

COURSE SYLLABUS
FORS 4300/6300
Management of Wildlife Habitats

Instructor:

Karl V. Miller
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1530 - 1700; M

Teaching Assistants:
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Course Description:

An analysis of the principles and practices related to the management of forested ecosystems for wildlife and diversity. Habitat management at the stand and the landscape level are emphasized. Habitat manipulation through use of appropriate silvicultural practices, wildlife enhancement techniques, and regulations are evaluated.

Course Objectives:

Upon completion of this course, students should:

1. Understand and appreciate the principles of species distribution and abundance as related to habitat variables.
2. Appreciate the dynamic nature of forested ecosystems as related to natural and man-induced successional patterns.
3. Understand the role(s) of forestry practices in enhancing or diminishing the suitability of forests for particular wildlife species.
4. Be familiar with the use of habitat models to predict habitat suitability and appreciate their use in mitigating adverse affects.
5. Be familiar with several wildlife plant species and means of promoting their abundance.

Texts:

Yarrow, G. K. and D. T. Yarrow. 1999. Managing wildlife: on private lands in Alabama and the Southeast. Alabama Wildlife Federation, Montgomery, AL (optional text: I'll provide copies in the lab but you may order if you wish)

Miller, J. H. and K. V. Miller. 2005. Forest plants of the Southeast and their wildlife uses. University of Georgia Press, Athens GA (optional text but will be very useful in the class)

Reading Assignments:

Each student is expected to read, and be responsible for all assigned readings handed out in class. Students are expected to read the assigned materials before these topics are covered in class. It would be useful to take notes on each of these readings to study from - you **will** be asked material from these readings on exams.

Academic Honesty and Plagiarism

All academic work must meet the standards contained in the University's academic honesty policy (see "A Culture of Honesty"; www.uga.edu/ovpi). All students are responsible for informing themselves about those standards before performing any academic work. The penalties for academic dishonesty are severe (see "Sanctions for Dishonesty"; www.uga.edu/ovpi), and ignorance is not an acceptable defense.

Course Grade:

Final grades will be based on the student's cumulative performance on the following:

| | |
|----------------------------------|------------|
| 1 mid-term exam ----- | 100 points |
| 1 Plant ID exam ----- | 100 points |
| Final Plant ID exam ----- | 150 points |
| Final exam ----- | 200 points |
| Plant collection and report ---- | 150 points |

Course grades will be given according to the following: A=90-100; B=80-89; C=70-79; D=60-69; F=0-59. Class participation, preparation, and enthusiasm (or lack of) may be used to adjust borderline grades up or down to the next appropriate letter grade. Class attendance is optional, but participation is difficult if you are not there!

Lecture Exams:

Lecture exams will cover materials discussed in class along with any information presented during field trips by myself or the professionals we visit. Information about a particular plant species that we discuss in class or on field trips, such as its wildlife use, culture, etc., also may be asked.

Lab Exams:

Lab exams will cover those plants either discussed in class - or identified in the field. Both common and scientific names will be required. Mounted specimens of most plants will be available in the lab. You should be able to identify plant specimens, however in certain cases only parts of the plant will be presented (i.e. fruiting structures, etc). Questions about a species wildlife value, as discussed in class or on field trips will be included.

Make-up Policy:

Missed lab tests may not be made-up. If a lab test is missed because of an excused absence, the test will not be considered in calculating the final average. If a lecture test is missed for an excused reason, arrangements can be made to make up the exam, however if missed for un-excused absences, a grade of 0 will be recorded, and this will be used in calculating the final average.

Plant Collection:

Each student will be required to complete a collection of plants that are important to wildlife. Undergraduate student collections must consist of a minimum of 30 plant species, graduate students 40 species. A written report must accompany the collection that contains a description of the plant, its habitat, wildlife species associated with it, and guidelines on how to promote the species. More detail will be given in a handout to be distributed during the first week of class.

Laboratory Topics/Field Trips:

Because I believe that wildlife management must be learned in the field as well as in the classroom, a number of field trips are planned during the course. During the normal laboratory periods, short trips will be taken to nearby sites to look at various aspects of wildlife habitat management. During these trips, important wildlife plant species will be discussed.

In addition to the local trips, there will be one Friday trip to the North Georgia Mountains (we'll return quite late) and one weekend trip to Southwestern Georgia/Florida. (see Outline for dates)

AND FINALLY:

If you do not understand any of the material presented in this class - please ask about it! Without feedback from you, I have no way of knowing whether you understand something - until an exam.

Although this course will be demanding, let's make sure that both you and I enjoy it!

"One of the penalties of an ecological education is that one lives alone in a world of wounds. Much of the damage inflicted on land is quite invisible to laymen. An ecologist must either harden his shell and make believe that the consequences of science are none of his business, or he must be the doctor who sees the marks of death in a community that believes itself well and does not want to be told otherwise."

LECTURE/LAB OUTLINE (2005) FORS 4300/6300

The following is a tentative outline of the lecture material to be covered in this course, along with the supporting materials that should be read before that material is covered in class. Although lecture schedule may deviate somewhat from the outline below, lab topics/dates are fixed. Additional handouts will be provided.

August

19 – Introduction and Preliminary Concepts in Wildlife Habitat

Thomas, J.W. 1992. The responsibilities of a worthy vocation. *J. For.* 90:12-16.

Wood, G.W. 1990. The art and science of wildlife (land) management. *J. For.* 88:8-12.

Ledford, D. L. 1993. Game or nongame: a challenge to see the other side. *Wildl. Soc. Bull.* 23:545

22 - Introduction (cont)

24 - Establishing objectives

TEXT – Chapter 2 & 19

26 - LAB - Whitehall Experimental Forest

29 - Overview of Forested Ecosystems of the South

Hamel, P.B., and E. R. Buckner. 1998. How far could a squirrel travel in the treetops? A prehistory of the Southern forest. *Trans. N. Am. Wildl. and Natur. Resour. Conf.* 63:309-315.

MacCleery, D. 1999. When is a landscape natural? *Forest Landowner* Jan./Feb.:28-31, 41.

TEXT – Chapter 1

31 - Management at the Stand Level (MSL) - Pine Plantations and Wildlife

Johnson, A.S. Pine plantations as wildlife habitat: a perspective. Pgs. 12-18 in J.G. Dickson and O.E. Maughan, eds. *Managing southern forests for wildlife and fish.* USFS Gen. Tech. Rep. SO-65.

Wigley, T. B., D. C. Guynn, Jr., K. V. Miller, and C. N. Owen. 2001. Wildlife in managed forests: the evolution of research in the South. Pgs. 1-11 in K. Johnsen, H. M. Rauscher, and W. G. Hubbard (eds.). *Southern Forest Science Conference*, Atlanta, GA.

Seabrook, C. 2003. Companies put acres of timberland on market.

<http://www.ajc.com/news/content/news/0803/04woods.html>

TEXT – Pages 32-42 and 50-60

September

2 - LAB - Hart County Wildlife Mgt. Area – Mr. Ken Riddelberger and Mr. Brent Sexton (Ga DNR)

5 - no class - Labor Day

7 - MSL - Site Preparation and Release

Miller, K. V. and J. H. Miller. 2004. Forestry herbicide influences on biodiversity and wildlife habitat in southern forests. *Wildlife Society Bulletin* 32(4):1049-1060.

TEXT – Pages 66-74

9 - LAB - Habitat management on private lands (Oglethorpe County)– Dr. Jeff Jackson

12 - MSL - Site Preparation and Release cont./intermediate treatments

TEXT – Pages 66-74

14 - MSL - Fire in Southern Ecosystems

Johnson, A. S. and P. E. Hale. 2000. The historical foundations of prescribed burning for wildlife: A Southern perspective. Pgs. 11-23 in W. M. Ford, K. R. Russell, and C. E. Moorman (Eds.). *The role of fire in Nongame wildlife management and community restoration: Traditional uses and new directions.* Proceedings of a Special Workshop. USDA Forest Service, Gen. Tech. Rep. NE-288.

Van Lear, D. H. and R. F. Harlow. 2000. Fire in the Eastern United States: Influence on wildlife habitat. Pgs. 2-10 in W. M. Ford, K. R. Russell, and C. E. Moorman (Eds.). *The role of fire in Nongame wildlife management and community restoration: Traditional uses and new*

directions. Proceedings of a Special Workshop. USDA Forest Service, Gen. Tech. Rep. NE-288

16 - LAB - *Industrial Forests and Wildlife Habitat - Mr. Drew Marczak & Mr. Jim Hawkes (Plum Creek)*

19 - MSL - *Snags and artificial cavities*

Conner, R.N. 1978. Management for cavity nesting birds. Pgs 120-128 in R.M. DeGraaf ed., Management of southern forests for nongame birds. U.S. For. Serv. Gen. Tech. Rep. SE-14.

21 - MSL - *Managing hardwood forest for wildlife*

Duffy, D.C. and A.J. Meier. 1992. Do Appalachian herbaceous understories ever recover from clearcutting? Cons. Biol. 6:196-210.

Jackson, J.J. 1994. Integrating wildlife considerations with hardwood forest management. USDA Forest Service. R8-MB67.

23 - LAB - *Wildlife Management in Agricultural Habitats - Dr. John Carroll*

26 - *Hardwood forest management (cont.)*

Hale, P.E., A.S. Johnson, and W.M. Ford. 1993. The effects of clearcutting on herbaceous understories are still not fully known. Cons. Biol. 7:433-435.

Conner, R.N. and C. S. Adkisson. 1975. Effects of clearcutting on the diversity of breeding birds. J. For. 73:781-785

28 - *Mast management*

McCarty, J. P. et al. 2001. Spatial and temporal variation in fruit use by wildlife in a forested landscape. For. Ecol. Manage. 5660:1-16

Edwards, J.W., D.C. Guynn, Jr., and S.C. Loeb. 1995. Seasonal mast availability for wildlife in the Piedmont Region of Georgia. U.S. Dept. Agric., For. Serv., Res. Pap. SE-287.

TEXT – 85-88 and 153

30 - LAB - *Plant ID Test I*

October

3 - *Habitat Management for Deer in the Southeast*

Wentworth, J.M., A.S. Johnson, P.E. Hale, and K.E. Kammermeyer. 1992. Relationships of acorn abundance and deer herd characteristics in the southern Appalachians. S.J. Appl. For. 19:5-8.

Shea, S.M., T.A. Breault, and M.L. Richardson. 1992. Herd density and physical condition of white-tailed deer in Florida flatwoods. J. Wildl. Manage. 56:262-267.

TEXT – Chapter 5

5 - *Habitat Management for Deer in the Southeast*

7 – LAB – *Seed Identification – CLASS MEETS AT 1:30*

10 - *Food Plots/Plantings*

Boitnott, R. and L. McGuffee. (n.d.) Food Plot Manual. International Paper Co., 18pp.

TEXT - Chapter 16

12 - *Food Plots/Plantings (cont.)*

14 - LAB - *Southern Appalachians (Mr. Kent Kammermeyer, DNR (?) & Dr. Jim Wentworth,*

USFS)

17 - *MIDTERM*

19 - *Turkey Management*

Thackston, R., et al. n.d. The Wild Turkey in Georgia: History, Biology, and Management. Georgia Department of Natural Resources, Wildlife Resources Division.

TEXT – Chapter 6

21 - LAB - *in class - Farm Bill – Mr. Mark Whitney (Ga DNR)*

24 - *Quail Management*

TEXT – Chapter 7

26 - *Catch-up date*

28 - No Class (fall break)

31 - Other Species

Bearden, J., et al. n.d. Small Game Management in Georgia. Georgia Department of Natural Resources, Wildlife Resources Division. 32pp.

TEXT – Chapters 8, 9, 11 and Pages 265-279

November

2 - Other Species (cont.)

4 - LAB - Nongame habitat management (Rum Creek WMA)

7 - Managing forested wetlands for fish and waterfowl

Arner, D.H. and G.R. Hepp. 1989. Beaver pond wetlands: a southern perspective. Pgs. 117-128.

in: L.M. Smith, R.L. Pederson, and R.M. Kaminski (eds.). Habitat management for migrating and wintering waterfowl in North America. Texas Tech Univ. Press, Lubbock.

Moorehead, D.J., J.D. Hodges, and K.J. Reinecki. 1990. Silvicultural options for waterfowl management in bottomland hardwood stands and greentree reservoirs. Proc. Bienn. South. Silv. Res. Conf. 6:710-721.

Fredrickson, L.H. 1991. Strategies for water level manipulations in moist-soil systems. U.S. Dept. Int., Fish & Wildl. Serv., Fish and Wildl. Leaflet 13.4.6. 8pp.

TEXT – Chapter 10

9 - Waterfowl management (cont.)

11 - LAB Waterfowl impoundment - Madison County –Dr. David Allen

14 - Forest/wildlife management in Southern Georgia (moisture regimes, etc.)

16 - Forest/wildlife management in Southern Georgia (Cont.)

18-20 - LAB - - field trip to S. Georgia

Turkey Creek Plantation, MeadWestvaco, Tall Timbers Research Station, Apalachicola National

Forest

21 – Management at the Landscape Level (MLL) - Beta Diversity

28 - MLL - the Theory of Island Biogeography

30 - MLL - edges

Harris, L.D. 1988. Edge effects and conservation of biotic diversity. Cons. Biol. 2:330-332.

Wilcove, D.S. 1988. Forest fragmentation as a wildlife management issue in the eastern United States. Pgs. 146-150 in: Proc. Soc. Am. For. Nat. Conv., Rochester, NY

December

1 MLL - Neotropical Migrants

TEXT – 279-283

2 - LAB - Plant ID Test II

5 - Neotropical Birds (cont.)

7 - Catch-up day (Plant collections due)

Final Exam – December 14