

2017 Lake Huron Predator Diet Study

We need diet information from angler-caught predators during 2017. This is an important year. In offshore waters, there will be very few alewife, some rainbow smelt, but chubs should be abundant. We are also interested in the role that round gobies serve in the Lake Huron foodweb, because they were abundant in diets from the previous study that anglers helped conduct in 2009-2011 and appear to be a dominant benthic prey species. Our goal is to learn how predators are responding to this novel forage base. Offshore, lake trout are continuing to reproduce naturally, and show signs of recovery. The 2009-2011 diet study showed high consumption of round goby by lake trout. In Saginaw Bay, we have a growing walleye population and we want to estimate their predatory demand, especially on yellow perch. We are asking anglers to freeze stomachs from the fish that they creel, because angler caught fish are the only way we can get data this year from Michigan waters.

Angler caught fish are great sources of information. Potential biases are accounted for in the analysis. However, there is one bias that can ruin a study. When you fish, we need you to decide before you go out if this will be a day that you will collect stomachs. Then collect stomachs from all fish you keep whether they are full or empty. It will hurt the study if you decide to collect data only when you perceive something interesting or unusual. What we need are data from all the fish you catch on a trip regardless of what they did or did not eat.

It is very important to keep samples cold to slow digestion until it can be stopped by freezing. Carry plenty of ice. Keep captured fish on ice, and it helps to keep stomachs on ice until you can get to a freezer. Otherwise even freshly consumed prey may be well digested by the time you get home. This increases the proportion of unidentifiable prey in the study and reduces our ability to determine how predators are responding to changes in the forage base. Think COLD!

Instructions: When you clean fish, place the entire stomach in a plastic bag, fill out the tag and place it inside the bag. Use a pencil so the writing will not bleed. Add a little water to prevent freezer burn, and then freeze it.

There may be cases where prey fall out of the stomach, or aren't in the stomach. If fish regurgitate prey, the stomach spills open, or there is a prey fish tail sticking out of the mouth, save it anyway but try to be as complete as you can.

How to fill out the tags:

Species: Record the species you caught.

Chinook Salmon – CHS

Lake Trout – LT

Atlantic Salmon – ATS

Pink Salmon – PS

Coho Salmon – COHO

Steelhead - STEEL

Walleye – WAE

Length: Measure total length in inches, mouth closed, tail pinched.

Putting the fish over a yardstick is the best way, but a tape measure works fine.

How to fill out the tags continued:

Location: Record location on the tag, and you can write on the back. Be as specific as you can. A good way to do this is to record the distance and direction from a recognized port, e.g. "8 miles NE of Port Austin". You could also record the feature you were fishing, e. g. "Merkle Reef ' or "Sturgeon Point". Be sure to note if you were fishing in inner or outer Saginaw Bay. The inner bay is inside a line running from Point Lookout to Sand Point; the outer bay border would be a line running from Au Sable Point to Point aux Barques.

Depth: If you can, try to record the total depth and the depth below the surface where the fish was captured. It may be hard to do this, but it provides much useful information about the food being eaten.

Frequently Asked Questions (FAQ's)

Why should I do this?

There is consensus among the biologists that predator diet information is important, and needed. It is logistically impossible for us to get the sample sizes we need from Lake Huron. Even if we had the ability to put all our boats on the water with gill nets, we could, at best, sample only limited locations at specific times. This is the best way to get predator diet data from the entire lake (north to south) and across the fishing season. It is also a way for anglers to make a difference and participate directly in efforts to better understand Lake Huron.

What species should I save?

Chinook (king) salmon, coho, Atlantic salmon, pink salmon, lake trout, and walleyes.

Do you need the whole fish?

No! We only want a bag with the stomach and the tag.

I caught a fish whose stomach was too full for a single one quart bag. What do I do?

Open it up and divide the stomach contents among bags. Duplicate the information on the tag, and make a note on the tag that there are multiple bags per fish. A good way to do this is to write 1 of 2, 2 of 2, etc.

I caught a fish that was obviously empty. Do you really want it?

Empties are important! The fish that are not eating can tell us a lot. So save all stomachs whether they look empty or full.

I caught a fish that looked like it ate a bunch of beetles. Do you still want it?

Yes. Fish with unusual diets are just as important as those with traditional diets.

How will I get the fish to you?

We will pick them up, or you can drop them off with volunteers, or at strategically placed freezers (see attached list of drop off locations). Michigan DNR creel clerks are also assisting with sample collections, and you can give samples to them.

I only fish once or twice year. Should I participate?

Absolutely! Every fish we can get adds to the database. The three lake trout and two walleyes you give us may be the only samples we get from that location at that time. As long as you are following the protocol, your data are valid and important.

We caught so many fish that there was not time to collect stomachs from all of them. What should we do?

Divide the catch in half, and flip a coin to randomly select the group that will be processed. Any sort of truly random sampling can be used to sub-sample. Just don't pick all the big ones, all the small ones, or the ones that look like they have eaten.

We had a power failure and the stomachs thawed for a couple of hours. Are they ruined?

Probably not. The contents will be harder to work with, and the prey may be more difficult to identify, but they are likely to be useful.

Are USGS and MDNR collecting fish?

We will visit several tournaments. MDNR creel clerks will help out as well. However, a study like this was done before in the 1980's and 2009-2011 when most of the fish came from anglers and charter captains!

What if I run out of tags or bags?

Call Ed Roseman at 734-214-7237 or email eroseman@usgs.gov to request more. Be sure to include your full mailing address and zip code. We will mail you more.

How will I be informed about results?

We will develop an email contact list and provide updates of our progress throughout the season. The data will be analyzed during the fall and winter, and results will be presented at the various meetings and workshops held during 2017-2019.