





# Black Gold

Curated by

Darren Houser & Ryuta Nakajima

Foreword

Don Schreiner

Cover Design

Lindsey Schmitt

**Welcome to the Lake Sturgeon Zine!** A zine is an unconventional booklet produced by artists, authors or others motivated by a desire to express something. Zines, being self-published, epitomize the DIY culture. This Lake Sturgeon Zine emerged from a collaboration to raise awareness about Lake Sturgeon rehabilitation in the St. Louis River, a tributary to Lake Superior. This zine also functions to foster communication among artists, scientists and citizens interested in conservation.

### **Why Lake Sturgeon?**

A fish of legends, caviar and intensive management, Lake Sturgeon, *Acipenser fulvescens*, are one of the oldest fish species in North America. Today's Lake Sturgeon, lurking in large rivers and lakes primarily in the Mississippi River, Hudson Bay and Great Lakes basins, descended from similar fish that swam with aquatic dinosaurs 136 million years ago. The species has and continues to be an important part of the Great Lakes fish community. Abundant until the mid-1800s, many populations of Lake Sturgeon were depleted or eliminated through overfishing, habitat loss, damming and pollution. Now, many U.S. states within the species' original range list Lake Sturgeon as threatened or endangered.

### **Lake Sturgeon Facts**

The life history characteristics of Lake sturgeon are unique with respect to other fishes:

- They can live a long time. Typical females live 80-150 years; typical males live 55 years.
- They are slow to mature. Females generally reach sexual maturity between 24-26 years old; males generally reach sexual maturity between 8 to 12 years old.
- A fish might spawn once or twice a decade. Females spawn only once every 4 to 9 years; males spawn every 2 to 7 years.
- They can be huge! Some have grown to 8 feet long and weigh over 300 pounds.
- Growth rates vary depending on water temperature, food availability and water quality.

### **History of Humans and Lake Sturgeon in Great Lakes and St. Louis River**

Native Americans once used sturgeon meat for food, sturgeon skin for leather, and sturgeon bones for hooks and small tools. Lake Sturgeon were so important to many of the tribes that they settled in areas where they knew the fish spawned. When spawning sturgeon congregated in rivers, especially below falls or where the water was relatively rapid and constricted, tribe members would use spears and nets to harvest as many as possible.

European settlers used sturgeon much like the Native Americans but additionally made sturgeon swim bladders into isinglass (an aspic for pottery cement, and used for waterproofing). In the mid-to-late 1800s, as people, cities and industries expanded around the Great Lakes and elsewhere in the Midwest, water quality, aquatic habitat and Lake Sturgeon populations plunged to dangerously low levels.

The decline of Lake Sturgeon was especially severe in the St. Louis River. Buildings and industries congregated around the St. Louis River Estuary, releasing pollutants to the water through runoff and, before it became illegal, by directly dumping waste into the river. After construction of the Fond du Lac Dam in 1924, the sturgeon's spawning grounds became altered and restricted. In the wake of these multiple stressors, Lake Sturgeon all but vanished from the St. Louis River.

### **Lake Sturgeon Rehabilitation Efforts in the St. Louis River**

When the Clean Water Act was passed in 1972, the St. Louis River began to flow with cleaner waters. To restore both Lake Sturgeon and Walleye spawning habitat, the Minnesota Department of Natural Resources began working with Minnesota Power to control flows over the Fond du Lac Dam. Wisconsin and Minnesota Departments of Natural Resources along with the Fond du Lac Band began to reintroduce lake sturgeon in the western arm of Lake Superior. They stocked sturgeon for 14 years, until 2001. They also created additional spawning habitat by placing rocks and boulders downstream of the Fond du Lac Dam hoping that the reintroduced sturgeon would be inspired to reproduce there.

A team of Fond du Lac Band biologists had a “Eureka!” moment in 2011. They found four tiny sturgeon (fry) in the river, evidence that sturgeon had naturally reproduced. Since then, Lake Sturgeon continue to spawn in the St. Louis River and new monitoring programs will continue to track their success. Through the development and distribution of the Lake Sturgeon Zine we are happy to celebrate this exemplary conservation effort with you.

References include:

The University of Minnesota Sea Grant College Program

The Minnesota Department of Natural Resources

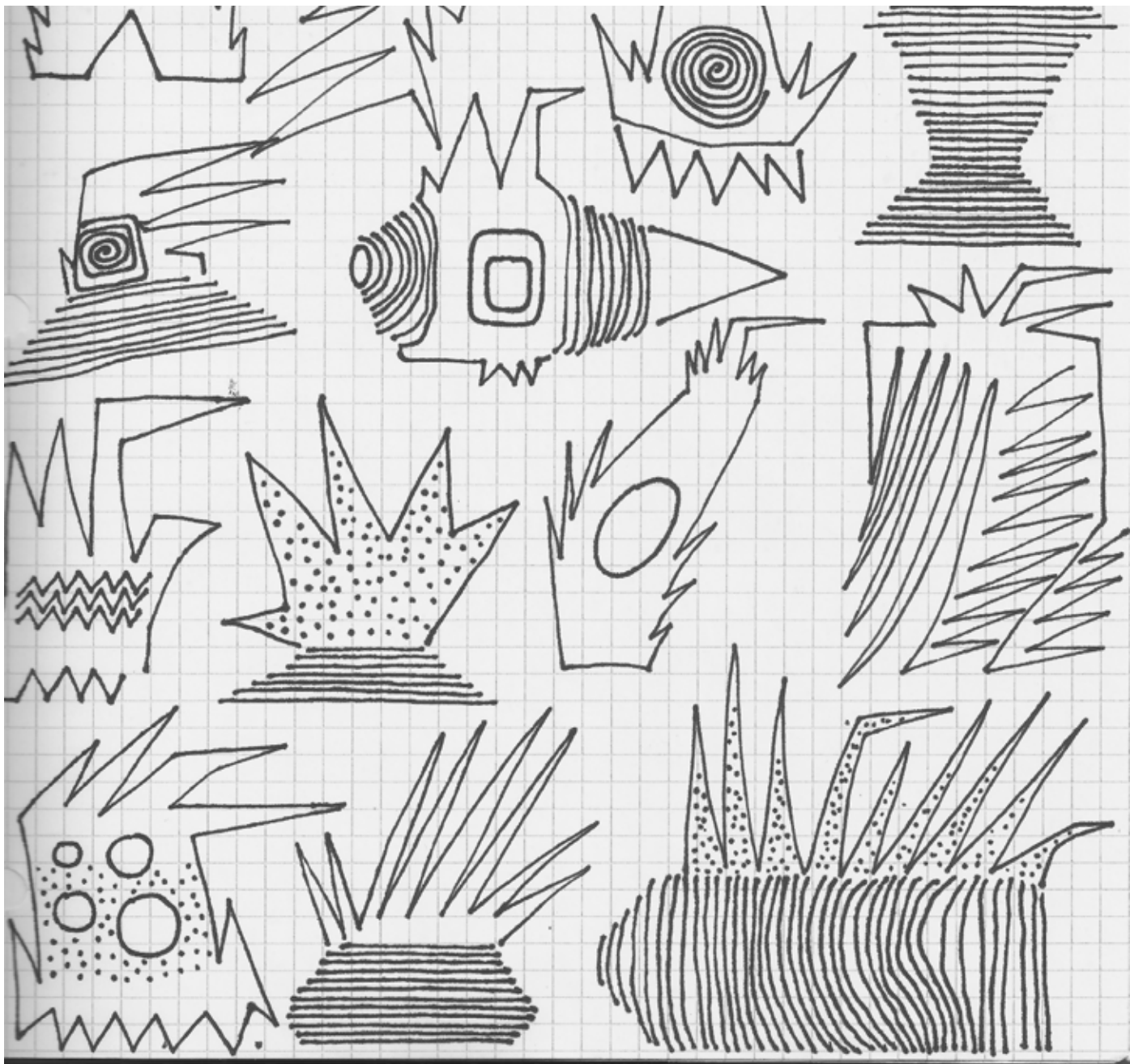
The U.S. Fish and Wildlife Service



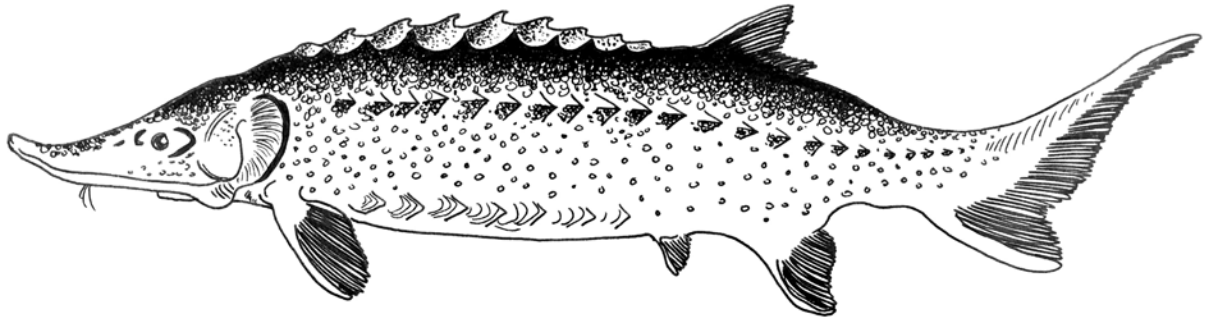
Keith Larson | Minneapolis MN



Cassie Marie Edwards | Madison WI | <http://www.cassiemarie.com>

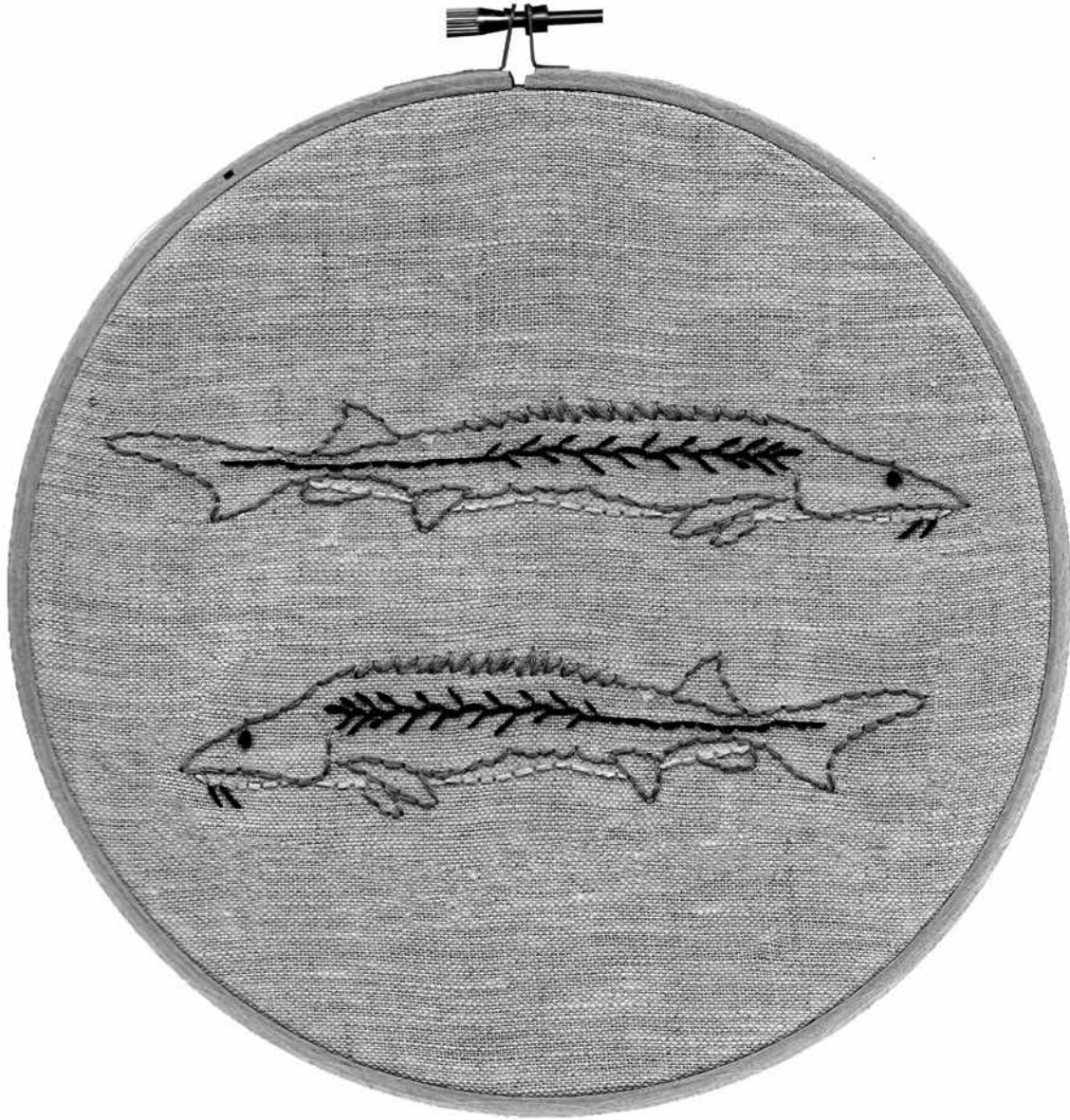


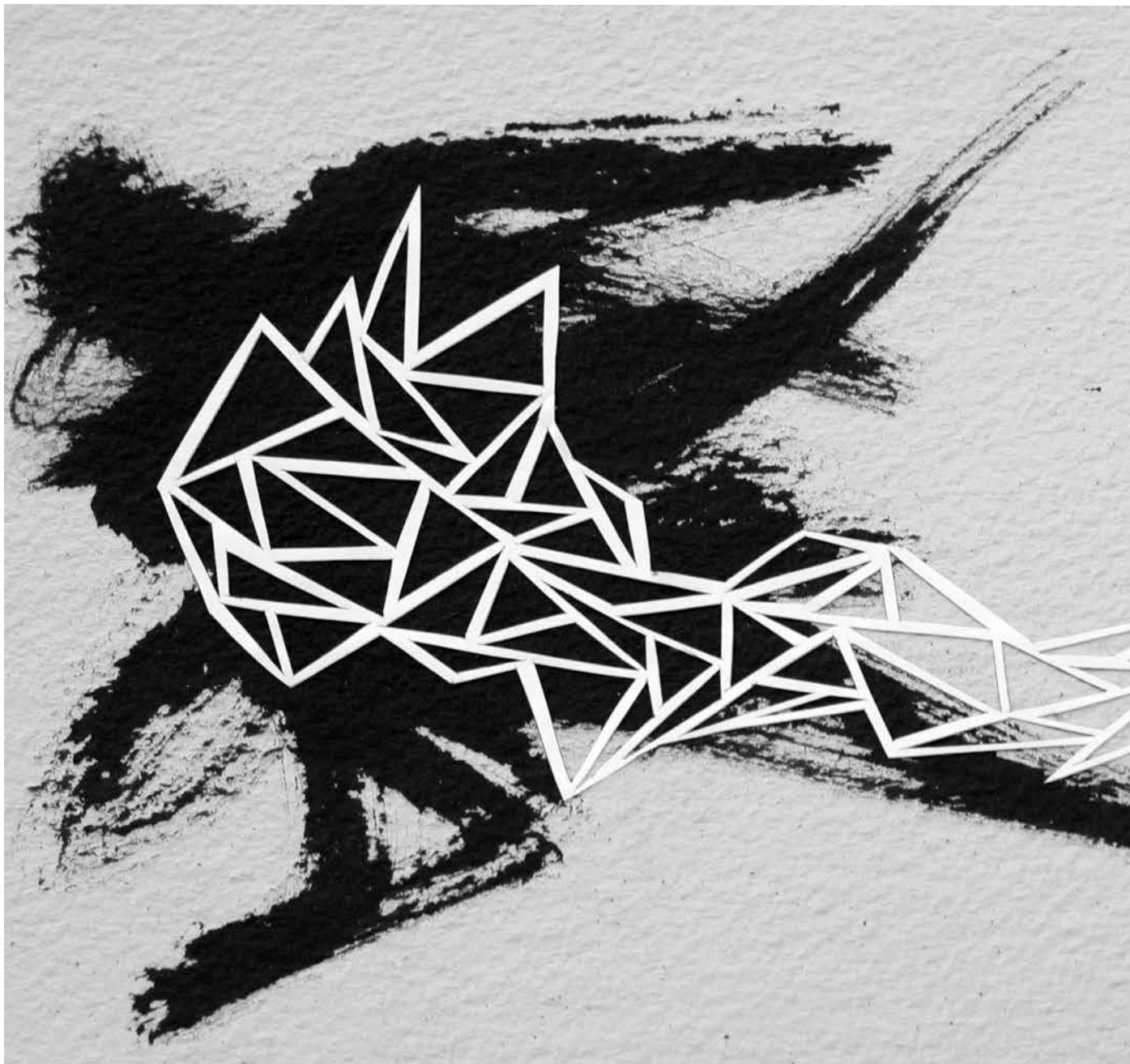


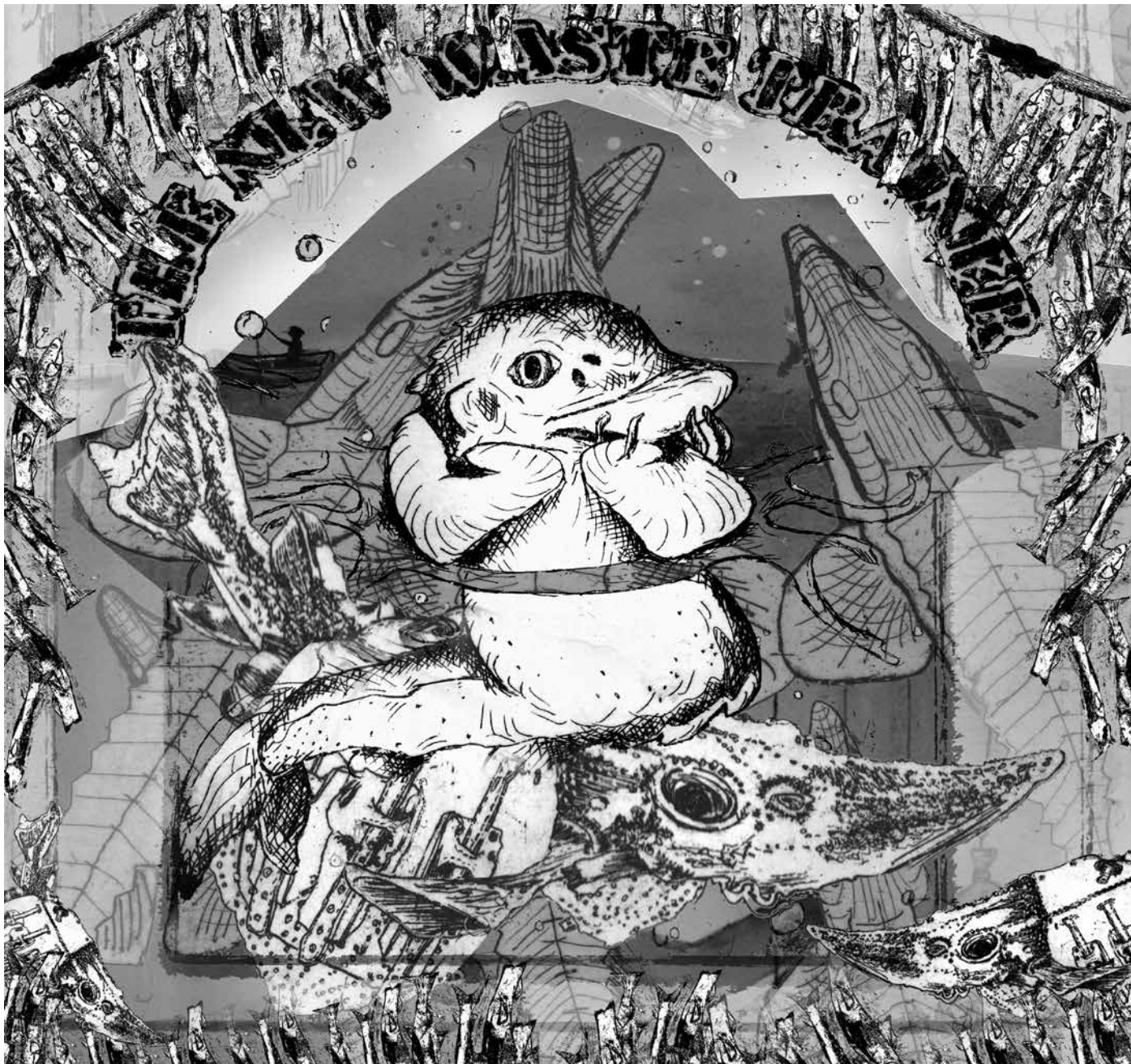


happy larvae for  
hungry sturgeons









Meghan O'Connor, Katie Brezina, Emily Heermann, Hope Pederson, and Briley Weise | Detroit MI



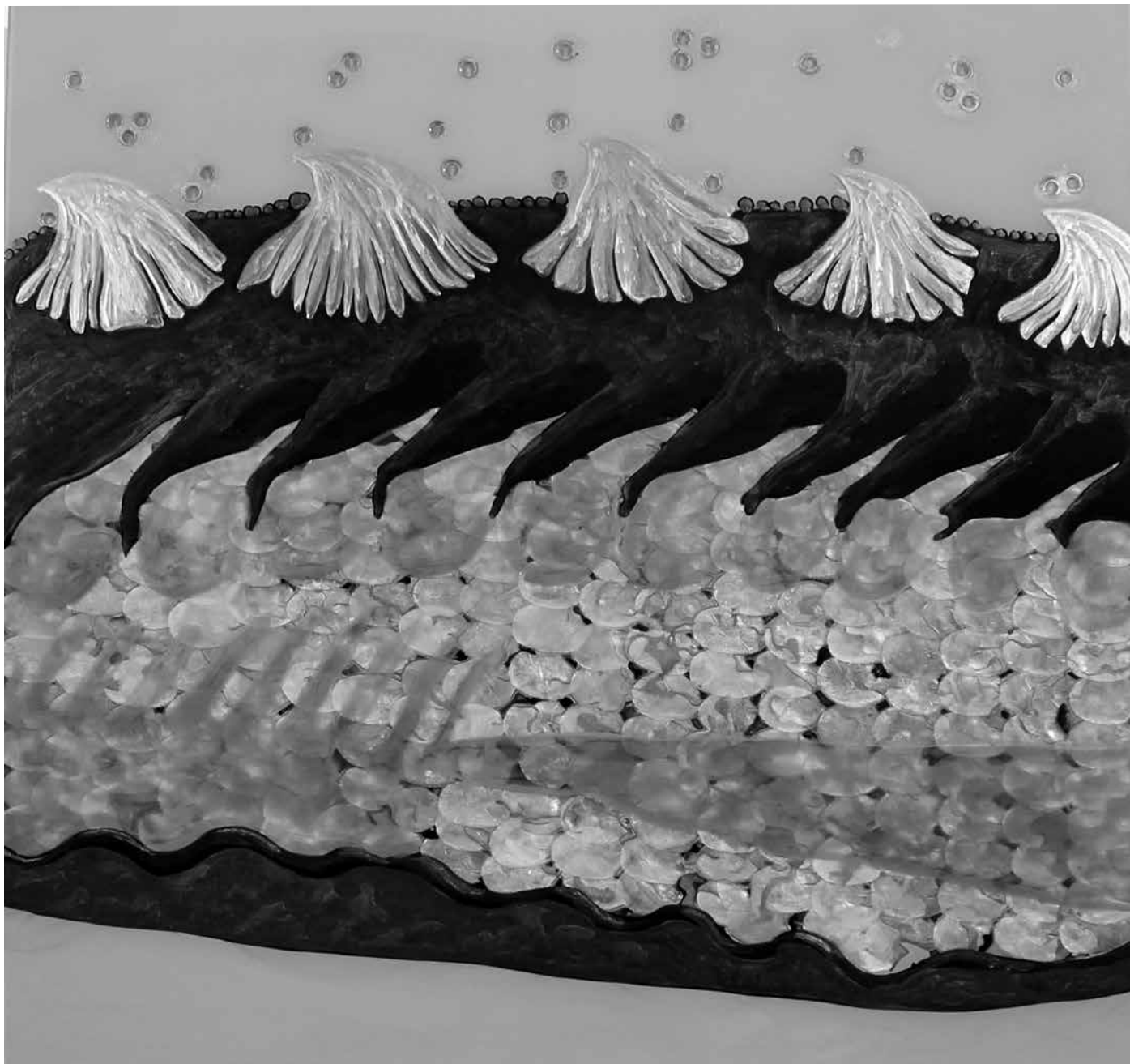
Nelli Clay | Nashville TN | <http://www.nellieclaymusic.com>

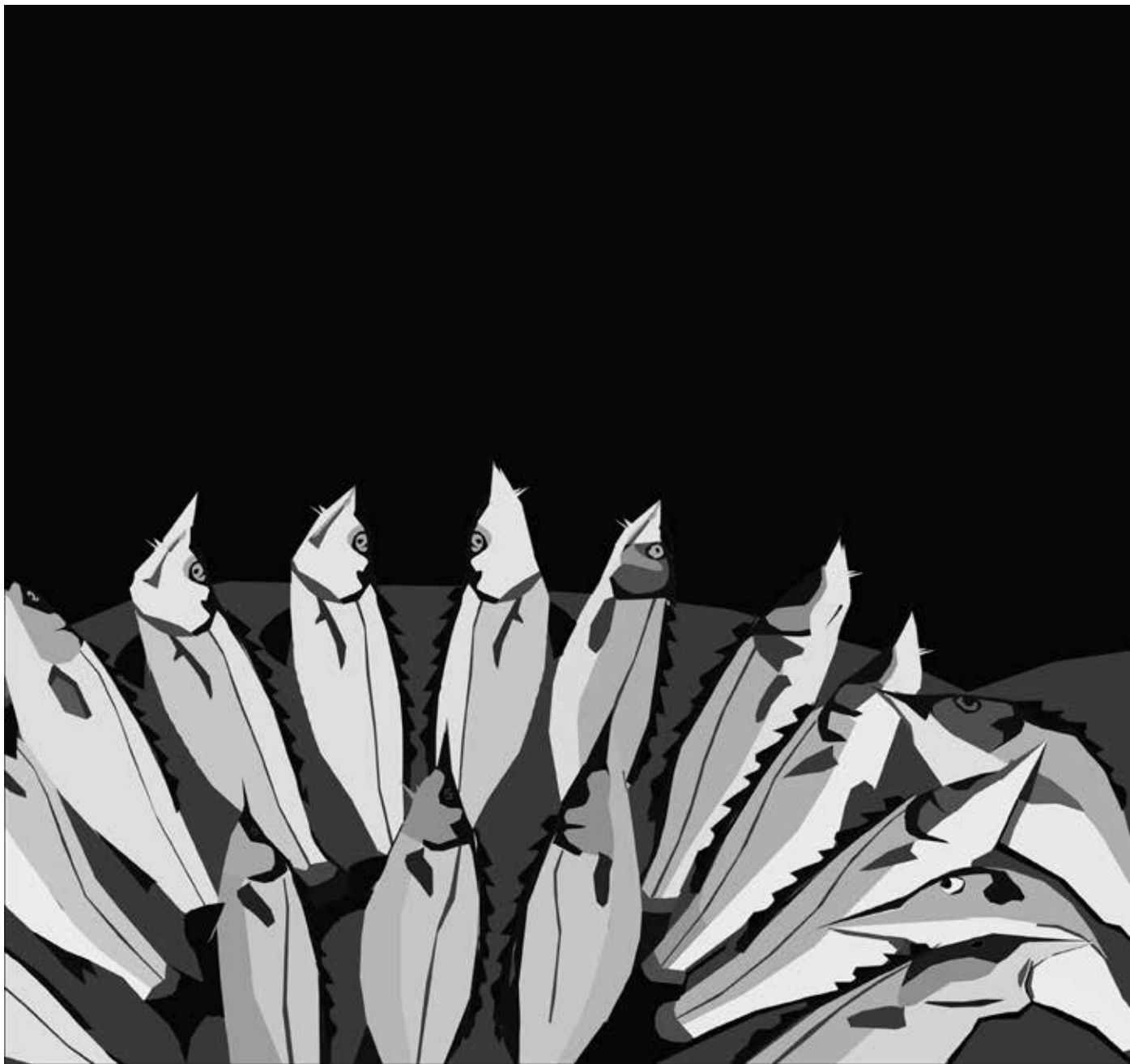


Pamela Valfer | Los Angeles CA | <http://pamelavalfer.com>



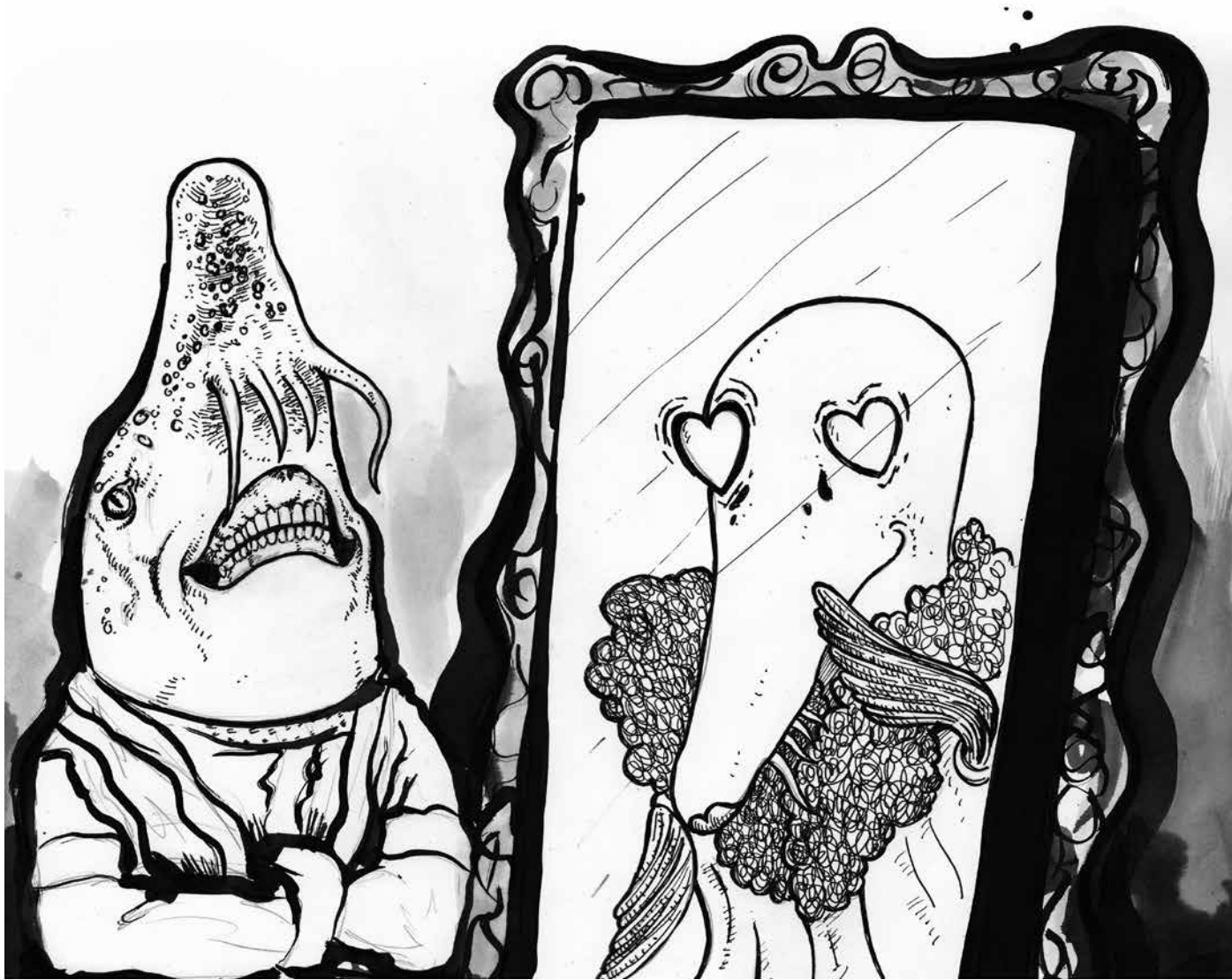


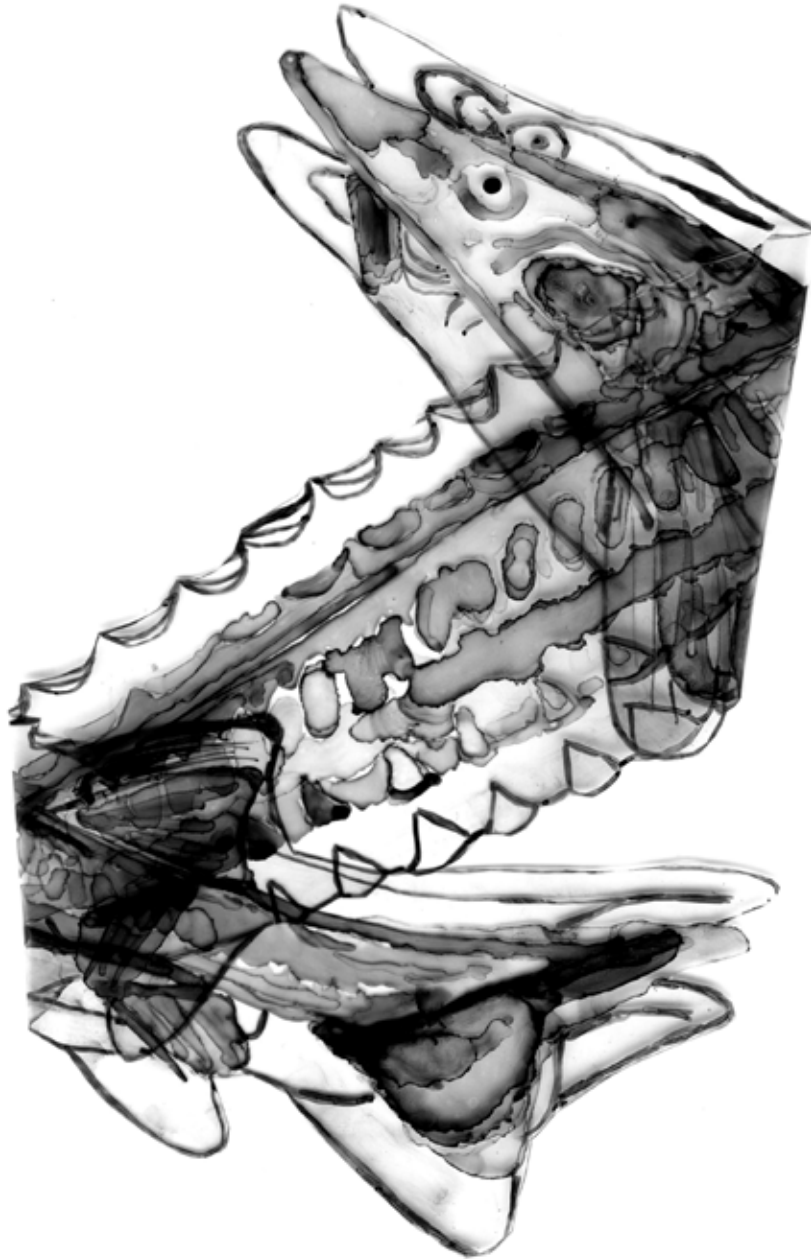




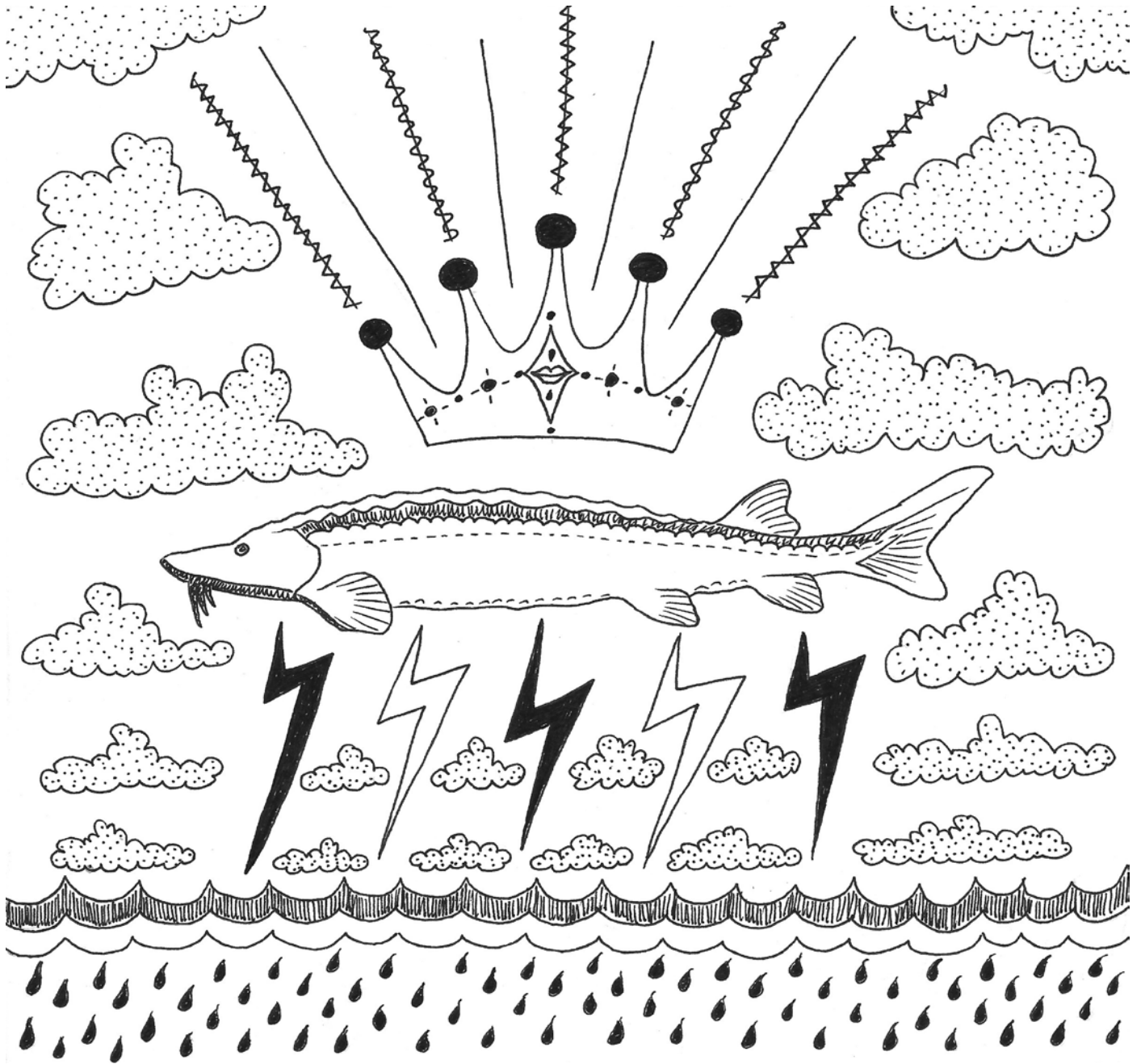
Brit Erenler | Duluth MN

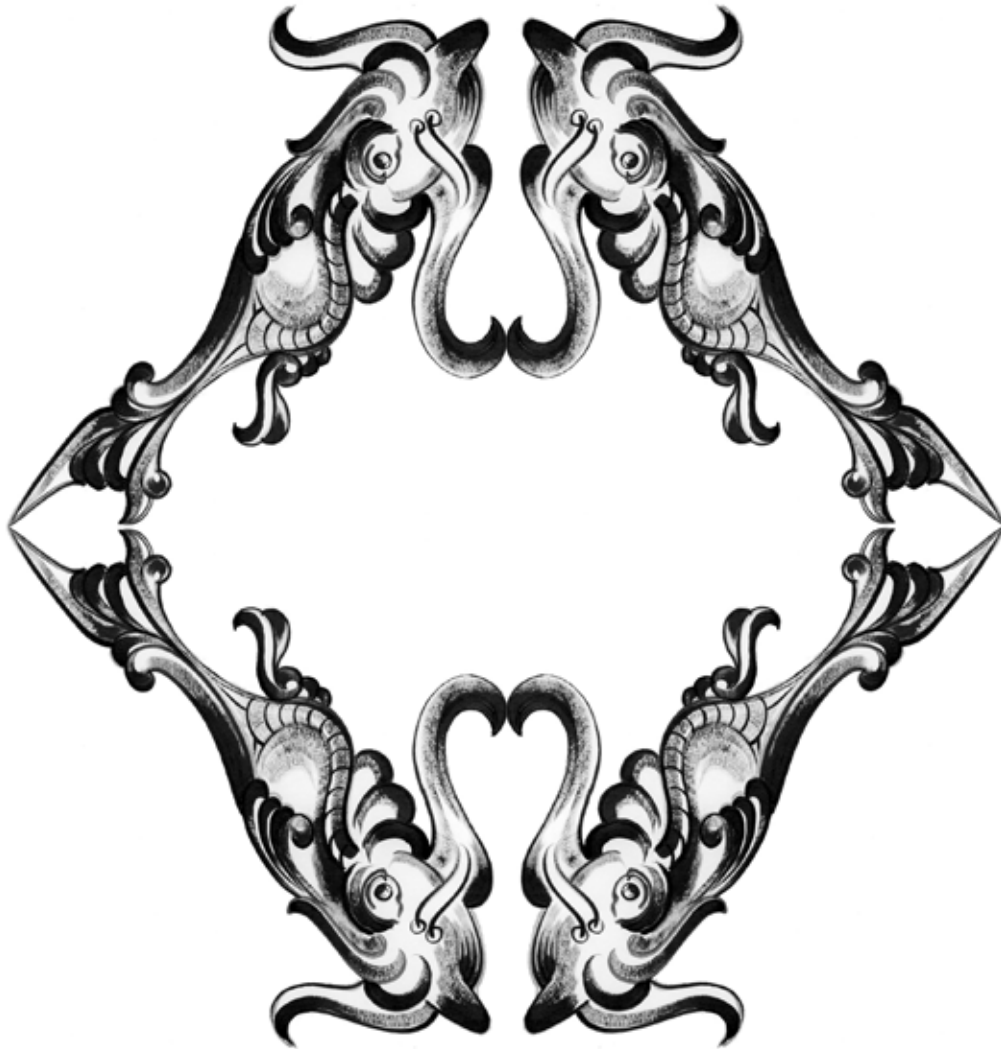






Samantha Corbett | Syracuse NY





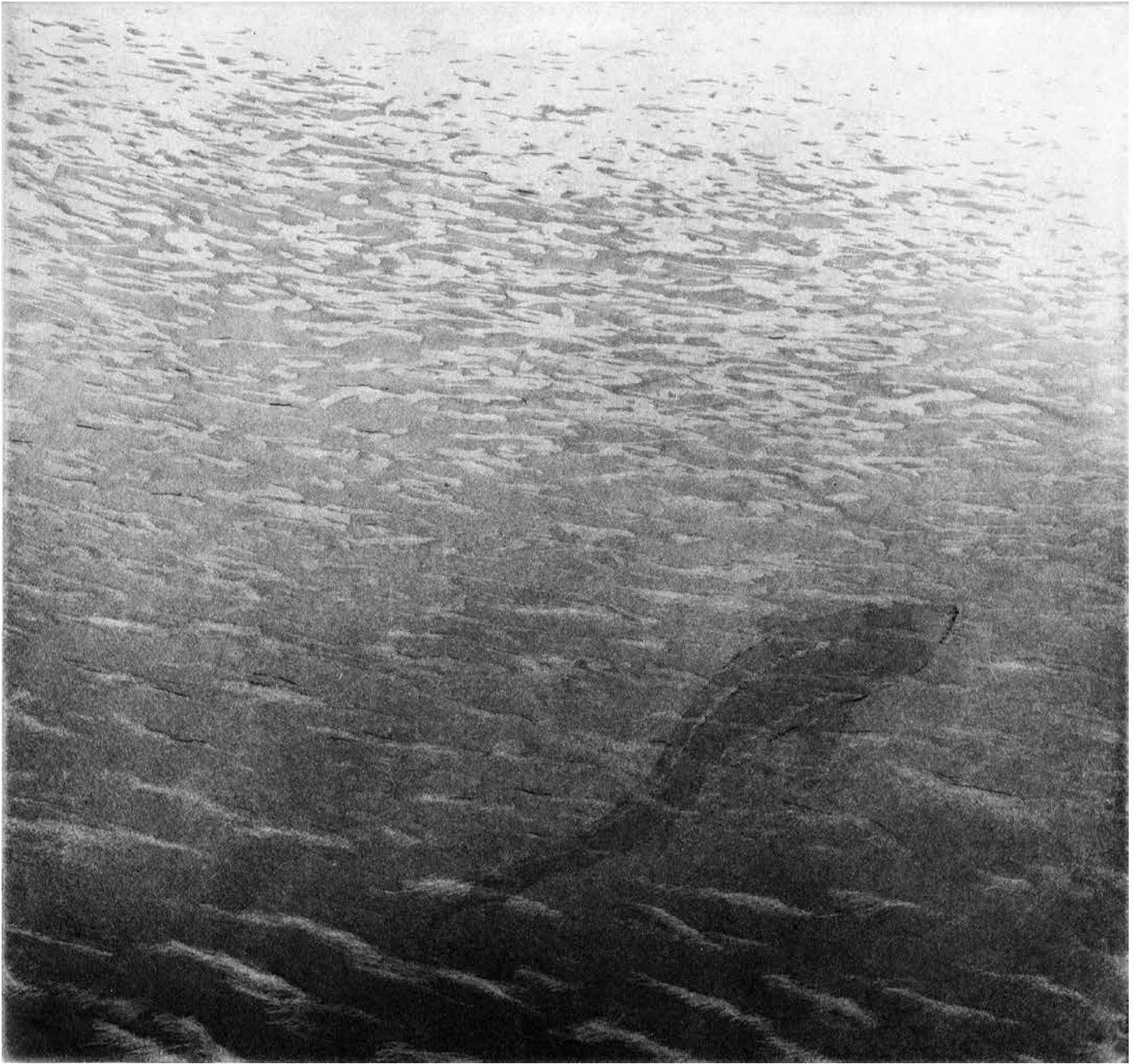


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ELDER

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REBOLZ 2016





Sam Orosz | Minneapolis MN | <http://cargocollective.com/samorosz>

## **Wisconsin's Sturgeon Success**

Each winter in Wisconsin, about 12,000 people drive out on Lake Winnebago's frozen surface in search of an ancient fish. They sit in dark, windowless shacks and stare into door-sized holes in the ice. And they wait.

And wait.

And wait.

Wait to see a dark, torpedo-shaped shadow in the water. Wait to throw a seven-foot spear and wrestle with a 150-lb fish.

Sometimes they wait season after season, and never see a thing. Spearing lake sturgeon is a sport that requires a lot of patience. It's like lying on your back in a fireplace and looking up into the chimney, waiting to shoot a duck that happens to fly by.

All that patience seems fitting for a fish that's been on Earth for at least one hundred fifty million years. Sturgeon are special. They can live to be over 100 years old, and the females don't begin reproducing until they are in their mid-twenties. Sturgeon survived whatever did in the dinosaurs, and they've also survived everything that we humans have dished out for them.

Throughout the Great Lakes region, dams and pollution made it difficult for lake sturgeon to swim up rivers to spawn. In the late 1800s, overfishing nearly wiped them out entirely. People wanted their eggs: rinsed and salted, sturgeon eggs become caviar. In 1895, Oconto County alone shipped 2,000 lbs. of caviar to markets in Germany. Today, the number of lake sturgeon in Lake Michigan is just one percent of what it used to be. And sturgeon populations all over the world have struggled.

But the story is much different in Lake Winnebago. Today it's home to one of the largest populations of lake sturgeon in the world, and it's something Wisconsinites take great pride in. Over a hundred years ago, conservationists began lobbying to protect lake sturgeon. Later on, a group of sturgeon spearers, calling themselves Sturgeon For Tomorrow, began working with the Department of Natural Resources to help protect and learn about sturgeon. It's this partnership and long-term commitment that has made all the difference. Today, scientists from Russia, Iran and China come to Wisconsin to study these fish. And every winter, people from all over Wisconsin come to spear them.

It's been that way for as long as people have lived in Wisconsin. Early French settlers learned to spear sturgeon through the ice from the Menominee Indians. They cut holes in the ice and dangled fish decoys into the water. Then they laid on their stomachs with blankets over their heads. The decoys attracted the sturgeon—they're very curious fish. The blankets made it easier to see the dim light of the water.

Today, most people prefer to spear in a heated shanty. But much has remained the same. Handmade decoys coax sturgeon to the water's surface, and handmade spears pierce through their flesh. Friends and family get together to celebrate a successful season and to feast on smoked sturgeon. Just like their grandparents and great-grandparents did before them.

Kathleen Kline, Wisconsin Sea Grant

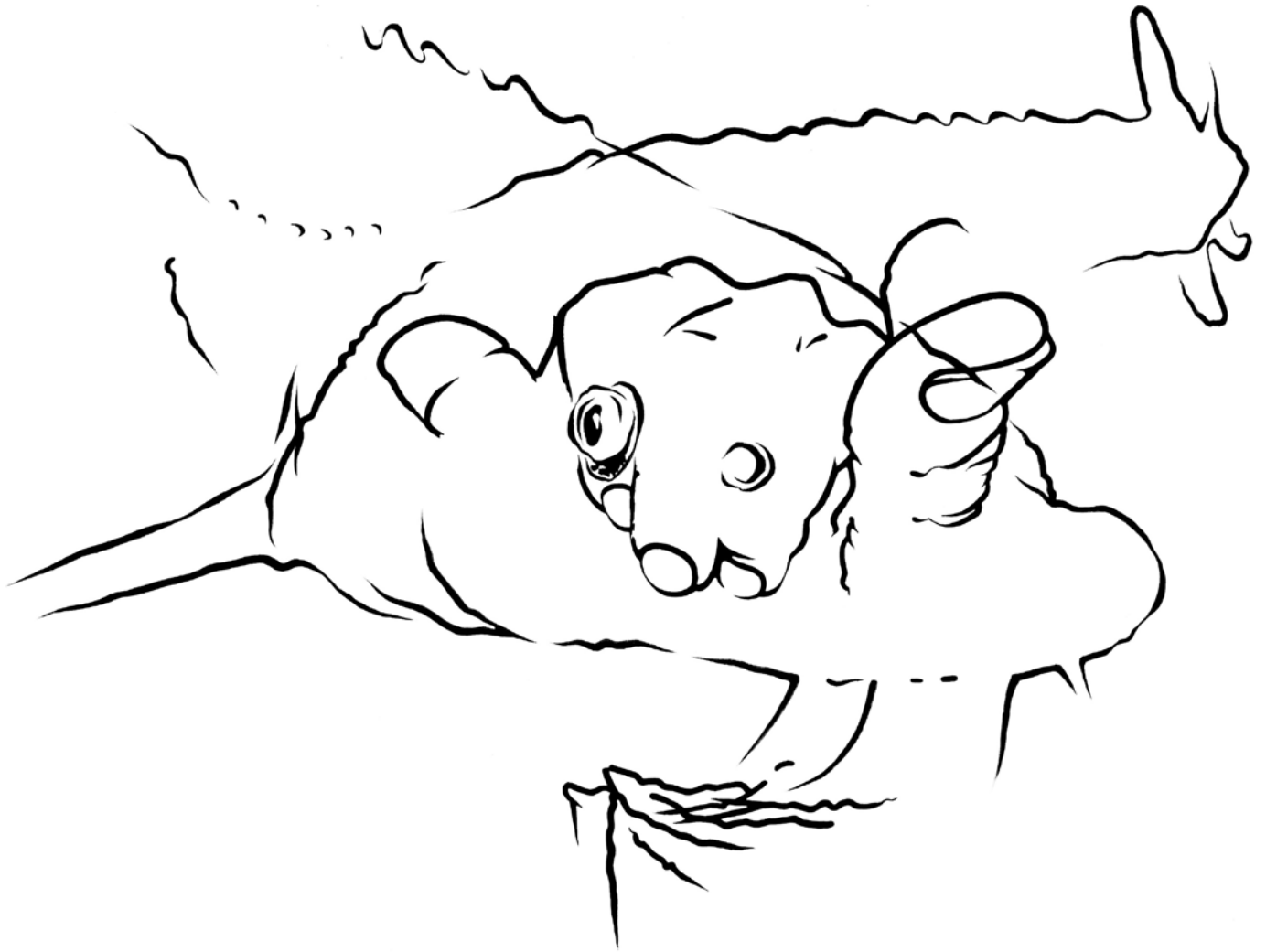
Co-author, *People of the Sturgeon: Wisconsin's Love Affair with an Ancient Fish*



Zachary Moser | Nomadic



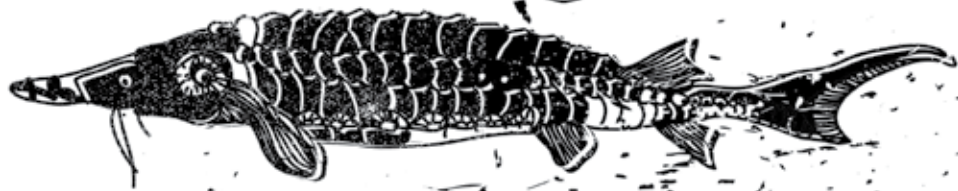
Dominique de Gery | Detroit MI | <http://artdominique.com>



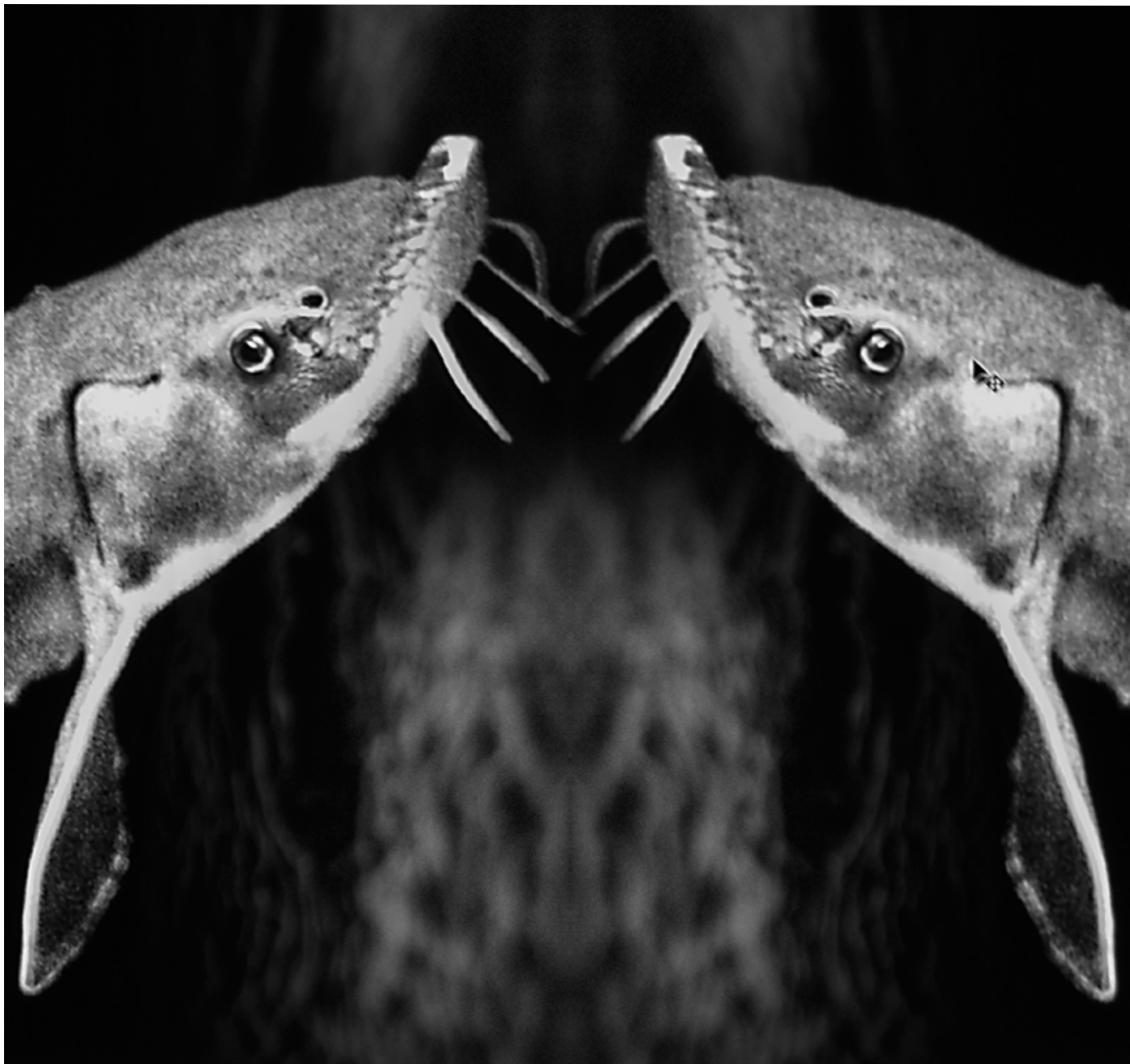


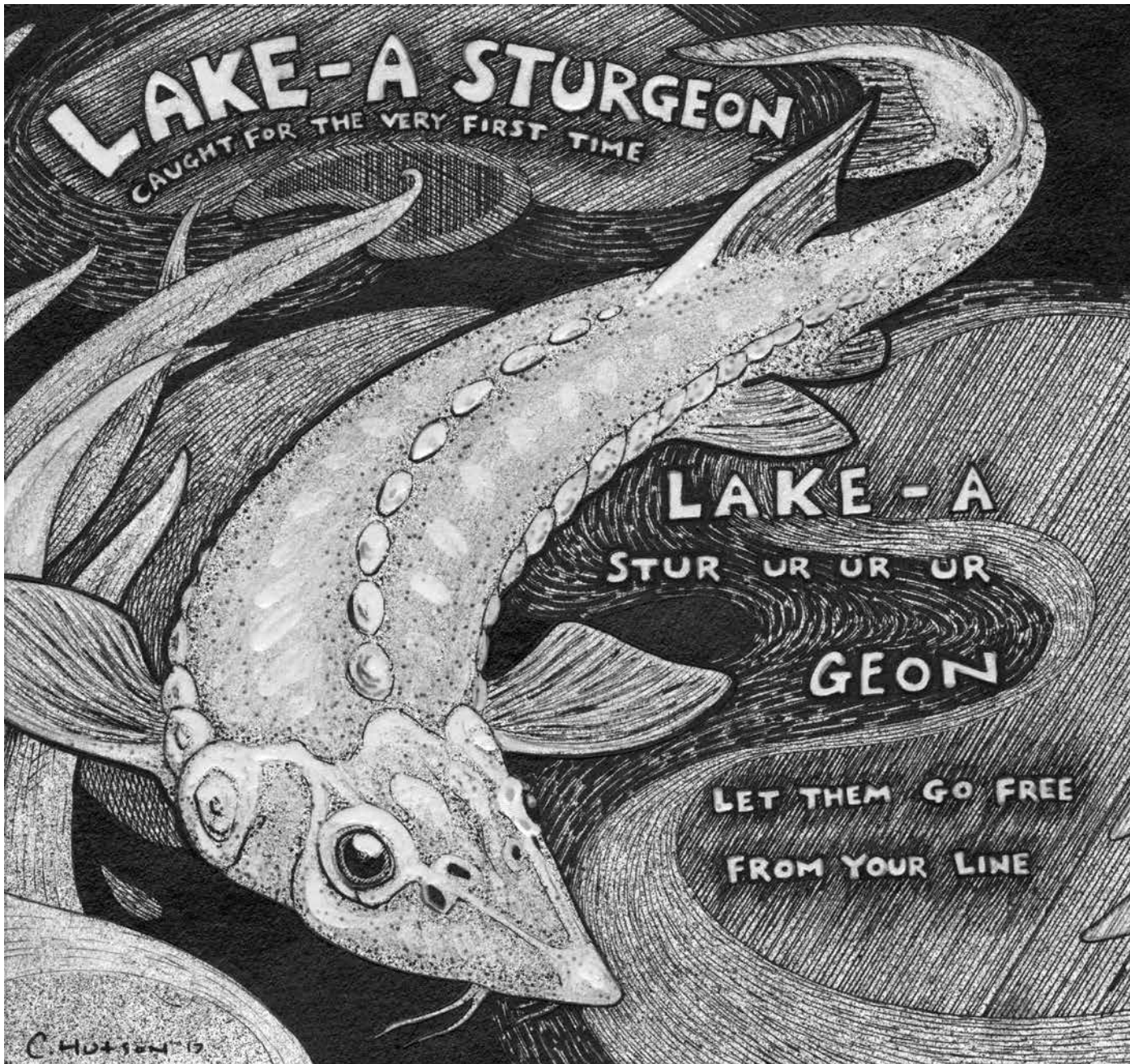








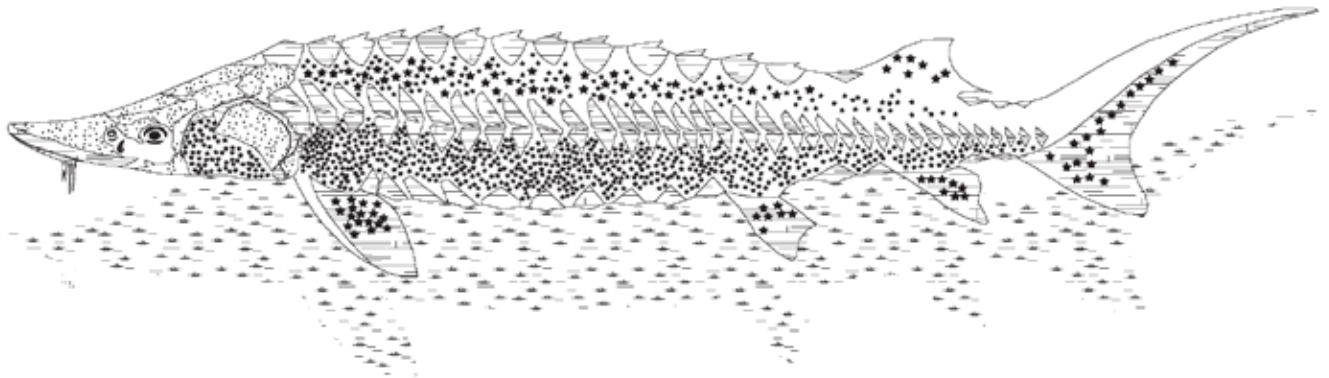
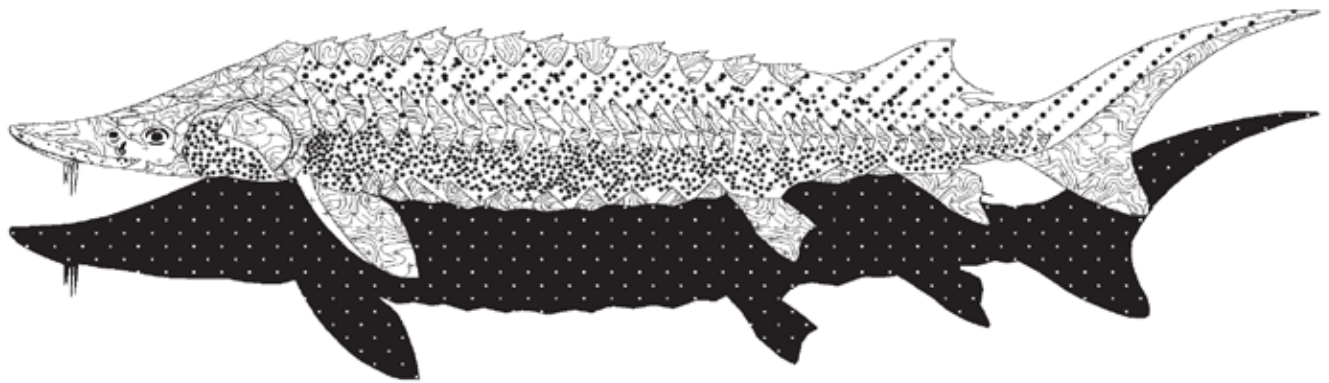
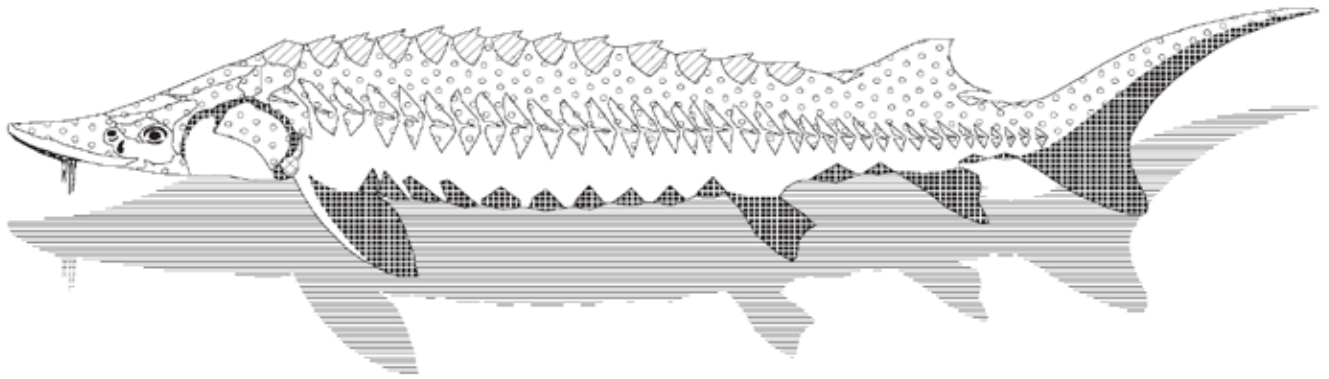






Adrian Chin | New Jersey NY



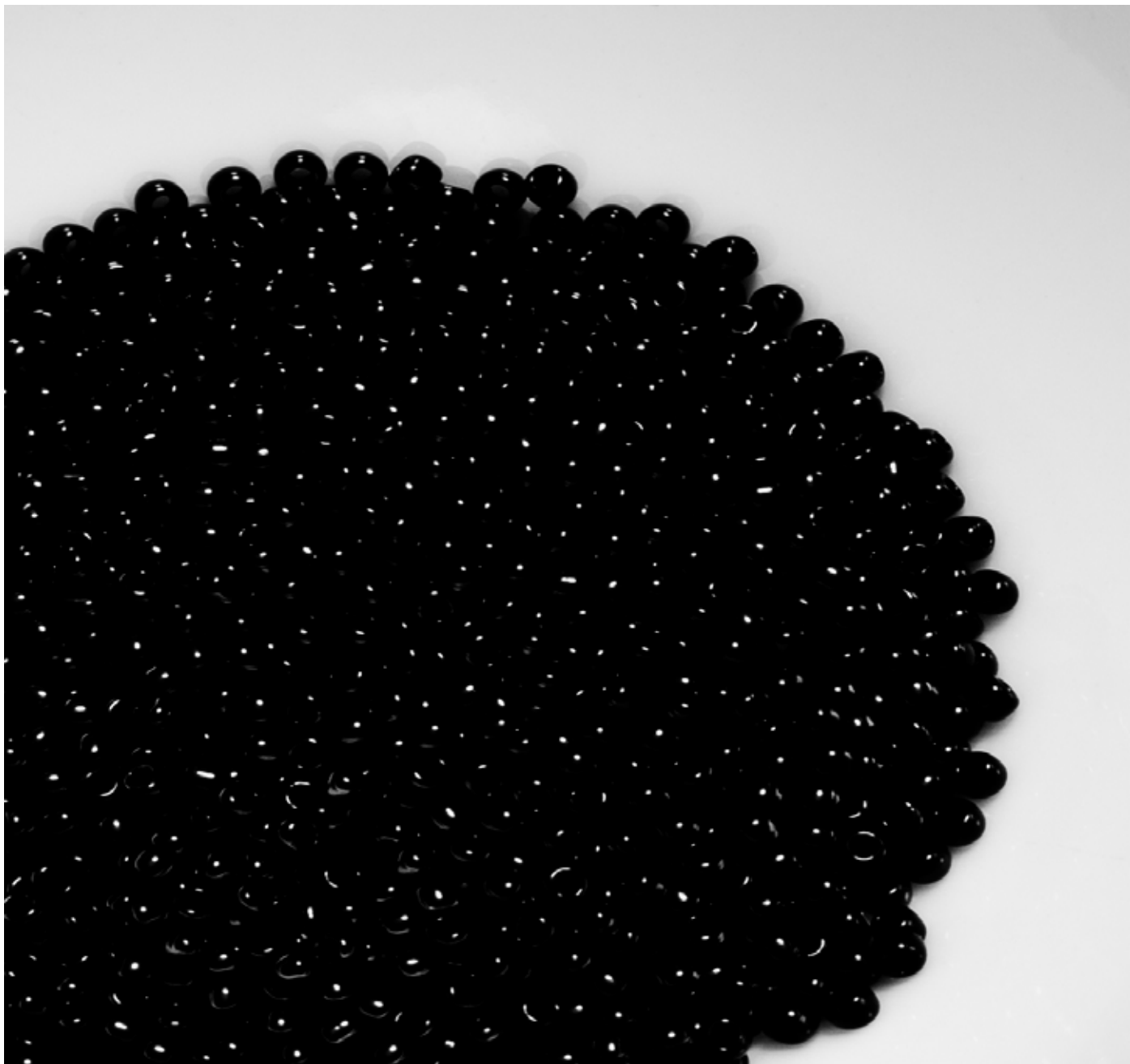




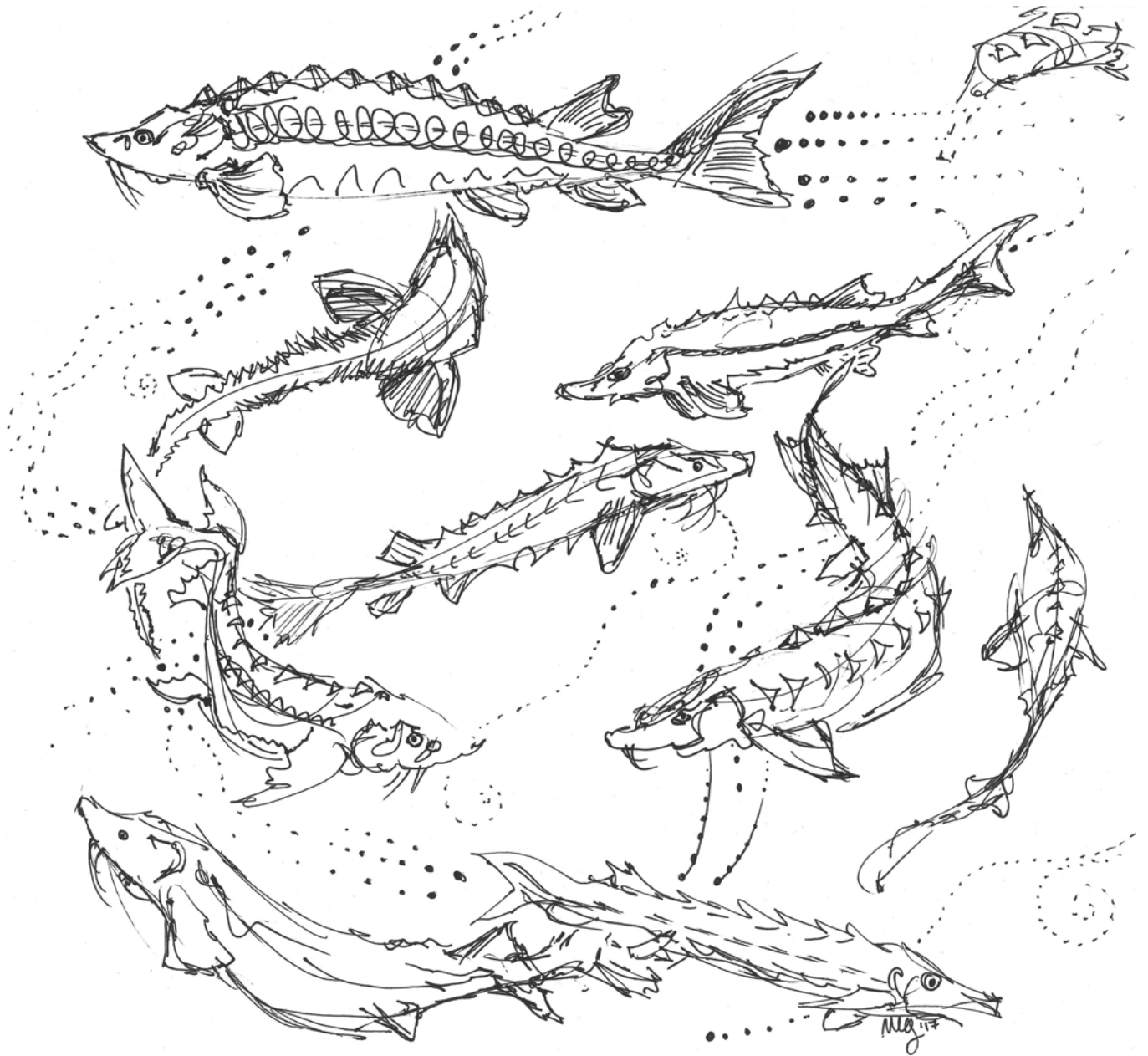


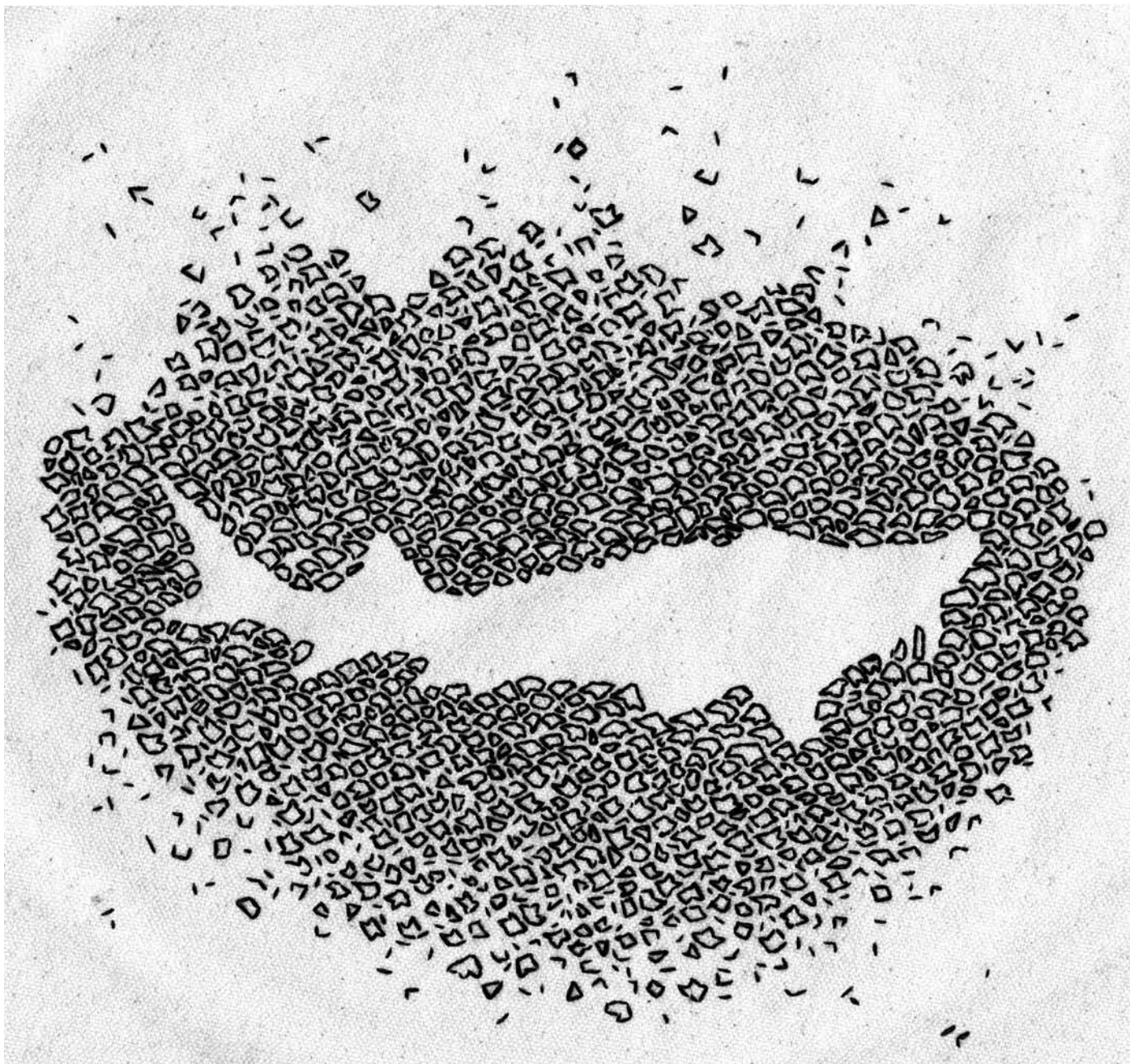


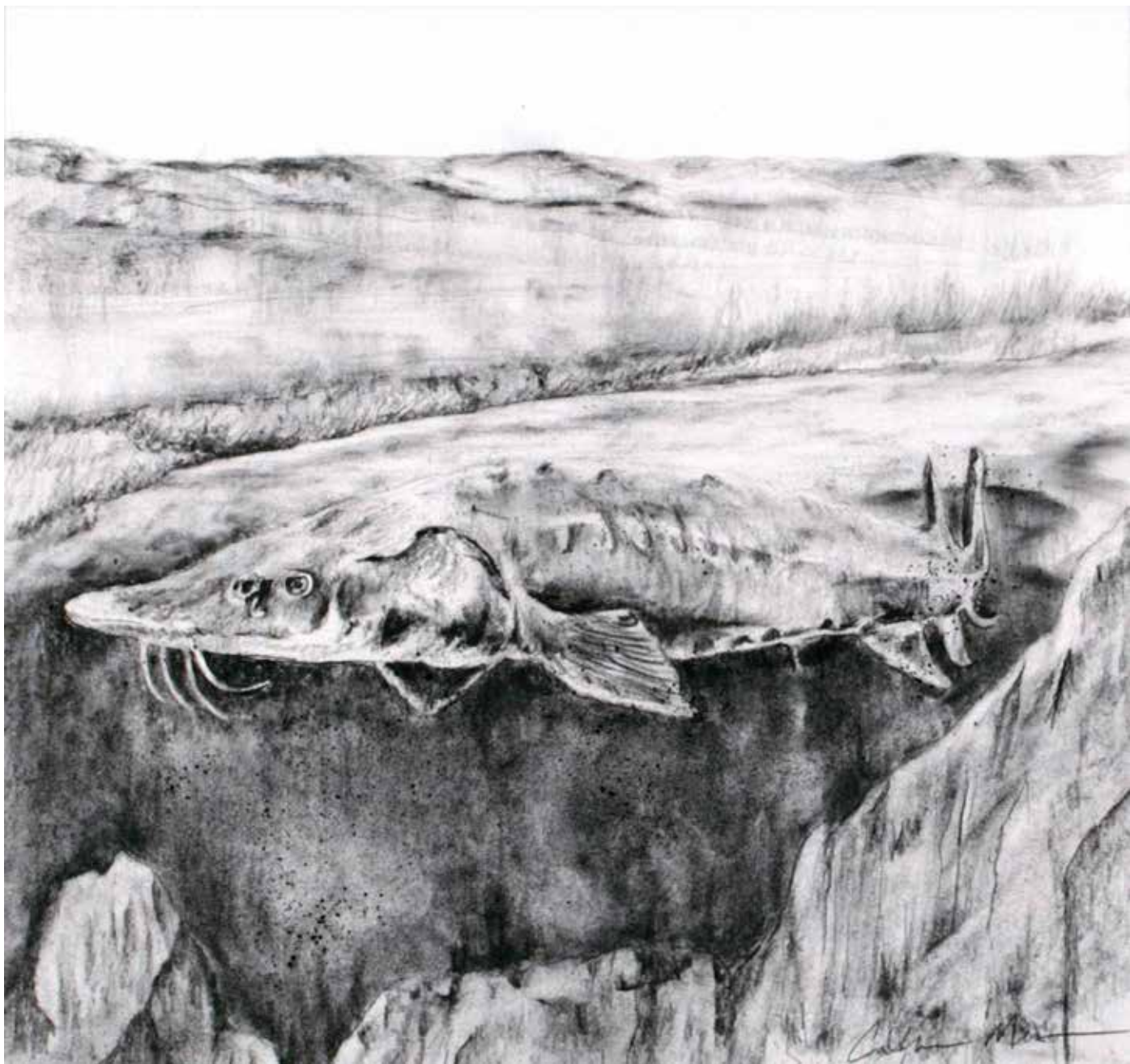
Liz Miller | Mankato MN | <http://www.lizmiller.com>



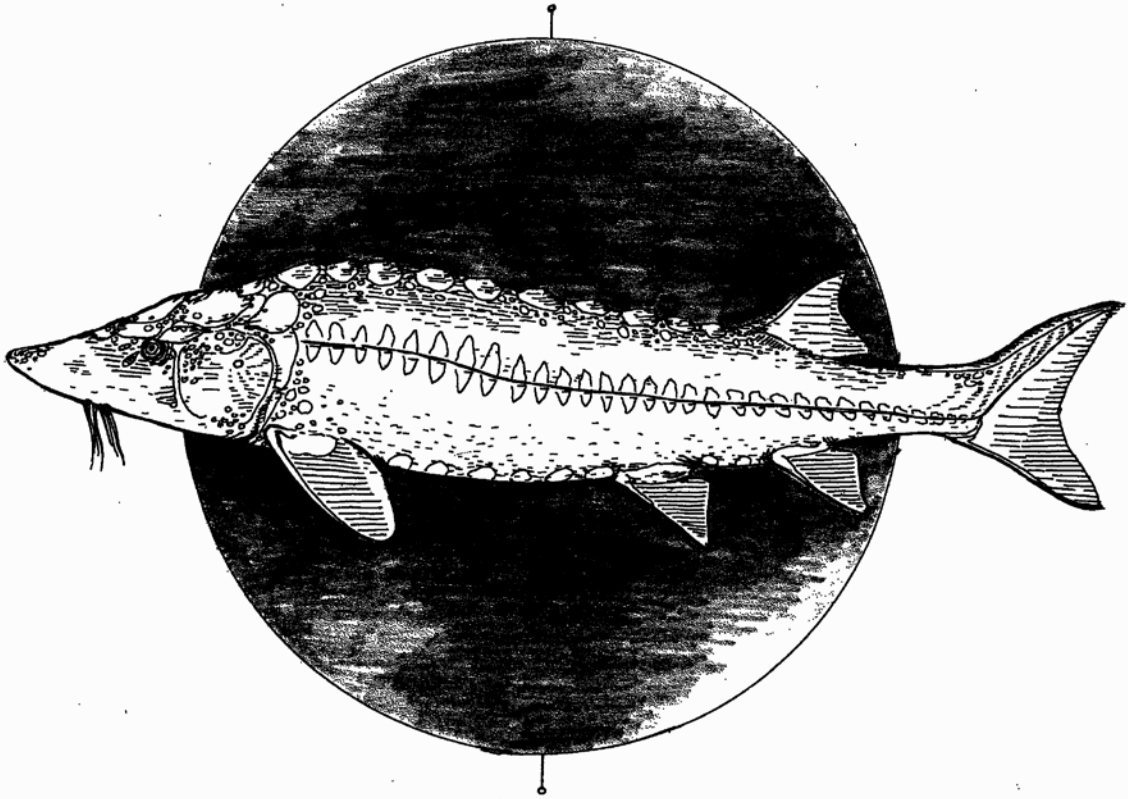
Christopher Atkins | Minneapolis MN



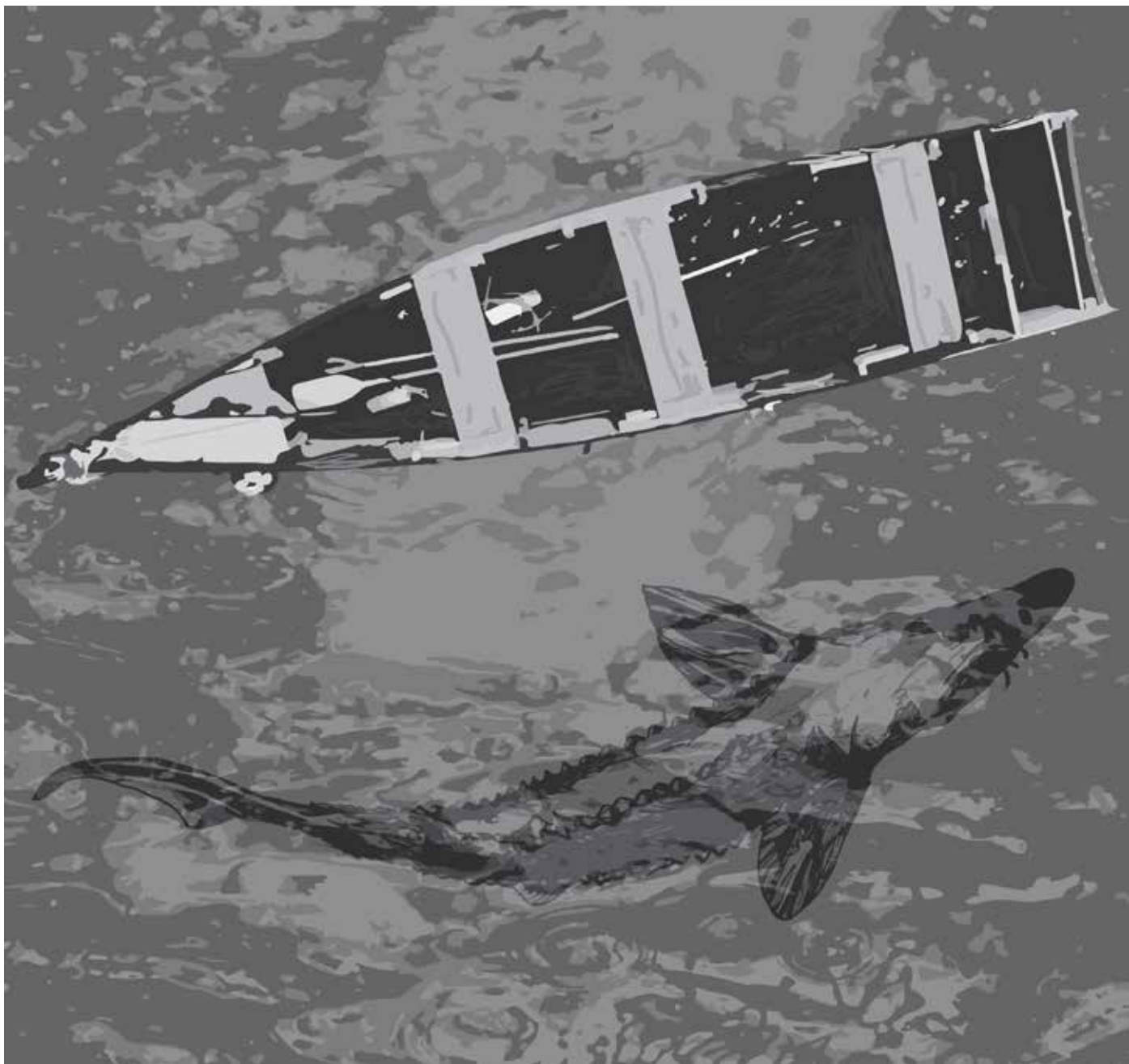




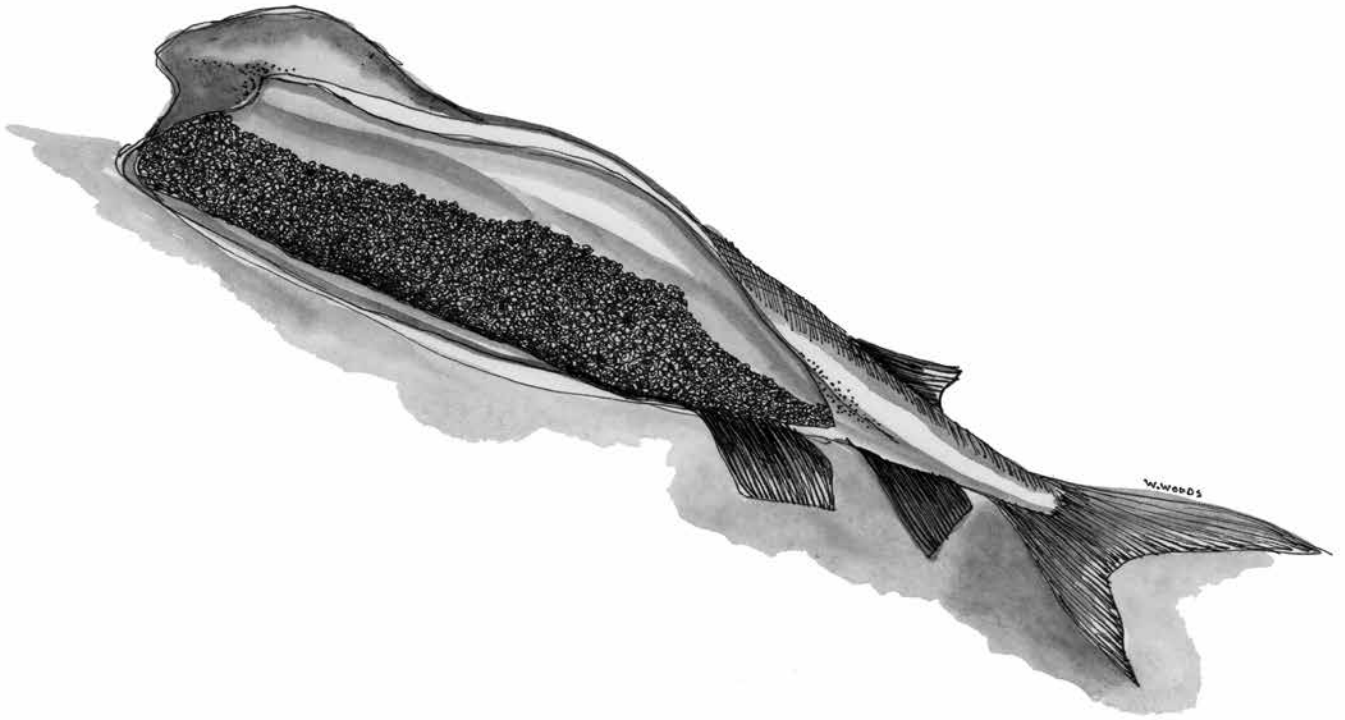
Catherine Meier | Duluth MN | <http://catherinemeier.com>



Adam Rosenthal | Minneapolis MN



Kyle Bernier | Chicago IL







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