

California Envirothon

Wildlife Learning Objectives

I. Wildlife Biology

Students should be able to:

1. Identify major wildlife taxa found in California (birds, mammals, reptiles, amphibians) and describe their basic anatomical and physiological characteristics.
2. Explain how structural and behavioral adaptations of California wildlife relate to survival in specific habitats (e.g., desert, forest, chaparral, riparian).
3. Describe life cycle stages of selected California wildlife species and explain how habitat needs change across life stages.
4. Distinguish between generalist and specialist species in California and predict how each responds to environmental change.
5. Explain the role of migration in the life cycles of California bird species, including use of the Pacific Flyway.

II. Wildlife Ecology & Habitat

Students should be able to:

6. Identify biotic and abiotic components of wildlife habitat and explain how they interact to support wildlife populations.
7. Identify trophic levels within a California food web and describe the flow of energy through the system.
8. Analyze limiting factors that affect wildlife populations in California, including food, water, space, and shelter.
9. Explain carrying capacity and predict how changes in habitat quality or availability influence wildlife population size.
10. Describe succession in California ecosystems and explain how different successional stages provide habitat for different wildlife species.

III. Wildlife, Disturbance, and Landscape Ecology

Students should be able to:

11. Explain how natural disturbances (fire, drought, flooding) influence wildlife habitat and species distribution in California.
12. Analyze the role of wildfire in California ecosystems and predict wildlife responses to post-fire habitat conditions.
13. Describe habitat fragmentation and evaluate how roads, urbanization, and agriculture affect wildlife movement and populations.
14. Explain the importance of habitat connectivity and wildlife corridors in maintaining healthy wildlife populations.
15. Identify edge effects and predict how edges influence species diversity and wildlife behavior.

IV. Wildlife Conservation & Society

Students should be able to:

16. Distinguish between conservation and preservation and provide California-based examples of each.
17. Identify major threats to wildlife in California, including habitat loss, invasive species, climate change, and human-wildlife conflict.
18. Analyze human-wildlife interactions in California and evaluate strategies used to reduce conflict while supporting conservation.
19. Describe the role of wildlife management for game and non-game species and explain tradeoffs involved in management decisions.

20. Identify California agencies, laws, or programs involved in wildlife protection and management and describe their roles.

V. Field Skills & Wildlife Identification

Students should be able to:

21. Identify common California bird species using photographs, including plumage, size, shape, and beak characteristics. (refer to the provided [CAE bird species list](#)).
22. Identify common California bird species by vocalizations and calls, distinguishing between similar species.
23. Identify common California mammal species using tracks, analyzing track size, shape, gait, and toe patterns. (see [CAE mammal species list](#))
24. Identify common California mammal species using scat, analyzing size, shape, contents, and placement.
25. Identify common California mammal species using pelts and infer habitat use and adaptations based on fur characteristics.