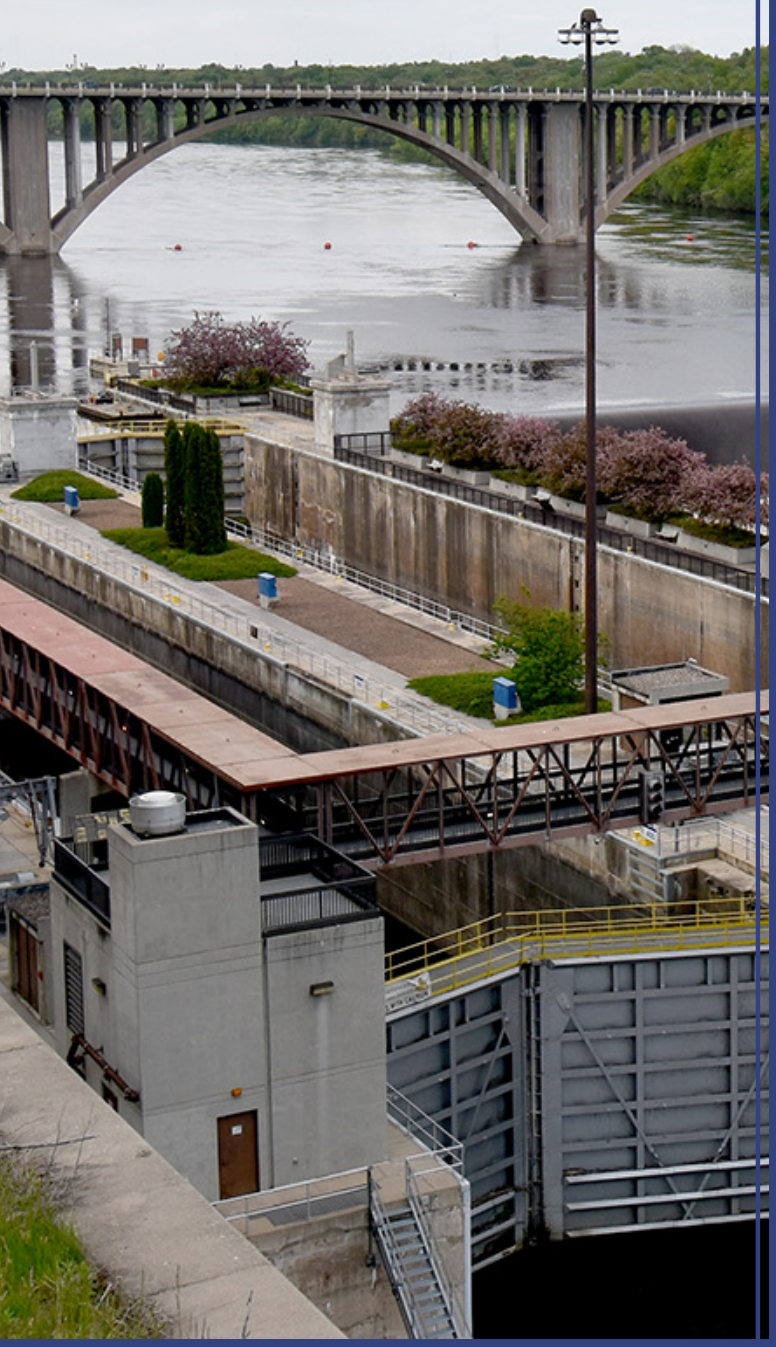
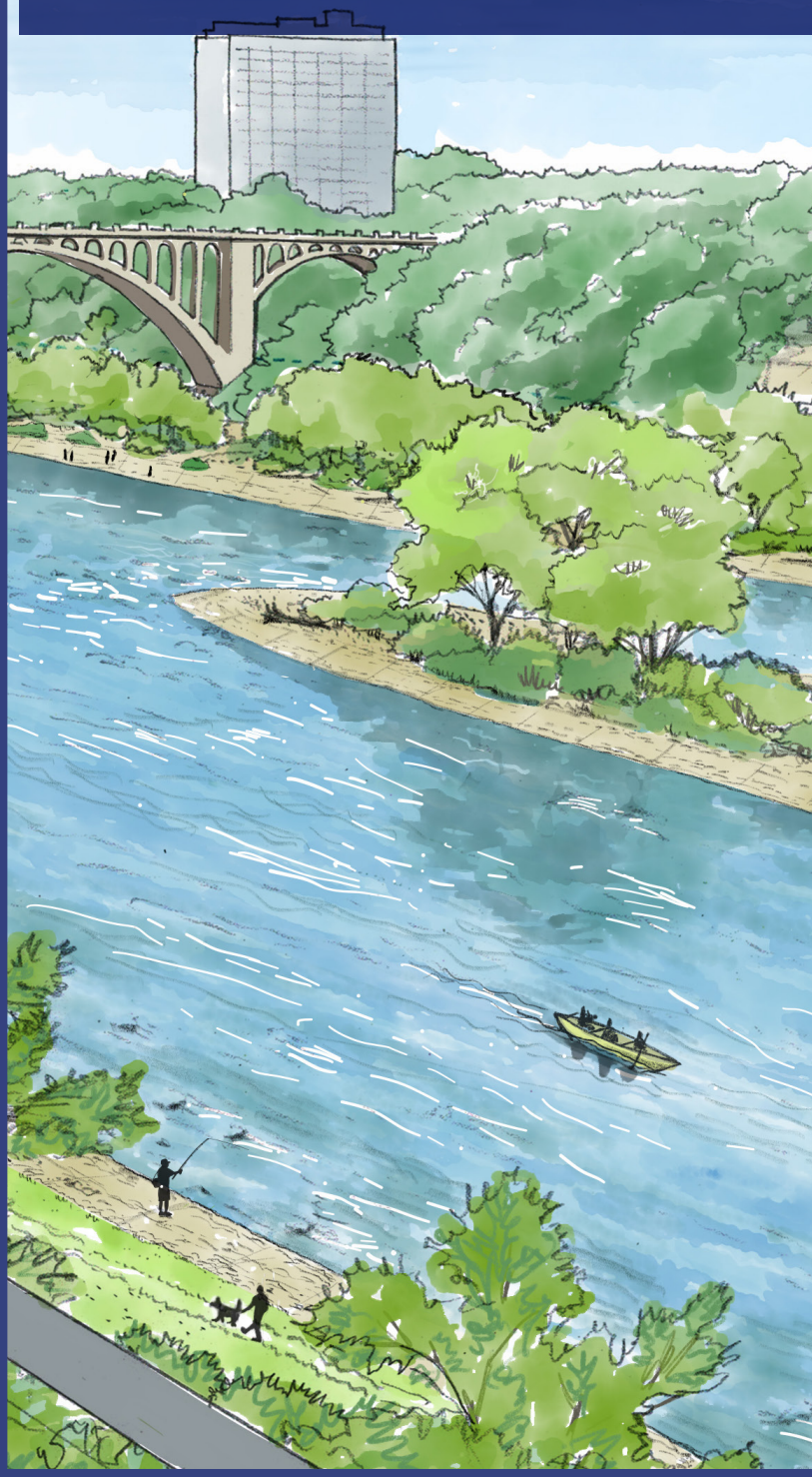
Reimagining the River

Technical Report

Recreation and Economic Opportunities Along a Restored Mississippi River in the Twin Cities





Produced by The Harbinger Consultancy for
National Parks Conservation Association
June 2026

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1. Introduction

For the first time in over a century, we have an opportunity to imagine a new future for the Mississippi River in the heart of the Twin Cities. In 2014, Congress mandated the permanent closure of the Upper St. Anthony Falls Lock. This ended commercial barge traffic at the next two locks and dams downstream: the Lower St. Anthony Falls Lock and Dam and Lock and Dam 1. The U.S. Army Corps of Engineers is now conducting a disposition study to determine whether owning and operating these structures remains in the federal interest, and if not, what alternatives should be considered to dispose of them.[1] Removing the two locks and dams is among those alternatives. Doing so would restore a free-flowing river through an eight-mile reach of the river between St. Anthony Falls and the confluence of the Mississippi and Minnesota rivers. Locally, this reach is called the Gorge.

The Gorge lies within the 72-mile-long Mississippi National River and Recreation Area (MNRRA), the only national park unit dedicated to the Great River. Historically, the Mississippi River Gorge transitioned from a steep, fast-moving river with rapids in the upper section to a braided channel featuring more than a dozen islands and extensive sandbars. The unique habitat of the Gorge supported abundant aquatic and terrestrial life, including large and diverse fishery that the Dakota, Ojibwe and other tribes knew well.[2]

By the early 20th century, the drive for navigation and hydropower led to the construction of the Lower St. Anthony Falls and Lock and Dam 1. The Gorge was converted into a series of reservoirs, which submerged the rapids and islands. Sediment began accumulating in the reservoirs and required continual dredging. While these changes served past industrial and commercial purposes, they also blocked fish passage, eliminated riverine habitats, and constrained river-based recreation.

Physically, the Gorge ends at what was the confluence of the Glacial River Warren and the Glacial Mississippi River. Today, Pike Island fills this ancient confluence, with water running around its upper and lower ends. Both ends are confluences with the Mississippi River. Steamboats once used the upper channel to land below Fort Snelling. Later, barges and towboats used the lower channel but had to navigate a sharp bend in the Minnesota River shortly after entering it. To accommodate the barges and towboats, the Corps of Engineers began dredging the lower channel and cut through the Minnesota River floodplain in 1965, creating a straight channel and Picnic Island. Now, the upper channel is smaller, and depending on which river is higher, the water can flow in either direction. Today, the upper channel or confluence defines where the Gorge ends.

While initially started in 2016, the current Corps disposition study of the Lower St. Anthony Falls Lock and Dam and Lock and Dam 1 began in August 2022, in response

to the closure of the Upper Lock. After a scoping process that included public engagement in late 2022, the Corps released its study scope in 2023. Based on that scope, a draft study is expected for public comment in the spring of 2027.[3] Options under consideration range from no action (continued Corps ownership and operation) through partial disposal (transfer of some parts to other owners) to full disposal — including removal of the structures and ecological restoration of the Mississippi River through the Gorge. The Corps' study is a high-level assessment and will not constitute a comprehensive removal feasibility study. Congressional authorization would be required for any significant changes resulting from its recommendations.

Several other studies and projects are unfolding in parallel. In July 2025, the University of Minnesota's St. Anthony Falls Laboratory received $427,000 from the Environment and Natural Resources Trust Fund to model how removing Lock and Dam 1 would reshape the river upstream of it. That modeling is expected to be completed in 2026. Friends of the Mississippi River (FMR) will receive $923,000 from Minnesota's Environment and Natural Resources Trust Fund in July 2026 to conduct a dam-removal feasibility study. This study will provide a more robust analysis of the pros and cons of keeping or removing the locks and dams. In particular, FMR will examine environmental impacts, sediment transport and infrastructure impacts at a level that the Corps' study will not.[4]

The disposition study for the Upper St. Anthony Falls lock is being conducted separately from the lower two and does not include dam removal as an option. Xcel Energy owns the Upper St. Anthony Falls dam and relies on the reservoir to generate hydropower, and the City of Minneapolis draws its water supply from that reservoir. Currently, the lock is part of the damming surface and necessary to maintain the reservoir.[5]

At St. Anthony Falls — known to the Dakota as Owámniyomni — Dakota-led restoration is already in motion. Owámniyomni Okhódayapi, a Dakota-led nonprofit endorsed by all four Dakota Nations in Mní Sóta Makoce (Shakopee Mdewakanton Sioux Community, Prairie Island Indian Community, Lower Sioux Indian Community, and Upper Sioux Community), is leading transformation of five acres of land at the site into a place of restoration, education, healing, and connection to Ȟaȟa Wakpá (the Mississippi River). The organization expects to gain ownership of the federal portion of the project site in 2026 through legislation.[6] Indigenous leadership at culturally significant sites along the Gorge, from Owámniyomni at the upper end and at Bdote (the confluence) at the lower end, will help shape the corridor's future.

Finally, the Mississippi River Learning Center (MRLC) at the Watergate Marina site in Crosby Farm Regional Park, Saint Paul, is in advanced design as a year-round public hub for river-focused education, recreation and cultural interpretation, with the City of Saint Paul, the St. Paul Parks Conservancy, the National Park Service, Mississippi Park Connection, and Wilderness Inquiry as partners.[7]

The National Parks Conservation Association (NPCA) has joined a growing collaborative effort to understand the opportunities and challenges associated with different disposition alternatives. Among NPCA's contributions is commissioning this preliminary study of the recreation and related economic opportunities that removing all or parts of the two locks and dams and river restoration could generate for the Twin Cities region.

NPCA does not currently have a formal position supporting or opposing dam removal within the Mississippi River corridor. Our work to date has focused on evaluating opportunities that could improve ecological health, public access, recreation, community connectivity and long-term resilience within the river corridor.

NPCA supports rigorous analysis and community-centered decision making. This includes evaluating economic feasibility, ecological impacts, navigation and recreation considerations and community priorities, while supporting meaningful engagement with key stakeholders before determining whether specific restoration approaches should advance.

NPCA believes decisions regarding the future of the river should be informed by sound science, robust analysis and inclusive stakeholder engagement processes.

This report assembles data about current recreation use in the Gorge, surveys the recreational changes that lock and dam removal could produce, draws lessons from peer urban river communities that have invested in river recreation, characterizes the landscape of recreational and commercial opportunities a restored Gorge could present, and reflects on the magnitude of recreation-related economic activity that could plausibly result.

There are key uncertainties. Comprehensive on-water visitor counts for the Gorge today do not exist, and the post-restoration character of the river — its hydrological behavior, access to it, the programming and partnership investments that would or would not develop alongside it — cannot be quantified or predicted with precision. Rather than attempting to model an economic impact projection, this report triangulates across data and experience from peer river communities, current recreational uses, and demand indicators to characterize the magnitude of potential recreation activity, and to identify conditions under which outcomes are more or less likely to be realized.

This report focuses on outdoor recreation, one factor within a broader set of considerations, including ecological restoration, Indigenous cultural heritage,

displacement impacts on existing river users, and equitable access to a restored corridor. These factors will ultimately determine whether and how restoration should proceed. This report contributes one input to a community process that will engage all of them.

Notes

1. U.S. Army Corps of Engineers, St. Paul District, "Disposition Study: Lower St. Anthony Falls Lock and Dam and Lock and Dam 1, Minnesota," mvp.usace.army.mil/Home/Projects/Article/1793026.

2. Surveys made in 1887 under the direction of Major Charles J. Allen, Corps of Engineers, show the Mississippi River before private industry or the U.S. Army Corps changed it. The maps produced from the surveys provide details on the river's depth, water surface elevation, slope and velocity.

3. Email from LeeAnn Gromski, Project Manager, St. Paul District, USACE to Christine Goepfert, Midwest Policy Director, May 18, 2026.

4. Friends of the Mississippi River, "What's going on with Twin Cities locks and dams?" fmr.org/updates/land-use-planning/whats-going-twin-cities-locks-and-dams.

5. The Upper St. Anthony Falls lock disposition study was advanced separately under the Water Resources Development Act of 2018; a draft was released in February 2021.

6. Owámniyomni Okhódayapi, "Construction to officially begin in May to restore land, water and bluff near Owámniyomni (St. Anthony Falls) in Minneapolis," news release, May 2026; Owámniyomni Okhódayapi, "Dakota-led organization unveils design for restoring land, water and bluff near Owámniyomni," news release, November 17, 2025, owamniyomni.org/2025/11/17/design-for-restored-owamniyomni/. Congress directed the conveyance of the Upper Lock site to the City of Minneapolis in 2020; the City designated Owámniyomni Okhódayapi as its intended owner in April 2025, with the transfer from the U.S. Army Corps of Engineers expected in late 2026.

7. Mississippi River Learning Center documentation: St. Paul Parks Conservancy saintpaulparksconservancy.org/project/mississippi-river-learning-center. Origin in the City of Saint Paul's 2013 Great River Passage Master Plan.

2. Existing Recreation in the River Corridor

The stretch of the Mississippi River from St. Anthony Falls to the Minnesota River confluence is a defining feature of the Twin Cities, offering a distinctive blend of natural beauty, cultural heritage, history and urban access. The Gorge includes some of the state's most popular parks and trails and serves as a year-round destination for a wide range of outdoor activities. The following analysis characterizes both land-based and water-based recreation patterns founded on data from recreational managers and organizations, outfitters, education programs, and informed use estimates.

The Twin Cities regional parks and trails system recorded an estimated 65.7 million visits in 2024.[1] Minneapolis parks accounted for 24.7 million visits, the highest among all regional agencies.[2] The river corridor parks, especially Mississippi Gorge Regional Park, consistently rank among the most visited in the system.

Land-based recreational activities account for a strong majority of visitor activities reported by park and trail users, and there is no parallel data collection effort focused primarily on river recreation. Our research suggests that, while river recreation attracts a small fraction of the numbers of land-based recreation users within the river corridor, there are significant on-water activities that include:

- **Organized paddling:** Approximately 1,600 customers and participants each year across Paddle Share, Paddle Bridge guided tours and Bohemian Flats rentals, and Wilderness Inquiry educational programming, with a modest additional increment from smaller commercial guides not surveyed directly.
- **Commercial riverboat tours:** Approximately 26,000 annual passengers travel into or within the Gorge across three operators. Paradise Cruises' Mississippi Queen accounts for the great majority of these, as it operates entirely within the Gorge from Bohemian Flats. Padelford and Magnolia Blossom operate primarily downstream of Lock and Dam 1 and enter the Gorge only on occasional lock-through cruises.
- **Competitive and recreational rowing:** 400+ regular rowers across the Minneapolis Rowing Club and the University of Minnesota men's and women's programs collectively spend some 25,000–29,000 days on the water each year. The annual Head of the Mississippi Regatta draws an additional 600–700 race-day participants.
- **Recreational fishing:** Shore fishing is the second most common river-oriented activity in the Gorge after watercraft use, per Army Corps observations. However, Pool 1 offers limited fishing access, meaning that it functions as a casual fishery, in contrast to the destination walleye and sauger waters of Pool 2 downstream of Lock and Dam 1, where shore access and fishing are more widespread.

- **Casual shoreline and water recreation:** Substantial but not systematically counted use includes wading and water play, dog-friendly river access, private kayaking and canoeing, private motorized boating, and shoreline visits for picnicking and views. An Army Corps infrared counter at Bohemian Flats, strategically located to assess water access rather than other recreation uses, recorded over 20,000 passersby across seven months in 2023. This is one indicator of magnitude at the Gorge's most-used river access point.

1. Land-Based Recreation Infrastructure and Visitation

Substantial visitor data are collected by municipal and regional park management agencies, providing a detailed view into participation in land-based recreation in the river corridor. The parks and trails there are among the most popular in the Twin Cities metropolitan area.

Key Parks and Trails in the River Corridor

Park/Trail	Annual Visits (millions, 2024)
Mississippi Gorge Regional Park	3.6
Central Mississippi Riverfront Regional Park	3.6
Minnehaha Parkway Regional Trail	2.6
Minnehaha Regional Park	2.3

- Mississippi Gorge and Central Mississippi Riverfront regional parks are among the most visited regional parks in Minneapolis, each with over 3.6 million visits in 2024.[1]
- The corridor features an extensive network of bluff-top and river-adjacent trails for walking, biking, and running, connecting neighborhoods to the river.
- The regional trail system now totals 523 miles, with more than 20 million trail visits system-wide in 2024, though there is no breakout for trail usage specifically in the Gorge section.[2]

Land-Based Recreation Activities[3]

Park and trail user surveys reveal popular outdoor recreation pursuits in the river corridor:

- **Walking, running and biking** on trails and parkways are the most common activities.
- **Birdwatching, nature observation and photography** are popular, especially in the Gorge's natural areas.
- **Picnicking, family gatherings and community events** take place at park facilities and open spaces.

- **Winter activities** include cross-country skiing, snowshoeing and hiking on bluff-top trails.

User Demographics and Trends[4] [5] [6]
Based on park and trail user surveys:

- **Visitor Profile:** Most users are local residents, but up to 45% of visits are by non-local visitors, many from the surrounding region.
- **Diversity:** Park and trail visitors are less racially and ethnically diverse than the regional population overall, but diversity is higher among younger visitors.
- **Age and Gender:** Young people are underrepresented among trail users; park visitation is more evenly split by gender, but trail use skews slightly male.
- **Year-Round Use:** The corridor supports four-season recreation, with strong use even in winter months due to the extensive trail network.

2. River and Riverside Recreation

Little information is collected about recreation on the river within the Gorge. Our research suggests that water recreation users are only a small fraction of the number of land-based users in the parks along this corridor. Still, the river supports significant on-water activity including commercial riverboat tours, competitive rowing recreational fishing, and organized, guided, and leisure paddling. The following data review focuses on recreation that takes place on the river within the Gorge section from St. Anthony Falls downstream to the upper confluence.

Commercial River Tours and Passenger Services

Three companies operate commercial paddleboats that use the Gorge: Paradise Charter Cruises (Mississippi Queen, moored at Bohemian Flats), Padelford Riverboats (Harriet Island, St. Paul), and Magnolia Blossom Cruises (Watergate Marina). To estimate Gorge-specific passenger volumes, we contacted each operator in 2025–2026 for direct counts of trips that physically operate within Pool 1 or lock through Lock and Dam 1.

Annual Estimate of Riverboat Passenger Use on the Gorge

Operator & Service/Vessel	Estimated Annual Passengers in Gorge (based on 2025 figures and/or 2026 estimates)	Estimate Notes
Paradise Charter Cruises – "Mississippi Queen"	24,360 passengers	Operates entirely in the Gorge, from Bohemian Flats. 348 trips, 70 passengers per trip average. Estimates from Paradise Charter Cruises, personal communication, May 2026.
Padelford Riverboats (Harriet Island)	880 passengers	11 Lunch and Lock cruises, 80 passengers per trip average. Estimates from Padelford Riverboats, personal communication, May 2026.
Magnolia Blossom Riverboat (Watergate Marina)	500 passengers	10 lock-through trips, 50 passengers per trip average. Estimates from Magnolia Blossom Riverboat, personal communication, May 2026.

Organized Paddling and Educational Programs

Mississippi River Paddle Share

Mississippi Park Connection reports 206 Paddle Share users on the Gorge route during the 2025 season, including ten participants from an MPC-led special event (Jeff Garcia, Mississippi Park Connection, personal communication, April 2026).[7] September was the most heavily used month, as the Gorge route remains open after the other Paddle Share routes close for the season. Paddle Share program totals for all six metro stations combined exceed 3,000 paddlers per year, but the great majority of those rentals occur on routes outside the Gorge corridor.[8]

Wilderness Inquiry Educational Programs

Wilderness Inquiry paddled with 1,665 participants on the Mississippi River in 2024, distributed across three distinct routes (Meg Krueger, Wilderness Inquiry, personal communication, September 2025). Only the Gorge Route—a segment running from the University of Minnesota Boat House to 36th Street Sands Flats—lies inside the study area, accounting for 137 of those 1,665 paddlers. The North Route (Coon Rapids to Boom Island, upstream of St. Anthony Falls) accounts for 783 paddlers, and the South Route (Hidden Falls to Harriet Island, downstream of Lock and Dam 1) for 745 paddlers. Wilderness Inquiry suspended its prior practice of locking through Lock and Dam 1 on day-paddle trips more than ten years ago, both for ecological and risk management reasons. Land-based programs at sites such as North Mississippi Regional Park,

Bohemian Flats, and Fort Snelling State Park are not reflected in the on-water participant counts.[9]

Commercial Kayak Outfitters

Paddle Bridge Guide Collective is the dominant commercial paddling operator in the Gorge, anchored at Bohemian Flats. The company reports roughly 650–710 customers on its guided Gorge Adventure tours, 490–550 customers using its Bohemian Flats kayak rentals, and approximately 100 special-event and group participants, for a combined total of about 1,250–1,350 paddlers in the Gorge annually in recent years (Theo Byrnes, Paddle Bridge, personal communication, July 2025).[10] Smaller commercial guides operating in the metro area—including Twin Cities Kayaking, Minnesota Kayak Company, and occasional small outfitters—likely add a modest additional increment to these figures but were not surveyed directly for this report.

Operator & Service	Estimated Annual Participants (all routes)	Share of Trips in Gorge	Estimated Gorge Paddlers	Notes and Sources
Paddle Bridge Guide Collective[11]	1,200 paddlers on guided tours and Bohemian Flats rentals	90% – flagship "Gorge Adventure" tour plus on-site rentals are entirely within study reach	1,050 ± 150	Weekend shuttle calendar May–Oct lists 40 departures at 14-seat capacity; Fri–Sun rental kiosk averages 6-8 boats/day
Twin Cities Kayaking, LLC[12]	600 customers across metro routes	75% – "Lock and Dam" shuttle and nonprofit charters traverse full Gorge	450 ± 75	Lock-and-Dam trip offered 4 days/week in season; company fields 60-boat fleet
Minnesota Kayak Company[13]	400–500 customers metro-wide	25% – Hidden Falls → Harriet Island & LED night paddles skim lower Gorge	100 ± 25	Route and pricing pages list 6-8 mi Mississippi tours with shuttle logistics

Competitive and Recreational Rowing

Seasonally, rowing maintains a daily presence on the Mississippi River within the eight-mile Gorge corridor. Two boathouses — the Minneapolis Rowing Club's Lloyd Ohme Boathouse (west bank, Lake Street) and the University of Minnesota's Irene Claudia Kroll Boathouse (East River Flats) — anchor Gorge rowing operations. Together they support roughly 400 regular rowers who collectively generate an estimated 25,000–29,000 person-days on the water each year, almost entirely between mid-March and early November. (A person-day represents one person participating for some part of a

single day, so a rower who trains 50 times in a season accounts for 50 person-days; the measure reflects total usage rather than the number of individuals.)

- Minneapolis Rowing Club (MRC) is the region's largest adult rowing organization, fielding teams for adult competitive rowers (men and women), recreational rowers, young professionals (U30), Masters competitors, a Green team for second- and third-year rowers, a Novice team for first-year rowers, and a Juniors program. Three years of MRC session data (2023–2025) document between 14,000 and 19,000 person-days on the water each season at MRC's North Boathouse on Pool 1, with use trending upward across the three years. This figure aligns closely with Army Corps of Engineers 2022 estimates of 15,230 rower person-trips (6,213 outings).[14]
- University of Minnesota Women's Rowing is an NCAA Division I program competing in the Big Ten Conference. The varsity roster typically lists about 40 athletes plus additional novice rowers, for a total program of approximately 45–55 athletes. The team practices roughly six mornings a week during the open-water season (late February through mid-November), launching from East River Flats and rowing downstream toward Lock and Dam 1. Winter training is conducted indoors in tanks and on ergometers.
- University of Minnesota Men's Rowing (Minnesota Crew) is an independent student club with approximately 60 athletes, two paid coaches and volunteer assistants. The team practices six to eight times per week during the school-year racing seasons (September through mid-November in the fall, late February through end of May in the spring), with a mix of on-water and erg/strength sessions depending on conditions. Practices typically run one to two hours. The club shares the Kroll Boathouse with the women's program.
- The annual Head of the Mississippi Regatta, hosted on the Gorge in early October each year, drew 670 rowers across 28 clubs and 278 race entries in 2024 (Edition 44), up from 591 rowers, 24 clubs, and 280 entries in 2022 (Charlie Stockton, regatta organizer, personal communication, 2025). Approximately 65–75% of regatta participants are from Twin Cities clubs; the remainder travel from out-of-state or, occasionally, Canada. The regatta also brings an estimated 125–175 spectators, coaches and support staff to the Gorge corridor for race day. A 2019 reorganization that split Quad/Fours and Pairs/Doubles into separate races, combined with growth in regional high-school rowing programs, has driven the upward trend in regatta participation since the late 2010s.[15]

Organizations upstream of St. Anthony Falls (such as North Star Community Rowing) and lake-based youth programs (such as Twin Cities Youth Rowing Club) were excluded from these counts because they do not conduct regular on-river training inside the Gorge. Minnesota Boat Club, located downstream of the confluence on Raspberry

Island in St. Paul, was also excluded for the same reason, although its rowers do compete in the Head of the Mississippi.

Estimated Annual Participation and On-Water Exposure

Organization	Active Gorge Rowers / Year	On-Water Season	Estimated Person-Days on Water*	Data Source
Minneapolis Rowing Club	350 active rowers	Mid-March through early November	14,000-19,000	Minneapolis Rowing Club
Univ. of Minnesota Women's Varsity[16]	≈45 athletes	Late February through early November	4,800-5,500	Roster counts from athletics site; practice cadence from Minnesota Daily feature on varsity training. Additional insight from Men's Crew.
Univ. of Minnesota Men's Club ("Minnesota Crew")	≈60 athletes active	Sept–mid-November and late February–end of May	3,800–4,500	Men's Crew, personal communication.
Head of the Mississippi Regatta	670 competitors + spectators and coaches	Annual event, October	600-700	Based on past years' regatta activity levels. Head of the Mississippi Regatta organizers, personal communication.

Other River Recreation: Fishing, Casual Boating and Shoreline Use

The Gorge's casual recreation — shore fishing, water play, dog use, swimming, private paddling and private motorized boating — lacks any systematic visitor count. The best available evidence comes from the U.S. Army Corps of Engineers 2023 visual observations conducted as part of the Lower St. Anthony Falls/Lock and Dam 1 Disposition Study, supplemented by a Bohemian Flats access counter operated during the same period.[17] Both sources have limits the Army Corps acknowledged: the visual observations were conducted on only 12 days, mostly weekends and holidays, mostly afternoons, missing the early-morning rowing window and likely undercounting early-morning fishing as well; and the access counter captures all passersby at one location, including duplicative passes by the same person. Together, however, they offer the best available characterization of casual Gorge recreation.

Shore fishing. Shore fishing was the second-most-observed river-oriented activity in Pool 1 in the Corps' 2023 surveys, accounting for 12.7% of Pool 1 individuals after

watercraft use (which was dominated by commercial paddleboat passengers).[18] Activity was distributed throughout the corridor with some concentration near Lock and Dam 1. Pool 1 functions more as a casual fishery than as a fishing destination.

Private motorized boating. Private motorized boat use of Pool 1 is modest and has declined since 2015 when the Upper St. Anthony Falls Lock was closed. The Gorge has no public motorized boat launch so vessels must either be seasonally stationed in the pool or lock through Lock and Dam 1 from Pool 2. The Corps' lockage records show recreational vessel passage through Lock and Dam 1 declining from 2015 onward, stabilizing in recent years at modest levels. Since the end of commercial barge traffic in 2015, the Corps has sharply reduced the hours during which lockage is allowed. In the Corps' 2023 observations, motorized recreational craft accounted for only about 9% of Pool 1 individuals — markedly lower than the 81% represented in Pool 2 observations (downstream of the Gorge), where a public boat launch at Hidden Falls supports a more lake-oriented use pattern.[18] The Minneapolis Park and Recreation Board, however, plans to open a renovated East River Flats in the fall of 2026, and the renovation includes a public boat landing.[19]

Some disposition alternatives under consideration by the Army Corps of Engineers could close the lock to through-passage entirely. Full closure would eliminate the remaining option for motorized vessels to enter Pool 1 from downstream, leaving only vessels seasonally stationed within the pool and further reducing an already modest level of private motorized use.

Private and non-affiliated paddling. Beyond the operator-affiliated paddling captured in the Paddle Share, Paddle Bridge, and Wilderness Inquiry figures, private canoe, kayak and paddleboard use does occur in the Gorge at modest scale. The Corps' 2023 surveys observed private kayaks at about 4.5% of Pool 1 individuals and canoes at 1.6%, with paddleboards almost entirely absent.[19] Most non-affiliated paddlers launch from Bohemian Flats, which is also where the operator-affiliated activity is concentrated.

Shoreline activities: water play, dog use, swimming and casual visits. Water play (wading, splashing, beach-style interactions) was observed among 11.5% of Pool 1 individuals in the Corps' 2023 surveys, and dog use at the river's edge at another 7.4%. Swimming was observed among about 2% of Pool 1 individuals. Pool 1 use is overwhelmingly adult (93% adults, 7% children). This is notably less family-oriented than Pool 2 downstream, where children make up a substantially larger share of visitors. The Corps' report also notes that Pool 2 hosts a higher proportion of dog use and water play than Pool 1.[20] The data are not broken out to compare usage in the upper part of Pool 2 (in the Gorge) and the lower part (downstream of the Gorge).

The Corps' TRAFx infrared counter at Bohemian Flats recorded 20,812 passersby from June through December 2023, peaking at 5,475 in August and declining steadily through fall and winter. The Corps cautions that this counter records each pass

(including duplicative counting when individuals enter and exit) and captures the full mix of river-related uses including paddlers, fishers, dog walkers, water players, joggers and casual visitors.[21] The results are best used as an indicator of relative magnitude and seasonal pattern rather than as a unique-visitor count.

Data Gaps and Opportunities

While trail and park visitation is well documented, specific data on river-based recreation (paddling, motorized boat use, fishing, shore use and on-water events) remains limited. There are no comprehensive, up-to-date counts of on-water use or detailed user profiles for river-specific activities. Seasonal patterns and access point usage are also under-studied. Addressing these gaps will be important for future planning and for understanding the full value of the Gorge as a recreation resource.

Summary

The reach from St. Anthony Falls to the Minnesota River confluence is already a major hub of outdoor activity, with four regional parks and trails alone drawing 12 million annual visits. The area's extensive trails, scenic overlooks and river access points make the Gorge a vital asset within the region's renowned park system. The corridor also supports a diverse mix of on-water recreation activities including thousands of participants in organized paddling, commercial and educational tours, competitive and recreational rowing, and recreational fishing.

Notes

1. Metropolitan Council. Visits to the Regional Parks and Trails System in 2024. metrocouncil.org/Parks/Research/Annual-Use-Estimates/2024-Regional-Parks-and-Trails-Annual-Use-Estimate.aspx

2. *Ibid.*

3. Metropolitan Council. 2021 Regional Parks and Trails Visitor Study. November 2022. metrocouncil.org/Parks/Publications-And-Resources/PARK-USE-REPORTS/VISITOR-STUDY-REPORTS/2021-Parks-and-Trails-Visitor-Study/2021-Parks-and-Trails-Visitor-Study.aspx

4. *Ibid*

5. Minneapolis Park & Recreation Board. Mississippi Gorge Regional Park Master Plan, Chapter 3: Visitor Demand. June 2019. minneapolisparks.org/park-care-improvements/park-projects/current_projects/mississippi_gorge_regional_park_master_plan/

6. Metropolitan Council. Parks and Trails Visitor Study Data Discussion. Community Development Committee presentation, November 21, 2022. metrocouncil.org/Council-Meetings/Committees/Community-Development-Committee/2022/September-19,-2022/presentation2.aspx

7. Mississippi Park Connection, personal communication, April 2026.

8. Mississippi Park Connection, *2023 Annual Report*, Sharing Joyful Days on the Water. parkconnection.org/annual-report-2023

9. Wilderness Inquiry, Mississippi River destination page wildernessinquiry.org/destinations/mississippi-river/; and Meg Krueger, Wilderness Inquiry, personal communication, September 2025.

10. Theo Byrnes, Paddle Bridge, personal communication, July 2025.

11. Paddle Bridge website paddlebridge.com; interview with Theo Byrnes, July 2025; Visit Saint Paul, "Gorge Adventure with Paddle Bridge Kayak Tours" event listing; *Mill City Times*, "Paddle Bridge Kayak Tours Announces 2023 Events," Apr 27 2023; *Southwest Connector*, "Getting in the Gorge with Your Neighborhood River Tour Guides," Feb 27 2025,

12. Twin Cities Kayaking, "Lock and Dam Trip" guided-tour page twincitieskayaking.com/book-a-trip/mississippi-st-paul/lock-and-dam-trip; Aqua-Bound, "Twin Cities Kayaking's Unique Business Model," May 20, 2022; *Twin Cities Outdoors*, "Twin Cities Kayaking Rentals and Tours," Apr 15, 2022.

13. Minnesota Kayak Co. website kayakmn.com

14. Data from Minneapolis Rowing Club, personal communication from club manager, September 2025. See also U.S. Army Corps of Engineers and National Park Service. Recreation Use Within the Intermediate Pool, Pool 1, and Upper Pool 2 of the Upper Mississippi River, 2012–2023. St. Paul, Minnesota, January 2026. mvp.usace.army.mil/LSAF/

15. Charlie Stockton, regatta organizer, personal communication, September 2025.

16. Data from University of Minnesota Athletics, 2024-25 Women's Rowing Roster; *Minnesota Daily*, Rowers push off against the current, Oct 13, 2010. mndaily.com/uncategorized/rowers-push-against-current/10/13/2010/snoadmin/

17. U.S. Army Corps of Engineers and National Park Service

18. U.S. Army Corps of Engineers and National Park Service, Figure 3-9 (Pool 1 activity shares).

19. Minneapolis Park & Recreation Board, East River Flats Improvement Project webpage minneapolisparks.org/park-care-improvements/park-projects/current_projects/east-river-flats-park-improvements-project/

20. U.S. Army Corps of Engineers and National Park Service, Figure 3-10 (Pool 1 recreational watercraft).

21. U.S. Army Corps of Engineers and National Park Service, Figure 3-9 (Pool 1 activity shares).

22. U.S. Army Corps of Engineers and National Park Service, Section 4.3 and Table 3-3 (Bohemian Flats TRAFx counts).

3. Recreation Changes with Lock and Dam Removal: Insights from the Mississippi Gorge Regional Park Master Plan

The 2019 Mississippi Gorge Regional Park Master Plan[1] explicitly considered both “with dams” and “without dams” futures, offering insights into how recreation might shift under a restored, free-flowing river scenario. If the dams are removed, the river would revert to a dynamic, shallow system with riffles, rapids, pools, mid-channel islands and braided side channels. This transformation would open significant new opportunities for water-based and nature-immersive recreation including:

- Expanded wading, hiking, fishing, birdwatching and picnicking in newly exposed floodplains and on emerging islands;
- More adventurous canoeing and kayaking through moving water and whitewater-like segments, replacing today’s flatwater paddling experience; and
- Richer nature education opportunities, tied to restored river habitats and the return of more diverse fish, bird and wildlife communities.

At the same time, the shift to a free-flowing system would displace or fundamentally alter some existing recreation uses. Competitive rowing — currently supported by the University of Minnesota and Minneapolis Rowing Club — would no longer be viable due to reduced channel depth and increased water velocity. Riverboat cruises and deep-draft motorized boating, now launching from Bohemian Flats and other locations downstream, would no longer be feasible in the shallower, rockier riverbed. And angling would shift from boat-based to wade-in fishing. Changes in the character of the river would yield expected changes in fish community composition.

The master plan also outlines site-specific enhancements aligned with a dam-free future.

- **Bohemian Flats**: Expanded beach and paddle launch, accessible canoe/kayak facilities, paddle share stations, natural amphitheater terraces and restored wetland boardwalk trails.
- **Southeast Flats**: Floodplain prairie and forest restoration, boardwalk trails, additional paddle access points and new fishing piers.
- **Park-wide**: Enhanced trail networks, reclaimed natural surface trails on floodplain lands, improved interpretive signage and stormwater management upgrades.

The master plan notes key uncertainties. These include sediment conditions under the current impoundments, infrastructure resilience (bridges, outfalls, boathouses), and long-term effects of climate change and urban hydrology. These will require further study to fully understand future recreation opportunities.

Overall, the Mississippi Gorge Regional Park Master Plan underscores the potential for the river corridor to become a more ecologically rich, recreationally diverse and locally distinctive landscape in a post-dam future. It also calls attention to the need for proactive planning to manage transitions in user groups, facilities and ecological systems.

Notes

1. Minneapolis Park & Recreation Board. Mississippi Gorge Regional Park Master Plan. June 2019. minneapolisparks.org/park-care-improvements/park-projects/current_projects/mississippi_gorge_regional_park_master_plan/. See, especially, Chapter 6: Master Plan Recommendations.

4. Peer River Communities Case Studies

This section presents four urban river case studies that offer close parallels to the Gorge river corridor: Richmond, Virginia (James River Park System); Golden, Colorado (Clear Creek Whitewater Park); Pittsburgh, Pennsylvania (Three Rivers Heritage Trail); and San Antonio, Texas (San Antonio River Mission Reach). These are four urban communities that have invested in restoration and/or river-adjacent recreational infrastructure, business development, and programming.

Why These Four?

- **Measured data:** Each case study is supported by peer-reviewed or professionally prepared visitor or impact studies conducted after project completion.
- **Urban context:** All lie within metropolitan areas where river recreation is embedded in broader landscapes of parks, neighborhoods and mixed-use districts.
- **River character and access:** All four rivers run faster and shallower than a flatwater channel, with rapids, riffles or restored flows that shape the recreation they support. Each balances river-level access with trails or overlooks set above or away from the river channel, approximating the access challenges of the Gorge's bluffs.

Recreation and Tourism Outcomes for the Four Communities

Data from visitation and economic studies of river-related recreation in these four communities provide a way of framing the potential magnitude of recreation and economic effects of river restoration in the Mississippi River Gorge. Recreational visitor spending ranges from $11-34 million annually across these peer communities, supporting 130-400 jobs in each. This provides a realistic baseline for characterizing potential economic impacts in the Twin Cities context, where the restored Gorge could capture similar benefits given appropriate investment in access infrastructure and programming.

The figures below combine measured visitor counts from Richmond James River Park System gate counters and San Antonio River Authority trail counters; modeled visitor-day estimates from Golden via Datafy phone geolocation; and survey-based spending estimates from Pittsburgh. They also include derived estimates from regional spending models (Richmond visitor-spending quotients and San Antonio National Park Service-proportional allocation). Job estimates likewise mix IMPLAN modeling (Pittsburgh and Golden) with calculation based on spending ratios (Richmond and San Antonio). Case-by-case detail clarifies which approach underlies each figure.

Interestingly, this analysis shows that communities with higher visitation do not always generate proportionally higher economic impact. Factors like visitor origin (local vs.

tourist), length of stay and spending patterns significantly influence the economic multiplier effects.

Community	Annual Visits/Users	Direct Visitor Spending	Jobs Supported	Visitor Origin	Primary Data Source
Richmond, VA James River Park[2]	1.4 million (2016) 1.9 million (2019) 2.1 million (2020 peak)	$33.6 million/year (potential, 2017 est.)	400 jobs (derived)	58.7% non-Richmond residents	2017 Virginia Commonwealth University economic impact study
Golden, CO Clear Creek Whitewater Park[3]	305,149 visitor days (2022)	$16.3 million/year	162 jobs (132 direct)	42% from 50+ miles	2023 Anderson Analytics economic impact study
Pittsburgh, PA Three Rivers Heritage Trail[4]	1.3 million visits (2023) Doubling since 2014 (land-trail counters; growth tied to trail extension)	$22.4 million/year	351 jobs	Mostly local; high day-trip volume	2024 Fourth Economy economic impact study
San Antonio, TX Mission Reach[5]	434,193 trail users (FY22) 5,350 paddling uses (FY22)	$11–35 million/year	130–240 jobs	Mixed local and tourist use	San Antonio River Authority trail data; National Park Service San Antonio Missions NHP (VSE 2024); spending and jobs derived

Visitation and economic outcomes paint only part of the picture of the lessons these peer river recreation communities can offer the Twin Cities as it contemplates the future of recreation along a potentially restored Mississippi River Gorge. The following short case studies describe these communities and their river-related recreation in greater depth and offer additional insight into the dynamics related to river recreation.

Richmond, Virginia — James River Park System

Overview

The 550-acre James River Park System (JRPS) extends along seven river miles through downtown Richmond, spanning fall-line rapids and granite outcrops. City and nonprofit partners have focused on minimal hardscape, bluff-top trails, selective access points and habitat conservation.

2024 metro area population: 1.37 million

Terrain & Access Notes

- Steep fall-line gorge with Class III-IV rapids parallels the limestone/sandstone gorge of the Twin Cities.
- Bluff-top trail segments and limited river-level nodes mirror Gorge constraints.
- Success shows that concentrated access points and modest infrastructure can yield strong economic returns.

River Recreation Summary

The James River Park System's 550 acres of islands, rapids and flatwater reaches are used much more intensively than trail counts alone suggest. A 2020 visitation study commissioned by Friends of JRPS estimated just over two million park visits that year, making the river corridor the single most-visited attraction in the Richmond region.[6] River access is the main draw at many nodes. Texas Beach, Belle Isle, Pony Pasture and Reedy Creek each post summer weekend parking shortages as swimmers, tubers and paddlers converge. The James River Association's *Swimming Safety in the James* white paper cites more than 4 million visits to riverside parks in the watershed in 2016, most of them in the Richmond reach.[7]

Commercial outfitters amplify that demand. Riverside Outfitters guides over 4,000 customers each year on whitewater raft runs and tubing trips that finish downtown.[8] RVA Paddlesports, founded in 2014 and now employing 50 staff, markets half-day kayak and raft trips on the same rapids as "the #1 outdoor adventure in Richmond."[9] The James River Association's public-facing programs add an educational dimension. In 2023 its "Connect with the James" and "Kids in Kayaks" offerings took more than 19,000 students and adults onto the water across the watershed, with many trips launching at JRPS access points.[10] At the quiet-water end of the spectrum, nearly two dozen signed Water-Trail put-ins support casual canoeing and stand-up paddleboarding. The volunteer-run *James River Watch* platform logs weekly bacteria and flow readings so that swimmers can "know before they go."[11]

Key Takeaways

1. High participation is possible without marina infrastructure. Richmond's heaviest river use occurs in shallow runs and natural beaches that might resemble a future restored Gorge.
2. Thousands of guided customers plus millions of unguided visits demonstrate how readily an urban population will embrace in-river recreation when multiple free access points, safety education, daily water-quality information and affordable commercial trips are available.
3. The mix of whitewater outfitters, youth programs and self-directed swimmers illustrates a recreation spectrum from expert rafters to first-time paddlers that a restored Gorge could emulate at an appropriate scale.

Measured Recreation & Tourism Outcomes[12]

Metric	Value	Notes
Annual park visits (JRPS counter data, 2016–2019)	1,404,903 (2016) 1,947,585 (2019)[13]	Highest of any Richmond attraction
Tourism spending potential	$33.58 million/year[14]	Derived using Virginia visitor-spending quotients (Magnini & Uysal, 2016) applied to 2016 visitor counts
Visitor spending per budget dollar	$60.26	FY17 park budget $557,337
Small-business dependence	32.7% estimated revenue loss if park closed	32 businesses surveyed
Property-value uplift	$6.79 per foot closer to park	Single-family properties
Peak visitation (2020)	> 2.1 million visits	Demonstrates post-study growth

Golden, Colorado — Clear Creek Whitewater Park

Project Overview

Dedicated in 1998, Clear Creek Whitewater Park winds 800 feet through downtown Golden's narrow canyon. More than 20 years on, the city commissioned Anderson Analytics (2023) to quantify recreation economics. Anderson Analytics used Datafy phone-geolocation, vehicle and credit-card data to count every device that registered inside the whitewater park footprint, then applied a spending model to estimate associated Golden-wide visitor spending. This analysis estimated annual park visitation at 305,149 including anyone present at the park footprint — kayakers, spectators, dog-walkers and trail users passing through. These visitors spent an estimated $16.3 million across Golden businesses. The park itself is free.

2024 metro area population: Golden is part of the Denver-Aurora-Centennial metro area, population 2.99 million, although Golden is not at the region's core.

Terrain & Access Notes

- Rocky canyon confines access. Most trails sit above flood elevation.
- Engineered drops on Clear Creek emulate the seasonal whitewater potential of a restored upper Gorge.[15]
- The small urban park footprint (seven blocks) underscores the potential for concentrated recreation hubs.

Land-Based Recreation Summary

Clear Creek's engineered whitewater park sits within a compact downtown park-and-trail network that draws a substantial volume of land-based use alongside water recreation. The City of Golden maintains 19 parks and 42 miles of paved trails across roughly 250 acres of municipal parkland, much of it concentrated along the Clear Creek corridor.[16] Golden has developed a short reach of river recreation supported by an adjacent web of trails and parks in a small downtown footprint. Two trail systems knit directly into the river corridor:

- **Clear Creek Trail (City of Golden)** — A paved, river-level path running 2.7 miles through downtown Golden along Clear Creek, crossing the whitewater park via pedestrian bridges and connecting eastward into the broader regional trail network.[17] The trail functions as the spine of Golden's summer tubing loop, with users walking upstream along the path and floating back down through the park.

- **Peaks-to-Plains/Clear Creek Canyon Trail (Jefferson County Open Space)** — A paved canyon greenway extending west from downtown Golden into Clear Creek Canyon, built in segments beginning in 2016, with the 1.75-mile Gateway Segment opening in 2021 and further westward extension continuing.[18] Canyon trailheads double as access points for paddlers and anglers continuing down toward the city whitewater course.

How Land-Based Use Supports River Recreation

- **Trail-to-Water Loops**: The Clear Creek Trail's flat, river-level grade enables a continuous loop in which users walk or cycle upstream and return by tube, kayak or paddleboard — a pattern that converts a short stretch of water into repeated, accessible recreation.
- **Parks Extend Stays**: Lions Park, Parfet Park, and other downtown parks provide picnic lawns, play structures, courts, and event space that keep river visitors in the corridor before and after time on the water.

- **Event Overlay**: Golden's downtown riverfront parks host recurring summer events that combine in-water competition with land-based activities, drawing spectators into the corridor.
- **Trail Gateway for Canyon Users**: The Clear Creek Canyon Trail feeds cyclists, anglers and climbers into downtown amenities and the whitewater park, with many finishing outings at restaurants and shops along Washington Avenue, supporting the city's retail core.

Key Takeaways

Golden's experience shows that even a short river-recreation reach can leverage a connected trail network to multiply visitation. Continuous, grade-separated paths parallel to the water give casual users multiple ways to engage (walk, watch, float), act as shuttles for paddlers and tubers and extend stay-time into nearby parks, downtown businesses and community facilities—creating an integrated land-and-water recreation economy around a whitewater focal point.

Measured Recreation & Tourism Outcomes[20]

Metric	Value	Notes
Annual visitor days (2022)	305,149	Counts limited to whitewater park footprint
Direct visitor spending	$16.34 million/year	8.6% of all Golden visitor spending
Jobs supported	162 total (132 direct)	IMPLAN analysis
City tax revenue	$406,423/year	Sales & lodging taxes
Visitor origin > 50 mi	42%	20% of long-distance visitors stay overnight

Pittsburgh, Pennsylvania — Three Rivers Heritage Trail

Project Overview

The 33-mile multi-use trail flanks the Allegheny, Monongahela and Ohio Rivers. A 2024 impact study by Fourth Economy for Friends of the Riverfront charts a decade of growth. The 2024 report explicitly attributes the doubling of annual visits (623,000 in 2014 to 1.3 million in 2023) and the tripling of associated economic impact to extensions and gap-closure on the land trail itself — which grew from 24 to 33 miles in that period — rather than to water-based access investments.[21] The co-located Three Rivers Water Trail is a parallel, less-developed system. Friends of the Riverfront's 2024 Water Trail Management Plan acknowledges the water trail "has been somewhat left out of our development."[22] This is an important distinction when extrapolating to the Mississippi River Gorge because Pittsburgh's outcomes demonstrate what land-trail completeness in a river corridor can produce, not what on-water access alone delivers.

2024 metro area population: 2.44 million

Terrain & Access Notes

- Portions of trail sit atop elevated rail embankments or levees (10–20 ft above water), separating trail users from the river.
- Multiple bridge connections echo the crossing complexity at the Mississippi Gorge.
- Outcome shows strong spending even when users remain on trails rather than water. This is relevant where bluffs limit river-level access.

River Recreation Along the Trail

While Pittsburgh's Three Rivers system supports substantial marina infrastructure designed for larger vessels, the rivers also provide extensive opportunities for casual, accessible recreation that would be more analogous to potential recreation in a restored Gorge. The Three Rivers Water Trail, operated by Friends of the Riverfront, comprises more than 30 non-motorized boat launches and river-access points across the Allegheny, Monongahela and Ohio Rivers — many marked with red paddle-shaped signs identifying them as paddler-friendly — with free public access, no permits required, and amenities ranging from highly developed launches with parking and rentals to primitive put-ins.[23, 24] The system explicitly serves kayaks, canoes and stand-up paddleboards, accommodating both downtown urban paddling and quieter, more natural settings upstream.

Commercial outfitting has grown alongside this access. Kayak Pittsburgh, operated by the nonprofit Venture Outdoors, launched in 2004 as the rivers' only outfitter. Today multiple paddle-sport rental services operate across the region. In 2024, Venture Outdoors reported more than 13,000 Kayak Pittsburgh participants across three locations, and in 2025 it opened a $1.3 million floating paddle center on the Allegheny River downstream of the David L. Lawrence Convention Center. Outfitted with more than 75 craft and an adaptive launch for paddlers using wheelchairs, Venture Outdoors engages upward of 10,000 paddlers at that site alone.[25] State recreation officials characterize the broader trend as "rapid growth in interest and use" of the rivers, consistent with a national rise in non-motorized paddling, and note that public perception of the rivers as unsuitable for recreation is shifting as water quality and access improve.[26]

This growth shares a root cause with the land trail's success. Both the Three Rivers Heritage (land) Trail and the Three Rivers Water Trail are developed and managed by Friends of the Riverfront, were co-designated National Recreation Trails in 2010, and trace to the same multi-decade effort to reclaim industrial riverfronts and recover river water quality for public use. Land and water recreation in Pittsburgh have grown together as the riverfront has reopened, even though they have advanced at different paces.

An important qualifier on the economic data that follows is that the 1.3 million annual visits and $22.4 million in associated spending tracked by Fourth Economy are land-trail counter readings, not on-water activity. The land and water trails share many access nodes and their users overlap, but the documented growth and economic outcomes reflect land trail completion and gap-closure rather than paddling demand specifically. Friends of the Riverfront's 2024 Water Trail Management Plan candidly notes that water-trail development has lagged the land trail's, precisely because the land trail is so popular.[27] The economic figures below should be read as the measured return on land-based trail investment, not as evidence of the returns to on-water access in isolation.

Measured Recreation & Tourism Outcomes[28]

Metric	Value	Notes
Annual user visits (2023)	1.3 million	Doubled since 2014
Direct economic impact	$22.4 million/year	Local spending only
Total economic impact	$26.5 million/year	Includes indirect/induced
Worker earnings	$16 million/year	IMPLAN estimate
Tax revenue	$5.7 million/year ($1 million to schools)	$1 million to schools
Riverfront development	$987 million within 1/2 mi. of the trail	Trail catalyst effect

San Antonio, Texas — Mission Reach (San Antonio River Improvements Project)

Project Overview

Completed 2013, the restoration of the Mission Reach of the San Antonio River transformed eight channelized river miles south of downtown, reestablishing a river course that meanders and adding 15 miles of hike–bike trail, eight miles of paddling trail, 30+ canoe chutes, and 400 acres of riparian habitat. The Mission Reach connects four of San Antonio's five 18th-century Spanish colonial missions (Concepción, San José, San Juan and Espada). The fifth, the Alamo, is downtown. UNESCO designated the San Antonio Missions National Historical Park a World Heritage Site in July 2015, nearly two years after the Mission Reach restoration was completed in October 2013. The restoration helped strengthen the case for World Heritage status.

2024 metro area population: 2.76 million

Terrain & Access Notes

- Although the topography is flatter than Minneapolis, riverbank trails were offset from the channel to accommodate flood pulses, a model for adapting to fluctuating flows.
- Canoe chutes illustrate low-profile river engineering compatible with ecological goals.
- Integration of UNESCO World Heritage missions demonstrates how cultural assets and recreation can reinforce each other, providing a parallel to Dakota cultural sites at Owámniyomni and elsewhere in the Gorge.

The Mission Reach was designed so that heritage and recreation visitors intersect. The four Spanish colonial missions sit roughly two miles apart along a corridor laced with hike-and-bike trails, canoe chutes and restored habitat. In practice, the two experiences reinforce each other — cultural visitors extend their dwell time by using the trail and recreation users encounter the missions and nearby businesses they might not otherwise visit. This linkage is the corridor's defining economic feature.

Key Takeaways

The Mission Reach example underscores how connecting a linear blue-green corridor to signature cultural sites can broaden the economic footprint of recreation investment, even when the highest visitor counts still accrue to the heritage attraction itself.

Measured Recreation & Tourism Outcomes for the Mission Reach[29]

Metric	Value	Sources and Notes
Mission Reach annual trail users (FY22)	434,193	SARA park-usage data; ~420,000 five-year average (FY17–21)[30]
Mission Reach trail-use range (FY17–FY22)	310,000–517,000	SARA park-usage data; peak FY21 (516,787)
Mission Reach paddling uses (FY22)	5,352	SARA paddling-trail data (4,221 projected)
San Antonio Missions NHP recreation visits (2024)	1,278,777	NPS Visitor Spending Effects, 2024[31]
San Antonio Missions NHP visitor spending (2024)	$114.7 million	NPS VSE, 2024; 90.2% from non-local visitors

Metric	Value	Sources and Notes
San Antonio Missions NHP jobs supported (2024)	1,285	NPS VSE, 2024 (park-wide)
Estimated direct spending by trail/river users	~$11–20 million	NPS VSE day-trip profiles ($48.11 local / $105.55 non-local per party per day) applied to FY22 trail count; range reflects party size ~2–2.5 and local/non-local mix from ~60/40 to ~80/20[30][32]
Estimated total economic activity	~$17–30 million	Direct spending × 1.5 multiplier (VSE-derived)
Estimated jobs supported	~130–240	~12 jobs per $1M direct spending (VSE-derived)
Estimated state/local sales-tax revenue	~$350,000–600,000	Sales-tax share of River Walk visitor spending (3.1%) applied to estimated direct spending[33]

Notes

1. Minneapolis Park & Recreation Board. Mississippi Gorge Regional Park Master Plan, 2019. minneapolisparks.org/park-care-improvements/park-projects/current_projects/mississippi_gorge_regional_park_master_plan/

2. Victoria A. Shivy and I-Shian Suen, *Economic Impact of the James River Park System* (Richmond, VA: Virginia Commonwealth University, L. Douglas Wilder School of Government & Public Affairs, April 2017), imba.com/sites/default/files/content/resources/2018-11/Economic Impact of James River Park System - Richmond VA.pdf

3. Anderson Analytics, *Economic Impact of the Tourism and Visitor Industry: 2022 in the City of Golden, Colorado* (Colorado Springs, CO: Anderson Analytics, December 2023), assets.simpleviewinc.com/simpleview/image/upload/v1/clients/goldenco/Final_Golden_Econ_Impact_Report_1285b758-4b7f-444b-b86f-96c03c585f25.pdf

4. Friends of the Riverfront and Fourth Economy, *Three Rivers Heritage Trail: 2024 Impact Assessment* (Pittsburgh, PA: Friends of the Riverfront, March 2024), friendsoftheriverfront.org/wp-content/uploads/2024/04/FOR-TRHT-Impact-Report-2024.pdf

5. San Antonio River Authority, *San Antonio River Improvements Project: Returning to the River—People, Plants & Wildlife* (San Antonio, TX: SARA, January 2016), sanantonioreport.org/river-improvements-project-brings-increased-trail-usage-preservation-of-habitat/. See also National Park Service, "Tourism to San Antonio Missions National Historical Park Contributes $150 Million to Local Economy," *News Release* (September 3, 2024), nps.gov/saan/learn/news/2023economicimpact.htm.

6. Friends of the James River Park, "A Recap of Our 2022" jamesriverpark.org/a-recap-of-our-2022/

7. James River Association's *Swimming Safety in the James* thejamesriver.org/wp-content/uploads/2018/06/Swimming-Safety-in-the-James-White-Paper.pdf

8. Riverside Outfitters riversideoutfitters.com/, especially rafting and tubing pages

9. RVA Paddlesports, Our Story page, rvapaddlesports.com/our-story/

10. James River Association thejamesriver.org/kids-in-kayaks-program-establishes-a-lifelong-love-for-our-waterways/

11. James River Association thejamesriver.org/press-release-water-monitoring-program-to-keep-james-river-swimmers-and-boaters-safe/

12. Figures from Shivy and Suen, *Economic Impact of the James River Park System* unless otherwise noted.

13. City of Richmond Department of Parks, Recreation and Community Facilities (PRCF), James River Park System entrance-counter data; counter program ongoing since 2014. The 2020 figure was reported by PRCF and covered in "Over 2 million people visited the James River Park System in 2020," WRIC ABC 8News, January 12, 2021, wric.com/news/local-news/richmond/over-2-million-people-visited-the-james-river-park-system-in-2020

14. Vincent P. Magnini and Muzaffer Uysal, *Virginia State Parks — Economic Impact Report* (Blacksburg, VA: Virginia Polytechnic Institute and State University, 2016). Per-visitor spending quotients of $10.99 (local) and $32.99 (non-local) were applied to JRPS visitor counts to derive the $33.58 million figure.

15. This comparison does not suggest any recommendation that engineered whitewater should or should not be contemplated during potential restoration of the Mississippi River Gorge. This type of riverbed and stream flow manipulation that can be involved may cause a range of environmental impacts that should be carefully considered if engineered whitewater is contemplated to increase recreational diversity in a restored Gorge even further. The upper section of a restored Gorge is anticipated to naturally produce whitewater conditions seasonally during high water flows.

16. City of Golden, "Parks & Trails," cityofgolden.gov/community/parks_trails/index.php

17. City of Golden, Clear Creek Whitewater Park webpage cityofgolden.gov/business_detail_T31_R162.php

18. Jefferson County Open Space, Clear Creek Trail webpage jeffco.us/3792/Clear-Creek-Trail

19. City of Golden, Golden Community Center webpage cityofgolden.gov/community/recreation/golden_community_center/index.php

20. Table data from Anderson Analytics, *Economic Impact of the Tourism and Visitor Industry: 2022 in the City of Golden, Colorado*

22. Friends of the Riverfront and Fourth Economy, *Three Rivers Heritage Trail: 2024 Impact Assessment*

23. Friends of the Riverfront, Environmental Planning & Design, and Cycle Forward, *Three Rivers Water Trail Management Plan* (Pittsburgh, PA: Friends of the Riverfront, June 2024), americantrails.org/resources/three-rivers-water-trail-management-plan

24. *ibid.*

25. Pennsylvania Fish and Boat Commission, "Three Rivers Water Trail," pa.gov/agencies/fishandboat/boating/where-to-boat/water-trails/three-rivers

26. Venture Outdoors, "Here's Where You Can Rent Kayaks in Pittsburgh This Season," ventureoutdoors.org/heres-where-you-can-rent-kayaks-in-pittsburgh-this-season/; "2024 in Review," Venture Outdoors. See also Tom Davidson, "$1.3M Kayak Hub Outside Convention Center 'Further Positions Pittsburgh as an Outdoor Destination,'" *Pittsburgh Post-Gazette*, March 28, 2025, post-gazette.com/life/outdoors/2025/03/28/kayak-hub-downtown-pittsburgh/stories/202503260089

27. American Trails, "Three Rivers Water Trail, Pennsylvania," americantrails.org/resources/three-rivers-water-trail-pennsylvania. See also: WeConservePA, "New Plan Lays Out 10-Year Vision for Access and Recreation on the Three Rivers," weconservepa.org/blog/new-plan-lays-out-10-year-vision-for-access-and-recreation-on-the-three-rivers/

28. Table data from Friends of the Riverfront and Fourth Economy, *Three Rivers Heritage Trail: 2024 Impact Assessment.*

29. In addition to cited sources, data in the table come from San Antonio River Authority, *San Antonio River Improvements Project: Returning to the River—People, Plants & Wildlife* and National Park Service, "Tourism to San Antonio Missions National Historical Park Contributes $150 Million to Local Economy."

30. San Antonio River Authority, *San Antonio River Basin Report Card: Park Usage* (Fiscal Year 2021–22), sariverauthority.org/maps-reports/river-basin-report-card/park-usage/.

31. National Park Service, *2024 National Park Visitor Spending Effects: Economic Contributions to Local Communities, States and the Nation*, by Matthew Flyr et al., Science Report NPS/SR—2025/353 (Fort Collins, CO: National Park Service, 2025), doi.org/10.36967/2315417.

32. Estimate derived by applying NPS Visitor Spending Effects day-trip spending profiles (Note 25) to documented San Antonio River Authority trail-use counts (Note 24). Figures are illustrative order-of-magnitude estimates, not a measured local economic-impact study; ranges reflect assumptions about party size and visitor origin.

33. Steve Nivin, *Impact of the San Antonio River Walk* (San Antonio, TX: April 2014), Table 22. Sales tax of $74.5 million on approximately $2.4 billion in direct visitor spending implies a ~3.1% sales-tax rate; only the sales-tax component is comparable to day-use recreation spending.

5. Urban Dam Removal Precedents and Additional Evidence of River Recreation Demand

The four primary peer cases in the previous section share urban context, terrain constraints and measured economic outcomes with the Gorge, but none involves dam removal. Because the Gorge question centers on whether to remove two locks and dams, this section adds three urban dam-removal precedents (Columbus, Georgia, Milwaukee, Wisconsin, and the Cuyahoga River in Ohio) and documented recreation outcomes. This section also includes an additional case that demonstrates high-volume urban river recreation demand (Boise, Idaho) and a brief section on the Chattahoochee River National Recreation Area, in Georgia, as a National Park Service parallel to MNRRA.

None of the three dam-removal cases has a formal economic impact study comparable to the Section 4 peer community cases. They are included here for their qualitative parallels to the Twin Cities situation — dam removal, observable post-removal recreation outcomes, and documented downstream effects on river-adjacent investment and tourism — rather than for economic impact comparisons. Where economic data exist, they are cited; where they do not, qualitative evidence is presented.

A. Columbus, Georgia — Whitewater Restoration on the Chattahoochee River

Project Overview

Two downtown Chattahoochee River dams were removed in the early 2010s as part of a 15-year river restoration project that converted a 2.5-mile reach through downtown Columbus into the longest urban whitewater course in the world. The course, now operating as RushSouth Whitewater Park, produces Class II–V whitewater on a daily dam-controlled release schedule.

Metro area population: 328,000

Recreation and Tourism Outcomes

Rafting visitation has grown roughly threefold over the decade following the course's opening. Whitewater Express, the primary outfitter, reported approximately 15,000–16,000 rafting visitors in the opening year of 2013, with more than 90 percent coming from outside the local community;[1] approximately 25,000 in 2014;[2] and approximately 50,000 annually by 2023 and since, as reported by Visit Columbus GA and confirmed in 2025 paddling-industry coverage.[3]

International Recognition and Event-Based Tourism

Columbus hosted the International Canoe Federation (ICF) Freestyle Kayak World Championship in 2023, was designated by the ICF as the world's first Center of Excellence for canoe freestyle in 2025 and is scheduled to host the World

Championship again in 2029.[4] These designations reflect course quality and accessibility rather than visitor volume.

Broader Columbus Tourism Trajectory

Columbus tourism overall has grown substantially over the post-restoration period. Visit Columbus GA reported 1.9 million visitors and $381 million in visitor spending supporting more than 4,000 jobs in 2023; approximately 2.0 million visitors and 4,400+ hospitality jobs in FY2024; and 3.1 million visitors, $650.3 million in visitor spending, and 6,269 jobs in FY2025.[5] Tourism officials describe the restored river as the city's main draw, although clearly all of the tourism growth cannot be linked directly to dam removal and river restoration. Columbus also hosts Fort Benning (the state's largest single-site employer), the National Infantry Museum (approximately 300,000 annual visitors) and significant sports tourism.

Lessons for the Twin Cities

The Columbus case illustrates that recreation-related international recognition and substantial event-based tourism can develop alongside steady growth in core recreational use, and that river recreation can be one of several drivers of broader tourism growth in a restored urban river city.

B. Milwaukee, Wisconsin — Dam Removals and the Milwaukee River Greenway

Project Overview

Two urban dams were removed from the Milwaukee River within the City of Milwaukee over a 22-year period: the North Avenue Dam in 1997 and the Estabrook Dam in 2018.[6] Together, the removals opened approximately eight miles of free-flowing river through the city's eastern neighborhoods. The Milwaukee River Greenway — an 878-acre corridor encompassing twelve connected parks and 28 miles of hiking, biking and paddling trails along six miles of the river — runs through the restored reach, with the former North Avenue Dam site serving as the Greenway's southern boundary.[7] Downstream, the Greenway joins Milwaukee's downtown RiverWalk system, which was developed in the early-to-mid-1990s in parallel with the dam removal initiative.

Metro area population: 1.57 million

Urban Renewal and Policy Context

Milwaukee's RiverWalk, greenway, and broader river revitalization investments are part of a multi-decade civic effort that includes parallel improvements throughout the city's waterways, combined sewer overflow infrastructure and adjacent urban redevelopment. Dam removal was one essential enabling step in urban riverfront economic outcomes in Milwaukee.

Local government policies and studies have been central to clearing the way for dam removal and focusing on revitalization and recreation development in the river corridor. The North Avenue Dam, originally constructed in the 19th century, was removed in 1997 after study findings recommended removal to advance river revitalization goals. The Village of Shorewood adopted a protective Milwaukee River ordinance in 2006, and the City of Milwaukee followed with the Milwaukee River Overlay Zone in 2010. The Milwaukee River Greenway Master Plan was completed in 2010 with substantial public input, providing a comprehensive vision for the river as restored natural communities with shared recreational opportunities.[8] The Estabrook Dam (built 1937) was removed in 2018 after a contested public process. In 2025, Milwaukee Mayor Cavalier Johnson signed the Swimmable Cities Charter with the intention of making the Milwaukee River swimmable.[9]

Recreation Outcomes

The Greenway supports an interconnected network of recreational uses including walking, hiking, mountain biking, paddling and fishing. Twelve named parks fall within the Greenway. The paved Oak Leaf Trail and Beer Line Trail provide accessible options complemented by gravel and natural surface trails that have been developed over time. The Urban Ecology Center maintains its flagship branch in Riverside Park, providing environmental education programming. An eBird migratory flyway hotspot, the river corridor attracts birders.

Ecological Outcomes

After the North Avenue Dam removal, the number of fish species above the former dam location rose substantially. The fishery of the impounded reach had been reduced to a few pollution-tolerant species. But with dam removal and concurrent improvements to sewage treatment and combined sewer overflow systems, the river's water quality reestablished relatively quickly and the fishery with it. While sources differ on exact figures — the Milwaukee Riverwalk Tour project cites a recovery from 8 to 30 species, while other sources cite as many as 40 species post-recovery — they agree that the increase was dramatic.[10]

The Estabrook Dam removal has produced more modest outcomes for several documented reasons: a downstream barrier at Estabrook Falls continues to impede fish passage, prompting a separate fish-passage project; high-quality wetland spawning habitat is scarce in this stretch of the river; and contaminated sediment remains in the former impoundment.[11] The Milwaukee River Floodplains Sediment Cleanup, a Great Lakes Legacy Act project, is addressing the latter, removing contaminated sediment from 34 acres of wetland and 3.5 miles of river between the two former dam sites.[12]

Lessons for the Twin Cities

Milwaukee has invested in its urban river over decades, with dam removals being a key component unlocking development in different urban park contexts. Continued policy focus, investment and remediation are enhancing recreational and ecological outcomes.

C. Cuyahoga River, Ohio — Multi-Dam Restoration in a National Park Context

Project Overview

Five Cuyahoga River dam removals were completed between 2005 and 2020, opening paddling routes that had not been navigable for over 190 years. Three removals and one dam modification occurred upstream of Cleveland — Kent Dam (2005 modification), Munroe Falls Dam (2006), and two Cuyahoga Falls dams (2013). The fifth, the Brecksville (Canal Diversion) Dam, was removed in 2020 inside Cuyahoga Valley National Park. One additional dam, the Gorge Dam in Akron, is in active removal planning with dam removal is anticipated in 2028-2029. Sediment remediation is underway through 2027.[13]

The Cuyahoga River, which runs through the Cleveland metropolitan area, bisecting the city before flowing into Lake Erie, is designated as a Great Lakes Area of Concern.

Metro area population: 2.06 million

Recreation Outcomes

In 2019, the Cuyahoga River was designated as one of Ohio's official state water trails, with 24 public access points along nearly 90 miles. The designation followed the first four dam removals. The 2020 Brecksville Dam removal further extended the recreational paddling reach. Post-removal, paddlers can make extended trips of up to 37 miles between the southernmost portion of Cuyahoga Valley National Park and Cleveland. Cuyahoga Valley National Park made the 26 miles of this 100-mile river that run through it a priority in its 2016 strategic action plan, spearheading significant river recovery and recreation projects, and maintaining a team of river patrol volunteers educating the public on river safety.

Ecological Outcomes

Evidence of dam removal's ecological payoff on the Cuyahoga River comes from the river's fish assemblage. A 2026 analysis of four decades of monitoring data (1984–2024) found that the reach downstream of the still-standing Gorge Dam gained at least 15 newly detected fish species after the 2020 removal of the downstream Brecksville Dam. That dam removal that extended connectivity by 24 river miles and more than doubled free-flowing habitat below the Gorge Dam. Most of the new arrivals were native species recolonizing from Lake Erie and its tributaries, including pollution-intolerant fish

and larger migratory species.[14] Independent agency monitoring corroborates the broader recovery, finding that invertebrate community scores in the 2020–2024 period were significantly higher than in any prior five-year period.[15] Notably, reconnection has also allowed a few nonnative species, including round goby, to expand upstream, a reminder that restored connectivity carries potential trade-offs alongside its clear benefits.

Cleveland Riverfront Redevelopment

Downtown Cleveland is planning a multi-billion-dollar, mixed-use riverfront redevelopment along the lower Cuyahoga River with approximately 3.5 million square feet of construction including residential, commercial, office and retail space, plus a riverwalk featuring over 12 acres of public parks and open space. As with Columbus and Milwaukee, the redevelopment is part of a broader urban revitalization trajectory and decades of subsequent civic investment, not solely attributable to the dam removals.

The Bigger Picture

Cuyahoga River restoration is the cumulative result of Clean Water Act enforcement (the Cuyahoga famously caught fire in 1969, helping spur the 1972 Clean Water Act), combined sewer overflow infrastructure (notably Project Clean Lake, run by the Northeast Ohio Regional Sewer District), Great Lakes Restoration Initiative funding, multiple dam removals and ongoing sediment remediation. The recreation and redevelopment outcomes reflect the cumulative effect of these efforts rather than dam removal alone.

Lessons for the Twin Cities

The Cuyahoga River is an illustration of a major urban river that transitioned from heavily impaired to substantially restored over multiple decades, with sequential dam removals as a critical part of the trajectory. The sequence pattern is also relevant: dam removals over time contribute cumulative rather than discrete recreation outcomes, such as the designation and enhancement of a river-based water trail that followed the removals.

D. Boise River, Idaho — Urban Float Recreation

Project Overview

The Boise River system features a six-mile urban float from Barber Park to Ann Morrison Park through downtown Boise, complemented by the Boise Whitewater Park and the 25-mile Boise River Greenbelt trail system. Unlike the preceding cases in this section, the Boise case is not anchored in dam removal. It is included here as

documented evidence of high-volume urban river recreation demand in a small metropolitan setting.

Metro area population: 845,000

Float Recreation Use and Neighborhood Catalyst Effects

Ada County Parks and the City of Boise have reported annual Float the Boise participation as follows: over 150,000 floaters in 2022 (reported alongside a 22 percent year-over-year increase at the Barber Park put-in); over 135,000 floaters in 2023, including around 44,000 who used shuttle services; over 150,000 floaters in 2024, including nearly 45,000 shuttle users; and over 150,000 floaters in 2025, including nearly 47,000 shuttle users, despite officials describing 2025 as the coolest float season in 15 years. Across four summer seasons, floater counts have ranged from roughly 135,000 to over 150,000, regardless of summer temperatures.[16]

The 30th Street area around the Boise Whitewater Park has been described by the City of Boise as transforming from a disinvested neighborhood to an area with new street improvements, recreation opportunities, retail, and services. This characterization comes from City of Boise whitewater park promotional materials; it has not been independently quantified in a published economic impact study. We cite it here as a qualitative observation rather than a measured outcome.

Lessons for the Twin Cities

The Boise case demonstrates that high-volume urban river float recreation is achievable in a metropolitan setting and that adjacent neighborhood transformation can accompany river recreation investment. The 135,000–150,000 annual floaters figure provides a useful reference for what an accessible urban river float corridor can support in a much smaller metro area that is home to a quarter the population of the Twin Cities.

E. Chattahoochee River National Recreation Area — Urban River Recreation in a Large Metro Area

Project Overview

The Chattahoochee River National Recreation Area (CRNRA) is a National Park Service unit running 48 miles along the Chattahoochee River through metropolitan Atlanta from Buford Dam to Peachtree Creek. CRNRA is included here as a direct institutional parallel to the Mississippi National River and Recreation Area (MNRRA): both are NPS units along urban-adjacent stretches of major rivers serving large metropolitan populations, and both manage recreation through a corridor rather than a single destination park. There has been no dam removal within CRNRA. It is included as an NPS urban river reference, not a restoration analog.

Metro area population: 6.19 million

Park Structure and Recreation

CRNRA is not a single contiguous park but a fragmented network of 15 discrete land units spanning more than 7,000 acres acquired piecemeal over decades plus one continuous river unit. The units range from small islands and narrow riverbanks to large forested tracts, each providing a distinct access point to the river — a "string of pearls" structure that resembles the patchwork of access nodes a restored Mississippi Gorge would likely activate rather than a single anchor attraction. Recreation spans hiking, biking, picnicking and wildlife viewing on land, with water-based activities like tubing, swimming, paddling, kayaking and fishing accounting for roughly 30 percent of visitation.[17] The river supports a managed cold-water trout fishery sustained by dam releases and state stocking, alongside bass, catfish and other species. Commercial outfitters operate seasonal rental outposts within the park. In 2012 the river was designated the first National Water Trail in the country.[18] The park operates on a paid-access model that funds park improvements.

Visitor Spending and Economic Activity

According to the NPS Visitor Spending Effects reports series, CRNRA recorded approximately 2.74 million visitors and $119.1 million in visitor spending supporting 1,841 jobs in 2016, growing to 3.54 million visitors and $176.7 million in 2022 (the peak year). Subsequent years have shown declining visitation, with 2.94 million visitors in 2024 supporting more than 2,100 local jobs, with a cumulative impact exceeding $236 million. Roughly nine out of ten visitor spending dollars come from non-local visitors.[19]

Lessons for the Twin Cities

CRNRA shows what a well-developed NPS urban-river unit can sustain. The park attracts roughly three million annual visitors, with about a third of visits occurring on the water. Park visitors spend $150–180 million annually, supporting more than 2,000 local jobs.[20] Several features are directly leverageable for MNRRA and a restored Gorge: a multi-node access structure matched to a fragmented urban corridor; on-water recreation (paddling, fishing, tubing) as a substantial and deliberately cultivated share of total use; in-park commercial outfitters; a National Water Trail designation that raises a river's recreational profile; and a self-sustaining access-fee model. The contrast in current on-water use is itself instructive: water-based recreation is roughly 30 percent of visitation at CRNRA versus a small fraction along the Gorge today, suggesting substantial headroom. Comparability is limited by differences in setting, climate, river character and recreation mix. CRNRA's figures should be read as a scale and model reference, not a target for MNRRA's current 225,000 annual visitors.

Notes

1. WhiteWater Express / Columbus State University Community Geography Center (2013 visitation, 90% non-local): csuepress.columbusstate.edu/ccgc/6/

2. *Alabama Living* (2013 ~16,000; 2014 ~25,000): alabamaliving.coop/articles/urban-whitewater-on-the-chattahoochee-river/

3. *Paddling Magazine* (≥50,000/year; ICF 2023/2025/2029 designations): paddlingmag.com/trips/destinations/kayak-columbus-georgia/

4. WTVM, "Whitewater in Columbus, 5 years later" (2017 ~50,000/year expert projection): wtvm.com/story/35926936/whitewater-in-columbus-5-years-later/

5. VisitColumbusGA, "About," citing economic impact study by Tourism Economics for FY2025 figures, visitcolumbusga.com/about/; Columbus State University Butler Center for Research and Economic Development tourism study commissioned by VisitColumbusGA for FY2023 figures news.columbusstate.edu/posts/butler-center-study-highlights-tourisms-local-regional-economic-impact/; Ashley Wotena, President/CEO of VisitColumbusGA, remarks to Georgia state lawmakers for FY2024 figures.

6. Milwaukee County Parks, Parks and the Milwaukee River Cleanup. mkecountyparks.org/parks-and-the-milwaukee-river-cleanup

7. Milwaukee River Greenway Coalition / Restoring Lands. restoringlands.org/preserve/milwaukee-river-greenway/

8. Restoring Lands / OWLT, confirming Shorewood 2006 and Milwaukee 2010 ordinances, owlt.org/milwaukeerivergreenway

9. City of Milwaukee, "Fishable Swimmable Rivers & Water Bodies," city.milwaukee.gov/WCC/Principles/Fishable-Swimmable-Water

10. USGS ScienceBase, "Changing habitat and biodiversity of the Lower Milwaukee River and Estuary," sciencebase.gov/catalog/item/55c27fe1e4b033ef52106886. For species recovery see North Ave Dam Removal, Milwaukee Riverwalk Tour, milwaukeeriverwalktour.com/locations/milwaukee-river-greenway/beerline-trail/north-ave-dam-removal/ and Milwaukee's Secret Salmon Runs, *Smithsonian Magazine*, Sept. 2019, smithsonianmag.com/travel/milwaukees-secret-salmon-runs-180972913/.

11. MMSD, "Estabrook Falls Fish Passage Project," mmsd.com/what-we-do/milwaukee-estuary-aoc/estabrook-falls. See also Milwaukee Riverkeeper, "What's the Big Dam Deal?" milwaukeeriverkeeper.org/whats-the-big-dam-deal/ and USGS ScienceBase.

12. Milwaukee County Parks / EPA, mkecountyparks.org/parks-and-the-milwaukee-river-cleanup

13. Friends of the Crooked River, "Dam Removal," cuyahogariver.net/dam-removal and U.S. EPA, "Cuyahoga River AOC," epa.gov/great-lakes-aocs/cuyahoga-river-aoc

14. Matthew R. Acre, Sophia M. Bonjour, Nicholas D. Fischer, Andy T. Mueller, James J. Roberts, Ryan J. Trimbath, Curtis P. Wagner, et al., "Beyond barriers: fish assemblage recovery following dam removal on the Cuyahoga River, a Lake Erie tributary," *Restoration Ecology* (published online May 20, 2026), doi.org/10.1111/rec.70436.

15. Northeast Ohio Regional Sewer District, *2024 Cuyahoga River Biological, Water Quality and Habitat Study* (Cleveland, OH: Water Quality and Industrial Surveillance Division, Environmental Assessment Group, April 2025), neogis.neorsd.org/STORYMAP/WATERSHED/Cuyahoga_River/2024/2024_Cuyahoga_River_Report.pdf

16. Ada County Parks & Waterways, Boise Parks and Recreation, and Boise Fire Department, joint end-of-season briefings and partnership press releases, 2022–2025. For 2022 figures, see KTVB, "Boise River float season ends Labor Day" (Aug 30, 2022), ktvb.com/article/news/local/boise-river-float-season-end-labor-day/277-da084046-f19b-4ad0-8dda-b4c75c63ea63, and *Idaho Press*, "Labor Day weekend will mark end of busy Boise River floating season" (Aug 2022), idahopress.com/labor-day-weekend-will-mark-end-of-busy-boise-river-floating-season/article_f9871690-709a-5fa4-ae7e-a670403eb14f.html. For 2023 figures, see KTVB, "Boise River float season coming to an end" (Aug 30, 2023), ktvb.com/article/news/local/boise-river-float-season/277-e177664b-6592-425c-8f5d-19c5be692a07. For 2024 figures, see City of Boise, "Season Update as Float the Boise Partnership Plans for Labor Day Weekend on the River" (Aug 28, 2024), cityofboise.org/news/parks-and-recreation/2024/august/season-update-as-float-the-boise-partnership-plans-for-labor-day-weekend-on-the-river/. For 2025 figures, see City of Boise, "Float the Boise Services Close After Labor Day" (Aug 28, 2025), cityofboise.org/news/parks-and-recreation/2025/august/float-the-boise-services-close-after-labor-day/. Floater counts are agency estimates derived from parking and rental data, not direct counts; year-over-year comparisons should be read accordingly.

17. USGS, Chattahoochee River bacteria/recreation site data, ga.water.usgs.gov/bacteria/chat-sites.php

18. Visit Sandy Springs, visitsandysprings.org/things-to-do/outdoor-recreation/chattahoochee-river/

19. National Park Service, Visitor Spending Effects (VSE) annual reports, 2016–2024, accessible via the VSE interactive tool at nps.gov/subjects/socialscience/vse.htm, and park-specific press releases.

20. *Ibid.*

6. Key Patterns and Lessons from Peer River Communities

Two sets of cases inform this report's assessment of the recreation and economic potential of a restored Mississippi River Gorge: the four primary peer communities profiled in Section 4 (Richmond's James River Park System, Golden's Clear Creek Whitewater Park, Pittsburgh's Three Rivers Heritage Trail, and San Antonio's Mission Reach), and the additional cases in Section 5, which include three urban dam-removal precedents (Columbus, Milwaukee, and the Cuyahoga River) alongside Boise's urban float recreation and the Chattahoochee River National Recreation Area. Taken together, these cases suggest five patterns that bear directly on the recreation opportunities and outcomes a restored Gorge could plausibly deliver.

Recreation visitation scale is a range, not a target.
Raw visitor counts across the cases — from roughly 305,000 annual visitor-days at Golden's Clear Creek Whitewater Park to more than three million at the Chattahoochee River National Recreation Area — are difficult to compare directly, both because they rest on different counting methods (park visits, geolocation-derived visitor-days, NPS-counted visitors, and single-activity float counts) and because they are drawn from metropolitan markets of very different sizes. Golden, for example, is a small city of about 21,000 that draws heavily on regional and tourist visitation from the broader Denver area and beyond, whereas Richmond's James River Park System primarily serves its own metro population.

Normalizing for metro area population is informative. Annual river-recreation visits range from well under one-tenth of a visit per metro resident in the Golden case to roughly one visit per resident in Richmond, with Pittsburgh and the Chattahoochee corridor falling around one visit per two residents. Against the Twin Cities' metro population of about 3.16 million, that range would imply on the order of several hundred thousand to a few million annual river-recreation visits. This is consistent with the demand band developed in Section 9, though the figure a restored Gorge could achieve depends heavily on access development, programming and the river's restored character.

Documented direct visitor spending at terrain-constrained urban rivers clusters in the $11–34 million annual range.

The four primary peer river community cases report direct annual visitor spending of $16.3 million (Golden Clear Creek Whitewater Park area, 2022), $22.4 million (Pittsburgh, 2024), and $33.6 million (Richmond, 2016 tourism potential). For the Mission Reach, where no recreation-specific economic impact study exists, applying National Park Service visitor-spending profiles to documented trail and river use yields an illustrative estimate of roughly $11–20 million (see Section 4 methodology note).

Jobs supported in the primary cases range from 162 (Golden, IMPLAN-derived) to 351 (Pittsburgh, IMPLAN-derived) to 130–240 (San Antonio, scaled from NPS analysis). Richmond's source study did not estimate jobs, but applying reasonable multipliers yields an estimated 400 jobs.

Restoration and access investment enable outcomes; programming, time and parallel civic investment produce them.
The dam removal cases in Section 5 (Columbus, Milwaukee, and the Cuyahoga) and the cases in Section 4 share a common pattern: physical changes to the river open recreational possibilities, but measurable recreational and economic outcomes follow only with sustained, multi-decade investment in access infrastructure, programming, parallel civic improvements and adjacent redevelopment. Economic outcomes cannot be attributed to dam removal alone. Pittsburgh's trail use roughly doubled between 2014 and 2024, with direct economic impact rising from $8.3 million to $22.4 million—the result of a decade of network expansion from 24 to 33 miles, not a discrete event. Pittsburgh's on-water recreation also expanded over the same period — paddling outfitters, launches and downstream river-trail infrastructure grew substantially. Richmond's James River Park System reached its measured 1.4-million-visit level after decades of incremental access development. San Antonio's Mission Reach saw a 144 percent jump in trail use over its first three post-restoration years, but that gain rode atop an existing base of trails and historic mission sites.

The dam-removal cases reinforce the same timeline. Milwaukee's first dam removal came in 1997, its Greenway Master Plan was completed in 2010, the second dam was removed in 2018 and a Swimmable Cities commitment followed in 2025. The Cuyahoga's first major dam removal was in 2005 and its river trail designation followed in 2019. And Cleveland is still planning more riverfront redevelopment. Twin Cities outcomes from a Gorge restoration would similarly unfold over multiple decades and would depend as much on what is built and restored alongside the river as on what is removed from it.

River recreation visitor counts vary from year to year.
Use levels in these cases fluctuate rather than climb on a smooth line. Boise's float numbers vary by 10–20 percent between consecutive years, and the Chattahoochee River National Recreation Area's visitor spending has not grown linearly, moving, for example, from $119 million (2016) to $177 million (2022) to $161 million (2023). A single annual estimate does not capture real-world variability.

The local impact of visitor spending depends heavily on visitor origin.
Where the cases report visitor-origin data, the share of long-distance visitors is consistently high. Forty-two percent of Clear Creek Whitewater Park visitors travel 50 or more miles, with 20 percent of those staying overnight in Golden. Nonresidents account

for 58.7 percent of visitors to Richmond's JRPS. And the Chattahoochee River National Recreation Area reports approximately 88 percent of visitor spending from non-local visitors. This implies that the economic story of a restored Twin Cities Gorge will be shaped not only by total visitor volume but by the regional-versus-local mix and the overnight stay share. These variables depend on programming, amenities, and metro-area context as much as on the river itself. Local visitors generate volume. Regional and overnight visitors generate disproportionate spending.

7. Additional Considerations

Seasonal Flow Patterns and User Differentiation

A restored Gorge would offer distinct recreation experiences throughout the year due to natural flow variations. Spring flows (April-May) would provide the primary window for Class II-III whitewater recreation in the upper reaches, attracting experienced paddlers and regional tourism with higher per-visit spending. Summer-fall periods (July-October) would support casual recreation including paddling through gentle rapids in the upper reaches to floating with the current through the middle and lower reaches. It would also include fishing and trail-based activities, likely dominated by local users with moderate spending. During the winter months, the river would be at its lowest and the banks would extend the furthest out toward the narrow ribbon of a river flowing between islands and sandbars. Activities could extend economic impact through trail-based programming such as cross-country skiing near the river that leverages the Twin Cities' established winter recreation culture.

This seasonal pattern requires recognizing and planning multiple user segments across the seasons, from experienced whitewater users willing to travel for optimal conditions to casual recreation users seeking accessible, family-friendly experiences closer to home. An optimal economic strategy for a restored river would be built on infrastructure and programming that support diverse flow conditions rather than optimizing for a single recreation type. The restoration could include designed features in the upper reach to enhance the rapids.

From fall through spring, the University of Minnesota's main campus, which straddles the Mississippi River in the upper reach, could provide enhanced recreational access to thousands of students.

Ecological Considerations

A full assessment of the ecological effects of removing Lower St. Anthony Falls Lock and Dam and Lock and Dam 1 is the work of the sediment, feasibility and environmental studies being led by others. The points below simply illustrate two of the ecological questions that recreation planning will need to consider.

One of the most common concerns the public raises about removing Lock and Dam 1 is that doing so might allow invasive carp to pass farther upstream. A thorough analysis of the pros and cons of lock-and-dam removal will have to address this concern. Two factors suggest that invasive carp may not benefit. First, the Minnesota Department of Natural Resources and the Corps of Engineers are cooperating to install a bioacoustic fish fence or deterrent at Lock and Dam 5 downstream. Second, biologists are learning that one of the best ways to fight invasive species is to restore the habitat for native species. A restored Mississippi River through the Gorge would bring back the fast-

flowing water and rock, gravel and sand riverbed that provide essential habitat for many native species, helping them compete against invasive species.

A second common concern is the condition of sediment that has accumulated behind the dams over more than a century of impoundment. Peer experience is instructive: both Milwaukee and the Cuyahoga paired dam removal with dedicated sediment remediation projects. The sediment analyses already underway in the Gorge are an essential precursor to evaluating whether and how removal could proceed safely.

Beyond limiting any invasive advantage, restoration's clearest ecological benefit is the return of native fish passage and habitat. On the Cuyahoga River, removal of a downstream dam was followed by the detection of at least fifteen native fish species not previously recorded in the reconnected reach, illustrating how quickly free-flowing conditions can rebuild native diversity.

Infrastructure and Programming Implications

The Gorge's unique constraints and opportunities suggest several strategic considerations:

- **Use flow-adaptive infrastructure** that maximizes recreation value across seasonal variations rather than depending on consistent water levels.
- **Emphasize casual recreation amenities** given the longer season and broader market appeal, while maintaining capability for seasonal whitewater and fast-water experiences.
- **Integrate winter programming** to extend engagement and economic impact beyond typical warm-weather river recreation.
- **Undertake user coexistence planning** to safely accommodate both experienced and novice participants.

8. Landscape Analysis: Recreational, Cultural and Commercial Development Opportunities in a Restored Mississippi River Gorge

Removing Lower St. Anthony Falls Lock and Dam and Lock and Dam 1 would not only restore a free-flowing river through a major metropolitan area, it would also change the physical, regulatory and cultural conditions under which recreation, programming and related commercial activity could develop along the eight-mile corridor. This section is a survey of some of these conditions, constraints and possibilities — the landscape any community-driven planning process would need to engage.

Today, the eight-mile stretch between St. Anthony Falls and the upper confluence with the Minnesota River functions as a series of engineered pools, primarily offering flatwater conditions suited to small motorboats, rowing shells, canoes and kayaks. With dam removal, the river would transition to free-flowing conditions with seasonally variable water levels, rapids, exposed bedrock, sandbars, islands and dynamic aquatic ecosystems.[1] The shift would reshape not only the river's physical conditions but the character of human interaction along its banks and on the water.

The regulatory and physical landscape

Two overlapping designations shape what is possible along the Gorge corridor. The Mississippi River Corridor Critical Area (MRCCA), codified at Minnesota Rules 6106 and administered locally by Minneapolis, Saint Paul and other corridor cities, is a state overlay zoning program covering the 72-mile river corridor through the five-county metropolitan area.[2] Its rules guide building and construction, vegetation management, and land alteration; tier building heights down as development approaches bluffs and water; and protect designated Primary Conservation Areas including bluff impact zones, shore impact zones, floodplains, native plant communities and significant vegetative stands. The MRCCA boundary overlaps with the Mississippi National River and Recreation Area, the National Park Service unit established in 1988 and dedicated to this stretch of the Mississippi River.[3]

The Gorge's physical geography reinforces these regulatory constraints. Steep bluffs rising 60 to 100 feet above water level limit direct riverside access in many places, concentrating activity at lower-elevation parks (Bohemian Flats, University of Minnesota East River Flats, Hidden Falls and Crosby Farm), at engineered access points adjacent to the existing locks, and at the boathouses and other infrastructure that dam-pool conditions have made possible over the past century. Most of the riverbank itself is in regional, state or federal parkland. Most of the immediately adjacent land is either residential, institutional (notably the University of Minnesota's main campus), or already developed at urban density.

The combined implication is consequential: large-scale new construction along the corridor is constrained by both MRCCA standards and existing land use. The opportunities are therefore weighted heavily toward adaptive reuse of existing structures — including lock buildings, boathouses, marinas and regional park facilities — and toward programming and operations rather than new permanent infrastructure.

History, culture and Indigenous leadership

Two of the Gorge's most significant places are Dakota sacred sites: Owámniyomni (St. Anthony Falls) and Bdote (the confluence area of the Minnesota and Mississippi rivers). Indigenous leadership in shaping how these sites are accessed, interpreted and stewarded is key for planning along the corridor. Owámniyomni Okhódayapi, the Dakota-led organization, is already advancing cultural and land restoration at St. Anthony Falls — reconnecting people to the river at the site, advancing transformational planning at the west bank, and focusing Dakota presence, story and stewardship.[4] Recreation, programming and adjacent commercial activity at Owámniyomni are most appropriately decided through processes Owámniyomni Okhódayapi and other Dakota partners lead, not through outside planning frameworks.

The same principle, though varied by site, applies to Bdote and to other places along the Gorge of cultural significance to Dakota and other Indigenous communities. Some sites and some stretches of the river may be most appropriately shaped by cultural presence and ecological stewardship rather than by commercial development.

Beyond Owámniyomni and Bdote, the corridor carries cultural and historical weight at other anchors. The St. Anthony Falls Historic District at the upper end documents the milling, hydropower and navigation history that built much of Minneapolis. Near the confluence, Mni Owe Sni (Coldwater Spring) — a Dakota sacred site administered by the National Park Service as part of the Mississippi National River and Recreation Area — remains an active place of ceremony and gathering. It was the first federally owned parkland within MNRRA and was determined eligible for the National Register of Historic Places as a Traditional Cultural Property in 2023. At the confluence itself, Historic Fort Snelling (administered by the Minnesota Historical Society) and Fort Snelling State Park (administered by the Minnesota Department of Natural Resources) document a layered and contested history — military, immigration, the forced internment of Dakota people in 1862–1863 and other elements. Integrating these historical and cultural anchors into future recreation development would benefit from leadership by the communities whose stories they hold.

Adaptive reuse

If development constraints and existing land use rule out most large-scale new construction along the Gorge, planning questions focus on using existing sites and structures in different ways. The current corridor offers many candidate sites including

lock buildings, university and club boathouses, marinas, regional-park pavilions and a Ford-era industrial site. The fact that several adaptive reuse projects are already underway or in active planning suggests this direction will be a natural evolution.

The clearest example currently in motion is the Mississippi River Learning Center at the Watergate Marina site in Crosby Farm Regional Park at the downstream end of Hidden Falls. Originating in the City of Saint Paul's 2013 Great River Passage Master Plan, the MRLC is being developed as the interpretive center for MNRRA with a year-round public hub for river-focused education, recreation, and cultural and historical interpretation.[5] The City of Saint Paul is landowner and project manager. The St. Paul Parks Conservancy and Mississippi Park Connection are leading on fundraising. And the National Park Service, Mississippi Park Connection and Wilderness Inquiry are programming partners. The 25-acre Hidden Falls Regional Park is just to the north, with the existing marina embedded within Crosby Farm Regional Park. As of early 2026, the roughly $60 million project remained in design, with design expected to wrap up in 2026 and construction documents and bidding to follow. The MRLC is significant not only as a recreation and education facility but as a demonstration of adaptive reuse at scale: a historically contested site (a 1970s luxury-apartment proposal that helped catalyze the creation of MNRRA itself) becoming the interpretive center for the national park it helped bring into being.

The corridor offers other opportunities.

- **The lock buildings.** Both Lower St. Anthony Falls Lock and Dam and Lock and Dam 1 have associated structures including central control stations. Under removal scenarios these could be retained and adapted as river recreation hubs, interpretation centers, or paddle-in destinations. Disposition planning for these structures is the Army Corps of Engineers' responsibility under the formal disposition study.
- **Marinas and park facilities downstream of Lock and Dam 1.** Beyond the MRLC site, existing marinas, boat launches and park pavilions throughout the Hidden Falls and Crosby Farm reach offer adaptation opportunities for paddle-in and paddle-out hubs, shuttle nodes, and seasonal commercial operations.

The Milwaukee River dam-removal sequence provides a relevant peer parallel. As detailed in Section 5, Milwaukee paired the removal of the North Avenue Dam (1997) and the Estabrook Dam (2018) with parallel zoning (the Milwaukee River Overlay Zone, adopted 2010), a comprehensive Milwaukee River Greenway Master Plan (2010), and a flagship environmental education anchor (the Urban Ecology Center at Riverside Park). The Milwaukee pattern — dam removal as one step within a broader sequence that includes zoning, master planning, and adaptive-reuse anchors for programming — closely mirrors what is possible for the Gorge: MRCCA as the overlay analog to Milwaukee's River Overlay Zone; the 2019 Mississippi Gorge Regional Park Master

Plan as the planning analog; and the MRLC at Watergate as a programming anchor. Institutional pieces that the peer evidence suggests make a difference in outcomes are partly in place already.

Key potential activation zones

The following table identifies eight locations along the corridor that could plausibly function as activation zones under a restored river scenario. This is a survey of where the physical setting, institutional ownership and adjacent community uses align in ways that could support recreation, programming or commercial activity. Several of these zones are already activated in some form today. Others depend on adaptive reuse of existing structures or on access development that would require community planning and decision-making. The corridor's value emerges from the combination of these distinct nodes rather than from any single anchor.

Zone	Activation potential under a restored river
St. Anthony Falls west bank (Owámniyomni)	Dakota-led cultural and land restoration through Owámniyomni Okhódayapi. Programming, interpretation and site stewardship are led by Dakota partners. Commercial activity is unlikely to be a primary frame for this site.
St. Anthony Falls east bank	Whitewater potential at the steepest, fastest reach of the restored river. Guided and competitive paddling; cultural interpretation in partnership with Indigenous leaders; paddle-in food and beverage. The established Main Street SE riverfront district — with its existing restaurants, historic mill structures, and pedestrian access near the Stone Arch Bridge — offers built frontage that could host dining, event spectating and outfitter staging without major new construction. The 2019 Master Plan and Section 5's Columbus case both suggest engineered whitewater enhancements are technically feasible. Potential environmental and cultural impacts would be addressed during exploratory phases if engineered whitewater were considered.
Lower St. Anthony Falls Lock	Hub for outfitters, rentals and interpretation.
Bohemian Flats	Existing river access node, currently the corridor's most-used access point. Under restoration, could continue to serve as a starting point for various river trips, gear rental, food and beverage, and small retail.
University of Minnesota Corridor	Shared-use paddle access; student recreation programs; cross-campus river experiences. Existing boathouse infrastructure available for adaptive reuse if rowing programming were to relocate.
Lock and Dam 1 / Ford Area	Adaptive reuse opportunity for the historic Lock and Dam 1 structures if retained under disposition. Key launch point for seasonal river activities; education and interpretation hub. Adjacency to the redeveloped Ford site (Highland Bridge) provides commercial and residential connections.

Zone	Activation potential under a restored river
Hidden Falls and Crosby Farm Regional Parks	Family-friendly takeout points; river ecology programming; seasonal shuttle-supported recreation. Adjacent to the Mississippi River Learning Center at Watergate Marina (under development) as a primary programming and interpretation anchor.
Historic Fort Snelling and Fort Snelling State Park	Heritage and cultural learning anchored to the layered Dakota, military and immigration history of the confluence. Paddling and tubing takeout opportunity. Bookends the Gorge corridor with Owámniyomni at the upper end.

Patterns shaping potential

Reading across the zones, five patterns emerge that bear on what kinds of activity are most likely to develop and where. These are corridor-level patterns that complement and reinforce the peer case patterns documented in Section 6.

Adaptive reuse as the dominant build strategy

MRCCA standards and existing land use rule out most large-scale new construction. The opportunity is concentrated in repurposing existing structures (the MRLC at Watergate Marina, lock and gatehouse buildings, boathouses, marinas) and in seasonal or mobile infrastructure (food trucks, pop-up gear rental, shuttle services) where permanent facilities are not viable.

Seasonality structures both visitor experience and operating models

The river's flow regime — high spring flows producing seasonally available whitewater conditions in the upper reach, calmer summer and fall flows supporting tubing and casual paddling throughout the corridor, low winter flows exposing islands and sandbars — would shape not only what visitors experience but what kinds of businesses and programming can sustain themselves. Seasonal guide operations, shuttle services, and winter trail and overlook programming are operating models that fit a seasonal regime, while year-round large-format commercial operations face a steeper sustainability challenge.

Peer river communities show that winter is not a dead season for recreation. Golden's Clear Creek corridor sustains cold-weather use through snowshoeing, fat-tire biking and canyon ice climbing. Boise's year-round Greenbelt draws winter visitors specifically for bald eagle and waterfowl viewing along the open river. For the Gorge, the Twin Cities' deep winter recreation culture suggests a fuller menu: groomed cross-country ski and fat-bike trails along the bluff-tops and floodplain; winter bald-eagle and waterfowl viewing at overlooks (open, fast-flowing water tends to stay ice-free and concentrates wintering birds); snowshoe and naturalist-led "winter river" interpretive walks; and event programming — winter festivals, luminary or candlelight ski nights, and ice-feature viewing — of the kind the region already stages elsewhere. These extend the corridor's

economic activity into months when paddling and tubing cannot operate, smoothing the seasonal revenue curve for nearby businesses and programming partners.

Cultural and ecological story potential is rich

The corridor weaves Dakota cultural and spiritual presence (Owámniyomni, Bdote and other sacred places). Ecosystem restoration and the resulting recovery of fish, mussels and other aquatic communities, as discussed below, will draw visitors to the river. The milling history at St. Anthony Falls, and the military, immigration and contested history at Fort Snelling already draw thousands of visitors. These factors and the presence of a national park unit within the metropolitan area ready to protect, restore and interpret the Mississippi River's resources, makes the likelihood of a robust economic and recreation response more likely. The San Antonio Mission Reach peer case in Section 4 demonstrates that the integration of cultural and recreational use generates mutually reinforcing visitor flows. The story-layering potential throughout the Gorge is at least as deep, especially with the Indigenous leadership discussed above.

On the ecology side, Minnesota Department of Natural Resources (DNR) research on dam removal outcomes provides a working basis for thinking about what restoration would mean for the Gorge's aquatic communities. A 1963 study identified 123 fish species in the upper Mississippi River.[6] Most of these 123 species would have been present in the Gorge before locks and dams. The Minnesota DNR conducted four fish surveys of Pool 1 between 1982 and 2022. The four surveys caught between 10 and 26 species. For over half of these species, they caught 10 or fewer fish.

It is not a question of whether the fishery would recover with lock and dam removal, but with how many species and in what numbers? Dam removals around the country and in Minnesota demonstrate that the diversity and numbers of fish would increase. A study of 11 dam removals in Minnesota showed that 66% of the species absent upstream of a dam returned after removal.[7] This means that some 90 species may ultimately be present in a restored Gorge.

The corridor would serve distributed nodes rather than a single anchor

Different parts of the corridor would appeal to different audiences: students and outdoor adventurers at the University of Minnesota and St. Anthony Falls reaches; families and nature-oriented visitors at Hidden Falls and Crosby Farm; heritage and cultural visitors at Owámniyomni, Fort Snelling and the historic St. Anthony Falls district; whitewater-oriented paddlers and spectators at the upper reach under spring flow conditions. This distributed pattern has implications for both economic effects and access planning. Benefits would accrue across multiple small nodes rather than concentrating at a single destination, and the development of access points would need to consider the corridor as a connected system rather than as a set of independent sites.

Equity and access are central, not peripheral

A restored Gorge would add a kind of water recreation that does not currently exist at scale in the metropolitan area. How that new recreation is configured for access, affordability and cultural appropriateness will shape who participates and how. The patterns documented in Section 2 (current visitation skewed toward demographics less diverse than the metro overall) and in peer cases (the demographic differentials documented at Richmond, Pittsburgh, and elsewhere) highlight this concern. The institutional partners already operating in the corridor including Mississippi Park Connection's youth programming, Friends of the Mississippi River's Environmental Initiative, Wilderness Inquiry's accessible-adventure programs, and the regional park agencies' equity-of-access initiatives provide existing capacity for expanding and diversifying recreation on a restored river.

Notes

1. Minneapolis Park & Recreation Board, Mississippi Gorge Regional Park Master Plan (June 2019). The Master Plan considered both "with dams" and "without dams" futures, characterizing the restored river as a dynamic, shallow system with riffles, rapids, pools, mid-channel islands and braided backwaters.

2. Minnesota Department of Natural Resources, "Mississippi River Corridor Critical Area Program (MRCCA)," dnr.state.mn.us/waters/watermgmt_section/critical_area/index.html. The 2017 MRCCA rule update is codified at Minnesota Rules 6106.0010–0180. City-level guidance documents (Coon Rapids, Saint Paul, Champlin, Cottage Grove) establish standard ordinance content across corridor jurisdictions. MRCCA rules explicitly do not regulate surface-water use.

3. National Park Service, Mississippi National River and Recreation Area, established under Public Law 100-696 (1988). The MNRRA boundary is co-extensive with the MRCCA boundary. See also Minnesota DNR, "Background and purpose — MRCCA," dnr.state.mn.us/waters/watermgmt_section/critical_area/background-and-purpose.html

4. Owámniyomni Okhódayapi (owamniyomni.org) leads Dakota cultural and land restoration at St. Anthony Falls, including planning for a transformational project at the sacred site. The organization is the appropriate point of reference for substantive engagement on planning, programming, and interpretation at the upper reach of the Gorge.

5. Mississippi River Learning Center documentation: Mississippi Park Connection parkconnection.org/blog/rlc; Saint Paul Parks Conservancy saintpaulparksconservancy.org/wp-content/uploads/2026/01/FINAL-Mississippi-River-Learning-Center-Report.pdf. Origin in the City of Saint Paul's 2013 Great River Passage Master Plan. Background on the site's role in the creation of MNRRA: John Anfinson, "The untold story of our national park's founding," Friends of the Mississippi River, March 2026 fmr.org/updates/land-use-planning/untold-story-our-national-parks-founding.

6. Friends of the Mississippi River, Geology and natural history of the Mississippi River Gorge, fmr.org/geology-and-natural-history-mississippi-river-gorge, citing the fish-species compilation by Konrad Schmidt. Historically approximately 120 native fish species; approximately 30 currently remaining.

7. Luther Aadland, Effects of Dams and Barriers on Native Fish Communities in Minnesota, Minnesota Department of Natural Resources Stream Habitat Program, dnr.state.mn.us/eco/streamhab/barrier_pub.html. The study assessed 32 barrier dams and documented

an average 66 percent recolonization of absent species across 11 of those dams that were subsequently removed and had adequate post-removal surveys. The Star Tribune's November 2021 coverage cites a later, broader DNR-records figure of an average 73 percent recolonization across the more than 50 dams the DNR has removed since the mid-1990s; the Aadland-published 66 percent figure is used here as the published primary source.

9. Potential Demand for Recreation on a Restored, Free-Flowing Mississippi River

A restored eight-mile Gorge would place whitewater runs, calm-water paddling, shoreline fishing and bluff-top overlooks within a short drive of approximately 3.2 million residents in the seven-county Twin Cities metropolitan area.[1] The metro area already supports substantial river recreation on the Mississippi and its tributaries and along regional waterways such as the St. Croix National Scenic Riverway, but most of that experience is on calmer, slower-moving or impounded water, including the flatwater pools behind dams in the Gorge itself. As a stretch of fast, free-flowing, big-river moving water, with seasonal rapids, exposed bedrock and braided channels running through the heart of the metropolitan core, a restored Gorge would be distinct.

This section assembles indicators that suggest the potential demand among the area's population for the kinds of recreation a restored Gorge could offer. It does not attempt to estimate a specific number of annual users or visitor-days. Comprehensive on-water visitor counts do not exist for the Gorge as it exists today, and the future shape of a restored river and the recreational investments, programming and services that would be available are uncertain. The intent is to characterize the demand context within which a restored Gorge would operate, while Section 10 turns to economic returns that peer river communities have generated under restored or activated conditions.

A framework for thinking about distance

The U.S. Bureau of Economic Analysis (BEA), in its Outdoor Recreation Satellite Account (ORSA), distinguishes outdoor-recreation trips of more than 50 miles one-way from trips of 50 miles or less, treating the former as "travel" recreation and the latter as close-to-home recreation.[2] The methodological premise is that these two categories produce different economic flows: longer trips concentrate spending in destination communities through lodging, restaurants, fuel and retail, while shorter trips embed recreation into daily and weekly household routines.

In Minnesota, both categories matter economically. ORSA-derived estimates attribute approximately $4 billion in gross output to outdoor-recreation trips of more than 50 miles statewide, and approximately $943 million to trips of 50 miles or less.[3] The smaller figure represents the recreation embedded in residents' daily lives — the trips taken from home, often repeatedly, that depend on close proximity to access points.

For Twin Cities residents seeking whitewater and fast-current river recreation today — rapids rather than the gentle, Class I conditions found on many nearby rivers — must travel well beyond the 50-mile threshold. Regional and farther destinations include the Kettle River near Sandstone (approximately 117 miles from the metro by road), the St. Louis River near Duluth and Jay Cooke State Park (approximately 160 miles), and the Wisconsin Dells (approximately 215 miles). Substantial whitewater rivers in the

Mountain West lie roughly 800 to 1,000 miles distant. A restored Mississippi Gorge would bring seasonal whitewater and fast-moving water — Class II–III conditions — into the urban core, shifting this category of river recreation from a destination trip to a close-to-home option.

Indicators of potential demand

Participation in paddlesports nationally. The most recent Special Report on Paddlesports & Safety by the Outdoor Foundation and the American Canoe Association found that 22.9 million Americans, or 7.6 percent of the U.S. population aged six and older, participated in at least one paddling activity in 2018 — a rate that had eased slightly from 7.8 percent in 2016 but remains a substantial baseline.[4] National paddlers averaged seven outings per participant per year. Applied straightforwardly to a metro population of roughly 3.2 million, the national rate would imply on the order of a few hundred thousand metro-area residents who paddle in any given year. Minnesota-specific paddling-participation data is less current, and the actual figure could be lower given Minnesota's seasonal constraint on water recreation or higher given the region's strong outdoor culture. No recent source attempts an estimate.

Fishing as a parallel indicator. Minnesota's 2022 federal angling survey identified approximately 1.7 million anglers participating in the state, of whom 1.2 million were Minnesota residents and 508,000 were non-residents — a 71 percent resident, 29 percent non-resident split.[5] Recreational fishing on Pool 1 is presently modest by Minnesota standards and in comparison to Pool 2 downstream of Lock and Dam 1. A restored Gorge with more species and in greater numbers, would offer a rare wade-in angling experience within metropolitan reach.

Regional parks system context. The Metropolitan Council estimated 65.7 million visits across the Twin Cities Regional Parks and Trails System in 2024, continuing a multi-decade upward trend that has more than doubled visitation since 2000.[6] Mississippi Gorge Regional Park alone accounted for approximately 3.6 million visits in 2024. These figures can be thought of as representing a baseline of regional appetite for outdoor recreation in spaces immediately adjacent to where any restored river-recreation activity would occur. New river-based activity would compete with, but more likely complement, this established land-based use.

Resident spending patterns at Minnesota recreation destinations. The Minnesota Department of Natural Resources' 2022 State Parks Visitor Study found that day-use visitors traveling from home spent an average of $37.15 per person per day, while visitors on overnight trips spent $124.47 per person per day.[7] The 2024 State Trails Visitor Study found day-trip spending of $21.58 per person per day and overnight-trip spending of $132.80, with 11 percent of trail users from outside Minnesota accounting for 20 percent of total spending.[8] These figures describe how Minnesotans and visitors

spend at the kinds of recreation destinations a restored Gorge would resemble. This is a useful context for thinking about scale.

User segments. A restored Gorge would not serve a single user type. Casual recreation — walking adjacent trails, picnicking, watching the river, wading in low-flow conditions, occasional paddling or floating on the calmer downstream reaches — would likely dominate volume, consistent with patterns across the peer river communities examined in Section 4. Intermediate paddlers, anglers, and seasonal whitewater users would form smaller but distinct segments. Advanced whitewater specialists would be a still smaller segment, drawn primarily by spring high-flow conditions in the upper reach. The relative proportions of these segments would shape and be shaped by access, programming, and partnership investments.

Conclusions

Several points can be stated with reasonable confidence:

- Comparable whitewater and fast-current river experiences currently lie well beyond the BEA 50-mile threshold — the nearest, the Kettle River, is roughly 117 miles by road — placing them firmly in the "travel" category and effectively out of reach for routine, close-to-home recreation.
- The Twin Cities has a large and, in most respects, well-documented base of outdoor-recreation users — anglers, trail users, and paddlers among them — and a regional appetite for outdoor recreation that ranks among the best-documented in the Upper Midwest.
- A restored Gorge would offer a recreation experience that does not presently exist at scale within the metro area — neither on the region's lakes and smaller streams nor in the Gorge's current engineered-pool condition — adding fast, free-flowing, big-river water in the urban core.

Several things cannot be concluded from these indicators:

- They do not support a precise estimate of how many residents or visitors would use a restored Gorge annually. The participation rates, fishing data, and regional parks counts together establish that meaningful demand likely exists, but generating a specific annual visitation figure would require behavioral and other modeling these data do not support.
- The splits that most affect economic outcomes measure — local resident versus non-resident, casual versus specialized, summer-peak versus shoulder-season — cannot be confidently predicted in advance. Experience from peer urban river communities suggests these splits are themselves shaped over time by programming, access, and partnership investments rather than fixed by demand alone.

The next section includes a consideration of what peer river communities have generated under restored or activated conditions, offering a reference range for the magnitude of economic activity that recreation in a restored Gorge could plausibly support.

Notes

1. Metropolitan Council, March 2024 estimate (3,207,000 seven-county metropolitan area residents in 2023, based on 2020 Census).
2. Recreate Responsibly Coalition, 2025 Minnesota Economic Impacts of Outdoor Recreation: Minnesota's Untamed Dividend (Minnesota Outdoor Recreation Industry Partnership, 2025), Chapter 2, summarizing U.S. Bureau of Economic Analysis Outdoor Recreation Satellite Account methodology. outdoorindustrypartnership.com/wp-content/uploads/2025/07/2025-Explore-Minnesota_Economic-Impacts-Outdoor-Recreation_V2.pdf
3. *Ibid.* The figures are gross output (not value added) attributable to travel-related outdoor recreation in Minnesota in 2023.
4. Outdoor Foundation and American Canoe Association, 2019 Special Report on Paddlesports & Safety (2019), reporting 2018 participation data. The 7.6 percent figure represents Americans aged six and older who participated in at least one paddling activity (kayaking, canoeing, rafting, or stand-up paddling) during the year. americancanoe.org/wp-content/uploads/documents/sei-educational_resources/2019_special_report_on_paddl.pdf
5. U.S. Fish and Wildlife Service, 2022 National Survey of Fishing, Hunting and Wildlife-Associated Recreation — Minnesota Report (Association of Fish and Wildlife Agencies, 2023). fishwildlife.org/application/files/2617/3316/0893/Minnesota_FHWAR_Report_Final.pdf
6. Metropolitan Council, *Visits to the Regional Parks and Trails System in 2024* (June 2025). metrocouncil.org/Parks/Research/Annual-Use-Estimates/2024-Regional-Parks-and-Trails-Annual-Use-Estimate.aspx
7. Minnesota Department of Natural Resources, 2022 State Parks Visitor Study (Division of Parks and Trails, 2023). Aggregate statewide visitor spending was $688 million in 2022 across approximately 11.9 million cumulative visitor-days. files.dnr.state.mn.us/aboutdnr/reports/parks/2022-state-parks-visitor-study-summary.pdf
8. Minnesota Department of Natural Resources, 2024 State Trails Visitor Study (Division of Parks and Trails, 2025). Aggregate statewide trail visitor spending was $84.6 million across approximately 2.3 million cumulative visitor-days. files.dnr.state.mn.us/aboutdnr/reports/recreation/dnr_state_trail_visitor_study_2019_final_report.pdf

10. Conclusion

The stretch of the Mississippi River between St. Anthony Falls and the confluence with the Minnesota River supports substantial recreation today, the great majority of it on land. Alone, the regional parks and trails in and along the Gorge corridor — Mississippi Gorge Regional Park, Central Mississippi Riverfront Regional Park, Minnehaha Regional Park, and the Minnehaha Parkway Regional Trail — together hosted roughly 12 million visits in 2024. Walking, running, biking, birdwatching and other land-based activities account for nearly all of this use. River-based recreation is a small fraction of the total and is not counted systematically, but it is significant in its own right. Commercial riverboat tours carrying an estimated 75,000–80,000 passengers a year. Organized and educational paddling account for roughly 45,000 person-days of competitive and recreational rowing, and recreational fishing.

Removing the Lower St. Anthony Falls Lock and Dam and Lock and Dam 1, if it proves safe and feasible, would return the Gorge to a shallow, free-flowing system with seasonal rapids in the upper reach, fast water over boulders in the middle, and islands and braided channels downstream. Paired with investment in access, programming, and riverfront business activity, a restored river would offer a kind of outdoor recreation that does not currently exist at scale in the region: moving-water paddling, wade-in fishing, tubing and island exploration within a short drive of more than three million metro residents. The nearest comparable moving-water experiences are 100 miles or more away.

A restored river would also displace or fundamentally alter some current uses. Commercial riverboat operations and deep-draft motorized boating depend on the flatwater the dams produce and would not be feasible on a shallower, rockier riverbed. Competitive rowing on the Pool 1 reach, supported by the Minneapolis Rowing Club and two University of Minnesota programs, would likewise lose the conditions it requires. Boat-based angling would shift to wade-in fishing with a different species mix. These transitions affect identifiable organizations and user communities and would require planning, and in some cases capital, to manage.

At the same time, restoration would open new and expanded recreation. The 2019 Mississippi Gorge Regional Park Master Plan anticipated that a free-flowing river would support expanded wading, hiking, fishing, birdwatching and picnicking on newly exposed floodplains and emerging islands. It indicates that there would be more adventurous canoeing and kayaking through moving water and richer nature education tied to restored habitat and a more diverse fishery. Minnesota DNR studies of regional dam removals suggest fish-species diversity in the Gorge could rise from roughly 30 today toward 90.

Peer community experience indicates that investment in river restoration and recreation can pay measurable economic dividends. Across the four communities studied — Richmond, Golden, Pittsburgh, and San Antonio's Mission Reach — river recreation drew between roughly 300,000 and 1.4 million annual visits, generated on the order of $11–34 million a year in visitor spending, and supported about 130 to 400 jobs in local businesses, recreation services and hospitality. Reported local tax revenue varies widely with what is taxed, ranging from about $400,000 a year in Golden to several million in broader-based systems such as Pittsburgh, where the figure includes school-district revenue. These figures describe what peer communities have measured — or, for the Mission Reach, what standardized spending profiles imply for its documented trail and paddling use. They do not provide a projection for the Gorge. The range of peer city experiences indicate the order of magnitude a restored Gorge could plausibly support given comparable investment over the decade-or-longer time horizons.

Recreation and its economic effects are one dimension of the decision facing the corridor, and likely not the decisive one. They sit alongside the restoration of fish passage and habitat, the connection of Dakota people to sacred sites at Owámniyomni and Bdote, the protection of historical and cultural landmarks, and the goal of equitable access across Twin Cities communities. The Twin Cities must also consider the impacts to bridge piers, retaining walls, stormwater outfalls and other infrastructure. And studies need to determine where the sediment stored above the locks and dams would go and what is in it. The lost hydroelectric power at each site is also of concern. This report contributes one input to a broader community conversation that will weigh all of these together.