

**FAS 2024: Sustainable Fisheries**  
**SPRING 2025 (FAB 105, Period 5: 11:45-12:35, on MWF)**

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**Instructor:** Dr. Debra J. Murie

**Main Office:** Program of Fisheries and Aquatic Sciences, School of Forest, Fisheries, and Geomatics Sciences, 7922 NW 71<sup>st</sup> Street, Gainesville

**Office Hours:** Wednesday (3-4 pm) via Zoom (zoom address will be provided to all class participants via our Canvas course site); or by prior arrangement (call or email to set up a time to meet or zoom).

**Contact:** Please email me at [dmurie@ufl.edu](mailto:dmurie@ufl.edu) or use the Canvas message/inbox feature for fastest response.

My phone out at Fisheries, (352) 273-3601, is equipped with Voice IP, so if you leave a message then I will receive it as an email notification. I will respond within 24 hrs, but most likely earlier unless I am in the field.

**Email:** [dmurie@ufl.edu](mailto:dmurie@ufl.edu)

**Format:** In-person (face-to-face)

**Teaching Assistant:** Ms. Lillian Self, Fisheries and Aquatic Sciences, [lillian.self@ufl.edu](mailto:lillian.self@ufl.edu). Lillian will be assisting with grading and with the projects. Her office hours will be arranged during the project timeline. Please use the Canvas message/inbox feature for the fastest response.

**Prerequisites:** none

**Course Description:**

Fish biology, ecology, and habitats relevant to sustainable fisheries on both a global and regional (Florida) scale. Follows the fisheries occurring from cold, mountain rivers to the depths of the ocean, with a focus on resource use. Special topics are covered along this aquatic highway, including invasive species, aquaculture, dams and reservoirs, fisheries bycatch, climate change, and marine protected areas. Intended for non-science and science majors.

This is a General Education course (3 credits of Biological Sciences).

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## **Recommended Text (Not required):**

Moyle, Peter B. 1995 (paperback). Fish: An enthusiast's guide. University of California Press, Berkeley, CA. 272 pp.

## **Learning Outcomes:**

On completion of this course, students should be able to:

- Discuss and explain general fish biology and basic fisheries concepts with both non-scientists and fisheries professionals alike
- Compare and contrast fish biology, fish habitats, and fisheries that occur in freshwater, estuarine, and marine waters on a regional, national, and global scale
- Understand the processes of large-scale weather patterns, such as El Nino, in relation to fisheries and food webs
- Discuss the basic principles of fisheries sustainability and management options used in regulating fisheries

## **Course Format:**

This course is offered for three (3) credits every Spring semester. It consists of three hours of lecture each week and the course meets the requirements for Biology (B) under the general education guidelines.

Lectures are based on PowerPoint presentations to facilitate the use of visual representation of fishes, habitats, and fisheries. PowerPoint lecture slides will be posted to our Canvas site and should be printed out or downloaded prior to class. It will be your responsibility to take notes to accompany these slides and to get lecture notes from a classmate if you miss any lectures. The course plan and syllabus are subject to change in response to guest lecturers, students, and instructor needs. Any changes will be clearly communicated in advance through Canvas.

## **Course Assessments:**

**Exams:** Lecture exams will be based on material given during class lectures. Supplemental readings from the recommended textbook (Fish: An enthusiast's guide by Peter Moyle) will aid in understanding this material. Exam questions may include multiple-choice, matching, true/false, short answers, brief explanations, and paragraphs.

Exams will be given on a quarterly basis and constitute 75% of the final grade. Quarterly exam material is not generally cumulative unless specifically indicated in later lectures. The exam grade will be calculated based on the final quarterly exam (Quarterly Exam D), which everyone must take (25% of final grade), and the best two out of three of Quarterly Exams A, B, or C (25 % x 2 = 50% of final grade).

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**Project:** For the project, you will choose a fish species (either freshwater or marine) that is harvested (recreationally or commercially) and combine sources of information about this fish into your project. You will need to provide information on: 1) relevant biology of the harvested fish species; 2) the distribution and habitat of the fish; and 3) its fishery and management. Your project can be put together as a narrated PowerPoint, a poster, a poem, a music video, a children's book, a cooking show, or whatever drives you creatively while pushing your critical thinking! Projects must be done in groups of 3 students. We will facilitate you finding project members with an interest in the same fish species. The project will be graded based on both required content and effective presentation. Projects will be uploaded to our Canvas site and available for viewing online and you will provide anonymous, peer evaluations of at least three of the projects. Further information and a grading rubric will be provided during the course. (15% of final grade).

**In-class Quizzes:** To grasp the comparative aspect of the course, which is based on visiting different habitats and fisheries along an aquatic highway, it is important that you consistently attend lectures. To facilitate this, you will be given in-class quizzes on a random basis throughout the course. These quizzes will consist of 2-5 questions (multiple choice, fill in the blank, short answer) that will be handed out at the beginning of the lecture, answered during the lecture, and handed in at the end of the lecture. The best 10 of 15 quizzes given during the course will count towards 10% of your final grade. Please note: Due to the large number of in-class quizzes given over the semester relative to the number that count towards your quiz grade, any individual in-class quiz that is missed (for any reason) will be assigned a zero. Exceptions will be made for any extenuating circumstances (i.e., extended/chronic illness, UF-sanctioned athletic events, etc.) extending to two or more consecutive lectures, with appropriate documentation. In-class quizzes cannot be made-up and can only be taken while you are in the classroom.

### Summary of Course Assessments and grading:

Activity	Exam	Percent of Final Grade	Notes
Quarterly Exams	A (25%)	50	Lowest of Exam A, B, or C will be dropped
	B (25%)		
	C (25%)		
Quarterly Exam D		25	Required
Project		15	Required
In-class Quizzes		10	Required
TOTAL		100	

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This course follows UF policies for assigning grade points, please see:

<https://catalog.ufl.edu/UGRD/academic-regulations/grades-grading-policies/>

Grade assignments for this course are based on the following: A (93-100%), A- (90-92.9%), B+ (86-89.9%), B (82-85.9%), B- (78-81.9%), C+ (74-77.9%), C (67-73.9%), C- (63-66.9%), D+ (59-62.9%), D (55-58.9%), D- (51-54.9%), and F (<50.9%).

## **Late Submissions and Make-up Requests:**

It is the responsibility of the student to access lecture outlines and complete in-class quizzes, exams, and the project to maintain satisfactory progress in the course.

Requirements for class attendance and make-up exams, assignments and other work are consistent with university policies that can be found at:

<https://catalog.ufl.edu/UGRD/academic-regulations/attendance-policies>

Computer or other hardware failures, except failure of the UF e-Learning system, will not excuse students for missing or late assignments (i.e., the project). Any late submissions due to technical issues MUST be accompanied by the ticket number received from the Helpdesk when the problem was reported to them. The ticket number will document the time and date of the problem. You must e-mail me within 24 hours of the technical difficulty.

For computer, software compatibility, or access problems call the HELP DESK phone number—352-392-HELP = 352- 392-4357 (option 2).

## **Communication Courtesy and Professionalism:**

Overall, please conduct yourself in a professional manner and give consideration to your fellow classmates. Respect for individual differences and alternative viewpoints will be maintained in this class at all times. Although you are welcome to use your computer to take notes during class, please do not use electronic devices (e.g., cell phones, computers, iPads) to perform activities (e.g., texting, Facebook, web surfing) that can distract your neighbors or interrupt the class. Please turn your phone ringer off during class; any unavoidable calls should be answered by leaving the classroom but returning as soon as possible. The instructor reserves the right to request that you leave if you engage in distractive behavior.

## **Course Communication and Technology Requirements:**

Course information will be posted on Canvas (<http://elearning.ufl.edu>) and will allow you day-to-day access to lecture outlines, assignments, and your grades.

Technology requirements for this course include:

- A computer or mobile device with high-speed internet connection.
- A webcam, headset and/or microphone, and speakers.
- Latest version of web browser. Canvas supports only the two most recent versions of any given browser.

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## **Course Evaluation:**

Student assessment of instruction is an important part of efforts to improve teaching and learning. At the end of the semester, students are expected to provide professional and respectful feedback on the quality of instruction in this course by completing course evaluations online via GatorEvals. Guidance on how to give feedback in a professional and respectful manner is available at:

<https://gatorevals.aa.ufl.edu/students/>.

Students will be notified when the evaluation period opens and can complete evaluations through the email they receive from GatorEvals, in their Canvas course menu under GatorEvals, or via <https://ufl.bluer.com/ufl/>. Summaries of course evaluation results are available to students at: <https://gatorevals.aa.ufl.edu/public-results/>.

## **UF Honor Code:**

As a student at the University of Florida, you have committed yourself to uphold the Honor Code, which includes the following pledge: *"We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honesty and integrity."*

You are expected to exhibit behavior consistent with this commitment to the UF academic community, and on all work submitted for credit at the University of Florida, the following pledge is either required or implied: *"On my honor, I have neither given nor received unauthorized aid in doing this assignment."* The Conduct Code specifies a number of behaviors that are in violation of this code and the possible sanctions. See the UF Conduct Code website for more information. If you have any questions or concerns, please consult with the instructor in this class. **Please note, this includes, but is not limited to, generative artificial intelligence, large language models, content generation bots, or other non-human intelligence or digital tools (i.e., you cannot use any form of AI to generate your projects).**

It is assumed that you will complete all work independently in this course (e.g., exams, quizzes) unless the instructor provides explicit permission for you to collaborate on course tasks (e.g., projects). Projects will be checked for plagiarism using iThenticate. It is your individual responsibility to know and comply with all university policies and procedures regarding academic integrity and the Student Honor Code. Violations of the Honor Code at the University of Florida will not be tolerated and will be reported to the Dean of Students Office for consideration of disciplinary action. For more information regarding the Student Honor Code, please see: <https://policy.ufl.edu/regulation/4-040/>

## **Inclusive Learning Environment:**

This course embraces the University of Florida's Non-Discrimination Policy, which reads,

*The University shall actively promote equal opportunity policies and practices conforming to laws against discrimination. The University is committed to non-*

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*discrimination with respect to race, creed, color, religion, age, disability, sex, sexual orientation, gender identity and expression, marital status, national origin, political opinions or affiliations, genetic information and veteran status as protected under the Vietnam Era Veterans' Readjustment Assistance Act.*

If you have questions or concerns about your rights and responsibilities for an inclusive learning environment, please see the instructor or refer to the Office of Multicultural & Diversity Affairs website: <http://multicultural.ufl.edu>.

### **Accommodations for Students with Disabilities:**

Students with disabilities who experience learning barriers and would like to request academic accommodations should connect with the Disability Resource Center. See the "Get Started With the DRC" webpage on the Disability Resource Center site <https://disability.ufl.edu/get-started/>. It is important for students to share their accommodation letter with their instructor and discuss their access needs, as early as possible in the semester.

It is important for a student to share their accommodation letter with their instructor and discuss their accommodation needs as early as possible in the semester. Accommodations are not retroactive and you must therefore submit the documentation letter prior to submitting assignments or scheduling exams. Students should therefore contact the Disability Resource Center as soon as possible in the term for which they are seeking accommodations.

### **Student Life, Wellness, and Counseling**

Students experiencing crises or personal problems that interfere with their general well-being are encouraged to utilize the university's counseling resources below. The Counseling & Wellness Center provides confidential counseling services at no cost for currently enrolled students. Resources are available on-campus for students having personal problems or lacking clear career and academic goals which interfere with their academic performance. These resources include:

#### **Whole Gator App**

The Whole Gator and website and app connects UF students with resources dedicated to supporting overall health and well-being. In addition to many of the resources below it also has strategies to practice self-care (<https://one.uf.edu/whole-gator/topics>).

#### **Health and Wellness**

- *U Matter, We Care*: If you or someone you know is in distress, please contact [umatter@ufl.edu](mailto:umatter@ufl.edu), 352-392-1575, or visit *U Matter, We Care* website (<http://www.umatter.ufl.edu/>) to refer or report a concern and a team member will reach out to the student in distress.
- Counseling and Wellness Center: Visit their website (<http://www.counseling.ufl.edu>) or call 352-392-1575 for information on crisis services, as well as non-crisis services.

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- Student Health Care Center: Call 352-392-1161 for 24/7 information to help you find the care you need, or visit their website (<https://shcc.ufl.edu/>).
- University Police Department: Visit their website (<https://police.ufl.edu/>) or call 352-392-1111 (or 9-1-1 for emergencies).
- UF Health Shands Emergency Room/Trauma Center: For immediate medical care call 352-733-0111 or go to the emergency room at 1515 SW Archer Road, Gainesville, FL. Visit their website at <https://ufhealth.org/locations/uf-health-shands-emergency-room-trauma-center>
- GatorWell Health Promotion Services: For prevention services focused on optimal wellbeing, including Wellness Coaching for Academic Success, visit their website (<https://gatorwell.ufsa.ufl.edu/>) or call 352-273-4450
- Student Success Initiative, <http://studentsuccess.ufl.edu>

### **Academic Resources**

- E-learning technical support: Contact the UF Computing Help Desk at 352-392-4357 or via e-mail at [helpdesk@ufl.edu](mailto:helpdesk@ufl.edu) .
- Career Connections Center: Reitz Union Suite 1300, 352-392-1601. Career assistance and counseling services.
- Library Support: Various ways to receive assistance with respect to using the libraries or finding resources. Call 866-281-6309 or email [ask@ufl.libanswers.com](mailto:ask@ufl.libanswers.com) for more information.
- Teaching Center: 1317 Turlington Hall, 352-392-2010, or to make an appointment 352-392-6420. General study skills and tutoring.
- Writing Studio: Daytime (9:30am-3:30pm): 2215 Turlington Hall, 352-846-1138 | Evening (5:00pm-7:00pm): 1545 W University Avenue (Library West, Rm. 339). Help brainstorming, formatting, and writing papers.
- Academic Complaints: Office of the Ombuds; Visit the Complaint Portal webpage for more information.
- Enrollment Management Complaints (Registrar, Financial Aid, Admissions): View the Student Complaint Procedure webpage for more information.

### **Student Complaints:**

- Residential Course: <https://www.ombuds.ufl.edu/complaint-portal/>
- Online Course: <https://pfs.tnt.aa.ufl.edu/state-authorization-status/#student-complaint>

### **Software Use:**

All faculty, staff and students of the University are required and expected to obey the laws and legal agreements governing software use. Failure to do so can lead to monetary damages and/or criminal penalties for the individual violator. Because such violations are also against University policies and rules, disciplinary action will be taken as appropriate.



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### **In-Class Recording:**

Students are allowed to record video or audio of class lectures. However, the purposes for which these recordings may be used are strictly controlled. The only allowable purposes are (1) for personal education use, (2) in connection with a complaint to the university, or (3) as evidence in, or in preparation for, a criminal or civil proceeding. All other purposes are prohibited. Specifically, students may not publish recorded lectures without the written consent of the instructor.

A “class lecture” is an educational presentation intended to inform or teach enrolled students about a particular subject, including any instructor-led discussions that form part of the presentation, and deliver by an instructor hired or appointed by the University, or by a guest instructor, as part of a University of Florida course. A class lecture does not include lab sessions, student presentations, clinical presentation such as patient history, academic exercises involving solely student participation, assessments (quizzes, tests, exams), field trips, private conversations between students in the class or between a student and the faculty or guest lecturer during a class session.

Publication without the permission of the instructor is prohibited. To “publish” means to share, transmit, circulate, distribute, or provide access to a recording, regardless, of format or medium, to another person (or persons), including but not limited to another student within the same class section. Additionally, a recording, or transcript of a recording, is considered published if it is posted on or uploaded to, in whole or in part, any media platform, including but not limited to social media, book, magazine, newspaper, leaflet, or third-party note/tutoring services. A student who publishes a recording without written consent may be subject to a civil cause of action instituted by a person injured by the publication and/or discipline under UF Regulation 4.040 Student Honor Code and Student Conduct Code.



## FAS 2024 Sustainable Fisheries: Spring 2025

DATE	DAY	Lecture #	LECTURE TOPIC	INSTRUCTOR	PAGES IN TEXT
13-Jan	M	1	Introduction to course/schedule/grading	Dr. Debra Murie	
<b>Part I. Tools of the Trade</b>					
15-Jan	W	2	What is a sustainable fishery and a stock? Range and diversity of fishes	Dr. Debra Murie	1-11, 65-98
17-Jan	F	3	Basic external features of fishes	Dr. Debra Murie	13-34
<b>20-Jan</b>	<b>M</b>		<b>Martin Luther King Jr. Day: No class</b>		
22-Jan	W	4	Feeding lifestyles	Dr. Debra Murie	26, 35-40, 61-62
24-Jan	F	5	Feeding lifestyles; Reproduction and reproductive lifestyles	Dr. Debra Murie	41-42, 54-61
27-Jan	M	6	Reproduction and reproductive lifestyles; Age and Growth	Dr. Debra Murie	21-23, 33
29-Jan	W	7	Age and growth	Dr. Debra Murie	21-23, 33
31-Jan	F	8	Fish and their senses (online lecture)	Dr. Debra Murie	1-3, 25-26, 63-64
3-Feb	M	9	Breathing in water and air; internal water balance (online lecture)	Dr. Debra Murie	5, 35-42
5-Feb	W	10	Muscles; swimming and buoyancy; catch and release	Dr. Debra Murie	42-44
7-Feb	F	11	Catching fish: gear and fish behavior	Dr. Debra Murie	
<b>10-Feb</b>	<b>M</b>		<b>QUARTERLY EXAM A</b>	<b>Dr. Debra Murie</b>	
12-Feb	W	12	What happens to a fish stock when you fish it?	Dr. Debra Murie	
14-Feb	F	13	Environmental factors and fish distribution and abundance	Dr. Debra Murie	99-115
<b>Part II. The Aquatic Highway: Fish, Habitats, and Fisheries</b>					
17-Feb	M	14	Coldwater fisheries in streams, rivers, and lakes	Dr. Debra Murie	116-129
19-Feb	W	15	Warmwater fisheries in streams and rivers	Dr. Chuck Cichra	131-162
21-Feb	F	16	Warmwater fisheries in ponds and lakes	Dr. Chuck Cichra	131-162
24-Feb	M	17	Eutrophication or "What's that green stuff in the water?"	Dr. Chuck Cichra	131-162
26-Feb	W	18	Florida bass fisheries	Mr. Drew Dutterer	
28-Feb	F	19	Invasive aquatics	Dr. Jeff Hill	
3-Mar	M	20	Migration and stocks without borders	Dr. Debra Murie	49-52, 206-209
<b>5-Mar</b>	<b>W</b>		<b>QUARTERLY EXAM B</b>	<b>Dr. Debra Murie</b>	
7-Mar	F	21	The good and the bad about dams and fisheries	Dr. Debra Murie	
10-Mar	M	22	Coastal habitats important to fisheries: Estuaries as nurseries	Dr. Debra Murie	163-171
12-Mar	W	23	Coastal habitats and fisheries: Salt Marshes and Mangroves	Dr. Debra Murie	180-183
14-Mar	F	24	Fisheries Projects (No lecture, please use this lecture time to independently work on your group fisheries projects)	Dr. Debra Murie	
<b>15-22 March</b>			<b>Spring Break: No classes</b>		
24-Mar	M	25	Coastal habitats and fisheries: Seagrasses; sand beaches	Dr. Debra Murie	179-180, 191-192
26-Mar	W	26	Aquaculture and Fisheries	Dr. Courtney Ohs	
28-Mar	F	27	Coastal habitats: Warm and cold-water coral reef fisheries	Dr. Debra Murie	197-210
<b>28-Mar</b>	<b>F</b>		<b>Fisheries Project due (uploaded no later than 11 pm)</b>		
31-Mar	M	28	Coastal habitats: Warm and cold temperate reef fisheries	Dr. Debra Murie	186-188
2-Apr	W	29	Coastal habitats and fisheries: Rocky intertidal and kelp forests	Dr. Debra Murie	173-179, 184-189
<b>4-Apr</b>	<b>F</b>		<b>QUARTERLY EXAM C</b>	<b>Dr. Debra Murie</b>	
7-Apr	M	30	Fisheries production and large-scale climate events: EL Niño	Dr. Debra Murie	
9-Apr	W	31	Fisheries of the continental shelf and slope (Pelagic); Mesopelagics	Dr. Debra Murie	192-195
11-Apr	F	32	Fisheries of the continental shelf and slope (Demersal)	Dr. Debra Murie	192-195
14-Apr	M	33	Bycatch	Dr. Debra Murie	
16-Apr	W	34	Climate Change/Global Warming and Fisheries Impacts	Dr. Debra Murie	
18-Apr	F	35	Fisheries management; Marine Protected Areas as a fisheries tool	Dr. Debra Murie	
21-Apr	M	36	Sustainable Fisheries Wrap-up Discussion and Review	Dr. Debra Murie	
<b>23-Apr</b>	<b>W</b>		<b>QUARTERLY EXAM D (or in scheduled final exam time on April 29th)</b>	<b>Dr. Debra Murie</b>	
<b>29-Apr</b>	<b>T</b>		<b>QUARTERLY EXAM D (Final exam time 3:00-4:00 p.m. in FAB 105)</b>	<b>Dr. Debra Murie</b>	