

**NRES 250**  
**INTRODUCTION TO FISHERIES, FORESTRY AND WILDLIFE RESOURCES**  
**FALL SEMESTER 2021 SYLLABUS**

<b><u>Lecturers:</u></b>	<b><u>Office</u></b>	<b><u>Phone</u></b>	<b><u>Office Hours</u></b>
Dr. Justin VanDeHey (JV)	TNR 178	346-2090	10 – 11 Mon.
Dr. Shelli Dubay (SD)	TNR 325	346-4178	11 – 12 Mon. and Fri.
Dr. Rich Hauer (RH)	TNR 323	346-3642	8 – 9 Mon. and Wed.

**Overall Objectives:** This course will introduce students to management practices used to achieve objectives using the fisheries, forestry and wildlife resources. Specifically, the course is designed to provide students with skills to 1) Identify the prevailing views toward, and conditions of, the North American fisheries, forestry and wildlife resources from pre-European settlement times to the present, 2) Identify key policies/legislation that has guided the management of the resources over time in addition to the reasons for their implementation, 3) Describe and/or apply sampling techniques when estimating fisheries, forestry or wildlife attributes, 4) Define the term sustainability and identify management techniques that lead to sustainability of fisheries, forestry, and wildlife resources, and 5) Evaluate the inter-related nature of managing fisheries, forestry, and wildlife resources identifying synergies and divergences therein.

**Forestry Objectives:** At the end of the course, students should be able to 1) Describe scientifically and environmentally sound forested stand regeneration techniques, intermediate stand management techniques, and harvesting options for both even-aged and uneven aged stands, as well as mixed and pure stands, and how they can be used to meet a wide ranging host of landowner objectives, including those related to fisheries and wildlife, 2) Identify the different forested regions of North America, and describe the growing conditions of, and predominant species present in, those regions, and 3) Compare and contrast the role, and management, of individual trees in urban forests versus traditional (rural) forests.

**Fish and Wildlife Objectives:** At the end of the course, students should be able to 1) Describe public attitudes and ethics involved with fish and wildlife management today, 2) Identify techniques used to sample fish and wildlife, 3) Describe the role of recruitment/natality, mortality, and growth in regulating fish and wildlife populations, 4) Describe techniques used to determine the age, sex, and growth rate of fish and wildlife species, 5) Identify techniques used to evaluate, manage, and improve fish and wildlife habitat, 6) Identify the various types of harvest regulations used to manage fish and wildlife populations, 7) Identify causes of fish and wildlife population decline and describe measures used to protect endangered populations.

**Attendance:** Attendance is your responsibility, and as a professional and responsible student, you are expected to attend class. Missing lectures and labs will most likely lead to poor performance in this class. Please let Dr. Shelli Dubay, the lead instructor of this class and/or your lab instructor know *as soon as possible* regarding an unavoidable absence from class. If you will be absent on the day of an exam because of a university-sponsored trip, you must contact the instructor(s) at least 4 days before the trip to arrange an alternative test time. If you miss an exam because of an emergency (health problem or family crisis), you are responsible for contacting Dr. Dubay or your lab instructor *as soon as feasible* and arranging a make-up exam immediately after your return to class. Make-up exams are not available for exams missed for reasons other than emergencies or university-sponsored trips.

**Logistics:** **Lectures: 10:00 to 10:50 on Tuesday, Thursday, and Friday in TNR 170**  
Lectures are delivered by Drs. Hauer, Dubay, and VanDeHey. Initials by the title of each lecture (which appear later in this document) indicate the professor that will be lecturing on that topic. If you have questions about a specific lecture, contact the lecturer who covered that specific material.

Labs are taught by a number of instructors as follows:

**Labs (times as outlined below, all will meet in TNR 157 unless specified by your lab instructor):**

- Section 1: Monday 8:00-9:50, Dr. Diane Lueck (TNR 245; 346-4151; dlueck@uwsp.edu)
- Section 4(H): Monday 10:00-11:50, Dr. Diane Lueck (TNR 245; 346-4151; dlueck@uwsp.edu)
- Section 6: Monday 13:00-14:50, Dr. Shelli Dubay (TNR 325; 346-4178; sdubay@uwsp.edu)
- Section 8: Monday 15:00-16:50, Dr. Nilesh Timilsina (TNR 327; 346-2446; ntimilsi@uwsp.edu)
- Section 7: Tuesday 13:00-14:50, Mr. Dan Connolly (donnoll@uwsp.edu)
- Section 9: Tuesday 15:00-16:50, Dr. Shuva Gautam, TNR 367; 346-3144; sgautam@uwsp.edu)
- Section 2: Wednesday 8:00-9:50, Mr. Dan Connolly (dconnoll@uwsp.edu)
- Section 5: Wednesday 12:00-13:50, Dr. Marie Perkins (TNR 344; 346-4151; mperkins@uwsp.edu)
- Section 10: Thursday 15:00-16:50, Mr. Jeremy Natzke (TNR 360A; [jeremy.k.natzke@uwsp.edu](mailto:jeremy.k.natzke@uwsp.edu); 218-2924)
- Section 3: Friday 8:00-9:50, Dr. Marie Perkins (TNR 344; 346-4151; mperkins@uwsp.edu)

Note, you are expected to attend only your scheduled lab section. Attending another section is not permissible except for (i.) pre-approved extenuating circumstances or (ii.) health problem or family crisis. Permissions must be granted by your lab instructor and the instructor whose lab you are trying to attend. See the attendance policy above for valid extenuating circumstances.

**Canvas:** We will use a Canvas site to provide lecture materials. Use of Canvas in labs will be at the sole discretion of your lab instructor and level of use can vary from lab instructor to lab instructor.

**Readings:** Readings will be assigned from the course texts (below) as well as from notes and other materials referenced from time to time in lecture. **Exams can include questions from reading assignments.**

Willis, D. W, C. G. Scalet and L. D. Flake. 2008. Introduction to wildlife and fisheries: An integrated approach. W. H. Freeman and Company, New York, New York, USA. **WS&F**

Young, R. A., and R. L. Giese, editors. 2003. Introduction to forest science. 3<sup>rd</sup> edition. John Wiley and Sons, New York, New York, USA. **Y&G**

**Grading:** The lecture component comprises 60% of your course grade and is based on three non-cumulative and equally weighted lecture exams that each contribute 20% toward your final grade. The remaining 40% of your grade results from the laboratory portion. The laboratory component consists of two lab exams (each contributing 9% toward your course grade), one scientific report (9% of your course grade) two assignments (a combined 7% of your course grade), and lab quizzes (collectively comprising 6% of your course grade).

Your final grade for the course will be assigned based on the final percentage of total points you earned. Categories are as follows:

A	92.6-100%	B+	86.6-89.5%	C+	76.6-79.5%	D+	66.6-69.5%
A-	89.6-92.5%	B	82.6-86.5%	C	72.6-76.5%	D	59.6-66.5%
		B-	79.6-82.5%	C-	69.6-72.5%	F	0-59.5%

Instructors reserve the right to adjust final course grade categories (*only* to your benefit) at semester's end. Direct questions regarding your course grade to Dr. Dubay, the coordinator for NRES 250 this semester.

**Students with Disabilities:** The university has a legal responsibility to provide accommodations and program access as mandated by Section 504 and the Americans with Disabilities Act (ADA). The university's philosophy is to not only provide what is mandated, but also convey its genuine concern for one's total well-being. If accommodations are needed, please contact the lead instructor (Dr. Dubay for this course) as well as the Office of Disability and Assistive Technology, 609 Albertson Hall (715) 346-3365.

## LECTURE AND LAB SEQUENCE

### WEEK 1: 2-3 September

- Lec: Course introduction & History of fisheries management (JV)
- Lec: History of wildlife management (SD)

**Labs begin September 13**

### Reading assignments

WS&F 1.3 & 1.5, 1.8, 17.2, 17.3  
WS&F 1.4, 1.5

### WEEK 2: 7-10 September

- Lec: History & importance of forest management (RH)
- Lec: Importance of Fisheries and Wildlife (SD)
- Lec: Forest regions of North America (RH)

**Labs begin September 13**

Y&G Ch. 1, pp. 196-202

Y&G Ch. 3

### WEEK 3: 14-17 September

- Lec: Factors influencing forest growth: tree morphology (RH)
- Lec: Forest ecology and the forest ecosystems (RH)
- Lec: Sampling forest resources (RH)
- Lab: Tree Identification

Y&G pp. 75-85

Y&G pp. 114-118, 127-130

Y&G pp. 249-260, WS&F 13.5

### WEEK 4: 21-24 September

- Lec: Public attitudes, conservation ethics and values (SD)
- Lec: Animal Behavior I (SD)
- Lec: Animal Behavior II (SD)
- Lab: Compass and Pacing

WS&F 16.4 -16.6

WS&F Ch. 6, 2.8-2.10

### WEEK 5: 28 Sept-1 October

- Lec: Silviculture techniques to manipulate biomass (RH)
- Lec: Sampling fish and wildlife (JV)
- Lec: 1<sup>st</sup> LECTURE EXAM**
- Lab: GPS and Pacing

Y&G pp. 285-293

WS&F Ch. 7, 9.10 & 9.14

### WEEK 6: 5-8 October

- Lec: Determining age, growth, and sex of fish and wildlife (JV)
- Lec: Agricultural practices and wildlife management (SD)
- Lec: Range management and grazing systems (SD)
- Lab: Timber Resource Measurements

WS&F Ch. 8

WS&F 2.11, 14.4, 18.9

Y&G Ch. 15; WS&F 15.1

### WEEK 7: 12-15 October

- Lec: Environmental physiology of tree growth (RH)
- Lec: Even vs. uneven-aged approaches to forest management (RH)
- Lec: Intermediate forest management practices (RH)
- Lab: Timber Cruising

Y&G pp. 85-96, 261-262

Y&G pp. 285-293

Y&G pp. 293-312

### WEEK 8: 19-22 October

- Lec: Wildlife and Forest Management I (SD)
- Lec: Wildlife and Forest Management II (SD)
- Lec: Impacts of diseases on forests, fish, and wildlife (SD)
- Lab: MIDTERM LAB EXAM**

Y&G Ch. 14, WS&F 13.7, 14.5, 15.1

Y&G 148-160, WS&F 10.9, 391-2

### WEEK 9: 26 – 29 October

- Lec: Dynamics of fish and wildlife populations (JV)
- Lec: Population Genetics in fisheries and wildlife (JV)
- Lec: Modeling and statistics in fish and wildlife populations (JV)
- Lab: Snags and Debris

WS&F Ch. 3

WS&F Ch. 4

WS&F Ch. 9

**WEEK 10: 2-5 November**

- Lec: Lake and Reservoir management (JV) WS&F Ch. 15.3
- Lec: Case Study: Crane Management in Wisconsin (SD)
- Lec: 2<sup>nd</sup> LECTURE EXAM**
- Lab: Scientific Writing

**WEEK 11: 9-12 November**

- Lec: Uses of marked animals in fisheries and wildlife (JV) WS&F Ch. 9.10-9.14
- Lec: Rectangular Land Survey (RH) Y&G Ch. 245-248
- Lec: Wetland management (ALL) WS&F 12.2, 14.6, 15.2, 15.6
- Lab: Fish and Wildlife populations

**WEEK 12: 16-19 November**

- Lec: Stream trout management (JV) WS&F Ch. 15.4
- Lec: Manipulating fish and wildlife resources: stocking and removals (JV) WS&F Ch. 10
- Lec: Manipulating fish and wildlife resources: harvest management (JV) WS&F Ch. 17, 19
- Lab: Scientific Method

**WEEK 13: 23 – 27 November**

- Lec: Harvest management in fish and wildlife case studies (JV)
- Lec: No Thursday lecture
- Lec: No Friday lecture
- Lab: No labs

**WEEK 14: 30 November – 3 December**

- Lec: Urban forestry and urban forest ecosystems (RH) Y&G Ch. 22
- Lec: Forest protection and managing natural resources (RH) Y&G Ch. 8
- Lec: Wildlife management in urban settings: benefits and problems (SD) WS&F 14.3
- Lab: Rectangular Land Survey

**WEEK 15: 7-10 December**

- Lec: Case study: Lake Whitefish management in Lake Michigan (JV)
- Lec: Management of depleted species (SD) WS&F Ch. 11
- Lec: Sustainable forestry, ecosystem management, & BMP's (RH) Y&G pp. 181-193, 307-312
- Lab: **FINAL LAB EXAM**

**\*FINAL LECTURE EXAM: 12-15-2021 8:00 am**