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WATER 484/684
FISHERIES MANAGEMENT
SECTIONS 1 AND 2
SPRING SEMESTER 2023, 3 CREDITS

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Instructor: Justin VanDeHey, Ph.D.
Office: TNR 178
Office Hours: Monday 12:00-1:00 and Wednesday 10:00-11:00
Office Phone: 715-346-2090
Email: Justin.vandehey@uwsp.edu (best way to reach me)

Lectures: Monday, Wednesday 9:00-9:50 in TNR 351

Laboratory: Section 1
Tuesday 11:00-12:50 in TNR 351

Section 2
Thursday 11:00-12:50 in TNR 351

Objectives: At the completion of the course, students will be able to (1) organize, write, present, and defend a fishery management plan based on principles of fishery science within the ecological, economic, political, and socio-cultural environments within which fishery management operates and (2) prescribe fishery management goals and objectives, diagnose impediments to reaching objectives, prescribe actions that manipulate fish, habitat and users to achieve fishery management objectives, and evaluate progress toward objectives. Students will develop a management plan for a fishery, present the plan to their peers for review, and defend the plan's component actions. Students will also gain knowledge and evaluate current issues in fishery management including habitat, human users, bio-manipulation and propagation. Students will also gain skills in oral communication necessary to both obtain employment and successfully work within the field of Fisheries.

Textbook: Wayne A. Hubert and Michael C. Quist, editors. 2010. Inland Fisheries Management in North America, Third Edition. American Fisheries Society, Bethesda, Maryland. *All students are urged to purchase, rather than rent, the textbook to ensure they begin the acquisition of a library of reference books.*

Canvas Page:

Format: The course is divided into three sections representing the three facets of fisheries management; biota, habitat, and human users. The two weekly lectures will cover the process of fishery management, concepts of fishery management and science, means by which fish populations, habitats, and human users are manipulated to achieve management objectives, and case studies in fisheries science and management. Topic experts including fisheries biologists, managers, and hatchery personnel, as well as human dimension scientists will deliver material covering a wide-array of topics. Laboratory sessions will be used to review methods for

analyzing fishery data, including exercises on analysis of population size structure, body condition, recruitment, growth, mortality, age estimation and abundance. Periodic discussion sessions will be used to discuss the status of fishery management, to critically review emerging fishery management issues, review relevant scientific literature and to report on class projects. Two mock job interviews will be used to help students gain skills in interpersonal communication. It is highly recommended that students read both the assigned chapters and associated scientific papers found on the Canvas page. Papers are not listed on the syllabus but will be on the Canvas page. Each student will be assigned to work in a team of 3–5 students whose task is to develop and report on a management plan for a real fishery. Exams will consist of primarily essay type questions (comprehensive rather than memorization) and will encompass information covered in lecture, lab, guest lectures, discussions and supplemental readings. In other words, everything we cover is fair game! Assignments should be turned into Canvas. Late assignments will not be accepted; this is on-the-job training.

Grading: Assignments will not be accepted if they are turned in after the due date, other than for emergencies. Final grades for the course will be awarded based on the following:

A = 92–100%	B+ = 87–89.5%	C+ = 76.6–79.5%	D+ = 66–69.5%
A- = 89.6–91.9%	B = 82.5–86.9%	C = 72.6–76.5%	D = 59.9–65.9%
	B- =79.6–82.4%	C- = 69.6–72.5%	F < 60%

There will be a total of 650 points available in this course. There are <u>6</u> lab quizzes, and you can drop your lowest score. The points are distributed as follows:

Exam 1	=	100 points
Exam 2	=	100 points
Exam 3	=	100 points
Lab quizzes (6 quizzes, will drop lowest)	=	50 points
Case Studies	=	50 points
Interviews	=	50 points
Management plan	=	200 points
Total	=	650 points

*Tentative Schedule: *denotes graded lab quiz   †denotes graded in-class case study*

Week	Lectures/Lab Topics:	Readings/Assignments:

Jan 23   Lab: *Population Dynamics, *Relative abundance*
          Lecture: *Course introduction, Syllabus review, History of Fish Management*
          Lecture: *Fisheries management process*   *Chapters 1, 5*

Jan 30   Lab: No Lab this week – Wisconsin AFS meeting
          Lecture: *Lake Management Plan Case Study:* <u>*Guest – Max Wolter (WDNR)*</u>
          Lecture: *No lecture Wednesday*
          Extra Credit Opportunity – Attend 3 oral (or poster) presentations at the
          Wisconsin AFS meeting – see extra credit assignment on Canvas

Feb 6   Lab: *Size structure (Length freq. and PSD)*
          Lecture: *Sampling Fish Populations*   *Chapter 11*
          Lecture: *Conservation Genetics*   *Chapter 9*

Feb 13   Lab: *Analysis of Growth and Condition*
          Lecture: *Fish Propagation:* <u>*Guest – Jesse Landwehr (WDNR)*</u> *Chapter 9*
          Lecture: *Prey fish Management*   *Chapters 13, 16*

Feb 20   Lab: *Analysis of Mortality and Recruitment*
          Lecture: *Invasive species*   *Chapter 8*
          Lecture: *Non-game species management*   *Chapter 8*

Feb 27   Lab: Fish propagation and †*Case Study – Fish stocking*
          Lecture: *Food web ecology #1*   *Chapter 13*
          Lecture: *Food web ecology #2*   *Chapter 13*

Mar 6   Lab: ***Exam #1 - Biota***
          Lecture: *Lake Habitats*   *Chapter 15, 16*
          Lecture: *Alternative stable states in shallow lakes*
Mar 10   ***Interview #1 due***

Mar 13   Lab: *Mark-recapture estimates & Management Plans Discussion Chapter 19, 21*
          Lecture: *Farm Ponds, Small Impoundments*   *Chapter 16*
          Lecture: *Large Rivers:* <u>*Guest Dr. Josh Raabe*</u>   *Chapter 20*

Mar 20   **No Classes: Spring Break**

Mar 27   Lab: *Age Estimation: accuracy and precision –* <u>*Dr. Dan Dembkowski*</u>
          Lecture: *Reservoir Management*   *Chapter 17*
          Lecture: *Small Streams*   *Chapter 18*

Apr 3   Lab: *Stream Habitat Improvements*
          Lecture: *Great Lakes*
          Lecture: *Mixed Fisheries Management:* <u>*Guest – M. Luehring, J.D. Rose (GLIFWC)*</u>

Tentative Schedule: *denotes graded lab quiz   †denotes graded in-class case study

Week	Lectures/Lab Topics:	Readings/Assignments:

Apr 10   Lab: ***Exam #2 – Fish Habitat***
            Lecture: *Human Users*
            Lecture: *Working with stakeholders*

Apr 10   **†*Conservation Congress – Spring Hearings (counts as a case study)***

Apr 17   Lab: Conservation Congress questions
            Lecture: *Exploitation*
            Lecture: *Fishing Regulations*   *Chapter 7*
Apr 21   ***Interview #2 due***

Apr 24   Lab: *Fishing Regulations*   *Chapter 7*
            Lecture: *Techniques for working with the public*
            Lecture: *Public presentations – <u>Guest: Scott Toshner (WDNR)</u>*
Apr 28   ***Management Plans Due!***

May 1   Lab: *†Case Study: Lake Oahe*   *Chapter 7*
            Lecture: *†Case Study: Crappie regulations*
            Lecture: *†Case Study – Urban Fisheries*

May 8   Lab: **Creel Surveys*
            Lecture: *Management Plan Presentations*
            Lecture: *Management Plan Presentations*

May 15   ***Final Exam – Managing people***
            <u>**Monday May 15th from 8:00 – 10:00 AM**</u>

The University of Wisconsin – Stevens Point College of Natural Resources Principles of Professionalism

Integrity−Integrity refers to adherence to consistent moral and ethical principles. A person with integrity is honest and treats others fairly.

Collegiality−Collegiality is a cooperative relationship. By being collegial you are respecting our shared commitment to student education through cooperative interaction. This applies to all involved in the process: students, staff, faculty, administration and involved community members. You take collective responsibility for the work performed together, helping the group attain its goals.

Civility− Civility refers to politeness and courtesy in your interactions with others. Being civil requires that you consider the thoughts and conclusions of others and engage in thoughtful, constructive discussion to express your own thoughts and opinions.

Inclusivity−Inclusivity requires you to be aware that perspective and culture will control how communication is understood by others. While many values are shared, some are quite different. These differences in values should be both considered and respected.

Timeliness−Timeliness is the habit of performance of tasks and activities, planned in a way that allows you to meet deadlines. This increases workplace efficiency and demonstrates respect for others' time.

Respect for Property−Respect for property is the appreciation of the economic or personal value an item maintains. Maintaining this respect can both reduce costs (increase the operable life of supplies and equipment) as well as demonstrate respect for others rights.

Communication−Professional norms in communication require that you demonstrate the value of your colleagues, students, professors or others. The use of appropriate tone and vocabulary is expected across all forms of communication, whether that communication takes place face to face, in writing or electronically.

Commitment to Quality−Quality is the ability to meet or exceed expectations. By having a commitment to quality, we intend to provide a learning environment that is conducive to learning. Intrinsic to this commitment to quality is defining expectation (committed to in a syllabus through learning outcomes), implementation (with quality control in place) and assessment (where meeting of learning outcomes is determined).

Commitment to Learning−Learning is a lifelong process. By being committed to learning you are providing a model for all to follow. This model is not only professor to student but involves all combinations of people within our university and broader community.

Important Links and Information

UWSP Community Bill of Rights and Responsibilities

UW-Stevens Point values a safe, honest, respectful, and inviting learning environment. In order to ensure that each student has the opportunity to succeed, we have developed a set of expectations for all students and instructors. This set of expectations is known as the *Rights and Responsibilities* document, and it is intended to help establish a positive living and learning environment at UWSP. For more information visit:

http://www.uwsp.edu/stuaffairs/Pages/rightsandresponsibilities.aspx

Academic integrity is central to the mission of higher education in general and UWSP in particular. Academic dishonesty (cheating, plagiarism, etc.) is taken very seriously. Don't do it! The minimum penalty for a violation of academic integrity is a failure (zero) for the assignment. For more information, see the UWSP "Student Academic Standards and Disciplinary Procedures" section of the *Rights and Responsibilities* document, Chapter 14, which can be accessed here:

http://www.uwsp.edu/stuaffairs/Documents/RightsRespons/SRR-2010/rightsChap14.pdf

Americans with Disabilities Act (ADA) Statement

The Americans with Disabilities Act (ADA) is a federal law requiring educational institutions to provide reasonable accommodations for students with disabilities. For more information about UWSP's policies, check here:

http://www.uwsp.edu/stuaffairs/Documents/RightsRespons/ADA/rightsADAPolicyInfo.pdf

If you have a disability and require classroom and/or exam accommodations, please register with the Disability and Assistive Technology Center and then contact me at the beginning of the course. I am happy to help in any way that I can. For more information, please visit the Disability and Assistive Technology Center, located on the 6th floor of the Learning Resource Center (the Library). You can also find more information here:

http://www4.uwsp.edu/special/disability/