Name:

Unit:

Email:

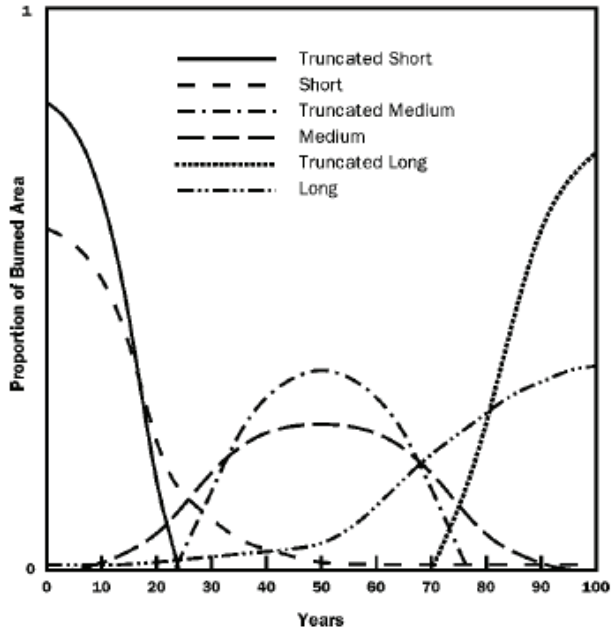
Rx310 Pre-work, Part 1

Read Chapter 4, "Fire as an Ecological Process," of *Fire in California Ecosystems* [attached] and answer the following questions. Submit the completed worksheet.

1) List the 3 fire regime categories, and then list each of the 7 fire regime attributes by placing them under the appropriate category. (Use the "New Framework For Defining Fire Regimes.")

2) Describe how a *fire regime* is different from a single fire event.

3) Below is the graph depicting distribution curves for the Fire Return Interval (FRI) fire regime attribute of various vegetation types. Look at the **"truncated short"** line. An example of a vegetation type that might have this type of curve is meadow grass. Why would the Fire Return Interval curve for meadow grass be "truncated short"? (Hint: Consider what happens to a meadow if the FRI is changed from short to long.) [Continue answer on another page if needed.]



4) Name one predominant vegetation type in your area: _____

Which one of the seven fire regime attributes do you think has changed most from pre-suppression time? _____

Explain why you think this change has occurred and **draw a graph** with current and pre-suppression distribution curves of your selected attribute.

Rx310 Pre-work, Part 2

FEIS (Fire Effects Information System)

FEIS (Fire Effects Information System) provides up-to-date information about fire effects on plants and animals. It was developed at the USDA Forest Service, Rocky Mountain Research Station, Fire Sciences Laboratory in Missoula, Montana.

The FEIS database contains literature reviews taken from current English-language literature of almost 900 plant species, about 100 animal species, and 16 Kuchler plant communities found on the North American continent. The emphasis of each review is fire and how it affects each species. Background information on taxonomy, distribution, basic biology, and ecology of each species is also included.

Reviews are thoroughly documented, and each contains a complete bibliography. Managers from several land management agencies (USDA Forest Service, and US Department of Interior, BIA, BLM, FWS, and NPS) identified the species to be included in the database. Those agencies funded the original work and continue to support maintenance and updating of the database.

FEIS staff attains current English-language literature for FEIS literature reviews by searching scientific abstracts including Agricola, Current Contents, Current Titles in Wildland Fire, Ecodisc, Ecological Abstracts, Forestry Abstracts, Georef, and Water Resources Abstracts. Tables of Contents from refereed scientific journals and government publication lists are regularly searched for pertinent literature.

Complete the attached FEIS tutorial worksheet using the FEIS website:
http://www.fs.fed.us/database/feis/index.html

Note: You can copy the text below and paste it into a Word document if you wish to complete it electronically. Please email/ fax/send only your writing assignment and worksheet, and not the entirety of the pre-work package.

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Name_____

FEIS Tutorial Worksheet

1. Look on the Home Page sidebar. What are the five main types of reviews available in FEIS?
   a) _____
   b) _____
   c) _____
   d) _____
   e) _____

2. Suppose you find the word "caudex" in a species review. What does it mean? Locate the Glossary on the System Help sidebar and look it up:
   _____

3. Suppose you need information on the western tanager. Use the search engine on the Home Page to find the western tanager species review. Who wrote it? _____ When was this individual species review written? _____

4. Look at the Table of Contents in the western tanager review, where it says "Wildlife distribution and occurrence." Click on that link. Does the western tanager occur in South Dakota?
   _____

5. Go back to the Home Page FEIS Reviews sidebar; choose "Animal species." Then chose "Reptiles" to find the desert tortoise species review. What is the desert tortoise's federal legal status? _____

6. Find the bison review. Go to "Fire Case Studies" for bison. What is the location of the study? _____ What time of year was burning conducted? _____ How did the burn affect bison in the first year after fire? _____

7. From the FEIS Home Page, click on "Plant Species" and view the list of Plant Species Life Forms (Tree, Shrub, etc.). ("Graminoid" means "grass-like.") How many kinds of plants (life forms) are described in FEIS? _____

Note: For the remaining questions, choose one of the plant communities listed on the last page of this worksheet (for example Southwestern California Chaparral or Alaska's Boreal Forest & Tundra). Then choose one plant, one animal, and one pest from under the heading for your chosen plant community. Assume all of three of the species you chose occur within the area you would like to manage with fire, (use the search feature on the FEIS homepage to find each species) and answer the following questions.

Plant Community: _____

Plant: _____

Animal: _____

Pest: _____

8. Read the "Fire Effects/Fire Ecology" section for the plant, animal, and pest in your chosen plant community. List two potential conflicts for a burn boss who has to choose between burning in the spring and burning in the fall (if the spring and fall are not discussed choose winter and summer) based on the ecological characteristics of the plant, animal, and pest.

(1)

(2)

9. Read the "Fire Effects/Fire Ecology" section for the plant, animal, and pest in your chosen plant community. List two potential conflicts for a burn boss who has to choose between burning every two years and every 25 years based on the fire effects information for the plant, animal, and pest.

(3)

(4)

10. Given the above situation, propose a solution that benefits all three species and enables management to restore fire in this ecosystem.

Plant Communities

Ponderosa Pine in the Southwest and Intermountain West

- **Plants**
  - interior ponderosa pine (*Pinus ponderosa* var. *arizonica*)
  - mountain muhly (*Muhlenbergia montana*)
- **Animals**
  - Abert's squirrel (*Sciurus aberti*)
  - Mexican spotted owl (*Strix occidentalis lucida*)
  - northern goshawk (*Accipiter gentilis*)
- **Pests**
  - spotted knapweed (*Centaurea maculosa*)
  - diffuse knapweed (*Centaurea diffusa*)
  - dalmatian toadflax (*Linaria dalmatica*)

Lodgepole Pine Communities of the Rocky Mountains

- **Plants**
  - Rocky Mountain lodgepole pine (*Pinus contorta* var. *latifolia*)
  - common beargrass (*Xerophyllum tenax*)
- **Animals**
  - Canada lynx (*Lynx canadensis*)
  - red squirrel (*Tamiasciurus hudsonicus*)
- **Pests**
  - diffuse knapweed (*Centaurea diffusa*)
  - spotted knapweed (*Centaurea maculosa*)

Southwestern California Chaparral

- **Plants**
  - chamise (*Adenostoma fasciculatum*)
  - redshank (*Adenostoma sparsifolium*)
  - wedge-leaf ceanothus (*Ceanothus cuneatus*)
- **Animals**
  - mountain lion (*Puma concolor*)
  - bobcat (*Lynx rufus*)
- **Pests**
  - red brome (*Bromus rubens*)
  - soft chess (*Bromus hordeaceus*)