**GREAT RIVER ROAD NETWORK OF MUSEUMS AND**

**INTERPRETIVE CENTER APPLICATION-APPLICATION**

Top of Form

**Name of organization: Friends of Fairport Fish Hatchery**

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**Date: 07/10/2025**

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**Introduction**

Thank you for your interest . This is a network of museums and interpretive centers about the Mississippi River along the Great River Road. It is not our intent to select every museum or interpretive center along the Mississippi River, even though we recognize there are hundreds of museums that are doing excellent work. Our goal is to have a network of premier institutions that are willing to work together to further the interpretive and marketing goals for the Great River Road. The first step in this nomination is to contact your MRPC state chair or a member of your state commission. Their input and support in your nomination is very important. Completion of this nomination does require time and completion of all the requested information, including photos and letters of support. Do not let the space provided limit your responses. There are currently two model nominations to use as reference in completing your nomination. [**Click here**](https://mrpcmembers.com/interpretive-center-model-nominations-for-reference/).

On behalf of Friends of Fairport Fish Hatchery (FFFH) and the Department of Natural Resources (DNR) staff at the Fairport Fish Hatchery, I would like to nominate the Fairport Fish Hatchery to become an official Interpretive Center along the Great River Road in Iowa. The Fairport Fish Hatchery, located at 3390 Highway 22, is listed on the National Register of Historic Places and is bisected by the Great River Road. The hatchery is east of Fairport, Iowa in Muscatine County.

The Fairport Fish Hatchery, formerly the Fairport Fisheries Biological Station, was established by an Act of Congress in 1908, not so much as a fish hatchery, but rather as a biological research station to study mussel and fish propagation, their life cycles, and the parasitic mussel-fish relationship. The primary goal of the research station was to replenish mussel populations in the Mississippi River to benefit the freshwater pearl button industry, centered in Muscatine, Iowa, just eight miles downstream. The Fairport Fish Hatchery, in operation since 1910 (**Figure 1**), was home to over 300 German POWs in 1945. During World War II, most industries were understaffed as men left their jobs to fight in the War. The HJ Heinz factory in Muscatine was grossly understaffed and in need of men to operate the plant. In January 1945, HJ Heinz company petitioned the federal government and requested German POWs from Camp Altoona be sent to Muscatine to work in the plant and other related businesses. Between March and November of 1945, more than 300 German POWs lived in the dormitory rooms in the Main Laboratory. Given its long history and close ties to the pearl button industry, the fish hatchery has many diverse and interesting stories to share with visitors. It should also be noted that Highway 22, between Davenport and Muscatine, will serve as part of two trans-continental bike paths, namely, the Mississippi River Bike Trail from St. Paul, MN to New Orleans, LA and the America Discovery Bike Trail from Seattle, WA to Washington, D.C. A third bike trail from San Francisco, CA to Washington, D.C. may also follow Highway 22 in Muscatine County. The hatchery is located in proximity to several other important tourist destination points in Muscatine County, including the National Pearl Button Museum (NPBM) (8 miles west), Wild Cat Den State Park and the historic Pine Creek Grist Mill (4 miles east), and the Fairport State Recreation Area and Shady Creek Recreation Area (1mile west and 2 miles east from the hatchery). **Figure 2** shows an overview of the hatchery from the same location as Figure 1, mostly unchanged.

In December 2020, FFFH formed as a non-profit organization within the Muscatine County Historic Preservation Commission (MCHPC). The mission of the Friends group is to (1) preserve historic resources and support historic and scientific research at the hatchery; (2) educate students and visitors about the long and interesting history of the hatchery and its ties to the pearl button industry, (3) inform the public about the important function mussels serve in improving water quality, and the many intentional and unintentional impacts humans have had to the river and mussel-fish populations; and (4) promote eco-tourism at the hatchery, the National Pearl Button Museum, and Muscatine County. To achieve mission points 2-4, FFFH developed two interpretive trails, with signs and QR code videos, successfully nominated the Fairport Fish Hatchery Historic District to the National Register of Historic Places (NRHP), and constructed an educational pavilion to include informational panels, a timeline, and two artifact display cases. A bronze plaque on the pavilion acknowledges the listing of the Historic District on the NRHP.

FFFH and DNR staff at the hatchery are pleased to report that all these goals were achieved in less than four years. The North and South Interpretive Trails opened with a Chamber of Commerce ribbon-cutting ceremony in April 2023 (**Figure 3**). In October 2023, the 60-acre Fairport Fish Hatchery Historic District was formally listed on the NRHP. Finally, in October 2024, the Muscatine Chamber of Commerce sponsored a second ribbon-cutting event for the Grand Opening of the Educational Pavilion (**Figure 4**). After opening the interpretive trails in the spring of 2023, FFFH and DNR staff at the hatchery hosted, and continue to host, a number of student and adult groups. Several hundred students and campers from Iowa City, Cedar Rapids, Davenport, and Muscatine will visit the hatchery this summer for hands-on experience in kayaking, fishing, archaeology, and much more.

The two interpretive trails, which include 19 signs and 20+ associated QR code videos, take the visitor back in time to the beginning of the research station (hatchery) and reveal information about the workings of the hatchery and the people that lived there. From 1910 until the early 1930s, the research station was home to the country’s preeminent researchers and scientists. At the time, extraordinarily little was known about mussel-fish relations, and much of what we know today about these relations was the result of studies and research conducted at the Fairport Fisheries Biological Station. Many of these same people resided in the former Living Quarters. The North Interpretive Trail (9 signs), which meanders through the archaeological ruins of the Living Quarters, includes four of five former cottages (**Figure 5**), the high- and low-pressure cisterns, three garage foundations (**Figure 6**), two concrete retaining walls, and six sets of steps. QR code videos associated with the former cottages inform visitors of the history of the cottage and its occupants, results of the 2020-21 archaeological investigations, and the results of the 2021 ground-penetrating radar investigations. The South Interpretive Trail (10 signs) navigates visitors through the working part of the hatchery with informational signs (and some QR code videos) placed at the location, or former location, of the most important facilities related to the history of the research station. Some interpretive signs on the South Trail include the barn, (the last original building on the property - **Figures 7-8**), laboratory, pumphouse, tank house, boathouse, and reservoir. QR code videos at these locations inform people about the former facilities, activities conducted at the facility, and other related histories.

As noted, the Educational Pavilion includes 12 3’ x 4’ informational panels, a timeline, and two artifact display cases. The panels are roughly divided into three storylines: (1) history of the research station, the button industry, human impacts on the river and mussel populations, and impacts of the button industry on people in the area; (2) a mussel’s life cycle, the mussel bed ecology, mussels as natures water purifier, and efforts to restore mussel populations in Iowa; and (3) history of the hatchery and its facilities 1933-1950, 1950-1974, and 1974-Present. It is worth noting that the decorative sandstone blocks over the pavilion windows and the sandstone blocks used to construct the bullseyes over the two pavilion doors are materials salvaged from the demolition of the original Pumphouse in August 2021 (**Figure 9a-b**). Additionally, the iron trusses that supported the roof of the 1914 Pumphouse were salvaged and used as a decorative design element on the new pedestrian bridge, constructed in 2022-23 by FFFH volunteers and DNR staff along the South Trail (**Figure 10**). Lastly, bricks salvaged from the Pumphouse were used to outline the footprint of this former structure (**Figure 11**). The outline of the building footprint provides aesthetic appeal to this interpretive sign, and the QR code videos at this stop provide details on the design and function of this important building.

FFFH and DNR staff feel very strongly that the signage at the Fairport Fish Hatchery tell many interesting and unique stories about the history of the research station/hatchery, the Mississippi River, different aquatic ecosystems within the river, some of the natural resources (both native and non-native) within the river, how humans exploited these resources to develop an industry (i.e., pearl button industry) that was vital to the national economy, how and why the pearl button industry collapsed after only 50-years, and how human actions, both intentional and unintentional, have adversely impacted aquatic resources in the river. These stories relate to several of the Interpretation Themes outlined in the GRR-IC application. The stories and different histories discussed at the hatchery are, on the one hand, complimentary to stories reported at the National Pearl Button Museum, while at the same time, they present many new, but related, histories to share with visitors.

The historic photographs and associated captions on the signage are easy to read and provide visitors with a full understanding of the rich history of the hatchery, the mussel life cycle, how mussels improve our water quality, and many others. For visitors interested in pursuing a deeper understanding of the various histories and stories, the signs, panels, and QR code videos provide a more comprehensive history of the topic under discussion. The quality of the visitor experience is heightened by the fact that the hatchery’s rural setting has remained virtually unchanged for over 115 years, that is, the hatchery remains an active working facility. The scenic Mississippi River remains the south boundary of the property, and the hatchery is bisected by the same highway that is now the historic Great River Road. Based on visitor feedback, the beautiful outdoor setting afforded at the hatchery enhances the visitor experience. Lastly, but perhaps more importantly, the hatchery provides visitors with a unique experience, as this research station was the first fisheries research station in the interior of the country, established with the stated purpose of propagating mussels for the pearl button industry. No other place along the entire Great River Road, or in the country, can make this claim.

**Section 1- Qualifications:**

The institution must interpret the Mississippi River or some significant aspect or relationship to the river with a high level of quality, commensurate to the level of size, staffing and funding, and be open to the public on a published, regular basis.

**1. What story does your institution tell about the Mississippi River as part of its regular daily visitor experience? How does it relate to the themes for interpretation, which are attached? Why do you feel that this significant aspect or relationship to the river is presented at a high level of quality? Describe the quality of the visit your guests receive.**

*Theme 1. The Mississippi River is a ribbon of life for people, plants, and animals*.

Visitors to the Fairport Fish Hatchery are introduced to signs on the two interpretive trails (9 signs on the North Trail and 10 signs on the South Trail), 25 associated QR code videos, and 12 educational panels inside the Pavilion. These media sources discuss, elucidate, and expand upon the topics and stories mentioned below both visually and audibly. Additionally, the QR code videos have closed caption for the hearing impaired. The visitor’s experience at the hatchery will be fun and enjoyable as well as informative. The beautiful outdoor setting along the Mississippi River in rural Iowa serves to enhance the experience.

Much of the information discussed at the hatchery relates to Theme 1. Decades before zippers and Velcro were invented, buttons were used to fasten clothes. In the 1880s, buttons were manufactured from brass, copper, ivory, wood, and bone as well as more expensive saltwater pearl buttons that were imported from Japan and Germany. In 1891, John Boepple of Muscatine, Iowa discovered that freshwater mussel shells could be used to make pearl buttons. Freshwater pearl buttons were indistinguishable from them and initially were less expensive than highly desired saltwater pearl buttons. In the 1890s, hundreds of millions of mussels were present in the Upper Mississippi River and its tributaries. Thus, freshwater mussels were readily abundant and easy to harvest. The abundance and relatively cheap cost of producing freshwater pearl buttons was not lost on the garment industry, and soon thereafter the demand for freshwater pearl buttons resulted in a “Midwest Gold Rush.” A panel in the pavilion tells this story (**Figure 12)**.

Within ten years, many thousands of people became employed in the button industry, either harvesting mussels or working in factories, not only throughout Iowa but also across the Midwest. By 1900, Muscatine was home to over 60 button companies and became known as the “pearl button capital of the world.” However, with no regulations or control on harvesting mussels, the mussel beds of the Upper Mississippi River were soon exhausted, and by the early 1910s, the industry harvested mussels from 19 states ranging from Ohio to South Dakota and Minnesota to Louisiana. As a result of overharvesting, industrialists and scientists began asking Congress as early as 1904 to help the industry stay abreast with the demand for pearl buttons from the ever-expanding garment industry in the East; thus, the birth of the Fairport Fisheries Biological Station.

The Fairport Fisheries Biological Station was established by an act of the US Congress in 1908. Operations began with temporary facilities in 1910, and a Grand Opening in 1914 was attended by the US Secretary of Commerce, US Congressmen, state legislators from Iowa and Illinois, 100s of scientists, and 5,000 local citizens. The primary focus of the station was to research fish, the propagation of mussels, the parasitic relationship between mussels and their fish host(s), and to understand the preferred aquatic habitats of mussels and their fish host(s). The ultimate goal of the station was to replenish mussel populations within the Mississippi, Ohio, and Missouri River basins in order to assist the freshwater pearl button industry. The Fairport Biological Station was the first fisheries research station built in the interior of the country, a testament to the importance of the pearl button industry to the national economy. The decision to construct the research station at Fairport was based on several factors, including (1) the station was located on the Mississippi River for easy offloading of harvested mussels, fish and equipment; (2) the station was (and is) bisected by both a highway (today the Great River Road) and a railroad again for easy access and offloading of equipment; and (3) Muscatine was located eight miles downstream.

Prior to European Contact, the mussel population and diversity within the Upper Mississippi River were among the highest in the world, if not the highest. The Mississippi River and its many tributaries supported many hundreds of millions of mussels as well as provided a wide variety of aquatic habitats for mussel beds to develop (e.g., fast-moving water in the main river channel, slower-moving water behind islands, slack water in back channels and sloughs, sand and gravel bottoms, silt and clay bottoms, stream bottoms with and without aquatic plants, etc.). More importantly, different mussel and fish species became adapted to each aquatic niche over thousands of years. Mussels and fish maintain a parasitic relationship. As discussed in one panel, a pregnant female mussels eject glochidia into the water. The glochidia are shot into the water and settle onto the gills of the fish host (**Figure 13**). Most mussels have evolved a specific lure that attracts the proper fish (host). When the fish bites the lure, the mussel ejects the glochidia. The fish serves as a host for the glochidia (larva) for an average of 10-14 days before the mature larva fall off the fish gills, develop into mussels, and form mussel beds. Some mussels may have four or five fish hosts whereas other species have only a single host. If the glochidia attach to an improper “host” fish, they die. A mussel takes from 2 to 9 years to mature and be capable of reproduction. The slow maturation of mussels proved to be a setback to the button industry as they attempted to replenish mussel populations in the Mississippi River.

In addition to overharvesting mussels, researchers and industrialists warned that pollution, i.e., municipal wastewater, industrial chemicals and siltation, was having deleterious effects on mussel and fish populations in the Upper Mississippi River. River pollution was an ever-growing problem in the region as more and more people moved to river cities to take industrial jobs. By the late 1910s, researchers reported that the dramatic increase in raw sewage and other pollutants dumped into the river and the gross overharvesting of mussels (nature’s water purifier), would eliminate mussel and fish populations in the Upper Mississippi River basin. The government attempted to control overharvesting mussels in the Upper Mississippi during the early and mid-1920s, but with limited success. By the late 1920’s, pollution became so acute the government encouraged the button industry to harvest all the remaining mussels before they would be killed by increased pollution. The loss of mussel beds not only impacted the button industry, but it also had adverse effects on riverine ecosystems. Mussel beds form a stable habitat for a variety of aquatic species, and they also provide a natural substrate on the river that reduces the shifting and mixture of sand, silt, and clay. Moreover, mussel beds provide microhabitats for other aquatic species, e.g., crayfish, or cover for smaller fish that are prey species for the larger species like Walleye Pike, Northern Pike, Muskie, etc. (**Figure 14**).

*Theme 2. As the river has influenced people, people have influenced the river*.

The educational pavilion tells several stories of how people have impacted and changed the river. Some of these stories are briefly discussed below. Mussels are nature’s water purifier and perform an important and necessary service for all lifeforms **(Figure 15**). One adult mussel is capable of removing silt and chemicals/toxins from 10-12 gallons of water per day. Prior to the commercial exploitation of mussels, a single mussel bed might be four or five acres in size and consist of tens of millions of mussels. Thus, a single mussel bed filtered many millions of gallons of water per day. Today, after decades of overharvesting, pollution, and siltation, a large mussel bed in the Mississippi River may consist of a few thousand mussels in an area the size of one or two football fields. Although efforts by biologists and concerned citizens to restore mussel populations have been ongoing for 10-12 years, the success of these efforts will never attain the population numbers prior to the 1880s.

Another impact on mussel and fish populations over the last 150 years has been the desire to maintain a navigational channel on the Upper Mississippi River. Beginning in the 1870s and continuing through the 1930s, farmers, industrialists, and government officials from Midwest states petitioned Congress to develop a continuous navigation channel in the upper Mississippi River. In 1878, Congress directed the US Army Corps of Engineers (USACE or the Corps) to develop a 4½-foot deep navigation channel. The 4½-foot channel was maintained through the construction of (1) wing dams (which increased channel flow in the center of the river), (2) closing dams (which eliminated sand bars and shoals by restricting water flow in braided parts of the river and between small islands and sand bars), and (3) shoreline riprap to prevent or mitigate bank erosion (**Figure 16**). The Corps also practiced dredging to remove silt that accumulated from soil erosion. Dredging devasted mussel beds and altered natural substrate on the river bottom. The 4½-foot channel required the construction of thousands of wing dams on both sides of the river between Minneapolis and St. Louis. In 1907, due to increased demand and traffic, Congress directed the Corps to construct a 6-foot navigation channel. The 6-foot channel relied on the same methods as the previously, namely wing dams, closing dams, riprap, and dredging. Essentially the Corps just built more and higher wing dams than before.

Construction of the wing dams, closing dams, and channel dredging adversely affected aquatic habitats and animals. Wing dams increased stream flow in the main channel, which scoured the river bottom and changed sand and silt bottoms to gravel. At the same time, silt and clay particles suspended in normal stream flow settled to the river bottom behind the wing dams, where stream flow was reduced thus allowing silt and clay particles to settle to the river bottom, and change sandy bottoms to silty bottoms. These hydrological shifts impacted the river substrate and aquatic vegetation thereby altering aquatic habitats and thus leading to significant declines in fish and mussel populations.

Another story told at the hatchery is how construction of the hydroelectric plant at Keokuk, Iowa in 1910 proved to be a blow to the button industry. Between 1908-1910, researchers and industrialists warned that the lock and dam associated with the hydroelectric plant would have a harmful and permanent effect on the pearl button industry. Although the plant provided electricity to the Midwest and the associated lock and dam improved navigation over the Des Moines Rapids, neither the button industry nor the impacted mussel and fish species ever recovered. From 1890-1910, the most desired mussel for buttons was the large and plentiful Ebony Shell mussel. This mussel has a single fish host, the Skipjack Herring. The Skipjack Herring is an anadromous fish, i.e., it lives in the Gulf of Mexico, a saltwater environment, and migrates to the Upper Mississippi River, freshwater, to spawn. Researchers warned that the Skipjack Herring, unlike some salmon species, will not go through dams or jump up ladders in their desire to migrate upstream and spawn. The hydroelectric dam restricted migration of the Skipjack Herring and led to the end of the Ebony Shell mussel in the button industry. Today both the Skipjack Herring and the Ebony Shell mussel are endangered species, if not extirpated, in the Upper Mississippi River.

Despite improved navigation, a 6-foot navigation channel proved difficult to maintain, and as a result river commerce was not able compete with railroads. In 1930, Congress directed the Corps to construct 23 locks and dams between Red Wing, MN (#4) and Alton, IL (#26) to ensure a permanent 9-foot navigational channel. The lock and dam system completely altered the river hydrology, transforming the river from a free flowing stream into a series of large slack pools where water levels are regulated by raising and lowering the dam gates. Among the many negative impacts to the riverine environment, the 9-foot channel eliminated thousands of acres of beneficial wetlands. Although navigational challenges like sand bars and shoals were reduced, the pools behind the dams limited breeding grounds for some mussels and fish as sand and gravel river bottoms were transformed to silt and clay bottoms.

*Theme 5. The Mississippi River has profoundly shaped American history*.

Informational panels at the pavilion inform visitors of the meteoric rise of the button industry in tandem with the rise of the New York City garment industry as well as labor unrest during the early 20th century. The growth of the freshwater pearl button industry coincided with, and was fueled by, the growth of the garment industry in New York and elsewhere across America. Together the two industries were instrumental in the growth of the US gross domestic product (GDP) from 1890 to the mid-1920s and made New York City a global fashion center on par with Paris. One consequence of the rapid growth of the button industry, one discussed at the pavilion but often unmentioned elsewhere, is that almost overnight many cities along the Mississippi River became industrialized, transforming the agrarian Midwest into a more industrialized society. As was noted earlier, the button industry was not restricted to Muscatine or even Iowa but rather spread to 19 states in the interior of the country (mostly Midwest). In addition to the 10,000s of people working in factories across the Midwest, an equal number of people were active in the business of harvesting mussels from the river. Harvesting mussels and preparing the shells for sale was often a family business whereby man and boys harvested mussels and women, young girls, and small children stayed in camps along the river shore and boiled the mussels, extracted (and discarded) the meat, and stockpiled shells for selling to middlemen. Because of the importance of the button industry to the American GDP and the many thousands and thousands of families and individuals employed in this or related businesses, it is not surprising that the US Congress acted in 1908 to establish the fisheries research station in Fairport to support the important freshwater pearl button industry.

At the time the American Industrial Revolution emerged in the Midwest, nearly ninety percent of the work force were farmers or people working in related businesses, e.g., millers, merchants, etc. The rapid rise of the button industry occurred at a time when there were few labor laws and no state or federal regulations to ensure a safe and healthy work environment. Because of the rapid emergence of the button industry in the 1880s, there were no child labor laws, and children as young as 13 or 14 years of age worked in the factories. Working conditions at the factories were unregulated and extremely unsafe and unhealthy (**Figure 12)**. The factories lacked ventilation and shell dust from cutting button blanks filled the air and was inhaled by the workers causing lung damage. Button cutting machines lacked any guard rails or safety features and men (typically but not exclusively) often lost fingers and parts of their arms on the machine. In fact, the conditions in the button factories were reportedly worse than those in the notorious “sweat shops” in New York City. Union organizers and workers made numerous attempts to form unions, but for the most part, these efforts were unsuccessful. Union membership rose from 39 in November 1901 to a peaked of 2,500 in February 1911 (**Figure 12**). By March 1911, all 43 factories were shut down for 15-16 months. Owners overproduced the previous year and had a surplus of buttons for which there was no demand. Meanwhile unionized workers demanded better wages and improved working conditions. Whether it was a lockout by the owners or a strike on behalf of the workers (probably a little of both), the strike/shutdown led to many confrontations between union workers and the local police. Ultimately, Pinkerton strike breakers from Chicago and later the Iowa State Militia were called to resolve the unrest. In the case of the Pinkerton’s, the Pinkerton goods managed to heighten the unrest and were asked to leave after two days. Eventually, the dispute was settled and workers returned to work in May 1912.

*Theme 9. The history of the Mississippi River transportation is a dramatic story reflecting the river’s economic and commercial importance*.

One panel (**Figure 16**) in the pavilion is devoted to the theme of river navigation and commerce. The panel discusses how various efforts to control the river for commercial business interests during the late 19th and early 20th centuries adversely impacted river hydrology, aquatic ecosystems, and mussel-fish populations. Because this information was presented previously, it will not be reiterated at this time other than to note that the same stories discussed above are equally relevant to this theme.

On behalf of the button industry, the fisheries biological station in Fairport was established by Congress in 1908 to restore mussel populations in the river in order to assist the pearl button industry. Some years later (spring 1919), many of the same owners that attended the Grand Opening in 1914 testified in front of a Congressional House Committee asking Congress to return to earlier tariffs that targeted cheaper saltwater pearl buttons imported from Japan. One of the panels (**Figure 17**). discusses these events and how the presence or absence of tariffs (and other global events) impacted boom and bust cycles within the freshwater pearl button industry.

Other panels tell the story of the changing functions and priorities of the hatchery over time as conditions and needs have changed. Due to rapidly declining mussel populations in the Upper Mississippi River as a result of overfishing and the continued degradation of the river’s water quality due to pollution, mussel research at the station ceased in 1931 and fish research ended in 1933. The overfishing of mussels and increased pollution and siltation coincided with the worsening economic conditions of the Great Depression. Although the federal government terminated funding for mussel and fish research, the facility continued to functioned as a hatchery. During the height of the Depression in the mid- to late- 1930s, hatchery personnel experimented with aquaculture to raise Bass, and other fish, for farm ponds to help feed people during the Depression (**Figure 18**). A panel and QR code videos also discuss the use of the hatchery as a German POW camp during 1945. An artifact display case in the pavilion contains two items belonging to one of the prisoners. The man carved (and hand painted) a wooden box with birds and gave it to one of the guards, and he left behind a violin that he had brought from Germany at the time of his capture. Beginning in the early 1950s, federal funds allowed for new building and pond construction and the hatchery experienced a rebirth. Hatchery personnel raised a variety of game fish in order to stock private and public ponds and lakes across the Midwest. The program was highly successful and continued throughout the 1950s and 1960s (**Figure 19**). Today the hatchery stocks Bass and Blue Gill for selected state lakes and reservoirs in Iowa as well as Walleye Pike, Northern Pike and Sturgeon for the Mississippi. These stories and more are discussed and illustrated on three panels in the educational pavilion.

*Theme 11. The Mississippi River is a working river sustaining many industries***.**

The Mississippi River valley and its many tributaries support a diverse number of terrestrial and aquatic resources, many of which were harnessed by humans to support a variety of different industries. Chief among terrestrial resources was the large stands of oak, maple, and pine trees. Owing to the vast stands of deciduous forest nearby, the first major industry in the Muscatine area was the hardwood industry. The Musser family established the hardwood industry in Muscatine in the 1850s, and the industry thrived into the 1890s. By the turn of the twentieth century, most of the hardwood resources in the area were exhausted, and the lumber mills in Muscatine closed in 1916. However, the Musser family owned extensive land tracts in Wisconsin and Minnesota. The family transferred operations to Minnesota and their lumber empire joined forces with other regional companies and eventually became the Weyerhaeuser Corporation.

The Town of Fairport as well as land within the NRHP Fairport Fish Hatchery Historic District share a lesser known history. This story is told on an interpretive sign on the South Trail and the associated QR code videos. Long before the Fairport Biological Station opened in 1910, Fairport was known for another industry. During the last quarter of the 19th century, Fairport was home to four or five pottery factories and affectionately known as “Jugtown”. The abundance of high-quality potter’s clay in the vicinity of Fairport gave rise to pottery factories beginning in the late 1850s and early 1860s. Pottery factories in Fairport produced stoneware vessels (“jugs”) for storing wet and dry goods prior to the development of refrigerators and freezers. The 1874 Plat Map of Muscatine County indicates that George F. Lee and Willian Thompson operated a pottery factory on the river and within what would become the southeast corner of the hatchery. In 1876-1877, 67 percent (36 of 54) of the names in the Fairport Business Directory were engaged in the pottery business. The manufacture of stoneware vessels continued in Fairport into the early 1900s.

The decline of the hardwood industry in Muscatine beginning in the late 1890s, coincided with the rise of the pearl button industry. As discussed in the educational panels at the hatchery, the rapid rise of the pearl button industry became a Midwest Gold Rush as tens of thousands of people flocked to Muscatine and other cities along both sides of the Mississippi River. Ultimately, several thousand button companies (or companies/families cutting button blanks) emerged across 19 states and employed nearly 30,000 people in the factories alone and a comparable number of individuals were involved with harvesting, selling, and transporting mussels to (or on behalf of) the button companies. Over 65 button companies were in operation within the city limits of Muscatine by 1900. Hundreds of small button cutting shops as well as larger finishing factories opened and closed in Muscatine alone between the 1880s and the 1920s.

The establishment of the Fairport Fisheries Biological Station helped to support a small component of an otherwise well-known industry, namely fishing. Fishing was the primary source of income for many families living along the river for many decades. With the opening of the biological station, station employees were often in need of mussels and fish for research purposes. Staff personnel would pay fishermen for their load of mussels and or fish. Mussels were generally purchased in order to extract glochidia from pregnant females. The glochidia were then used to inoculate different fish species that served as the host until the larvae matured and became detached from the fish gills. Other times staff personnel paid fishermen for their catch rather than harvesting fish themselves. The fish were placed inside holding tanks and inoculated with glochidia. After a few days, the fish were released into the river where the larvae then mussel dropped off the fish host and formed mussel beds. Today, as in the recent past, hatchery personnel raise fish or fingerlings of different species before transferring the fish to ponds, lakes and rivers across the state. Visitors and students often have the opportunity to experience the process of raising fingerlings.

**2. What is the length of stay for the typical visitor experience at your institution? Please provide what you consider an average time, what you consider a short stay and what you consider a long stay for regular attendance.**

One hour = Average, 30 Minutes – Short Stay, Two Hours – Long Stay

The typical or average length of stay for visitor at the educational pavilion is 30-40 minutes if they just read the timeline, the photo captions on the 12 panels, and review the artifact display cases. Most of the 12 panels contain 500-600+ words of informative text, so visitors that read all the panels will typically stay in the pavilion for one hour or more. The hatchery also has two interpretive trails. The North Trail traverses the hillside that housed the former Living Quarters of the biological research station, and the South Trail meanders through the working part of the hatchery.

The North Trail includes archaeological ruins at four locations and nine interpretive signs, including five signs that have QR codes. Each QR code contains three or four 1-2 minute audio-visual recordings that provide the reader with additional information regarding that particular sign. A typical roundtrip on the North Trail is about 60-75 minutes. However, if one listens to all the QR code videos, it will require another 35-45 minutes to complete a roundtrip on the North Trail. The South Trail has 10 interpretive signs, including four signs that have a QR code with each QR code linking to three or four 1-2 minute videos. The manner in which the South Trail traverses the working part of the hatchery allows the visitor the opportunity to conveniently review 5 signs (2 QR codes), 8 signs (3 QR codes), or 10 signs (4 QR codes). Thus, the average amount of walking time for each trail option varies from 35-45 minutes, 60 minutes, and 90 minutes, respectively, not including time to listen to the QR code videos.

**3. What educational or interpretive programs beyond exhibits do you conduct that interpret the Mississippi River or some significant aspect or relationship to the river?**

During our brief 4-year history, the Friends group has both hosted and/or participated in a number of educational events and volunteer work days with students and adults. For the last three years, FFFH hosted an Earth Day event in April. The Earth Day events, which have been attended by 100-200 people, include 4-5 speakers that present informative talks on a wide variety of topics related to the hatchery. Topics discussed during these events include, but are not limited to, the history and archaeology of the hatchery, history of mussel and fish research at the hatchery, recent mussel restoration projects, educational programs and opportunities at the hatchery for students of all ages, past and present human activities that have negatively impacted the river hydrology and ecology thereby adversely effecting mussel and fish populations in the Mississippi River basin, and how humans have impacted native prairies, wetlands, and forests in the Midwest and what we can do to improve and enhance the restoration of these critical ecosystems. **Attachment 4** includes photos from some of the Earth Day events discussed above as well as photos from volunteer work day events over the past four years.

FFFH routinely works with, and shares educational opportunities with, regional students of all grades, students from Muscatine Community College (MCC), and adult volunteers. Typically, FFFH works with high students twice a year, during the fall Muscatine High School Day of Caring and their spring clean-up day. FFFH also collaborates with adult volunteers twice a year (also spring and fall) during the United Way Day of Caring (spring) and the United Way Interns Day of Caring (fall). In 2021, FFFH was one of 25 organizations nationwide to receive a $2,000 grant from the National Scenic Byways Foundation and the Toyota Corporation. In September 2021, FFFH and DNR staff hosted 55 students from two high school ag/forestry classes and 25 adults on the United Way Day of Caring. Students joined adult volunteers to remove 50+ years of soil and vegetation from the archaeological ruins in the Living Quarters (**see Attachment 5**). After everyone enjoyed lunch, DNR and FFFH personnel shared educational and job opportunities across a variety of disciplines, e.g., fisheries, conservation, biology, botany, ecology, geology, hydrology, and archaeology, with the students.

In the spring of 2024, DNR and FFFH personnel collaborated with 25-30 high school students on different projects. Projects included planting 50+ redbud trees at the hatchery, removing vegetation from archaeological ruins between the South Trail and the Mississippi River, and constructing 12-14 stone steps along the South Trail to connect a new interpretive sign and archaeological ruin on the South Trail. As is customary, the students were exposed to seasonal and career job opportunities with the DNR as well as a number of BS/BA degrees offered in colleges throughout the Midwest that would provide graduates with careers in the aforementioned disciplines. These are but two of many examples of the partnership between FFFH, DNR, and area high schools. Another example is the collaboration between FFFH and MCC landscape design students. In the fall of 2022 and the spring of 2023, 8-9 MCC students helped FFFH remove an old, dilapidated bridge and construct a new bridge across a creek on the South Trail (**Attachment 4**). The MCC students helped to construct the new bridge, including operating a backhoe to excavate holes for the bridge piers, pier construction, and designing landscape options on either side of the bridge and the pavilion.

In March 2024, FFFH and DNR staff entertained independent 2nd-8th grade students (i.e., home-schooled) from Marion County. Areas of instruction included the history of the Fairport Biological Station and its ties to the pearl button industry in Muscatine, the results of an archaeological survey of the research station, fish stock and raising fish at the modern hatchery, and fish-mussel relations now and historically. More recently (April 2025), FFFH and DNR staff collaborated with personnel from the University of Iowa-Institute of Hydrological Research-Hydroscience and Engineering, to educate 64 fifth-grade students from McKinley Elementary in Muscatine. Students were allowed hands-on experiences, such as handling fish in the holding tanks, kayaking in a fish pond, and river hydrology and ecology. For example, they learned about the importance of water quality, natural resources in the river system, and human impacts to the river and riverine ecosystems. At a fourth station the students learned how to apply critical thinking and empirical artifactual data to decipher archaeological questions related to the Living Quarters at the biological research station and the artifact assemblages recovered from these ruins. This summer, personnel from FFFH, DNR, and IIHR will host four groups of students (combined total of 175-200 students comprised of K-8th graders) on four different days. The educational opportunities and hands-on experiences for these students will be similar to those recently developed for the McKinley 5th grade students in April.

Twice a year (in the spring and fall) over the last 3.5 years, FFFH and the Fairport Fish Hatchery have hosted 7-15 adults during the United Way Day of Caring. Projects have included removing trees, vegetation, and soil from the archaeological ruins on the North Trail as well as the former Temporary Pumphouse along the South Trail; outlining the footprint of the Pumphouse with bricks salvaged from the demolition of the Pumphouse; excavating post holes, erecting the sign posts, and mounting the interpretive and directional signs onto the posts; assisting students in planting redbud trees and constructing the stone steps; and painting trim on the administration building and adjacent house. FFFH continues to work closely with a variety of volunteer groups throughout the area to maximize our ability to get various projects accomplished both for our benefit and also projects that assist the DNR attain their goals and mission. Most recently, a local Eagle Scout and his troop made five 8’-long benches for use along the North and South Trails. FFFH volunteers assisted the scouts in the manufacture of the benches.

Since its inception, FFFH has routinely made presentations to a variety of professional and social organizations in Muscatine as well as to students of various age ranges. FFFH presentations discuss the history of the freshwater pearl button industry, the ties between the Fairport Biological Station and the button industry, and the relationship between mussels and their respective fish host. Other topics of discussion typically include the impacts of wing dams, the lock and dam system, and pollution and siltation on stream hydrology, aquatic ecosystems, and mussel and fish populations in the Mississippi River Basin. FFFH has made presentations to the Muscatine Rotary Club, Kiwanis Club, Knights of Columbus, Twentieth Century Club, and two PEO groups. Most recently, in April 2025, FFFH invited a speaker to our Earth Day celebration that discussed the importance of restoring our native prairies and forests. River Action, on behalf of FFFH, is currently working on a grant application to procure funding for prairie and forest restoration at the hatchery. The project will involve teaching and working with area high school students to prepare, plant, and maintain the prairie restoration component of the project.

In addition to receiving a $6,700 grant in 2022 to partially cover the expenses of the new pedestrian bridge construction, community organizations have recognized FFFH on two occasions. In March 2024, FFFH received the United Way “Hand Raiser Award” for outstanding volunteer efforts during the calendar year 2023. The Hand Raiser Award is given by the Muscatine County United Way to the organization that has registered the most volunteer hours over the course of the year. FFFH easily had the most volunteer hours in 2023 and thus was awarded the 2024 Hand Raiser Award. In October 2024, FFFH received the “Tom Hendricks Community Service Initiative Award” from the Muscatine Charities Organization and the Community Foundation of Greater Muscatine. The Community Service Initiative award is presented to the organization that “… successfully implements an important initiative which addresses critical needs or enhances quality of life, and … utilized volunteers and positively impacted the community.” In addition to the Tom Hendricks Community Service Initiative Award, FFFH received a $8,000 grant.

Part of the FFFH mission statement is to “preserve historic resources and conduct historic and scientific research at the hatchery.” FFFH conducted archaeological investigations at the hatchery in 2020 and 2021. Initial investigations in the spring of 2020 included recording, mapping, and photo documenting the archaeological ruins of the Living Quarters. Limited collections of surface artifacts associated with former cottages were undertaken in 2021 and 2022. Additionally, a ground-penetrating radar survey of four former cottage locations was conducted in the summer of 2021. As a result of these different studies, FFFH has presented professional papers on the history and archaeology of the Fairport Biological Station to the Iowa Archaeological Society (IAS) (April 2025), the Quad City Chapter of the IAS (April 2025), and the State of Iowa Historic Preservation Summit Conference (June 2025). In May 2025, FFFH received an IAS grant of $1,100 to conduct remote sensing investigations to locate the early 20th century blacksmith shop. After their ceased to be a need for a blacksmith shop, the building years served as a shell testing shop for several years before its demolition in 1931. Dr. Colin Betts of Luther College will conduct the remote sensing investigations. Fieldwork is expected to commence in the fall of 2025. A requirement of the IAS grant is that the report of findings will be presented at the annual IAS meetings and published in the annual IAS journal.

**4. What are your published and regular hours? Please describe hours for various seasons.**

The North and South Interpretive Trails at the hatchery are designed to provide the visitor with a self-guided experience of the facility. The trails are open to the public 365 days a year and can be accessed during daylight hours. Access to the interpretive trails is not restricted during evening hours, but traversing the trails at night would pose obvious risks since the trails are not lit. One or more DNR staff work at the hatchery Monday through Friday during most weeks of the year. The presence of DNR staff at the hatchery varies due to seasonal workload, which often requires them to be on the Mississippi River all day. DNR staff are generally available to answer visitors’ questions, but given their workload and priorities, they cannot be counted on to conduct guided tours without advance notice. In essence, the trials and pavilion are designed to be self-guided, DNR and FFFH staff are not available for guided tours without advance notice.

Like the North and South Trails, the educational pavilion is open 365 days a year. The pavilion, which opens and closes via timed locks, is accessible from 7 am – 7pm daily. The educational panels, timeline, and display cases at the pavilion present new themes and information compared to the interpretive signs, but also augment the information contained on the interpretive signs and the QR code videos. The pavilion is accessible year-long although given the building is not heated, visitor use may be limited during the winter months. Likewise, although the interpretive trails are open year-round, the potential for snow and ice in the winter months would be a consideration for most visitors in the winter.

**5. What is the annual attendance for regular museum hours at your site, exclusive of special events? What is the admission fee?**

The annual attendance or number of visitors to the hatchery is difficult to ascertain for a number of reasons. Reasons for the difficulty in attaining these numbers include the following: (1) no DNR staff or FFFH volunteers are assigned to monitor visitors at the hatchery; (2) even if a traffic counter were available, it would not be possible to distinguish between DNR staff coming and going and visitor traffic; (3) all vehicles, for the most part, use one of two parking areas, both of which are shared by DNR and U of Iowa staff; (4) unlike many of the Interpretive Centers along the Great River Road, the interpretive trails have been open for two years (late April 2023) and the pavilion has been only been open for nine months (mid-October 2024); and (5) visitors that just walk the North and South Trails do not have a convenient way to sign-in, conversely, visitors to the pavilion can, but frequently do not, sign the registration book. Having said that, based on the number of trail maps that have been taken from the box at the Trailhead, it would appear that the hatchery may get as many as 400, possibly 500, people per year, presumably the majority visit between April through October. FFFH anticipates that the number of visitors per year will increase twofold or more if the hatchery is designated as an Interpretive Center along the GRR. Visitor attendance will undoubtedly increase multiple times once the three cross-country bike trails are officially opened. All three trails will use Highway 22 in Muscatine County, the same highway that bisects the Fairport Fish Hatchery NRHP Historic District.

There is no admission fee to visit the pavilion or walk the interpretive trails.

**6. What is your proximity to the Great River Road? Interpretive Centers must be located in the county/ parish adjacent to the Mississippi River, the county/parish that the Great River Road runs through and/or part of the state's Great River Road Corridor Management Plan.**

The 60-acre Fairport Fish Hatchery is bisected by the Great River Road, Highway 22, in Muscatine County. The working part of the hatchery consists of 45 acres and is located on the south side of the highway. The Mississippi River forms the southern boundary of the property, and the Great River Road forms the north boundary to the working part of the hatchery. On the north side of the highway (Great River Road) is a 15-acre oak forest that includes the former Living Quarters, a.k.a, the North Trail. Muscatine, home to the National Pearl Button Museum and former “pearl button capital of the world,” is located 8 miles west on Highway 22. Davenport, Iowa is less than 20 miles to the east on Highway 22. The historic Pine Creek Grist Mill and Wildcat Den State Park are four miles east of the hatchery, also on Highway 22, i.e., the Great River Road.

**7. Did you enclose a letter of endorsement from your state Mississippi River Parkway Commissioner?**

Yes, the application includes a Letter of Endorsement from the Mississippi River Parkway Commissioner as well as several Letters of Support.

**Attachments**

Letters of support and a letter of endorsement by your state Mississippi River Parkway Commission Commissioner are encouraged.

Attachment 1 is a Letter of Endorsement by the Iowa Mississippi River Parkway Commission; Attachment #2 includes eight Letters of Support. Attachment #3 (Figures 1-19) illustrates elements of the hatchery and the interpretative signs and panels. Attachment #4 illustrates FFFH events, volunteers, and the results of these efforts.

**Letter of Support - File 1**

Max. file size: 32 MB.

**Letter of Support - File 2**

Max. file size: 32 MB.

**Letter of Support - File 3**

Max. file size: 32 MB.

**Letter of Support - File 4**

Max. file size: 32 MB.

**Section II - Duties and Obligations:**

**1. Members of the network must have the Great River Road map at their site, at a minimum for reference, but preferably for sale or for distribution to visitors. One map will be provided as will an order form for additional maps. Will you agree to stock and/or sell the Great River Road map?**

 Yes

FFFH will prominently display a map of the Great River Road inside the pavilion. At this time, the information table inside the pavilion has many such maps available to visitors. The Great River Road maps share the table with FFFH literature, e.g., maps of the interpretive trails and the FFFH brochure and newsletters. All this information is, and will remain, free to our visitors.

**2. Members of the network must ensure that front line personnel who have contact with the public are knowledgeable of and will promote the Great River Road and other members of the Network of Interpretive Center. Describe how you will ensure that your front line personnel will be trained, briefed and monitored.**

FFFH will hold/host training sessions about the Great River Road and Mississippi River for FFFH volunteers and local DNR Staff. FFFH will ensure that volunteers and staff are informed and able to share the mission of the National Mississippi River Parkway Commission as well as share information about other points of interest along the Great River Road. FFFH and DNR understand that our site is part of a National All American Road that extends from the Headwaters of the Mississippi River in Minnesota to the Gulf of Mexico in Louisiana on both the east and west side of the Mississippi River. Iowa’s Great River Road is also an All American Road, being a destination unto itself, that people come to travel. FFFH would be proud and happy to have the opportunity to display signage about the Great River Road, Experience Mississippi River, and other promotional displays that the MRPC deems appropriate to share.

While FFFH is happy to host training sessions for volunteers and staff to become familiar with Great River Road and the Network of Interpretive Centers, it is only fair to point out that the hatchery remains a working hatchery, and as such DNR personnel will not always be available to assist visitors with guided tours. FFFH volunteers and DNR staff are always available to serve as tour guides given advanced notice. The hatchery remains much as it was when it opened in 1914. To be eligible to the NRHP, a historic resource, property, or district must demonstrate both significance and integrity. The NRHP cites seven criteria of integrity, among these are design, setting, feeling, and association. As noted in the NRHP nomination, the Fairport Fish Hatchery retains a rating of good to high integrity regarding design, setting, feeling, and association. Both the railroad tracks and the highway that bisect the property were operational many years before the research station was established. Thus, a visitor today can easily feel and see the ongoing operations of a fish hatchery not too dissimilar to what it looked like 80-100 years ago.

The raison d’etre of the hatchery is to educate and share with visitors the rich and interesting history of the hatchery and its ties to the resources of the river and the pearl button industry. The natural and peaceful outdoor setting allows the visitor to experience both the past when the hatchery was a thriving research station as well as the present day hatchery and the daily activities of the current staff as they perform their duties. Because of these factors, the trail maps for self-guided tours are available in the pavilion and in a box at the trail head. As stated previously, a visit to the historic Fairport Fish Hatchery is literally a unique history that is not shared by any other location along the Mississippi River.

**3. Are you willing to display signage at your center showing that you are a member of the Great River Road Network? This may be inside or outside signage, but must be prominently displayed. Where will you display the Interpretive Center sign? Describe the location inside or outside.**

Yes. FFFH and DNR welcome the opportunity to display signage showing the hatchery as a member of the Great River Road Network. The signage, depending on size, will be prominently displayed near the highway entrance, and/or it will be mounted next to the Trail Head Map and the Educational Pavilion. We are also hopeful we will receive several brown informational highway signs from the Iowa DOT to place at various locations along Highway 22 and US Highway 61 to alert visitors of the GRR Interpretive Center and the Fairport Fish Hatchery NRHP Historic District.

**4. Are you willing to secure the needed funds to have an officially approved Great River Road Interpretive Center sign erected at your site?**

Yes, absolutely, especially once the final design for such signs is approved. Display of a sign designating the hatchery as an official recognized Interpretive Center along the GRR will help attract tourists.

**5. Are you willing to use and incorporate the Great River Road Network of Interpretive Centers language and Great River Road logo on all future marketing and promotional materials (i.e., radio, newsprint, social media, websites, maps, rackcards and brochures, etc.)? Sample language: [Name of Interpretive Center] is an Interpretive Center of the Great River Road – Mississippi River Parkway Commission National Scenic Byway.**

Yes, again once final design of the logo, etc. has been approved, we will incorporate the logo and language on all future FFFH brochure materials and publications.

**Section Ill - Capacity:**

**1.What is the web address for your facility? Will you create a link to the Great River Road's website, experiencemississippiriver.com on our website?**

[www.fairportfishhatchery.com](http://www.fairportfishhatchery.com) is one of several web addresses that link people to information about the hatchery (past and present and the trails and pavilion). Information about the hatchery and FFFH can also be found on the Iowa DNR website [www.iowadnr.gov](http://www.iowadnr.gov) as well as the Muscatine County website [www.muscatinecountyiowa.gov](http://www.muscatinecountyiowa.gov). We can also be accessed via Facebook at [www.facebook.com](http://www.facebook.com) and enter fairportfishhatchery.

Yes, we will create a link to the GRR website [www.experiencemississippiriver.com](http://www.experiencemississippiriver.com)

**2. Do you have traveling exhibit space? If so, what size is it in square footage? Would you be willing or interested in hosting a traveling exhibit?**

No, we do not have a traveling exhibit though it is possible one could be produced.

**Attachments**

Photos

**Photo - File 1**

Max. file size: 32 MB.

**Photo - File 2**

Max. file size: 32 MB.

**Photo - File 3**

Max. file size: 32 MB.

**Photo - File 4**

Max. file size: 32 MB.

 **Process**

Nominations can be submitted directly on this form or if using a PDF, scanned and emailed to **info@experiencemississippiriver.com** or mailed to directly to the Mississippi River Parkway Commission Office, PO BOX 7395 | Madison, WI 53707-7395. Nominations are reviewed at quarterly MRPC Culture and Heritage committee meetings but nominations must be received at least 30 days prior to the meeting date. Please include a letter of endorsement by your state Mississippi River Parkway Commission Commissioner.

Nominations are reviewed by the Culture and Heritage Committee of the National Mississippi River Parkway Commission. This committee has representation from all 10 states of the Mississippi River. Nominations are then approved by the Board of Directors of the National Mississippi River Parkway Commission.

The Great River Road Network of Interpretive Centers share the stories of the Mississippi River. These centers reside along the 10-state stretch of the river and range from museums, parks, nature centers, aquariums, historic and prehistoric sites.

Benefits to Network members include: promotion and recognition through the National Mississippi River Parkway Commission. Interpretive Centers are attractions featured on printed Great River Road maps that are distributed internationally, as well as online at experiencemississippiriver.com, on social media platforms, included in itineraries, FAM trips, promotions and other related marketing.

**Overall Themes**

To assist in utilizing the overall theme and the 11 major themes, examples of stories in each category were developed. [Click here to download.](https://mrpcmembers.com/mississippi/wp-content/uploads/2021/05/InterpretiveCenterNominationForm_OverallTheme_ExampleStories.pdf)