

Hey to all you fishing enthusiasts out there! Whether you're an avid angler or just curious about fish, we'd like to welcome you to Fish of the Week. It's Monday, March 29th, 2021. And we're excited to talk about all the fish. I'm Katrina Liebich with the U.S. Fish & Wildlife Service in Alaska.

And I'm Guy Eroh, ready for part two of our Louisiana spring break getaway!

Last week, Dr. Solomon David of Nicholls University in Thibodaux, Louisiana taught us all about the alligator gar's biology and habitat.

Now, the Gar Guy—great name, if you ask me—is back to tell us how to fish and prepare for these gnarly Jurassic predators.

So, Solomon I've never gone fishing in Louisiana before for anything, let alone Alligator Gar. Where would I want to go? Where do I start? What do I look into? I'm a blank slate, don't know what I'm doing, and need some advice.

I mean it says on the license plate "Sportsman's Paradise" so there are plenty of places to go fishing. You can get Alligator Gars in the bayous, in the lakes and also along the coast. Let's say your flying into New Orleans. There are places even within the city you can go and get Alligator Gar. Usually around the outskirts of the city. Lake Pontchartrain just north of New Orleans. You can get Alligator Gar there. So I would say, look up how you want to fish for them. The where will kind of show itself when you look that up online. Bayous are good. There are bayous that cut through all kinds of places in the southern parts of Louisiana. If you go further north you're kind of going to be off the oxbow lakes off the Mississippi River and some of the larger tributaries there. But again along the coast Alligator Gars move into saltwater. So you could be fishing for redfish which is arguably the most popular fish to fish for around here. It's a member of the drum family. But you can get redfish and Alligator Gar in the same areas. It's really just a matter of how you want to get 'em but there are more gar than you can imagine here in Louisiana.

I'm curious what are some of the ways folks fish for Alligator Gar

One of the most popular ways around here is using jug lines. And folks in Texas, Louisiana even Mississippi use jug lines. For research we've used gillnets so those are also successful. Jug lines have kind of shown to be a way to avoid bycatch and really target Alligator Gars more effectively. So that's one of the main ways but you can get them on hook and line. You can catch gars on something called a rope lure where you kind of bend a nylon rope in half and you kind of fray one end of it and the gars go after it and get their teeth caught in it. So it's a little trickier to land them that way because there's no hook involved but it works with Longnose Gars, Spotted Gars, smaller Alligator Gars. When we went fishing in Texas we actually used drones to bait our hooks. So we flew a giant chunk of carp on a drone and they kind of flew the line out about 300 feet and we were able to set lines around our boat and fish for Alligator Gars that way. So there's a lot of different ways to fish for gar, and Alligator Gars specifically.

Now when I've fished for AG in the rivers before which was one time on the Trinity out in Texas we were kind of targeting bends in the river and we were bait fishing and you'd see these big fish come up and roll presumably I guess breathing air...I'm not sure if that's the actually the case. Is there anything to that about fishing bends in rivers or are there better places to target these fish?

I think those holes in the bends of those rivers are where the Alligator Gars are hanging out. And you know, a lot of the big guides these days will use the fish finders to target where the Alligator Gars are hanging out. When we were sampling them in parts of Mississippi and northern parts of Louisiana we're sort of in these inundated floodplains and reservoirs so it's not necessarily riverine fishing for gars. I think it depends on the habitat that you're at. So on a floodplain there's only so many places they can go—it just depends on how expansive the floodplain is. Within a river you can kind of target those holes and use a fish finder to find out where they are. For research, they'll usually use the fish finder to target where the gars are and then set block nets across entire sections of river and that way they can really CORDON off an area to make sure they can get the fish that they want.

I've got some questions...I've got a lot of questions I guess...

Same here!

In terms of handling an alligator gar—I mean you talk about how tough they are...they're armored, they're toothy. How do you unhook a gar. How do you keep yourself safe as well as the gar in terms of being able to release it so it's doing well after you release it?

If it's a big fish follow what professionals do. Texas Parks and Wildlife and U.S. Fish and Wildlife Department has a lot of expertise with that sort of thing. Usually they'll put a rope around the fish. It might take multiple people to bring them up onto the boat. We like to cover their faces with a wet towel, you know, cover the eyes so they stay calmer. But Alligator Gar are usually pretty chill once you get them out of the water. They'll calm down especially if you cover the eyes. And we like to keep them wet. Luckily they're air breathers so they don't get as stressed as maybe some more conventionally-respiring fish might get. Stay away from the mouth. You don't want to get bit. They're not going to actively come after you. Gars are harmless to people. If anything it's really the tails and the fins. That's what's gotten me over the years. Because they've got these really reinforced fin rays with bony ridges on them. So you just want to realize you've got a large animal there. If you've got the towel over their eyes it kind of keeps them calm. And with any fish, try and get them back in the water as fast as you can. They may not require as much rehabbing into the water. Usually just getting them back into the water as soon as you can is going to be most beneficial. But it depends if you're getting them back in the water or from shore. They're resilient fish, they're really tough fish. As long as you respect the animal you'll be safe and they'll be safe as well.

This is just the fisheries biology-type person asking...you did not mention electro fishing at all when you described catching these guys and I wanted to ask you about that.

For the smaller gar species we use electrofishing all the time. So that works well. So different fish respond differently to electrofishing as I'm sure you probably know. Salmon and suckers tend to respond a little bit better...salmonids. It has to do with the body shape and even the physiology of the fish. With gars, it seems like you've got a split second, maybe a second or two. I mean their skulls are so bony that you're not going to hook them the same way that you're going to hook a bluegill or a walleye. I think if you can hook them and you get them on a treble hook and can remove that hook that's great. But if they swallow it that's going to be more problematic so it really depends on the technique you're using for fishing for them.

In terms of the biology and in this case harvesting vs catch and releasing, are there any things folks should be thinking about in terms of like when they reach maturity the age of the fish, just considerations for their biology?

I think we're still learning a lot about Alligator Gars and gars in general. I think one of the things is that we're finding that our previous age estimates in many cases are off. Sometimes by a decade or more. And so our current estimates suggest that alligator gars can live for over a hundred years. We're even finding that some of the smaller species can live for 20, 30, maybe even 40 years. So that's, you know, pretty old for a fish. Alligator Gars in most situations aren't going to be sexually mature until they're about 10-11 years old so that's also a relatively long period of time before they're going to be reproducing. I think some states are doing a great job you know cutting off harvest times especially during spawning periods and so therefore it protects those fish while they're spawning because certain ways of harvesting the fish really target the large fish. I'd be remiss if I didn't talk about bow fishing when we talk about harvesting gars. That usually is going to be targeting the larger individuals. And those larger individuals are going to be our big old females that are contributing the most to a given populations. So when we remove those individuals we can be impacting negatively a population overall. And we just don't know enough about a lot of these populations to know when do we hit that tipping point where you remove so many individuals that you're starting to have an impact on that. So I think closing off those high spawning areas during the spawning season is a good way of doing it and states like Texas and Arkansas and even Oklahoma now are really making some progressive efforts in regulating harvest of Alligator Gar. And even gars in general to protect these fish.

So in some parts of the country gar have been either intentionally or unintentionally extirpated from parts of their range. Sometimes this was in an effort to improve fishing for game fish or other "more desirable species". I'm curious as a biologist/ecologist if you see any differences in those parts of the range where those gar have been extirpated compared to where they still are thriving and what kind of ecological cost there can be for extirpating a species like a gar.

That's a great question, Guy. You know if we look at the state of Illinois which AG have been extirpated from there since I think the 1960s, maybe 1950s. That was mainly due to habitat degradation but also active effort to eradicate the species. They thought they were problematic to other game species so, you know, let's wipe out the gars. However now, we're trying to make strides to bring Alligator Gar back there. So Illinois Department of natural resources is

restocking Alligator Gar in cooperation with one of the Fish and Wildlife hatcheries I think down in Missouri and also Mississippi. They're providing fingerlings to get those fish back in there. So we are trying to correct some of the mistakes that we've made in the past. Now to get to your questions, places where they haven't been extirpated. I think you're looking at—there's more gars, so they're more abundant so you're looking at areas where those populations might be more robust. There's just more of them. But also further down south more people eat gar than further up north. We eat bowfin as well. Also called dog fish, mud fish, down here we call them SHUPIK whereas further up north not as many people eat bowfin or anything like that. I think it depends on where you're at in the United States and the associated culture. I've had gar, I think it's delicious so I always promote it to anyone. If you go to Mexico and Central America they eat gar the same way we eat salmon in the Pacific Northwest. So it really depends on where you're at. And I think in those areas it's been integrated with the culture and there's definitely respect for the animals there as opposed to those areas where we decided we didn't like them or liked other animals better and focused on that. And I think now fisheries is really trying to make an effort to come around and hopefully promote and improve biodiversity by returning those extirpated species where it makes ecological sense.

[music]

I had a safety tip all ready for this week, but Dr. David knows his stuff, and I don't want to step on his toes. But since we're talking about stuff we don't want to step on, let's hear what advice the Gar Guy has about respecting Louisiana's other wildlife.

In most cases animals like the alligators and water moccasins. They're going to stay away from you. If you're wary of the animals, you know, keep your distance, just be wary of where the animals are. And try not to mess with them. Usually the snakes are going to shy away from you, the alligators are going to stay away from you. It's more when humans try to infringe on that habitat – that's when trouble starts. So I'd say, do best to keep your distance. Or as my wife would tell me when we go to some of the national wildlife preserves "stay on the boardwalk, just stay on the boardwalk...you'll be fine."

[music, cooking sounds]

Now gar is a species that I've never eaten but I was reading a report that in 2017 there's over 650000 gar landed commercially in Louisiana so obviously these fish are being sold and being eaten by down there in Louisiana. You mentioned that you've eaten gar and I'm just curious—we always do a segment on this show about how to prepare and cook these fish and I'm wondering if you could enlighten us.

I have to admit...I have definitely not been on the preparation side of the gar as much as I have been on the eating side of the gar. Which is really, given the choice, the best side to be on. Other faculty down here at Nicholls State, Dr. Allyse Ferrara and Dr. Quenton Fontenot—they prepare the best Alligator Gar that I've ever had. I've had Alligator Gar from a couple different places and usually—you can google it just for preparing gar—you need something like tin snips

and a hatchet and hammer to get through that hide...it depends on how big the fish is. For my Biology of Fishes class we dissect gars early on in the semester because we use them for other research purposes. You really get to see what it takes to get through them. And it's tin snips! It's like you're using wire cutters to get through the hide of the fish. But once you're done that they don't have many of the internal bones that you might see in [Northern] Pike or in some of the carp. So you get these two strips of meat that come off of them. Don't eat the eggs, the eggs are poisonous...no gar caviar for anyone.

No green eggs and ham?

When you say those are poisonous...they going to kill you poisonous? Or are they just going to put you on the toilet for a while?

[laughs]

Sure. I would say it's the latter. Luckily we're not looking at any incidences that I know of or that I've seen in any record of humans dying from gar toxicity. It's supposed to be as they describe: "gastrointestinal distress" and uh, so...

[laughs]

It'll put you in bad shape as far as I've heard and read. I've not experienced it myself. I've heeded the words.

What's the flesh like? Is it like a Pike?

It is. It's more like a white meat. I don't know how to determine if it's got a fishy, fishy flavor to it's got somewhat of a distinct flavor to it. It's not as mild as tilapia, which, let's face it, just tastes like whatever you're cooking it in. It's a white meat and it's relatively flaky. I think it's delicious. You do get these decent chunks of meat. Some people make them into gar balls. It's almost like a meatball that's just gar and you can put them into what we call a sauce picante. Sometimes they just fry them up. There's a lot of different ways to eat gar. In Mexico I've had them in empanadas, tamales, You can roast them on the fire. You're talking about a fish that has persisted since the late Jurassic period. They're valuable to ecosystems, but on top of that we can eat them too, so I think there's a lot of applications there.

In terms of eating an Alligator Gar is it better to eat a younger gar, an older gar, is there a difference between the sexes?

What I've heard is that those larger fish probably taste different, maybe not taste as good as some of the younger medium sized fish. Here in Louisiana and Texas they'll harvest large Alligator Gar and you can buy the fillets or you can order them. Usually those are regularly available. However as with any large fish or large predator, you've got to take into consideration mercury accumulation, PCBs that sort of thing. So I think the general

recommendation is to not eat those larger individuals. And I think another ecological factor to take into account is that those larger individuals that are contributing to the populations. They're the healthier individual we think about fecundity and those sorts of things. It works both ways. We as humans consuming the smaller or medium sized individuals, letting the big ones do their thing, and not risk the mercury and other potential contaminants. There are folks in Texas I know who are looking at mercury contamination in gars so hopefully we'll learn more about that in the near future.

Solomon it's been awesome having you on the show today. We thank you so much.

This has been great.

Thanks Katrina and thank Guy for having me and hopefully we'll have you all down here for real in LA some time we can get you on some far.

That'd be awesome.

We'd like to thank Dr. Solomon David for hosting us on our virtual spring break excursion to Louisiana! We look forward to seeing everyone back in Alaska for next week's fish, and all the fish!

[music]

Thanks for listening to Fish of the Week!

My name is Katrina Liebich, and my co-host is Guy Eroh. Fish of the Week! is produced by David Hoffman of Citizen Racecar, assisted by Garrett Teidemann and Kelsey Kohrs. Fish of the Week is a production of the US Fish and Wildlife Service, Alaska Region, Office of External Affairs. As the Service reflects on 150 years of fisheries conservation, we honor, thank, and celebrate the whole community – individuals, Tribes, the State of Alaska, sister agencies, fish enthusiasts, scientists, and others – who have elevated our understanding and love, as people and professionals, of all the fish.