

Video	Audio
	<p>>>SKINNER: Hi! I'm Michael Skinner, welcome to GA Outdoors. You know you don't have to go to a tropical reef to enjoy scuba diving. We're here in South Georgia on the Flint River on what they call a blue hole spring. And it's going to be a blast, so stick around.</p>
	<p>>>Skinner: The aquatic world is full of life and mystery. It's full of beautiful animals, not only fish, but rays, and snails, and turtles... an abundance of creatures. It's no wonder then that scuba diving and snorkeling are such popular sports. However, when most people think of scuba they think of warm emerald waters, most would not think of South Georgia. But Southwestern Georgia is a area of great diversity. In fact, the Nature Conservancy recently rated this area as one of the most-biodiverse areas in the country.</p>
	<p>We're going to visit the Flint River just south of Albany, Georgia. This area is noted for its springs, or as the locals call them, blue holes. Today the first blue hole we'll visit is called "the Vine" and is located on the Dougherty/ Baker County line.</p>
	<p>>>Thomas: These springs are obviously conduits or caves down in the aquifer, and unless you are certified in cave diving, by no means do you need to get in there. Um, it will get extremely dark, extremely fast, and people have gotten hurt in this area. One where they are probably not certified to go. But, given that, if uh you just want to stay on top or even scuba dive, this will afford you excellent opportunities to dive, and you can bring the whole family. Most of the summer you are dealing with very shallow depths, um, and a lot of these instances, you can actually see a lot of these blue holes, as they surface to the river. As hot as it is on</p>

	<p>the Flint River, there an excellent place to just jump in and wet your face. Um, there are at least one or two local scuba shops in the area, in downtown Albany, and uh throughout the southwest GA. And they can assist you. And you will see all kind of things in the Flint. Uh, Adult stripers during the summer time, we have a lot of creatures on the bottom that uh you can see. There's over 80 species of fish, and as we see today, the river is very clear during the summer time, so it doesn't take much. A mask, and a snorkel, or if you feel like scuba, scuba.</p>
	<p>>> Skinner: Wow! That was pretty neat. Those fish were really big!</p> <p>>> Thomas: I tell you what, you think that's neat, hang on. We're going to go down river to a lager one called the shaft., I think that you will really enjoy it.</p> <p>>> Skinner: Yeah? Great! Let's go!</p> <p>>> Thomas: Alright.</p>

	<p>>>Skinner: The Shaft is located in Baker County, about 20 minutes south of Albany. This part of the Flint River is very remote feeling, almost no development exists on the banks and quiet quail plantations stretch for thousands of acres.</p>
	<p>>>Skinner: So this is it huh Matt?</p> <p>>>Thomas: This is it. What we'll be looking for on the right side, we should have a red tag, right below the dorsal. If you see one just nudge me and we'll try and get a closer look.</p> <p>>>Skinner: Ok, About what percentage of these fish are tagged?</p> <p>>>Thomas: We tagged approximately 50 in the spring and we'll be lucky if we see one or two today.</p> <p>>>Thomas: Michael you 'bout ready?</p> <p>>>Skinner: Yeah, I think so.</p> <p>>>Thomas: I think what we'll do is just swim around on the surface around the stern of the boat, get the camera turned on and then submerge in a place right outside the spring.</p> <p>>>Thomas: Ready?</p> <p>>>Skinner: Yup.</p> <p>>>Thomas: What we're gonna do is enter this spring, which is referred to locally as "the shaft" that's because it resembles an elevator shaft. The boil is in about 28 feet of water and you'll have a vertical wall on both sides of you so you'll feel like you're in an elevator shaft. We'll give the fish a couple a minutes to calm down and get used to us and what I'd like to do is actually drop down below the fish, kinda get them sunlit, and then try and start estimating their size based</p>

	<p>on weight. And what we'll do with this is, we have an understanding of weight versus age and we can kind of go back and track our population that way. Adult striped bass over 5 kilograms, 10 pounds, have an obligate need for cool water, obviously we're far enough south where during the summertime they have to find cool water. Being in the area where we are in the river and the Florida aquifer are very close connected we have these springs which are a constant 68 degrees year round so come about May each year when the river temperatures climb up into the 70's, the upper 70's these adult striped bass will enter these springs and they'll stay here most of the summer. Our telemetry studies have shown us about 150 days a year they'll be closely packed in these springs. It is a unique and special species to us so this presents us with an excellent opportunity to monitor them.</p>
	<p>>>Skinner: Because they want to know what is happening beyond the opening of these springs biologists with the GA Department of Natural Resources also employ volunteers in their work. Certified cave divers, with their years of experience, will place temperature sensors at certain intervals throughout these conduits that connect these blue holes to the aquifer below. They'll also retrieve them frequently so that DNR technicians like Tracy Feltman can record this data.</p>
	<p>>>Thomas: Well, striped bass here on the Flint River, the season is closed from May 1 through October 31. And the reason for that is quite obvious. Since you have these very large fish that are tied directly to these cool water springs, the term fish in a barrel comes to mind. And since we are dealing with relatively few adults, you know, on the order of hundreds, not thousands, um we</p>

	<p>are very protective of these fish during the summer months.</p>
	<p>Um, we have been very impressed with the stewardship, or ownership that people in this region have taken with the Flint River in particular with the striped bass, um, they are very protective of them. Quite often we have individual landowners that live on the river and actually have a spring adjacent to their land. And so obviously they are going to have the striped bass during the summer. And they have been very cooperative with us telling us when tagged fish show up, and when they think they see problems with the population.</p>
	<p>>> Skinner: Wow!</p> <p>>> Thomas: What did you think?</p> <p>>> Skinner: That was great!</p> <p>>> Thomas: Pretty incredible.</p> <p>>> Skinner: How big was that biggest fish down there?</p> <p>>> Thomas: It's gotta be close to 25 pounds.</p> <p>>> Skinner: That's amazing!</p> <p>>> Thomas: Isn't it?</p> <p>>> Skinner: You get to sit down there and record all of that data.</p> <p>>> Thomas: It's very relaxing, almost like being in an aquarium.</p> <p>>> Skinner: well, do you think you got what you need?</p> <p>>> Thomas: I think so, let's go back to the boat and fill out the data sheet.</p> <p>>> Skinner: OK.</p>
	<p>>> Thomas: I think that's about it.</p>

	<p>>>Skinner: So, how do you think we did?</p> <p>>>Thomas: I think we did great. I think we got some great numbers. The visibility was excellent.</p> <p>>>Skinner: There were quite a few fish. Now, I don't know how that...based on a normal daily amount...</p> <p>>>Thomas: They were, they were really tied to'em this time of year, you can tell the river's getting warm.</p> <p>>>Skinner: Well from stripers we're headed to Spring Creek where going to try and find some giant alligator snapping turtles. That's gonna be a lot of fun as well.</p>
	<p>>>Skinner: From the blue holes of the Flint River we travel to the clear cool waters of Spring Creek. Spring Creek travels 60 miles from Bluffton, Georgia to Lake Seminole. We're to join biologists from around the southeast to survey for Alligator Snapping Turtles by Snorkel, SCUBA and trapping.</p>
	<p>First the trapping. Biologist John Jensen with the GA Department of Natural Resources and wildlife veterinarian Terry Norton came down a day early to set the traps. The traps consist of a series of hoops with netting; they'll lure these hefty animals using fish for bait.</p>
	<p>>>Jensen: They are a pretty much an omnivorous animal, they will eat pretty much anything they can get, but they definitely have a preference for fish, so that's usually pretty effective at luring them into a trap. They are a nocturnal animal, so we set them to take advantage of the overnight activity of theirs.</p>
	<p>We're here trapping turtles for several different reasons. It's a species that was threatened in the state</p>

	<p>and got that way because of commercialization over harvest for uh turtle soup. This is one of the better populations in the state and we want to know a little bit more. We're hesitant to call it a good population or a healthy population. All we can really say right now is that it's a population that seems to be in better shape than the others.</p>
	<p>>>Skinner: John and Terry have put out 12 traps it's time to see how well they've worked. They've surveyed this creek before and a recapture is possible.</p>
	<p>>>Skinner: See anything in there yet?</p> <p>>>Jensen: Yep, yellow bellied slider.</p> <p>>>Jensen: Probably the most common species of turtle in the state of Georgia. If you remember the little dime store turtles that they used to sell, those were sliders: either red-eared sliders or yellow bellied sliders. These are an exotic species that's a problem all across the world from selling in the pet trade and getting out into natural ecosystems and competing with other native turtles in other countries. Born free.</p> <p>>>Skinner: I'm gonna go hide under a log!</p>
	<p>>>Skinner: That's one down and 11 more to go. We might have better luck at trap 2.</p>
	<p>>>Skinner: Wow. That is quite a creature. Look at the ridges on his back.</p> <p>>>Jensen: Know how to get him out?</p>
	<p>>>Skinner: Should we try to get him out of here John?</p> <p>>>Jensen: Let's see what you got.</p> <p>>>Skinner: That's not a, well I don't know if he's forty pounds or not, but he's a brick! All right, so what are we doing, some doctor work now?</p>

	<p>>> Norton: It's good to have the same person measuring each animal just so we get the same data. So John usually does it.</p>
	<p>>> Jensen: Now let's do a CL midline carapace length at mid 45.7...this is a hard one to get...</p> <p>>> Skinner: I don't think he wants you to know his maximum carapace length.</p> <p>>> Jensen: 49.3. The world record female is 62 pounds and a world record male, documented, is 251 pounds and there's one reported at 316, so it's probably a nasty event when they mate.</p>
	<p>>> Jensen: This is a recapture, we've caught it before. This is number 2. And uh we'll be able to go back and look at the data and figure out how much, uh how much it's grown over the last couple years and maybe get some information on how much it has moved from where we caught it last time.</p> <p>>> Skinner: How many turtles have you tagged in this creek?</p> <p>>> Jensen: I think I have 19 turtles marked in this creek so far.</p> <p>>> Skinner: So we're all done with the data collection?</p> <p>>> Jensen: Yep, time to release him.</p>
	<p>>> Skinner: Terry Norton is a veterinarian at St. Catherines Island, a non-profit group with facilities to support the Wildlife Survival Center, a major archaeology program, and many other scientific and conservation projects. Terry will perform blood work on these animals, he's even brought his own centrifuge!</p>
	<p>>> Norton: Some of the things we are doing are looking at a variety of different heavy</p>

	<p>metals, pesticides and other contaminants. We also do a physical exam, take any external parasites and have them id'd, and the main sample that we are collecting is blood.</p>
<p>.</p>	<p>>>Skinner: From the data we've collected John and Terry will learn more about not only the health of Georgia's Alligator Snapping Turtle populations but they may also learn more about our own health. All and all, we've had a successful day. Time to join the biologists who've come from across the southeast to help collect turtles of all kinds in a more hands-on approach. It's time to get wet.</p>
	<p>>>Skinner: Roger Birkhead is a biologist working on his PhD at Auburn University. John Jensen told us to expect great things from this guy, maybe he can give us a few tips for finding these creatures.</p>
	<p>>>Birkhead: It's just really fascinating to be able to catch these alligator snapping turtles that are basically dinosaurs out here and just the opportunity to just catch and hold one of these animals is uh, a pretty, pretty special thing.</p>
	<p>When you are underwater basically you are just trying to stick your head up underneath any overhanging roots and rocks and like that, just looking up underneath them and just usually the snapper turtles are going to be tucked up underneath there. It's usually places people don't usually like to stick their head, and hands, and mostly looking for shapes, the tail, you can usually see the tail most of all, cause the shells usually just blend right into the rocks, all mossy covered and silt and things, settle on them, so, usually once you have them in hand, they're so big they're not used to other things messing with them, so they're pretty docile once you get them out of the water too, they are so big and heavy.</p>

	<p>>>Skinner: Healthy alligator Snapping Turtles are good indicators of a healthy ecosystem, and so are mussels. Chris Skelton of the Natural Heritage Program of the Georgia DNR studies mussels. We took a little time away from turtle hunting to check out a few of these animals. His colleague with the US Fish and Wildlife Service, Sandy Abbott explains more.</p>
	<p>>>Abbott: Mussels are an important part of the aquatic ecosystem. They are like the canaries in the coalmines, when they start disappearing, you know something is wrong.</p>
	<p>>>Abbott: A lot of people see pollution in water as chemicals, but um one of the main impacts to mussels is the sediment and silt entering the stream from road crossings, from construction, going into the water it actually can bury and smother the mussels, but it also alters and buries their habitat.</p>
	<p>>>Skinner: Well, mussels haven't completely disappeared from Spring Creek. Chris and I were pretty successful at getting our hands on a few of these guys.</p>
	<p>>>Skinner: Well, we found a couple, you want to tell me about them?</p> <p>>>Skelton: Yeah, um, the exciting thing we got was one of the federally endangered species uh found in Spring Creek called the Shiny Rayed pocket book. I was a little surprised to find it here, it typically likes flowing water situations its kind of slack water out here. But we actually got two, which is nice.</p> <p>>>Skinner: Wow.</p> <p>>>Skelton: We got uh four or five other species.</p>

	<p>>> Skinner: My goodness.</p> <p>>> Skelton: A couple of the ellyptios, a real common genus over on the uh, uh, in Georgia. And another common slack water species, the giant floater, piganidon grandus.</p> <p>>> Skinner: Wow.</p> <p>>> Skelton: These can live ponds and lakes.</p> <p>>> Skinner: So these are fairly common?</p> <p>>> Skelton: Uh, all but this.</p> <p>>> Skinner: And this a federally listed endangered mussel?</p> <p>>> Skelton: Federally endangered mussel.</p> <p>>> Skinner: Wow.</p> <p>>> Skelton: Only known from about um four creeks in Georgia.</p> <p>>> Skinner: They are really pretty. Thanks for, thanks for digging them up for us.</p> <p>>> Skelton: OK, I'm glad we found some.</p>
	<p>>> Skinner: Even I was lucky enough to capture alligator snapper! He was almost 60 lbs. One of the largest turtles trapped or hand captured during this survey!</p>
	<p>>> Skinner: Is that the biggest one?</p> <p>>> Jensen: Yes.</p>
	<p>>> Skinner: Well, before you can help with research like this you've gotta be a certified scuba diver.</p> <p>>> Female Narrator: The effects of drought on a stream like Spring Creek can be devastating. Last year, in the summer of 2000 large portions of this creek were</p>

	<p>completely dried up. One of the hardest hits animals of this ecosystem were the mussels. They were smothering because of the low levels of oxygen in the left over pools of muddy, warm water. Sandy Abbott of the U.S. Fish and Wildlife Service came to the rescue. Sandy and her colleagues collected over 1400 mussels including the federally endangered shiny-rayed pocketbook. The mussels were brought to the Warm Springs Hatchery where they were kept until it might be safe to return them. For Sandy one of her proudest moments occurred this summer when she was able to return her salvaged mussels and know that there was hope that they might repopulate Spring Creek.</p>
	<p>>>Skinner: People have been exploring the underwater world for centuries and in that time have improved the methods for its exploration. Today, people are able to dive hundreds of feet below the surface and stay there for hours.</p>
	<p>You can acquire your scuba certification anywhere there's a pool. And although scuba's a blast, it's not all fun and games in the pool. You've got to put a few hours of classroom which includes some tests and some quizzes.</p>
	<p>Clay Davis of Tropic Dive is taking a group of students through a beginners' course for open water scuba certification. Clay received his instructor's certification from PADI, the Professional Association of Diving Instructors, one of several scuba education organizations worldwide.</p>
	<p>>>Davis: A typical open water course will be broken into confined open water sessions and what we mean by that is we have a prescribed set of exercises that you perform in the comfort of a pool. Uh, and you perform these skills up to a certain level and these are going to make you proficient in the open water. Uh, another aspect of it is modules of classroom time.</p>

	<p>In module 4 our overview is gonna be, we'll talk about nitrogen narcosis, causes, how to prevent it. We're gonna explain what decompression sickness is. We have you read the textbook, watch the videos, I do lectures, you give yourself some feedback by actually taking quizzes and filling it out homework. Here at one point where atmosphere is about 13 feet. So, that's why at depth oxygen is toxic. Ok, let's take the quiz.</p>
	<p>Well, some of the skills that we go over in the confined water, the giant stride entry, which is the most commonly used entry, it's a big step off of a boat into the water. We talk about holding the regulator mask in place, to keep anything, the regulator from slipping out of your mouth or the mask from coming off your head. Uh, we do things underwater such as removing and clearing your mask in the unlikely event that your mask should get disturbed, while on a dive, and if it fills up with water, you need to know these things. Um, and we teach our students to look up and to breathe through their nose, the air that they are exhaling will clear the water out of the mask. In the unlikely event that you should run low on air, we teach alternate air source breathing which is sharing a regulator with your buddy, um, we talk about emergency ascents in the unlikely event that you should run low or out of air. Uh, how to get to the surface. So all of this will give you a strong comfort level when you take these skills to the open water.</p>
	<p>>>Skinner: Bonnie, a student in Clay's class, initially was a little apprehensive, but after a few sessions in the pool she gained more confidence.</p> <p>>>Bonnie: I've enjoyed having the supervision that we have that there's more than one instructor in the water so if you do have a question you can ask it, the problem is solved right away and then you can</p>

	<p>practice that skill and we do have some free time to do what we want to do and I'm feeling much more comfortable underwater.</p> <p>>>Davis: This about having fun so yes, we do have some time just for fun and games and actually we got into some underwater Frisbee tossing in the pool the other night so...</p> <p>The open water check out is where we take the skills that are learned in the confined water, in the pool, combine that with the theories that we've learned in the classroom and apply to the open water. It's basically the same thing as the pool but you're out in the open water. I might say it's a lot more interesting. Diving is my passion. I do this at every opportunity. As an instructor the ability to teach allows me to share this experience with other people. There's nothing like the enthusiasm on a newly certified diver's face as they come out of the water after their first dive.</p> <p>>>Skinner: The last step in your scuba certification is the check out dive in open water. Georgians can go to lake Lanier or to the Atlantic Coast. A lot of people choose to go down to Florida. Once you're certified, the underwater world becomes your oyster. And you have never seen anything quite like it.</p>
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