The Rapide Croche lock site is located 6 miles northeast of Kaukauna, approximately 1.5 miles west of Wrightstown. It is rurally situated at Fox River mile 22.8 and is accessible by Lock Road, south from Highway 96. The man-made navigational canal along the northeast side of the river is approximately 2,000 feet long. The lock has been out of service since 1987. Stop log barriers were placed at the upper and lower ends of the structure in 1988 to prevent the migration of Sea Lamprey and other Aquatic Invasive Species (AIS) into the Winnebago Pool. In 2013 permanent concrete barriers were constructed at the upper and lower ends of the lock that will become integrated in the Boat Transfer and Cleaning Station planned for the site. With the reconfiguration of the Rapide Croche lock, the Fox River Navigational System Authority (FRNSA) is embarking on its final project to rehabilitate and re-open the Lower Fox River Navigational System. As part of the legislation that established the FRNSA in 2001, the retention of a Sea Lamprey barrier at the Rapide Croche site is mandated.¹

¹ Wisconsin Statutes and Codes, 237.10 (1) and 237.10 (2), 2001. (See http://statutes.laws.com/wisconsin/237/237.10)
After evaluating and pricing other options, the FRNSA is planning to install a boat lift and wash station at Rapide Croche to prevent the migration of aquatic inasive species. The current project proposes that a hot water cleaning station be constructed within the chamber of the existing lock. A large hoist will be positioned at its lower end to lift and place boats into the 120 degree bath; boats up to a length of 55 feet will be accommodated. The site will be further modified by the addition of at least one new support building, which is planned for placement on the island.

The Lower Fox River Navigational System is located on a waterway that was first established as an important transportation and trade route by Native Americans; it later became an inland waterway for French and Canadian explorers. Even before statehood, land speculators and politicians were planning ways to improve the river as a navigational corridor that would carry people and goods west from Lake Michigan, through Green Bay and across the state to the Mississippi River. The Fox-Wisconsin Waterway, which was functional in its entirety for just a few decades, was operational by the mid-1850s.

In response to the substantial changes in river elevation, a system of locks was required along the Lower Fox River to make it navigable for steamboats. Building the system was one of the first initiatives undertaken by the State of Wisconsin in 1848. In 1853 the completion of the project was taken on by a private interest, the Fox and Wisconsin Improvement Company, which opened the system in 1856. Almost two decades later, in 1873 the United States Army Corps of Engineers (COE) acquired the navigational system. The federal government began the process of systematically rebuilding the earlier structures incorporating quarry stone walls, concrete floors and improved metal components. The work completed by the COE was consistent in design from site to site and reinforced the idea of each site as part of the larger system.

The Fox River Navigational System is significant as an example of turn-of-the-century navigational technology in a still-functional hand-operated lock system. As always has been the case, an operator is required to maneuver a turnstile at the upper end of the lock and levers at its lower
end to open and close the valves that flood and empty the chamber. Likewise, the gates are manually opened and closed using tripods located outside of the chamber in each corner of the lock. They are connected to metal spars that push and pull the attached gates to opened and closed positions. The COE had the seventeen historic lock sites along the Lower Fox River nominated to the National Register of Historic Places (NRHP). With designation in 1993 it was established that as federal property the provisions of Section 106 would be applied to any work to repair or refurbish the sites.

The State of Wisconsin created the FRNSA as a state agency in 2001 in anticipation of assuming ownership of the Lower Fox River Navigational System. Following years of negations, the transfer occurred on September 17, 2004; the property included the 17 locks, 94 acres of land, three harbors and an assortment of buildings. With the transfer the COE committed to provide funds it would have used to permanently close the structures to offset costs associated with their rehabilitation. The Rapide Croche Lock and Dam Historic District includes three contributing structures: the lock, the dam, the canal and two contributing buildings: the keepers’ house and shack.

The Rapide Croche site is unique along the waterway for having been substantially modified between 1930 and 1939, when both the lock and the dam were entirely reconstructed. While the dam remained in its historic location, the lock, house and lock tender’s shack were moved approximately 650 feet west to a location at the upper end of the canal and closer to the dam. Therefore, the Rapide Croche site reflects the appearance of a site as fully reconstructed by the COE using steel and concrete—materials that had been used only minimally in the turn-of-the-century work. The reconstruction that took place in the 1930s falls within the “Period of Significance,” established in the National Register of Historic Places (NRHP) Rapide Croche Lock and Dam Historic District nomination as circa 1850 – 1941.2

2 John N. Vogel, Ph.D., National Register of Historic Places (NRHP), Multiple Property Documentation Form 10-900b, “Waterway Resources of the Lower Fox River, 1850-1941.” See also NRHP district nomination, “Rapide Croche Lock and Dam Historic District.”
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This report is part of a series undertaken by the FRNSA that documents each lock site along the Lower Fox River as a part of the restoration and rehabilitation process. It compiles information to be used in making, reviewing and implementing preservation-sensitive design decisions. While the FRNSA is required to ensure that its projects do not compromise the historical integrity of the sites, in the case of Rapide Croche the required alterations will modify the essential functionality of the lock and introduce new features and materials. This will result in adverse effects requiring mitigation.

This document provides preservation and mitigation recommendations in response to the current plans for changes to the historic district. It also provides a photographic record of the site, which satisfies a mitigation requirement already established by the SHPO. Finally it offers a historical narrative concerning the development of the site and a compilation of related historical documentation including a site chronology and an inventory of related drawings at the FRNSA office in Kaukauna.

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Dam Historic District,” certified December 7, 1993 (reference number 93001326). The NRHP District nomination is attached as Appendix 5.
Aquatic Invasive Species Barrier and Transfer Station at Rapide Croche

As a part the 2001 mandate that created the FRNSA, it is required to maintain the barrier the COE installed in 1988 to the specifications of the Wisconsin Department of Natural Resources (WDNR). Further, with the property transfer the provision was established that if a means to transport watercraft around the Rapide Croche lock were enacted, plans would be evaluated by the DNR for their effectiveness in preventing the movement of Sea Lamprey and other AIS into the Winnebago Pool.  

Work began almost immediately to develop a solution that would allow the passage of boats while maintaining an effective barrier. The University of Wisconsin Sea Grant Institute’s Philip B. Moy, PhD provided guidance to the FRNSA as a member of its Committee on Invasive Species. Moy prepared a report that offered three options for moving watercraft around the barrier that included chemically cleaning boats, applying a high pressure spray or submersion in a hot water bath. In 2006 the FRNSA hired STS Consultants, Ltd., an environmental engineering firm, to “estimate the costs and identify any environmental concerns that a lift-and-soak operation might raise.”

In a 2006 interview with the Aquatic Sciences Chronicle, Moy stressed that “these ideas are in the very earliest stages, and people will have ‘lots and lots and lots’ of opportunities to comment on plans as they develop.” One year later the FRNSA was initiating public outreach to discuss project impacts. In 2008 a publication of the Wisconsin Wildlife Federation reported that the last of five meetings to discuss the proposed rehabilitation of the locks in general, along with plans for the cleaning and transfer station at Rapide Croche, was held in Winneconne.

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3 Wisconsin Statutes and Codes, 237.10 (1) and 237.10 (2), 2001.

4 Philip B. Moy, PhD, “AIS Control and Monitoring Plan for the Rapide Croche Boat Transfer Station,” University of Wisconsin Sea Grant Institute, ca. 2006.


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Since then the FRNSA has made project materials publically available, and more recently it has been posting explanatory materials, reports and planning studies concerning the Rapide Croche project on its website.  

In early 2009 STS/AECOM provided its design recommendations for the Rapide Croche Boat Transfer Station in its Preliminary Engineering Report. The key components of the plan were highlighted in the Executive Summary. The project goals have been largely implemented as the design of the facility moved forward:

- Permanent closure and backfilling of the lock structure to facilitate construction of the boat transfer station within the lock footprint.

- Concrete seawalls and pile-supported pier structures with deck lengths of approximately 50 feet.

- Boat lift and transfer equipment that includes a marine fork truck for lifting relatively small boats up to approximately 30 feet long and a mobile hoist that is capable of lifting boats up to maximum specified sizes.

- A boat pre-wash area and system that includes the capability to wash/spray boat hulls with non-heated water and a discharge water treatment system. Pre-wash discharge water will be

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Executive Summary

The project now is under review by the Wisconsin DNR to ensure its viability in maintaining an effective barrier against Aquatic Invasive Species. An explanation of current system requirements and a general process plan were recently summarized in the December 2013 Environmental Impact Report: Rapide Croche Boat Transfer and Aquatic Invasive Species Cleaning Station Project, prepared by Stantec for the FRNSA.\(^9\) Key itemized components include:

- A 55’x 19’x 6’ cast in place concrete hot water cleansing chamber with piping connections.
- A water recirculation system that includes heating equipment for control of cleansing water temperature and a treatment system for control of water quality.
- An operations building for enclosure of key equipment and storage space.
- Passenger and visitor facilities that include docks, walkways, restroom facilities, educational kiosk, and pavilion.
- Site security fencing and gates.

Invasive Species Cleaning Station Project, prepared by Stantec for the FRNSA.\(^9\)

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- Once boats are adequately prepared, the boats will be lifted from the water and bilge plugs removed;

- Boat hulls will be thoroughly sprayed with high pressure water, (2200 psi) from 12 to 18 inches away, to remove AIS that may be adhering to surfaces of the boat;

- The boats will be placed in a 110 degree Fahrenheit water bath for at least ten minutes to remove the living AIS;¹⁰

- Internal watercraft systems and equipment stored on board that may harbor AIS must also be inspected and/or cleaned in 110 degree Fahrenheit water¹¹ for 10 minutes. Internal systems that may be subject to the hot water bath include propulsion systems, raw water intake, exhaust, engines and air conditioning cooling systems, bilge compartments and live wells. Portable equipment (e.g. bait containers, anchors, ropes, skis) will be submersed in a hot water bath;

- No live bait or fish will be permitted to move upstream through the station;

- Each boat will be inspected following treatment and bilge plugs replaced before placement upstream of the barrier. Upstream transfer of any boat may be disallowed if it cannot be adequately cleaned (due to design, condition, etc.)

- The boat transfer station will be designed to be capable of processing boats with maximum size characteristics including:
  - Boat length up to 53 feet;¹²
  - Beam up to 17 feet;
  - Weight up to 25 tons;
  - Boat draft not greater than 4 feet (including propellers);
  - Masts and superstructures of vessels no greater than 23 feet in height.

As the Navigational Authority proceeds with this project, it is committed to doing so in a manner that fully satisfies DNR requirements, but also honors the historic qualities and features of the site. The proposed alterations will compromise the historical integrity of the lock and its setting. The most important way to mitigate adverse effects will be to give a new focus to the remaining historic features at the site including the dam, the lockkeeper’s house and the lock tender’s shack.

¹⁰ The water temperature is incorrectly cited; water in the bath will be heated to 120 degrees as verified in telephone conversation with Robert Stark, FRNSA, June 9, 2013.
¹¹ Ibid.
¹² The length of boats to be accommodated is incorrectly cited; maximum boat length will be 55 feet as verified in telephone conversation with Robert Stark, FRNSA, June 9, 2013.
From prehistory into recorded times, the Fox River continuously has served as an important trade, communication and transportation corridor. Native American peoples used the Fox River to travel inland from Green Bay and, in small boats, navigated the rapids and portaged around the more perilous stretches of the river. As its name, Rapide Croche, suggests its history is tied to French exploration and it is a place that saw the passage of many important historic figures. The first European explorer,
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Jean Nicolet traveled the Lower Fox River in 1634. At that time, substantial
Native American populations lived along the shores of Green Bay and the
Fox River. The Ho Chunk residing in the area just north of the present city
of Green Bay were the first to welcome the explorer.\(^\text{13}\)

As he travelled inland along the Fox River Nicolet encountered the
Menominee living a semi-agrarian village life; their diet was dependent
upon the natural wealth of the river and its wetlands. The name
“Menominee” translates as “wild rice people.” They harvested the rice at
the water’s edge and maintained gardens. The abundance of fish,
supplemented by fruit and wild rice, resulted in a fairly stable population.
An account provided by Father Claude-Jean Allouez, based on his travels in
1669-70, indicates that the Menominee along the Fox River in “Kekaling”
(now a part of Kaukauna) were maintaining gardens and cultivating
grapes.\(^\text{14}\)

\(^{13}\) Jean Nicolet de Belleborne (ca. 1598 – 1643). Born in France, Nicolet immigrated
to Quebec in 1618 to work for a large French trading company, La Compagnie des
Marchards. Nicolet’s work involved living with the Algonquin in two of their
communities to facilitate trade relations. After arriving in Green Bay in 1634, he
was successful in gathering together representatives of the regional tribes and
establishing a general peace with them. The Ho Chunk were known as the
Winnebago in historic texts.

\(^{14}\) Reprinted as *Father Allouez’s Journey into Wisconsin, 1669-1670*, Document No.
AJ-048 (American Journeys Collection, Wisconsin Historical Society Digital Library
and Archives, 2003). French Jesuit Claude-Jean Allouez, who founded the Mission
of St. Francis Xavier at De Pere in 1671, travelled into the interior along the Fox
River a year earlier. He provided an account of his observations along the river at
“Kekaling” in a letter to his Reverend Father Superior. Allouez wrote, “On the
eighteenth we passed the portage called by the natives Kekaling, our sailors
dragging the canoe among rapids, while I walked on the river-bank, where I found
apple-trees and vine-stocks in great numbers.”

By the 1790s the Menominee had established active trade relationships
with the French, and were patronized by the prosperous French-Canadian fur trader Jean Ducharme and his three sons. In 1793 Dominique
Ducharme purchased land on both sides of the Fox River at Kekaling and
established a trading post at the lower end of the rapids. Dominique later
transferred ownership of the property to his brother Paul, who oversaw its
management until relocating to Green Bay in 1812. The next year,
Augustine Grignon purchased a large portion of the Ducharme property
and placed an addition on the Ducharme cabin. He further developed the
property by constructing a sawmill, a barn and a stores building. Grignon
was successful as a trader and early entrepreneur, known for his genial
nature and hospitality to river travelers.\(^\text{15}\)

A century-and-a-half after Nicolet’s travel into the interior, the
configuration and population of Native Americans along Fox River had
remained relatively constant. In November of 1817 the Indian Agent in
Green Bay reported that the local native population was comprised of,
“The Minominee or Folls Avoines estimated at 500 warriors; they reside
during the summer on the Follivoine river, Kautong, Green Bay, Little
Kackalin, Big Kackalin, Winnebago Lake, River de Loup, Butte des Morts,
Vermillion Island and scattering villages on the islands and rivers of the

\(^{15}\) *Kaukauna, Wis—The Lion of the Fox* (Sun Publishing Company, circa 1890), 6-7.
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bay. The Winnebagoes were on Fox River, probably the upper portion. Chippewas are intermingled with the Menominees."16

While areas along the river in proximity to the places we know today as Kaukauna and Little Chute had stable Native American populations, it does not appear that this was the case at Rapide Croche. A factor may have been that the site is located about mid-point between DePere and Kaukauna, a distance that could be travelled in a day by a party of loaded canoes.17

During the 1820s the federal government relocated the Stockbridge Algonquian and Munsee Chippewa from their eastern homes to land along the south shore of the Fox River in the Kaukauna area. However, by the mid-1830s a series of treaties were established that removed the Menominee and other native populations to locations further west.18 With the signing of the 1836 Treaty of the Cedars, the Menominee ceded over four million acres with their land along the Fox River included in the transfer. The agreement was finalized on February 15, 1837; with clear title, the United States government was able to sell and develop the land along the Fox River as it chose.19

Clearly a beneficiary of this treaty was Hoel S. Wright, who had purchased land and built a house at the mouth of Plum Creek in the place that later became his namesake. In 1831 Wright had been employed as a land surveyor in the area, and in 1833 he purchased property at the confluence of Plum Creek and Fox River. This was a strategic location for its proximity to the Military Road, which was constructed between 1835 and 1837. By 1836, Wright was operating a ferry service crossing the river and four years later he built a toll bridge that resulted in the settlement becoming known as “Bridgeport.” In 1844 Wright constructed a water mill on Plum Creek and in 1847, just one year following the removal of the Menominee, he established a country inn and hostelry called the American House.20

16 For early history of the Kaukauna area, see Henry Thomas Ryan, History of Outagamie County, Wisconsin: being a general survey ... including a history of the cities, towns and villages ... (Chicago: Goodspeed Historical Association, 1911[?]), Part 10, “Kaukauna and Surroundings,” 570-590.
17 Mrs. John H. Kinzie, Wau-Bun, the “Early Day” in the North West (Cincinnati: Derby & Jackson, 1856), 30-31. She wrote of her initial travels along the Lower Fox River and her stop at “the Kakalin” in 1830. Having departed from Green Bay that morning, she wrote that her party arrived to have dinner with the Grignons.
18 Patty Loew, Indian Nations of Wisconsin, Histories of Endurance and Renewal, (Madison: Wisconsin Historical Society, 2001). Loew’s chapter, “Menominee,” (pp. 24-39) provides an excellent overview of the Menominee from pre-history to present. Each chapter provides a condensed tribal history of each of the state’s Indian nations—Ojibwa, Potawatomi, Oneida, Menominee, Mohican and Brothertown, and Ho-Chunk; the book relies on the historical perspectives of native people.
19 Wisconsin Official Historical Marker Number 77, 1958 (located Highway 96, near Little Chute, WI). The text of the historical marker reads: “The Treaty of the Cedars was concluded on the Fox River near September 3, 1836. Under the treaty the Menominee Indian nation ceded to the United States about 4,000,000 acres of land for $700,000 (about 17 cents per acre). The new area now contains the cities of Marinette, Oconto, Appleton, Neenah, Menasha, Oshkosh, Wausau, Wisconsin Rapids, Stevens Point, and many others. The six-day meeting ended in a spirit of mutual respect and fairness. Governor Dodge said ‘I view it as a matter of first importance to do the Indians ample justice in all our treaty stipulations,’ and Menominee Chief Oshkosh later affirmed, ‘We always thought much of Governor Dodge as an honest man.’ The treaty was proclaimed February 15, 1837, and the Indians began moving to their new homes west of the Wolf River.”
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The Early Development of the Fox-Wisconsin Waterway

Establishing a waterway from the bay of Green Bay to the Mississippi River was first proposed in 1829 when the Michigan Territorial Legislature organized a company to dig a canal joining the Fox and Wisconsin Rivers at Portage; it called for roads to be constructed around the rapids of the Lower Fox River. This work never took place, but it did prompt further discussion about establishing a navigable waterway between Green Bay and the Mississippi River. In 1834 another attempt was made to create a canal at Portage, and a separate effort on the part of Green Bay entrepreneurs, including Morgan Martin, resulted in the construction of a lock and dam at De Pere. However, the early De Pere structures were so poorly built that they required replacement within a decade.

In 1837 Wisconsin was organized as a territory with Henry Dodge, who had been the principal negotiator in establishing the Treaty of the Cedars, serving as Territorial Governor. In 1838 Dodge requested that Congress approve the sale of 150,000 acres of land with the proceeds going to make improvements on the Fox and Wisconsin Rivers. Successful in his petition, land was made available and the federal government began to undertake surveys of the Fox-Wisconsin waterway. James Duane Doty, as Wisconsin’s territorial delegate in 1839, introduced a bill in both the United States House of Representatives and the Senate that called for improvements to be carried out by a Territorial Board of Public Works. Power vested in the board included the ability to oversee land sales, make loans and establish tolls.

Although the bill was defeated, Doty continued his efforts. In 1843 he joined forces with New York Senator Nathaniel Tallmadge, who through Doty had become an investor in Wisconsin lands. Tallmadge requested that Doty draft a bill seeking approval that proceeds from the sale of land at $2.50 per acre be applied to improvements undertaken by the War Department. In 1844 Tallmadge introduced a bill in the United States Senate that established two land grants on either side of the Fox River, with the $600,000 in anticipated revenue to be applied to the cost of navigational improvements on the Fox-Wisconsin Waterway. Although it passed the Senate, the bill never was presented on the floor of the House.

In 1846 Martin, as Wisconsin’s Territorial Delegate to Congress, sponsored a bill that secured a land grant for the Fox-Wisconsin Waterway, with the

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22 Mermin, The Fox-Wisconsin Rivers Improvement, 2.
state (not the federal government) assuming responsibility for the improvements. The bill was subject to approval at the state constitutional convention that year. Possibly because of revisions that called for an increase in private support, the vote failed and delayed the federal land grant. The vote was advanced again at the 1848 convention, which was chaired by Martin. The terms were modified with the state financing the improvements through appropriations against anticipated revenues. The measure was approved and, with the Congressional acceptance of the state constitution that same year, the state legislature created the Board of Public Works, which was to award construction contracts and oversee the sale of land grant lands leading to the development of navigational features on the Fox River.24

Nineteenth-Century Development of Rapide Croche

Condy R. Alton, an engineer working with the newly formed Wisconsin Board of Public Works, surveyed the river and made recommendations for improvements. His 1848 report documented a rapid upriver from what would become Wrightstown. Alton proposed the construction of a 650 foot long, 6 foot high dam. He also called for a single lock with a 6 foot lift to be situated in an 800 foot canal. Further, Alton recommended that the work at Rapide Croche be considered a priority to facilitate navigation to and from Green Bay through DePere.25

The following spring, in May of 1849, Joseph Maynard was awarded the contract to build the lock and dam at Rapide Croche.26 A brush and stone dam was completed that fall, while the lock and canal remained under construction.27 A vessel reached the site from DePere in June 1850 and that August, the steamship Indiana was making daily trips from Green Bay to Rapide Croche through the DePere lock. Although The Milwaukee Sentinel reported the Rapide Croche lock would be operational by mid-September, work took until the end of year after it was decided to lower the floor of the lock.28 A year later, in 1851, the dam washed out and was rebuilt as a spar dam bolted to the rock of the river bed.29

The construction of the Rapide Croche Lock and Dam had already been completed by 1853, when the larger project began to suffer financial solvency and allegations of malfeasance. A legislative committee was formed that April to evaluate the cost overruns and general status of the Fox-Wisconsin project. The report issued in June indicated that although the lock and dam at Rapide Croche were complete, the facility was inadequate and would require additional improvements estimated at $17,000.

25 Rocky Mountain System Support Office, National Park Service, Historic American Engineering Record (HAER) WI-91, “Rapide Croche Lock and Dam, at the 22.8 mile marker on the Lower Fox River, Wrightstown, Outagamie County, Wisconsin,” 3; citation provided in HAER, “Report to the Board of Public Works Made to the Legislative Assembly,” January 19, 1849, 5 18.
26 HAER No. WI-91, 3; “Report to the Board of Public Works Made to the Legislative Assembly, Madison, 1850, 27.
28 HAER No. WI-91, 3; Milwaukee Sentinel, June 24, 1850; August 21, 1850. September 12, 1850.
That same year the state incorporated the Fox and Wisconsin Improvement Company and charged it with completing the project. Immediately following its establishment, the new company put out a call for 1,000 workers to assist with the completion of the navigational canals and locks on the Lower Fox River. It is unclear if the modifications proposed for Rapide Croche were implemented before work on the entire system was deemed complete in the summer of 1856, when the steamship Aquila made the passage from the Mississippi River to Green Bay.

Once again, the Wright family benefitted from transportation improvements. The family had established a steam saw mill on Plum Creek with the capacity to process the large quantities of timber being logged in the area. Navigation on the Lower Fox River enabled them to easily transport their products to the growing city of Green Bay, where there was a great demand for building materials. At the height of its operation the mill employed over sixty individuals.

In 1866 the Fox and Wisconsin Improvement Company filed for bankruptcy. Within months its assets were purchased, and it was reorganized as the Green Bay and Mississippi Canal Company. The Rapide Croche site was surveyed later that year. The surveyors described a “fine stone lock” located in a 1,800 foot canal. The dam, cited as the only stone dam on the river, measured 440 feet long and 6 feet high. As a result of the 1866 survey, the Canal Company determined that the overall depth of the waterway needed to be increased for the passage of boats with a draught of up to 4 feet.

The entire Lower Fox system was turned over to the federal government, as authorized by an act of the United States Congress in 1870. The transfer was completed on October 28, 1872. For over a century, the United States Army Corps of Engineers (COE) managed the locks and dams on the Lower Fox River. Under the direction of Major D. C. Houston, the COE

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30 National Register of Historic Places (NRHP), Multiple Property Documentation Form 10-900b, “Waterway Resources of the Lower Fox River, 1850-1941,” Section E, p. 42; Milwaukee Sentinel September 17, 1853, October 10, 1953, December 17, 1853 and February 8, 1954.

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immediately completed another condition survey of the improvements. The 1873 report indicated that the lock at Rapide Croche was “a fine piece of work, being of cut-stone masonry,” but that the dam, although maintaining sufficient water levels, required additional reinforcement.

Once the stewards of the system, the COE implemented a repair and maintenance program that remained in place for over a century. Initially, the phased repair of the locks on the Lower Fox River occurred with the goal of rebuilding the stacked stone masonry chambers using cut stone blocks. Under the COE, maintenance and reconstruction became an ongoing effort with work occurring constantly at some point along the waterway. The stacked stone chambers of the original locks at nearly all of the sites (excluding both Rapide Croche and Kaukauna Lock 5) were rebuilt with quarried blocks between 1873 and 1910. Aside for general maintenance and repairs as needed, a comprehensive rebuilding effort did not occur at Rapide Croche until later.

The features in place at the Rapide Croche site have a decidedly less complex history of rebuilding and repair than most of the other lock sites. In 1931, the dam was entirely reconstructed of poured concrete; work to rebuild the lock in a new location also began that year, but wasn’t completed in 1934. The new lock was constructed of poured concrete and steel gates were installed. The Lock Keeper’s residence, which had been constructed alongside the lock in 1906, was also moved to a location approximately 650 feet west of its original placement. When situated on its new concrete foundation in 1939, the orientation of the house was reversed. Also a barn that had been located near the original lock was removed.

State Acquisition of the Lower Fox River Navigational System

Since commercial traffic on the Lower Fox River had all but ended in the late 1950s, by the late 1970s the COE began to look for ways to divest itself of the system, which had come to function almost exclusively for recreational boaters. It planned to formally suspend operation of the locks in 1982, but Wisconsin’s congressional representatives Toby Roth and Tom Petri secured funding for the COE to keep the locks open through the 1984 boating season.

On May 11, 1984 Governor Tommy Thompson created the Fox River Management Commission to assume responsibility for the continued operation of the navigational system. From 1985 through the summer of 1987, the commission operated all of the seventeen locks on the Lower Fox River. The following summer the operation of fourteen of the seventeen locks was suspended; the three locks continuing in operation were at Menasha, Little Kaukauna and De Pere. The operation of the Rapide Croche lock ended in 1987.

In 1988 the COE offered to transfer the system to the state, but the state was reluctant to assume responsibility for its maintenance and operation. Governor Thompson openly opposed the COE decommissioning the

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system and its proposed transfer to a nonfederal entity. By summer of 1989, the COE again stated its intention to transfer ownership of the locks or permanently close them.

At this point, however, the COE offered that if a nonfederal entity assumed responsibility for a portion or all of the navigational system, money that would be used to place the locks in long-term inoperable status could be allocated to the transferee for making repairs. The interest of state officials was piqued after the COE offered these terms, but then cost analysis associated with closing down or repairing the locks became a principal point of contention between state and federal agencies involved in the negotiations. \(^{32}\)

Discussions continued between the state and the COE through 1990 that focused on the financial settlement the state would receive if it assumed ownership of the locks. By December the two parties had come to an impasse. The COE contacted local municipalities and counties to learn if any had an interest in assuming the control of a portion of the system. Based on the noncommittal responses from local governments, the COE suspended attempts at further communication and in September 1991 it issued its Final Interim Disposition Report. The document indicated that since terms for a transfer of the navigational features to an appropriate nonfederal entity had not occurred, the system would be placed into “long-term inoperable condition,” partly in the interest of public safety. \(^{33}\)

In response, Wisconsin’s congressional representatives led initiatives to create legislation that would result in a greater monetary contribution on the part of the federal government. They also sought support for the establishment of a National Heritage Corridor along the Lower Fox River. While federal appropriations did not materialize, the Fox-Wisconsin River was named as one of four tourism pilot projects in Wisconsin by the National Trust for Historic Preservation. A Heritage task force was formed, with the director of the Fox Cities Visitor and Convention Bureau named its chairperson.

In 1993 the “Water Resources of the Lower Fox River, 1850–1941,” was listed on the National Register of Historic Places (NRHP) through a series of district nominations. With formal recognition in place that the Lower Fox River lock system represented a collection of historically significant federal sites, a general preservation and rehabilitation plan as described in Section 106 of the National Historic Preservation Act (NHPA) was required prior to the COE’s final disposition of the properties. Further, inclusion on the NRHP ensured that any work that took place to repair the navigational features following their transfer would be reviewed by the Division of Historic Preservation at the Wisconsin Historical Society, as is typical for listed or eligible government-owned historic properties.


The COE issued its drafts of the *Final Disposition Report* and *Environmental Impact Study* in August 1997. The COE reiterated that negotiations with the state had faltered and that permanently closing and filling the locks remained its only option. The governor requested that negotiations be reopened. However, in September the COE released its *Final Disposition Report* and *Environmental Impact Statement*, which again advocated that the locks be closed and filled. Shortly thereafter, negotiations were reopened between the state and the COE. By October 1997 it was clear that the principal stumbling block to moving forward with the proposed transfer was the issue of financial settlement.

Over the next three years an agreement acceptable to both parties was established, and by the summer of 2000 positive forward momentum toward state acquisition of the locks again was at hand. That September a “Memorandum of Agreement between the Department of the Army and the State of Wisconsin for the Transfer of Locks and Appurtenant Features of the Federal Fox River Project, Wisconsin” was signed by Governor Thompson, DNR Secretary George Meyer, and Joseph Westphal, Assistant Secretary of the Army with the COE. The memorandum detailed the monetary agreement and offered additional provisions concerning ongoing research to further assess the sites as cultural and historical resources and to evaluate environmental issues. In July 2001 the *Environmental Assessment: Transfer of Locks and Appurtenant Features of the Federal Fox River Project, Wisconsin* was issued by the COE; it detailed the specifics of the pending transfer.

On September 17, 2004 Governor Jim Doyle, on behalf of the state, formally accepted the Fox River Navigational System from Lieutenant Colonel Donald Lauzon, district engineer for the COE, at a meeting of the State Building Commission in Appleton. According to a statement issued by the governor’s office, Doyle said, “Today’s transfer ensures that the locks will be an important part of Wisconsin’s economic future. . . . Instead of having the federal government spends twelve million dollars to shut down the locks, under this agreement, we'll invest that twelve million dollars into the future of the locks. A rehabilitated system of locks will offer the opportunities for navigation and recreation necessary to attract tourism and spur riverfront renewal.” According to the terms of the September 2000 Memorandum of Agreement the transaction secured an $11.8 million lump-sum payment from the COE for the rehabilitation and restoration of the locks and the pledge of an additional $5.5 million, to match state and locally raised funds.
Rapide Croche Lock and Dam Historic District, near Wrightstown, WI
Historical Documentation and Preservation Recommendations

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