

# FAS 2024: Sustainable Fisheries

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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

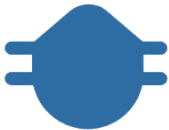
**Office Hours:** Monday (2-3 pm) and Thursday (4-5 pm) via Zoom (zoom address will be provided to all class participants via our Canvas course site); or by prior arrangement (call or email to set up a time).

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

**E-mail:** [dmurie@ufl.edu](mailto:dmurie@ufl.edu)

## **Important Information:**

This course includes face-to-face sessions. During all face-to-face activities, the following public health and safety protocols are recommended of all students, instructors, and teaching assistants:



**Bring and wear a face mask indoors at all times**



**Wash hands (>20 sec) before and after class**



**Maintain responsible physical distancing at six feet**



**If you feel sick or have symptoms, stay home**

Stay informed of current Covid-19 [policies](#). If you are experiencing [COVID-19 symptoms](#) please use the UF Health screening system and follow the instructions on [whether you should attend class](#). Course materials will be provided to you with an excused absence, and you will be given a reasonable amount of time to make up work.

## **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

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and reservoirs, artificial reefs, 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).

**Prerequisites:** none.

**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 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. [What browser am I using?](#)
- Installation of proctoring software may be required and will be provided if so.

**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 outlines of lecture topics will be posted to our Canvas site and should be printed out or downloaded

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prior to class. It will be your responsibility to take notes to accompany these outlines and to get lecture notes from a classmate if you miss any lectures. Requirements for class attendance and make-up exams, assignments, and other work in this course are consistent with university policies that can be found at:

<https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx>

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. 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. The instructor reserves the right to request that you leave if you engage in distracting behavior.

## **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, brief explanations, short answers, and paragraphs.

Exams will be given on a quarterly basis. Quarterly exam material is not generally cumulative unless specifically indicated in later lectures. The final grade will be calculated in part (75% of final grade) 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).

**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) the 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; I will facilitate you finding project members with an interest in the same 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).

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**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 2-4 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.

This course follows UF grading policies for assigning grade points (<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 E (<50.9%), and will be comprised of:

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	

## **Course Evaluation:**

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.bluera.com/ufl/>. Summaries of course evaluation results are available to students at <https://gatorevals.aa.ufl.edu/public-results/>.

## **Academic Honesty:**

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.”*

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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."*

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). Furthermore, as part of your obligation to uphold the Honor Code, you should report any condition that facilitates academic misconduct to appropriate personnel. 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: <http://www.dso.ufl.edu/sccr/process/student-conduct-honor-code>.

### **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-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 inclusive learning environment, please see the instructor or refer to the Office of Multicultural & Diversity Affairs website: <http://multicultural.ufl.edu>.

### **Services for Students with Disabilities:**

The Disability Resource Center (0001 Reid Hall, 352-392-8565, <http://www.disability.ufl.edu>) coordinates the needed accommodations of students with disabilities. This includes registering disabilities, recommending academic accommodations within the classroom, accessing special adaptive computer equipment, providing interpretation services and mediating faculty-student disability related issues. Students requesting classroom accommodation must first register with the Dean of Students Office. The Dean of Students Office will provide documentation to the student who must then provide this documentation to the Instructor when requesting accommodation.

It is important for a student to share their accommodation letter with their instructor and discuss their access 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

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should therefore contact the office as soon as possible in the term for which they are seeking accommodations.

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

Students experiencing crises or personal problems that interfere with their general well-being are encouraged to utilize the university's counseling resources. 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:

#### 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 <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 resources: visit <http://www.counseling.ufl.edu/cwc/> or call 352-392-1575 for information on crisis services as well as non-crisis services.
- Student Health Care Center: Call 352-392-1161 for 24/7 information to help you find the care you need.
- University Police Department: 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 SE Archer Road, Gainesville, FL.

#### Academic Resources

- Career Connections Center: Reitz Union, Suite 1300, 352-392-1601. Career assistance and counseling services <http://career.ufl.edu/>
- Other resources are available at <http://www.distance.ufl.edu/getting-help> for online students

### **Campus Helping Resources:**

For issues with technical difficulties for e-learning in Canvas, please post your question to the Technical Help Discussion in your course, or contact the UF Help Desk at:

- E-learning technical support: [helpdesk@ufl.edu](mailto:helpdesk@ufl.edu) | (352) 392-4357 - select option 2 | <http://elearning.ufl.edu>

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- Library Help Desk support <http://cms.uflib.ufl.edu/ask>
- SFFGS Academic Hub <https://ufl.instructure.com/courses/303721>

## **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.

## **Intellectual and Viewpoint Diversity Act (House Bill 233) and recording of class lectures:**

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 educational 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 delivered by any 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 presentations 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 lecturer during a class session.

Publication without 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.

Policies regarding student in-class recordings are detailed here <http://aa.ufl.edu/policies/in-class-recording/>.

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### **Student Complaint Process:**

The School of Forest, Fisheries & Geomatics Sciences cares about your course experience and we will make every effort to address course concerns. Your first point of contact should be the Academic Coordinator or the Undergraduate Coordinator for the program offering the course. You may also submit a complaint directly to UF administration (<https://sccr.dso.ufl.edu/policies/student-honor-code-student-conduct-code/>)



## FAS 2024 Sustainable Fisheries: Spring 2022

DATE	DAY	Lecture #	LECTURE TOPIC	INSTRUCTOR	PAGES IN TEXT
5-Jan	W	1	Introduction to course/schedule/grading	Dr. Debra Murie	
<b>Part I. Tools of the Trade</b>					
7-Jan	F	2	What is a sustainable fishery and a stock? Range and diversity of fishes	Dr. Debra Murie	1-34, 65-98
10-Jan	M	3	Basic external features of fishes	Dr. Debra Murie	13-34
12-Jan	W	4	Feeding lifestyles	Dr. Debra Murie	5, 35-46, 61-62
14-Jan	F	5	Feeding lifestyles	Dr. Debra Murie	5, 35-46, 61-62
<b>17-Jan</b>	<b>M</b>		<b>Martin Luther King Jr. Day: No class</b>		
19-Jan	W	6	Fish and their senses	Dr. Debra Murie	1-3, 25-26, 63-64
21-Jan	F	7	Breathing in water and air; internal water balance	Dr. Debra Murie	5, 35-46
24-Jan	M	8	Muscles; swimming and buoyancy; catch and release	Dr. Debra Murie	42-44
26-Jan	W	9	Reproduction and reproductive lifestyles	Dr. Debra Murie	35-46, 54-61
28-Jan	F	10	Reproduction and reproductive lifestyles	Dr. Debra Murie	33, 35-46, 54-61
31-Jan	M	11	Age and growth	Dr. Debra Murie	33
2-Feb	W	12	Catching fish: gear and fish behavior	Dr. Debra Murie	
<b>4-Feb</b>	<b>F</b>		<b>QUARTERLY EXAM A</b>	<b>Dr. Debra Murie</b>	
7-Feb	M	13	What happens to a fish stock when you fish it?	Dr. Debra Murie	
<b>Part II. The Aquatic Highway: Fish, Habitats, and Fisheries</b>					
9-Feb	W	14	Environmental factors and fish distribution and abundance	Dr. Debra Murie	99-115
11-Feb	F	15	Coldwater fisheries in streams and rivers	Dr. Debra Murie	116-129
14-Feb	M	16	Aquaculture and Fisheries	Dr. Debra Murie	
16-Feb	W	17	Invasive Aquatics	Dr. Jeff Hill	
18-Feb	F	18	Florida Bass Fisheries	Mr. Drew Dutterer	
21-Feb	M	19	Warmwater fisheries in streams, rivers, lakes and ponds	Dr. Chuck Cichra	116-162
23-Feb	W	20	Warmwater fisheries in ponds and lakes	Dr. Chuck Cichra	116-162
25-Feb	F	21	Eutrophication or "What's that green stuff in the water?"	Dr. Chuck Cichra	116-162
28-Feb	M	22	Migration and stocks without borders	Dr. Debra Murie	49-52, 206-209
<b>2-Mar</b>	<b>W</b>		<b>QUARTERLY EXAM B</b>	<b>Dr. Debra Murie</b>	
4-Mar	F	23	Fisheries Projects (No formal lecture, but Dr. Murie will be there to help you with any aspect of your project)	Dr. Debra Murie	
<b>7-11 March</b>			<b>Spring Break: No classes</b>		
14-Mar	M	24	The good and the bad about dams and fisheries	Dr. Debra Murie	
16-Mar	W	25	Coastal habitats important to fisheries: Estuaries as nurseries	Dr. Debra Murie	163-171, 179-183
18-Mar	F	26	Coastal habitats and fisheries: Salt Marshes and Mangroves	Dr. Debra Murie	182-183, 191-192
21-Mar	M	27	Coastal habitats and fisheries: Seagrasses; sand beaches	Dr. Debra Murie	182-183, 191-192
23-Mar	W	28	Coastal habitats: Warm and cold-water coral reef fisheries	Dr. Debra Murie	186-188, 197-210
25-Mar	F	29	Coastal habitats: Artificial Reefs; Coastal temperate reef fisheries	Dr. Debra Murie	186-188, 197-210
28-Mar	M	30	Coastal habitats and fisheries: Rocky intertidal and kelp forests	Dr. Debra Murie	173-179, 184-189
30-Mar	W	31	Fisheries of the continental shelf and slope (Pelagic)	Dr. Debra Murie	192-195
1-Apr	F		<b>QUARTERLY EXAM C</b>	<b>Dr. Debra Murie</b>	
4-Apr	M	32	Fisheries production and large-scale climate events: EL Niño	Dr. Debra Murie	
6-Apr	W	33	Fisheries of the continental shelf and slope (Pelagic)	Dr. Debra Murie	
<b>6-Apr</b>	<b>W</b>		<b>Fisheries Project due (uploaded no later than 11 pm)</b>		
8-Apr	F	34	Fisheries of the continental shelf and slope (Demersal)	Dr. Debra Murie	
11-Apr	M	35	Bycatch	Dr. Debra Murie	
13-Apr	W	36	Climate Change/Global Warming and Fisheries Impacts	Dr. Debra Murie	
15-Apr	F	37	Fisheries management; Marine Protected Areas as a fisheries tool	Dr. Debra Murie	
18-Apr	M	38	Sustainable Fisheries Wrap-up Discussion and Review	Dr. Debra Murie	
<b>20-Apr OR</b>	<b>W</b>		<b>QUARTERLY EXAM D (or in scheduled final exam time)</b>	<b>Dr. Debra Murie</b>	
<b>28-Apr</b>	<b>R</b>		<b>QUARTERLY EXAM D (final exam time 10-12 am in FAB 105)</b>	<b>Dr. Debra Murie</b>	