1. What is noteworthy about white-red-jack pine from a wildlife conservation perspective?

2. Which of the USFS’s forest types in the West is the one that is the most mesic (wet)?

3. Much commercial lumber and paper pulp comes from forests of the Southeast U.S. Name one forest type in this region that is the source of significant lumber.

4. What is “hard mast” and name one forest type in which it is prevalent.

5. Fire, generally, is an important driver of disturbance in western forests, but it varies dramatically in its frequency among western forest types.
   - Name one western forest type with a relatively short fire interval.
   - Name one western forest type with a relatively long fire interval.
   - How does a short fire interval influence understory structure?
6. Maple-beech-birch, Elm-ash-cottonwood, and Aspen-birch are 3 forest types not found in the West. Choose one of the following ways to describe where they occur:

Either
  o Name the broader forest region in which they occur (one of Duffield’s forest types) OR
  o Draw their approximate range in the diagram to the right.

7. Which type of western woodland is imperiled by its slow rate of recruitment and recent threat of disease?

8. Broadly speaking, tropical forests can be classified into what two types? How do these two types differ in “deciduousness”?

9. Briefly describe the three general climate geographic patterns that influence the distribution of forests and ranges in North America:
  o Temperature:
  o Precipitation:
  o Wind, topography & other:
10. Rank Short-grass Prairie, Mixed Prairie, and Tall-grass Prairie according to the following:

- Which is driest?
- Which supports the most intense livestock production?
- Which has the most productive soils?
- Which is home to species of the “Edwards Plateau” such as the Black-capped Vireo?
- Which, under natural conditions, had the highest fire frequency?

11. The plant species composition of California grasslands has profoundly changed since European settlement. What general types of grasses are native, and what general types have replaced them?

12. Prairies and desert shrublands of the western US evolved under different historic grazing intensities. Answer the following:

- Which grassland historically Withstood the most intense grazing by bison?
- Which shrubland/desert was most grazed by pronghorn?
- Which was originally under light grazing pressure but is now impacted by moderate livestock grazing that has helped shift plant species composition away from grasses such as black grama to shrubs such as creosote and mesquite?
13. Briefly describe the difference between clearcut and shelterwood tree silvicultural treatments.

14. What is the difference between a pasture that is “deferred” and a pasture that is “rested” from grazing?

15. What grazing system is typically characterized by 3 herds moving among pastures such that ¾ of the pastures are ungrazed for one period each year?

16. What is a skid trail, and why is helicopter yarding a better alternative where/when possible?

17. Identify two common site-preparation techniques in Douglas-Fir forests in California.

18. What is “pre-commercial thinning,” and is it practiced in Douglas-Fir forests?

19. Why is Savory grazing suggested to mimic patterns of disturbance by wandering herds of grazers?
CWHR work:
20. The Healthy Forests Restoration Act (HR 1904), if implemented, will usher increased thinning operations in western coniferous forests in an effort to reduce unnaturally high fuel loads. Use the CWHR to predict how wildlife might respond to a HR 1904 project in the following hypothetical specifics for a forest patch in Lassen National Forest:
   o Your project area is in Lassen County
   o Pre-thinning, the project areas consists of 3 forest types & stages:

<table>
<thead>
<tr>
<th>Forest Type</th>
<th>Stages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sierra Nevada Mixed Conifer</td>
<td>3D, 4D, 4P</td>
</tr>
<tr>
<td>Jeffrey Pine</td>
<td>3D, 2D, 2P</td>
</tr>
<tr>
<td>Red fir</td>
<td>4D, 5D</td>
</tr>
</tbody>
</table>

   o Post-thinning, the project areas will consist of:

<table>
<thead>
<tr>
<th>Forest Type</th>
<th>Stages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sierra Nevada Mixed Conifer</td>
<td>3S, 4P, 3M</td>
</tr>
<tr>
<td>Jeffrey Pine</td>
<td>3M, 2P, 2S</td>
</tr>
<tr>
<td>Red fir</td>
<td>4M, 5M</td>
</tr>
<tr>
<td>Montane chaparral</td>
<td>2M</td>
</tr>
</tbody>
</table>

   o Select species whose habitat suitabilities are at least “Medium” for repro, cover, and feeding.
   o Assume all habitat elements normally present in these habitats and stages to be present in your project area.
   o Include all species that use these habitats at any season.

   a. How many species are negatively affected by the thinning operation?

   b. Which three species are predicted to be most negatively affected?

   c. How many species are predicted to disappear from the project area after the thinning operation?