir hosts**
- C) It eliminates all viral transmission routes
- D) It reduces the immune response in humans

**16. Research suggests that 'forest bathing' (Shinrin-yoku) contributes to human health by lowering which physiological marker?**

- A) Cortisol levels**
- B) Insulin resistance
- C) Platelet count
- D) Red blood cell production

**17. Amphibian conservation is critically important to human health because these animals often regulate the populations of which human-biting insects?**

- A) Mosquitoes**
- B) Butterflies
- C) Bees
- D) Dragonflies

**18. Which condition is exacerbated by the reduction of natural ultraviolet-filtering plant canopies in tropical forest ecosystems?**

**A) Skin cancer and cataracts**

B) Bone mineral loss

C) Iron deficiency anemia

D) Vitamin D toxicity