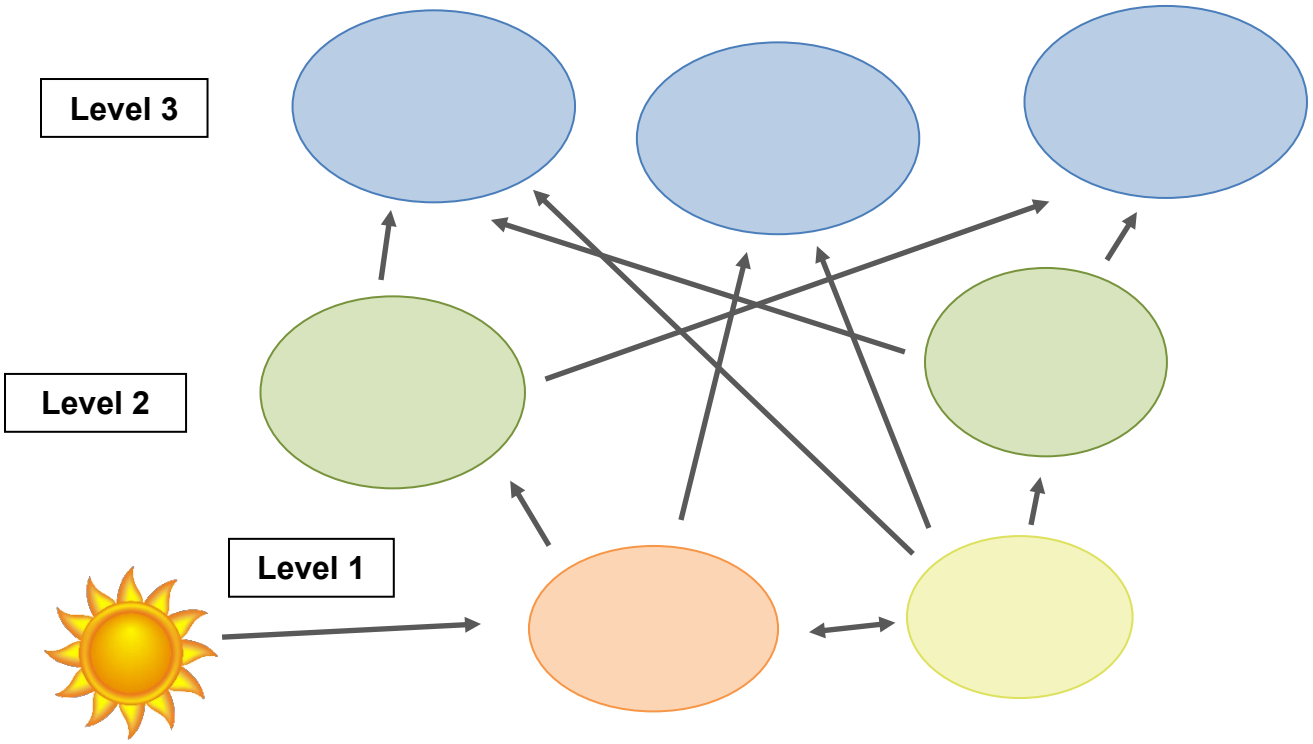
OREGON ENVIROTHON 2024 TEAM #_____

Wildlife Station Test Total_____ / 50 points

Part 1: Wildlife Ecology Concepts

1-7. Energy flows in a food-web. In the diagram below, write the letter of each of the species listed into one of the circles to create a logical food web representing three trophic levels for a **Western Oregon Cascades Ecosystem** where sunlight is captured at Level 1. Please note the arrows point in the direction of energy flow (the direction of the consumer). [7 points]



Species List:		
	A. Douglas-fir	E. Northern spotted owl
	B. Northern flying squirrel	F. Fisher
	C. Black bear	G. Red-tree vole
	D. Truffles with mycorrhizal fungi	

8. What trophic level of this food web has carnivorous animals? _____
9. What two species have a symbiotic relationship? _____
10. How many species in this food web are heterotrophic organisms? _____

____/ 10 points

Part 2: Wildlife Management Issue – Siting Renewable Energy in Oregon

Refer to the document entitled ***Siting Renewable Energy in Oregon (Section - Site Characteristic 3: Areas with Low Biodiversity Conflicts) (page 19-23)***.

11. When expanding the production and use of renewable energy, what is one Northwest example of local, regional, or population-level impacts on wildlife and habitat? (Hint: energy type and species group) [2 points]

_____

12. Which plan produced by the Oregon Department of Fish & Wildlife (ODFW) lists 294 "Species of Greatest Conservation Need"? [1 point]

    a. The Oregon Biodiversity Information Center (ORBIC)
    b. ORESA map
    c. Oregon Conservation Strategy

13. Which are considered Significant Wildlife Habitats? [1 point]

    a. Bear dens, greater sage-grouse nests, rock outcroppings
    b. Deer wintering areas, seabird nesting islands, salmon areas, vernal pools, and waterfowl/waterbird habitat
    c. Coastal dunes, rivers, wetlands, and fragile mountain areas

14. Studies have found that siting wind development in which areas would avoid negative impacts on biodiversity loss? [1 point]

    a. Siting in areas with low biodiversity value
    b. Siting in areas with high biodiversity value

15. How are voluntary Wind Energy Guidelines (WEGs) intended to help wind developers [1 point]? Name three species groups (taxon) noted as examples. [3 points]

_____

_____

_____

____/ 9 points

<u>Part 3: Wildlife Interaction:</u> Oregon Squirrels
Refer to the book *Peterson Field Guide: Mammals of North America*.

(photo by Larry McCombs)

(photo by Dalia Kvedaraite)

Both of the squirrel species shown above are found in Oregon. Only one of these squirrels is a native species, and this species is the largest tree squirrel in Oregon. The other squirrel is a non-native species that was introduced in 1919 to Oregon's state capitol grounds.

16. Why is Species A decreasing in number and range? [1 point].

    _____

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

18. Give the <u>scientific</u> name of Species B [1 point]. _____

19. What habitat type can you find Species A in and why is it unlikely to find this species in suburbs or cities? [2 points]

    _____

    _____

20. These two species utilize the same types of habitats and eat similar diets. Circle the term that best describe this type of interaction. [1 point]

    Predation Parasitism Commensalism Competition

____/ 6 points

PART 4: <u>Skins, Skulls, and Bones.</u>
Your test station should have **field guides** and **materials** to help answer the following questions.

21. 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
_____ American badger	_____ gray fox
_____ northern river otter	_____ coyote
_____ red fox	_____ long-tailed weasel
_____ ermine	_____ northern raccoon
_____ nutria	_____ bobcat
_____ woodchuck	_____ yellow-bellied marmot

22. Examine each labeled **animal skull** displayed on the table (**be gentle with them**). Match the **letter** of each **skull** to the correct mammal family below. [4 points]

_____ Felidae (cats)	_____ Aplodontia (mountain beaver)
_____ Mustelidae (weasels)	_____ Didelphidae (opossums)
_____ Leporidae (hares, rabbits)	_____ Cervidae (deer, elk)
_____ Mephitidae (skunks)	_____ Procyonidae (coatis, raccoons)

23. Compare the two skins and give the scientific name for each. [2 points]

A. _____

B. _____

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

A B

____/ 13 points

Part 5: Identifying Tracks and Sign

Use the pictures and the tracks provided—and the book *Scats and Tracks of the Pacific Coast*—to identify the species.

Species A

See TRACK A, SCAT A, and SIGN A for reference.

Background. This species breaks off limbs of trees when removing velvet from antlers. Height of tree wound indicates height of animal.

Questions:

24. What is the genus of this species? [1 point] _____

25. What two species in this genus have similar tracks that are not distinguishable? [1 point]

_____

_____

____/ 2 points

Species B

See TRACK B and the picture SCAT B below for reference.

SCAT B

Background. River and stream drainages are prime habitats for this species, but storm drains in cities may also provide refuge.

Questions:

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

27. What is one other sign that can be used to identify this species? [1 point]

_____

_____

____/ 2 points

Species C

See SCAT C and the picture TRACK C below for reference.

TRACK C

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:

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

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

____/ 2 points

Part 6: Species Identification

Use the available **field guides** to help you identify the species below, pictured on the following pages.

Species D. [2 points]

30. What is the scientific name of Species D? _____

31. Small rodents, lizards and snakes are _____ for Species D?

Species E. [2 points]

32. This species is found in Western Oregon, the individual in the picture was found at 4,500 feet above sea level in potholes in a meadow, what is its common name?

    _____

33. When an experiment removed introduced nonnative brook trout (predator to species E at larval stage) from mountain lakes what do you suspect happened to population densities of Species E?

    _____

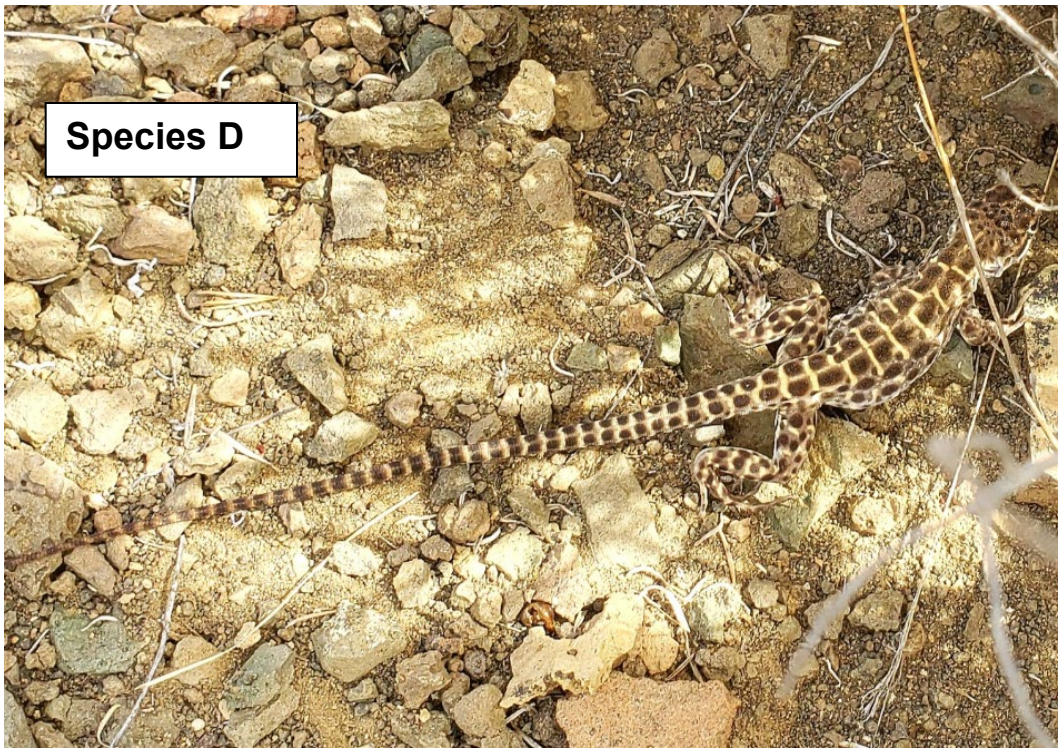
Species F. [2 points]

34. Give the scientific name:

    _____

35. How does Species F subdue prey? _____

____/ 6 points


Species D


Species E


Species F