JOHN GARDNER GRANT REPORT

THE RETURN OF THE HERRING SKIFF

by Josh Tolkan

Gitchi Gami. Home of the highest concentration of shipwrecks on the planet. The lake has long been important to the Ojibwe people, and there were many fur trading outposts on the lake through the 1700s. Northern European immigrants started settling Duluth by the 1850s, and Scandinavians started settling Grand Marais and other spots along Lake Superior's North Shore in the 1870s.

Scandinavians came to Lake Superior with a rich boat building tradition and experience fishing for their livelihood. As early as they arrived, they started building simple double ended row boats to haul in as much as they could from the lake. Having come from the North Sea where they fished for herring and cod, the immigrant Norwegians called the small whitefish they pulled in herring, as that was the best they knew to call it.

As settlement grew, the coast of the North Shore became littered with "Herring Skiffs." These vernacular workcraft were all a little different, depending on the builder, but all Herring Skiffs just the same. Despite the immigrants' heritage, Herring Skiffs bear little resemblance to traditional Scandinavian craft. Herring Skiffs were simply built utilitarian work boats; built quickly, so fishermen could get to work, and not really intended to last a very long time. Early Herring Skiffs were double ended, and some were lapstrake, and in a way resembled French lumbering bateaus but wider and with more flare. Over time, Herring Skiffs evolved to use outboard motors. At first a "middle era" of Herring Skiffs had small transoms which grew wider to accommodate the increasing size of outboard motors. Additionally, as the industrial era grew, and table saws became more prevalent, wide planked boats gave way to strip planked boats. The quick and easy strip plank method must have made a lot of sense to practical Scandinavians as most Herring Skiffs that survive are strip planked.

When I moved to Grand Marais in 2019 to begin a two-year term in North House Folk School's Artisan Development Program, I was interested in building a work boat. I have always liked the proud simple lines of work boats and building a utilitarian boat like that seemed to fit the folk school ethic. I was also inspired by the handsome Hadlock Work Skiff they were developing while I was a student at the Northwest School of Wooden Boatbuilding.

As I was trying to find some opportunity to build a workboat, I thought about fishing history in Grand Marais, and so I decided to go talk to the local Cook County Historical Society (CCHS). They pointed out I had been walking past a rotting old Herring Skiff every time I went to the grocery store. I quickly realized that not only did this boat have the handsome good looks of a rugged work boat, but it also had some very interesting details and regional roots. The stem is raked very steeply forward at close to a 30-degree bevel. That raked stem is shaped from a huge 6x6 timber. Finally, the entire boat, especially aft section has a wide flare, helping for strong secondary stability. This boat is uniquely designed to

bob up quickly in the short choppy seas that Lake Superior gets in storms and has ample room to carry loads of fish. The beefy stem and reinforcements along the bottom are important details for a boat that is typically winched up onto rocky beaches when coming in full of fish.

The Cook County Historical Society had acquired the boat because they believed it was a great representation of late era Herring Skiffs. I enjoyed looking at this boat so much because I kept thinking that these 1940s herring skiffs are not much different from outboard aluminum fishing boats still built today, but with a few hull shape specifics to make them great boats for Lake Superior.

I went about taking the lines.

First thing to do was to take the boat off the blocking it was sitting on that was causing the boat to sag in particular points and replace it with long bunks that ran the length of the boat. With the boat right side up on these longitudinals, I put a string line down the middle from stem to transom. I observed that the sawn frames were quite regularly spaced, and it would work for me to make every frame a station. So, I measured the distance between every frame and recorded that as the distance between every station. Then I hung plumb bobs off the stem and the transom to record the rake of those. To determine

Left: *The finished skiff.* ***Above:*** *Plum Bob.* ***Below:*** *Skiff building class.*

Carving frame ends.

the heights, I shot a laser level across the middle of the boat around where I thought the waterline might be. From there I measured up to the sheer and down to the chine and keel. The hardest part about this boat was to get the widths of the chine. I did this by hanging a plumb bob off the sheer at each station, then using a rule and level to find the distance from the plumb line to the chine. Using the widths from the sheer to centerline and the distance from sheer to chine I was able to calculate the distance from chine to centerline. I used these measurements to create a line drawing of the Herring Skiff. There was a good amount of fairing necessary due to the sagging that happened over the years as the boat was sagging on the blocks, and likely due to some error in my measurements. However, I was able to produce a very nice drawing that included construction details of the various components.

The product of taking the lines greatly satisfied the Cook County Historical Society, and I think that they would have been pleased if the project stopped there. But I was determined to revive the work boat tradition in Grand Marais with an actual new boat. With assistance from the North House Folk School, I set about finding some funding to build a boat from my lines plan. Funding came from the Lloyd K. Johnson Foundation of Northern Minnesota, and a Traditional Small Craft Association John Gardner Grant. Additional support came from a private donor to North House Folk School as well as revenue generated from a class we held to build the boat.

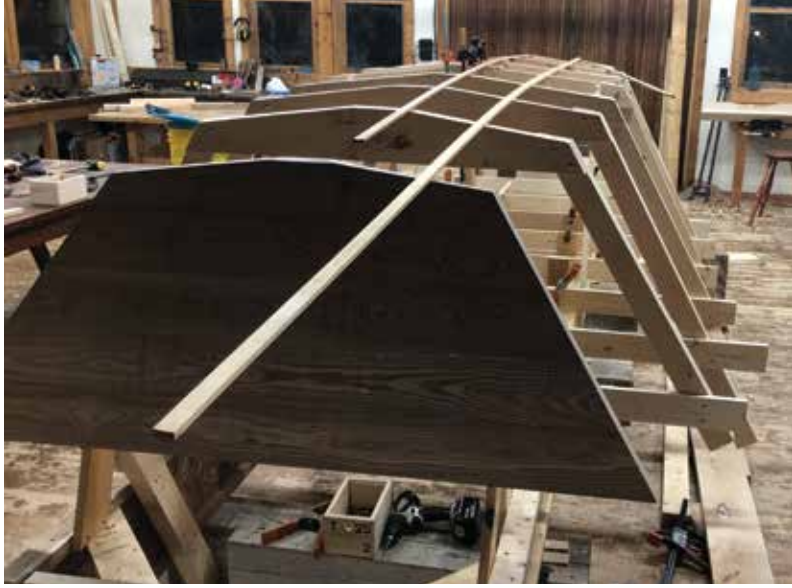
Building the Herring Skiff started with a class held in January of 2020. Scholarships were available for local students, so we had a course that really consisted of local people and other friends of North House and the Historical Society. I was assisted in teaching the course by long time North House boat building instructor John Beltman. I had lofted the boat before the course began and transferred the lofting to a piece of mylar transfer to ⅛" plywood stock from which we would make patterns.

The Herring Skiff is a V-bottomed boat, so we built the frames first. The white pine frames are a simple construction, but still not easy for beginners. The frames are trapezoidal constructions consisting of a floor timber, two vertical timbers and a temporary cross spall. The shape of the V-bottom is sawn into the floor timbers, so they are five-sided figures with a flat spot in the middle for the keel plank, sloping sides for

the floor, and mating surfaces for the side frames. The side frames have a half lap sawn into them where they meet the floor timber and are bolted into the floor timber with two 5/16 bolts. On the one hand this seems like an easy joint, just one piece to cut joinery on, simple. It would have been considerably easier to cut a mating half lap notch on the floor timber, or not worry about notching and use gutter plates at the joints. Anyway, we built it with the historic details and suffered through the frustrating joinery. Finished frames were installed upside down with cross spalls fastened to the strongback.

The stem was shaped from a 6x6 and installed on the strongback. We wanted to use local lumber and were having a hard time finding a 6x6 but ended up using a piece of a red elm tree that had recently been cut down on the side of the highway in Grand Marais. The community had been upset to see several of these healthy elm trees cut down and encouraged artists to make things from them. I had never used elm but had read that the Cornish Pilot Gigs were built with elm. We had the elm sawn just 6 weeks before the build and were worried about checking. I covered the ends with lots of oil and paste wax and put the timber vertically on a workbench I have right next to a radiator to try to help it dry. When we went to use it, of course it was still wet. Since this boat has an outer stem that screwed over the main stem, we faced the heart wood side forward, knowing that before we put on the outer stem we could fill any checking with epoxy. Our elm stem is heavy, likely heavier than the original, but I sure do like using elm and hope to work with it again in the future.

The transom is an interesting assembly. Built of 5 staves of black ash, joined together with 4 crosswise pieces; two are cheek pieces to make a wider landing for fasteners on the transom, and



Frames up.

two slightly skinnier pieces, parallel to the cheek piece on its side, to support the cut out for the motor in the middle of the transom. These pieces are all bolted to the transom staves with a careful bolt pattern that gives the outer face of the transom a sort of studded leather jacket look.

After the stem, transom, and all frames are in place the keel plank was sprung on down the middle of the boat. At this point the strip planking began. While I have built a couple cedar strip canoes, neither John nor I had built a boat with this industrial era strip planking technique. Each strip is 2 inches wide by ¾ thick. We were lucky to have a local logger donate some beautiful white pine to our project. We were given some gorgeous 20-foot clear pine boards of quality I might never see again. This allowed plenty of length for each strip to run the entire length of

the boat with no scarfing or plank butting necessary. In the original boat, some sort of early industrial era seam putty, likely white lead, was put in between each strip. We substituted that with Sika Flex 291, which isn't as toxic and has the advantage of being a mild adhesive. New to this planking method, we learned some lessons the hard way about clamping the new planks to the ones below it to eliminate gaps. Even a 2" strip has a bit of its own mind and needs to be made to set into shape or will have a bit of a permanent gap. The lumber we used also shrank quite a bit, requiring even more gap touch ups. While strip planking is less complex than some methods, it has some finesse to it, and we were learning as we went.

In carvel planking each plank divides the girth of the boat evenly into equal widths across the length of each plank. In this way, all planks share the shape of the boat. In the strip planking technique, the strips essentially create a rectangle covering the side of the boat. The bottom plank goes on last and takes up all the remaining shape in the boat, so it must be spiled and carved to shape, much like you carve a carvel plank.

The hull of this boat was built, as described above, during the winter class of 2020. We had intended to finish this boat in the summer of 2020 as an interactive community boat building process. Covid-19 obviously got in the way of that, and the community boat building was pushed back to the summer of 2021. For five weeks in June and July of 2021, over 30 volunteers came down to North House Folk School's campus to help finish the boat. Together volunteers did things like attach the outer keel and stem, fair the hull, install the foredeck, seats, inwales, and knees, and touch up imperfections. Volunteers included young people who were new to the Grand Marais community, old timers who had been involved with North House or the Historical Society for a long time, and tourists who had heard about the skiff and wanted to help. While at times chaotic, and not always efficient, it was a fun, wonderful way to work on the boat. Many people learned a lot through volunteering, new friendships were made, and the boat is better for having so much good will around it.

The skiff was launched on July 26, 2021. Many Grand Marais locals were there to see the first Herring Skiff grace the harbor in 30 or 40 years. The boat handled super well, as it took corners comfortably and handled a lot of weight without any discomfort or loss of stability. More importantly, it sat just perfectly in the water, with the forefoot of the stem just gracing the surface of the water. The boat looked proud, able, and graceful. I'm quite proud of the accomplishment, but all thanks are due to the many volunteers who lightened the load and kept me motivated. I am eager to further my work in celebrating boating heritage in Minnesota.

Community Boat Building.