

UNIT 8B – HOW TO USE THE PHOTO AND EMISSION PRODUCTION EXERCISES

INSTRUCTIONS TO THE INSTRUCTOR

This instruction and exercise lesson is split into two parts. The first part demonstrates how to use the photo series with several exercises. The second part contains several exercises that gives the students practice on how to estimate emissions using real units as examples. Blank forms for each exercise will be provided to each student.

The Rx-410 instructional package will come with one copy each of the Natural Fuels Photo Series Volumes I-VI. Each of the photo series exercises look at a specific fuelbed type (marsh grass, sagebrush, lodgepole pine, northern tallgrass prairie, and mixed oak). Since there are not enough photo series for each student, it is advised that the instructor select one or two students to use the appropriate photo series and estimate fuel loading for each exercise. Each exercise slide in the power point presentation is followed by the answers and the photo series and page number that best represents the fuels pictured for the exercise.

The second set of exercises help the student understand how to estimate smoke emissions. They use similar fuelbed types presented in the photo series exercises. The preburn information and percent consumption is given to the students for a tall grass prairie, sagebrush, and long leaf pine fuelbed type. In some cases a fuelbed type may have several fuelbed categories. The students are then asked to use the total fuel loadings, percent consumption, fire average emission factor for PM_{2.5}, and total acres burned to estimate total PM_{2.5} emissions.

Note: the instructor of this lesson may adapt the slides or lesson to fit his or her agenda. This power point presentation and lesson plan is only a guide for the instructor.



How to Use the Photo Series

- The fuels photo series is a tool for quickly and inexpensively evaluating a variety of fuelbeds.
- Because of the ease of use, care must be taken:
 - ✓ Cruise the area on foot
 - ✓ Only compare the photo series with sites that are appropriately matched
 - ✓ It is appropriate to use several photo sites to characterize fuelbed categories in an area.
 - ✓ Know the limitations of the photo series
 - ✓ Some measurements may be required where the photo series application is limited





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