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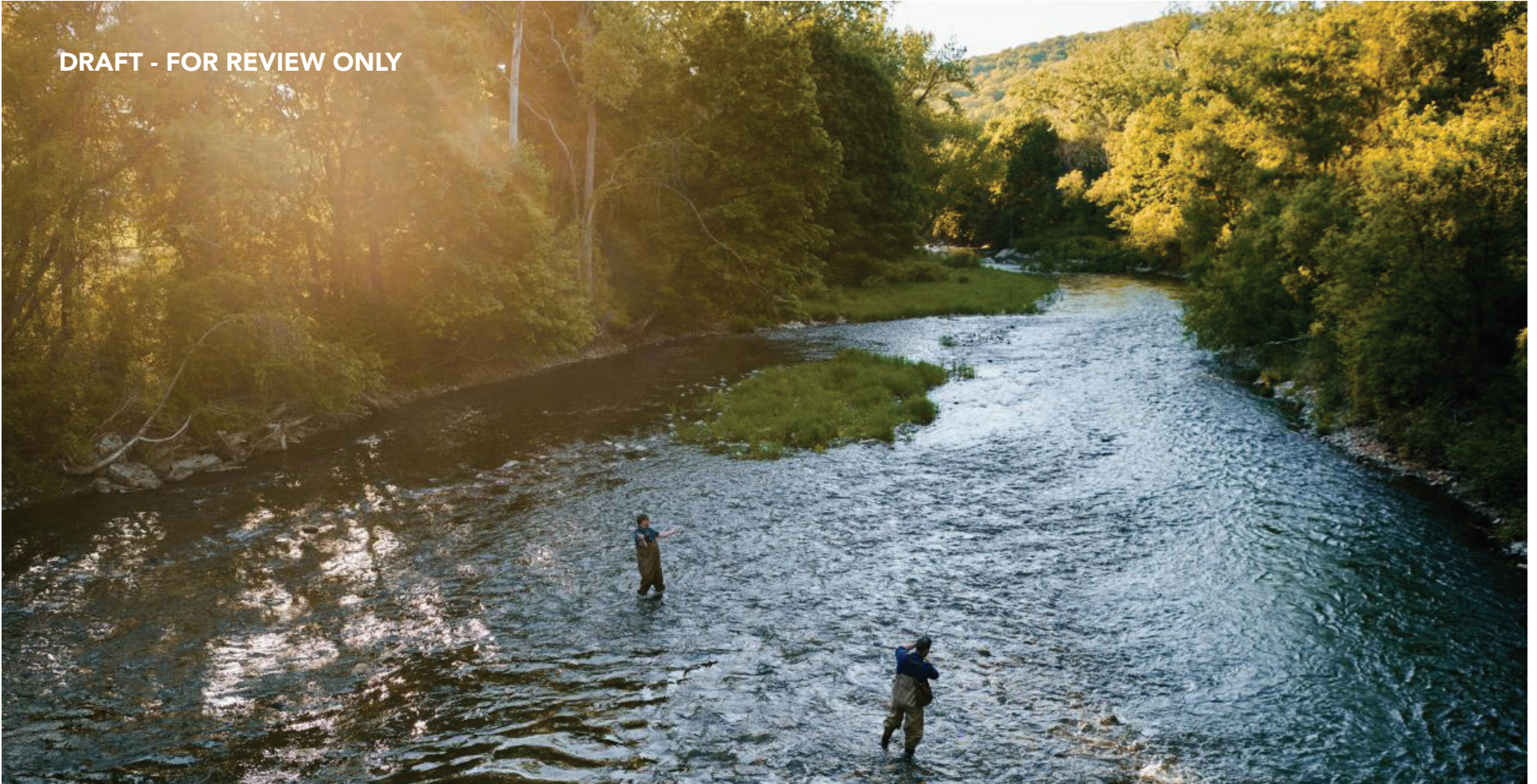


photo by Nick Simonite

NORTH ADAMS WATER TRAILS

A HISTORIC RIVER MADE ACCESSIBLE FOR ALL - AGAIN

The Hoosic River is a 76.3 mile tributary of the Hudson River that connects thirty communities throughout the Northern Berkshires, Vermont, and New York. By the early 1800s, the growing demand on water-generated power for manufacturing cost the residents of these communities access to and the health of this great amenity. Many communities have found ways to reinvent themselves within the vacant infrastructure left behind from that era, but the river is still inaccessible and unhealthy from the low head dams that linger.

The overwhelming deterioration of those dams is upon us. Fortunately, this is fully recognized on the state and federal level. Every completed low head dam removal project to date has direct water-based benefits for the surrounding area. Municipalities gain a new niche for economic growth, communities gain access to the waterways for everything from education to recreation, and the aquatic ecosystem starts to heal.

The proposed project outlined is a conceptual plan to establish public access, economic development, and long-term stewardship to sections of the Hoosic River which flow through North Adams.

LOW HEAD DAMS ARE "DROWNING MACHINES"

Low head dams are a serious safety risk to all who gain river access. The small drop over a low head dam looks deceptively harmless, but hide deadly recirculating currents beneath the water's surface. There have been multiple fatalities locally and thousands nationally to these dams. Most of these dams are in disrepair existing beyond their lifespan.

A ONE-OF-A-KIND FEATURE

The Hoosic River will always be our greatest amenity. By removing six low head dams outside the borders of the downtown flood chutes, five new miles of the river can be utilized and restored. A refreshing wave of economic development will form around the increase in water recreation opportunities with a majority of the project funding already backed on the state and federal level.

RESTORATION OF NATURAL COURSE

Low head dam removal increases water quality and habitat diversity, reduces sediment build-up and river bank erosion, and reconnects fragmented migratory routes. Many local fish species including the Eastern Brook Trout and Longnose Sucker are directly affected by their presence.

A man with dark hair, wearing an orange baseball cap with a logo, a yellow life vest over a black jacket, and blue jeans, is in a canoe on a river. He is holding a paddle and looking towards the camera. In the background, other people are also in canoes on the river, surrounded by lush green trees. A blue semi-transparent box is overlaid on the left side of the image, containing white text.

**NEARLY 20% OF ALL VISITORS
TO THE BERKSHIRES SAY THAT
THEY WOULD ENGAGE IN WATER
ACTIVITIES, BUT ACCESS AND
SAFETY ARE MAJOR BARRIERS
TO PARTICIPATION**

A 30-foot wide standing wave, will replace the low head dam prior to TOURISTS, that is perfect for freestyle kayaking, boogie boarding, tubing, and spectating.

- Parking
- Boat Ramp
- Viewing Platform
- eBike Charging
- Boathouse
- Bathrooms
- Food Truck/Vendor
- Rentals

THE TOURIST TRAP

An access point within the vacant greenspace at West Main Street/Alton Place. This park is a put-in, takeout, access to the Mohawk Crossing/Norad Mill, and the first large spectator spots along the route.

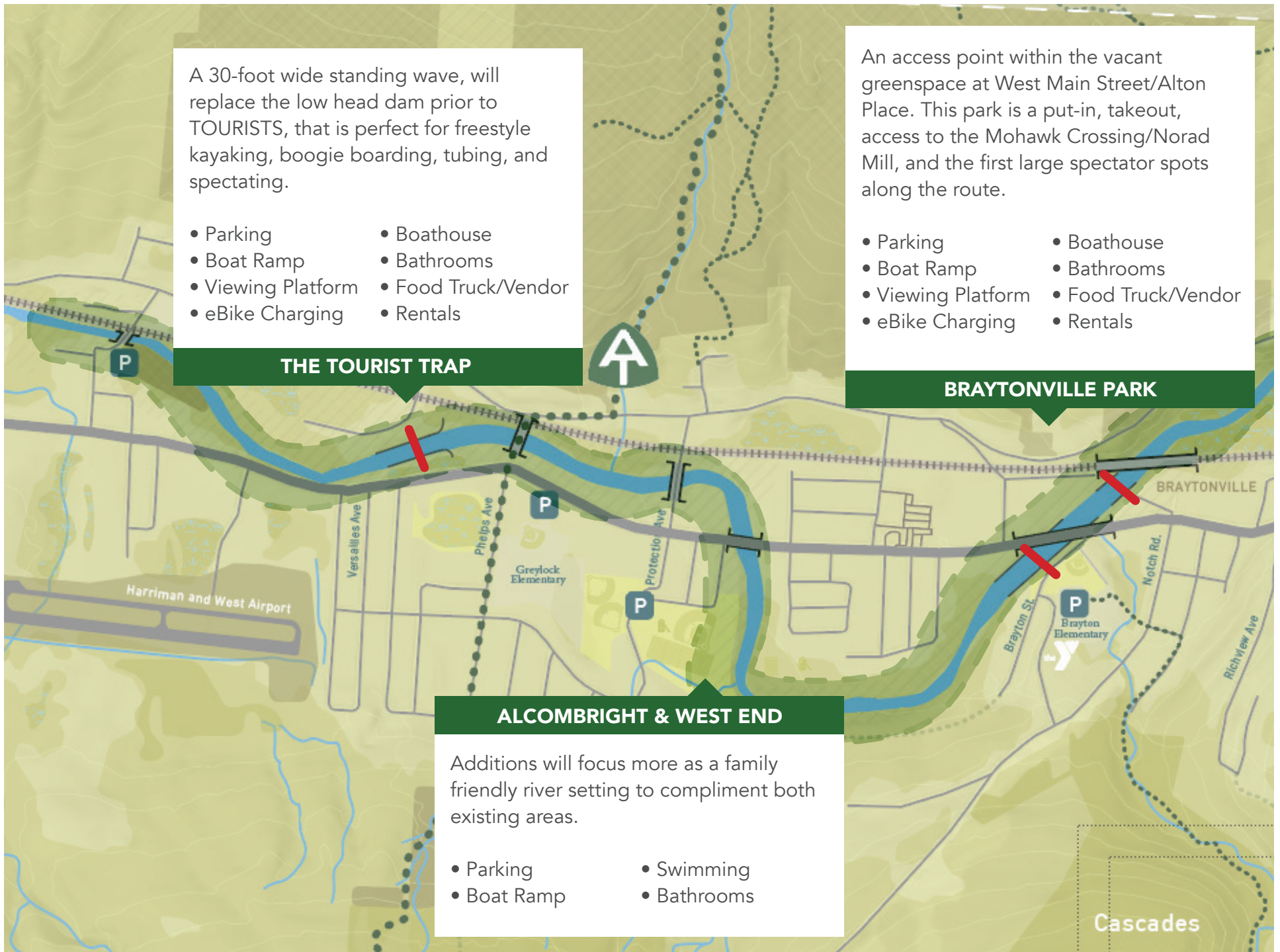
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BRAYTONVILLE PARK

ALCOMBRIGHT & WEST END

Additions will focus more as a family friendly river setting to compliment both existing areas.

- Parking
- Boat Ramp
- Swimming
- Bathrooms



A river education and recreation area will be hosted in the former North Adams Playground. The white water corridor is created by removing whats left of Beaver Mill Dam just down river.

- Parking
- Boat Ramp
- Boathouse
- Viewing Platform

FMR. NORTH ADAMS PLAYGROUND

BROWN STREET

This large parcel could become an adaptive reuse park close to downtown and the Veazie St. neighborhood with amenities and put-in.

- Parking
- Boat Ramp
- Viewing Platform
- eBike Charging
- Boathouse
- Bathrooms
- Food Truck/Vendor
- Rentals

BEAVER STREET & "RUDD'S RUN"

A reconstructed horseshoe curved retaining banking, specifically designed to create different levels of white water called Rudd's Run, will replace the outdated retaining wall presently in place. The Beaver Mill Park will border the river for viewing. Updated and additional parking will be added for the mill and park. A boardwalk along the river bank will be the takeout.

- Parking
- Boat Ramp
- Viewing Platform
- eBike Charging
- Boathouse
- Bathrooms
- Food Truck/Vendor
- Rentals

SAFETY

The North Adams Adventure Trail (NAAT) will create curiosity and interest in accessing the adjacent river. Unfortunately, a number of extremely dangerous low head dams occupy the corridor between MASS MoCA, Norad Mill, and TOURISTS. Replacing these low head dams with safer and more natural white water features will create an additional adventure lane that complements the proposed route from North Adams to Williamstown while eliminating the future liability of low head dam fatalities due to increased river access.

Over the past two decades, Massachusetts has invested heavily in the low head dam problem. River restoration efforts have specifically addressed real hazards posed by outdated infrastructure. Briggsville Dam in Clarksburg is a “right up the street” example of one such removal project completed in 2010. Many town residents and businesses including Cascade Paper Supplies, were spared from Hurricane Irene’s flooding due to the removal.

We have the chance to develop safe public river access by removing these dams in the reconstruction of the river corridor.

DROWNING MACHINES

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STRUCTURAL FAILURES

All dams across the country are continuing to age and an increasing number are in need of substantial repair. As of 2020 more than 85% are past their lifespan of 50 years.
- *The American Society of Civil Engineers (ASCE)*

WATER QUALITY MANAGEMENT

Water quality is impaired by low head dams. Dams create conditions favorable to algal growth by slowing water and trapping sediment and nutrients. This can significantly deplete the oxygen in the water behind a dam, leading to fish kills.

But this project can change that on the Hoosic by providing:

REMOVAL OF DANGER, BURDEN, & COST

These projects will significantly reduce the likelihood of drowning and injury along the Hoosic. Proactively addressing these dangers now will lessen the burden of liability for our community and especially those responsible for the dam structures in their current state. As a state and nation wide funding priority, these issues can be addressed quickly.

MODERN FLOOD MANAGEMENT

It has been abundantly proven that removal of low head dams can improve flood management. We have a local success story from the Briggsville Dam removal project in Clarksburg of 2010, which was the largest dam removal project in the Commonwealth at the time.

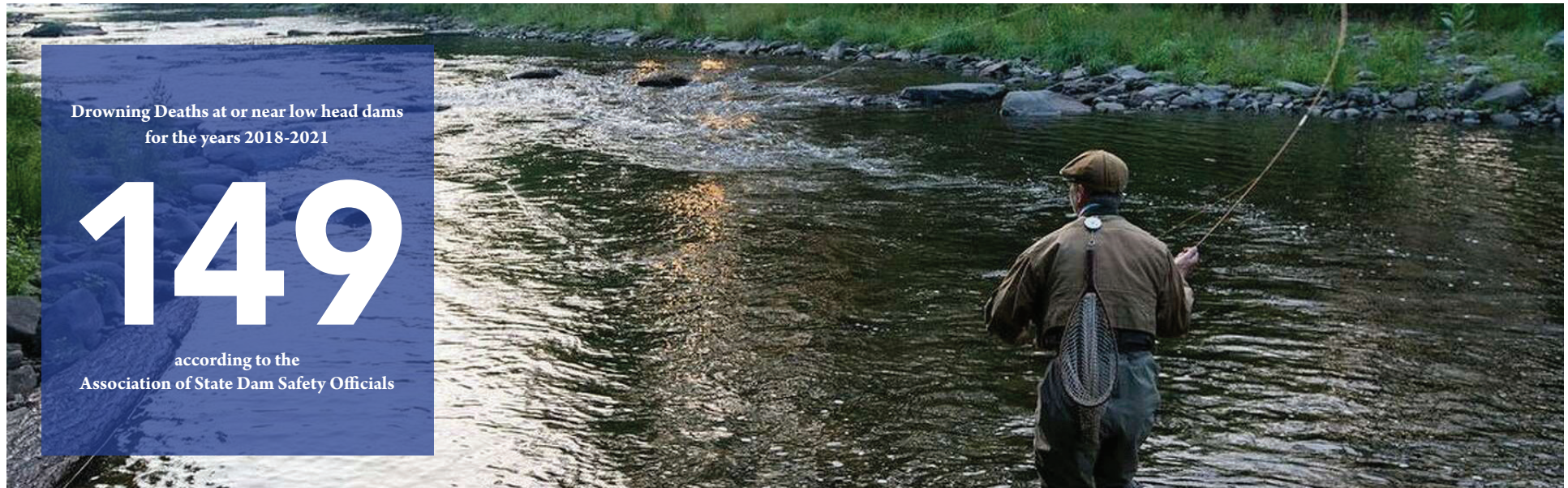
RESTORATION OF NATURAL COURSE

Low head dam removal increases water quality and habitat diversity, reduces sediment build-up and river bank erosion, and reconnects fragmented migratory routes. Many local fish species including the Eastern Brook Trout and Longnose Sucker are directly effected by their presence.

“Dams are not natural, and they are not waterfalls. They frequently cause serious problems for people, water quality and wildlife.”

- **Beth Styler Barry**

Director of River Restoration in New Jersey



What is a Dam?

A dam is a manmade structure that spans and impedes the flow of a river or other moving waterway. They are built for many reasons, including agricultural management, energy production and in previous times, even ice harvesting.

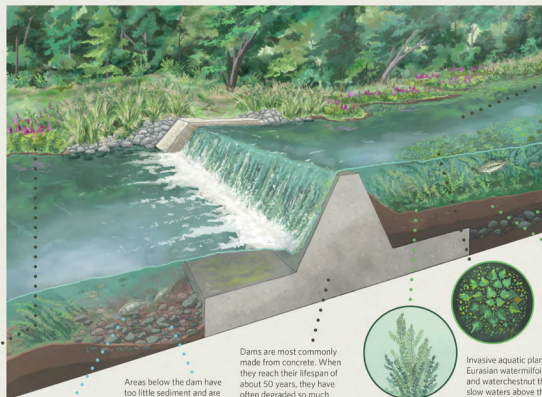
When a dam is constructed, it instantly alters the riverscape, creating a still, lake-like impoundment upstream, and a turbulent and potentially dangerous pool at its base.

Species that survive in a flowing-water habitat become displaced in the artificially manipulated environment, and invasive species often take over. Low-head dams especially also create a recreational hazard. The water around them often appears to be calm and inviting to swimmers and anglers who may wade in and be overcome by an inescapably strong subsurface current. Kayakers and canoeists, unable to see a dam from upstream, may tumble over its edge into that same current.

HABITATS IMPEDED BY DAMS:



Purple loosestrife (*Lythrum salicaria*), reed canary grass (*Phalaris arundinacea*) and other invasive plants that grow on the riverbanks can take hold and push out the native vegetation that supports local and migratory wildlife.



Migrating fish like shad, eels and salmon are blocked from reaching historic spawning grounds. Sport fish that prefer warmer water, like carp, catfish and bass dominate the species mix.

Arcs below the dam have too little sediment and are prone to erosion. The water appears calm but usually has a strong and dangerous subcurrent that has earned these structures the nickname “drowning machines.”

Dams are most commonly made from concrete. When they reach their lifespan of about 50 years, they have often degraded so much that they risk failure. Maintenance costs for antiquated dams often become untenable.



Invasive aquatic plants like Eurasian watermilfoil, duckweed and waterchestnut thrive in the slow waters above the dam. Their fast growth blocks sunlight and can smother native plants.

Low head dams can be tricky for kayakers and canoeists to spot from upstream. Paddlers unaware of the danger can fall over the dam and become caught up in the strong currents at its base. Too often they and the responders that try to help them, become casualties of the difficult conditions.

The old river bed buried under sediment.

Slow-moving water behind the dam builds up sediment that fosters algae blooms and may hold contaminants from chemical runoff and natural decomposition. The warm, stagnant conditions are inhospitable to native aquatic wildlife.

The Nature Conservancy



What is a Waterfall?

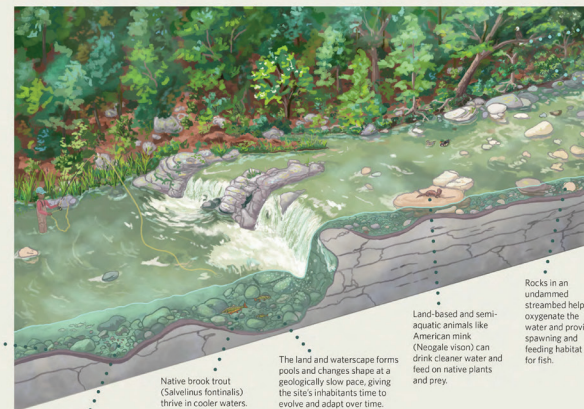
When water flows vertically over one or more steep drops in a river or stream, it is called a waterfall. These natural geological features are created through processes like erosion and glacial or tectonic movement, as well as in areas where the land varies in height such as on mountains or plateaus.

Waterfalls form and recede extremely slowly on a geological timescale, and unlike man-made dams, do not cause sudden and dramatic changes in ecological systems.

NATURALLY FLOWING WATERFALL HABITATS:



Native slimy sculpins (*Cottus cognatus*) thrive among rocky stream beds and are less likely to have to compete for resources with invasive fish species.



Native brook trout (*Salvelinus fontinalis*) thrive in cooler waters.

The land and waterscape forms pools and changes shape at a geologically slow pace, giving the site's inhabitants time to evolve and adapt over time.

Land-based and semi-aquatic animals like American mink (*Neogale vison*) can drink cleaner water and feed on native plants and prey.

Rocks in an undammed streambed help oxygenate the water and provide spawning and feeding habitat for fish.

Trees provide shade and help to maintain cooler water temperatures.



Native plants like spicebush (*Lindera benzoin*) provide food and shelter for many creatures such as spicebush swallowtail caterpillars, and these indigenous species are less likely to be pushed out by the invasive species that tend to proliferate in a dammed river.

The Nature Conservancy



ECONOMIC BENEFITS

The U.S. Bureau of Economic Analysis indicated in 2020 that outdoor recreation activities in the United States generated \$688 billion in economic output and supported 4.3 million jobs nationwide. Of that, boating, fishing, and other river-related activities accounted for more than \$30 billion in U.S. annual gross output. That spending directly benefits businesses of all sizes and boosts the economies in rural and urban communities nationwide.

Locally recent surveys by 1Berkshire and the Berkshire Regional Planning Commission point to a growing interest and participation in outdoor recreation. Outdoor recreation opportunities are abundant in Berkshire County and, as heard numerous times during the public engagement process for Their Outdoor Recreation Plan 2020, activities are available in all seasons and many are suitable for a range of ability levels. Though the Berkshires are primarily known for arts and cultural offerings, our outdoor recreation assets have long been enjoyed by residents and visitors alike, without having the reputation of being crowded or over-utilized as is the case with many destinations. However, among the many offerings there is a noted lack of access to our abundant water resources.

The small cost river restoration projects we propose will have a huge economical impact on our community. Every dollar invested that can be affected by the flood chutes has to be protected by the Army Corps of Engineers. This aids the Hoosic River Revival's mission to protect MASS MoCA and other downtown assets from the failing flood chute infrastructure, adds value to the Adventure Trail and nearby businesses in the Norad Mill by bringing an even greater amount of users, and helps Beaver Mill's ebikes access downtown.

Structured access to the Hoosic close to downtown will attract:

PADDLERS

Kayakers will travel up to eight hours many times a year to kayak; kayaking is expected to grow 24% through 2024; and kayakers spend \$292 per trip, on average. This culture is significantly underserved in the Northern Berkshires.

SPECTATORS

Studies show that for every person in the water, there are usually four people on the bank spectating. Paired with the adventure trail, this provides a significant opportunity to introduce more people to the river encouraging even more interaction.

ANGLERS

Smaller dam modification projects greatly improve the health and fish populations of a river. The fishing industry in the United States was valued at around 11.5 billion U.S. dollars in 2022 with the average angler spends \$1,037 annually in support of their pastime.



Outdoor recreation brought

\$227m

in direct spending to the Berkshires in 2021

with no recognized white water features

“Outdoor recreation activities can bring new investment to local economies, encourage people to revitalize existing downtowns and conserve natural resources, and lead to improved quality of life for residents and visitors.”

- Vicki Arroyo

EPA Associate Administrator for Policy

WHERE IT HAS WORKED

One of the most encouraging elements of the project is that in the last several decades, communities across the country with the support and funding of their local, state and federal agencies, have proven the viability of increasing river access. From for-profit ventures to free-to-all municipal access projects, others have tackled the complexities inherent with establishing vibrant riverine environments; growing visitation and their local economies while restoring natural ecosystems.



CHATTAHOOCHEE RIVER - COLUMBUS, GA & PHENIX CITY, AL

Flowing in the shadows of Historic Mills, lining the banks of a sprawling urban city, the Chattahoochee River holds the distinction of being home to the world's largest urban white water course for white water rafting in Georgia and Alabama.

“...the growing Wild Mile should be seen as a model for other cities with underutilized rivers. With their industrial uses fading, these spaces are finding renewed interest...”

- FastCompany

“From industrial waste to floating wetlands, how Chicago’s Wild Mile is reinventing the urban river” - July 6 2022



WILD MILE - CHICAGO, IL

Reclamation of the North Branch Canal and Turning Basin, referred to as “Wild Mile Chicago,” presents the unique opportunity to create accessible public open space for the community.

ENVIRONMENTAL BENEFITS

These projects will explore fast paced ecological remediation and restoration of former industrial sites. When complete it will return miles of river to a more natural state, providing abundant habitat to a number of threatened species.

We need healthy and productive ecosystems in order for the community to benefit from the multiple environmental, economic, and social benefits they provide. Ecosystem restoration offers the opportunity to effectively halt and reverse degradation, improve ecosystem services and recover biodiversity. According to the United Nations it is estimated that 60 percent of expected species extinctions could be avoided through the effective restoration of 15 percent of lands converted to human habitation, agriculture and industry. Furthermore, the protection of existing intact ecosystems and the restoration of degraded ecosystems has the potential to contribute to over one third of total climate change mitigation required by 2030.

Restoring the uninhibited flow of the Hoosic from its headland sources to the confluence with the Hudson will reestablish a unique natural system and make a small contribution to the stewardship of our planet.

Restoring access to the Hoosic River will:

IMPROVE HABITAT

As dams impound water, they restrict the flow of sediment, causing the upstream river to accumulate silt and become shallower over time. As the sediment-lacking downstream river tries to regain balance, it erodes the river channel and stream banks, further worsening habitat and water quality. Poor water quality supports fewer aquatic species. Restoring the river to flow freely creates the natural transport of sediment, a more productive environment, and a variety of habitats needed by aquatic life.

INCREASE RIVERINE CONNECTIONS

Because dams fragment rivers, fish are limited in their movement, and only during high water can they reconnect with critical habitats. Removing dams enables a greater diversity of fish to reach more streams and tributaries across three states, providing new and better habitats and increasing opportunities for anglers. This also allows greater transport of nutrients to improve stream health and water quality, reduces flooding effects, and boosts local economies through quality of life improvements and tourism.

RECONNECT THE COMMUNITY

The value of a river made accessible for all isn't a debate. Healthy rivers equal healthy communities. They are a much needed outlet for mental and physical stimulation for our residents and are a very attractive amenity for people to visit, revisit, relocate, and join our community. With increased use and interaction with the river that has been sequestered away, we hope that the people of the Northern Berkshires will become passionate advocates of the environment we are lucky enough to share.

Among the thousands of organisms this project could help...



LITTLE BROWN BAT

Myotis lucifugus

Endangered

This species was once very abundant, but has experienced severe declines particularly in eastern North America due to white-nose syndrome, a novel fungal disease.



LONGNOSED SUCKER

Catostomus catostomus

Special Concern

The longnose sucker inhabits cold, clear waters, including lakes, pools, rivers and streams, and occasionally also brackish waters in North America.



SKI-TIPPED EMERALD

Somatochlora elongata

Special Concern

One of the longest striped Emeralds. They have emerald green eyes, two yellow thoracic strips, and a long, slender abdomen that end in long sloping terminal appendages.



FOXTAIL SEDGE

Carex alopecoidea

Threatened

A Perennial, Herbaceous, grass-like plant found in calcareous wet meadows of river floodplains. It is a densely tufted, stout but soft plant.