Bachelor of Science in Forestry - Forest Wildlife Management
Arthur Temple College of Forestry and Agriculture
Stephen F. Austin State University

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### Freshman and Sophomore Years

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<th>Course Code</th>
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<tbody>
<tr>
<td>FOR 111</td>
<td>Introduction to Forestry</td>
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<tr>
<td>FOR 152</td>
<td>Introduction to Wildlife Management</td>
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<tr>
<td>FOR 205</td>
<td>Forest Biometrics I</td>
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<td>FOR 209</td>
<td>Forest Ecology</td>
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<td>Dendrology</td>
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<td>FOR 240</td>
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<td>FOR 251</td>
<td>Introduction to Recreation and Human Dimensions</td>
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<td>FOR 255</td>
<td>Vertebrate Natural History</td>
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### Junior Year

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<tr>
<td>FOR 305</td>
<td>Wildlife Techniques</td>
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<tr>
<td>FOR 310</td>
<td>Field Silviculture</td>
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<td>FOR 313</td>
<td>Forest Insects and Diseases</td>
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<td>FOR 323</td>
<td>Land Measurement</td>
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<td>FOR 325</td>
<td>Timber Cruising</td>
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<td>FOR 329</td>
<td>Harvesting and Processing</td>
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<td>FOR 335</td>
<td>Non-Timber Resource Management</td>
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<td>FOR 336</td>
<td>Wildlife Field Techniques</td>
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<td>FOR 337</td>
<td>Introduction to Fire Management</td>
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<td>FOR 347</td>
<td>Silviculture</td>
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<td>Natural Resource Policy</td>
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<td>Principles of Forest Soils</td>
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### Senior Year

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<td>Wildlife Population Ecology</td>
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<td>FOR 409</td>
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<td>FOR 435</td>
<td>Forest Economics</td>
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<td>FOR 441</td>
<td>Ecology, Management and Harvesting of White-Tailed Deer</td>
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<td>FOR 450</td>
<td>Forest Wildlife Habitat Management</td>
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<td>FOR 454</td>
<td>Non-game Wildlife Ecology</td>
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<td>FOR 455</td>
<td>Wetland Wildlife Management</td>
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<tr>
<td>FOR 458</td>
<td>Forest Resource Management</td>
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<tr>
<td>FOR 464</td>
<td>Contemporary Problems in Forestry</td>
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<td>FOR 466</td>
<td>Urban Wildlife Management</td>
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<tr>
<td>FOR 475</td>
<td>GIS Applications in Wildlife Management</td>
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<tr>
<td>FOR 486</td>
<td>Mammalogy</td>
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Student Organizations

The Wildlife Society
Student Association of Spatial Scientists
Student Chapter of the Association for Fire Ecology
Student Society of Arboriculture
Society of American Foresters
SFA Student Chapter Ducks Unlimited
Sylvans Forestry Club
Student Chapter of the National Association of Interpretation
Xi Sigma Pi
Other Student Organizations

Careers

Chelsea Lopez: Weyerhaeuser, North Louisiana Red River Office
Lynden Wood: U.S. Army Corps of Engineers, Whitney and Aquilla Lakes
Mia Brown: Texas Parks and Wildlife Department, Caddo Lake State Park
Chance Kimbrough: Advanced Ecology, Ltd.
Jocelyn Howell: USDA Forest Service, Davy Crockett National Forest
Timothy Siegmund: Texas Parks and Wildlife Department

Glossary
The Forest Wildlife Management major is an outstanding choice for many reasons:

- The curriculum meets the educational requirements to make you eligible for certification as a professional wildlife biologist by the Wildlife Society. Certification enhances your professional credentials and is considered for employment with some federal and state wildlife agencies;

- Your Bachelor of Science is fully accredited by the Society of American Foresters. When you graduate, you will be a professional forester with specialized training and expertise in wildlife management;

- Your training and expertise as a Wildlife Management major will provide you with excellent career opportunities in wildlife management fields. See some of the careers of alumni that are highlighted in Section 6;

- Graduate school options are excellent in this field. Be sure to consider these options, and, while you’re an undergraduate, ask faculty members about potential financial support for graduate school through research or teaching assistantships; and

- Wildlife faculty members at SFA have outstanding reputations in teaching, research and outreach. They have many projects you may have opportunities to become involved in, and some of these projects have potential for part-time or summer employment.

Finally, I strongly encourage you to become involved in student organizations that are directly affiliated with our College. Examples include the Student Chapter The Wildlife Society, the Student Chapter of Ducks Unlimited, the Texas Trophy Hunters Association, the Society of American Foresters, Sylvans and other organizations, some of which are highlighted in Section 4. The phrase “It’s not what you know, but who you know” should be re-stated as “It’s not what you know, but who knows you.” Let fellow students, our faculty and our professional staff get to know you by being active in student organizations.

The faculty and I look forward to working with you during your student career at SFA, and we hope this Curriculum Guide will help keep you oriented toward the goal of graduation. I look forward to shaking your hand as you walk across the stage to receive your Bachelor of Science, and I hope you’ll come to see me if I can help you before or after graduation.

Congratulations on your choice of an outstanding major!

Dr. Hans Williams,
Interim Dean, ATCOFA
University Mission Statement:
Stephen F. Austin State University is a comprehensive institution dedicated to excellence in teaching, research, scholarship, creative work, and service. Through the personal attention of our faculty and staff, we engage our students in a learner-centered environment and offer opportunities to prepare for the challenges of living in the global community.

College Mission Statement:
The Arthur Temple College of Forestry and Agriculture will:
- maintain excellence in teaching, research and outreach;
- enhance the health and vitality of the environment through sustainable management, conservation, and protection of our forests and natural resources; and
- enhance the production and economic viability of agricultural commodities.
The mission of the Arthur Temple College of Forestry and Agriculture is to:
- maintain excellence in teaching, research and outreach;
- enhance the health and vitality of the environment through sustainable management, conservation, and protection of forests and natural resources; and
- enhance the production and economic viability of agricultural commodities.
GENERAL EDUCATION REQUIREMENTS
ENG 131 (3) Composition: Rhetoric & Argument
ENG 132 (3) Composition: Critical & Analytical
COM 111, COM 170, COM 215 (3)
Component area option - COM (3)*
Language, Philosophy & Culture (3)*
Creative Arts (3)*
Social & Behavioral Science (3)*
BIO 131 (3) Principles of Botany
CHE 111 (3) Intro. to Chemistry
MTH 220 (3) Intro. to Probability and Statistics
HIS 133 (3) U.S. History Survey, 1000-1877
HIS 134 (3) U.S. History Survey, 1877–Present
PSC 141 (3) Intro. to American Gov. : Theory
PSC 142 (3) Intro. to American Gov. : Structure
REQUIRED (42)

FORESTRY CORE REQUIREMENTS
** Only grades of A, B or C will be accepted in Forestry Core Requirements.
FOR 111 (3) Intro. to Forestry
FOR 152 (3) Intro. to Wildlife Management
FOR 205 (3) Forest Biometrics I
FOR 209 (3) Forest Ecology and Physiology
FOR 219 (3) Dendrology
FOR 240 (2) Wood Science
FOR 251 (3) Intro. to Recreation and Human Dimensions
FOR 313 (3) Forest Insects and Diseases
FOR 337 (2) Intro. to Fire Management
FOR 347 (3) Silviculture
FOR 348 (3) Natural Resource Policy
FOR 349 (3) Principles of Forest Soils
FOR 409 (3) Forest Hydrology
FOR 435 (3) Forest Resource Economics
FOR 458 (4) Forest Resource Management
GIS 224 (3) Intro. to Spatial Science
REQUIRED (47)

FORESTRY FIELD STATION
FOR 310 (1) Field Silviculture
FOR 323 (1) Land Measurement
FOR 325 (1) Timber Cruising
FOR 329 (1) Harvesting/Processing
FOR 335 (1) Non-Timber Resource Management
FOR 336 (1) Field Wildlife Techniques
REQUIRED (6)

MAJOR REQUIREMENTS (FRWM)
FOR 255 (3) Vertebrate Natural History
FOR 305 (3) Wildlife Techniques
FOR 406 (3) Wildlife Population Ecology
FOR 450 (3) Wildlife Habitat Management
FOR 475 (3) GIS Applications in Wildlife Mgmt.
FOR 486 (4) Mammmalogy
BIO 133 (4) Zoology
BIO 433 (4) Ornithology
BIO 131L (1) Principles of Botany Lab
CHE 111L (1) Intro. to Chemistry Lab
REQUIRED (29)

WILDLIFE MANAGEMENT ELECTIVES
(3 HOURS REQUIRED)
FOR 441 (3) White-Tailed Deer Management
FOR 447 (3) Predator Ecology
FOR 454 (3) Non-Game Wildlife Ecology
FOR 455 (3) Wetland Wildlife Management
FOR 464 (3) Wildlife Conservation
FOR 464 (3) Wildlife Disease
FOR 464 (3) Range-Wildlife Ecology and Management
FOR 466 (3) Urban Wildlife Management
REQUIRED (42)

WILDLIFE BIOLOGY ELECTIVES
(3 HOURS REQUIRED)
ANS 333 (3) Animal Nutrition
ANS 428 (3) Animal Reproductive Physiology
BIO 341 (4) Genetics
BIO 342 (3) Comparative Vertebrate Zoology
BIO 343 (3) Entomology
BIO 370 (3) Evolution
BIO 407 (3) Behavioral Ecology
BIO 437 (4) Herpetology
BIO 438 (3) Ichthyology
FOR 447 (3) Predator Ecology
FOR 454 (3) Non-Game Wildlife Ecology
FOR 464 (3) Wildlife Disease
REQUIRED FOR THE FRWM MAJOR (35)

TOTAL HOURS REQUIRED FOR FRWM DEGREE: 130

*note: It is the student’s responsibility to complete the degree requirements as specified. A Final Graduation Plan must be filed in the Dean’s Office during the semester preceding the student’s final semester at SFA.
Course Offering Chronology
B.S.F. Forest Wildlife Management

**FORESTRY CORE REQUIREMENTS**

All forestry core courses are offered each fall and spring semester with the following exceptions:

- FOR 240 – Wood Science – offered each spring only
- FOR 348 – Natural Resource Policy – offered each spring only
- FOR 435 – Resource Economics – offered each summer II and fall only

Please consult with the undergraduate student services coordinator for a list of course prerequisites.

**FORESTRY FIELD STATION**

Forestry Field Station consists of FOR 310, 323, 325, 329, 335 and 336. It begins the summer after your sophomore year on the Sunday following May Commencement, and concludes on Friday, six weeks later. Prerequisites for each course are: FOR 111, 152, 205, 209, 219, 240, 251 and GIS 224.

**FOREST WILDLIFE MANAGEMENT MAJOR REQUIRED CORE – NO SUBSTITUTIONS OR EXCEPTIONS WILL BE MADE**

<table>
<thead>
<tr>
<th>COURSE #</th>
<th>COURSE TITLE</th>
<th>SEMESTER(S) OFFERED</th>
<th>PREREQUISITES</th>
<th>INSTRUCTOR</th>
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<tbody>
<tr>
<td>FOR 255</td>
<td>Vertebrate Natural History</td>
<td>fall &amp; spring</td>
<td>FOR 152</td>
<td>Masse</td>
</tr>
<tr>
<td>FOR 305</td>
<td>Wildlife Techniques</td>
<td>fall only</td>
<td>FOR 255</td>
<td>Masse</td>
</tr>
<tr>
<td>FOR 406</td>
<td>Wildlife Population Ecology</td>
<td>spring only</td>
<td>FOR 205 &amp; 255</td>
<td>Scognamillo</td>
</tr>
<tr>
<td>FOR 450</td>
<td>Wildlife Habitat Management</td>
<td>fall only</td>
<td>FOR 219, 255, 347</td>
<td>Comer</td>
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<tr>
<td>FOR 475</td>
<td>GIS Applications in Wildlife Mgmt.</td>
<td>fall only</td>
<td>GIS 224</td>
<td>Scognamillo</td>
</tr>
<tr>
<td>FOR 486</td>
<td>Mammalogy</td>
<td>fall only</td>
<td>BIO 133</td>
<td>Scognamillo</td>
</tr>
<tr>
<td>BIO 133</td>
<td>Zoology</td>
<td>fall &amp; spring</td>
<td>None</td>
<td>TBA</td>
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<tr>
<td>BIO 433</td>
<td>Ornithology</td>
<td>spring only</td>
<td>BIO 133</td>
<td>Burt (Biology)</td>
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**WILDLIFE MANAGEMENT ELECTIVES – 3 HOURS REQUIRED**

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<th>INSTRUCTOR</th>
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<tbody>
<tr>
<td>FOR 441</td>
<td>Ecology, Mgmt. &amp; Harvest of White Tailed Deer</td>
<td>spring only</td>
<td>FOR 255</td>
<td>Comer</td>
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<tr>
<td>FOR 447</td>
<td>Predator Ecology</td>
<td>spring only – even years</td>
<td>BIO 133 or FOR 255 or Instructor Permit</td>
<td>Scognamillo</td>
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<tr>
<td>FOR 454</td>
<td>Non-game Wildlife Ecology</td>
<td>spring only – odd years</td>
<td>FOR 255 or Instructor Permit</td>
<td>Masse</td>
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<tr>
<td>FOR 455</td>
<td>Wetland Wildlife Management</td>
<td>spring only – even years</td>
<td>FOR 255 or Instructor Permit</td>
<td>Comer</td>
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<tr>
<td>FOR 466</td>
<td>Urban Wildlife Management</td>
<td>spring only – odd years</td>
<td>FOR 152</td>
<td>Scognamillo</td>
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<tr>
<td>FOR 464</td>
<td>Wildlife Conservation</td>
<td>spring only – odd years</td>
<td>FOR 255</td>
<td>Comer</td>
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<tr>
<td>FOR 464</td>
<td>Range &amp; Wildlife Ecology &amp; Mgmt.</td>
<td>fall only – even years</td>
<td>FOR 255</td>
<td>TBA</td>
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**WILDLIFE BIOLOGY ELECTIVES – 3 HOURS REQUIRED**

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<th>SEMESTER(S) OFFERED</th>
<th>PREREQUISITES</th>
<th>INSTRUCTOR</th>
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<tr>
<td>BIO 341</td>
<td>Genetics</td>
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<td>BIO 133 &amp; CHE 130</td>
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<td>BIO 342</td>
<td>Comparative Vertebrate Zoology</td>
<td>fall &amp; spring</td>
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<td>BIO 343</td>
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<td>Evolution</td>
<td>fall &amp; spring</td>
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<td>BIO 407</td>
<td>Behavioral Ecology</td>
<td>fall only</td>
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<td>BIO 437</td>
<td>Herpetology</td>
<td>spring only</td>
<td>BIO 133</td>
<td>Kwiatkowski</td>
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<td>BIO 438</td>
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<td>ANS 333</td>
<td>Animal Nutrition</td>
<td>fall &amp; spring</td>
<td>Instructor Permit</td>
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<td>ANS 428</td>
<td>Animal Reproductive Physiology</td>
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<td>Predator Ecology</td>
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<td>FOR 255 or Instructor Permit</td>
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<td>FOR 454</td>
<td>Non-game Wildlife Ecology</td>
<td>spring only – even years</td>
<td>FOR 255 or Instructor Permit</td>
<td>Masse</td>
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<tr>
<td>FOR 464</td>
<td>Wildlife Diseases</td>
<td>spring only – odd years</td>
<td>FOR 255</td>
<td>Comer</td>
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Freshman/Sophomore Years
Welcome to the world of natural resources! Introduction to Forestry familiarizes you with the basic principles and concepts of forestry that will be expanded upon in future classes. As you will learn, forestry is a varied industry that encompasses far more than just the growth and harvest of trees.

Intro to Forestry consists of both a lecture and a lab. The topics covered in lecture include forestry history, laws, and policy at the state, national, and global level. This overview of fundamental laws and history of forestry is designed to give you an understanding of why and how we approach forestry in today’s modern, globalized world.

The lab portion of this class will take you into the great outdoors, introducing you to proper field techniques and common measurement tools used in forestry. These tools of the trade include prisms, diameter tapes, clinometers, and increment borers. Knowing how to use these instruments will give you a knowledge base for future courses. You also will begin to develop professional writing skills – a necessary proficiency in the forestry profession – by learning how to write technical reports and memos which integrate graphs and tables. Developing a clear, concise writing style and a basic understanding of forestry in this course provides a solid foundation for you to build a wealth of knowledge upon.

What advice would you give to incoming students?

“Get involved in clubs and student organizations. It will help you meet people in the college, and employers like to see involvement, especially in professional organizations.”

- Ryan Assenheimer, junior
Introduction to Wildlife Management familiarizes you with the basic laws and principles governing the way we manage and conserve wildlife resources. This foundational course conveys essential topics in the field of wildlife management which will be expanded upon in subsequent wildlife courses.

Wildlife management is a topic that must be learned in the field through hands-on activities and observation. In the classroom, you will learn the basics of wildlife management, economics, population dynamics, diseases and conservation. You will then set out into the field and apply those skills during wildlife labs. Small mammal trapping, age and gender determination, and radiotelemetry are just a few of the exciting labs offered.

At the end of the semester, a research paper gives you a taste of what it is like to be a wildlife management professional. This assignment requires you to identify a pertinent wildlife issue, conduct peer-reviewed research, and formulate a management approach. This is an essential skill that will be utilized in Forest Resource Management (FOR 458) as well as Wildlife Habitat Management (FOR 450).

Wildlife management is a topic that must be learned in the field through hands-on activities and observation.
Have you ever looked up at an impressive tree and wondered how tall it was, or what was the actual diameter? After completing Forest Biometrics I, you will have just the skill set needed to determine those measurements.

During lecture, you will learn the ins and outs of measuring tree diameter, height, volume and weight. Lab sessions will find you under the towering pines of East Texas applying these techniques to address real forest inventory problems. During the lab work of this course, you will become comfortable using essential forest inventory tools such as the clinometer, diameter tape, cruising prism, and relaskop. High-end technology such as data recorders and GPS units also are introduced and utilized in the field during this course. Back in the classroom, you will analyze your forest inventory and learn to project tree growth with computer software.

This course culminates in a final project that provides real-world experience and application to your future jobs in the field of forestry. Student teams not only inventory and assess a tract of land, but prepare an oral presentation of their findings and recommendations for the landowner. By the end of the semester, you will have the skills to create a complete forest inventory, from the beginning stages of mapping and planning all the way to the written report in the landowner’s hands.

Students build their skills in tree measurements, forest inventory techniques, and the creation of growth and yield projections.

COURSE DESCRIPTION
Individual tree measurements, forest sampling methods, applied statistics and computer applications for data analysis.
The natural world is not linear, but cyclical. Forest Ecology provides you with insight into the forest cycle and introduces you to the impacts that soil, climate, and living organisms have on plant growth. You will learn basic terms, concepts, and skills that will be utilized in all other forestry courses and are necessary to becoming a successful forester. These skills include assessing a forest for regulatory purposes, vegetative propagation, regeneration, and understanding forest succession. Major concepts explored include the basic life cycle of a tree, applied genetics, as well as the effects that solar radiation, temperature, and water have on plant growth.

During lab, you will visit businesses and sites that implement the skills you are learning in class. You will meet foresters from state agencies who will better help you understand how and why the implantation of best management practices are necessary to maintaining site quality. Also, a visit to a local seed laboratory provides you an in-depth look at how selective breeding is used to produce genetically superior trees for a working forest. Through the variety of labs, you have many opportunities to view career paths that could be in your future.

How would you describe a typical class at ATCOFA?

“A field-based experience with in-depth lectures.”

- Kassi Taylor, senior
Dendrology will provide you with one of the most commonly used skill sets in forestry: tree identification.

During lecture, you will learn the taxonomy, morphology, and diversity of tree species. Your lab time will be spent in the field honing your identification techniques at a variety of unique sights throughout East Texas. Using leaves, bark, twigs, fruits, flowers and habitat, you will identify approximately 180 East Texas tree species covered throughout the semester. You also will learn interesting facts, traditional uses, and wildlife values for these species. Knowledge of common non-native urban and invasive tree species found in Texas, as well as the challenges these species present to land managers also is a component of the curriculum.

A leaf collection project allows you to demonstrate your identification skills and create reference material for future use. A final group project, in which you research and deliver a presentation to your peers, will provide you with familiarity of tree species in other North American regions.

Upon completion of this course, you will possess a broad knowledge of East Texas plants and know how to effectively use a variety of online and print resources to identify almost any woody plant species.

Take advantage of the many resources on Dr. Stovall’s dendrology website:

forestry.sfasu.edu/faculty/stovall/dendrology/
Introduction to Spatial Science familiarizes you with exciting, cutting edge technology used in the field of natural resources. During this course, you will learn to effectively use aerial photography, satellite imagery, global positioning systems (GPS), and geographic information systems (GIS) software. These concepts build a very strong foundation that is essential for later forestry courses.

In lecture, GIS is emphasized as an important technological tool that links critical information to a location in order to understand spatial relationships. These concepts are then illustrated in contemporary examples such as city planning, habitat management, and park management.

Lab begins by familiarizing you with the use of traditional tools such as stereoscopes to analyze and interpret aerial photography, as well as color and color-infrared images.

After learning more about the origins of spatial science, you will transition to using GPS units and the most up-to-date versions of computer software such as ArcMap and ERDAS along with the latest satellite imagery. Your final project will utilize your new skills to create a map that solves a natural resource management problem, demonstrating that there is no limit to what you can solve with this technology when there is a spatial component!

There is no limit to what you can solve with this technology when there is a spatial component.
While dendrology teaches you tree identification in the forest, Wood Science immerses you in the physical and chemical properties of wood post-harvest and how we economically use wood as a raw material and resource.

Major concepts covered in lecture include anatomy and characteristics of wood and how these properties affect wood as products such as lumber, paper, composite products, and bioenergy. Identification of hard and soft wood species and the principles of wood utilization is an important component of lab. You will get a first-hand look at the minute anatomy of wood through the use of microscopes, while hand lenses allow you to examine macroanatomy and structure. Modern technology and basic mathematical relationships will be used to understand wood density, specific gravity, strength, flexibility, moisture, dimensional change and energy content, all components which influence the human use of specific species.

As a part of the class, you will also complete a research paper exploring a wood species and how it can be most effectively commercially utilized. Through this course, you will become confident in assessing wood properties as well as determining how the wood can be utilized in the most profitable way.

**Student tip:**
“Don’t rely on the smell of wood blocks!”
(for identification purposes)

- Laura Johnson, senior
Introduction to Recreation and Human Dimensions brings about an awareness of the varied and, oftentimes, controversial ways in which humans interact with natural resources. During this course, you will not only learn how resource management and recreation management are interconnected, but obtain the professional and leadership skills needed for successful internships and careers.

This course focuses on the relationship between the human condition and natural resources, as well as its effect on recreational land use planning and human dimensions issues associated with the use and sustainability of public and private lands. You will learn these concepts through volunteering, public outreach, attending public meetings, interacting with professional foresters, and practicing conflict resolution.

An understanding of these topics will teach you to become more comfortable working with people in educational and public settings – an extremely important element of the field of natural resource management.

The capstone project of this course places you in the position of a natural resources manager, tasking you with identifying current issues in human dimensions, such as the wildland-urban interface, and developing solutions. After completing this course, you will have a greater appreciation of the manner in which human dimensions increasingly affects natural resource management.

A key component of recreation management lies in understanding the human condition in relation to natural resources.
Vertebrate Natural History is required for all forest wildlife management and forest recreation management majors. This course expands on the theories, practices, and concepts you learned in Introduction to Wildlife Management (FOR 152), and is a stepping stone to the successful completion of 300- and 400-level wildlife courses.

Lectures concentrate on current and historical conservation and management theories, concepts, strategies, and applications for relevant game and non-game wildlife species. In the lab, you will focus on the identification, taxonomy and natural history of more than 300 wildlife species found in North America such as waterfowl, migratory and upland game birds, birds of prey, small- and big-game mammals, furbearers, and reptiles. Each group will be examined in detail so you possess a clear understanding of taxonomic relationships, basic natural history and habitat requirements, as well as conservation and management approaches.

This course provides you with the knowledge to identify more than 300 species of North American wildlife and understand their basic natural history, habitat requirements, and strategies for their conservation and management.

Why did you choose forest wildlife management?

“I wanted to make a career move from zoo medicine to managing wildlife populations in the field in hopes of being able to have an impact on declining species of concern.”

- Courtney Threadgill, senior
The summer after your sophomore year, you will spend six exciting, fast-paced weeks at field station learning advanced wildlife sampling, timber inventory, surveying and mapping techniques, and much more. You will stay at the Piney Woods Conservation Center, located along the shores of Sam Rayburn Reservoir in the midst of the Angelina National Forest, and venture throughout East Texas gaining invaluable experience in natural resource management. The skills, experiences, and memories you acquire at field station will stay with you long after the summer ends.
This exciting class exposes you to the most current field techniques for the study of wildlife and provides you with first-hand experience as a wildlife biologist in the field.

During class lecture, you will learn sampling design, sexing and aging birds and mammals, population estimation, telemetry, animal capture, and much more. You will then apply this knowledge in your outdoor labs which focus on learning telemetry and the implementation of sampling designs discussed in class. Lab also will find you working directly with local fauna as you investigate trapping techniques for small mammals such as opossums, raccoons, and mice.

New technology will be introduced and expanded upon in future courses, including the use of geographic information systems (GIS) for wildlife management. By the end of the course, you will have a deeper understanding of how technology can help improve the way we manage wildlife.

What are the benefits of being a forest wildlife management student at SFA?

“The hands-on experience.”
- Josh Brown, senior
Field Silviculture is part of the Field Station curriculum and is taught concurrently with Timber Cruising. During this fast-paced, outdoor class, you act as a forester, learning how to make silvicultural management decisions in the field.

After observing and collecting data on tracts of land in differing conditions and stages of growth, you will write stand prescriptions, a task that emulates realistic job experiences. Class field trips allow you to observe silvicultural operations first hand, while visiting private and public lands allows you to contrast the differing management practices used. You also will perform a wetland delineation exercise to learn and address federal laws that will guide you as a natural resource professional. The course provides you with the opportunity to visit professional foresters in a variety of industries in order to show you exactly what contemporary foresters do in this dynamic profession.

Upon completion of this course, you will have the knowledge and skills to make confident decisions regarding silvicultural processes on a professional level.

Students develop the skills to make confident decisions about silvicultural processes on a professional level.
Some of the most drastic changes in forest health and viability can be caused by organisms that often go unseen. As this course unfolds, you will learn the important role insects and diseases play in forest management.

During lecture, you will explore the ways forest management can reduce pest species while integrating the use of GIS and GPS as management tools. While in lab, you will conduct first-hand investigations of specific habitats and their associated pest issues. Topics include the impact of the southern pine beetle on habitat of the endangered red-cockaded woodpecker, the Texas leafcutting ant and fusiform rust in the forests on sandy Tonkawa soils, and rapid detection and evaluation of exotic species, including the Asian longhorn beetle, emerald ash borer, and Sirex woodwasp. Furthermore, you will learn the importance of forest ethics in a case history of wilderness area issues.

The class culminates in a pest management research project, which provides you with the freedom to take an in-depth look at a subject that interests you and develops your communication skills. Through this course, you will understand the relationship insects and diseases have with forest management and will be able to confidently apply your knowledge in the field.

What is your fondest memory from a class at ATCOFA?

“I won the bug dance! This was both meaningful and exciting.”

- Justyss Esquivel, senior
Land Measurement is part of the Field Station curriculum. During this course, you will acquire complex skills using both modern and less advanced land measurement technology. You will then apply those techniques to common land management problems.

The class begins with the use of an automatic level, an advanced surveying instrument, to design a pond (a common task for a forester). GPS technology is integrated with assignments as you begin collecting Global Positioning Satellite point data with two types of GPS units. You will use skills acquired in previous courses to analyze the data and produce digital maps using Geographic Information Systems. GIS and GPS skills are part of Spatial Science, a job sector targeted by the High Growth Job Training Initiative.

While the utilization of high-tech instruments is an integral part of your training, you also will become comfortable using ‘low-tech’ tools such as the staff compass to complete a traverse. By having these skills, you will be able to adapt to circumstances that limit advanced technology. Upon completion of this course, you will have mastered multiple land measurement tools outdoors to collect data, analyze it, and produce a digital or hand drawn map as the final product.

Students acquire skills using modern and older land measurement technology and apply those skills to common land management problems.
Timber Cruising is part of the Field Station curriculum and is taught concurrently with Field Silviculture. This course will immerse you in a variety of real-world forest inventory experiences.

To begin, you will refine your pacing skills and learn to navigate through the woods with a map and compass. After mastering this skill, you perform three timber cruises using the major inventory methods: the line-point, line-plot, and line-strip inventories. Each timber inventory conducted is check-cruised for accuracy by the faculty, putting the experience into real-life context as foresters are normally check-cruised on the job by their supervisors. You will then use the collected data to calculate densities, volumes, weights, and cruise statistics of the forest stand and write stand prescriptions.

You also will conduct three special types of forest inventories demonstrating different aspects of natural resource management: a timber trespass cruise, bid sale cruise and pole classification. Timber trespass cruises can resolve million-dollar conflicts, while pole classification selects poles for utility infrastructures. This course provides you with the skills and experience to independently create a forest inventory using several methods and develop your own management recommendations.

COURSE DESCRIPTION
Study of timber stand estimation.
Harvesting and Processing is part of the Field Station curriculum. Through this course you will be introduced to the varied paths through which this natural resource journeys from forest to global product.

During this field-based class, you will visit many different harvesting and mill operations to view unique, state-of-the-art processes in the field of timber processing. Tours include a modern sawmill, paper mill, oriented strand board (OSB) mill, biomass harvesting site, and more. Technology has an immense impact on harvesting and processing, making it safer and more efficient. In this modern world of forest harvesting, computers take over the decision making process, while professionals manage the software. In addition to these technologically advanced processing operations, you will also visit a small, local hardwood mill, providing you with a broader understanding and appreciation of the evolution of timber production.

Students will learn the importance of production and the people involved in it.
Think forestry is just about trees? Not by a long shot.

Non-Timber Resource Management, a part of the Field Station curriculum, explores the many ways your forestry-based expertise can be used beyond standard timber management.

The majority of this class is taught in the field and provides you with the opportunity to see firsthand the ways that non-timber resources are managed. Not only will you visit a coal mine to see the processes and techniques used in the reclamation of a pine ecosystem, you also will visit the habitat of the endangered red-cockaded woodpecker to learn how the U.S. Forest Service uses fire and silvicultural techniques to increase the survival of this important species. Once again, you gain first-hand experience as a natural resource professional, performing a hazard assessment of the habitat to develop your own management solutions.

Visits to different recreation and wilderness sites in East Texas also will broaden your perspective on the different management priorities of natural resource agencies and how the public uses the land. You will utilize skills learned in Intro to Recreation and Human Dimensions (FOR 251) as you explore the public’s reaction to fire use and other management practices on public lands.

Upon completion of this course, you will better understand the diverse ways in which you can and will use your forestry skills as a natural resource professional.

Students explore the many ways their forestry-based expertise can be used beyond standard timber management.
Prepare yourself for an exciting course that provides you the rare opportunity to view and handle some of East Texas’ most fascinating natural resources. Diverse habitats are your classroom as you explore different techniques to properly capture and handle a variety of wildlife species.

During the course, which is part of the Field Station Curriculum, you will learn to appropriately use a number of wildlife capture apparatuses, including mist nets for birds and bats, Sherman traps for small mammals, cage and leghold traps for mesomammals and scouting cameras for larger mammals. You also will learn different methods of constructing pitfall traps for herptiles and insects and light traps for insects at night.

Along with capture and handling techniques, you will learn to identify wildlife by species and gender through anatomy, color patterns, and microhabitat. Wildlife is often elusive; therefore, animal tracks and regional bird call identification also will be a component of the course. To round out the course, you also will learn identification and classification of important wildlife food plants.

At the end of the course, you will be able to properly trap, handle, and identify wildlife in a variety of situations and habitats.

Upon completion of this course, students can trap, handle, and identify wildlife in a variety of situations and habitats.
On a global level, fire is the most important naturally recurring disturbance that influences vegetative communities. In fact, many species of vegetation and wildlife depend on it. Introduction to Fire Management educates you in basic principles of fire ecology and its importance in a balanced ecosystem.

Almost every area covered with vegetation has been affected by fire; therefore, it is important that all future foresters have a basic understanding of how fire interacts with the environment. Topics covered include wildland fire fundamentals, fire behavior, fire fuels, fire weather, fire ecology and human dimensions of fire.

A research paper allows you to see how fire directly applies to your own interests in natural resource management, whether it is wildlife, recreation, or urban forestry. You also will explore new technology used for fire management such as software programs that model fire behavior.

Skills developed in this course can be expanded upon in additional classes including Fire Use in Land Management and Fire Ecology. This foundation course provides you with a deeper understanding of how foresters manage fire in a way that benefits vegetation, wildlife, and humans.

On a global level, fire is the most important naturally recurring disturbance that influences vegetative communities.
Silviculture will expose you to intensive and extensive silviculture across the Southeast, focusing on both pine and hardwood ecosystems.

During lecture, you will learn theories of applied silviculture, exploring case studies accompanied by outside readings to develop the skills to apply the concepts of stand dynamics to real-world forest management scenarios. Silviculture is a scientific art form, and lab provides you with the opportunity to see silvicultural systems implemented in the field and the effects they have on stand structure. You will be introduced to the array of technologies utilized in modern intensive pine plantation silviculture, including clonal seedlings, herbicide, and fertilizer application. The course also exposes you to the challenges facing foresters employing bottomland hardwood silvicultural systems for restoration, timber production, or other uses.

Stand dynamics, even and uneven-aged management, regeneration methods, and thinning are just a few of the topics you will study throughout this course.

Afterward, you will likely view forests differently as you are intimately aware of the many factors affecting the growth and development of East Texas forests and the ways in which silviculture may be used to manipulate these factors.

Course Description

Study of silvicultural systems, regeneration and intermediate management from ecologic and economic viewpoints.

Which class has been your favorite?

“Silviculture. It took everything that I had learned and made it relevant to real-world situations.”

- Sean Johnson, junior
No natural resource professional can truly understand or appreciate their calling without exploring the origins of the profession. Natural Resource Policy immerses you in the history of forestry and the environmental movement in the United States through an in-depth look at laws that govern our natural resource management approaches.

Beginning with basic public land policy, the course outlines the evolution of regulation and public opinion of natural resources during the past two centuries, giving you a better understanding of how the United States views land distribution. The class then moves on to legislative history, citizen activism and the environmental movement, culminating with current issues affecting forestry.

A thorough understanding of how our natural resource policies have developed throughout America’s history enables you to better appreciate current management approaches and policy in the modern world. Upon completion of this course, you will have a solid foundation of the history of forestry, which will be called upon in future courses. This class will be an asset when seeking careers involving public service, as policy is continually modified to create a more sustainable and economically beneficial natural environment.

Unless we practice conservation, those who come after us will have to pay the price of misery, degradation, and failure for the progress and prosperity of our day.

Gifford Pinchot
Learning how soils are formed, as well as their physical, chemical, and biological components is key to understanding how they affect forest productivity and sustainability. Principles of Forest Soils will provide you with an understanding of this important element of forest ecosystems – literally from the ground up!

In the classroom, you learn how microorganisms, organic matter, and nutrients affect soil productivity. You also explore the chemistry of different soils, as well as how soil affects hydrologic cycles, all of which help you understand how to address soil management problems.

Lab focuses on collecting soil samples in the field to analyze for texture, bulk density, particle density, pore space, and other parameters. During these outings, you will observe and investigate some of the many different soil profiles found in East Texas and learn their identifying characteristics by analyzing their layers for color, pH, texture, and other properties.

Upon completion of this course, you will have a solid understanding of how soils not only affect land, but land management.

Learning the physical, chemical and biological components is key to understanding how soils affect forest productivity and sustainability.
Senior Year
Wildlife Population Ecology is an elective course for forest wildlife management majors offered every spring. During this course, you learn quantitative approaches to managing wildlife populations as well as how to utilize the information in management and conservation plans.

Estimating abundance and understanding wildlife population fluctuations are key to successful wildlife management. This lecture-only, once weekly evening introduces you to the basics of population ecology. Topics covered include estimating abundance and survival through mark-recapture and radiotelemetry survival techniques, resource selection functions and analyses, occupancy modeling, and model selection procedures. Skills developed in this course allow you to understand how populations function in isolation and with other populations. It also conveys the basics of analytical and modeling software that is currently utilized by wildlife professionals.

After completing this course, you will be able to properly collect population data and execute analyses to perform basic wildlife population assessments, skills essential to a career as a wildlife biologist.

COURSE DESCRIPTION
Quantitative and conceptual approach to understand population ecology and dynamics of wildlife species; population estimation and other analytical/modeling techniques with an emphasis on conservation and management of game and non-game wildlife populations.

Student tip:
“Read the assigned book and ask for help, if needed.”

- Josh Brown, senior
Through Forest Hydrology you will explore the functions, properties, and significance of one of our most vital natural resources. The primary topics covered by this course include the effects of land use on water resources, basic hydrologic principles, and ways to minimize human impacts on water resources.

Taking what was learned in lecture to the waterways of East Texas, you are introduced to equipment used to conduct basic water quantity and quality measurements. This includes electromagnetic flow meters, which measure stream velocity, and water quality probes which measure dissolved oxygen, conductivity, pH, temperature, and turbidity. You also will learn EPA-approved water sampling techniques and aquatic biota collection methods. After honing these skills, you gain valuable experience by collecting measurements at a project site and analyzing the data to determine whether or not the site meets water quality standards required by law. This is an essential skill that will be drawn upon in future courses and careers.

This course affords you with an understanding of how to meet society’s needs while conserving our water resources.
As you have discovered, there are multiple facets to forest resource management. Forest Economics provides you with an economic perspective to forest resource management, approaching it as a business that results in economic profits while sustaining or improving the condition of the land being managed.

Understanding how to manage forest resources from an economic point of view is a critical skill that all foresters must master. Multiple-use resource management is essential to utilizing natural resources in a way to produce the most profits on a single tract of land. This course provides decision-making skills in relation to multiple-resource management, further developing your dexterity as a forester.

Topics discussed in lecture include price theory, production and supply, market structure, investing, taxes, supply and demand, and multiple-use theory and application. Skills obtained in this course are essential to successful completion of the forestry program’s capstone course, Forest Resource Management (FOR 458). Upon completion of this course, you will be able to independently use economic analysis to find solutions to problems pertaining to public policy and natural resources.

ECONOMICS graphs

Understanding how to manage forest resources from an economic point of view is a critical skill all foresters must master.
Ecology, Management and Harvesting of White-Tailed Deer is an elective course for forest wildlife management majors offered in spring. During this course, you acquire a knowledge base in the biology and habitat management of one of the most valuable North American game animals.

Primarily working in outdoor labs, you will learn professional deer management techniques, including health checks, necropsies, deer censuses, and food plot design. Focus also is placed on communication skills necessary to address the management objectives of stakeholders that range from private landowners to agencies. During a class trip to South Texas, you will learn how to humanely capture deer using net guns and helicopters.

The course integrates the latest in technology and science, including live internet broadcasts, which allow you to see management situations at multiple locations. Some outdoor labs also are recorded on video, allowing you to review what was learned. This class also relies on the college’s Institute for White Tailed Deer Management and Research which adds up-to-date information to the course’s discussions. As with most of the courses at ATCOFA, the course’s final assignment is a real-world application of techniques learned throughout the semester. In this case, it is the development of a management plan for white-tailed deer that requires students to draw from all of their newly developed skills.

**What is one of your fondest memories of ATCOFA?**

“My fondest memory was a trip to South Texas for a deer capture.”

- James Miller, senior
Forest Wildlife Habitat Management is the capstone course for forest wildlife management majors. This course will teach you the many ways habitat variations affect wildlife, as well as how to manage vegetation for important wildlife species in East Texas.

The lecture portion of the course emphasizes the different tools such as fire, herbicides, timber operations, and grazing that are used to manipulate forested habitat for the benefit of a particular species. The lab portion of the course will take you outdoors to see these tools in action, while field trips transport you to diverse habitats found outside of East Texas. You also will learn identification and ecology of more than 200 different herbaceous plant species that are important to wildlife, as well as preserve specimens for a comprehensive plant collection.

The course culminates in applying your expertise to a local property by developing and presenting a management plan that benefits an East Texas wildlife species. This includes the design of a sampling plan and the use of GIS to develop a sampling layout. After completing this course, you will have the skills necessary to begin a career in wildlife management.

What are the benefits of studying forest wildlife management at ATCOFA?

“You get both dynamics of forestry and wildlife which I feel gives you an advantage when trying to manipulate habitat for a specific wildlife species.”

- Ryan Assenheimer, senior
In the words of the celebrated forester and conservationist Aldo Leopold, “The public is (and the sportsman ought to be) just as much interested in conserving non-game species, forests, fish, and other wild life as in conserving game.”

Non-game Wildlife Ecology is an elective course for forest wildlife management majors offered in the spring of even years only. This class introduces you to ecological processes and potential management options for non-game wildlife and is designed to foster student involvement, presentations, and discussions.

Before focusing on ecology, conservation, and management of non-game species, the class concentrates on reviewing and broadening your understanding of conservation biology and community ecology. You will then plunge into the management of diverse non-game species such as neotropical migrant songbirds, birds of prey, bats, amphibians, reptiles, insects, and large mammalian predators.

Each student will give a presentation during the semester, allowing you to explore current research in the field of your selected species, investigate current issues of interest, and strengthen communication skills.

Upon completion, students will understand advanced theories, concepts and practices as applied to non-game wildlife.
Wetlands are essential to the health of our waterways and communities. They also are home to a diverse array of valuable wildlife. Wetland Wildlife Management is an elective course for forest wildlife management majors offered in the spring of odd years only. During this course, students learn the concepts, theories, and practices of wetland wildlife management.

The class begins by exploring wetland ecology, structure, function, and classification. After gaining an understanding of the habitat, you move on to learn the ecology, management, and conservation approaches for the wildlife that call it home. These focal groups include waterfowl, rails, shorebirds, wading birds, furbearsers, and herptiles. You also will learn various wetland management strategies.

As a component of the course, you will complete an in-depth research paper on a topic concerning wetland conservation and management, allowing you to further explore your own personal interests and strengthen your critical writing and research skills.

Through Wetland Wildlife Management, you will not only develop a thorough understanding of wetland wildlife conservation and management strategies, but gain the knowledge to confidently apply these principles.

Students learn the concepts, theories and practices of wetland wildlife management.
Prepare yourself for a challenging, yet rewarding course, which requires you to draw from the wide range of skills learned during your time at ATCOFA. Forest Resource Management, or “plans,” as it is referred to by many students, is the capstone course for the forestry program. During this course, you will learn to develop, write, and present a complete forest management plan, requiring you to apply your full realm of knowledge in natural resource management to a real-world situation.

At the beginning of the semester, you and a partner of your choice meet with a landowner to identify objectives for an assigned tract of their land. Based on these objectives, you will formulate a strategic management approach and develop a management plan that demonstrates economic benefits through intensive, multiple uses while simultaneously improving the land. The top management plans are presented to the landowner at the end of the semester, providing you with the opportunity to see your recommendations formally implemented.

Major components include GIS, GPS, wildlife management, silviculture, forest protection, dendrology, policy, ethics, and economics. Time management, written and oral communication, and professionalism also are strongly emphasized. Upon completing this course, you will have demonstrated your readiness for a career in forestry.

During this course, you will develop, write, and present a complete forest management plan.
Contemporary Problems in Forestry is an elective course for forest wildlife management majors which consists of four sections offered on a rotating schedule: Wildlife Conservation and Wildlife Diseases is offered on odd-numbered years in the spring only; Range and Wildlife Ecology and Management is offered on even years in the fall; and, Predator Ecology is offered on even years in the spring.

All class sections initiate students to current challenges of wildlife management. In Wildlife Disease, students learn the biology, diagnosis, and control of diseases that affect wildlife. Wildlife Conservation discusses current threats to biodiversity and how wildlife biologists apply theoretical concepts in the field. Predator Ecology engages students in the important effects that predator-prey interactions have on the ecosystem as well as how to manage them. Lastly, Range and Wildlife Ecology and Management focuses on managing a range where grazing needs coexist with wildlife habitat.

In all sections, you develop skills that will set you apart from others in the job market. You will learn to perform necropsies in Wildlife Disease, give presentations on topic-related case studies in Predator Ecology and Wildlife Conservation, and be able to effectively discuss range-wildlife management concepts in Range and Wildlife Ecology and Management. Each course offers a valuable skill set acquainting you with some of the most important issues currently facing wildlife management.

Students acquire skills that distinguish them in the job market.
Urban Wildlife Management is an elective course for forest wildlife management majors. During this course, offered in the spring of even years only, you learn the challenges of managing wildlife in an urban environment and how they differ from traditional wildlife management techniques.

Urban expansion is one of the great issues facing wildlife populations today, and you will spend the semester exploring the impact this issue has on the habitat usage and population dynamics of wildlife communities. Topics of investigation include habitat components such as urban streams and soils, wildlife damage management, wildlife diseases in urban areas, and exotic species. You also will explore the effects that media and human dimensions have on management techniques, focusing on several important species of urban wildlife.

Valuable experience also will be gained by performing urban habitat assessments and documenting wildlife use by placing remotely triggered cameras around campus.

The course allows you to focus on an issue that is of interest to you and share your knowledge with peers through the development of a research paper and presentation. Ultimately, Urban Wildlife Management fosters your development as a well-rounded wildlife professional who is proficient at addressing contemporary management issues.

Students learn the challenges of managing wildlife in an urban environment and how they differ from traditional wildlife management.
GIS Applications in Wildlife Management is a course required for all forest wildlife management majors. During this course, you will learn how to apply the most current technology to wildlife management and conservation. This course builds on knowledge obtained in prior GIS courses, focusing on its applications in wildlife management.

You will spend time in both classroom lecture and lab to achieve a deeper understanding of how GIS can be used in wildlife ecology, conservation, and management. This requires you to familiarize yourself with the GIS software used by most forestry professionals and regulatory agencies. This knowledge is a vital skill that all students must obtain, and one that future employers will look for when hiring professionals.

One of the most prominent topics covered during the course is the generation of land cover maps to analyze various aspects of species’ living habits, including location, habitat use, and home range. You will then learn how to apply this data to wildlife management plans. Through this course, you will become proficient in the use of GIS for wildlife management.

**Student tip:**

“Don’t be afraid to help each other out. When trying to understand new concepts, it helps to have more than one brain working at it!”

- Andrew Coty, senior

**COURSE DESCRIPTION**

Applications of GIS to common tasks and analyses used in wildlife ecology, conservation and management.

![A bear sighting distribution map](image1)

![A land cover map](image2)
The Class Mammalia encompasses an immense assortment of forms, habitats, and behaviors. Mammalogy is part of the coursework for all forest wildlife management majors and focuses on providing you with a broad knowledge of mammalian diversity.

Lecture covers a variety of topics, including the roles that mammals play in diverse ecosystems and the origins of mammals as a group. You also will explore areas such as biogeography, mammalian radiation, evolution, anatomy, and social systems. These subjects provide the groundwork upon which you will build your knowledge as you study the individual orders of mammals.

The lab portion of the course allows you to explore the concepts discussed in class through hands-on, interactive involvement. Using skulls and skins, you will identify specimens and understand and define the relationships between morphology, diet and behavior. These tasks enable you to understand how mammals are related to other classes of vertebrates and explain their diversity and success. You also will learn about different methods for studying mammals, including the latest technology involved in DNA sampling, radio telemetry, and capture techniques. This course provides essential knowledge to serve you in your career as a wildlife professional.

Students explore topics such as biogeography, mammalian radiation, evolution, anatomy and social systems.
Student organizations are the best way to get involved and show your pride in the Arthur Temple College of Forestry and Agriculture. Student organizations are extremely involved with numerous volunteer projects in the community and at SFA. Students also make lasting friendships and professional contacts through our organizations.
The Wildlife Society

Sfa’s student chapter of The Wildlife Society exposes students to sound stewardship methods of wildlife resources and the environment; allows them to take an active role in preventing human-induced environmental degradation; increases awareness and appreciation of wildlife values; and seeks the highest standards in all activities of the wildlife profession.

The Wildlife Society is very active in the community. Students volunteer at events which enhance their knowledge of current topics and issues in wildlife management and allows them to reach out to the public. Some of the many events they volunteer for are the JAKES (Juniors Acquiring Knowledge, Ethics and Sportsmanship) event and Wheelin’ Sportsmen event, both held by the National Wild Turkey Federation; the fund-raising banquet for Safari Club International; and hunter check stations for the U.S. Forest Service.

In the spring, students attend the Southeastern Wildlife Conclave. They compete against different wildlife programs from the southeastern United States in various events such as quiz bowl, archery, dendrology, art competitions, game calling, radio telemetry, orienteering and many others! Our student chapter also attends the annual meeting for the Texas Chapter of The Wildlife Society, where members see technical presentations, compete in the quiz bowl and make professional contacts. The Wildlife Society is a great way to explore the professional world of wildlife management. Dr. Chris Comer is the faculty advisor (comerce@sfasu.edu).
Student Association of Spatial Scientists

Student Association of Spatial Scientists (SASS) is an organization that focuses on advancing the knowledge of SFA students who are interested in spatial science. Its goal is to promote awareness of the academic program of spatial science at the Arthur Temple College of Forestry and Agriculture as well as its related technologies and career opportunities.

The organization also offers social activities and events that provide opportunities for the members to gain leadership skills and professional development. SASS welcomes students from all disciplines across campus. The organization invites guest speakers from a variety of professions to inform students of the current status of spatial technologies and provide advice for their future careers. Members also are available to assist students with GIS tasks and provide tips and tricks on software applications.

Besides regular meetings, SASS helps organize the annual GIS Day event held on the third Wednesday of November each year. The university celebrates GIS Day through a series of presentations that showcase and explore the use of GIS and nurture our GIS community. SASS members are integral to this event. Dr. I-Kuai Hung is the advisor (hungi@sfasu.edu).

Student Chapter of the Association for Fire Ecology

The Student Chapter of the Association for Fire Ecology exists to provide students with hands-on experience with prescribed burning and opportunities to work with professionals in the field.

Student members of SAFE have the opportunity to become Red Card Certified. This means they receive the training in fire behavior, safety, equipment, radio communications, and chain of command in the U.S. Forest Service (which also applies to other federal land management agencies) needed to successfully participate in a prescribed burn. Students help burn in the spring and have experience working with a government agency.

SAFE volunteers within the community at many festivals and other events providing outreach and education on the importance of fire safety and the role of fire in many ecosystems. One of their accomplishments was making the SFA campus a Firewise Community, which is a national effort to protect people and property from the risk of wildfires. SAFE is a fun way to get involved with the public, network with professionals, and gain valuable skills! Dr. Brian Oswald (boswald@sfasu.edu) is the advisor.
Student Society of Arboriculture

The Student Society of Arboriculture serves as a link between professionals in the tree care and “green” industries and students. SSA is comprised of both forestry and horticulture students.

Members of SSA stay current on information and trends in the commercial tree care industry; have membership in the International Society of Arboriculture; have connections to employers across the nation; and have access to internships that boost their resume and job related skills.

SSA volunteers across the SFA campus and the local community. Their newest project is to conduct and coordinate the “Adopt-A-Tree Program” on campus. Adopt-A-Tree is an urban shade tree program designed to plant new trees in urban areas and maintain existing shade trees.

SSA also attends the Texas Tree Conference every year, which is hosted by the Texas Chapter of the International Society of Arboriculture. At the conference, students have the ability to network with professionals in their field and learn the latest tree care and urban forestry news and information. Membership in SSA allows students to not only get a leg up in the arboriculture industry, but also create lasting connections to fellow students. Dr. Hans Williams is the advisor (hwilliams@sfasu.edu).

Society of American Foresters

The SFA student chapter of the Society of American Foresters connects students to professional chapters of SAF. Members network with professionals, volunteer for various organizations, and travel the U.S. to enhance their forestry knowledge.

SAF is extensively involved in the community through volunteer work. One of their most successful ongoing efforts is the Tree Campus USA project. SAF received the Program of the Year award, as well as the President’s Volunteer Service Award for their hard work. SAF also volunteers with organizations like the Texas Forest Service and the National Wild Turkey Federation.

Every fall, students in SAF attend the National Convention. They compete with other forestry students from all over the nation in the quiz bowl competition and attend job fairs and technical sessions. In the spring, students attend the SAF State Chapter Meeting where they run a silent auction to raise money for SAF and meet with professional foresters working throughout Texas. Through membership with SAF, students also have the ability to apply for the Certified Forester Program, as well as other certification and education programs. Dr Pat Stephens-Williams (stephensp@sfasu.edu) is the advisor.

In 2013, the Student Chapter at SFA placed third for best chapter in the Nation!
SFA Student Chapter
Ducks Unlimited

The SFA Student Chapter of Ducks Unlimited is a professional and social organization that brings together students who are interested in hunting and conservation. Student members gain field experience and meet professional contacts from many agencies such as the Texas Parks and Wildlife Department, U.S. Fish and Wildlife Service, and many private entities.

Ducks Unlimited has many volunteer opportunities throughout the academic year. One of these is a visit to the Alazan Bayou Wildlife Management Area where students build water control structures to enhance wildlife habitat. They also participate in the Greater White-fronted Goose Survey, build wood duck nest boxes on North Toledo Bend, and help run check stations during duck season.

Each fall semester, Ducks Unlimited holds a Waterfowl Hunter’s Party, a fundraising activity that members describe as a “duck hunter’s dream.” In the spring semester, a banquet is held to highlight student accomplishments and conservation activities. Joining the SFA Student Chapter of Ducks Unlimited is a great way to meet new people who share the same interests in learning more about waterfowl and conserving their habitat. Contact Drs. Roger Masse (masserj@sfasu.edu) or Chris Comer (comerce@sfasu.edu) for more information.

Sylvans Forestry Club

Sylvans Forestry Club is a social and service organization in the Arthur Temple College of Forestry and Agriculture. Sylvans is the face of forestry at SFA. They volunteer at numerous community events, participate in spirit programs at SFA, and place every year at the Association of Southern Forestry Clubs Conclave.

Sylvans have a close relationship with the Texas Forestry Museum and volunteer at many of their community and fundraising events. Some of these include the Gala Dinner, Texas Forest Festival, and Lumberjack Challenge. Sylvans also participate in various spirit activities, including Homecoming, where they celebrate Lumberjack Day and build a float for the Homecoming parade.

The Sylvans’ biggest event is the ASFC Conclave, where students compete against all southern division forestry schools in events such as the men’s and women’s crosscut and bow saw, pole climb, birling, axe and knife throw, wildlife identification, timber estimation, compass and pacing, and many others. They have placed in the top three every year for the last 12 years. As a forestry student, Sylvans is one of the best ways to support SFA and take great pride in being a Lumberjack. Dr. Jeremy Stovall is the advisor (stovalljp@sfasu.edu).
The Student Chapter of the National Association for Interpretation connects students with professionals and hones their skills in environmental, cultural, and historical interpretation. NAI is dedicated to providing members with opportunities to develop communication and leadership skills.

In the fall, members attend the NAI National Convention, and in the spring, they attend the multi-state Region 6 Conference. At these conventions, members attend training seminars, where they gain skills important to recreation management. Students network with interpretation professionals from around the United States. NAI is a great way for all students to gain experience and make connections.

NAI’s volunteer activities better the community, all the while providing members with valuable hands-on interpretation experience. In December, members help put on the Dickens Christmas event at Millard’s Crossing Historical Village.

Interpretation allows members to teach others about resources, which is a valuable skill for all forestry majors. NAI is open to all majors. Dr. Theresa Coble is the advisor (tcoble@sfasu.edu).

Xi Sigma Pi

Xi Sigma Pi is the forestry honors fraternity established to recognize students who have excelled academically and to encourage members to continue excellence into their professional careers. Students in Xi Sigma Pi go above and beyond, showing dedication and commitment to their field. This organization works to secure and maintain a high standard of scholarship in natural resources education; improve the natural resources profession; and promote a fraternal spirit among those engaged in activities related to forest resources.

To become a member of Xi Sigma Pi, students must have completed field station, have a 3.0 grade-point average, complete a five-hour service project, undergo an interview, make a wooden plaque to be signed by members at the ceremony, and attend the induction ceremony. Interviews allow inductees to discuss their professional career goals. They also discuss how they plan to make an impact on the field of forestry, as well as how they will contribute to the community during their careers.

At the induction ceremony, members share a meal together and take the oath to maintain a high level of commitment to the field of forestry and represent the principles of Xi Sigma Pi. Inductees exhibit the qualities of honesty, loyalty, initiative, and teamwork. Dr. Matthew McBroom (mcbroommatth@sfasu.edu) is the advisor.
Agri-Ambassadors
Agri-Ambassadors are a group of students that recruit for the Department of Agriculture throughout the year at local events, national and statewide conventions, fairs, and other exhibitions. To become a member of the organization, a student must maintain a 2.25 GPA and show an interest in exhibiting leadership skills through recruiting efforts. Applications are available in the main office of the Agriculture Building, Room 101, and must be returned to Emily Payne in Ag 116A (epayne@sfasu.edu).

Horticulture Club
The Horticulture Club is known for going on great trips, visiting exciting places, and learning the tips and tricks of 21st century horticulture. The club meets once a week to assist the SFA Mast Arboretum in the propagation of plants for the Arboretum and Horticulture Club plant sales. The SFA Horticulture Club participates in the annual J. Benton Storey Undergraduate Student Horticulture Judging Contest. The advisor is Dr. Jared Barnes (barnesj@sfasu.edu).

National Association of Environmental Professionals
NAEP is a multi-disciplinary association for environmental professionals and a forum for environmental planning, research, and management. NAEP serves as a network of professional contacts, a resource for career development, and a strong proponent of ethics and the highest standards of practice in environmental professions. Dr. Kenneth Farrish is the advisor (kfarrish@sfasu.edu).

Pre-Veterinary Medical Organization
The Pre-Veterinary Medical Organization is a professional organization that stimulates student interest in veterinary medicine, familiarize students with the expectations associated with pre-veterinary and the veterinary profession, and builds strong friendships among pre-vet students. Dr. Joey Bray is the advisor (jbray@sfasu.edu).

Sigma Alpha Professional Agricultural Society
Sigma Alpha exists to promote women in agriculture and to strengthen the bonds of friendship among them. Members strive for achievement in scholarship, leadership, and service. The advisor is Emily Payne (epayne@sfasu.edu).
As one of the top southern forestry schools, we take pride in the fact that graduates from our programs are highly sought after by employers in the public and private sectors. Our alumni also feel such a sense of pride that they keep in touch with us after they have graduated.
Chelsea Lopez
Forester
Weyerhaeuser in North Louisiana Red River Office

Chelsea Lopez, a 2014 graduate of the forest wildlife management program, says she always longed to work outdoors. After her high school ecology teacher, a wildlife biologist, introduced her to the wide variety of jobs available in the field of natural resources, she knew she could pursue her dream with confidence.

Lopez now works as a forester for Weyerhaeuser in their North Louisiana Red River office, and says she is learning an incredible amount during her time there.

“With Weyerhaeuser, each person is assigned different procedures to overlook, and that is their specialty,” Lopez explained. “It’s a very fluid process with everyone working together to accomplish a job in the most efficient way possible.”

While a student at ATCOFA, Lopez worked for the U.S. Forest Service in Montana and for the U.S. Fish and Wildlife Service in Maine and Maryland conducting forestry work and wildlife surveys. She encourages students to remain active and open to new experiences, as they can lead to future employment.

“Step out of your comfort zone,” she said. “The more involved you are in clubs and classes, the more likely you are to meet future coworkers and potentially find jobs within this field while you’re in school or after you graduate.”

Lynden Wood
Natural Resource Specialist/Park Ranger
Whitney and Aquilla Lakes

Lynden Wood graduated from the forest wildlife management program in 2013 and is a U.S. Army Corps of Engineers Natural Resource Specialist/Park Ranger for Whitney and Aquilla Lakes. He began working with the Corps of Engineers in 2012 after learning about internship opportunities from SFA alumni who visited the campus.

Though Wood’s interests focus heavily on wildlife, the majority of his work days are spent interacting with the public.

“The biggest impact I can have on the world around me is educating the public,” he said. “During the winter, I work mostly with adjacent landowners, installing firebreaks or agriculture leases, and then during the summer, it is all about water safety.”

To ensure a successful post-college career, he encourages students to focus on strengthening their technical writing skills, emphasizing that it is an integral part of the natural resource management field. He also advises students to cast aside self-doubt as they take on the rigorous courses at ATCOFA.

“The natural resources field is highly competitive, and ATCOFA is able to give you the tools and connections needed to make a career for yourself in forestry, wildlife, GIS, and environmental science.”
According to Mia Brown, 2010 graduate of the forest wildlife management program, her job as the Interpreter/Resource Specialist at Caddo Lake State Park requires the utilization of many hats. The most important is that of introducing visitors to the diverse natural resources that comprise the park.

“For many people, it is their first time to the park and the area, so I get to orient them to all the fantastic things to see and do around here. I also get to advertise my programs to them,” Brown explained with enthusiasm.

The programs developed by Brown range from nature hikes and wildlife identification to historical talks about the Civilian Conservation Corps who helped develop the park more than 70 years ago.

“When they leave the program, they are walking away with some sort of new knowledge about the environment around them which hopefully will foster an appreciation for that resource,” she said.

Brown said that her time at ATCOFA helped her develop the skills needed to pursue her ambitions.

“The forestry degree has so many different facets to it,” Brown said. “You experience so much in so many different natural resource areas that you have a great base from which to build your career.”

Chance Kimbrough graduated in 2007 from ATCOFA’s forest wildlife management program and now works as an applied ecologist for Advanced Ecology, Ltd. Kimbrough says his days can typically be divided into 70 percent office work in which he collaborates with private landowners and government employees to develop sound wetland, species, and stream conservation plans, and 30 percent field work where he implements and evaluates the projects.

“Every day we work to increase the nation’s inventory of wetlands and other waters of the U.S.,” Kimbrough said. “We also work very hard to help private landowners sustainably manage their natural resources.”

Kimbrough explained he feels privileged to work for a company that has restored, enhanced, and preserved more than 20,000 acres of wetland, stream, and species habitat in the private market.

He advises students to never pass up an opportunity in which they may better themselves. Furthermore, he encourages students to make professional connections, and volunteer for field work at every given opportunity. Lastly, Kimbrough said, never be afraid to ask questions, learn from your mistakes, and keep an open mind.
Jocelyn Howell
Wildlife Technician
USDA Forest Service Davy Crockett National Forest

For Jocelyn Howell, 2010 graduate of the forest wildlife management program, every day in the field holds new surprises. “Every day is different,” Howell said.

As a wildlife technician for the U.S. Forest Service, Howell spends her time completing any number of tasks that contribute to the management of the Davy Crockett National Forest. Her week may include managing for the endangered Red-cockaded Woodpecker, conducting prescribed burns, or working in the forest’s recreation areas. Outreach also is an integral part of Howell’s work, providing the surrounding communities with information regarding the Red-cockaded Woodpecker and forest management.

Prior to her job as a wildlife technician, Howell interned with the Texas Parks and Wildlife Department and volunteered with the U.S. Forest Service. During her time as an undergraduate, she participated in the Student Career Experience Program (SCEP) with the U.S. Forest Service, and was offered a full-time, permanent position upon graduating.

She credits her success to her family and ATCOFA professors who pushed her to never give up and to be the best student she could be.

“Never give up, no matter how hard you think it is,” she said. “Anything’s possible if you keep at it and believe in your dreams.”

Timothy Siegmund
Regulatory Biologist
Texas Parks and Wildlife Department

In his five years with Texas Parks and Wildlife as the Regulatory Biologist for Region 3, District 5, Timothy Siegmund has played a role in restoring approximately 1,500 acres of native Texas grassland.

While Siegmund, a 2007 graduate of the forest wildlife program, has established himself as a leader in the conversion of non-native pastures back to native grasslands for the benefit of upland game species, his duties and passion encompass far more.

Siegmund said a day at the office can find him conducting wildlife population surveys, providing management advice for landowners, or planning habitat restoration activities for the endangered Houston Toad.

“The work I do directly allows me to connect with people and educate them on the uniqueness of their property and the natural systems in which their property are a part of,” Siegmund said. “I love what I do.”

Siegmund said the exposure to fieldwork he received as an undergraduate and conducting graduate research are extremely valuable in his current role.

“Pursue your career ambitions fervently and with great ambition,” Siegmund advises. “Take every opportunity you can to gain experience, and meet a diverse group of professionals.”
Aquatic biota: The plants and animals living in water.

Bioenergy: Renewable energy derived from living or recently living organisms, known as biomass, which includes but is not limited to plants and wood waste.

Biogeography: The branch of biology that explores the distribution of species and ecosystems throughout geographic location and geological time.

Clinometer: Instrument used to measure slope, elevation, or depression of an object. Foresters typically use clinometers to obtain tree heights and/or percent slope of terrains.

Composite products: Wood based products made by binding pieces, chips, or fibers together by means of adhesion. Examples of composite products include plywood and oriented strand board (OSB).

Cruising Prism: A tool used forest cruising to determine whether or not to count a tree at a point sample.

Diameter tape (D-tape): A forest surveying tool that consists of a cloth or metal tape used to measure the diameter at breast height (DBH) of a tree.

Fauna: The animal life of any particular region or time.

Forest Succession: The sequential process by which a forest community changes in abundance, composition, and species following a disturbance or establishment of new habitat.

Game species: An animal hunted for food or sport and are typically not domesticated. Examples include deer, waterfowl, and bass.

General Education Requirements: General education (GE) is more than a checklist of required courses. General education requirements were created in an effort to ensure all college students have a working knowledge in a wide array of fields. The course program is designed to immerse students in the arts, humanities, and social and natural sciences, providing a solid, interdisciplinary basis upon which to pursue a major and build expertise.

Hardwood: A generic term that describes wood from broad-leaved, mostly deciduous, angiosperms (plants that produce seeds with a covering). Examples include oak, ash, and maple.

Herptiles: A term used to refer to both reptiles and amphibians.

Human dimensions: The social attitudes, methods, and actions related to how society engages with and utilizes natural resources.

Hydrologic cycle: The natural process by which water passes into the atmosphere as water vapor, precipitates to the ground as a liquid or solid, and once again returns to the atmosphere through evaporation.

Increment borer: A specialized tool used to extract a section of wood tissue from a living tree with relatively minor injury to the tree. This tool is typically used to gauge the age of a tree.

Mammalian radiation: The divergence and specialization of mammals into a variety of related lineages evolving different adaptations to fit diverse environments or ways of life.

Meso-mammals: A term that roughly defines mammals larger than rodents up to approximately fox-sized mammals. Examples include opossums and raccoons.
**Morphology:** The branch of biology concerned with the analysis of the form and structure of organisms.

**Necropsy:** An autopsy performed on an animal.

**Non-game species:** Any wildlife not classified as a game species, meaning they are typically not taken for fur, sport, or food. Examples include songbirds and toads.

**Occupancy Modeling:** The process by which species survey data is used to identify habitat factors associated with occupancy by that species. Scientists can then use the models to predict areas of unsurveyed habitat that are likely to support the species under study.

**Pacing:** A simplified and quick method of measuring distance in the field. One pace is defined at two full footsteps.

**Prism:** See cruising prism

**Radio telemetry:** The use of radio waves for transmitting information from a distant instrument to a device that indicates or records the measurements. Wildlife biologists use this technology to track wildlife and obtain habitat, migratory, and pertinent ecological information.

**Relaskop:** A multi-use forest inventory tool primarily utilized in determining tree height, diameter, and basal area. The relaskop is especially useful in steep terrain as it automatically corrects for slope.

**Sampling design:** A framework that provides the basic plan and procedures for selecting a survey sample.

**Silviculture:** The art and practice of controlling the growth, structure, and health of forests to achieve management goals.

**Softwood:** A generic term used to describe wood from conifers. Examples include pine, cedar, and cypress.

**Stand prescription:** A planned treatment of a forest site designed to alter the forest stand’s condition in order to meet management goals. Examples include thinning operations, clear cuts, or no management activities to allow for free growth.

**Stereoscope:** A device that allows two photographs of the same object taken as different angles to be viewed together, generating a three-dimensional image.

**Taxonomy:** The branch of science concerned with naming, describing, and classifying organisms.

**Traverse:** An important technique in surveying developed by measuring the distances and angles between points that establish the boundary of a site.

**Vegetative propagation:** A form of asexual reproduction by which parent plants produce new individuals that are genetically identical to the parent plant.

**Wetland delineation:** The establishment of the physical location and size of a wetland for the purposes of federal, state, and local regulations.
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