

Fire Ecology
Exam No. 2
November 2, 1977

(30) 1. Using letters from the legend on the right, indicate where the following species would be most prevalent. Letters from the legend may apply to several species or none.

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| _____ 1) Mountain muhly (<u>Muhlenbergia montanensis</u>) | a. Ponderosa Pine - Central Rockies |
| _____ 2) Fringed sagebrush (<u>Artemisia frigida</u>) | b. Oak-Brush-Rocky Mountains |
| _____ 3) Pointleaf manzanita (<u>Manzanita pungens</u>) | c. Cedar-Hemlock |
| _____ 4) Pinegrass (<u>Calamagrostis rubescens</u>) | d. Pinyon-Juniper |
| _____ 5) Chamise (<u>Adenostema fasciculatum</u>) | e. Douglas-fir |
| _____ 6) Sugar Pine (<u>Pinus lambertiana</u>) | f. Ponderosa Pine-Southern Rockies |
| _____ 7) Gambel's oak (<u>Quercus gambelii</u>) | g. California chaparral |
| _____ 8) Black sage (<u>Salvia mellifera</u>) | h. Ponderosa Pine-Pacific Northwest |
| _____ 9) Aspen (<u>Populus tremuloides</u>) | i. Arizona chaparral |
| _____ 10) Bitterbrush (<u>Purshia tridentata</u>) | j. Ponderosa Pine-California |
| _____ 11) Big sagebrush (<u>Artemisia tridentata</u>) | |
| _____ 12) Scrub oak (<u>Quercus dumosa</u>) | |
| _____ 13) True mountain mahogany (<u>Cercocarpus montanus</u>) | |
| _____ 14) Shrub liveoak (<u>Quercus turbinella</u>) | |
| _____ 15) Geranium (<u>Geranium richardsoni</u>) | |

(10) 2. Before the arrival of white man to North America, how did young juniper trees get established and then become suppressed?

- (0) 3. Why are fires inevitable in California chaparral and how has the plant community adapted to fire?
- (8) 4. Frequent fires (i.e. 5 years) in chaparral of northern California are not considered desirable. Assuming that you could burn every 5 years, why might this frequency be undesirable?
- (6) 5. What are the primary values of the Gambel Oak community?

(15) 6. Considering the total resource, what are the principle reasons for using fire in ponderosa pine plant communities?

(7) 7. Discuss the ecological relationships between Western Red Cedar, Western Hemlock, and Grand-fir.

- (12) 8. In what ways do aspen and lodgepole pine depend on fire? Which of these vegetation types is most important for livestock and wildlife, and why?