

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

<u>Lecturers:</u>	<u>Office</u>	<u>Phone</u>	<u>Office Hours</u>
Dr. Justin VanDeHey (JV)	TNR 178	715-346-2090	11 – 12 Thur. or by appointment
Dr. Shelli Dubay (SD)	TNR 325	715-346-4178	12 – 1 Tues. and Fri.
Dr. Rich Hauer (RH)	TNR 323	715-346-3642	10 – 11 Tues. and Thur.

Zoom Office Hours Links:

JV: <https://uwsp.zoom.us/j/98496208785?pwd=TmwrUjFHb0VyOFc3d0t5amQ3UVhldz09> (passcode: 651617)

SD: <https://uwsp.zoom.us/j/9269849384>

RH: <https://uwsp.zoom.us/j/96287053318?>

Overall Objectives: This course will introduce students to management practices used to achieve management objectives for fisheries, forestry and wildlife resources. Specifically, the course provides 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 and 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) Develop economically, socially, and environmentally sound and science-based forestry practices to meet landowner objectives, including those related to fisheries and wildlife; 2) Select appropriate stand regeneration techniques (intermediate stand management, harvesting options for both even-aged and uneven aged stands, as well as mixed and pure stands) and relate how they can be used; 3) Identify the different forested regions of North America, predominant species present in those regions, describe common tree silvics characteristics; 4) Identify laws, policies, and market place approaches used to solve conservation, preservation, and sustainable questions; and 5) Compare and contrast the role, and management, of individual trees in urban forests and 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 habitat for wildlife and fish species, 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/watching recorded lectures is your responsibility, and as a professional and responsible student, you are expected to attend class and familiarize yourselves with all material covered in class. You will not do well in the class if you do not watch recordings and miss lab meetings. Please let Dr. Dubay, coordinator of this class and/or your lab instructor know *as soon as possible* regarding an unavoidable absence from class. If you are unable to take an exam because of a university-sponsored event, you must contact the instructor(s) at least 3 days before the event 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 possible* and arrange a make-up exam immediately. Make-up exams are not available for exams missed for reasons other than emergencies or university-sponsored events.

Lectures: if we were in person, we would meet 11:00–11:50 on Monday, Wednesday, and Friday

Lectures are recorded and uploaded to Canvas by Drs. Dubay, Hauer, and VanDeHey. Initials by the title of each lecture (which appear later in this document) indicate the professor who will be lecturing on that topic. If you have questions about a specific lecture, contact the lecturer who covered that specific material. If we were in person, we would be meeting at 11 am on M, W, F. As a result, lectures outlined below will be added to Canvas and ready for 11 am on the day that they would have been delivered in person. Think of this as a “due date” for each of your lecture instructors. Additionally, we will be available on Wednesdays at 11 am for you to “check in” with us. The zoom link for weekly “check in” is:

Join RL: <https://uwsp.zoom.us/j/99188615402?pwd=QkZVd2ZiWWtURTISaGdRQ3JtaUVsUT09>
Passcode: 7j879b

Labs are taught by a number of instructors as follows:

Labs: Meeting times are below and all will meet in TNR 157 unless online or a different location is specified by your lab instructor

Section 1: Monday 8:00-9:50 – Dr. Melinda Vokoun (TNR 376; 715-346-2342; mvokoun@uwsp.edu)
Section 5(H): Monday 13:00-14:50 – Dr. Shelli Dubay (TNR 325; 715-346-4178; sdubay@uwsp.edu)
Section 8: Monday 15:00-16:50 – Dr. Shuva Gautam (TNR 367; 715-346-3144; shuva.gautam@uwsp.edu)
Section 6: Tuesday 13:00-14:50 – Dr. Justin VanDeHey (TNR 178; 715-346-2090; jvandehe@uwsp.edu)
Section 7: Wednesday 13:00-14:50 – Dr. Melinda Vokoun (TNR 376; 715-346-2342; mvokoun@uwsp.edu)
Section 4: Thursday 12:00-13:50 – Mr. Logan Sikora (lsikora@uwsp.edu)

The following lab sections are 100% online

Section 2: Wednesday 8:00–9:50 – Dr. Justin VanDeHey (TNR 178; 715-346-2090; jvandehe@uwsp.edu)
Section 3: Thursday 8:00-9:50 – Dr. Shuva Gautam (TNR 367; 346-3144; shuva.gautam@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’s whose lab you are trying to attend. See the attendance policy above for valid extenuating circumstances.

Canvas: This course will use the 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.

Course Canvas site: <https://uwstp.instructure.com/courses/375026>

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. 3rd 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 20% toward your lab grade), one scientific report (10% of your lab grade) three assignments (a combined 30% of your lab grade), and lab quizzes (collectively comprising 20% of your lab 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. Hauer, the coordinator for NRES 250 this semester.

Students with Disabilities: The University has a legal responsibility to provide accommodations and program access as legislated 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. Hauer for this course) as well as the Office of Disability Services, 609 LRC, voice (715) 346-3365 or 4116.

LECTURE AND LAB SEQUENCE

WEEK 1: January 25–29, 2021

Lec: History of wildlife management (SD)
Lec: History of fisheries management (JV)
Lec: Rectangular Land Survey (RH)
Lab: No Scheduled Lab First Week

Reading Assignments

WS&F 1.4, 1.5
WS&F 1.3 – 1.5, 1.8, 17.2, 17.3
Y&G Ch. 245-248

WEEK 2: February 1–5, 2021

Lec: History, importance, legislation of forest management (RH)
Lec: Public attitudes, conservation ethics and values (SD)
Lec: Importance of fisheries and wildlife management (SD)
Lab: Rectangular Land Survey and Map Reading

Y&G Ch. 1, pp. 196-202
WS&F 16.4 -16.6

WEEK 3: February 8–12, 2021

Lec: Animal Behavior I (SD)
Lec: Animal Behavior II (SD)
Lec: Sampling fish and wildlife (JV)
Lab: Scientific Writing

WS&F Ch. 6, 2.8-2.10

WS&F Ch. 7

WEEK 4: February 15–19, 2021

Lec: Uses of marked animals in fisheries and wildlife science (JV)
Lec: Sampling forest resources (RH)
Lec: Dynamics of fish and wildlife populations (JV)
Lab: Fish and Wildlife Population Assessment

WS&F Ch. 9.10 – 9.14
Y&G pp. 249-260, WS&F 13.5
WS&F Ch. 3

WEEK 5: February 22–26, 2021

Lec: Determining age, growth, and sex of fish and wildlife (JV)
Lec: Forest regions of North America (RH)
Lec: 1st LECTURE EXAM
Lab: The Scientific Method - Testing Hypotheses

WS&F Ch. 8
Y&G Ch. 3

WEEK 6: March 1–5, 2021

Lec: Factors influencing forest growth: tree morphology (RH)
Lec: Forest ecology and the forest ecosystem (RH)
Lec: Environmental physiology of tree growth (RH)
Lab: **WORK ON LAB REPORT**

Y&G pp. 75-85
Y&G pp. 114-118, 127-130
Y&G pp. 85-86, 261

WEEK 7: March 8–12, 2021

Lec: Silviculture and stand regeneration techniques (RH)
Lec: Modeling and statistics in fish and wildlife populations (JV)
Lec: Population Genetics in fisheries and wildlife (JV)
Lab: Distance and Direction Using Compass and Pacing

Y&G pp. 285-293
WS&F Ch. 9
WS&F Ch. 4

WEEK 8: March 15–19, 2021

Lec: Agricultural practices and wildlife management (SD)
Lec: Even vs. uneven-aged approaches to forest mgmt. (RH)
Lec: Intermediate forest management practices (RH)
Lab: **MIDTERM LAB EXAM**

WS&F 2.11, 14.4, 18.9
Y&G pp. 285-293
Y&G pp. 293-312, Ch. 16

LECTURE AND LAB SEQUENCE (continued)

SPRING BREAK: March 22–26, 2021

WEEK 9: March 29–April 2, 2021

Lec: Impacts of diseases on forests, fish, and wildlife (SD)
Lec: Wildlife and Forest Management I (SD)
Lec: Wildlife and Forest Management II (SD)
Lab: Comparing GPS to Compass and Pacing

Reading Assignments

Y&G 148-160, WS&F 10.9, 391-
Y&G Ch. 14, WS&F 13.7, 14.5, 15.1

WEEK 10: April 5–9, 2021

Lec: Jobs in Natural Resources (Sue Kissinger)
Lec: Range management and grazing systems (SD)

Y&G Ch. 15; WS&F 15.1

Lec: Attend CNR Undergraduate Research Symposium

**EXTRA CREDIT FOR ATTENDING 2 TALKS – EITHER POSTER OR ORAL PRESENTATIONS
TURN IN A PARAGRAPH SUMMARIZING WHAT YOU LEARNED TO YOUR LAB**

INSTRUCTOR VIA CANVAS LAB SITE BY MAY 1 (ONE PAGE MAX FOR BOTH SUMMARIES)

Lab: Tree Identification

WEEK 11: April 12–16, 2021

Lec: 2nd LECTURE EXAM

Lec: Lake and reservoir habitat management (JV)
Lec: Wetland management (ALL)
Lab: Timber Resource Measurements

WS&F Ch. 15.3

WS&F 12.2, 14.6, 15.2, 15.6

WEEK 12: April 19–23, 2021

Lec: Case study – crane research in Wisconsin (SD)
Lec: Urban forestry and urban forest ecosystems I (RH)
Lec: Urban forestry and urban forest ecosystems II (RH)
Lab: Timber Cruising

Y&G Ch. 22

WEEK 13: April 26–30, 2021

Lec: Trout stream management (JV)
Lec: Manipulating fish & wild. resources: harvest mgmt. (JV)
Lec: Manipulating fish & wildlife resources: stocking & removals (JV)
Lab: Snags and Woody Debris

WS&F Ch. 15.4

WS&F Ch. 17, 19

WS&F Ch. 10

WEEK 14: May 3–8, 2021

Lec: Wildlife mgmt. in urban settings: benefits and problems (SD)
Lec: Harvest management Case studies (JV)
Lec: Case study: Lake whitefish in Lake Michigan (JV)
Lab: Forest Succession

WS&F 14.3

WEEK 15: May 10–14, 2021

Lec: Forest protection and managing natural resources (RH)
Lec: Sustainable forestry, Ecosystem Management & BMPs (RH)
Lec: Management of depleted species (SD)

WS&F, pp. 290-291

Y&G pp. 181-193, 307-312

WS&F Ch. 11

Lab: FINAL LAB EXAM

FINAL LECTURE EXAM: Monday, May 17 from 8:00 AM-11:59 PM (third exam, not cumulative)
