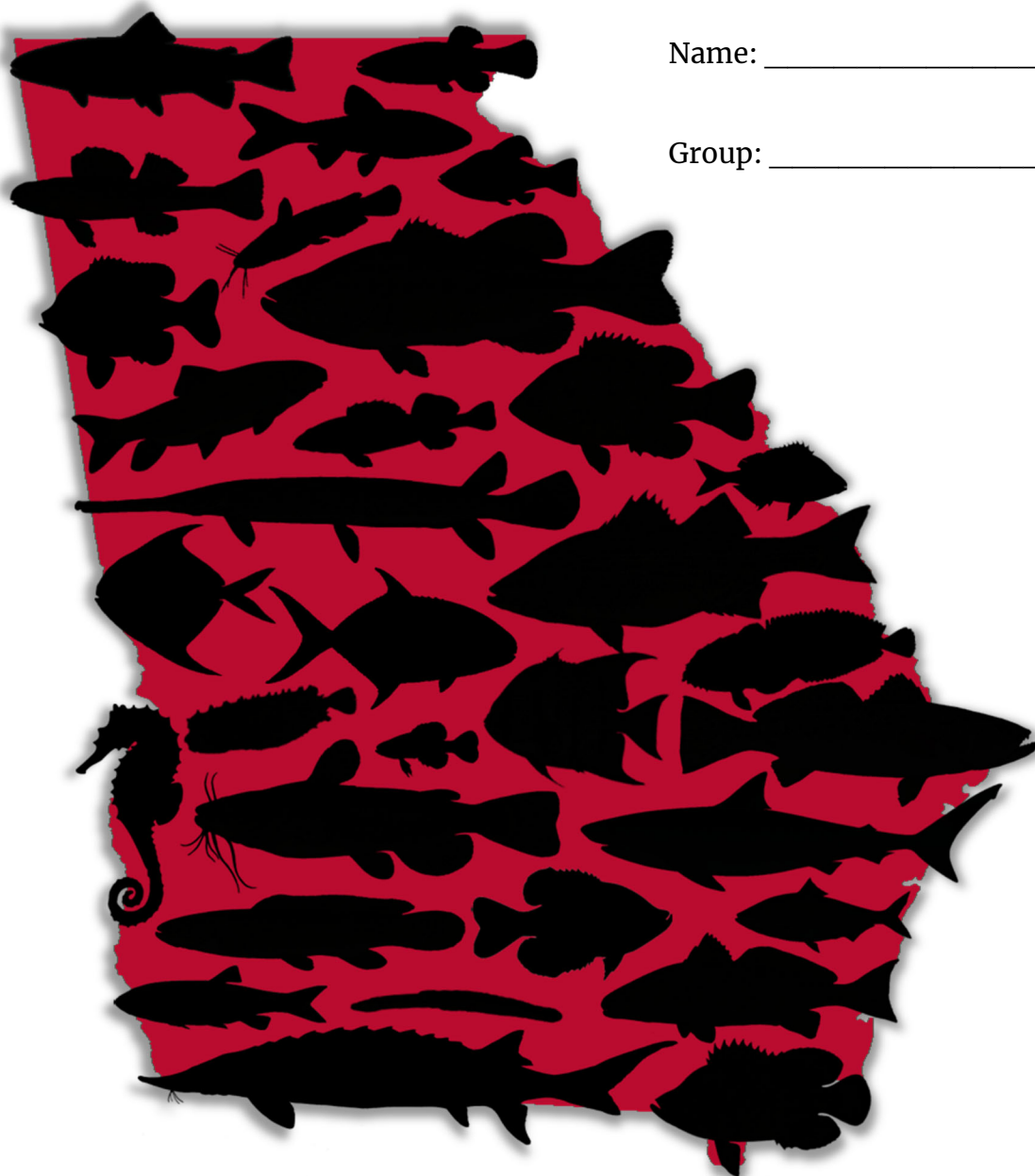


Georgia Fishes Field Study

FISH 4650L / 6650L

2025 Course Pack

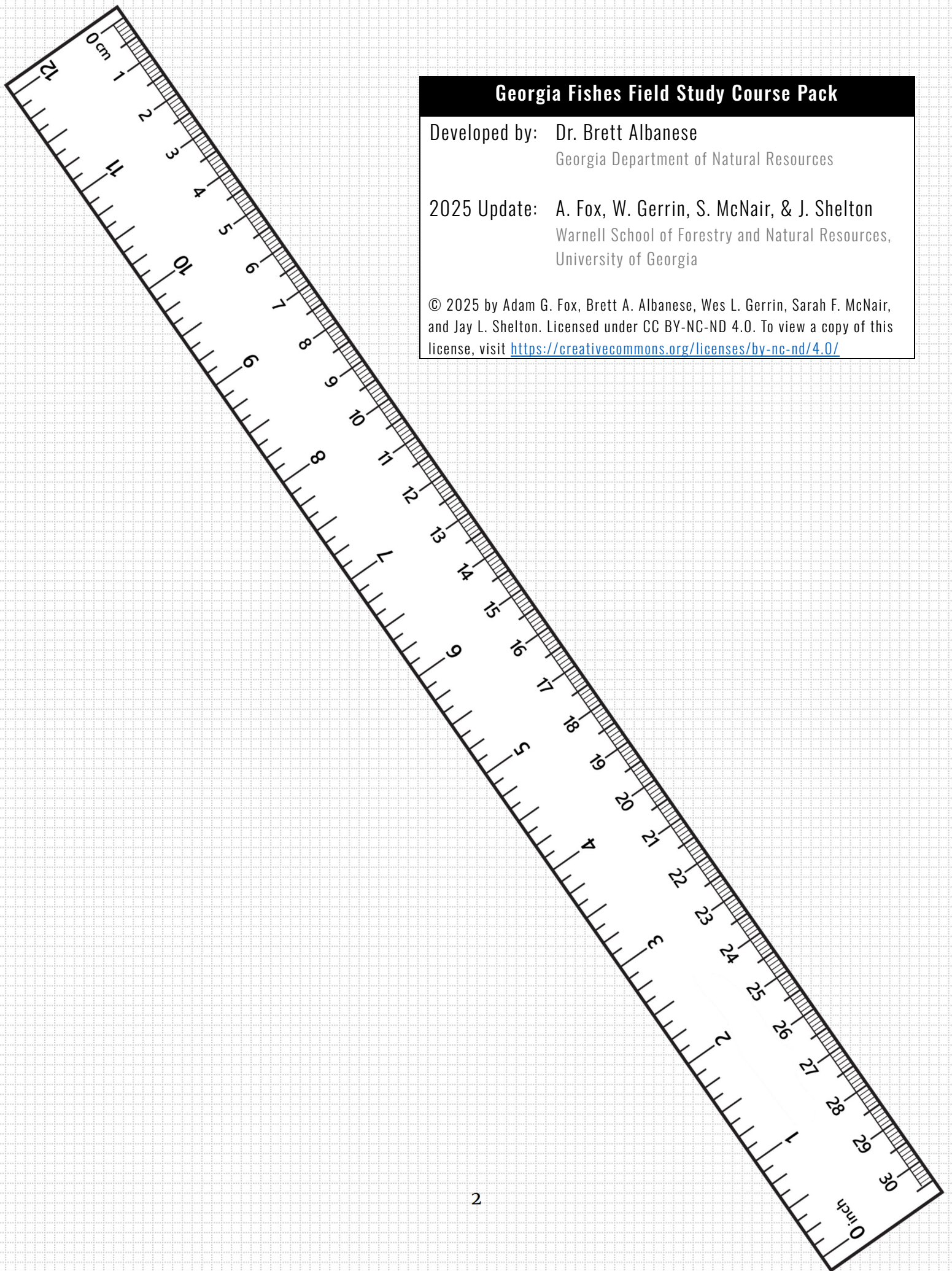


Name: _____

Group: _____



Warnell School of Forestry
& Natural Resources
UNIVERSITY OF GEORGIA



Georgia Fishes Field Study Course Pack

Developed by: Dr. Brett Albanese
Georgia Department of Natural Resources

2025 Update: A. Fox, W. Gerrin, S. McNair, & J. Shelton
Warnell School of Forestry and Natural Resources,
University of Georgia

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Teaching Team Contact Info

Teaching Team Member	Cell Phone	Email <i>(not for emergencies!)</i>

In an emergency, call 911 and then a teaching team member!

Safety First!

Whenever you conduct fieldwork, there is always the potential to encounter dangerous situations. Please be observant of your surroundings and pay attention to all instructions from the teaching team.

We are frequently in remote areas with little cell service far from emergency services. Please notify the teaching team if you have any existing or emerging medical issues that could affect your participation in an activity. Let us know if you are not a strong swimmer. The teaching team carries first aid kits for minor injuries – just ask if you need anything. Be careful and use common sense.

Drink lots of water and always wear sunscreen. Avoid dangling jewelry.

Stay in groups – DO NOT WANDER OFF ALONE. Make sure someone in your group has a cell phone and notify a teaching team member that you're leaving, where you're going, and when you'll be back.

Handle fish carefully because some have sharp teeth or spines. Handle turtles and macro-invertebrates with care as well (looking at you, hellgrammites, mantis shrimp, and blue crabs). Be extremely careful around sharp oyster shells.

Keep well off the road when we park the vans along a road or highway. Don't stick your hands in the water when someone is electrofishing. Properly fasten lifejackets. Watch out for slippery rocks and mud.

Poison ivy, oak, and sumac are common at many of the sites we visit. Watch out for snakes. Always illuminate your path when walking at night. Watch for bears if you leave camp at night and be sure to follow instructions about keeping camp safe from bears.

Always wash your hands or use hand sanitizer after fish sampling or other fieldwork. It is very important to shower after fieldwork to wash off any harmful bacteria you may have encountered.

Georgia Fishes Field Study

FISH 4650L/6650L

Syllabus

Course Description

Students will learn fish collection and identification for Georgia's native fishes. Sampling will occur beach, estuary, and freshwater habitats within the Mountains, Piedmont, and Coastal Plain. Emphasis is on field techniques, but lectures will also cover biology and ecology. The course will also include classroom and instruction and writing assignments.

All students must be registered for both FISH 4650L/6650L and FSTY 1015. FSTY 1015 is a zero-hour course, but it is required for you to add to your schedule to participate in FISH 4650L/6650L.

Nontraditional Format

This is a maymester field course, with lectures and laboratories scheduled during the entire session. It will meet 7-8 hours/day (+travel time) from Monday-Friday (and sometimes Saturday); however, inclement weather and complex scheduling may require moving some activities to the weekends. Extended field trips are a requirement for this class.

Course Objectives and Learning Outcomes

- ☐ Students will identify and classify Georgia fishes.
- ☐ Students will apply standard fish sampling techniques in the field.
- ☐ Students will be able to explain how fish biology relates to ecology.
- ☐ Students will be able to explain the biotic and abiotic factors that influence fish assemblages.

Recommended Reference Materials

- o Peterson Field Guide to Freshwater Fishes, 2nd Edition. 2011. Page & Burr.
- o A Field Guide to Coastal Fishes from Maine to Florida. 2011. Kells & Carpenter.

NOTE: We will have copies of marine guides for fish identification on Sapelo Island.

Attendance and Participation

Attendance on all days is required. To learn the material and pass the quizzes, you must be engaged in all course activities. Also, you are required to assist the teaching team with other class tasks, including helping with cooking, cleaning, dishwashing, cleaning gear, loading vehicles, etc. You will be assigned to a group (*Darters, Drums, or Sunfish*) and groups will rotate through these tasks.

Exams

Quizzes will usually be streamside. You will have to identify fishes that are collected during sampling by common name, family, and sometimes scientific name. We will also ask you questions about fish ecology, conservation, habitat, and the material discussed by guest speakers. It is a good idea to study the **Georgia Fishes Field Study Guide to the Fish Families of Georgia**; several copies will be available. Quizzes 1–5 are each worth 20 pt. Quiz 6 is worth 40 pts.

Field Notebooks

All students are required to keep detailed field notes at every field site. Notes should include: collection number (we will explain), date and time, location (coordinates), location description (waterbody name, basin, etc.), site/habitat description, annotated map, sampling effort and gear type, list of species (write out Genus and species), any data not recorded on another data sheet (*e.g.*, IBI data), and any other notes of interest. You might even draw a fish or habitat feature in your book or include notes on taxonomic characteristics you observe. We want these notebooks to be a good reference for you after the course. Please write neatly *in pencil*. Never erase; instead draw a line to cross out any errors in data recording. See grading rubric (page 10).

Grading

This class will be fun but also very challenging. You are going to be working very hard and spending a lot of time in the great outdoors. Your grade will be based upon the following components:

Points Breakdown	
Quizzes 1–5	120 points
Quiz 6	40 pts
Field Notebook	60 points
Participation	60 points
<i>Total</i>	<i>280 points</i>

Letter Grade	Percent
A	93–100
A-	90–92.9
B+	87–89.9
B	83–86.9
B-	80–82.9
C+	77–79.9
C	73–76.9
C-	70–72.9
D	60–69.9
F	< 60

Travel

We will be traveling in University vehicles and on a ferry. No personal vehicles without advance special permission from instructors. *Please bring \$5.00 cash for the Sapelo Island Ferry (round trip).*

Meals

When we are traveling away from Athens, we will purchase groceries for group meals (using money from the Program Fee). Dietary restrictions can be accommodated – just let us know. You will also be required to bring cash/card for several restaurant meals on the road – check the schedules for details. Bring your own lunch/snacks when we make day trips from the Athens area during Piedmont Week.

Lodging

You will be required to provide your own lodging in the Athens area during Piedmont Week, when there are no overnight field trips. Housing is provided during Mountain Week (campsite) and Coastal Week (institutional dorm). During Mountain Week, students will need to provide their own tent (available from ORC, see page 27) or share with a classmate. *Everyone deserves a good night's rest, so please keep your voice down when people are trying to sleep nearby. You may lose participation points and/or end up with additional dishwashing duty if you are too loud at night.*

Program Fee

The additional course fee is used to cover costs associated with group meals, group lodging, and other non-instructional costs. See <https://studyaway.uga.edu> for more information.

University Honor Code & Academic Honesty

As a University of Georgia student, you have agreed to abide by the UGA academic honesty policy. UGA Student Honor code: *"I will be academically honest in all of my academic work and will not tolerate academic dishonesty of others"*. A Culture of Honesty, the University's policy and procedures for handling cases of suspected dishonesty, can be found at <https://honesty.uga.edu/>

You are responsible for informing yourself about the University's standards before performing any academic work. *Lack of knowledge of the academic honesty policy is not a reasonable explanation for a violation. Please ask if you have questions related to course assignments and the academic honesty policy.* Any form of possible academic dishonesty will be reported to the UGA Office of the Vice President for Instruction. Please note that use of an AI to complete assignments constitutes a violation of the honor code.

Accommodations for Disabilities

If you require a disability-required accommodation, it is essential that you register with the Disability Resource Center (Clark Howell Hall; <https://drc.uga.edu>; 706-542-8719 [voice]; 706-542-8778 [TTY]) and notify your instructor(s) of your eligibility for reasonable accommodations. We can then plan how best to coordinate your accommodations. Please note that accommodations cannot be provided retroactively.

Students with documented disabilities who require reasonable accommodations in order to participate in course activities or meet course requirements should **contact the instructor(s) at least 1 week prior to the start of the course** so that suitable arrangements can be made through the Disability Resource Center.

Mental Health and Wellness Resources

If you or someone you know needs assistance, you are encouraged to contact Student Care and Outreach in the Division of Student Affairs at 706-542-7774 or visit <https://sco.uga.edu>. They will help you navigate any difficult circumstances you may be facing by connecting you with the appropriate resources or services. UGA has several resources for a student seeking mental health services:

- (<https://www.uhs.uga.edu/bewelluga/bewelluga>) or crisis support (<https://www.uhs.uga.edu/info/emergencies>).
- If you need help managing stress anxiety, relationships, etc., please visit BeWellUGA (<https://www.uhs.uga.edu/bewelluga/bewelluga>) for a list of FREE workshops, classes, mentoring, and health coaching led by licensed clinicians and health educators in the University Health Center.
- Additional resources can be accessed through the UGA App.

FERPA Notice

The Federal Family Educational Rights and Privacy Act (FERPA) grants students certain information privacy rights. To comply with FERPA, all communication that refers to individual students must be through a secure medium (UGAMail or eLC) or in person. Instructors are not allowed to respond to messages that refer to individual students or student progress in the course through non-UGA accounts, phone calls, or other types of electronic media. For details, please visit <https://apps.reg.uga.edu/FERPA>.

This syllabus is a general plan for the course; deviations to the schedule may be necessary and will be announced by the instructor(s).

Schedule at a Glance (subject to change)

	Date	Meet Time	Start Location	Activity
	4/29	10:00 AM	Athens	Pre-Course Meeting
Piedmont Week	5/13	8:00 AM	Athens → Piedmont	Introductory lectures, Oconee River sampling.
	5/14	8:00 AM	Athens → Piedmont	Introductory lectures, Broad River sampling, Quiz 1
	5/15	8:00 AM	Athens → Piedmont	Oconee River sampling
	5/16	8:00 AM	Athens → Piedmont	Chattahoochee River sampling, Quiz 2
Mountains Week	5/19	7:30 AM	Athens → Mountains	Travel to mountains, Coosawattee River Sampling
	5/20	6:45 AM	Mountains	Conasauga River sampling. Quiz 3
	5/21	6:45 AM	Mountains	Toccoa River sampling
	5/22	6:45 AM	Mountains	Tennessee River sampling, Quiz 4
	5/23	7:00 AM	Mountains → Athens	Break camp, Travel home
Coastal Week	5/26	7:30 AM	Athens → Coast	Travel to coast, Coastal Plain River sampling
	5/27	6:30 AM	Coast	Estuary sampling, Quiz 5 , Ferry to island, Beach sampling
	5/28	6:45 AM	Coast	Trawling, Seining, Fish ID in lab
	5/29	6:45 AM	Coast	Lab review, Hook and line sampling
	5/30	7:00 AM	Coast → Athens	Quiz 6 , Pack up, Catch ferry, Travel home

Detailed schedules can be found on page 12

Notebook Grading Rubric

	Draft Grade	Final Grade
○ Good record keeping	_____/5	_____/5
○ Date, site name, location		
○ Detailed habitat description	_____/10	_____/10
○ Sampling methods	_____/10	_____/10
○ List methods and include description if first time used		
○ Complete, accurate species list	_____/20	_____/20
○ Common name, scientific name, family		
○ Capitalize Genus, lowercase species		
○ Descriptive notes / sketches		
○ Personal observations/drawings	_____/5	_____/5
○ Neatness/legibility	_____/10	_____/10
○ If the teaching team can't read what you wrote, we can't grade it		
Notebook Grade	_____/60	_____/60

Examples on next page.

Site: McNutt Creek
Collection Number: 1

Date: May 14, 2024
Time: 12:52

Coordinates:

Ecoregion, Basin, etc.:
 Piedmont ecoregion → drains into Atlantic ocean
 Oconee watershed
 Altamaha river basin

Site Description:
 (under bridge)

- woody debris, rocks
- small riffle
- high turbidity
- sediment erosion
- sandbar

water quality:
 temp. = 25.4°C
 DO₂ = 8.89 mg/L
 conductivity = 66.91 mS/cm
 pH = 7.34
 alkalinity = 20 mg/L
 hardness = 22 mg/L

sampled upstream, starting under bridge until reaching a dam

- Stream splits into 2 paths near dam
- sampling method: electrofishing

Safety considerations: Be careful while electrofishing – do not touch the water while are active. Be prepared to lend a hand to the person wearing the shocker backpack. V for slippery mud and unstable rocks. Step carefully while in and around the stream. C and madtoms have sharp spines, and madtoms have mild venom. Keep an eye out for snakes.

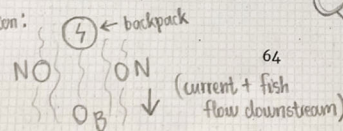
Fishes found:

Leuciscidae (North American Minnows)

- Bluehead chub (*Moxomys leptocephalus*)
 - build gravel nests for egg-laying
 - used by yellowfin shiners
 - keystone species
 - sexual dimorphism
- creek chub (*Semotilus atromaculatus*)
 - spot on base of dorsal fin
 - terminal mouth
- rosy-face chub (*Hypentelium nigricans*)
 - blunt, rounded snout
 - translucent green/black stripe
 - snout is red when spawning
 - small chin barb
 - subterminal mouth
- spot tail shiner (*Notropis hudsonius*)
 - subterminal mouth
 - large eyes
- yellowfin shiner (*Notropis lutrensis*)
 - spawning colors – red and gold/yellow
 - large black stripe
 - terminal mouth
- ocmulgee shiner (*Cyprinella callisema*)
 - crevice spawners, no sediment
 - blue stripe
 - tubercles
 - sexual dimorphism
 - endemic to upper Altamaha drainage basin
 - terminal
- Altamaha shiner (*Cyprinella xanthurus*)
 - subterminal mouth
 - black spot
 - state threatened
 - crevice spawner

Electrofishing

- each team consists of one backpack shocker, two netters, & one bucket
- formation:



Pickereel (Esocidae)

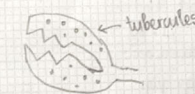
- redfin pickerel (*Esox americanus*)
 - diagonal black bar under eye

North American Catfishes (Ictaluridae)

- snail darters (*Ameiurus brunneus*)
 - barbels under chin (4)
 - dark colored barbels
 - adipose fin
- margin madtom (*Noturus insignis*)
 - slender body
 - black margin around caudal fin
 - venomous spines
 - fused adipose fin

Invasive Species

- weather loaches
 - family: Cobitidae
- red swamp crayfish
 - native to Louisiana
 - white tubercles on claws



Sunfishes & Black Basses (Centrarchidae)

- red breasted sunfish (*Lepomis auritus*)
 - rounded operculum
 - white margins on top & bottom
- bluegill (*Lepomis macrochirus*)
 - black spot on dorsal fin
 - common
 - railroad tracks
- green sunfish (*Lepomis cyanellus*)
 - white margin on operculum all around
 - large mouth
- warmouth (*Lepomis gulosus*)
 - large mouth
 - dark stripes on face "warpaint"
- redear sunfish (*Lepomis microlophus*)
 - red color on the tip of operculum
 - "shellcrackers"
- black crappie (*Pomoxis nigromaculatus*)
 - dorsal & anal fins are symmetrical

- largemouth bass
 - premaxilla are large (under jaw)
 - hybridize
 - 2 dorsal fins are deeply separated

Percidae (Darters, Burchards)

- westfalls darter (*Percina westfalli*)
 - vertical black bars down body
 - used to be black banded darters
- turquoise darter (*Etheostoma insculptum*)
 - turquoise on caudal, pectoral, & anal fin when spawning
 - faint orange line on dorsal
 - only anal is turquoise normally

Detailed Schedules

- Exact times may change as we deal with the logistics of fieldwork.
- Please do your part to help us stay on schedule and be on time for all van departures.
 - We will often be late for dinner, and lunch times may vary based on travel schedule and location.
 - We can stop for unscheduled bathroom breaks if needed – just ask!
- Remember, no music or loud voices after 10:00 PM. Get a good night's sleep. It is tempting to stay up all night and have fun, but our primary mission is to learn about Georgia fishes. Thanks for your cooperation!

Piedmont Week – Detailed Schedule

Tuesday, May 13	
Duties:	Gear: <i>Darters, Drums, and Sunfish</i>
Activities:	"Dry" wading in waders
8:00 AM	Classroom Lectures on Campus
11:00 AM	Head to Fish Lab to get waders and gear
11:30 PM	Lunch (<i>bring your own</i>)
12:30 AM	Vans depart
1:00 AM	Arrive at Oconee River Site ○ Sample native stream fishes
3:00 PM	Fish Show
4:30 PM	Vans depart
5:00 PM	Approximate arrival back to Fish Lab
Key Topics:	<i>Class introduction; Intro to fish; Sampling methods; Backpack electrofishing; Riparian corridors; Invasive species</i>

Piedmont Week – Detailed Schedule (continued)

Wednesday, May 14

Duties: Gear: *Darters, Drums, and Sunfish*

Activities: “Dry” wading in waders

8:00 AM Classroom Lectures on **Campus**

10:00 AM Head to **Fish Lab** to get waders and gear

10:15 AM Vans depart

Arrive at **Broad River Site**

- Lunch break at site (*bring your own*)
- Sample native stream fish

3:30 PM **Quiz 1**

4:00 PM Vans depart

4:45 PM Approximate arrival at **Fish Lab**

- Clean up gear: *Darters, Drums, and Sunfish*

Key Topics: Watersheds and habitat; Sampling methods; Piedmont ecoregion

Thursday, May 15

Duties: Gear: *Darters, Drums, and Sunfish*

Activities: “Dry” wading in waders

8:00 AM Meet at **Fish Lab**

8:30 AM Vans depart

10:15 AM Arrive at **Oconee River Site 2**

- Guest Lecture
- Lunch break at site (*bring your own*)
- Sample
- Fish Show

3:00 PM Vans depart

4:45 PM Approximate arrival at **Fish Lab**

- Clean up gear: *Darters, Drums, and Sunfish*

Key Topics: Fish management; NGOs; Black bass diversity

Piedmont Week – Detailed Schedule (continued)

Friday, May 16

Duties: Gear: *Darters, Drums, and Sunfish*

Activities: “Dry” wading in waders

8:00 AM Meet at **Fish Lab**

8:30 AM Vans depart

10:00 AM Arrive at **Chattahoochee River Site**

- Sample native stream fish

- Lunch break at site (*bring your own*)

2:00 PM Fish Show

3:00 PM **Quiz 2**

3:30 PM Vans depart

5:00 PM Approximate arrival at **Fish Lab**

- Clean up gear: *Darters, Drums, and Sunfish*

Key Topics: Anthropogenic impacts, SWAP; Black bass diversity

 **Turn in notebooks for grading over weekend** 

Mountain Week – Detailed Schedule

Monday, May 19

Duties: Gear: *Darters* | Cooking: *Drums* | Dishes: *Sunfish*

Activities: “Dry” wading in waders

7:30 AM Meet at **Fish Lab** to load up gear

8:30 AM Vans depart

11:30 AM Arrive at **Campsite**

- Set up camp

- Lunch at campsite

1:00 PM Vans depart Campsite. Vans will stop at bathrooms on way out of park

1:20 PM Arrive at **Coosawattee River Site**

- Seine and hook & line sampling

4:00 PM Fish Show

5:00 PM Vans depart

5:20 PM Approximate arrival back at **Campsite**

- Clean and store gear

- Dinner

- Dishes and cleanup

After Dinner Vans will head to bathrooms for dishwashing and showers

Key Topics: Drainages and diversity; Blue Ridge ecoregion; Seining

Mountain Week – Detailed Schedule (continued)

Tuesday, May 20

Duties: Gear: *Drums* | Cooking: *Sunfish* | Dishes: *Darters*

Activities: Snorkeling (swimming), wet wading, “dry” wading in waders

6:45 AM Start making breakfast and coffee

7:15 AM Breakfast.

- Dishes done and all food put away by 8:15 AM

- Drain coolers and help prep gear

8:30 AM Vans depart.

10:00 AM Vans Arrive at **Conasauga River Site 1**

- Snorkeling

- Lunch and warm up

1:30 Vans depart for **Conasauga River Site 2**

- Seining and snorkeling

4:30 PM Fish Show

5:30 PM **Quiz 3**

6:00 PM Vans depart

- Dinner (restaurant)

8:30 PM Approximate arrival back at **Campsite**

- Clean and store gear

- Vans will head to bathrooms for dishwashing and showers

Key Topics: *Threatened and endangered fishes; Ridge and Valley ecoregion; Leuciscid reproductive ecology; Snorkel surveys*

Mountain Week – Detailed Schedule (continued)

Wednesday, May 21

Duties: Gear: *Sunfish* | Cooking: *Darters* | Dishes: *Drums*

Activities: Snorkeling (swimming), wet wading, “dry” wading in waders

6:45 AM Start making breakfast and coffee

7:15 AM Breakfast

- Dishes done and all food put away by 8:15 AM
- Drain coolers and help prep gear

8:30 AM Vans depart.

10:00 AM Arrive at **Toccoa River Site**

- Snorkeling
- Lunch at site

1:00 PM Electrofishing

4:00 PM Fish Show

5:00 PM Vans depart

6:30 PM Approximate arrival back at **Campsite**

- Clean and store gear
- Dinner
- Dishes and cleanup

After Dinner Vans will head to bathrooms for dishwashing and showers

Key Topics: *Salmonids in Georgia; Threatened and endangered fishes*

Mountain Week – Detailed Schedule (continued)

Thursday, May 22

Duties: Gear: *Darters* | Cooking: *Drums* | Dishes: *Sunfish*

Activities: Wet wading, “dry” wading in waders

6:45 AM Start making breakfast and coffee

7:15 AM Breakfast

- Dishes done and All food put away by 8:15 AM

- Drain coolers and help prep gear

8:30 AM Vans depart

10:00 AM Arrive at **Tennessee River Site**

- Electrofishing

- Lunch at site

- Seining

3:00 PM Fish Show

4:30 PM **Quiz 4**

5:00 PM Vans depart

6:30 PM Approximate arrival back at **Campsite**

- Clean and store gear

- Dinner

- Dishes and cleanup

After Dinner Vans will head to bathrooms for dishwashing and showers

Key Topics: *TVA impoundments; Threatened and endangered species*

Mountain Week – Detailed Schedule (continued)

Friday, May 23

Duties: Gear: *Drums* | Cooking: *Sunfish* | Dishes: *Darters*

Activities: Travel

7:00 AM Start making breakfast and coffee

7:30 AM Breakfast

- Do dishes. All food put away in vehicles by 8:15 AM
- Drain coolers and help prep gear

8:30 AM Break camp and load vans

9:00 AM Vans depart

11:00 AM Lunch at restaurant on the way home

2:00 PM Approximate arrival back at **Fish Lab**

- Unload trailer
- Clean gear

Coastal Week – Detailed Schedule

Monday, May 26

Duties: Gear: *Drums* | Cooking: *Sunfish* | Dishes: *Darters*

Activities: Travel, wet wading (swimming)

- 7:30 AM Meet at Fish Lab to load up gear
- 8:30 AM Vans depart
- 10:00 AM Planned bathroom break
- 12:00 PM Arrive at **Coastal Plain River Site**
 - Unload gear
 - Quick lunch
 - Intro to the Coastal Plain
 - Seining
- 3:00 PM Fish show
- 3:30 PM Vans depart
- 5:45 PM Approximate arrival at **Dorm**
 - Clean and store gear
 - Restaurant for dinner

Key Topics: Coastal Plain ecoregion; Floodplains; Blackwater rivers; seining

Coastal Week – Detailed Schedule (continued)

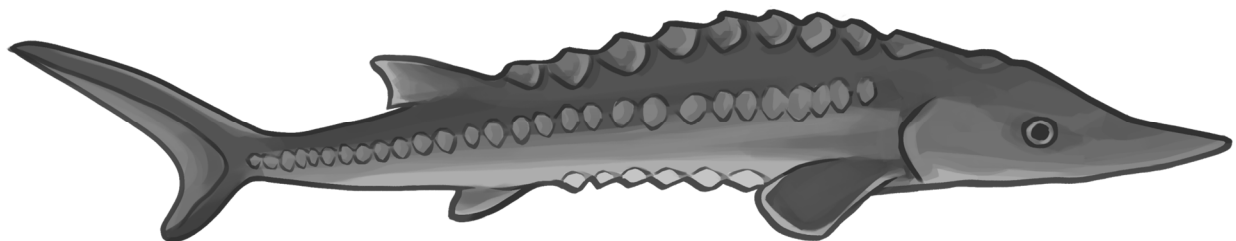
Tuesday, May 27

Duties: Gear: *Sunfish* | Cooking: *Darters* | Dishes: *Drums*

Activities: Morning: “dry” sampling. Evening: wet wading

- 6:30 AM Start making breakfast and coffee
- 7:00 AM Breakfast
 - Dishes and cleanup
 - Drain coolers, load trailer
- 7:30 AM Vans depart – **need to leave on time to catch the tide**
- 9:30 AM Arrive at **Estuary Site**
 - Sturgeon sampling (*Tide: high*)
 - Diadromous fishes and estuaries lecture
- 1:30 PM Lunch
- 2:00 PM **Quiz 5**
- 2:30 PM Guest lecture: UGA Marine Extension
- 3:30 PM Vans depart for **Ferry Dock**
 - Prep gear for loading onto ferry
- 5:30 PM Sapelo Island Ferry departs – **they won’t wait for us**
- 6:30 PM Arrive at **Sapelo Island**
 - Unload gear to Marine Institute dorm
 - Set up kitchen and start cooking dinner: Spaghetti
 - Set up lab and fishing rods
- 7:00 PM Dinner
 - Dishes and cleanup
- 8:00 PM Evening Options: (*Tide: falling*)
 1. Night fishing on **Beach Site 1** (**red flashlight required**)
 2. Read fish books

Key Topics: *Estuaries; Diadromy; Sturgeon; Gill nets; Hook and line sampling*



Coastal Week – Detailed Schedule (continued)

Wednesday, May 28

Duties: Gear: *Darters* | Cooking: *Drums* | Dishes: *Sunfish*

Activities: Morning: “dry” sampling. Afternoon: wet, muddy wading

6:45 AM Start making breakfast and coffee

7:15 AM Breakfast

- Dishes and cleanup

- Prep gear

8:30 AM Load up truck

8:45 AM Truck departs dorm for morning sampling trip

Group A

Group B

9:00 AM ○ Trawling in **Sound Site**

○ Sample **Tidal Creek Site**
(*Tide: high, incoming*)

10:15 AM

○ Head to lab, deposit fishes

10:45 AM

○ Head to dock

11:00 AM

○ Bring fishes to lab
○ Sample **Tidal Creek Site**
(*Tide: high, falling*)

○ Trawling in **Sound Site**

12:15 PM

○ Head to lab, deposit fish

12:45 PM

○ Head to dock

1:00 PM Return to dorm for lunch

1:30 PM Truck departs dorm for afternoon sampling trip

1:45 PM **Salt Marsh Site** Sampling (*Tide: mid, falling*)

3:30 PM **Beach Site 1** seining/wash off marsh mud (*Tide: low, falling*)

5:00 PM Specimen ID in the lab. **Not optional.**

6:30 PM Start prepping dinner

- Dishes and cleanup

After Dinner Lab is open for specimen review (strongly recommended). Potential beach fishing and marsh fishing

Key Topics: *Barrier islands; Beachfront habitat; Salt marsh; Trawling*

Coastal Week – Detailed Schedule (continued)

Thursday, May 29

Duties: Gear: *Drums* | Cooking: *Sunfish* | Dishes: *Darters*

Activities: Morning: dry lab activities.
Afternoon: wet wading, swimming, no shade for 6 hours, no facilities

6:45 AM Start making breakfast and coffee

7:15 AM Breakfast

- Dishes and cleanup
- Prep gear and snacks

8:00 AM Instructor-led review of fishes

11:30 AM Lunch

11:45 AM Load up truck for beach

12:00 PM Depart for **Beach Site 2** (*Tide: high, falling*)

- Beach seining
- Fishing Tournament

7:00 PM Lines up, everyone must leave the beach

7:45 PM Start cooking dinner

- Clean gear – especially fishing rods
- Dishes and cleanup

After Dinner Study fish in the lab

Key Topics: Barrier islands; Beachfront habitat; Hook and line sampling

Coastal Week – Detailed Schedule (continued)

Friday, May 30

Duties: Gear: *Drums* | Cooking: *Sunfish* | Dishes: *Darters*

Activities: Dry activities, travel

7:00 AM Start making breakfast and coffee

7:30 AM Breakfast. After you eat...

- Do dishes
- Start dorm cleanup
- Gear cleanup/packing

8:00 AM Study your fish. Lab closes at 8:45 for quiz setup

9:00 AM **Quiz 6**

10:00 AM *Darters, Drums, and Sunfish* continue clean-up of kitchen, dorms, and lab

11:00 AM Load truck

11:30 AM Depart for **Ferry Dock**

12:00 PM Ferry departs Sapelo Island – **they won't wait for us**

1:00 PM Load vans and depart for Athens. Stop for a late fast food lunch on the way home

7:00 PM Approximate arrival time at **Fish Lab**

- Unload trailer
- Clean gear

 **Turn in notebooks for grading** 

Student Equipment Checklists

General Sampling Gear – All Trips

Week 1	Week 2	Week 3	
☐	☐	☐	Grubby clothes that can get wet
☐	☐	☐	Pants and long-sleeved shirts
☐	☐	☐	Closed-toe shoes that lace tightly to your feet for wading and snorkeling. (Old tennis shoes or hiking boots are recommended)
☐	☐	☐	Course pack (distributed on the first day of class)
☐	☐	☐	Pencils
☐	☐	☐	Bug spray
☐	☐	☐	Sunscreen (SPF 30 or more) and sun hat
☐	☐	☐	Water bottle
☐	☐	☐	Backpack (day pack) to hold your gear on trips
☐	☐	☐	Sunglasses (polarized highly recommended)
☐	☐	☐	Headlamp or flashlight (must have a red light setting for the beach)
☐	☐	☐	Rain jacket
☐	☐	☐	Towel
☐	☐	☐	Extra dry clothes and shoes. Bring a warm sweatshirt in case it gets cold!
☐	☐	☐	Toiletries
☐	☐	☐	Hand sanitizer
☐	☐	☐	Cell phone + charger(s). Waterproof case strongly recommended.
☐	☐	☐	Cash for meals on the road
☐	☐	☐	Medications (if applicable)

Optional:

- | | | | |
|--------------------------|--------------------------|--------------------------|--|
| ☐ | ☐ | ☐ | Digital camera (waterproof strongly recommended) |
| ☐ | ☐ | ☐ | Camp chair |
| ☐ | ☐ | ☐ | Fishing pole and tackle (if you want to fish) |
| ☐ | ☐ | ☐ | Georgia fishing license (required if you plan to fish):
https://license.gooutdoorsgeorgia.com/) |

Piedmont Week

- ☐ General sampling gear (see page 25)
- ☐ Waders (distributed on the first day of class; bring your own if you have)
- ☐ Your own lunch **every day**

Mountains Week

- ☐ General sampling gear (see page 25)
- ☐ Wetsuit (bring your own or rent one, see page 27)
- ☐ Swimsuit to wear under wetsuit
- ☐ Mask and snorkel (provided by class, but bring your own if you prefer)
- ☐ Waders and wading boots (*your own or the ones from the class, but you are responsible for making sure yours are loaded each day!*)
- ☐ Tent (bring your own rainproof tent or rent one, see page 27)
- ☐ Sleeping bag
- ☐ Pillow
- ☐ Sleeping pad (recommended) and any other camping supplies
- ☐ Coffee mug (if you want coffee)

Coastal Week

- ☐ General sampling gear (see page 25)
- ☐ Shoes that lace tightly and can get muddy (hiking boots, tennis shoes, etc.)
- ☐ Swimsuit
- ☐ Sleeping bag/twin sheets for dorm
- ☐ Pillow for dorm
- ☐ Bath towel
- ☐ Beach towel (optional but recommended)
- ☐ **\$5 in cash for Sapelo Island Ferry**

The UGA Marine Institute dorm provides linens (including pillow).

Gear Rental

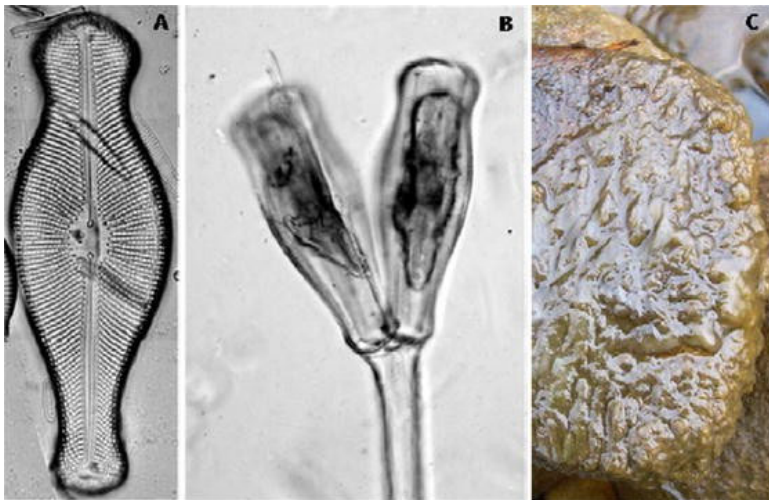
Wetsuits and tents are available for rental from UGA Rec Sports in the Ramsey Student Center for Physical Activities (The ORC), Lower level, room 144. You will need to complete arrangements to rent gear by **Thursday May 15 and pick up your gear by Friday May 16 from 12pm-6pm. We will be returning gear on Friday, May 23 between 12 and 6pm.**

- **Wetsuit:** weekly rental is \$24. 1- or 2-piece wetsuits are fine (2-piece is warmer, but bulkier). You do not need fins. You can also rent a wetsuit from Dolphin Dive Center on W. Broad Street.
- **Tent:** weekly 2-person tent rental is \$24. You can probably find a classmate to split the cost/tent with you.

Cleaning Sampling Gear

It is extremely important to clean sampling gear, especially when moving between different river systems. We do not want to be a vector for aquatic nuisance species. Please rinse all mud and debris from wading boots, waders, seines, wetsuits, dipnets, buckets and fishing gear before loading it on the truck. Let gear dry in the sun while we are eating lunch when possible. We will also wash gear each night with a high-pressure hose and let it dry as much as possible. We will also soak felt-sole boots in a mild detergent solution (1 cup dw soap per gallon of water). More stringent decontamination may be necessary in waters with known invasive species or pathogens.

Didymo (*Didymosphenia geminata*), an invasive diatom also known as “rock snot,” was documented in NC trout streams in 2015. It can easily be transported on your wading boots. Be careful and continue good gear cleaning habits after this course.



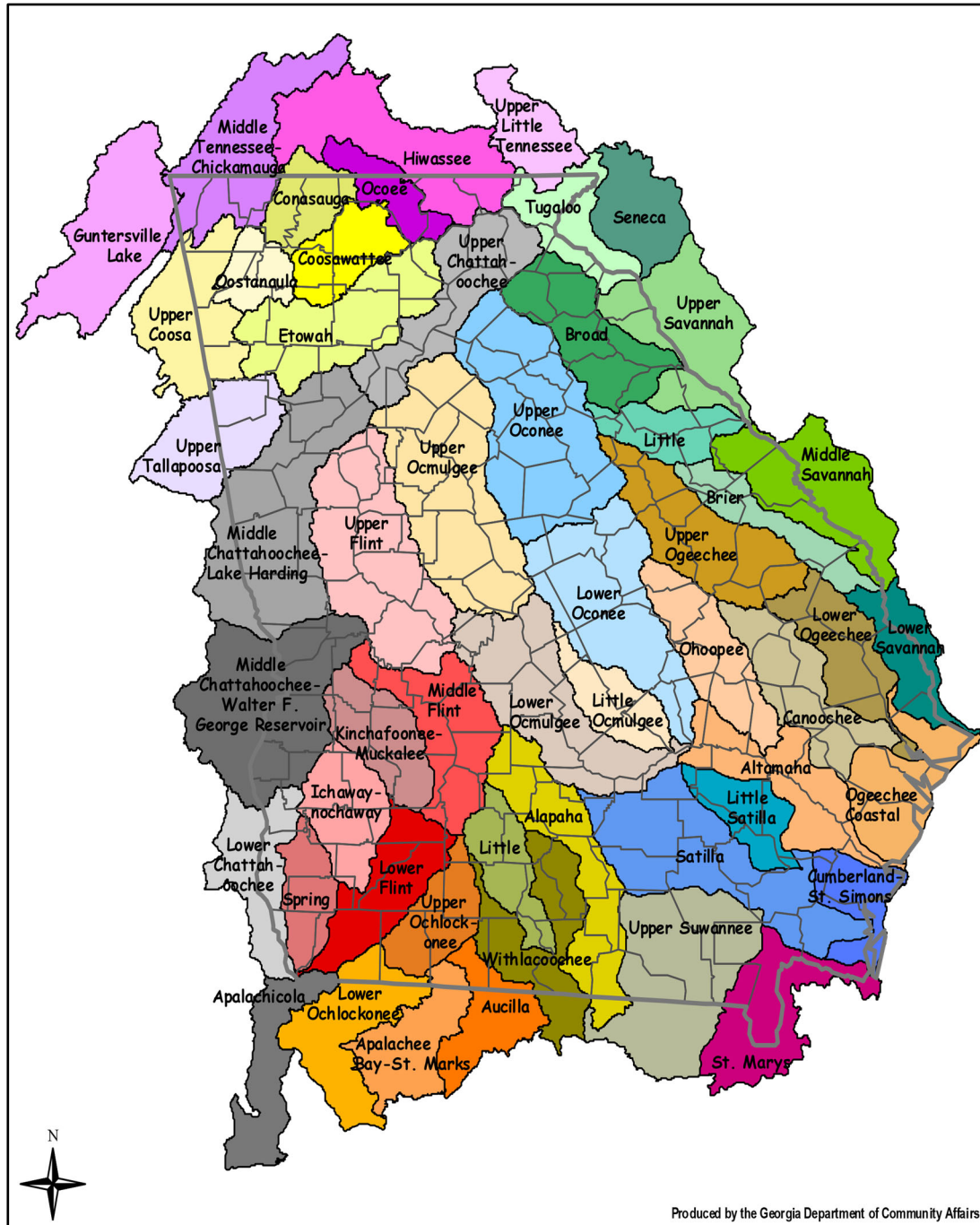
- a. *Didymosphenia geminata*. Single valve seen under light microscopy.
- b. Two cells attached to a stalk.
- c. Macroscopic colony growing on a riverbed rock.

From Sanmiguel et al. (2016).

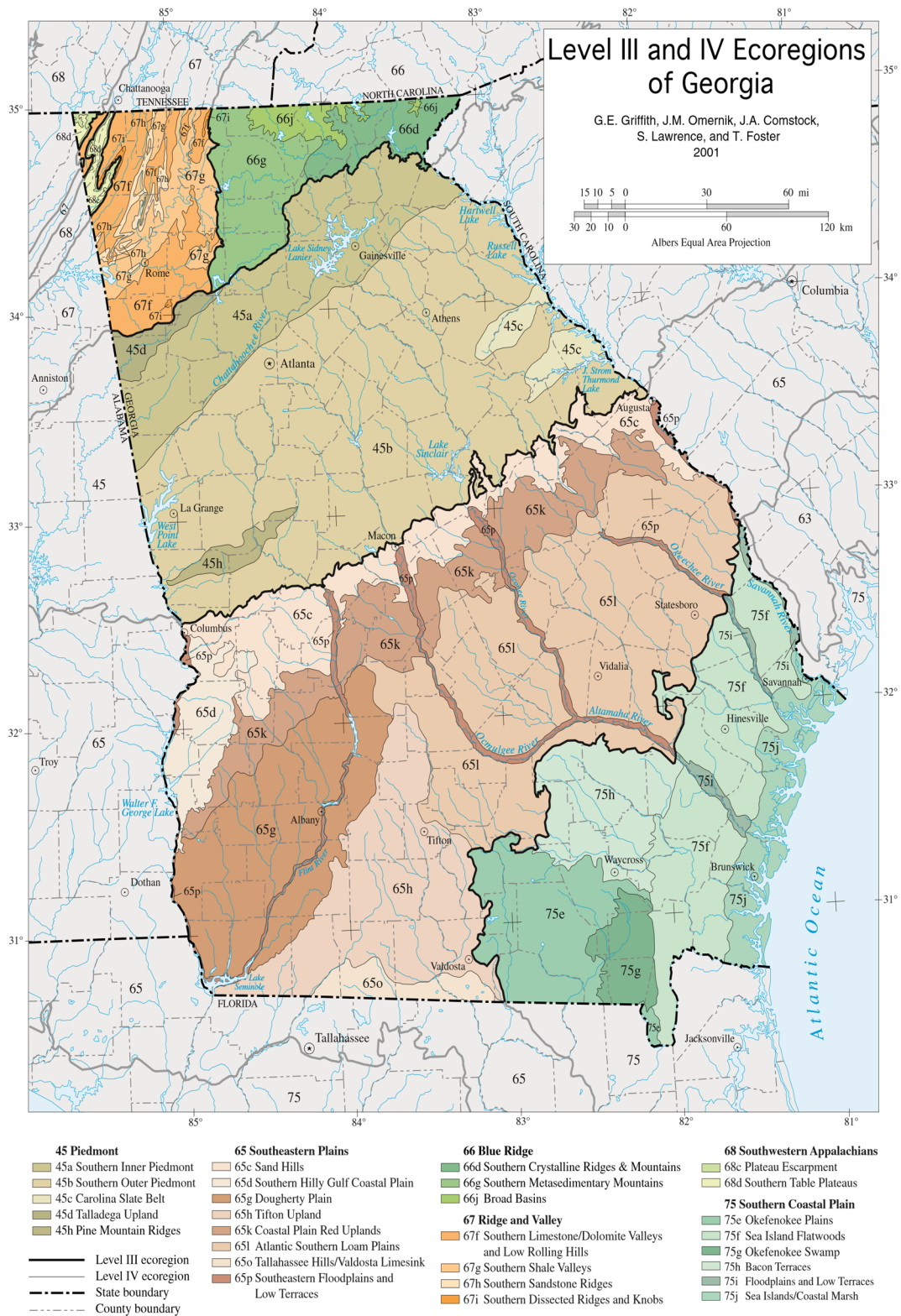
Introductory Lecture Notes

Maps

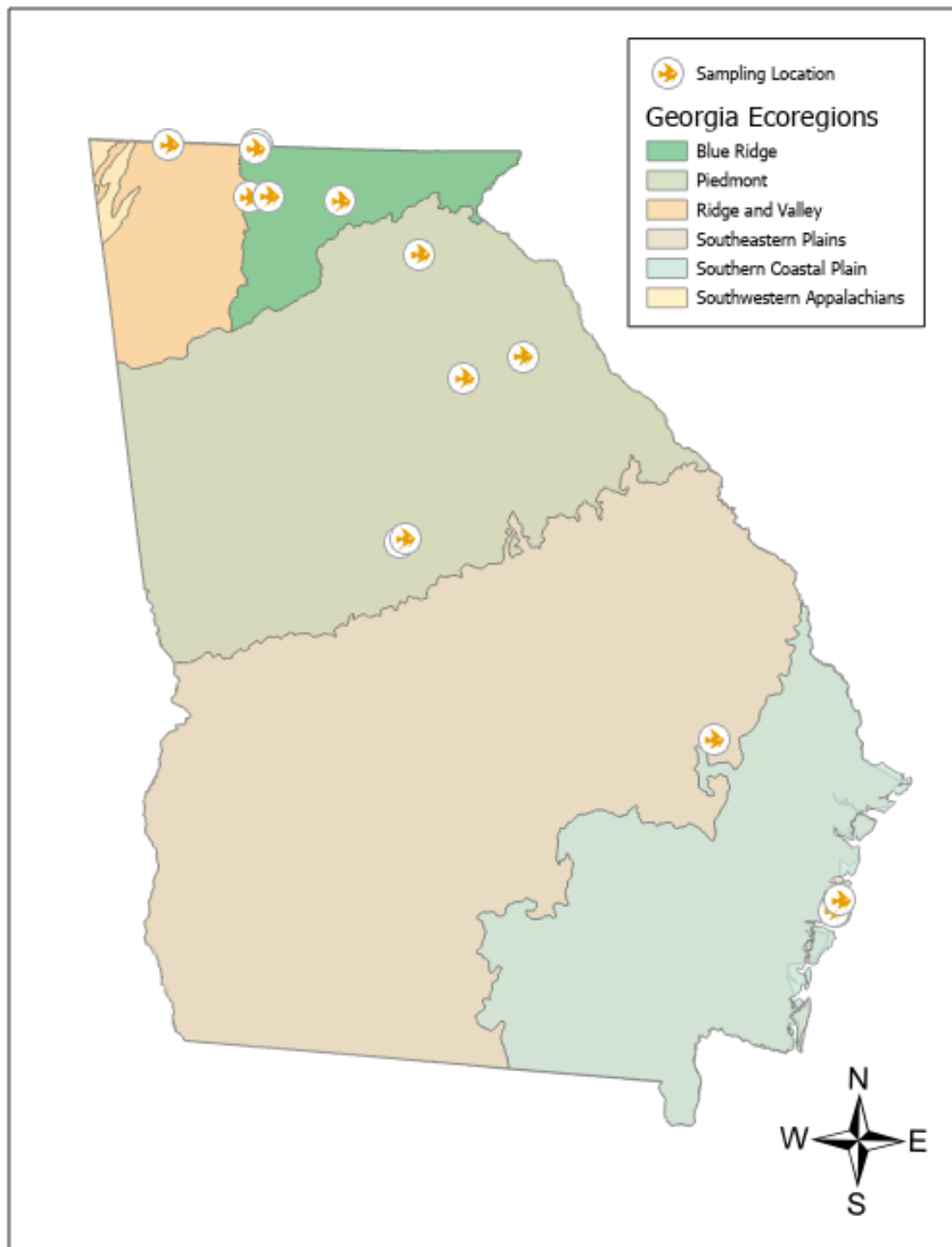
Georgia's 52 Large Watersheds



Ecoregions of Georgia



Fish Field Camp Sampling Sites



Sapelo Island



Reference Materials

Length Measurements

Fork length: Length measured from the tip of the snout to the deepest part of the fork in the caudal fin. Not applicable for fish with rounded, truncated, or emarginate tails (*e.g.*, the Tangerine Darter illustrated in Fig. 1 below).

Standard length: Length measured from the tip of the snout to the end of the caudal fin base. For precise measurements, bend the tail upwards to form a crease marking the end of the caudal fin base.

Total length: Length measured from the tip of the snout to the furthest tip of the caudal fin. For precise measurements, stretch tail straight out in line with center of fish's body.

Disc width: A length measurement for stingrays and skates. Length is measured across the body, from wingtip to wingtip.

Girth: Circumference of a fish's body measured at the thickest point (typically just posterior to the pectoral fins).

Other Measurements: Other lengths are typically measured from the tip of the snout to the other named feature. For instance, pre-opercular length is snout-to-anterior edge of opercle, or pre-caudal length in an elasmobranch is snout-to-precaudal pit.

Morphological Features

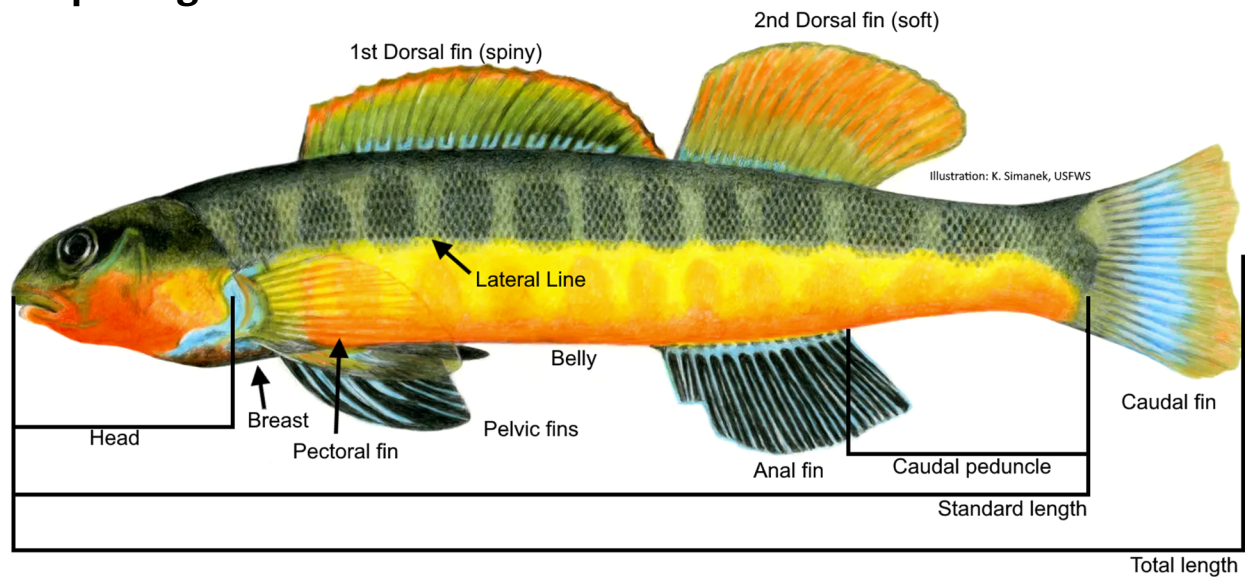


Figure 1. Important external characteristics labeled on a Tangerine Darter (*Percina aurantica*, Percidae), an advanced (*i.e.*, evolutionarily derived) fish. Two dorsal fins and pelvic fins with forward (thoracic; even with the pectoral fins) placement are characteristics shared with other evolutionarily advanced fishes.

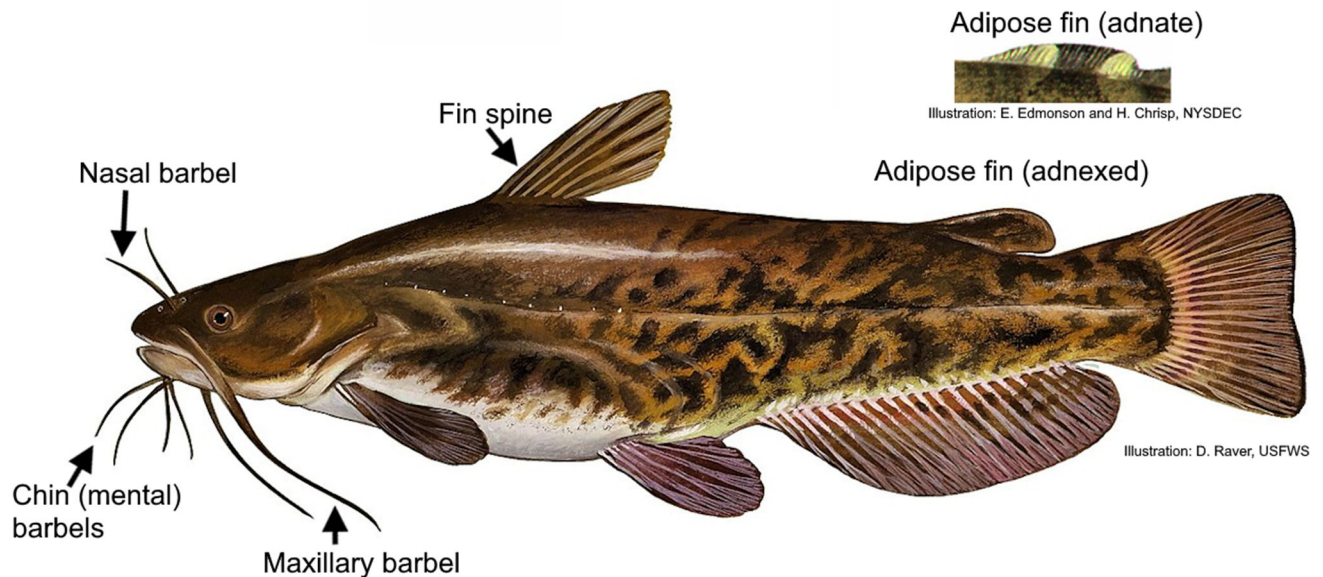


Figure 2. Important external characteristics labeled on a Brown Bullhead (*Ameiurus nebulosus*, Ictaluridae). Note that the bullheads have an adnexed adipose fin – the rear margin is free from the body. The inset illustrates an adnate adipose fin (*i.e.*, the rear margin is attached to the body), which is a characteristic of madtoms, a different group of ictalurid catfishes. Also note the abdominal placement of the pelvic fins (*i.e.*, posterior to pectoral fins), a characteristic shared with other evolutionarily basal fishes.

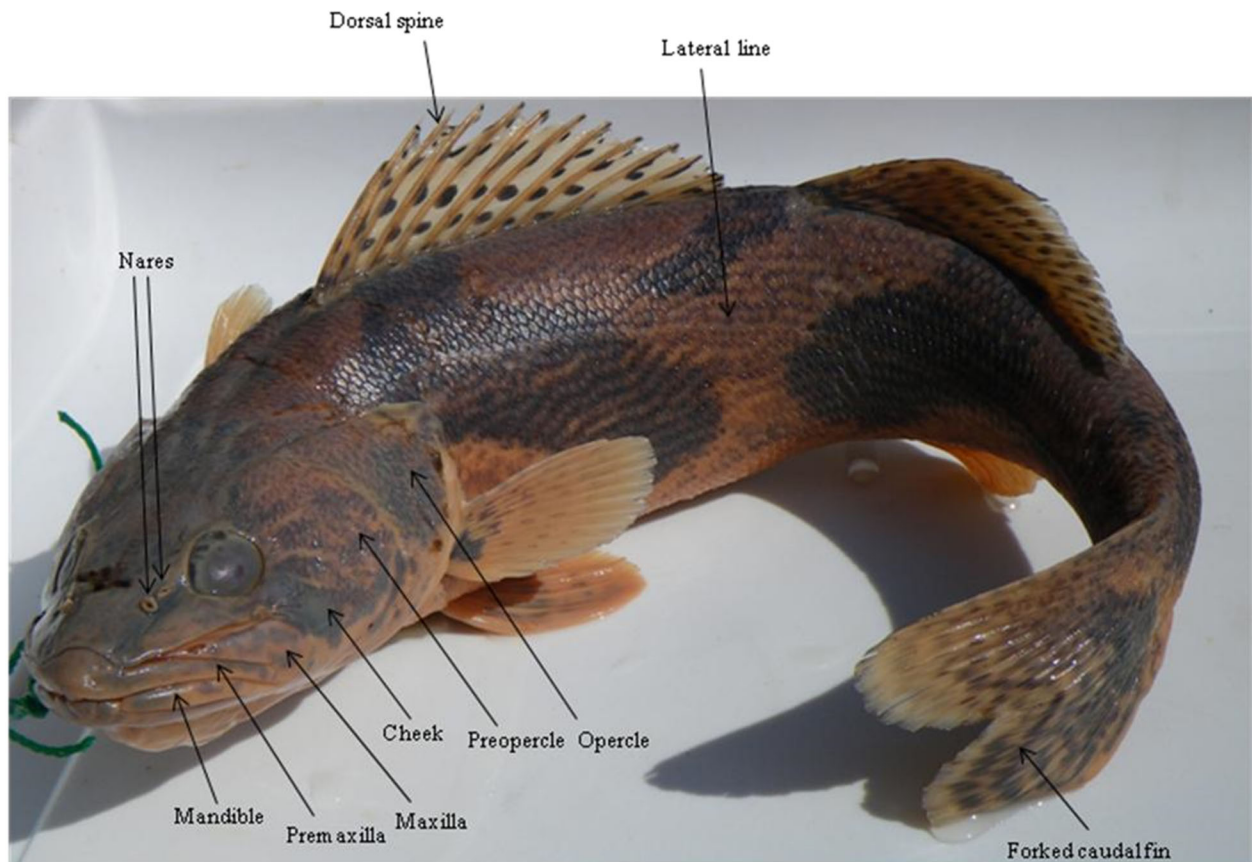


Figure 3. External characteristics illustrated on a Sauger (*Sander canadense*, Percidae).
Photo by D. Weiler, GA DNR



Photo: B. Albanese, GA DNR



Photo: B. Albanese, GA DNR

Figure 4. Head tuberculation patterns on nuptial male minnows in the genus *Cyprinella*, Leuciscidae. Tubercles are scattered on the Ocmulgee Shiner (*Cyprinella callisema*; left) and arranged in linear rows on the Bannerfin Shiner (*Cyprinella leedsii*; right). Tubercles may also occur on the head, fins, and body scales of other male fishes.

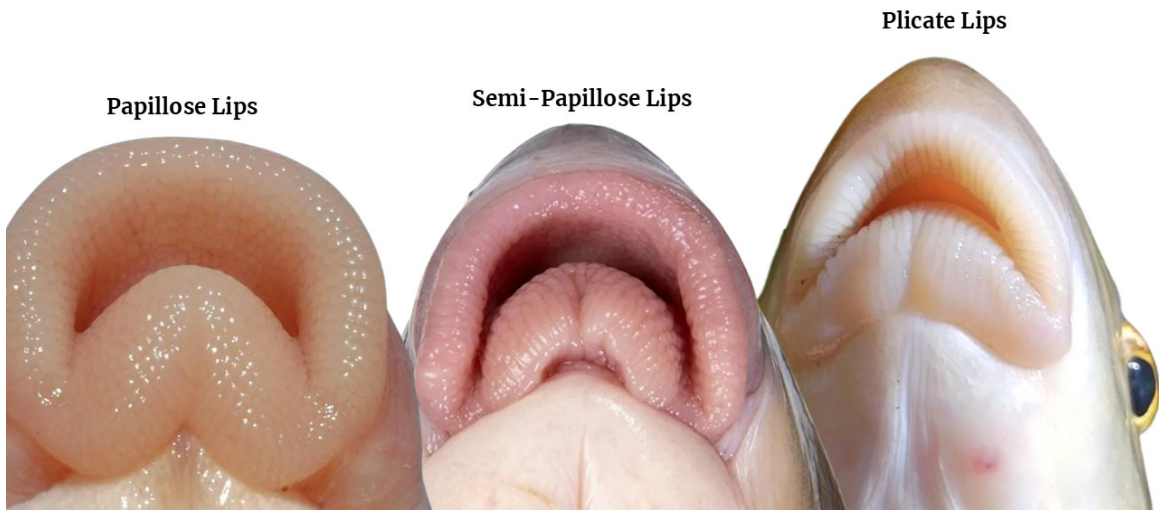


Figure 5. Lip morphology of Catostomidae fishes. Papillose (left) consist of small, bumpy protrusions. Plicate (right) are smooth, lined. Lips may be intermediate, such as semi-papillose (center, with lower lip exhibiting more plicate traits and upper lip exhibiting papillose traits).

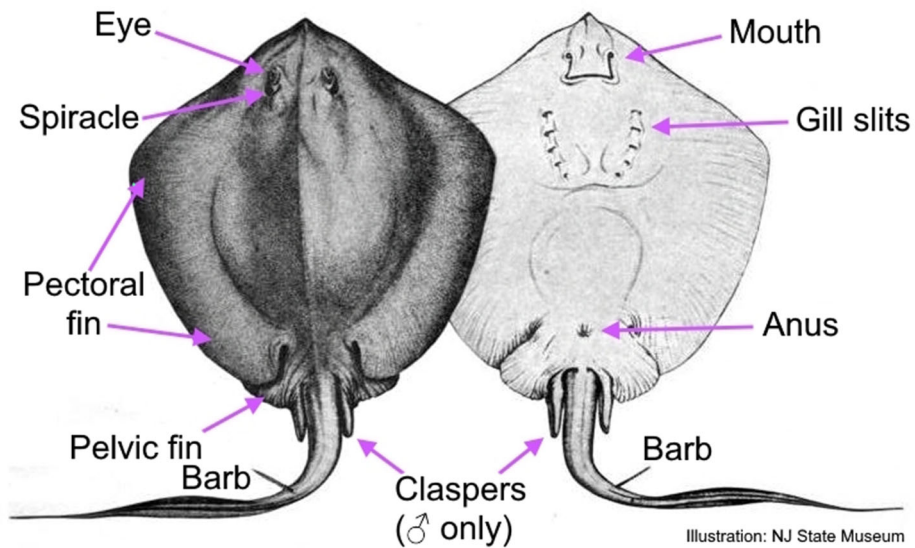


Figure 6. External features of a stingray illustrated on a Bluntnose Stingray (*Hypanus say*, Dasyatidae). Note that the “wings” of the stingray are modified pectoral fins. Male elasmobranchs feature claspers on the inside edge of the pelvic fins.

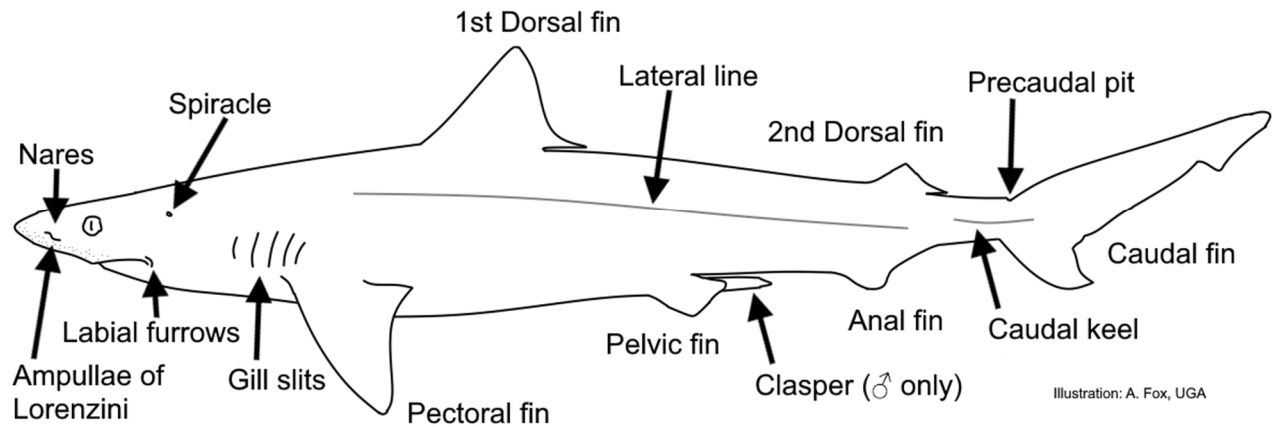


Figure 7. External features of a shark. Not all features can be found on all shark species. Male elasmobranchs feature claspers on the inside edge of the pelvic fins.

Glossary of Morphologic Terms

Adipose fin. *n.* A small, fleshy fin (lacking rays) occurring on the dorsum between the dorsal and caudal fins in some fishes (*e.g.*, catfishes and trouts). *See Fig. 2 (p. 37).*

- **Adnate:** adipose fin is attached to the peduncle for its full length.
- **Adnexed:** distal end of adipose fin is not attached.

Ampullae of Lorenzini. *n.* Electrosensitive receptors found in small pores around the snout of elasmobranchs and some primitive fishes.

Anterior. *adj.* Further forward in position; nearer the front end.

Bar. *n.* A vertical marking or band on the body.

Barb. *n.* A sharp, serrated spine on the tail of a stingray. Sometimes called a “stinger.” Barbs are not fin spines, but instead are a modified dermal denticle. Stingray barbs are used for defense and are covered in a layer of cells that release venom upon striking. Hot water will break down the venom.

Barbels. *n.* Slender, fleshy whisker-like organs found on the heads of some fishes which help them sense environmental conditions. *See Fig. 2 (p. 37).*

- **Nasal:** originate near the nares.
- **Maxillary:** originate near the upper lip.
- **Mental (Chin):** originate below the chin.

Belly. *n.* The part of the body on the ventral side between the base of the pectoral fins (or pelvic fins when these are placed anteriorly) and the beginning of the anal fin.

Breast. *n.* Ventral surface between the gill membranes and the base of the pectoral fins (or pelvic fins when these are placed anteriorly).

Caudal peduncle. *n.* The part of the body between the caudal fin base and the posterior insertion of the anal fin.

Caudal fin. *n.* The tail. Some shapes of fins have specific names:

- **Emarginate:** slightly indented, but not forked. *See Fig. 1 (p. 37).*
- **Forked:** has a deep triangular notch. *See Fig. 3 (p. 38).*
- **Heterocercal:** upper and lower lobes unequal in size. *See Fig. 7 (p. 40).*
- **Lanceolate:** tapering to a point.
- **Lunate:** crescent-shaped.
- **Truncate:** posterior edge straight. *See Fig. 2 (p. 37).*
- **Rounded:** posterior end rounded.

Chromatophores. *n.* Cells bearing pigment that give color to surrounding tissue.

Claspers. *n.* A pair of external appendages attached to the pelvic fins of male elasmobranchs. *See Figs. 6 (p. 39) & 7 (p. 40).*

Confluent. *adj.* Run together (and become indistinguishable), as in “dorsal fin is confluent with caudal fin.”

Dermal denticle. *n.* A microscopic toothlike structure covering the body of elasmobranchs. Denticles are analogous to scales, and are sometimes called **placoid scales**. If you pet an elasmobranch from back to front, you can feel them.

Dimorphic. *adj.* Having two different forms or body types within a population, that are often associated with sex (*i.e.*, sexual dimorphism).

Dorsal. *adj.* (*n.*: **Dorsum**) Relating to the back.

Dorso-ventrally compressed. *adj.* Flattened along a horizontal plan (*e.g.*, an Atlantic Stingray). Also known as **depressiform**.

Falcate. *adj.* A concave fin margin, with the anterior rays longer than the posterior rays (*e.g.*, dorsal fin of a Sicklefin Redhorse)

Frenum. *n.* fleshy bridge of tissue connecting the upper jaw to the snout; the presence or absence of a frenum is an important taxonomic characteristic in darters (Percidae).

Free. *adj.* (as in, “free adipose fin”) **Not attached at the end.**

Fusiform. *adj.* Streamlined, tapering at both ends.

Ganoid scales. *n.* Hard, diamond-shaped, non-overlapping scales found in gars.

Gape. *v.* To open the mouth widely. *n.* the mouth opening width, measured as the straightline distance between the corners of the mouth.

Gill arch. *n.* Set of bones supporting the gills.

Gill filaments. *n.* Thread-like structures that extend posteriorly from the gill arches and are used for respiration.

Gill rakers. *n.* Anterior projections on the gill arches that may be used to protect the gills and strain out food particles. The number and shape of gill rakers are important taxonomic characters.

Gular. *adj.* Pertaining to the throat. (*e.g.*, the gular plate on a Bowfin).

Heterocercal. *adj.* Uneven – as in **heterocercal tail**, where the top and bottom lobes of the caudal fin are different sizes. Usually, the vertebral column passes into the top lobe. *See Fig. 7 (p. 40).*

Homocercal. *adj.* Even – as in **homocercal tail**, where the top and bottom lobes of the caudal fin are the same size. The vertebral column does not pass into either lobe.

Interstices. *n.* Small spaces between objects (*e.g.*, the space between a fish's scales).

Keel. *n.* A sharp ridge.

Lateral line. *n.* Pored scales running along the side of the body between the operculum (*i.e.*, gill cover) and the base of the caudal fin that detect vibrations in the surrounding aquatic environment. If the pored scales do not extend all the way to the base of the caudal fin, the lateral line is incomplete (*vs.* complete). The lateral line may also be completely absent in some species or life stages.

Laterally compressed. *adj.* Flattened on a vertical plane (*e.g.*, a shad or a sunfish). Also known as **compressiform**.

Mandible. *n.* The lower jawbone or dentary bone.

Maxilla. *n.* Posterior-lateral bone in the upper jaw.

Medial. *adj.* Toward the middle.

Melanophore. *n.* A color cell with melanin, a dark pigment which can produce shades varying from gray to black.

Mottled. *adj.* A color pattern dominated by irregular markings or blotches.

Mouth placement.

- **Inferior.** Mouth positioned on underside of the head; opens downward.
- **Subterminal.** Mouth positioned so that the anterior end of the mouth is located just below the tip of the snout; usually opens downward.
- **Superior.** Mouth positioned so that the anterior end of the mouth opens distinctly above the tip of the snout; opens upward.
- **Terminal.** Mouth positioned so that the anterior end of the mouth is even with the tip of the snout; opens in a forward direction.

Nuptial. *adj.* Describing animals in a reproductive condition, which could include specific color patterns, morphology, and behavior related to mating.

Oblique. *adj.* Angled or slanted, usually in reference to the shape of the mouth and contrasting with a straight or horizontal mouth profile.

Operculum (Opercle). *n.* Flexible bone covering the gills of fishes, also known as a gill cover.

Papillose. *adj.* Divided into rounded, fleshy protuberances (*i.e.*, papillae), usually referring to sucker lips. *See Fig. 5 (p. 39).*

Pharyngeal teeth. *n.* The teeth found on the posterior-most gill arch in some fishes, such as minnows and suckers. The shape and number of teeth are useful taxonomic characteristics but examining them usually requires dissection.

Plicate. *adj.* Divided into parallel ridges (*i.e.*, plicae), usually referring to sucker lips. *See Fig. 5 (p. 39).*

Pored. *adj.* Having pores.

Posterior. *adj.* Further back in position; nearer the back end.

Premaxilla. *n.* The most anterior bone in upper jaw.

Ray (Fin ray). *n.* A soft, segmented and usually branching bone used to support fin membranes. Observing segmentation and branching may require magnification.

Rostrum. *n.* Beak-like projection; snout.

Saddle. *n.* A pigmented area on the dorsum of some fishes. It may extend onto the sides of the fish.

Scales. *n.* Small, rigid plates that grow out of the skin of a fish.

- **Placoid/Denticles.** Tiny tooth-like structures found on elasmobranch skin.
- **Ganoid.** Thick, diamond-shaped, non-overlapping scales.
- **Cycloid.** Smooth, uniform, circular scales with smooth outer margin.
- **Ctenoid.** Like cycloid scales, but with small teeth along the posterior margin, often giving them a rough texture.

Subterminal. Mouth positioned so that the anterior end of the mouth is located **Scute.** *n.* A large, hardened scale or plate (*e.g.*, scutes on a sturgeon).

Serrae. *n.* (*adj.*: **Serrate[d]**) Small, pointed, tooth-like projections.

Snout. *n.* Dorsal surface of head between the eye and the anterior end of the upper jaw.

Spine (Fin spine). *n.* An un-segmented and un-branched bone that supports fin membranes in some fishes, usually sharp and stiff.

Stripe. *n.* A band or marking running lengthwise along the body.

Truncate. *adj.* Having a straight or squared-off edge, as in a truncate tail.

Tubercle. *n.* A keratinized bump or ridge, usually found on the skin and fins of breeding male fishes.

Ventral. *adj.* Relating to the belly, or underside.

Glossary (Other)

Agnatha. *n.* A taxonomic group containing all extant jawless fishes – *i.e.*, lampreys and hagfishes.

Algae. *n.* Mostly aquatic, photosynthetic organisms that are usually small and unicellular. **Macroalgae** are often referred to as “seaweed.”

Alkalinity. *n.* In the context of water chemistry, Alkalinity is a water body's capacity to neutralize acids, or its ability to resist (buffer) changes in pH when an acid is added, primarily due to the presence of bicarbonate, carbonate, and hydroxide ions. It is typically measured in parts per million (ppm) or mg/L of calcium carbonate (CaCO₃).

Allopatric. *adj.* When two species have non-overlapping ranges.

Ammocoetes. *n.* Extended larval stage of lamprey that burrows in sediments and filter-feeds.

Anode. *n.* The ring- or diamond-shaped electrode on the pole of a backpack electrofishing apparatus, or the electrodes on the booms of an electrofishing boat. Electric current flows from the anode to the cathode.

Benthic. *adj.* Living on or close to the bottom of a body of water.

Brackish. *adj.* Slightly salty. Estuaries often feature brackish water, due to the mixing of fresh river water and seawater.

Bycatch. *n.* Unintended catch of non-target animals in a fishery. This includes non-target species, sizes, etc. Typically used in relation to commercial fisheries.

Cathode. *n.* the “rat tail” of a backpack electrofishing apparatus, or the hull of an electrofishing boat. Electric current flows from the anode to the cathode.

Clutch. *n.* A group of eggs laid in a single breeding attempt.

Conductivity. *n.* The ability of water to conduct an electric current, which is directly related to the concentration of dissolved ions (charged particles) and the temperature of the water. It is measured in microsiemens per centimeter ($\mu\text{S}/\text{cm}$) or millisiemens per centimeter (mS/cm).

Confluence. *n.* Location where two rivers join.

Crepuscular. *adj.* Active during dawn or dusk periods.

Crustaceans. *n.* Mostly aquatic species that have rigid shell-like coverings on their bodies. Examples of crustaceans include shrimp, crabs and amphipods.

Cyanobacteria. *n.* Photosynthetic bacteria. Sometimes called “blue-green algae.”

Detritus. *n.* Fragments of organic material.

Diadromous. *adj.* Describes fishes that move between freshwater and saltwater as part of their life cycle. Distinct from euryhaline fishes.

- **Amphidromous.** Migratory life history involves movement between fresh and saltwater ecosystems for purposes other than reproduction (*e.g.*, Shortnose Sturgeon).
- **Anadromous.** Lives in saltwater as an adult but migrates up freshwater rivers to breed (*e.g.*, Atlantic Sturgeon).
- **Catadromous.** Lives in freshwater as adults but migrates to the ocean to breed (*e.g.*, American Eel).

Dissolved Oxygen. *n.* The amount of free oxygen dissolved in water, expressed in mg/L , parts per million (ppm), or in percent of saturation, *i.e.* where saturation pertains to the maximum amount of oxygen that can be dissolved theoretically in water at a particular altitude and temperature.

Diurnal. *adj.* Active during the daytime.

Elasmobranch. *n.* A cartilaginous shark, skate, or stingray.

Endemic. *adj.* When a species naturally occurs only within a certain region or drainage.

Estuary. *n.* Enclosed or partially enclosed coastal water body with salinity that is diluted by freshwater from rivers and runoff.

Euryhaline. *adj.* Able to tolerate wide ranges of salinity. Euryhaline fishes can move between saltwater and freshwater, but do not need to do so as part of their life cycle (*e.g.*, Bull Shark).

Eutrophic. *adj.* A water body with high rates of biological growth or productivity.

Eutrophication occurs when water bodies become more productive because of increased nutrient inputs. Cultural eutrophication occurs when the source of elevated nutrients is associated with human activity.

Extant. *n.* Surviving to the present day; not extinct.

Extirpate. *v.* To eliminate a population from a given area. **Extirpated.** *n.* Locally extinct.

Fecundity. *n.* The reproductive output within a year, usually measured as the number of eggs produced.

Fall line. *n.* The geologic boundary between the Piedmont and Coastal Plain ecoregions where there is a substantial change in elevation due to changes in geology.

Flashy (stream). *adj.* Describing a stream that rises and falls very quickly in response to rainfall. Common in urban environments due to increased impervious surfaces.

Floodplain. *n.* An area of flat land between the riverbanks and the “bluff line” at the edge of the river valley.

Fry. *n.* General term for a small fish that has absorbed its yolk-sac and can feed on its own. Commonly used to describe larval fish.

Gill net. *n.* A fishing net that is suspended vertically in the water. Often, the top of the net is a buoyant **float line**, and the bottom is a weighted **lead line**. The net is left unattended for a period of time; fish become entangled while it soaks.

Gradient. *n.* Slope.

Gravid. *adj.* Females containing mature eggs or embryos (in livebearing fishes) that are ready to spawn or give birth.

Hardness. *n.* The concentration of dissolved minerals in water, primarily calcium and magnesium ions. It is typically expressed as parts per million (ppm) or mg/L of calcium carbonate (CaCO₃).

Headwater. *n.* The source of a stream. A “headwater stream” is a small stream in the upper watershed that has no tributaries of its own.

Incised channel. *n.* A degraded stream channel in which the streambed has eroded and dropped, disconnecting it from its floodplain. An incised channel has steep or vertical banks.

Intertidal zone. *n.* Coastal benthic habitat that is underwater at high tide, but exposed at low tide.

Introduced species. *n.* A non-native (exotic) species that has been brought to a new area by humans, either intentionally or accidentally.

Invasive species. *n.* An introduced species that causes ecological or economic harm where it is introduced.

Larva. *n.* (*plural: larvae. adj.: larval.*) Stage between hatching and juvenile stage when fin rays have not completed development; commonly called **Fry**.

Macroinvertebrate. *n.* Any invertebrate large enough to be seen with the naked eye. Includes mollusks, crustaceans, etc.

Mainstem river. *n.* The primary downstream segment of a river. Tributaries feed into the mainstem, which drains to the sea.

Marine. *adj.* Having to do with the sea, including saltwater gulfs and oceans.

Milt. *n.* The semen of a male fish.

Mollusk. *n.* An animal that has a shell and a muscular organ (sometimes called a foot) that it uses to move around or attach to a hard substrate. Examples include clams, oysters, mussels, and snails.

Nocturnal. *adj.* Active during night hours.

Pelagic. *adj.* Of, pertaining to, or living in open oceans or seas rather than waters adjacent to land or inland waters.

pH. *n.* A number used to express the acidity or alkalinity of a solution. The values of the pH scale run on a scale of increasing alkalinity from 0 (very acidic) to 14 (very basic/alkaline). 7 represents neutral pH.

Plankton. *n.* Tiny aquatic organisms that drift in the water column and are an important food source for higher trophic levels. **phytoplankton** are photosynthetic whereas **zooplankton** must obtain their food from other sources.

Potamodromous. *adj.* Describes fishes that live in freshwater but migrate to other freshwater areas to breed; *e.g.*, a Lake Trout that migrates from a lake to a headwater stream). Potamodromous fishes are not diadromous.

Quadrat (survey). *n.* A survey of a small area of habitat, typically selected at random.

River continuum concept. *n.* A scientific idea that describes a river as a system that continuously changes as it flows from its headwaters to its mouth. As the physical characteristics change, so does the biological community in the river. Diversity and the number of ecological niches increase moving downstream.

Seine net. *n.* A fishing net which is actively pulled through the water to encircle fish. The ends of the net are often attached to poles. The top of the net may have floats, and the bottom may have weights.

Sexual dimorphism. *n.* The state of having distinct differences in color, size, or physical structure between males and females of the same species.

Spawn. *v.* The reproductive process that involves laying and fertilization of fish eggs.

Stream order. *n.* A method of classifying streams by assigning numeric values within a stream network. In the Strahler stream order, 1° streams are headwaters with no tributaries. When two streams of the same order meet, the resulting stream order increases. For instance, two 1° streams meeting forms a 2° stream. When a 1° stream flows into a 2° stream, the order does not change. Mainstem rivers have high stream order numbers.

Substrate. *n.* Materials that compose the bottom of a water body.

Subtidal zone. *n.* Coastal benthic habitat that is always underwater, even at low tide.

Sympatric. *adj.* When two species have overlapping ranges, they are considered sympatric. They may or may not actually occur together in the same habitats (*i.e.*, syntopic).

Syntopic. *adj.* When two species occur in the same habitats.

Teleost. *n.* Teleosts are bony, ray-finned fishes with complex, protrusible jaws. Teleosts are the most evolutionarily derived fishes. Infraclass Teleostei contains 96% of all extant fish species – basically everything except agnathans, elasmobranchs, chimaeras, lungfishes, coelacanth, gars, bowfin, bichirs, paddlefish, and sturgeons.

Transect (survey). *n.* A path or line that is followed while conducting a survey.

Trawl (Otter trawl). *n.* A funnel-shaped net that is dragged along the ocean floor by a boat. The top of the net's wide mouth has floats (the "float line"), and the bottom has chains or weights (the "lead line"); this keeps the net open vertically. Two vertical **doors (otter boards)** in front of the net keep it open horizontally. The narrow tail of the net is the **cod end**.

Trotline. *n.* A line set with baited hooks and left unattended for a period of time.

Turbidity. *n.* Turbidity is a measure of how cloudy or hazy a fluid is due to suspended particles, particularly sediments or biological materials. It is measured in nephelometric turbidity units (NTU).

Type locality. *n.* A geographic place where specimens were collected for the description of a species.

Undescribed species. *n.* A species with physical, behavioral, reproductive, and other characteristics that have not been formally described by scientists.

Sampling Sites

Below we provide maps of most of the sampling sites we will visit during the class. You are responsible for filling out specific information about each site while we sample. (see [Notebook Grading Rubric](#), page 10).

Site:	Oconee River Tributary 1		
Collection Number:			
Date:		Coordinates:	
Time:			
Ecoregion, Basin, etc.:			
Site Description:			
Safety considerations: Be careful while electrofishing – do not touch the water while units are active. Be prepared to lend a hand to the person wearing the shocker backpack. Watch for slippery mud and unstable rocks. Step carefully while in and around the stream. Catfish and madtoms have sharp spines, and madtoms have mild venom. Keep an eye out for snakes and poison ivy.			

Potential Species List:

Altamaha Shiner	Rosyface Chub
Black Crappie	Snail Bullhead
Bluegill	Spottail Shiner
Green Sunfish	Striped Jumprock
Largemouth Bass	Turquoise Darter
Margined Madtom	Warmouth
Northern Hogsucker	Weather Loach
Ocmulgee Shiner	Westfall's Darter
Redbreast Sunfish	Yellowfin Shiner

Site Sketch:

Site:	Broad River Tributary 1		
Collection Number:			
Date:		Coordinates:	
Time:			
Ecoregion, Basin, etc.:			
Site Description:			
Safety considerations: Be careful while electrofishing – do not touch the water while units are active. Be prepared to lend a hand to the person wearing the shocker backpack. Watch for slippery mud and unstable rocks. Step carefully while in and around the stream. Catfish and madtoms have sharp spines, and madtoms have mild venom. Keep an eye out for snakes and poison ivy.			

Potential Species List:

Bartram's Bass	Spottail Shiner
Bluegill	Striped Jumprock
Bluehead Chub	Tessellated Darter
Christmas Darter	Turquoise Darter
Green Sunfish	Warmouth
Margined Madtom	Westfall's Darter
Northern Hogsucker	Whitefin Shiner
Notchlip Redhorse	Yellowfin Shiner
Redbreast Sunfish	
Redear Sunfish	
Rosyface Chub	
Sandbar Shiner	
Snail Bullhead	

Site Sketch:

Site:	Oconee River Tributary 2		
Collection Number:			
Date:		Coordinates:	
Time:			
Ecoregion, Basin, etc.:			
Site Description:			
Safety considerations: Be careful while electrofishing – do not touch the water while units are active. Be prepared to lend a hand to the person wearing the shocker backpack. Watch for slippery mud and unstable rocks. Step carefully while in and around the stream. Catfish and madtoms have sharp spines, and madtoms have mild venom. Keep an eye out for snakes and poison ivy.			

Common Species List:

Altamaha Bass	Spottail Shiner
American Eel	Spotted Sucker
Bluefin Stoneroller	Striped Jumprock
Bluegill	Turquoise Darter
Bluehead Chub	Westfall's Darter
Ironcolor Shiner	
Redbreast Sunfish	
Rosyface Chub	
Snail Bullhead	

Site Sketch:

Site:	Chattahoochee River Tributary 1		
Collection Number:			
Date:		Coordinates:	
Time:			
Ecoregion, Basin, etc.:			
Site Description:			
Safety considerations: Be careful while electrofishing – do not touch the water while units are active. Be prepared to lend a hand to the person wearing the shocker backpack. Watch for slippery mud and unstable rocks. Step carefully while in and around the stream. Catfish and madtoms have sharp spines, and madtoms have mild venom. Keep an eye out for snakes and poison ivy.			

Common Species List:

Alabama Hogsucker	Snail Bullhead
Banded Sculpin	Spottail Shiner
Bandfin Shiner	Threadfin Shad
Bluegill	Westfall's Darter
Bluehead Chub	Yellowfin Shiner
Greater Jumprock	
Halloween Darter	
Largemouth Bass	
Redbreast Sunfish	

Site Sketch:

Site:	Coosawattee River Tributary 1		
Collection Number:			
Date:		Coordinates:	
Time:			
Ecoregion, Basin, etc.:			
Site Description:			
Safety considerations: While seining, be careful not to become tangled in nets and not to strike others with seine poles. Rocks will be slippery, and we may be sampling in swift currents, so use extra caution when moving through the river. Keep an eye out for snakes and poison ivy.			

Common Species List:

Alabama Hogsucker
Black Redhorse
Alabama Bass
Largescale Stoneroller
Alabama Shiner
Tricolor Shiner
Silverstripe Shiner
Banded Sculpin
Bandfin Shiner
River Chub
Goldline Darter
Bronze Darter
Southern Brook Lamprey

Site Sketch:

Site:	Conasauga River Site 1		
Collection Number:			
Date:		Coordinates:	
Time:			
Ecoregion, Basin, etc.:			
Site Description:			
Safety considerations: Be careful while snorkeling – stay in groups and be mindful of the cold and your surroundings. While seining, be careful not to become tangled in nets and not to strike others with seine poles. Rocks will be slippery, and we may be sampling in swift currents, so use extra caution when moving through the river. Keep an eye out for snakes and poison ivy.			

Common Species List:

Alabama Hogsucker
Alabama Shiner
Blue Shiner
Bridled Darter
Bronze Darter
Coosa Darter
Coosa Shiner
Holiday Darter
Largescale Stoneroller
Silverstripe Shiner
Tricolor Shiner

Site Sketch:

Site:	Conasauga River Site 2		
Collection Number:			
Date:		Coordinates:	
Time:			
Ecoregion, Basin, etc.:			
Site Description:			
Safety considerations: Watch for slippery mud and unstable rocks in and around the river. Be mindful of the cold – take a break and warm up on the bank if you need to. While snorkeling, pay attention to your surroundings so you don't bump into anything. Keep an eye out for snakes and poison ivy.			

Common Species List:

Alabama Bass	Holiday Darter
Alabama Shiner	Northern Hogsucker
Banded Sculpin	Redbreast Sunfish
Blue Shiner	Redeye Bass
Bridled Darter	Tricolor Shiner
Bronze Darter	
Chestnut Lamprey	
Coosa Darter	
Greenbreast Darter	

Site Sketch:

Site:	Toccoa River Site 1		
Collection Number:			
Date:		Coordinates:	
Time:			
Ecoregion, Basin, etc.:			
Site Description:			
Safety considerations: Be careful while snorkeling – stay in groups and be mindful of the cold and your surroundings. While seining, be careful not to become tangled in nets and not to strike others with seine poles. Rocks will be slippery, and we may be sampling in swift currents, so use extra caution when moving through the river. Be careful while electrofishing – do not touch the water while units are active. Be prepared to lend a hand to the person wearing the shocker backpack.			

Common Species List:

Banded Darter	River Chub
Banded Sculpin	Rock Bass
Blotched Chub	Smallmouth Bass
Chestnut Lamprey	Snail Bullhead
Common Logperch	Tangerine Darter
Gilt Darter	Telescope Shiner
Greenside Darter	Tennessee Shiner
Largescale Stoneroller	Warpaint Shiner
Mirror Shiner	Wounded Darter
Northern Hogsucker	
Rainbow Trout	
Redline Darter	

Site Sketch:

Site:	Tennessee River Tributary Site 1		
Collection Number:			
Date:		Coordinates:	
Time:			
Ecoregion, Basin, etc.:			
Site Description:			
Safety considerations: While seining, be careful not to become tangled in nets and not to strike others with seine poles. Rocks will be slippery, and we may be sampling in swift currents, so use extra caution when moving through the river. Be careful while electrofishing – do not touch the water while units are active. Be prepared to lend a hand to the person wearing the shocker backpack.			

Common Species List:

Banded Darter	Golden Redhorse	Redbreast Sunfish	Steelcolor Shiner
Banded Sculpin	Green Sunfish	Redear Sunfish	Striped Shiner
Bigeye Chub	Greenside Darter	Redeye Bass	Tennessee Darter
Black Crappie	Largemouth Bass	Redline Darter	Warpaint Shiner
Black Redhorse	Largescale	River Chub	White Bass
Black Spotted	Stoneroller	River Redhorse	Whitetail Shiner
Topminnow	Logperch	Rock Bass	Yellow Perch
Bluegill	Longear Sunfish	Scarlet Shiner	
Blueside Darter	Longnose Gar	Smallmouth Bass	
Bluntnose Minnow	Mosquitofish	Snail Darter	
Brook Silverside	Mountain Madtom	Spotted Bass	
Channel Catfish	Northern Hogsucker	Spotted Sunfish	
Dusky Darter	Rainbow Darter	Stargazing Minnow	

Site Sketch:

Site:	Coastal Plain River Site 1		
Collection Number:			
Date:		Coordinates:	
Time:			
Ecoregion, Basin, etc.:			
Site Description:			
Safety considerations: While seining, be careful not to become tangled in nets and not to strike others with seine poles. We may be sampling in swift currents, so use extra caution when moving through the river. Watch your footing in soft sandy or muddy substrate.			

Common Species List:

Golden Silverside
Bluegill
Redear Sunfish
Dollar Sunfish
Largemouth Bass
Warmouth
Bluespotted Sunfish
Bannerfin Shiner
Redfin Pickerel
Lined Topminnow
Taillight Shiner
Golden Shiner
Pugnose Minnow
Sawcheek Darter

Site Sketch:

Site:	Estuary Site 1		
Collection Number:			
Date:		Coordinates:	
Time:			
Ecoregion, Basin, etc.:			
Site Description:			
Safety considerations: <i>Wear life jackets on boats and remain seated while boat is in motion. Listen for and obey any instructions from boat captain. Remove watches, rings, and any dangling jewelry before handling nets. Wear gloves when hauling nets and handling sturgeon. Sturgeon scutes can be sharp, and bycatch may include catfish with strong spines, stingrays with sharp, venomous barbs, and blue crabs with strong claws.</i>			

Common Species List:

Atlantic Stingray	Gizzard Shad
Atlantic Sturgeon	Longnose Gar
Blue Catfish	Shortnose Sturgeon
Bull Shark	Southern Flounder
Channel Catfish	Southern Stingray
Flathead Catfish	White Catfish
Florida Gar	

Site Sketch:

Site:	Beach Site 1		
Collection Number:			
Date:		Coordinates:	
Time:			
Ecoregion, Basin, etc.:			
Site Description:			
Safety considerations: <i>Keep an eye on the waves and watch your balance in the surf. If the water is calm, walk with a stingray shuffle - stingrays with sharp, venomous barbs may be present in the water. Handle hooked/entangled stingrays very carefully and break off the barb if necessary. Sharks and other fish with sharp teeth may be present, as well as saltwater catfish with strong, sharp spines. Blue crabs with strong, sharp claws may be present.</i>			

Common Species List:

Atlantic Blacktip Shark	Lookdown
Atlantic Croaker	Red Drum
Atlantic Menhaden	Southern Flounder
Atlantic Sharpnose Shark	Southern Kingfish
Atlantic Stingray	Southern Stingray
Bay Anchovy	Spot
Bluntnose Stingray	Striped Anchovy
Bonnethead Shark	Striped Mullet
Florida Pompano	Weakfish
Gafftopsail Catfish	White Mullet
Hardhead Catfish	
Ladyfish	

Site Sketch:

Site:	Tidal Creek Site 1		
Collection Number:			
Date:		Coordinates:	
Time:			
Ecoregion, Basin, etc.:			
Site Description:			
Safety considerations: <i>Handle hooked/entangled stingrays very carefully and break off the barb if necessary. Sharks, Oyster Toadfish, and other fish with sharp teeth may be present, as well as saltwater catfish with strong, sharp spines. Blue crabs with strong, sharp claws may be present.</i>			

Common Species List:

Site Map:

Site:	Inshore Sound Site 1		
Collection Number:			
Date:		Coordinates:	
Time:			
Ecoregion, Basin, etc.:			
Site Description:			
Safety considerations: Listen for and obey any instructions from boat crew. Remain seated or hold railing while boat is in motion. Watch for moving cables, and do not linger under trawl cable. Sort the catch carefully and don't just stick your hands in the pile! Catch may include fish with sharp teeth or venomous spines. Numerous invertebrates will be present, including shrimp (sharp shells), crabs (strong claws), and mantis shrimp (very sharp, fast claws).			

Common Species List:

<i>Atlantic Croaker</i>	<i>Lookdown</i>
<i>Atlantic Cutlassfish</i>	<i>Silver Perch</i>
<i>Atlantic Menhaden</i>	<i>Southern Flounder</i>
<i>Atlantic Stingray</i>	<i>Southern Kingfish</i>
<i>Bay Anchovy</i>	<i>Southern Stingray</i>
<i>Blackcheek Tonguefish</i>	<i>Spot</i>
<i>Bluntnose Stingray</i>	<i>Star Drum</i>
<i>Bonnethead Shark</i>	<i>Striped Anchovy</i>
<i>Smooth Butterfly Ray</i>	<i>Striped Sea Robin</i>
<i>Cownose Ray</i>	<i>Northern Sea Robin</i>
<i>Harvestfish</i>	<i>Thread Herring</i>
<i>Hogchoker</i>	<i>Weakfish</i>

Site Sketch:

Site:	Salt Marsh Site 1		
Collection Number:			
Date:		Coordinates:	
Time:			
Ecoregion, Basin, etc.:			
Site Description:			
Safety considerations: <i>Pluff mud – lace your shoes tightly. Sharp vegetation (e.g., reeds and cacti) is present. Oyster shells are extremely sharp and can cause serious injury. Wear gloves when sampling near oysters. Stingrays with sharp, venomous barbs are common, as are crabs with strong claws.</i>			

Common Species List:

Bay Anchovy	Striped Anchovy
Eastern Mosquitofish	Striped Killifish
Ladyfish	Striped Mullet
Longnose Killifish	Weakfish
Mummichog	White Mullet
Oyster Toadfish	
Pinfish	
Sailfin Molly	
Sheepshead Minnow	
Silver Perch	
Southern Kingfish	
Spot	
Star Drum	

Site Sketch:

Site:	Beach Site 2		
Collection Number:			
Date:		Coordinates:	
Time:			
Ecoregion, Basin, etc.:			
Site Description:			
Safety considerations: <i>Keep an eye on the waves and watch your balance in the surf. If the water is calm, walk with a stingray shuffle - stingrays with sharp, venomous barbs may be present in the water. Handle hooked/entangled stingrays very carefully and break off the barb if necessary. Sharks and other fish with sharp teeth may be present, as well as saltwater catfish with strong, sharp spines. Blue crabs with strong, sharp claws may be present.</i>			

Common Species List:

<i>Atlantic Blacktip Shark</i>	<i>Pinfish</i>
<i>Atlantic Sharpnose Shark</i>	<i>Red Drum</i>
<i>Atlantic Stingray</i>	<i>Sailfin Molly</i>
<i>Bluntnose Stingray</i>	<i>Southern Flounder</i>
<i>Bonnethead Shark</i>	<i>Southern Kingfish</i>
<i>Darter Goby</i>	<i>Southern Stingray</i>
<i>Eastern Mosquitofish</i>	<i>Spot</i>
<i>Gafftopsail Catfish</i>	<i>Spotted Seatrout</i>
<i>Hardhead Catfish</i>	<i>Striped Killifish</i>
<i>Longnose Killifish</i>	<i>Striped Mullet</i>
<i>Lyre Goby</i>	<i>Weakfish</i>
<i>Mummichog</i>	<i>White Mullet</i>
<i>Oyster Toadfish</i>	

Site Sketch:

Site:		
Collection Number:		
Date:	Coordinates:	
Time:		
Ecoregion, Basin, etc.:		
Site Description:		
Safety considerations:		

Site:		
Collection Number:		
Date:	Coordinates:	
Time:		
Ecoregion, Basin, etc.:		
Site Description:		
Safety considerations:		

Site:		
Collection Number:		
Date:	Coordinates:	
Time:		
Ecoregion, Basin, etc.:		
Site Description:		
Safety considerations:		

Piedmont Fish List

February 2025 Version

	Scientific Name	Common Name	FAMILY	USESA	State	Chattahoochee	Oconee	Ocmulgee	Savannah
1	<i>Lepisosteus osseus</i>	Longnose Gar	Lepisosteidae			Native	Native	Native	Native
2	<i>Amia calva</i>	Bowfin	Amiidae			Native	Native	Native	Native
3	<i>Anguilla rostrata</i>	American Eel	Anguillidae			Native	Native	Native	Native
4	<i>Alosa aestivalis</i>	Blueback Herring	Clupeidae			Introduced	Absent	Native	Native
5	<i>Alosa mediocris</i>	Hickory Shad	Clupeidae				Absent	Native	Native
6	<i>Alosa sapidissima</i>	American Shad	Clupeidae			Absent	Native	Native	Native
7	<i>Dorosoma cepedianum</i>	Gizzard Shad	Clupeidae			Native	Native	Native	Native
8	<i>Dorosoma petenense</i>	Threadfin Shad	Clupeidae			Native	Introduced	Introduced	Introduced
9	<i>Ctenopharyngodon idella</i>	Grass Carp	Xenocypridae			Introduced	Introduced	Introduced	Introduced
10	<i>Carassius auratus</i>	Goldfish	Cyprinidae			Introduced	Introduced	Introduced	Introduced
11	<i>Cyprinus carpio</i>	Common Carp	Cyprinidae			Introduced	Introduced	Introduced	Introduced
12	<i>Camptostoma pauciradii</i>	Bluefin Stoneroller	Leuciscidae			Native	Absent	Native	Absent
13	<i>Coccotis zonistius</i>	Bandfin Shiner	Leuciscidae			Native	Nativity Uncertain	Nativity Uncertain	Nativity Uncertain
14	<i>Cyprinella callisema</i>	Ocmulgee Shiner	Leuciscidae			Absent	Native	Native	Absent
15	<i>Cyprinella lutrensis</i>	Red Shiner	Leuciscidae			Introduced	Absent	Introduced	Absent
16	<i>Cyprinella nivea</i>	Whitefin Shiner	Leuciscidae			Absent	Absent	Absent	Native
17	<i>Cyprinella venusta</i>	Blacktail Shiner	Leuciscidae			Native	Absent	Uncertain	Absent
18	<i>Cyprinella xaenura</i>	Altamaha Shiner	Leuciscidae		T	Absent	Native	Native	Absent
19	<i>Ericymba amplamala</i>	Longjaw Minnow	Leuciscidae			Native	Uncertain	Uncertain	Absent
20	<i>Hybognathus regius</i>	Eastern Silvery Minnow	Leuciscidae			Absent	Native	Native	Native
21	<i>Hybopsis rubrifrons</i>	Rosyface Chub	Leuciscidae			Absent	Native	Native	Native
22	<i>Nocomis leptcephalus</i>	Bluehead Chub	Leuciscidae			Native	Native	Native	Native
23	<i>Notemigonus crysoleucas</i>	Golden Shiner	Leuciscidae			Native	Native	Native	Native
24	<i>Notropis altipinnis</i>	Highfin Shiner	Leuciscidae				Absent	Absent	Uncertain
25	<i>Notropis chalybaeus</i>	Ironcolor Shiner	Leuciscidae			Native	Native	Native	Native
26	<i>Notropis cummingsae</i>	Dusky Shiner	Leuciscidae			Native	Native	Native	Native
27	<i>Notropis hudsonius</i>	Spottail Shiner	Leuciscidae			Native	Native	Native	Native
28	<i>Notropis longirostris</i>	Longnose Shiner	Leuciscidae			Native	Nativity Uncertain	Nativity Uncertain	Absent
29	<i>Notropis lutipinnis</i>	Yellowfin Shiner	Leuciscidae			Native	Native	Native	Native
30	<i>Notropis petersoni</i>	Coastal Shiner	Leuciscidae			Native	Native	Native	Native
31	<i>Notropis scepticus</i>	Sandbar Shiner	Leuciscidae		R	Absent	Absent	Absent	Native

	Scientific Name	Common Name	FAMILY	USESA	State	Chattahoochee	Oconee	Ocmulgee	Savannah
32	<i>Notropis texanus</i>	Weed Shiner	Leuciscidae			Native	Nativity Uncertain	Nativity Uncertain	Absent
33	<i>Opsopoeodus emiliae</i>	Pugnose Minnow	Leuciscidae			Absent	Native	Native	Native
34	<i>Semotilus atromaculatus</i>	Creek Chub	Leuciscidae*			Native	Native	Native	Native
35	<i>Misgurnus anguillicaudatus</i>	Weather Loach	Cobitidae			Absent	Introduced	Introduced	Absent
36	<i>Carpiodes cyprinus</i>	Quillback	Catostomidae				Uncertain	Uncertain	Native
37	<i>Carpiodes velifer</i>	Highfin Carpsucker	Catostomidae				Native	Native	Native
38	<i>Catostomus commersoni</i>	White Sucker	Catostomidae			Introduced	Absent	Introduced	Native
39	<i>Erimyzon oblongus</i>	Creek Chubsucker	Catostomidae			Absent	Native	Native	Native
40	<i>Erimyzon sucetta</i>	Lake Chubsucker	Catostomidae			Native	Native	Native	Native
41	<i>Hypentelium nigricans</i>	Northern Hogsucker	Catostomidae			Absent	Native	Absent	Native
42	<i>Hypentelium etowanum</i>	Alabama Hogsucker	Catostomidae			Native	Absent	Absent	Absent
43	<i>Ictiobus niger</i>	Black Buffalo	Catostomidae				Absent	Absent	Introduced
44	<i>Minytrema melanops</i>	Spotted Sucker	Catostomidae			Native	Native	Native	Native
45	<i>Moxostoma collapsum</i>	Notchlip Redhorse	Catostomidae			Absent	Native	Native	Native
46	<i>Moxostoma robustum</i>	Robust Redhorse	Catostomidae			Absent	Native	Native	Native
47	<i>Moxostoma rupiscartes</i>	Striped Jumprock	Catostomidae			Native	Native	Native	Native
48	<i>Moxostoma sp. 4</i>	Brassy Jumprock	Catostomidae			Absent	Native	Native	Native
49	<i>Moxostoma lachneri</i>	Greater Jumprock	Catostomidae			Native	Absent	Absent	Absent
50	<i>Ameiurus brunneus</i>	Snail Bullhead	Ictaluridae			Native	Native	Native	Native
51	<i>Ameiurus catus</i>	White Catfish	Ictaluridae			Native	Native	Native	Native
52	<i>Ameiurus natalis</i>	Yellow Bullhead	Ictaluridae			Native	Native	Native	Native
53	<i>Ameiurus nebulosus</i>	Brown Bullhead	Ictaluridae			Native	Native	Native	Native
54	<i>Ameiurus platycephalus</i>	Flat Bullhead	Ictaluridae			Introduced	Native	Native	Native
55	<i>Ictalurus furcatus</i>	Blue Catfish	Ictaluridae			Introduced	Introduced	Introduced	Introduced
56	<i>Ictalurus punctatus</i>	Channel Catfish	Ictaluridae			Native	Native	Native	Native
57	<i>Noturus gyrinus</i>	Tadpole Madtom	Ictaluridae			Absent	Native	Native	Native
58	<i>Noturus insignis</i>	Margined Madtom	Ictaluridae			Absent	Native	Native	Native
59	<i>Noturus leptacanthus</i>	Speckled Madtom	Ictaluridae			Native	Native	Native	Native
60	<i>Pygodictis olivaris</i>	Flathead Catfish	Ictaluridae			Introduced	Introduced	Introduced	Introduced
61	<i>Oncorhynchus mykiss</i>	Rainbow Trout	Salmonidae			Introduced	Absent	Absent	Introduced
62	<i>Salmo trutta</i>	Brown Trout	Salmonidae			Introduced	Absent	Absent	Introduced
63	<i>Esox americanus</i>	Redfin or Grass Pickerel	Esocidae			Native	Native	Native	Native
64	<i>Esox niger</i>	Chain Pickerel	Esocidae			Native	Native	Native	Native
65	<i>Aphredoderus sayanus</i>	Pirate Perch	Aphredoderidae			Native	Native	Native	Native

	Scientific Name	Common Name	FAMILY	USESA	State	Chattahoochee	Oconee	Ocmulgee	Savannah
66	<i>Labidesthes vanhyningi</i>	Golden Silverside	Atherinopsidae				Native	Native	Native
67	<i>Fundulus diaphanus</i>	Banded Killifish	Fundulidae				Absent	Absent	Introduced
68	<i>Gambusia affinis</i>	Western Mosquitofish	Poeciliidae			Native	Uncertain	Uncertain	Uncertain
69	<i>Gambusia holbrooki</i>	Eastern Mosquitofish	Poeciliidae			Native	Native	Native	Native
70	<i>Morone americana</i>	White Perch	Moronidae			Absent	Absent	Absent	Introduced
71	<i>Morone chrysops</i>	White Bass	Moronidae			Introduced	Introduced	Introduced	Introduced
72	<i>Morone saxatilis</i>	Striped Bass	Moronidae			Native	Native	Native	Native
73	<i>Cottus chattahoochee</i>	Chattahoochee Sculpin	Cottidae			Native	Absent	Absent	Absent
74	<i>Ambloplites rupestris</i>	Rock Bass	Centrarchidae			Introduced	Absent	Absent	Introduced
75	<i>Centrarchus macropterus</i>	Flier	Centrarchidae			Native	Native	Native	Native
76	<i>Lepomis auritus</i>	Redbreast Sunfish	Centrarchidae			Native	Native	Native	Native
77	<i>Lepomis cyanellus</i>	Green Sunfish	Centrarchidae			Introduced	Introduced	Introduced	Introduced
78	<i>Lepomis gibbosus</i>	Pumpkinseed	Centrarchidae			Absent	Absent	Absent	Native
79	<i>Lepomis gulosus</i>	Warmouth	Centrarchidae			Native	Native	Native	Native
80	<i>Lepomis macrochirus</i>	Bluegill	Centrarchidae			Native	Native	Native	Native
81	<i>Lepomis marginatus</i>	Dollar Sunfish	Centrarchidae			Native	Native	Native	Native
82	<i>Lepomis megalotis</i>	Longear Sunfish	Centrarchidae			Introduced	Introduced	Introduced	Introduced
83	<i>Lepomis microlophus</i>	Redear Sunfish	Centrarchidae			Native	Native	Native	Native
84	<i>Lepomis punctatus</i>	Spotted Sunfish	Centrarchidae			Native	Native	Native	Native
85	<i>Micropterus cataractae</i>	Shoal Bass	Centrarchidae			Native	Absent	Introduced	Absent
86	<i>Micropterus sp.</i>	Altamaha Bass	Centrarchidae			Absent	Native	Native	Absent
87	<i>Micropterus sp.</i>	Bartram's Bass	Centrarchidae			Absent	Absent	Absent	Native
88	<i>Micropterus salmoides</i>	Largemouth Bass	Centrarchidae			Native	Native	Native	Native
89	<i>Micropterus henshalli</i>	Alabama Bass	Centrarchidae			Introduced	Introduced	Introduced	Introduced
90	<i>Pomoxis annularis</i>	White Crappie	Centrarchidae			Introduced	Introduced	Introduced	Introduced
91	<i>Pomoxis nigromaculatus</i>	Black Crappie	Centrarchidae			Native	Native	Native	Native
92	<i>Etheostoma fusiforme</i>	Swamp Darter	Percidae			Native	Absent	Native	Native
93	<i>Etheostoma fricksium</i>	Savannah Darter	Percidae			Absent	Absent	Absent	Native
94	<i>Etheostoma hopkinsi</i>	Christmas Darter	Percidae			Absent	Native	Native	Native
95	<i>Etheostoma inscriptum</i>	Turquoise Darter	Percidae			Absent	Native	Native	Native
96	<i>Etheostoma olmstedii</i>	Tessellated Darter	Percidae			Absent	Introduced	Native	Native
97	<i>Etheostoma parvipinne</i>	Goldstripe Darter	Percidae		R	Native	Native	Native	Absent
98	<i>Percina westfalli</i>	Westfalls Darter	Percidae				Native	Native	Native
99	<i>Percina crypta</i>	Halloween Darter	Percidae			Native	Absent	Absent	Absent

	Scientific Name	Common Name	FAMILY	USESA	State	Chattahoochee	Oconee	Ocmulgee	Savannah
100	<i>Perca flavescens</i>	Yellow Perch	Percidae			Uncertain	Uncertain	Uncertain	Uncertain
101	<i>Sander canadensis</i>	Sauger	Percidae			Introduced	Absent	Absent	Introduced
102	<i>Sander vitreus</i>	Walleye	Percidae			Introduced	Introduced	Absent	Introduced

T = Threatened, E = Endangered, R = Rare

Coosa Basin Fish List

February 2025 Version

	Scientific Name	Common Name	FAMILY	USESA	State	Conasauga	Coosawattee	Etowah
1	<i>Ichthyomyzon castaneus</i>	Chestnut Lamprey	Petromyzontidae			Native	Native	Native
2	<i>Ichthyomyzon gagei</i>	Southern Brook Lamprey	Petromyzontidae			Native	Native	Native
3	<i>Lampetra aepyptera</i>	Least Brook Lamprey	Petromyzontidae			Native	Native	Native
4	<i>Acipenser fulvescens</i>	Lake Sturgeon	Acipenseridae			Native	Native	Native
5	<i>Lepisosteus oculatus</i>	Spotted Gar	Lepisosteidae			Native	Absent	Absent
6	<i>Lepisosteus osseus</i>	Longnose Gar	Lepisosteidae			Native	Native	Native
7	<i>Hiodon tergisus</i>	Mooneye	Hiodontidae			Native	Native	Native
8	<i>Dorosoma cepedianum</i>	Gizzard Shad	Clupeidae			Native	Native	Native
9	<i>Dorosoma petenense</i>	Threadfin Shad	Clupeidae			Absent	Nativity Uncertain	Nativity Uncertain
10	<i>Carassius auratus</i>	Goldfish	Cyprinidae			Introduced	Introduced	Introduced
11	<i>Cyprinus carpio</i>	Common Carp	Cyprinidae			Introduced	Introduced	Introduced
12	<i>Ctenopharyngodon idella</i>	Grass Carp	Xenocypridae			Introduced	Introduced	Introduced
13	<i>Campostoma oligolepis</i>	Largescale Stoneroller	Leuciscidae			Native	Native	Native
14	<i>Campostoma pauciradii</i>	Bluefin Stoneroller	Leuciscidae			Absent	Absent	Introduced
15	<i>Coccotis zonistius</i>	Bandfin Shiner	Leuciscidae			Absent	Nativity Uncertain	Nativity Uncertain
16	<i>Cyprinella caerulea</i>	Blue Shiner	Leuciscidae	T	E	Native	Extirpated Native	Absent
17	<i>Cyprinella callistia</i>	Alabama Shiner	Leuciscidae			Native	Native	Native
18	<i>Cyprinella lutrensis</i>	Red Shiner	Leuciscidae			Introduced	Introduced	Introduced
19	<i>Cyprinella trichroistia</i>	Tricolor Shiner	Leuciscidae			Native	Native	Native
20	<i>Cyprinella venusta</i>	Blacktail Shiner	Leuciscidae			Native	Native	Native
21	<i>Hybopsis lineapunctata</i>	Lined Chub	Leuciscidae		R	Native	Native	Native
22	<i>Hybopsis winchelli</i>	Clear Chub	Leuciscidae			Absent	Absent	Native
23	<i>Luxilus chrysocephalus</i>	Striped Shiner	Leuciscidae			Native	Native	Native
24	<i>Lythrurus lirus</i>	Mountain Shiner	Leuciscidae			Native	Native	Native
25	<i>Macrhybopsis etneri</i>	Coosa Chub	Leuciscidae		E	Native	Native	Native

	Scientific Name	Common Name	FAMILY	UESA	State	Conasauga	Coosawattee	Etowah
26	<i>Macrhybopsis storeriana</i>	Silver Chub	Leuciscidae			Native	Native	Native
27	<i>Nocomis leptcephalus</i>	Bluehead Chub	Leuciscidae			Absent	Uncertain Distrib.	Native
28	<i>Nocomis micropogon</i>	River Chub	Leuciscidae			Absent	Native	Absent
29	<i>Notemigonus crysoleucas</i>	Golden Shiner	Leuciscidae			Native	Native	Native
30	<i>Notropis asperifrons</i>	Burrhead Shiner	Leuciscidae		T	Native	Absent	Absent
31	<i>Notropis chrosomus</i>	Rainbow Shiner	Leuciscidae			Native	Native	Native
32	<i>Notropis longirostris</i>	Longnose Shiner	Leuciscidae			Absent	Nativity Uncertain	Nativity Uncertain
33	<i>Notropis lutipinnis</i>	Yellowfin Shiner	Leuciscidae			Absent	Absent	Native
34	<i>Notropis stilbius</i>	Silverstripe Shiner	Leuciscidae			Native	Native	Native
35	<i>Notropis volucellus</i>	Mimic Shiner	Leuciscidae			Uncertain Dist.	Uncertain Dist.	Absent
36	<i>Notropis xanocephalus</i>	Coosa Shiner	Leuciscidae			Native	Native	Native
37	<i>Phenacobius catostomus</i>	Rifle Minnow	Leuciscidae			Native	Native	Native
38	<i>Pimephales promelas</i>	Fathead Minnow	Leuciscidae			Introduced	Introduced	Introduced
39	<i>Pimephales vigilax</i>	Bullhead Minnow	Leuciscidae			Native	Native	Native
40	<i>Rhinichthys obtusus</i>	Western Blacknose Dace	Leuciscidae			Native	Native	Native
41	<i>Semotilus atromaculatus</i>	Creek Chub	Leuciscidae			Native	Native	Native
42	<i>Catostomus commersoni</i>	White Sucker	Catostomidae			Introduced	Absent	Absent
43	<i>Hypentelium etowanum</i>	Alabama Hog Sucker	Catostomidae			Native	Native	Native
44	<i>Ictiobus bubalus</i>	Smallmouth Buffalo	Catostomidae			Native	Native	Native
45	<i>Minytrema melanops</i>	Spotted Sucker	Catostomidae			Native	Native	Native
46	<i>Moxostoma carinatum</i>	River Redhorse	Catostomidae		R	Native	Native	Absent
47	<i>Moxostoma duquesnei</i>	Black Redhorse	Catostomidae			Native	Native	Native
48	<i>Moxostoma erythrurum</i>	Golden Redhorse	Catostomidae			Native	Native	Native
49	<i>Moxostoma poecilurum</i>	Blacktail Redhorse	Catostomidae			Native	Native	Native
50	<i>Ameiurus brunneus</i>	Snail Bullhead	Ictaluridae			Absent	Nativity Uncertain	Native
51	<i>Ameiurus melas</i>	Black Bullhead	Ictaluridae			Native	Absent	Absent
52	<i>Ameiurus natalis</i>	Yellow Bullhead	Ictaluridae			Native	Native	Native
53	<i>Ameiurus nebulosus</i>	Brown Bullhead	Ictaluridae			Native	Native	Native
54	<i>Ictalurus furcatus</i>	Blue Catfish	Ictaluridae			Native	Native	Native
55	<i>Ictalurus punctatus</i>	Channel Catfish	Ictaluridae			Native	Native	Native
56	<i>Noturus leptacanthus</i>	Speckled Madtom	Ictaluridae			Native	Native	Native
57	<i>Noturus munitus</i>	Frecklebelly Madtom	Ictaluridae	T	E	Native	Maybe???	Native
58	<i>Noturus nocturnus</i>	Freckled Madtom	Ictaluridae			Absent	Absent	Uncertain Dist.

	Scientific Name	Common Name	FAMILY	UESA	State	Conasauga	Coosawattee	Etowah
59	<i>Pylodictis olivaris</i>	Flathead Catfish	Ictaluridae			Native	Native	Native
60	<i>Oncorhynchus mykiss</i>	Rainbow Trout	Salmonidae			Introduced	Introduced	Introduced
61	<i>Salmo trutta</i>	Brown Trout	Salmonidae			Introduced	Introduced	Introduced
62	<i>Salvelinus fontinalis</i>	Brook Trout	Salmonidae			Nativity Uncertain	Nativity Uncertain	Nativity Uncertain
63	<i>Esox americanus</i>	Redfin or Grass Pickerel	Esocidae			Absent	Absent	Uncertain Dist.
64	<i>Esox niger</i>	Chain Pickerel	Esocidae			Native	Absent	Native
65	<i>Fundulus olivaceus</i>	Blackspotted Topminnow	Fundulidae			Native	Native	Absent
66	<i>Fundulus stelleri</i>	Southern Studfish	Fundulidae			Native	Native	Native
67	<i>Gambusia affinis</i>	Western Mosquitofish	Poeciliidae			Native	Native	Native
68	<i>Gambusia holbrooki</i>	Eastern Mosquitofish	Poeciliidae			Uncertain Dist.	Uncertain Dist.	Uncertain Dist.
69	<i>Morone chrysops</i>	White Bass	Moronidae			Introduced	Introduced	Introduced
70	<i>Morone mississippiensis</i>	Yellow Bass	Moronidae			Introduced	Introduced	Absent
71	<i>Morone saxatilis</i>	Striped Bass	Moronidae			Native	Native	Native
72	<i>Cottus carolinae</i>	Banded Sculpin	Cottidae			Native	Native	Native
73	<i>Ambloplites ariommus</i>	Shadow Bass	Centrarchidae			Native	Native	Native
74	<i>Lepomis auritus</i>	Redbreast Sunfish	Centrarchidae			Nativity Uncertain	Nativity Uncertain	Nativity Uncertain
75	<i>Lepomis cyanellus</i>	Green Sunfish	Centrarchidae			Native	Native	Native
76	<i>Lepomis gulosus</i>	Warmouth	Centrarchidae			Native	Native	Native
77	<i>Lepomis macrochirus</i>	Bluegill	Centrarchidae			Native	Native	Native
78	<i>Lepomis megalotis</i>	Longear Sunfish	Centrarchidae			Native	Native	Native
79	<i>Lepomis microlophus</i>	Redear Sunfish	Centrarchidae			Native	Native	Native
80	<i>Micropterus coosae</i>	Redeye Bass	Centrarchidae			Native	Native	Native
81	<i>Micropterus henshalli</i>	Alabama bass	Centrarchidae			Native	Native	Native
82	<i>Micropterus salmoides</i>	Largemouth Bass	Centrarchidae			Native	Native	Native
83	<i>Pomoxis annularis</i>	White Crappie	Centrarchidae			Native	Native	Native
84	<i>Pomoxis nigromaculatus</i>	Black Crappie	Centrarchidae			Native	Native	Native
85	<i>Etheostoma brevirostrum</i>	Holiday Darter	Percidae		E	Endemic	Endemic	Endemic
86	<i>Etheostoma coosae</i>	Coosa Darter	Percidae			Native	Native	Native
87	<i>Etheostoma ditrema</i>	Coldwater Darter	Percidae		E	Native	Absent	Absent
88	<i>Etheostoma etowahae</i>	Etowah Darter	Percidae	E	E	Absent	Absent	Endemic
89	<i>Etheostoma jordani</i>	Greenbreast Darter	Percidae			Native	Native	Native
90	<i>Etheostoma rupestre</i>	Rock Darter	Percidae		R	Native	Native	Native
91	<i>Etheostoma scotti</i>	Cherokee Darter	Percidae	T	T	Absent	Absent	Endemic

	Scientific Name	Common Name	FAMILY	USESA	State	Conasauga	Coosawattee	Etowah
92	<i>Etheostoma stigmaeum</i>	Speckled Darter	Percidae			Native	Native	Native
93	<i>Etheostoma trisella</i>	Trispot Darter	Percidae	T	E	Native	Native	Absent
94	<i>Percina antesella</i>	Amber Darter	Percidae	E	E	Native	Native	Native
95	<i>Percina aurolineata</i>	Goldline Darter	Percidae	T	E	Absent	Native	Absent
96	<i>Percina freemanorum</i>	Etowah Bridled Darter	Percidae		E	Absent	Absent	Present
97	<i>Percina jenkinsi</i>	Conasauga Logperch	Percidae	E	E	Endemic	Absent	Absent
98	<i>Percina kathae</i>	Mobile logperch	Percidae			Native	Native	Native
99	<i>Percina kusha</i>	Bridled Darter	Percidae		E	Native	Native	Native
100	<i>Percina lenticula</i>	Freckled Darter	Percidae		E	Native	Native	Native
101	<i>Percina nigrofasciata</i>	Blackbanded Darter	Percidae			Native	Native	Introduced
102	<i>Percina palmaris</i>	Bronze Darter	Percidae			Native	Native	Native
103	<i>Percina shumardi</i>	River Darter	Percidae		E	Extirpated Native	Absent	Absent
104	<i>Sander vitreus</i>	Walleye	Percidae			Native	Native	Absent
105	<i>Aplodinotus grunniens</i>	Freshwater Drum	Sciaenidae			Native	Native	Native

T = Threatened, E = Endangered, R = Rare

Chickamauga/Toccoa Basin Fish List

February 2025 Version

	Scientific Name	Common Name	FAMILY	USESA	State	Chickamauga	Toccoa
1	<i>Ichthyomyzon bdellium</i>	Ohio Lamprey	Petromyzontidae		R	Native	Absent
2	<i>Ichthyomyzon castaneus</i>	Chestnut Lamprey	Petromyzontidae			Native	Native
3	<i>Ichthyomyzon greeleyi</i>	Mountain Brook Lamprey	Petromyzontidae			Absent	Native
4	<i>Lethenteron appendix</i>	American Brook Lamprey	Petromyzontidae			Native	Absent
5	<i>Lepisosteus oculatus</i>	Spotted Gar	Lepisosteidae			Native	Absent
6	<i>Lepisosteus osseus</i>	Longnose Gar	Lepisosteidae			Native	Absent
7	<i>Alosa aestivalis</i>	Blueback Herring	Clupeidae			Absent	Introduced
8	<i>Dorosoma cepedianum</i>	Gizzard Shad	Clupeidae			Native	Native
9	<i>Carassius auratus</i>	Goldfish	Cyprinidae			Absent	Introduced
10	<i>Cyprinus carpio</i>	Common Carp	Cyprinidae			Introduced	Introduced
11	<i>Coccotis coccogenis</i>	Warpaint Shiner	Leuciscidae			Native	Native
12	<i>Campostoma oligolepis</i>	Largescale Stoneroller	Leuciscidae			Native	Native
13	<i>Cyprinella galactura</i>	Whitetail Shiner	Leuciscidae			Native	Native
14	<i>Cyprinella spiloptera</i>	Spotfin Shiner	Leuciscidae			Native	Native

	Scientific Name	Common Name	FAMILY	USES	State	Chickamauga	Toccoa	
15	<i>Cyprinella whipplei</i>	Steelcolor Shiner	Leuciscidae			Native	Absent	
16	<i>Erimonax monachus</i>	Spotfin Chub	Leuciscidae	T		Exp. Endemic	Absent	
17	<i>Erimystax insignis</i>	Blotched Chub	Leuciscidae		E	Absent	Native	
18	<i>Hemitremia flammea</i>	Flame Chub	Leuciscidae		E	Native	Absent	
19	<i>Hybopsis amblops</i>	Bigeye Chub	Leuciscidae			Native	Native	
20	<i>Luxilus chrysocephalus</i>	Striped Shiner	Leuciscidae			Native	Native	
21	<i>Lythrurus fasciolaris</i>	Scarlet Shiner	Leuciscidae			Native	Absent	
22	<i>Lythrurus lirus</i>	Mountain Shiner	Leuciscidae			Native	Absent	
23	<i>Nocomis micropogon</i>	River Chub	Leuciscidae			Native	Native	
24	<i>Notemigonus crysoleucas</i>	Golden Shiner	Leuciscidae			Native	Native	
25	<i>Notropis ariommus</i>	Popeye Shiner	Leuciscidae		E	Native	Absent	
26	<i>Notropis atherinoides</i>	Emerald Shiner	Leuciscidae			Native	Absent	
27	<i>Notropis leuciodus</i>	Tennessee Shiner	Leuciscidae			Native	Native	
28	<i>Notropis spectrunculus</i>	Mirror Shiner	Leuciscidae			Absent	Native	
29	<i>Notropis telescopus</i>	Telescope Shiner	Leuciscidae			Native	Native	
30	<i>Notropis volucellus</i>	Mimic Shiner	Leuciscidae			Native	Absent	
31	<i>Phenacobius uranops</i>	Stargazing Minnow	Leuciscidae		T	Native	Absent	
32	<i>Pimephales notatus</i>	Bluntnose Minnow	Leuciscidae			Native	Absent	
33	<i>Pimephales promelas</i>	Fathead Minnow	Leuciscidae			Introduced	Introduced	
34	<i>Pimephales vigilax</i>	Bullhead Minnow	Leuciscidae			Uncertain Dist.	Absent	
35	<i>Rhinichthys obtusus</i>	Western Blacknose Dace	Leuciscidae			Native	Native	
36	<i>Semotilus atromaculatus</i>	Creek Chub	Leuciscidae			Native	Native	
37	<i>Catostomus commersoni</i>	White Sucker	Catostomidae			Native	Absent	
38	<i>Hypentelium nigricans</i>	Northern Hog Sucker	Catostomidae			Native	Native	
39	<i>Ictiobus bubalus</i>	Smallmouth Buffalo	Catostomidae			Native	Absent	
40	<i>Ictiobus niger</i>	Black Buffalo	Catostomidae			Native	Absent	
41	<i>Minytrema melanops</i>	Spotted Sucker	Catostomidae			Native	Absent	
42	<i>Moxostoma duquesnei</i>	Black Redhorse	Catostomidae			Native	Native	
43	<i>Moxostoma erythrurum</i>	Golden Redhorse	Catostomidae			Native	Native	
44	<i>Moxostoma carinatum</i>	River Redhorse	Catostomidae			Native	Native	
45	<i>Ameiurus brunneus</i>	Snail Bullhead	Ictaluridae			Absent	Introduced	
46	<i>Ameiurus natalis</i>	Yellow Bullhead	Ictaluridae			Native	Absent	
47	<i>Ameiurus nebulosus</i>	Brown Bullhead	Ictaluridae			Native	Native	
48	<i>Ictalurus punctatus</i>	Channel Catfish	Ictaluridae			Native	Native	

	Scientific Name	Common Name	FAMILY	UESA	State	Chickamauga	Toccoa	
49	<i>Noturus eleutherus</i>	Mountain Madtom	Ictaluridae		E	Native	Absent	
50	<i>Noturus flavipinnis</i>	Yellowfin Madtom	Ictaluridae	T		Exp. Endemic	Absent	
51	<i>Pylodictis olivaris</i>	Flathead Catfish	Ictaluridae			Native	Native	
52	<i>Oncorhynchus mykiss</i>	Rainbow Trout	Salmonidae			Introduced	Introduced	
53	<i>Salmo trutta</i>	Brown Trout	Salmonidae			Introduced	Introduced	
54	<i>Salvelinus fontinalis</i>	Brook Trout	Salmonidae			Absent	Native	
55	<i>Esox masquinongy</i>	Muskellunge	Esocidae			Absent	Extirpated Int	
56	<i>Typhlichthys subterraneus</i>	Southern Cavefish	Amblyopsidae		E	Native	Absent	
57	<i>Labidesthes sicculus</i>	Brook Silverside	Atherinopsidae			Native	Absent	
58	<i>Fundulus catenatus</i>	Northern Studfish	Fundulidae		R	Native	Absent	
59	<i>Fundulus olivaceus</i>	Blackspotted Topminnow	Fundulidae			Native	Absent	
60	<i>Gambusia affinis</i>	Western Mosquitofish	Poeciliidae			Native	Absent	
61	<i>Gambusia holbrooki</i>	Eastern Mosquitofish	Poeciliidae			Uncertain Dist.	Uncertain Dist.	
62	<i>Morone chrysops</i>	White Bass	Moronidae			Absent	Introduced	
63	<i>Cottus caroliniae</i>	Banded Sculpin	Cottidae			Native	Native	
64	<i>Ambloplites rupestris</i>	Rock Bass	Centrarchidae			Native	Native	
65	<i>Lepomis auritus</i>	Redbreast Sunfish	Centrarchidae			Introduced	Introduced	
66	<i>Lepomis cyanellus</i>	Green Sunfish	Centrarchidae			Native	Native	
67	<i>Lepomis gulosus</i>	Warmouth	Centrarchidae			Native	Absent	
68	<i>Lepomis macrochirus</i>	Bluegill	Centrarchidae			Native	Native	
69	<i>Lepomis microlophus</i>	Redear Sunfish	Centrarchidae			Native	Native	
70	<i>Lepomis megalotis</i>	Longear Sunfish	Centrarchidae			Native	Native	
71	<i>Micropterus coosae</i>	Redeye Bass	Centrarchidae			Introduced	Introduced	
72	<i>Micropterus dolomieu</i>	Smallmouth Bass	Centrarchidae			Native	Native	
73	<i>Micropterus punctulatus</i>	Spotted Bass	Centrarchidae			Native	Native	
74	<i>Micropterus salmoides</i>	Largemouth Bass	Centrarchidae			Native	Native	
75	<i>Pomoxis nigromaculatus</i>	Black Crappie	Centrarchidae			Native	Native	
76	<i>Etheostoma blennioides</i>	Greenside Darter	Percidae			Native	Native	
77	<i>Etheostoma tennesseense</i>	Tennessee Darter	Percidae			Native	Native	
78	<i>Etheostoma caeruleum</i>	Rainbow Darter	Percidae			Native	Absent	
79	<i>Etheostoma cinereum</i>	Ashy Darter	Percidae			Extirpated Native	Absent	
80	<i>Etheostoma duryi</i>	Blackside Snubnose Darter	Percidae		R	Native	Absent	
81	<i>Etheostoma jessiae</i>	Blueside Darter	Percidae			Native	Absent	
82	<i>Etheostoma rufilineatum</i>	Redline Darter	Percidae			Native	Native	

	Scientific Name	Common Name	FAMILY	USES	State	Chickamauga	Toccoa	
83	<i>Etheostoma simoterum</i>	Snubnose Darter	Percidae			Native	Absent	
84	<i>Etheostoma vulneratum</i>	Wounded Darter	Percidae		E	Absent	Native	
85	<i>Etheostoma zonale</i>	Banded Darter	Percidae			Native	Native	
86	<i>Percina aurantiaca</i>	Tangerine Darter	Percidae		E	Absent	Native	
87	<i>Percina caprodes</i>	Logperch	Percidae			Native	Absent	
88	<i>Percina evides</i>	Gilt Darter	Percidae			Absent	Native	
89	<i>Percina sciera</i>	Dusky Darter	Percidae		R	Native	Native	
90	<i>Percina squamata</i>	Olive Darter	Percidae		E	Absent	Native	
91	<i>Percina tanasi</i>	Snail Darter	Percidae	T	E	Native	Absent	
92	<i>Sander canadensis</i>	Sauger	Percidae			Native	Absent	
93	<i>Sander vitreus</i>	Walleye	Percidae			Absent	Native	
94	<i>Aplodinotus grunniens</i>	Freshwater Drum	Sciaenidae			Native	Absent	

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Coastal Plain Fish List							February 2025 Version	
	Scientific Name	Common Name	FAMILY	USES	State	Satilla	Ogeechee (Canoochee)	
1	<i>Acipenser brevirostrum</i>	Shortnose Sturgeon	Acipenseridae	E	E	Native	Native	
2	<i>Acipenser oxyrinchus oxyrinchus</i>	Atlantic Sturgeon	Acipenseridae	E	E	Native	Native	
3	<i>Lepisosteus osseus</i>	Longnose Gar	Lepisosteidae			Native	Native	
4	<i>Lepisosteus platyrhincus</i>	Florida Gar	Lepisosteidae			Uncertain	Uncertain	
5	<i>Amia calva</i>	Bowfin	Amiidae			Native	Native	
6	<i>Anguilla rostrata</i>	American Eel	Anguillidae			Native	Native	
7	<i>Alosa sapidissima</i>	American Shad	Clupeidae			Native	Native	
8	<i>Dorosoma cepedianum</i>	Gizzard Shad	Clupeidae			Native	Native	
9	<i>Dorosoma petenense</i>	Threadfin Shad	Clupeidae			Introduced	Introduced	
10	<i>Notemigonus crysoleucas</i>	Golden Shiner	Leuciscidae			Native	Native	
11	<i>Notropis maculatus</i>	Taillight Shiner	Leuciscidae			Native	Native	
12	<i>Notropis petersoni</i>	Coastal Shiner	Leuciscidae			Native	Native	
13	<i>Opsopoeodus emiliae</i>	Pugnose Minnow	Leuciscidae			Native	Native	
14	<i>Pteronotropsis stonei</i>	Lowland Shiner	Leuciscidae			Native	Native	
15	<i>Erimyzon sucetta</i>	Lake Chubsucker	Catostomidae			Native	Native	

	Scientific Name	Common Name	FAMILY	UESA	State	Satilla	Ogeechee (Canoochee)	
16	<i>Minytrema melanops</i>	Spotted Sucker	Catostomidae			Native	Native	
17	<i>Ameiurus brunneus</i>	Snail Bullhead	Ictaluridae			Native	Native	
18	<i>Ameiurus natalis</i>	Yellow Bullhead	Ictaluridae			Native	Native	
19	<i>Ameiurus nebulosus</i>	Brown Bullhead	Ictaluridae			Native	Native	
20	<i>Ictalurus furcatus</i>	Blue Catfish	Ictaluridae			Introduced	Introduced	
21	<i>Ictalurus punctatus</i>	Channel Catfish	Ictaluridae			Native	Native	
22	<i>Noturus gyrinus</i>	Tadpole Madtom	Ictaluridae			Native	Native	
23	<i>Noturus leptacanthus</i>	Speckled Madtom	Ictaluridae			Native	Native	
24	<i>Pylodictis olivaris</i>	Flathead Catfish	Ictaluridae			Introduced	Introduced	
25	<i>Esox americanus</i>	Redfin or Grass Pickerel	Esocidae			Native	Native	
26	<i>Esox niger</i>	Chain Pickerel	Esocidae			Native	Native	
27	<i>Umbra pygmaea</i>	Eastern Mudminnow	Umbridae			Native	Native	
28	<i>Aphredoderus sayanus</i>	Pirate Perch	Aphredoderidae			Native	Native	
29	<i>Labidesthes vanhyningi</i>	Golden Silverside	Atherinopsidae			Native	Native	
30	<i>Fundulus chrysotus</i>	Golden Topminnow	Fundulidae			Native	Native	
31	<i>Fundulus lineolatus</i>	Lined Topminnow	Fundulidae			Native	Native	
32	<i>Leptolucania ommata</i>	Pygmy Killifish	Fundulidae			Native	Native	
33	<i>Gambusia affinis</i>	Western Mosquitofish	Poeciliidae			Uncertain	Uncertain	
34	<i>Gambusia holbrooki</i>	Eastern Mosquitofish	Poeciliidae			Native	Native	
35	<i>Heterandria formosa</i>	Least Killifish	Poeciliidae			Native	Native	
36	<i>Poecilia latipinna</i>	Sailfin Molly	Poeciliidae			Native	Native	
37	<i>Morone saxatilis</i>	Striped Bass	Moronidae			Native	Native	
38	<i>Acantharchus pomotis</i>	Mud Sunfish	Centrarchidae			Native	Native	
39	<i>Centrarchus macropterus</i>	Flier	Centrarchidae			Native	Native	
40	<i>Enneacanthus gloriosus</i>	Bluespotted Sunfish	Centrarchidae			Native	Native	
41	<i>Enneacanthus obesus</i>	Banded Sunfish	Centrarchidae			Native	Native	
42	<i>Lepomis auritus</i>	Redbreast Sunfish	Centrarchidae			Native	Native	
43	<i>Lepomis gulosus</i>	Warmouth	Centrarchidae			Native	Native	
44	<i>Lepomis macrochirus</i>	Bluegill	Centrarchidae			Native	Native	
45	<i>Lepomis marginatus</i>	Dollar Sunfish	Centrarchidae			Native	Native	
46	<i>Lepomis microlophus</i>	Redear Sunfish	Centrarchidae			Native	Native	
47	<i>Lepomis punctatus</i>	Spotted Sunfish	Centrarchidae			Native	Native	
48	<i>Micropterus salmoides</i>	Largemouth Bass	Centrarchidae			Native	Native	
49	<i>Pomoxis nigromaculatus</i>	Black Crappie	Centrarchidae			Native	Native	

	Scientific Name	Common Name	FAMILY	USESA	State	Satilla	Ogeechee (Canoochee)	
50	<i>Elassoma evergladei</i>	Everglades Pygmy Sunfish	Centrarchidae			Native	Native	
51	<i>Elassoma okefenokee</i>	Okefenokee Pygmy Sunfish	Centrarchidae			Native	Absent	
52	<i>Elassoma zonatum</i>	Banded Pygmy Sunfish	Centrarchidae			Native	Native	
53	<i>Etheostoma fusiforme</i>	Swamp Darter	Percidae			Native	Native	

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Sapelo Island Fish List

February 2025 Version

	Scientific Name	Common Name	FAMILY	USESA	State	Coastal Georgia		
1	Cartilaginous Fishes (Sharks, Skates, Rays, Chimaeras)							
2	<i>Carcharhinus isodon</i>	Finetooth Shark	Carcharhinidae			Native		
3	<i>Carcharhinus limbatus</i>	Blacktip Shark	Carcharhinidae			Native		
4	<i>Carcharhinus obscurus</i>	Dusky Shark	Carcharhinidae			Native		
5	<i>Negaprion brevirostris</i>	Lemon Shark	Carcharhinidae			Native		
6	<i>Rhizoprionodon terraenovae</i>	Atlantic Sharpnose Shark	Carcharhinidae			Native		
7	<i>Sphyrna tiburo</i>	Bonnethead Shark	Sphyrnidae			Native		
8	<i>Hypanus americanus</i>	Southern Stingray	Dasyatidae			Native		
9	<i>Hypanus sabinus</i>	Atlantic Stingray	Dasyatidae			Native		
10	<i>Hypanus say</i>	Bluntnose Stingray	Dasyatidae			Native		
11	<i>Gymnura lessae</i>	Smooth Butterfly Ray	Gymnuridae			Native		
12	<i>Rhinoptera bonasus</i>	Cownose Ray	Myliobatidae			Native		
13	Bony Fishes							
14	<i>Lepisosteus osseus</i>	Longnose Gar	Lepisosteidae			Native		
15	<i>Elops saurus</i>	Ladyfish	Elopidae			Native		
16	<i>Megalops atlanticus</i>	Tarpon	Megalopidae			Native		
17	<i>Ophichthus gomesii</i>	Shrimp Eel	Ophichthidae			Native		
18	<i>Anchoa hepsetus</i>	Striped Anchovy	Engraulidae			Native		
19	<i>Anchoa mitchilli</i>	Bay Anchovy	Engraulidae			Native		
20	<i>Alosa aestivalis</i>	Blueback Herring	Clupeidae			Native		
21	<i>Brevoortia tyrannus</i>	Atlantic Menhaden	Clupeidae			Native		
22	<i>Opisthonema oglinum</i>	Atlantic Thread Herring	Clupeidae			Native		
23	<i>Ariopsis felis</i>	Hardhead Catfish	Ariidae			Native		

	Scientific Name	Common Name	FAMILY	USESA	State	Coastal Georgia		
24	<i>Bagre marinus</i>	Gafftopsail Catfish	Ariidae			Native		
25	<i>Urophycis floridana</i>	Southern Hake	Phycidae			Native		
26	<i>Urophycis regia</i>	Spotted Hake	Phycidae			Native		
27	<i>Opsanus tau</i>	Oyster Toadfish	Batrachoididae			Native		
28	<i>Mugil cephalus</i>	Striped Mullet	Mugilidae			Native		
29	<i>Mugil curema</i>	White Mullet	Mugilidae			Native		
30	<i>Menidia beryllina</i>	Inland Silverside	Atherinopsidae			Native		
31	<i>Menidia menidia</i>	Atlantic Silverside	Atherinopsidae			Native		
32	<i>Cheilopogon sp.</i>	Flying fish	Exocoetidae			Native		
33	<i>Fundulus confluentus</i>	Marsh Killifish	Fundulidae			Native		
34	<i>Fundulus heteroclitus</i>	Mummichog	Fundulidae			Native		
35	<i>Fundulus majalis</i>	Striped Killifish	Fundulidae			Native		
36	<i>Lucania goodei</i>	Bluefin Killifish	Fundulidae			Native		
37	<i>Cyprinodon variegatus</i>	Sheepshead Minnow	Cyprinodontidae			Native		
38	<i>Gambusia holbrooki</i>	Eastern Mosquitofish	Poeciliidae			Native		
39	<i>Heterandria formosa</i>	Least Killifish	Poeciliidae			Native		
40	<i>Poecilia latipinna</i>	Sailfin Molly	Poeciliidae			Native		
41	<i>Hippocampus erectus</i>	Lined Seahorse	Syngnathidae			Native		
42	<i>Syngnathus louisianae</i>	Chain Pipefish	Syngnathidae			Native		
43	<i>Prionotus evolans</i>	Striped Searobin	Triglidae			Native		
44	<i>Prionotus tribulus</i>	Bighead Searobin	Triglidae			Native		
45	<i>Centropristis philadelphica</i>	Rock Sea Bass	Serranidae			Native		
46	<i>Chloroscombrus chrysurus</i>	Atlantic Bumper	Carangidae			Native		
47	<i>Oligoplites saurus</i>	Leatherjacket	Carangidae			Native		
48	<i>Selene setapinnis</i>	Atlantic Moonfish	Carangidae			Native		
49	<i>Selene vomer</i>	Lookdown	Carangidae			Native		
50	<i>Trachinotus carolinus</i>	Florida Pompano	Carangidae			Native		
51	<i>Trachinotus falcatus</i>	Permit	Carangidae			Native		
52	<i>Sphyraena guachancho</i>	Guaquanche	Sphyraenidae			Native		
53	<i>Archosargus probatocephalus</i>	Sheepshead	Sparidae			Native		
54	<i>Lagodon rhomboides</i>	Pinfish	Sparidae			Native		
55	<i>Bairdiella chrysoura</i>	Silver Perch	Sciaenidae			Native		

	Scientific Name	Common Name	FAMILY	USESA	State	Coastal Georgia		
56	<i>Cynoscion nebulosus</i>	Spotted Seatrout	Sciaenidae			Native		
57	<i>Cynoscion nothus</i>	Silver Seatrout	Sciaenidae			Native		
58	<i>Cynoscion regalis</i>	Weakfish	Sciaenidae			Native		
59	<i>Larimus fasciatus</i>	Banded Drum	Sciaenidae			Native		
60	<i>Leiostomus xanthurus</i>	Spot	Sciaenidae			Native		
61	<i>Menticirrhus americanus</i>	Southern Kingfish	Sciaenidae			Native		
62	<i>Menticirrhus littoralis</i>	Gulf Kingfish	Sciaenidae			Native		
63	<i>Menticirrhus saxatilis</i>	Northern Kingfish	Sciaenidae			Native		
64	<i>Micropogonias undulatus</i>	Atlantic Croaker	Sciaenidae			Native		
65	<i>Pogonias cromis</i>	Black Drum	Sciaenidae			Native		
66	<i>Sciaenops ocellatus</i>	Red Drum	Sciaenidae			Native		
67	<i>Stellifer lanceolatus</i>	Star Drum	Sciaenidae			Native		
68	<i>Astroscopus y-graecum</i>	Southern Stargazer	Uranoscopidae			Native		
69	<i>Gobiesox strumosus</i>	Skilletfish	Gobiesocidae			Native		
70	<i>Dormitator maculatus</i>	Fat Sleeper	Eleotridae			Native		
71	<i>Bathygobius soporator</i>	Frillfin Goby	Gobiidae			Native		
72	<i>Ctenogobius boleosoma</i>	Darter Goby	Gobiidae			Native		
73	<i>Gobionellus oceanicus</i>	Highfin Goby	Gobiidae			Native		
74	<i>Gobiosoma bosc</i>	Naked Goby	Gobiidae			Native		
75	<i>Chaetodipterus faber</i>	Atlantic Spadefish	Ephippidae			Native		
76	<i>Trichiurus lepturus</i>	Atlantic Cutlassfish	Trichiuridae			Native		
77	<i>Scomberomorus maculatus</i>	Spanish Mackerel	Scombridae			Native		
78	<i>Peprilus paru</i>	Harvest Fish	Stromateidae			Native		
79	<i>Peprilus triacanthus</i>	Butterfish	Stromateidae			Native		
80	<i>Pomatomus saltatrix</i>	Bluefish	Pomatomidae			Native		
81	<i>Ancylopsetta quadrocellata</i>	Ocellated Flounder	Paralichthyidae			Native		
82	<i>Etropus crossotus</i>	Fringed Flounder	Paralichthyidae			Native		
83	<i>Paralichthys dentatus</i>	Summer Flounder	Paralichthyidae			Native		
84	<i>Paralichthys lethostigma</i>	Southern Flounder	Paralichthyidae			Native		
85	<i>Trinectes maculatus</i>	Hogchoker	Achiridae			Native		
86	<i>Symphurus plagiosa</i>	Blackcheek Tonguefish	Cynoglossidae			Native		
87	<i>Aluterus monoceros</i>	Unicorn Filefish	Monacanthidae			Native		

	Scientific Name	Common Name	FAMILY	USESA	State	Coastal Georgia		
88	<i>Stephanolepis hispidus</i>	Planehead Filefish	Monacanthidae			Native		
89	<i>Lagocephalus laevigatus</i>	Smooth Puffer	Tetraodontidae			Native		
90	<i>Sphoeroides maculatus</i>	Northern Puffer	Tetraodontidae			Native		
91	<i>Chilomycterus schoepfi</i>	Striped Burrfish	Diodontidae			Native		

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