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ESCI 330 NATURAL HISTORY OF THE PACIFIC NORTHWEST
Fall 2023
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Natural History Report 2
Due Wednesday 15 November 2023

Observe one or more animals of following species for at least 2 hours. You should select observation time(s) and location(s) that allow you to observe the animal foraging. Feel free to substitute a different wild animal native to the Pacific Northwest. Avoid any activity that could influence the behavior of the animal(s) you observe or any other animals with which they might interact.

Canada Goose (*Branta canadensis*)
Trumpeter Swan (*Cygnus buccinator*)
Mallard (*Anas platyrhynchos*)
Great Blue Heron (*Ardea herodias*)
Bald Eagle (*Haliaeetus leucocephalus*)
Red-tailed Hawk (*Buteo jamaicensis*)
Spotted Sandpiper (*Actitis macularia*)
Red-tailed Hawk (*Buteo jamaicensis*)
American Crow (*Corvus brachyrhynchos*)
Common Raven (*Corvus corax*)
Steller's Jay (*Cyanocitta stelleri*)
Downy Woodpecker (*Picoides pubescens*)
Northern Flicker (*Colaptes auratus*)
Belted Kingfisher (*Megaceryle alcyon*)
American Dipper (*Cinclus mexicanus*)

Varied Thrush (*Ixoreus naevius*)
American Robin (*Turdus migratorius*)
Red-breasted Nuthatch (*Sitta canadensis*)
Golden-crowned Kinglet (*Regulus satrapa*)
Black-capped Chickadee (*Poecile atricapillus*)
Chestnut-backed Chickadee (*Poecile rufescens*)
Pacific wren (*Troglodytes pacificus*)
Dark-eyed Junco (*Junco hyemalis*)
Douglas Squirrel (*Tamiasciurus douglasii*)
Chipmunk (*Tamias spp.*)
Black-tailed Deer (*Odocoileus hemionus columbianus*)
Elk (*Cervus canadensis*)
Raccoon (*Procyon lotor*)
Any intertidal invertebrate (crabs, seastars,
    barnacles, anemones, snails, limpets, mussels)

1 State which species you observed and describe characteristics you used to identify it. State where you observed the animal.

2 Describe the context for the animal's behavior: weather conditions, time of day or night, habitat type and habitat characteristics, other animals present, etc.

3 Describe food items obtained by the animal and the precise location(s) where it obtained the food(s).

4 Identify and describe the most frequent strategy the animal used to obtain (gather, capture, extract, etc.) food. If the animal caches food items for later use, you should identify and describe that behavior also.

5 If the animal cached food items, deduce and describe why those foods could be stored effectively in the cached locations. If the animal ate all foods without caching, deduce and describe why storing those foods might not have been effective for that animal in the area where you observed it.

6 Identify and describe any morphological adaptations of the animal that facilitated success in foraging for the food(s) you observed it obtain. Do the same for any behaviors that enabled the animal to obtain, eat, and/or cache food items.

7 Deduce and describe the relative importance of morphological vs. behavioral adaptations to foraging success in the animal you observed. Your answer should conclude with inference(s) regarding why behavior might be necessary to compensate for lack of morphological adaptations for particular food items.

Point Allocation:

(1) Animal description (*10 points*)
  (a) identification, (b) descriptive details, (c) location

(2) Context (*10 points*)
  (a) time, (b) weather, (c) habitat type and description, (d) other animals present

(3) Food item descriptions and precise locations (*10 points*)

(4) Foraging (and caching) strategy *10 points*)

(5) Why or why not cache foods? (*20 points*)

(6) Description morphological and behavioral adaptations for foraging (*20 points*)

(7) Relative importance of morphological vs. behavioral adaptations (*20 points*)

Total: 100 points

Evaluation Criteria:

Excellent answers should match the following characteristics for each part.

(1) Animal description
  a) Identifies animal correctly.
  b) Location is stated explicitly.
  c) Description is clear, detailed, precise, and complete.

(2) Context
  a) Time stated.
  b) Weather described clearly.
  c) Habitat described clearly.
  d) Other animals identified accurately.

(3) Food items and locations
  a) Foods are identified and described clearly.
  b) Locations are described clearly and precisely.
  c) Descriptions reflect careful observation.

 (4) Foraging (and caching) strategy
  a) Description is clear, precise, and accurate.
  b) Foraging description reflects careful observation.
  c) Caching behavior is described clearly.

(5) Reason(s) for caching, or not.
  a) Answer is clear.
  b) Supporting observations are relevant and described clearly.
  c) Inferences are well-reasoned.
  d) Inferences are drawn from relevant characteristics of the animal, food items, or both.

(6) Morphological and behavioral adaptations.
  a) Descriptions accurately distinguish between morphological and behavioral adaptations.
  b) Answer is clear and complete.
  c) Explanation is clear, well-reasoned, and based on supporting observations.

(7) Relative importance, morphological vs. behavioral adaptations
  a) Answer is stated clearly.
  b) Conclusions are plausible and well-reasoned.
  c) Clearly stated, plausible inference about need for (or not) behavior to compensate for insufficient morphological adaptation.