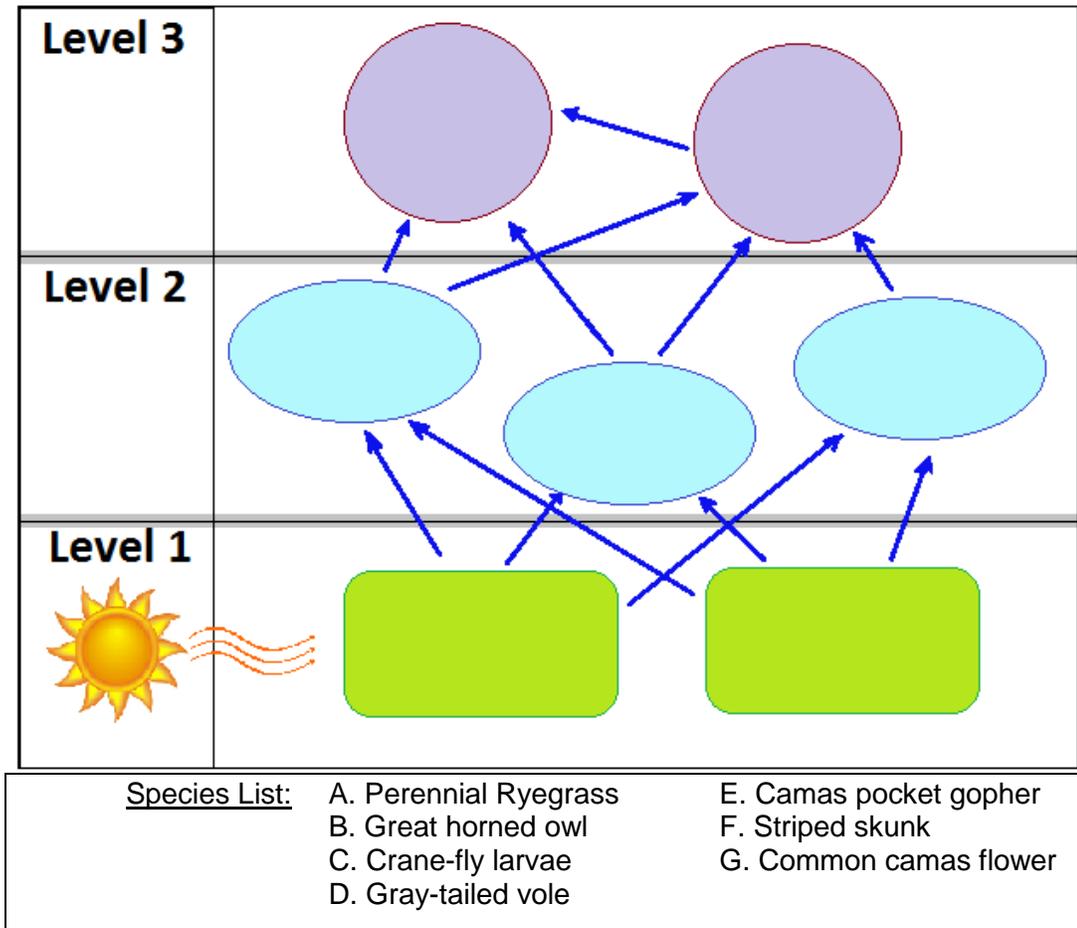


WILDLIFE QUESTIONS (Total of 50 points) **OREGON ENVIROTHON 2017**

PART A. Wildlife Ecology Concepts.

1). Diagram energy flow in a food-web. Write the letter of each of the species listed below into one of the circles or boxes to create a logical food web representing three trophic levels for a Willamette Valley agricultural pasture (sunlight is captured at Level-1). Arrows point in the direction of energy flow (the direction of the consumer). [7 points]



- 2). What trophic level of the food web has predatory animals? _____
- 3). What trophic level is most likely to be affected by bio-accumulation? _____
- 4). Although they are NOT represented in the diagram above, can you name the functional group of organisms that will eat and recycle all of the dead flora and fauna that fall out of this food web?

____/ 10 points

PART B: Emerging Wildlife Issue – Status of Amphibians in the USA

Each Team should find a copy of a document entitled *The State of Amphibians in the United States*. Don't worry; you will **NOT** need to read the whole thing. Instead, just skim this document to help you answer the following questions.

5). This amphibian monitoring initiative tracks 50 amphibian species at numerous sites across the USA. What was the mean annual change in occupancy found from monitoring?

- 3.7%
- 61%
- 37%

6). What is the most obvious cause of amphibian decline in the USA?

- Chytrid fungus (Bd)
- Habitat loss
- Oil spills

7). Multiple factors can affect the population viability of a single species. Circle two factors below that appear to be affecting Mountain yellow-legged frog populations

- introduction of non-native fish
- severe drought
- climate change
- environmental pollutants

8). Name two ways in which American bullfrogs have been documented to affect other amphibian species?

____/ 6 points

PART C: Wildlife Interaction: Predatory Mammals

Throughout the Northwest, populations of these two species have been increasing in recent years and the State of Oregon has crafted a Management Plan for each of these species. Some public interest groups have expressed concerns that these two predators will cause serious livestock losses and decreases in big game populations in Oregon.



Species A

Species B

- 9). What is the scientific name for Species A. _____
- 10). What is the scientific name for Species B. _____
- 11). Which species was removed from the Oregon List of Endangered Species in November of 2015 ? (circle one)

Species A

Species B

- 12). **Track C** was made by the front foot of which of these species ? (circle one)

Species A

Species B

- 13). What term best describes the interaction of these two species, where each can be negatively affected by the other? (circle one)

Commensalism

Mutualism

Competition

Parasitism



Track C

_____/ 5 points

PART D: Skins and Skulls.

Your test station should have **Field guides** and **materials** to help answer the following questions.

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

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

- | | |
|----------------------------|-----------------------------|
| _____ Virginia opossum | _____ American mink |
| _____ American badger | _____ common gray fox |
| _____ northern river otter | _____ coyote |
| _____ red fox | _____ long-tailed weasel |
| _____ ermine | _____ northern raccoon |
| _____ coypu | _____ bobcat |
| _____ woodchuck | _____ yellow-bellied marmot |

14). Examine each of the labeled animal skulls displayed on the table. (**be gentle with them**).

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

- | | |
|----------------------------|------------------------------|
| _____ Felidae (cats) | _____ Castoridae (beavers) |
| _____ Canidae (dogs) | _____ Ursidae (bears) |
| _____ Mustelidae (weasels) | _____ Cervidae (deer, elk) |
| _____ Mephitidae (skunks) | _____ Didelphidae (opossums) |

15). Examine the **Bone-A**. This delicate bone structure is from a **California gull**. The keel-like structure is where large muscles attach. Circle the correct muscle group that attaches to this bone; and determine the function of this muscle group.

- a) Muscle Group: lower back muscles chest muscles upper thigh muscles
- b) Muscle Function: running tail movement flapping

_____/ 12 points

PART E. Identifying Tracks and Sign.

Examine the large laminated **Track Board** lying on the ground nearby. It depicts animal tracks and sign that were found at **Willamette Mission State Park** (north of Salem). Use the available **Field Guides** and **rulers** to help you answer the following questions. All tracks and sign are **actual size**.

16). Match the number from Track sets 1, 2, 3, and 4 to the correct wildlife species in the list below.

- | | |
|----------------------------|-------------------------------|
| _____ striped skunk | _____ coyote |
| _____ American mink | _____ bobcat |
| _____ American beaver | _____ northern raccoon |
| _____ coast mole | _____ black-tailed deer |
| _____ brush rabbit | _____ black-tailed jackrabbit |
| _____ northern river otter | _____ Virginia opossum |
| _____ American badger | _____ Common muskrat |

17). Look at **Track Set-1** and notice the track pattern and length of the stride between tracks. Was this animal walking or trotting when these tracks were made? (circle the correct answer)

Walking

Trotting

18). What feature of **Track Set-3** indicates that it mostly digs for its food?

19). **Track Set-5** is from the largest colonial nesting wading bird that is a native breeder in western Oregon. What is the common name for this bird?

20). Give the scientific genus name of the species that created the dirt mounds shown in the picture of **Setting-A** ?

_____/ 8 Points

PART F: Bird Identification. You can use the Field Guides to identify the **common names** of each bird species. Compare the taxidermy mounts with the bird photos on next page.

21). Bird Species A. This bird nests on the Arctic tundra but can be found spending the winter along the coastline and estuaries of Oregon.

a) Give the Common Name: _____

b) This species spends the winter along the Oregon coast and forages on eel grass in estuaries. Circle **one** of the following terms that characterize the trophic relationship of this bird.

autotroph primary-consumer secondary-consumer decomposer

22). Bird Species B. This year-round resident species is sometimes found at residential bird feeders in the winter time, but is nests in conifer forests throughout Oregon.

a) Give the Common Name: _____

b) This individual is a male, but its plumage is rather dull because it was found dead in the late summer, just before it began replacing its feathers. The regular renewal of a bird's plumage is called what ?

23). Bird Species C. This species is a year-round resident of conifer and mixed-conifer forests in the Coast Range and Cascade mountains, where it makes a distinct mating call during the breeding season.

a) Give the Common Name: _____

24). Bird Species D. This species can be found year-round throughout Oregon and often nests in wooded residential areas that have an abundance of songbirds.

a) Give the Common Name: _____

b) Circle **three** of the following terms that characterize the trophic functional role of this bird.

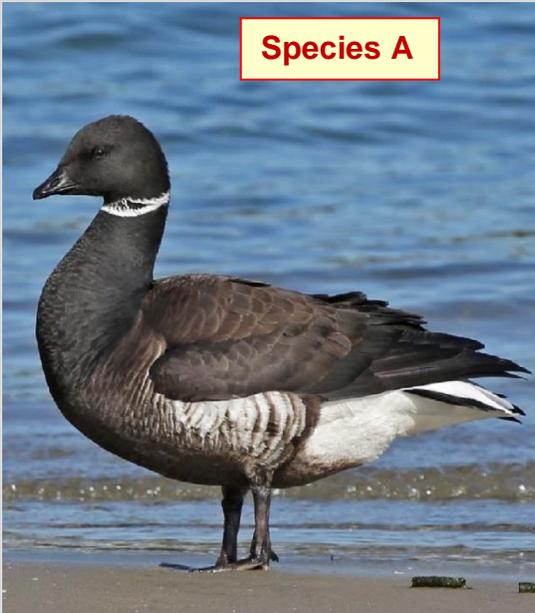
autotroph heterotroph decomposer predator omnivore secondary-consumer

_____/ 9 points

Using the **Field Guides** provided, identify the common name of the bird species represented in the photos below. All of these species can be found in Oregon. To aid in your identification, examine the **taxidermy mounts**.

Please DO NOT HANDLE the taxidermy specimens.

Species A



Species B



Bird Species (continued). Be sure to examine taxidermy specimens that correspond to pictures.



Species C



Species D

