

“What do the spearers do with the fish?”

Ryan Koenigs – Winnebago System Sturgeon Biologist, February 23, 2019

I often field questions about what spearers do with the fish after they are registered. Are they consumed? Are they mounted? How contaminated are the fish? The list goes on, but I hope to address some of those questions in today’s vignette. For starters, it’s important to know the regulations associated with possessing a sturgeon. When a spearer purchases a license and harvests a fish, they take that fish into their personal possession. The spearer can gift parts of the sturgeon (flesh, eggs, the head, etc.) to others, but they CANNOT sell or barter any part of the fish. There is not a legal market for sturgeon flesh or caviar from lake sturgeon in Wisconsin, so there cannot be any money exchanged for sturgeon flesh or roe. It is legal for someone to charge a processing fee for cleaning a sturgeon or processing the roe into caviar, similar to paying someone to clean a deer. However, the processor and spearer cannot work out a barter agreement or payment schedule where the processor is purchasing the roe or flesh from the spearer.

Are the fish contaminated?

Lake sturgeon are long lived bottom feeders, which can make them susceptible to accumulation and potential adverse impacts from exposure to environmental contaminants such as PCBs and Mercury. In addition, such exposure may result in contaminant levels necessitating advisories limiting the consumption of the meat. However, the WDNR has tested numerous species of fish within Lake Winnebago and the Winnebago system (including lake sturgeon) and levels of contaminants in all species are very low and below any concentration that would warrant an advisory. As such, there are no site-specific consumption advisories for any species in Lake Winnebago or the Winnebago system. All fish species from the Winnebago system fall under the general statewide consumption advisory that can be found at: <https://dnr.wi.gov/topic/Fishing/Consumption/>.

Are the fish mounted?

Some of the harvested fish are used for taxidermy purchases, but it’s probably less than 5% of the fish that are harvested. Typically, it’s the smaller or very large fish that are mounted. There are many taverns around the Winnebago System that have lake sturgeon mounts within their establishment. In fact, the mount of the current state record lake sturgeon (212.2 pounds, 84.2”) is on display at an establishment along the north shore of Lake Winnebago.

Are the fish consumed?

This is a resounding yes as most fish are consumed by the spearer and their spearing group. Sturgeon are mostly common prepared as fried (pan or deep fried) or smoked. I've had the pleasure of having smoked sturgeon on a few occasions, including the fish that I harvested last season, and I believe it's some of the best smoked fish you could have. The meat is firm and contains plenty of fat that keeps the meat moist during the smoking process. When smoking sturgeon, spearers typically soak the fish in a basic saltwater brine that involves adding enough salt to float an egg. The process of frying sturgeon is like frying just about any other fish species. The meat is cut into pieces of desired size, breaded in the cook's choice of breading (some people have homemade recipes) and then fried in oil. Through the last decade, I've heard of many other recipes for preparing sturgeon though. I've included a few of these recipes in today's report including: 1) cheesy sturgeon chowder, 2) sturgeon kebabs and 3) sturgeon head soup. Yes, you read correct, I said sturgeon head soup! I have heard talk about sturgeon head soup since I started with the DNR in 2008, but I can honestly say that I didn't take it very seriously until a recent conversation that I had with Betsy Krizenesky, who provided a couple of the recipes for today's report. Betsy and her friend Boris Ogurtsov have made sturgeon head soup before and have been generous enough to share a recipe. They mention in the recipe that this is for those that are "truly adventurous!"

Most sturgeon that are harvested during the spear fishery are either males or non-gravid females (Fv, F1, F2, or F6) that are not carrying black roe that can be turned into caviar. However, there are F4 sturgeon harvested each season, meaning that they have mature roe that can be processed into caviar. Again, the roe can not be sold or bartered, but the spearer can process the roe themselves or could pay a processing fee to have someone else process the roe. I have included a recipe for processing the roe at the end of the vignette.

Conclusions:

Today's vignette has been one of the more enjoyable ones for me to write. There are quite a few misconceptions about the sturgeon spear fishery. One example is that most of the fish harvested go to waste and sturgeon are found all over in ditches and dumpsters around the Winnebago System area. I grew up in the area myself and through my personal and professional experiences I've seen firsthand that this is not the case. Most sturgeon spearers are passionate about this sport and have great respect for the fish. A successful spearer almost always has a smile on their face at our registration station and they value the fish that they harvested. I hope you've enjoyed today's vignette!

CHEESEY STURGEON CHOWDER

1 - POUND VELVETA CHEESE
½ - POUND OF BUTTER
1 - CUP FLOUR
CHICKEN BASE TO TASTE 2-4 OZ
2 - TEAS. OF GARLIC POWDER
¼ - TEAS. OF CAYENNE PEPPER
¼ - TEAS. OF WHITE PEPPER
2 - TEAS. OF ONION POWDER
½ - OUNCE OF PARSLEY FLAKES
¼ - ½ POUND OF CUT PRECOOKED CARROTS
1 ½ - 2 POUNDS OF SAUTE'ED STURGEON
½ - GALLON OF MILK

CUT STURGEON INTO BITE SIZE PIECES AND COOK
OVER MEDIUM HEAT IN BUTTER AND A LITTLE
SALT

IN A LARGE DOUBLE BOILER HEAT THE MILK AND
CHEESE UNTIL MELTED, STIRRING FREQUENTLY,
USE A LARGE WISK

CUT THE CARROTS AND BOIL THEM UNTIL TENDER

MEANWHILE IN A FRY PAN OVER LOW HEAT MELT THE BUTTER
BLEND IN THE FLOUR, THEN COOK ON MEDIUM TO MEDIUM HIGH UNTIL IT IS
SMOOTH AND BUBBLY, COOK ANOTHER 2 - 4 MINUTES CONSTANTLY STIRRING

GRADUALLY WHISK THE FLOUR AND BUTTER MIXTURE INTO THE MILK AND
CHEESE, STIR UNTIL THICKENED. THEN STIR IN THE SPICES, ADD THE
CHICKEN BASE TO TASTE (BECAUSE OF THE SALT IN IT).

ADD THE PRE COOKED STURGEON TO THE SOUP MIX ALONG WITH THE
CARROTS.

SIMMER AND STIR OCATIONALLY FOR 5 -10 MINUTES OR LONGER IF DESIRED. (TO
AVOID BURNING TO THE BOTTOM OF THE POT YOU SHOULD USE A DOUBLE BOILER)

MORE MILK MAY BE ADDED IF THE SOUP IS TOO THICK.

YOU MAY ALSO ADD OTHER VEGETABLES OF YOUR CHOICE

Sturgeon Kebabs

By Betsy Krizenesky

Serves 4

1 medium onion, peeled and minced or grated
1 tsp salt
½ tsp black pepper
1 large bay leaf
1 large lemon, sliced
¼ cup vegetable oil (anything but soybean oil)
2 pounds sturgeon, cut into 2 inch chunks

In a medium bowl thoroughly mix everything together. Cover and marinate for 2-6 hours in the fridge.

Thread sturgeon loosely onto skewers and grill over medium heat, turning after about 4 minutes and grill about 4 minutes more. Check for doneness with a sharp knife. Serve immediately with tartar sauce or if you can get it, drizzle with pomegranate molasses, which is tart and sweet.

Sturgeon Head Soup

By Boris Ogurtsov

For the truly adventurous!

1) **Thoroughly** scrub all algae off of **one sturgeon head** with a clean, stiff brush. This may take a while so be patient. Cut away the neck meat that you can easily get to, cut into 2 inch chunks and set it aside.

2) In a large kettle bring **one gallon of water; two whole, peeled onions; two whole large carrots, cut lengthwise; one whole celery rib; one teaspoon whole, black peppercorns and one tablespoon of dill seeds** (Put into a tea ball or tie in piece of cloth so you can remove them easily)** to a boil. Turn down and simmer, covered, for at least 10 minutes while you cut up the head. **NO salt at this point.** **The dill seeds seem like a pain to deal with but they affect the flavor very positively.

3) In the meantime, cut up the head (including the scutes/bony plates and skin) into pieces about the size of your palm. Discard any large pieces of fat, the eyes and the gills.

4) With a large spoon remove and discard the vegetables and dill seeds from your simmering broth.

5) **Into the simmering broth**, lower all of your chunks of cut up head except the neck meat that you set aside earlier. Add **one bunch of whole, fresh parsley stalks and leaves**. Bring to a boil again, skim off any foam that rises to the surface, then turn down to a TINY simmer and cook, covered, 40-60 minutes.

6) At this point things should be falling apart in the kettle. Remove all solids and discard everything except the chunks of sturgeon flesh. Cut them up and set aside. If you like, you can strain the broth at this point.

7) **Now you are almost done!** To the simmering broth, add the chunks of **neck meat** that you set aside in the beginning, **a handful of chopped parsley leaves; one medium onion, minced; three sliced carrots; the cooked meat from the broth; one tablespoon of salt or to taste and ¼ cup of vodka**. Simmer for about 5 minutes or until the fish is cooked through.

8) Ladle into soup bowls and enjoy!

Home Processing of Lake Sturgeon Caviar

by Betsy Krizenesky

Equipment needed:

Plastic colander with small square or rectangular holes (these are usually used for draining pasta and are available at most grocery stores)

Medium soup kettle that will hold the colander above the eggs

Large, fine sieve for rinsing (make sure it is stainless steel, not aluminum)

2 large bowls, stainless steel, ceramic or plastic (not aluminum)

Thin gloves (available at drugstores in the diabetic supplies area)

Large kitchen scale for weighing roe

Small, accurate kitchen or postal scale for weighing salt

Measuring cups (1/2 cup and/or 1 cup, depending on your jar size) and butter knife for leveling amount in cup

Wide-mouth funnel for filling jars

Small canning jars, 4-ounce or 8-ounce. Each pound of rinsed, salted caviar is about 16 fluid ounces, thus occupies 4 of the 4-oz or 2 of the 8-oz jars.

Plain salt, sometimes called pickling salt, available at grocery stores. Do **not** use iodized, kosher, sea salt or popcorn salt, as they all have various anti-caking agents that you don't want in your caviar. And check the label of your "plain" salt for additives. Ideally this gets ground in a food processor before use for ease of mixing.

Process:

After you get your fish: carefully remove the eggs being careful to keep them clean, and especially keeping them from mixing with blood or other fluids, damaged tissue, or released stomach contents that may be in the body cavity. Place clean eggs in zip lock bags and keep them cold, but do not allow them to freeze. Also, it is best to process your eggs as soon as possible after removal – at least within the first 12 hours or so.



Once you have your eggs:

Balance your plastic colander over the stainless steel soup kettle. Wearing thin gloves grab a good handful of the roe mass and gently rub it against the curved insides of the colander. If there are blood clots in the roe mass, try to pick them out before pushing the eggs through the colander. The eggs are surprisingly resilient and will drop through, leaving a pinkish-yellowish mass of ovarian membrane in your hand.



Discard this, even if it still has a few eggs in it. As you work your way through the mass of eggs, periodically tap the colander upside down to get rid of the pieces of ovarian membrane that have collected on the sides. Using the coldest possible tap water, quickly rinse the roe in the fine sieve in 2-cup batches until the water runs clear (30-60 seconds). Swirl in the sieve several times to drain. Weigh all the roe. Using your hands, gently mix in .4 (four-tenths) ounce (by weight) of plain salt per pound of rinsed roe. Stir with hands



until the mass begins to give off a little foam. Measure salted eggs into clean jars with 1/4 inch headroom and store in the coldest part of your fridge, no more than 4 weeks. The caviar should cure for a few days before reaching its prime. After letting it cure, freeze what you don't expect to eat within a month. It keeps in the freezer well for 9-12 months.

Notes: this recipe uses **considerably less salt** than the typical local recipe but is an adequate amount for food safety (2.5%). You can actually taste the caviar this way, instead of eating a "fishy salt lick", as one non-caviar lover has said. The recipe also involves **freezing**, which is what many commercial producers do. The texture suffers a little bit but the flavor does not. The last thing that is different from the typical local recipe is that the roe is **rinsed**. The common precaution against contact with water applies only to ovulated roe, which is what you find in a female that is within days of spawning. This should not be an issue for local fishermen, as the spawning season is in the beginning of February, a good 8-10 weeks from spawning. Good luck and enjoy!