RNR 355, Introduction to Wildland Fire 2012

Exercise #3: Fire effects

Due in class Wednesday 24 October

OBJECTIVE: Explore how various species respond to different types of fire, and how the species is adapted to its fire regime.

APPROACH: We will use information gathered from the Fire Effects Information System (FEIS), an on-line database of species distributions and fire ecology. After becoming familiar with FEIS, you will select a species and investigate its fire ecology.

PROCEDURE: Navigate to the FIES home page (http://www.fs.fed.us/database/feis/). Read the "About FEIS" page (http://www.fs.fed.us/database/feis/about.html), and go through the tutorial (http://www.fs.fed.us/database/feis/tutorial/tutorial.html) to become familiar with how the system works. Also study the section on fire regimes (http://www.fs.fed.us/database/feis/fire_regime_table/fire_regime_table.html). There is a very useful glossary (http://www.fs.fed.us/database/feis/glossary2.html) that will help you with any terms you may need.

1. Now pick two species -- one plant and one animal -- and learn about their fire ecology. To help randomize the species selection and steer us to new ideas, choose a species whose Latin name begins with the same letter as either your first or last name (so I would choose species beginning with either "D" or "F"). There are 5 groups of animals and 9 groups of plants, so you will have plenty to choose from. If for some reason there isn't a species with that letter, move ahead or back in the alphabet one letter. Beyond that you can gravitate to a species that is familiar, or be bold and learn about something totally new. Please do <u>not</u> pick one of the very widespread species that we have already been discussing (Ponderosa pine, Douglas-fir, Aspen).

2. For each species, start by reading the entry so you can become familiar with the species' ecology.

3. Next, track down at least one article that is cited in the FIES treatment, read it, and write a short (one paragraph) summary; please also <u>give me a copy of the front page</u> of the article so I can go read it if it sounds interesting.

4. Now answer the following questions for each species (so you will turn in two sets of responses). Please write your answers in your own words; do <u>not</u> simply cut and paste text from FEIS! You are encouraged to cite out any other sources, such as published articles about the species, reports from land managing agencies, native plant or animal societies, and the like; some of the links on the class web page may also be useful. Please cite all your sources in the text (author, year) and include a Literature Cited section at the end. You are also welcome to include pictures, maps, data figures, or other material (please cite the sources for these as well).

   a. Where in North America does it occur (i.e., its basic geography, elevation range, temperate and moisture regimes, soil types if relevant)?　　　　　　　　　　　OVER →

b. What is the dominant habitat and plant community in which it is found? What is the fire regime of that habitat? What is the range of fire return intervals in which it occurs?

c. Are there any anatomical or life history attributes that suggest adaptation to fire? If so, what are these? For animals this could include behavioral responses.

d. Do populations tend to benefit from fire (e.g. is it a post-fire colonizer) or is fire detrimental to population growth?

e. If you were managing for this species, what kind of fire regime would be attempt to institute?

Each response can be about a page or two, so I don't expect more than 3-4 pages including references and figures.

GRADING: The exercise is worth 30 points. Remember that the FEIS information (fire regime classification, general categories about each species) are part of the course and may show up on subsequent quizzes or exams. I anticipate that you will make reference to FEIS in the course of completing your Big Fire project, as it is the best source for this kind of information. Good luck and have fun!