Chapter 5 – Forests, Woodland, and Range Resources and Management

1. History of California forests and their management:
   a. Compare coniferous and broadleaf forests. Who owns most of these forests?
   b. What are some of the biggest threats to oak woodlands in CA?
   c. Who was Gifford Pinchot? What was his role in changing forest management in the United States?
   d. How did John Muir's philosophy influence forest practices on federal lands?
   e. What were some of the drivers for western forest conversion post World War II?
   f. How have recent practices incorporated a more "ecological" approach to forest management?
2. Forest dynamics:
   a. What are some forest disturbances that impact species composition, and the structure of a forest stand?
   b. What is succession? What species would you expect to see in an area recently exposed to a large disturbance like fire?
3. How can we help prevent the spread of SOD and the Gold-Spotted Oak Borer?
4. California forests and wildfire:
   a. What human and ecosystem benefits arise from managing forests with wildfire?
   b. How has fire suppression changed our forest structures?
   c. With wildfires being an ongoing issue in CA what strategies would you recommend for forest management?
5. Fragmentation and forests:
   a. What are some of the key drivers for forest fragmentation in California and the resulting problems?
   b. What are some tools that help mitigate habitat fragmentation?
6. Carbon sequestration:
   a. How do forests sequester carbon? If it helps, draw a diagram of the paths of C through a forest.
   b. How might carbon credits for forestland owners through the California Air Resource Board be an effective forest conservation strategy?
   c. What other recent changes in local economies are impacting forest harvest practices in California?
7. Rangelands and livestock grazing management:
   a. How are native bunchgrasses different ecologically than annuals?
   b. Based upon what you read about how grazing animals affect grasslands, how can ranchers ensure long-term sustainability in their grazing practices?
8. Conservation biology:
   a. Of the 6 principles described on page 139 for ecological understanding, are there any that surprise you? If so, which ones?
   b. What is one of the recently recognized key strategies for creating conservation plans?
   c. How do habitat continuity and size effect conservation efforts?

For class discussion: Soil accounts for about 75% of land-based carbon sequestration[1]. How would you advise natural land managers to alter their practices to improve soil's sequestration ability?

[1] https://www.esa.org/esa/wp-content/uploads/2012/12/carbonsequestrationinsoils.pdf