RX-310 Introduction to Fire Effects

Pre-Course Assignment

This assignment consists of two parts. Read the instructions carefully to complete each part. Return the assignment as directed in your letter from the training center.

Part 1. FEIS Tutorial.

Using the FEIS database, found at http://www.fs.fed.us/database/feis/ , answer the following questions. You may be able to answer the questions with existing knowledge, but the task is to utilize the database. Therefore, you must use FEIS to find the FEIS answer.

1. You are a fuels manager in the San Bernardino Mountains, and are analyzing the fire ecology of California chaparral. The primary species are Greenleaf Manzanita (*Arctostaphylos patula*), whitethorn ceanothus (*Ceanothus cordulatus*), and brush chinquapin (*Chrysolepis sempervirens*). You will be conducting a low intensity prescribed fire that will result in less than 50% duff consumption.

a) What is the natural fire return interval range of this ecosystem?

b) What are the expected fire effects and response of the plant species to your burn?

c) What are potential effects of your burn to :

Soil

Wildlife

Fuel loading

2. You are planning a fuels treatment near a community in a Sierran Mixed Conifer ecosystem. The public is skeptical, and they want scientific evidence that your project will make a difference if a wildfire comes. Use FEIS to find a Fire Study written since 2005 that supports your case.

a) Cite the study:

b) List two of the benefits the study says the fuels treatment area provided during a wildfire.

3. In Yosemite National Park, you are trying to reduce competition for ponderosa pine by removing incense cedar from the understory by using prescribed fire.

a) What burning conditions are sufficient to kill incense cedar that is 1-3 m in height?

b) What is the effect on basal area of the ponderosa pine?

c) Cite the reference (article) you found in FEIS to get this information.

4. a) How has the invasive species cheatgrass (*Bromus tectorum*) changed the fire regime in the Great Basin?

b) Why is cheatgrass so tricky to control if you are using fire as your management tool? Give three reasons.

Part 2: *Fire in California Ecosystems*

Read Chapter 4: Fire as an Ecological Process (attached), from the book *Fire in California Ecosystems.* Then, complete the following table. (*Note*: If you haven't had a science class or done technical readings recently, then you may find the reading challenging. Try focusing on the section on fire regimes and attributes starting on page 62, and don't get too caught up in the "theory" section at the beginning. For the exercise, you may also find Sidebar 4.1 on page 70 useful.)

a) Name a common vegetation type in your area (You may not use Oak/ Doulas Fir):

b) For this vegetation type, complete the table. Look at the attribute descriptions and fire regime curves in the reading to direct your answers. The point is to analyze changes in the fire regime as a result of management (suppression, development, climate, etc). Not every attribute will necessarily have changed.

Fire Regime Attribute	Year 1910	Year 2010
Seasonality		
Fire Return Interval		
Size		
Spatial Complexity		
Fireline Intensity		
Fire Severity		
Fire Type		