Saving Ships, Saving Fish

The Hammond Bay Station

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A red-roofed building on the shore of Lake Huron marks the site of three eras of federal services to the Great Lakes. The Hammond Bay Station began as a life-saving station for the nearby treacherous waters, evolved into a Coast Guard station, and—with the arrival of a strange, slimy parasitic fish to Lake Huron in 1937—became a biological station dedicated to protecting Great Lakes fisheries.

Driving about 13 miles north on U.S. 23 from Rogers City, Michigan, brings motorists to a scenic overlook followed by a Michigan Department of Natural Resources (DNR) sign pointing to the Hammond Bay boat launch. To the right, down a hill, and just past the boat launch is a large water tank with an old boathouse nestled in front of it; to the left is a two-story, red-roofed building with a radio/flag tower and a watchtower behind it.

Those structures represent nearly 150 years of history and involve three eras of U.S. government service. The red-roofed building was one of the first five United States Life-Saving Service (USLSS) stations built on Lake Huron; it went into service on September 15, 1876. The USLSS merged with the United States Revenue Cutter Service in 1915 to form the United States Coast Guard (USCG), represented by the watchtower, radio/flag mast, and old boathouse. Those four historic structures, along with the water tank and additional red-roofed buildings on the property, represent the current Hammond Bay Biological Station, which was established in 1950 and is now part of the United States Geological Survey (USGS).

The history of the site is unique in that it has been in continuous government service since 1876 and has been involved in two different types of rescues: the first of ships, cargoes, and people, and the second of Great Lakes commercial and recreational fisheries.

Saving Ships, Cargo, and People

The waters off Alcona, Alpena, and Presque Isle Counties are some of the most treacherous on the Great Lakes. In the mid-1800s, there was heavy ship traffic among Lakes Huron, Michigan, and Superior. Most of those ships were wooden and powered by sail, with a few underpowered wooden steamboats mixed in. Strong currents, fog, and sudden storms occurring near lee shores were prevalent, especially in the spring and fall. Many ships found themselves traveling in dangerous weather, grounded on sand bars or the shore, or—the worst fate—caught in a collision or wreck. Fires were an additional hazard. Nearly 100 Lake Huron shipwrecks off that part of Michigan's coast are now protected by the Thunder Bay National Marine Sanctuary, based in Alpena, Michigan.

The numerous disasters came to a head in the 1870s, and it became clear that the U.S. government needed to take steps to improve the situation. Over time, 30 lighthouses and 10 USLSS stations were erected along the shore of Lake Huron. Most of the latter have long since been demolished. The "storm warriors" of the USLSS contributed greatly to Michigan's maritime history, yet much of the organization's heritage has been lost.

While the USLSS officially became a government organization in 1878, Hammond Bay was one of the first five lifesaving stations on Lake Huron, having been built in 1876. The station was originally named Forty Mile Point until it was renamed in 1883; in 1896, the Forty Mile Point name was given to a lighthouse built about six miles away. The first five lifesaving stations on Lake Huron became operational in 1876. Three of them were located in neighboring counties: one at Sturgeon Point in Alcona County, another on Thunder Bay Island in Alpena County, and the third on Hammond Bay in Presque Isle County. The location on Thunder Bay Island was a lifeboat station, whereas the other two used the smaller surfboat. All boats were powered by surfmen—or members of the USLSS—using long oars, while the keeper steered. Another lifesaving station was built on Middle Island in Alpena County a few years later. The locations of those stations indicate that the USLSS recognized the hazards faced in those waters.

Like other USLSS stations, when the Hammond Bay station opened in 1876, it was staffed by a keeper and six surfmen. The number of surfmen fluctuated between six and nine over the years. The men generally worked from the time the ice melted in April until navigation ended, generally in December. The job was arduous and sometimes dangerous, and the pay was low. There were no benefits, even for those injured or killed. They received no pay during the winter months.

The surfmen kept busy improving the station, cutting roads along the waterfront so they could patrol the beach and get their equipment up and down the lakeshore. The performance of daily drills was also required; drill instructions were uniform throughout the USLSS and highly specific. Regulations specified that practice with the important beach cart, which held the shore-based lifesaving equipment, was to be done on Mondays and Thursdays; surfboat drills were to be done on Tuesdays; signal flag drills were to be done on Wednesdays; and practice on the resuscitation of drowned victims was to be done on Fridays. Repairs to equipment, cleanup, and other tasks were saved for Saturdays, and Sundays were for rest unless an emergency occurred or the surfman was on duty.

Additionally, a lookout was kept during daylight hours—first from the roof of the building and later

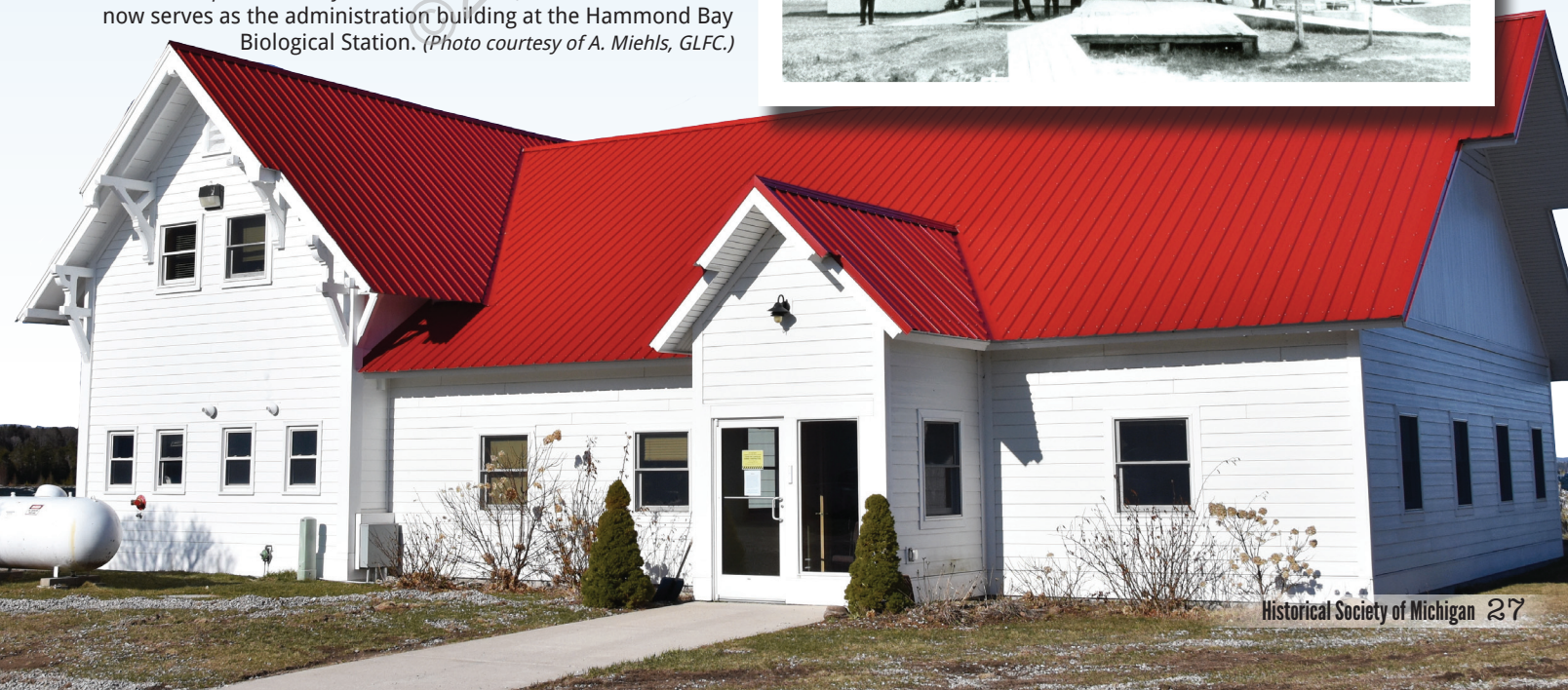
from the watchtower—and two surfmen were required to walk a beach patrol each night for several miles going in opposite directions from the station. Beach patrolmen carried a lantern and signals to warn a vessel off the shore and/or let it know that it had been seen and help would soon be on the way. When a vessel in trouble was spotted, the beach patrolman hurried to the station and either the beach cart or the surfboat was deployed, depending on whether the rescue could be attempted from the beach.

Although rescues varied in terms of danger and difficulty, a few examples from the *Presque Isle County Advance* indicate typical activities. On December 8, 1881, the *Advance* reported that a steam barge with 760 tons of coal and its tow with 1,177 tons of coal "ran ashore in a snowstorm about 10 o'clock on the night of Nov 25th, ten miles northwest . . . as soon as discovered by the watch at the Life Saving station, keeper Valentine and crew went to their assistance." It was reported that the USLSS crew arrived at 10 a.m. the next day and threw the steam barge's cargo overboard for 12 hours. The weather worsened, and the decision was made to scuttle the tow barge and its cargo. The ship's crew and the surfmen went back on November 28, pumped out the tow barge for 16 hours, and threw 400 tons of coal overboard before a tug with a steam pump arrived from Mackinaw City, Michigan.

As another example, on April 21, 1898, the *Advance* reported, "The three masted schooner, *Glad Tidings* of Detroit, went ashore at Carp Creek at 11 a.m. of the 19th. Crew all safe, schooner is a total wreck. . . . The Hammonds Bay *[sic]* life-saving crew responded and did good work on the wreck and saving the crew."

An article in the December 5, 1914, issue of the *Advance* indicated that the surfmen "were called to the assistance of the steamer *M. Sicken*,

Above: The Hammond Bay Station, c. 1890s, with station keeper Valentine and the surfmen. The surfmen are wearing the harnesses used to pull the beach cart. Right: The station when it was operated by the USCG, c. 1930s. *(Photos courtesy of the Presque Isle County Historical Museum.)* Below: The structure now serves as the administration building at the Hammond Bay Biological Station. *(Photo courtesy of A. Miehls, GLFC.)*



which stranded about nine o'clock the night of November 18th, on what is known as Nine Mile Point which lies twelve miles north west of the station . . . The crew was a pretty looking sight when they returned from the steamer. They were so encased with ice that they could not get their garments off until the ice had been pounded off from them . . . . They returned to the steamer on the 20th to assist in floating her and again on the 21st."

Over the years, life at the Hammond Bay station improved as wives and children began to arrive to live in houses rented from the keeper. A small community grew, including a school and—in 1893—a post office. For a brief period in the late 1800s, lumbering activity around the mouth of the Ocqueoc River, about two miles away, resulted in a small town that brought additional residents to the area. In addition, on Sundays, the station became a popular site for folks from Rogers City, Michigan, and other local communities to visit for picnics, boat drills, and demonstrations of various lifesaving equipment. For example, on August 6, 1914, the *Advance* reported that more than 500 people from the surrounding area attended an open house at the station held on Sunday, August 2. Equipment and technology improved—especially with the arrival of electricity and radios, the introduction of powered surfboats in the early 1900s, and the later use of a tractor to haul the beach cart instead of a horse or harnessed surfmen.

The 1915 formation of the USCG did little to change life at the station, but it did bring a change in the uniform. The keeper became a warrant officer and the surfmen became enlisted men of varying ranks. The most welcome change, however, was that USLSS employees

Vernon Applegate catching sea lampreys in gill nets. *(Photo courtesy of USGS John Van Oosten Library.)*

immediately became eligible for a pension after 30 years of service; many quickly took advantage of the new benefit and retired, including Sumner Kimball, the only superintendent the USLSS ever had, who served from 1878 to 1915. A few years later, the job became full time.

Equipment continued to improve, especially the boats and their engines. At the same time, the increase in large, steel-hulled steamboats greatly reduced the number of sailing craft used to haul lumber, coal, iron ore, and other materials. Those larger vessels sailed farther offshore and were less susceptible to wind and waves. If they did get into trouble, they were too far offshore for most rescue attempts from the station. Wrecks ashore became much less frequent and, like today, many of them involved recreational craft rather than commercial ships. The need for the station decreased over the years.

Hammond Bay assumed new duties during World War II. The station was used for training purposes, and its staff manned patrol boats and performed other duties that guarded the Port of Calcite, located near Rogers City. Calcite was a large limestone quarry owned by U.S. Steel, for shipment of limestone by boat was critical for steel manufacturing. Today, limestone is still quarried and shipped from Calcite.

After the war ended in 1945, there was little need for the station, and most of its personnel left. The station was decommissioned in 1947, but the buildings and property remained in USCG ownership. Then, in 1950, the old USLSS and USCG station took on a new and important role.

Saving Fisheries

Just over 100 years ago, in 1921—while the USCG Hammond Bay station was in full operation—an

ominous event occurred that would shape the future of the station. A commercial fisher noticed a slimy, tubular-shaped fish attached to the side of a whitefish he had captured from Lake Erie. That unusually shaped fish with an even more unusual habit of drinking the blood of other fish was later identified as a sea lamprey. Like a trickle that becomes a torrent during a raging storm, early sea lamprey observations were the harbingers of an invasion that would eventually number in the millions across the Great Lakes. The consequences of the sea lamprey invasion were catastrophic, rippling throughout ecosystems and coastal economies.

Sea lampreys are parasitic fish native to the north Atlantic Ocean. They were first identified in Lake Ontario in the mid-1800s. Once they were established above the Niagara Falls in the 1920s, they quickly invaded the upper Great Lakes. First found in Lake Michigan in 1936, Lake Huron in 1937, and Lake Superior in 1938, they quickly began decimating fisheries. Each sea lamprey can kill up to 40 pounds of Great Lakes fish. Within only a few decades, the combined pressure of overharvest, sea lamprey parasitism, and habitat alteration caused commercial fisheries to collapse and the economies of coastal communities dependent on those fisheries to crumble. During the time of highest sea lamprey abundance, up to 85 percent of fish not killed by sea lampreys bore the unmistakable scar indicative of an attack.

Then in 1950, the tide began to turn with the establishment of Hammond Bay Biological Station in the former USCG Hammond Bay station. Initially operated by the United States Bureau of Commercial Fisheries, the station was situated in an ideal location—on Lake Huron, in the epicenter of the sea lamprey infestation in the Great Lakes. Concurrently, a graduate student at the University of Michigan, Vernon Applegate, was conducting research at the nearby Ocqueoc Lake Civilian Conservation Corps camp. With the establishment of the biological station, Applegate moved his research program and formed a dedicated team—consisting mostly of locals, many of whom were veterans of World War II—to undertake a heroic effort to develop control methods for sea lampreys.

Early control methods that were tested ranged from AC-powered electric barriers that killed fish on contact to traps that filtered the entire river and captured every fish moving downstream. The staff also dabbled with pesticides and tried a wide range of options—more than 6,000 chemicals were evaluated in hopes of identifying a chemical selectively lethal to sea lampreys, but not harmful to other fish. Some chemicals were essentially inert, while others were so volatile, they evaporated the moment the jar was opened.

In August 1956, technician Cliff Kortman—known to many locals as the owner of Kortman's Restaurant in Rogers City—knew he was on to something when he saw the results of the test on compound #5209. At the end of that experiment, he saw healthy rainbow trout and bluegill swimming in the test jar among dead larval sea lampreys. Of the thousands of data cards that Kortman filled out in detail, the card for compound #5209 simply bore the word "Special." And with that simple yet significant note, what was once one of the worst tragedies in the Great Lakes soon became one of the greatest success stories.

Sea lamprey populations have been reduced to approximately

Above: Clifford Kortman working to find a chemical to control the sea lamprey population. *(Photo courtesy of Hammond Bay Biological Station.)* Left: Juvenile cisco in a tank at the station. *(Photo courtesy of A. Miehls, USGS.)*

10 percent of their historic highs through a control program coordinated by the Great Lakes Fishery Commission—based in Ann Arbor, Michigan—and implemented through a binational partnership between the United States and Canada. Today, sea lamprey populations are controlled through the integration of multiple techniques—specifically, barriers to block migratory adults from accessing spawning habitat and selective toxicants, called lampricides, used to manage the larval stage. With sea lampreys under control, native fish populations have rebounded, and Great Lakes fisheries are valued at more than $7 billion annually. Thus, out of despair came victory.

Great Lakes fisheries and the sea lamprey control program would not be where they are today without the strong commitment to scientific innovation at Hammond Bay Biological Station. Today, the station is managed in partnership between the USGS and the Great Lakes Fishery Commission. Since 1950, researchers have worked tirelessly to discover, adapt, and hone methods to control sea lampreys and restore native fish populations, particularly those devastated by sea lampreys.

When the first researchers at Hammond Bay Biological Station began developing control methods for sea lampreys, many described their work as a "mission" or "calling." They tackled seemingly far-fetched projects and pushed the metaphorical envelope of science to have the chance to save Great Lakes fisheries from a menace. Likewise, their predecessors with the USLSS and USCG made numerous sacrifices—in some cases, the ultimate sacrifice—by dedicating their lives to saving people, ships, and cargo in the Great Lakes. Throughout its three eras of U.S. government service, the Hammond Bay station has served as a stalwart defender of the Great Lakes.

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Above: A researcher works with lamprey pheromone in the lab. Right: Researchers release a tagged trout into Lake Huron. *(Photos courtesy of A. Miehls, USGS.)*