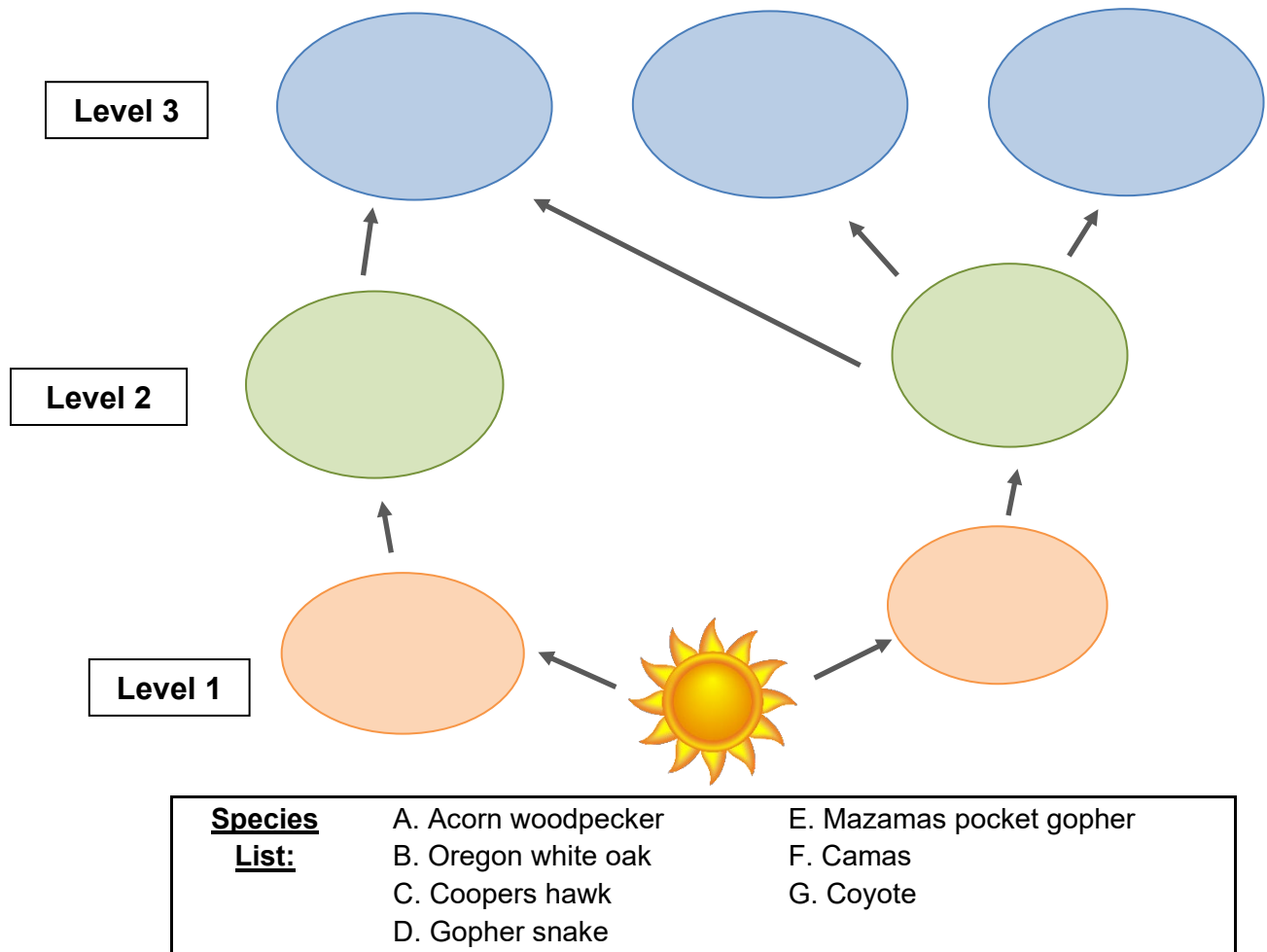


Part 1: Wildlife Ecology Concepts

1-7. Energy flows in a food web. In the diagram below, write the letter for each species listed below into one of the circles, creating a logical food web that represents three trophic levels for a **Willamette Valley Oak Woodland Ecosystem**. Sunlight is captured at Level 1. Please note that the arrows point in the direction of energy flow (the direction of the consumer). [7 points]



8. What trophic level of this food web has carnivorous animals? [1 point] _____
9. Which of these species is an ecosystem engineer that influences soil composition? [1 point] _____
10. Which of the species caches its food in trees? [1 point] _____

____ / 10 points

Part 2: Wildlife Management Issue

Use the publication **Fire Adapted Oak Habitats in the South Willamette Valley** to answer questions 11-17.

11. In what way does fire play an important ecological role in the forests/woodlands of the southern Willamette Valley? [1 point]
 - a. It reinitiates young or early seral forests, creates biodiversity gaps, and reduces flammable material buildup.
 - b. It recycles nutrients, regenerate plants, and simulates biological diversity among plant species and habitats.
 - c. Both a and b
12. Describe one way that fire-induced topkill can support oak trees. [1 point]
13. Of the 200 native wildlife species that rely on oak habitats, what are three imperiled species found in these habitats? [3 points]
14. What are two things that trees provide for imperiled wildlife species in oak woodlands? [1 point, 0.5 points each]
15. Figure 3 depicts the decline in oak habitat over time. What are three reasons for this decline? [1 point]
 - a. Grassland flooding, decline in fuel, and decrease in Douglas fir species
 - b. Fire exclusion, intensive forestry/agricultural management, and urban development
 - c. Wetter winters, competition between oak species, and frequent fire
16. Historically, how did the cultural burning practices of the local Kalapuya people reduce damage to acorns? [1 point]
17. Why is it important to halt the encroachment into oak woodlands of upland forest species that persist at high densities? [1 point]

____/ 9 points

Part 3: Wildlife Interaction

Refer to the **Peterson Field Guide: *Western Reptiles and Amphibians*** for Questions 18-22.



(photo Oregon Department Of Fish and Wildlife)



(photo Tualitian Soil Water Conservation District)

Both of the turtles shown above are found in Oregon. One of them is a native species and the other is a non-native species that was introduced from releasing household pets.

18. Fill in the blank: Species B is non-native (or alien) to the ecosystem and its introduction has caused environmental harm. That is why it is known as a(n) _____ species. [1 point]

19. Give the common name of Species A. [1 point] _____

20. Give the scientific name of Species B. [1 point] _____

21. Fill in the blank: Species A may not breed until it is _____ to _____ years old. [1 point]

22. These two species both use the same types of habitats and eat similar diets. Circle the term that best describes this type of species interaction. [1 point]

Predation Parasitism Commensalism Competition

____ / 6 points

Part 4: Skins, Skulls, and Bones.

Use the **field guides and materials** at your test station to help answer questions 23-25.

23. Examine and identify the set of **6 skins** of animals that are **all found in Oregon**.

Match the **letter** attached to each **skin** to the correct mammal species in the list below. [6 points]

- | | |
|----------------------------|-----------------------------|
| _____ Virginia opossum | _____ American mink |
| _____ elk | _____ gray fox |
| _____ northern river otter | _____ coyote |
| _____ red fox | _____ long-tailed weasel |
| _____ ermine | _____ northern raccoon |
| _____ nutria | _____ bobcat |
| _____ deer | _____ yellow-bellied marmot |

24. Examine each labeled **animal skull** displayed on the table (**be gentle with them**).

Assign each of the **4 skulls** to the appropriate mammal family. [4 points]

- | | |
|-----------------------------|--------------------------------------|
| _____ Felidae (cats) | _____ Castoridae (beavers) |
| _____ Mustelidae (weasels) | _____ Didelphidae (opossums) |
| _____ Canidae (dogs, foxes) | _____ Cervidae (deer, elk) |
| _____ Mephitidae (skunks) | _____ Procyonidae (coatis, raccoons) |

25. Compare the two skins at your table and give the scientific name for each. [2 points]

A. _____

B. _____

The skull is from one of these same two species. Which species does it belong to?
(circle one) [1 point]

A

B

_____/ 13 points

Part 5: Identifying Tracks and Sign

Use **Scats and Tracks of the Pacific Coast**, as well as the pictures and tracks provided to answer Questions 26-31.

Scat A



See “TRACK A” for reference

Background. This species digs dens on exposed hilltops or ridges with a view of the surrounding area. Their scat varies from pure black animal protein to mostly hair with some bones. Tips are tapered into long ends.

Questions:

26. What is the scientific name of this species? [1 point]

27. Name one similar species and how to distinguish its tracks from this species. [1 point]

____ / 2 points

Sign B



See “TRACK B” for reference

Background. Habitat: Frequently backwater eddies along riverbanks and shallow edges of lakes.

Questions:

28. What is the common name of the animal whose sign this is? [1 point]

29. What other sign can be used to identify this species? [1 point]

____ / 2 points

Track C



See “Scat C” for reference

Background. This species occurs in **Oregon** and inhabits forests, seldom venturing far into wide openings. Thick understory vegetation and abundant food sources are critical.

Questions:

30. What is the common name of this animal? [1 point]

31. What is the scientific name of this species? [1 point]

____ / 2 points

Part 6: Species Identification of Willamette Valley Birds

Use the available **field guides** to help you identify the following three species and answer Questions 32-37.

Species A



31. What is the scientific name of Species A? [1 point]

33. Fill in the blank: Species A will perch on top of dead trees (snag) and swoop and catch flying _____ out of the air. [1 point]

____ / 2 points

Species B



34. Species B is a songbird of open ground found in the Willamette Valley. What is its common name? [1 point]
35. Why are natural processes like wildfires and shifts in river channels important to Species B? [1 point]

____/ 2 points

Species C



Photo by Nick Myatt, ODFW

36. What is the scientific name of Species C? [1 point]

37. Fill in the blank: Species C _____ in trees, in colonies called rookeries.
[1 point]

____ / 2 points