

FES/FW 552 FOREST WILDLIFE HABITAT MANAGEMENT

Course description: Management of terrestrial vertebrates in wildland, managed, agricultural and urban forest ecosystems. Effects of silvicultural practices and landscape pattern on habitats and populations.

Instructor: Brenda McComb, 300 Kerr Administration Building

Phone: 541-737-1457; **Email:** brenda.mccomb@oregonstate.edu

Meeting time: Lecture: Tuesdays and Thursdays, 12:00pm-1:20pm; Lab: will meet for 1 hr 50 min at a time to be determined by student consensus.

Location: Joyce Collin Furman Hall 105

Prerequisite(s): A background in ecology. Knowledge of silviculture and natural resources policy suggested.

Grading

Weekly Quizzes (online each week – see Blackboard) = 20%

Midterm Exam (oral, based on readings and class discussions) = 10%

Final Exam = 10%

Habitat Management Plan* = 60%

*The grade assigned to the habitat management plan will be based on three assessments:

1. Assessment by peers (other class members) (20% of grade)
2. Assessment by the stakeholder (20% of grade)
3. Assessment by the instructor (20% of grade)

>90-100 = A

>80- 90 = B

>70- 80 = C

>60- 70 = D

<= 60 = F

Textbooks

None required. There will be assigned readings for each week. Background information that will be the basis for weekly quizzes are draft chapters from:

McComb, B. C. 2015. Wildlife Habitat Management: Concepts and Applications in Forestry, second edition. Taylor and Francis Publishers, Boca Raton, FL.

Other Resources

You will be expected to determine what resources you need to complete your management plan and I will work with you to see that you can get what you need.

Measurable Learning Outcomes

1. Students will be able to develop a management plan for selected species, communities or ecosystems.
2. Students will be able to apply knowledge of habitat selection and forest management as the basis for the management plan.
3. Students will include both stand and landscape perspectives in their plans.
4. Students will defend their plan to their peers and to their client.

Class policies

- **DO** feel free to ask questions or ask for more information during classes
- **DO** check Blackboard as often as I will be updating information there almost daily.
- **DO** come to class on time. Arriving late or leaving early is disruptive to your colleagues and discourteous, especially to outside speakers who have taken the time to spend with you.

Schedule

Week 1: Introduction and Basics -- Basic concepts of habitat ecology and management. The following weeks will delve more deeply into management of forests to achieve habitat goals.

Week 2: Forest Structure and Composition -- Structure (physical architecture) and composition (species mix) of forests and how they influence habitat quality, quantity, and amount.

Week 3: Disturbance Ecology and Habitat Dynamics -- Characteristics of disturbances in forest systems as a basis for understanding how silvicultural systems may be adapted to achieve habitat goals.

Week 4: Silviculture and Habitat Management -- Basics of even-aged and uneven-aged silvicultural systems and how silviculture can be used to achieve desired future conditions. Please note that I have yet to finish the calculation of present net worth for chapter 10.

Week 5: Managing for Riparian and Dead Wood values -- Special considerations when managing in and around riparian areas, and when providing dead wood in managed forests.

Week 6: Managing fire and managing in and around urban areas – Implications of wild fire, prescribed burning, housing developments and other contemporary disturbances and pressures on habitat structure and composition for various wildlife species.

Week 7: Landscape Ecology and Management – Placing habitat management into the larger spatial scale and understanding implications for animal movement and gene flow.

Week 8: Biodiversity Conservation over Complex Landscapes – How to approach management of multiples species of mixed ownership regions.

Week 9: Maintaining Viable Populations over Ecoregions – Understanding how population structure and dynamics might play out on dynamic forest landscapes.

Week 10: The philosophy of sustainability in a regulatory world – Why manage habitat or populations?

Management Plan

Read Chapters 10 and 19 for background information on preparing a management plan.

Your management plan should include:

Species background: What plant and animal species goals are intended for this stand? Are individual species or groups of species to be managed? What are their habitat needs? Over what spatial scale (e.g., nest sites, foraging patches, or home ranges) must they be met? How do these goals complement those for adjacent stands?

Current stand condition: What are the habitat conditions in the stand now for the species that you intend to manage? What factors are limiting habitat suitability for the species? What is the tree and shrub species composition? Site index? Stocking? Existing or possible future regeneration?

Desired future condition: What are the habitat conditions that you would like to produce? Be specific and describe the plant species composition, size classes, basal area, and any predictions of future stand development that you can develop. Stand-growth models are particularly useful for understanding if your desired future condition can be met.

Management actions to achieve the desired future condition: What will you do to the stand now and over time to achieve your desired future conditions? How long do you think it will take to achieve them? How long will they last? How much will it cost?

Monitoring plans: What will you measure and how often will you measure to determine if your management plan was implemented correctly and if the actions were successful? How will you decide if you need to change your management plans?

Budget: What will implementation and monitoring of the plan cost? Regardless of the landowner, cost becomes a factor when implementing a prescription to achieve a goal. There must not be a net loss to most landowners, and there must be maximum profit for some landowners. Understanding the products that can be derived from implementing the prescription, both economic and ecological, can help the manager decide if the trade-offs are acceptable.

Schedule: When will each step of the plan be completed? Of course, the monitoring of stand development may lead to changes in the schedule, but there should be a plan for when actions will occur.

References: Scientific references should be used to support assumptions used in the development of the prescription. Because new information is always becoming available to guide management, it is important to understand why decisions were made at this point in time.

Students will visit the sites early in the term; may make additional trips as needed.

There will be a presentation to stakeholders at the sites on Saturday December 6.

Students with Disabilities

"Accommodations are collaborative efforts between students, faculty and Disability Access Services (DAS). Students with accommodations approved through DAS are responsible for contacting the faculty member in charge of the course prior to or during the first week of the term to discuss accommodations. Students who believe they are eligible for accommodations but who have not yet obtained approval through DAS should contact DAS immediately at 737-4098."

Expectations for Student Conduct

This course will adhere to all college and university policies regarding Professional Conduct. More information can be found at: <http://www.cof.orst.edu/cof/teach/honorsys.php> and <http://oregonstate.edu/studentconduct/offenses-0>.