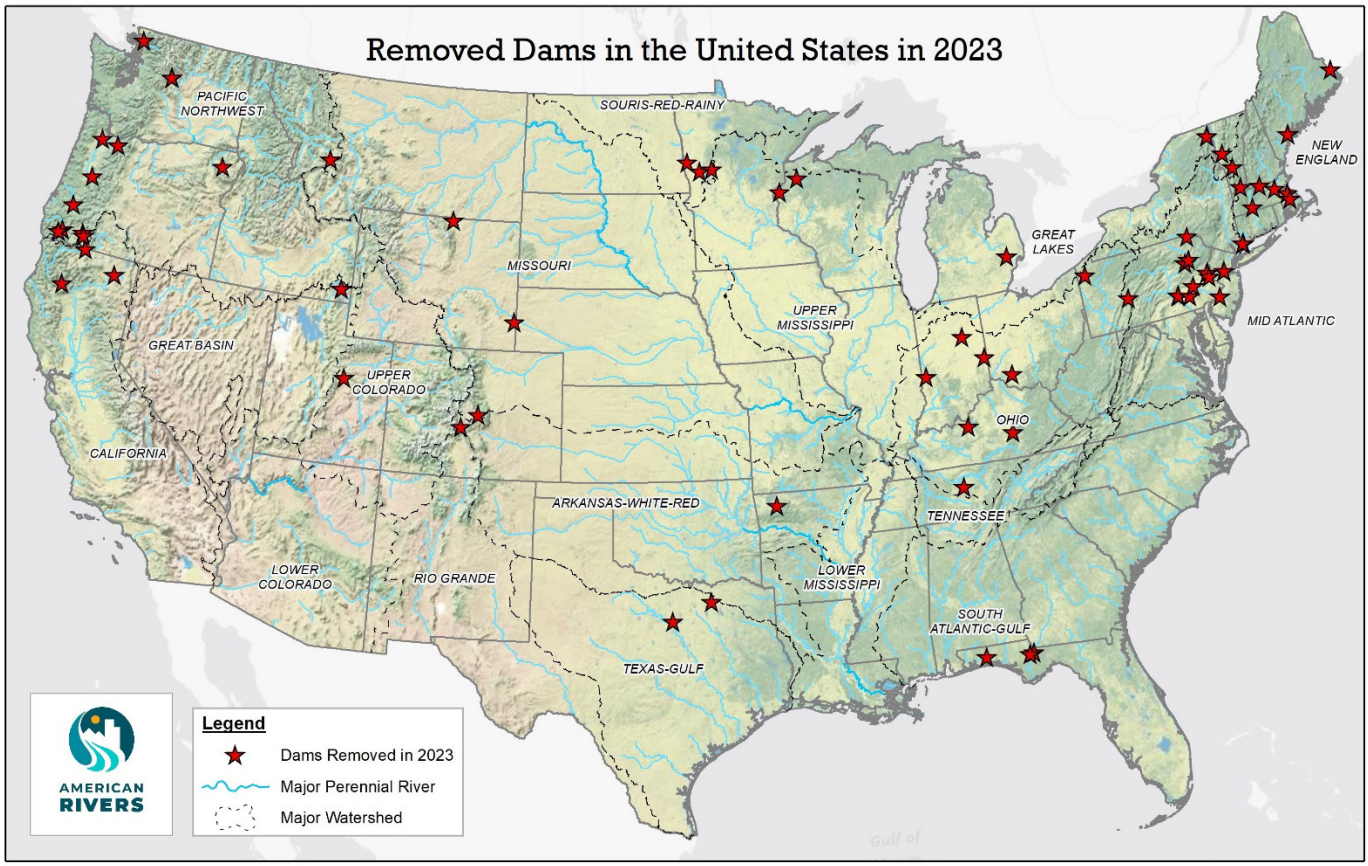
Summary: 2023 U.S. Dam Removals

Copco 2 Dam, Klamath River, California
Credit: Swiftwater Films

2023 Dam Removal Summary Statistics

- Number of dams removed in 2023: 80 removals
- Number of upstream river miles reconnected in 2023: More than 1,160 miles
- Top states for dam removals in 2023:
  - Pennsylvania (15 removals)
  - Oregon (9 removals)
  - Massachusetts (6 removals)
- 25 states removed dams in 2023: Arkansas, California, Colorado, Connecticut, Florida, Idaho, Indiana, Kentucky, Maine, Massachusetts, Michigan, Minnesota, Montana, New Jersey, New York, Ohio, Oregon, Pennsylvania, Tennessee, Texas, Utah, Vermont, Washington, Wisconsin, and Wyoming



Historical Dam Removal Summary Statistics

- Total number of dam removals from 1912-2023: 2,119 removals
- Years with the highest numbers of dam removals:
  - 2018 (109 removals)
  - 2019 (106 removals)
  - 2017 (101 removals)

The following are highlights of 2023 dam removals (see Table 1 for the full list).

1. Copco No. 2 Dam, Klamath River, California
2. Milltown Power Station Dam, St. Croix River, Maine
3. Oakland Dam, Susquehanna River, Pennsylvania

Note: This list includes all dam removals reported to American Rivers (as of February 2, 2024) that occurred in 2023, regardless of the level of American Rivers' involvement. Inclusion on this list does not indicate endorsement by American Rivers.

Contact information is provided for dam removals, if available. For further information about the list, please contact Jessie Thomas-Blate, American Rivers, Director of River Restoration at 202.347.7550 or jthomas@americanrivers.org.

Copco No. 2 Dam Removal, Klamath River, California

Photo Credit: Swiftwater Films

QUICK FACTS

- Dam Height: 63 feet
- Dam Length: 278 feet
- Year Built: 1925
- Dam Use: Hydropower
- Upstream Miles Reconnected: 40 miles

For nearly 100 years, dams on the Klamath River have blocked salmon and steelhead trout from reaching more than 400 miles of habitat, encroached on Indigenous culture, and harmed water quality for people and wildlife. But now, four dams – J.C. Boyle, Copco No. 1, Copco No. 2, and Iron Gate – built between 1908 and 1962, are coming down. The construction of this series of dam removals began in 2023 with Copco 2 Dam. The project will have lasting benefits for the river, salmon, and communities throughout the Klamath Basin.

The Klamath River dam removals will be among the largest dam removals in the nation's history. On November 17, 2022, the Federal Energy Regulatory Commission (FERC) approved the hydropower license surrender to remove these four dams from the Klamath River. This exciting progress is thanks to years of leadership by the Tribes that live along the river– including the Hoopa, Karuk, Yurok, Shasta, Klamath, and Modoc people– as well as efforts by the states of California and Oregon, the dams' owner, federal agencies, and several nonprofits, including American Rivers. This is the first stage of a multi-step dam removal process that will improve water temperatures, increase the levels of dissolved oxygen in the water, and reduce algal toxins, thus reconnecting coldwater habitat and allowing salmon to reproduce in safe and healthy conditions. The overall water quality improvements resulting from dam removal will bolster healthy communities and expand access to recreation.

Visit the Klamath River Renewal Corporation's website to find out more about the project, and to stay updated as work progresses.

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Milltown Power Station Dam, St. Croix (Lower Skutik) River, Maine

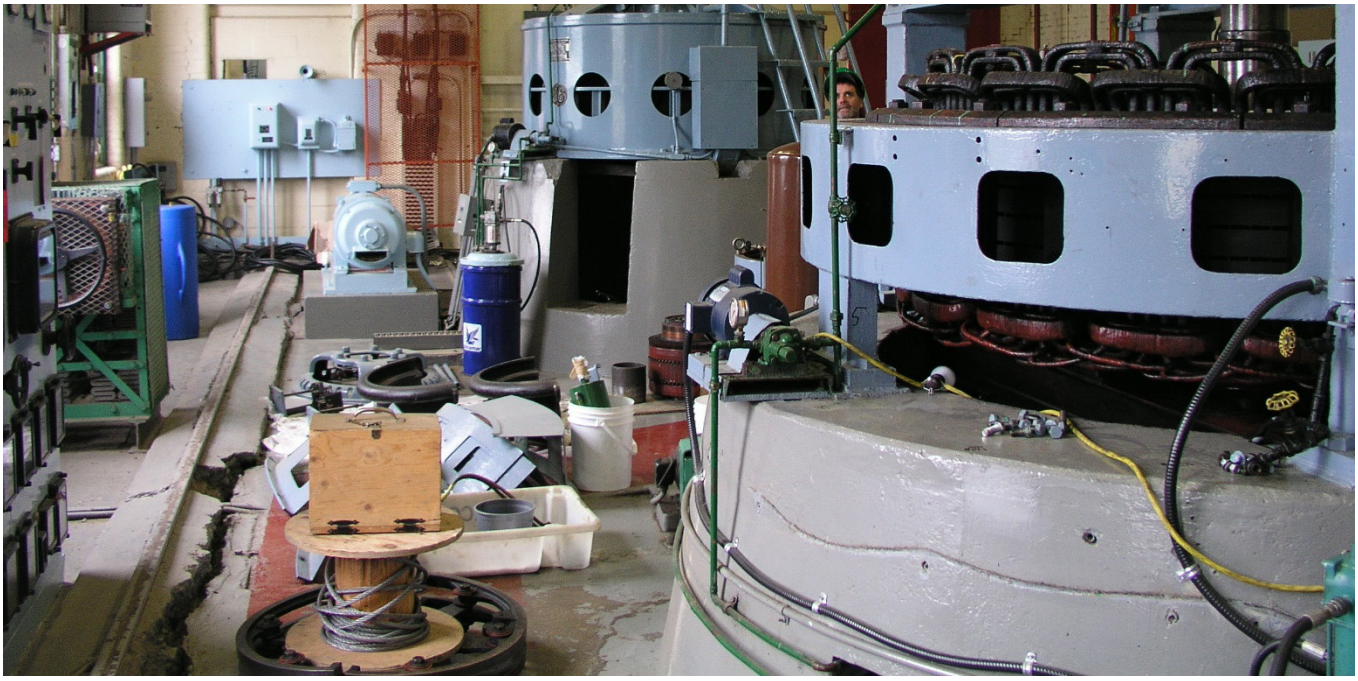

Photo Credit: International Joint Commission

QUICK FACTS

- Dam Height: 23 feet
- Dam Length: 590 feet
- Year Built: 1881
- Dam Use: Hydropower/Cotton Mill
- Miles reconnected: 10 miles

The Milltown Power Station Dam on the St. Croix River, situated along the U.S./Canada border, was among the oldest hydroelectric generating stations in Canada. It had a power capacity of four megawatts with its seven turbines. This was the first removal of a dam in international waters.

In 2019, New Brunswick Power, the dam's owner and operator, initiated planning and design for the decommissioning of the dam and restoration of fish passage past the site. The design involved the removal of dam infrastructure and associated structures, installation of a 500-foot-long channel-spanning nature-like passage to ensure fish are able to navigate the 10-foot vertical drop at the site, and selective bedrock excavation in the upstream area. The project aimed to restore access to 10 miles and 60,000 acres of habitat for alewife and five other migratory fish species.

This dam was originally built on top of natural waterfalls to power the historic St. Croix Cotton Mill. In 1957, New Brunswick Power purchased the dam and began producing hydropower. Eventually, the facility reached the end of its service life, needing maintenance that was uneconomical to address. In addition, the facility was blocking passage for Atlantic salmon, river herring, and other species important to the Peskotomuhkati Nation in this traditional territory.

This project is part of a broader initiative to improve fish passage at other dams and barriers throughout the watershed. Early results of restoration work led by the Peskotomuhkati Nation have shown a doubling of alewife, one of the river's major environmental health indicators.

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Oakland Dam, Susquehanna River, Pennsylvania

Photo Credit: Lisa Hollingsworth-Segedy

QUICK FACTS

- Dam Height: 16 feet
- Dam Length: 755 feet
- Year Built: 1929
- Dam use: Hydropower
- Miles Reconnected: 250 miles

Once a dangerous and obsolete former hydropower dam, the Oakland Dam along the North Branch Susquehanna River Water Trail is no longer a safety hazard for recreational users. This project not only made the river safer, it also reconnected 250 miles of aquatic habitat for sportfish, iconic freshwater mussels, and other fish and wildlife. The project is the largest dam removal to date in Pennsylvania, which leads the nation in dam removals (390 removals as of 2023).

The Susquehanna Borough Council is planning to create a new riverfront park for camping, now that the site is safer for the community. This will improve public access and help bolster economic growth for the area.

Oakland Dam once provided electricity to Barnes Kasson Hospital and to Susquehanna Depot, a major railroad hub for the northeastern U.S., located on the banks of the Susquehanna River in what is now Ira Reynolds Riverfront Park. Hydropower generation was abandoned in the early 2000's due to an accidental breach in the center of the dam.

American Rivers worked in partnership with the Boroughs of Susquehanna and Oakland, Endless Mountains Heritage Region, Upper Susquehanna Coalition via Tioga County Soil & Water Conservation District, PA Department of Environmental Protection, PA Fish & Boat Commission, and the U.S. Army Corps of Engineers on this project.

CONTACT

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Table 1. Reported Dam Removals from 2023

Dam Name	City/County	River	State
Huntsville Dam (War Eagle Creek Dam)	Huntsville/Madison	War Eagle Creek	AR
Copco 2 Dam	Siskiyou County	Klamath River	CA
Double U Fish Ranch Dam	Modoc County	Howards Gulch	CA
East Weaver Creek Dam	Weaverville	East Weaver Creek	CA
Lake George Diversion Dam (Lower Eleven Mile Dam)	Park County	South Platte River	CO
Mt Shavano Dam (Salida Lowhead Dam)	Salida/Chaffee	Arkansas River	CO
Dana Dam (Merwin Meadows Dam; Strong Pond Dam)	Wilton	Norwalk River	CT
Smith Dam	Wilton/Fairfield	Comstock Brook	CT
Sternheim-Gardner Dam (Comstock Brook Dam)	Wilton	Comstock Brook	CT
Crooked Creek Dam (Clearwater Dam)	Gadsden County	Crooked Creek	FL
Pearl Creek Pond Dam (Duke Field Dam)	Okaloosa	Pearl Creek	FL
Sweetwater Creek Dam	Liberty	Sweetwater Creek	FL
Stauffer Creek Oxborrow No. 1 Dam	Montpelier	Stauffer Creek	ID
Stauffer Creek Oxborrow No. 2 Dam	Montpelier	Stauffer Creek	ID
Charles Mill Dam	Marion	Mississinewa River	IN
Hickey Martin Dam	Lawrence County	Henderson Creek	IN
Markle Mill Dam	Vigo County	Otter Creek	IN
Weir Dam	Richmond	East Fork Whitewater River	IN
City of Vine Grove Weir Dam	Vine Grove/Hardin	Brushy Fork	KY
Roundstone Creek Dam	Mount Vernon	Roundstone Creek	KY
Ames Pond Dam	Braintree	Monatiquot River	MA
Armstrong Dam (Hollingsworth Dam)	Braintree	Monatiquot River	MA
Jenkins Pond Dam (High Street Dam)	Bridgewater	Town River	MA
Lower Bemis Dam	Chicopee	Abbey Brook	MA
River Street Dam	Acton	Fort Pond Brook	MA
Whites Mill Pond Dam	Winchendon	Millers River	MA
Burr Pond Dam	Freeport	Frost Gully Brook	ME
Fire Pond Dam	Freeport	Frost Gully Brook tributary	ME
Maine Water Company Dam	Freeport	Frost Gully Brook	ME
Milltown Power Station Dam	Calais	St. Croix River	ME

Dam Name	City/County	River	State
Bald Mountain Pond Dam	Orion Twp/Oakland County	Spring Creek/Tributary to Trout Creek	MI
Ganz Dam	Clay County	Buffalo River South Branch	MN
Little Pine Dam	Otter Tail County	Otter Tail River	MN
Pelican Rapids Dam	City of Pelican Rapids/Otter Tail County	Pelican River	MN
Broken Circle Pump	Deer Lodge County	Upper Clark Fork River	MT
Camp Cromwell North No. 2 Dam	Bridgewater/Somerset	Tributary to East Branch of Middle Brook	NJ
Camp Cromwell South No. 1 Dam	Bridgewater/Somerset	Tributary to East Branch of Middle Brook	NJ
Centura-Normandy Dam	Cherry Hill/Camden	Tindale Run	NJ
Indian Rapids Dam	Plattsburgh	Saranac River	NY
Fredenburgh Falls Dam	Plattsburgh	Saranac River	NY
Dieckbrader Lake Dam	Brown County	Tributary to Salt Lick Creek	OH
Baker Creek Dam	Washington County	Baker Creek	OR
Krumwiede Diversion 1 & 2 Pushup Dams	Jackson County	Salt Creek	OR
Lost Creek Dam	Jackson	Lost Creek	OR
Lovelace Dam	Jackson County	Slate Creek	OR
North Fork Eagle Creek Dam	Clackamas County	North Fork Eagle Creek	OR
Parrott Creek Dam	Douglas County	Parrott Creek	OR
Poley Allen Diversion Dam	Wallowa County	Lostine River	OR
Takelma Creek Dam	Josephine	Takelma Creek	OR
Whiskey Creek Hydro Dam	Lan County	Whiskey Creek	OR
Bushkill Dam No. 3 (Silk Masters Dam)	Northampton	Bushkill River	PA
Crest Dam	Dauphin	Spring Creek	PA
Cussewago Dam	Meadville/Crawford	Cussewago Creek	PA
Hanover Dam	Luzerne	Tributary to Espy Run	PA
Homestead Dam	Dauphin	Spring Creek	PA
Lafayette College Dam	Northampton	Bushkill Creek	PA
Laurel Run Dam No. 2	Plains Township	Laurel Run	PA
Lower Crest Dam	Dauphin	Spring Creek	PA
Oakland Dam	Susquehanna	Susquehanna River	PA
Red Oak Dam	Dauphin	Spring Creek	PA
Stutz Dam	Bucks	Unnamed tributary to Delaware River	PA
Unnamed Dam	Patton/Cambria	Chest Creek	PA

Dam Name	City/County	River	State
Upper Brooke Drive Dam	Dauphin	Spring Creek	PA
Vance Dam	Lancaster	Gross Run	PA
Willow Creek Dam	Berks	Willow Creek	PA
Sam Davis Dam	Smyrna/Rutherford	Stewart Creek	TN
Pilot Grove Creek Soil Conservation Service Site 77 Dam	Collin	Unnamed tributary to Hickory Creek	TX
Vaquero Crossing Dam	Parker	Unnamed tributary to Hart Branch	TX
Gigliotti Diversion Dam	Carbon County	Price River	UT
Beaver Brook Dam	Wilmington	Beaver Brook	VT
Connolly Pond Dam	Shrewsbury	Tributary to Mill River	VT
Dow Pond Dam	Middlebury/Addison	Muddy Branch	VT
Beaver Creek Dam No. 1	Chelan County	Beaver Creek	WA
Beaver Creek Dam No. 2	Chelan County	Beaver Creek	WA
Nelson Dam	Yakima County	Naches River	WA
Spore Dam	Alger	Barrel Springs	WA
Stenberg Mill Dam	Burnett County	Tributary of Wood River	WI
Wolf Springs Dam No. 4	Washburn County	Unnamed tributary to Frog Creek	WI
Acme Diversion Dam	Sheridan County	Tongue River	WY
Lawrence Diversion Dams	Goshen County	Horse Creek	WY

City of Vine Grove Weir Dam, Brushy Fork, KY; Photo Credit: Ward Wilson

Learn More

Full Database of Dam Removals 1912-2023:
www.americanrivers.org/DamRemovalDatabase

Map of U.S. Dams Removed Since 1912:
www.americanrivers.org/DamRemovalMap

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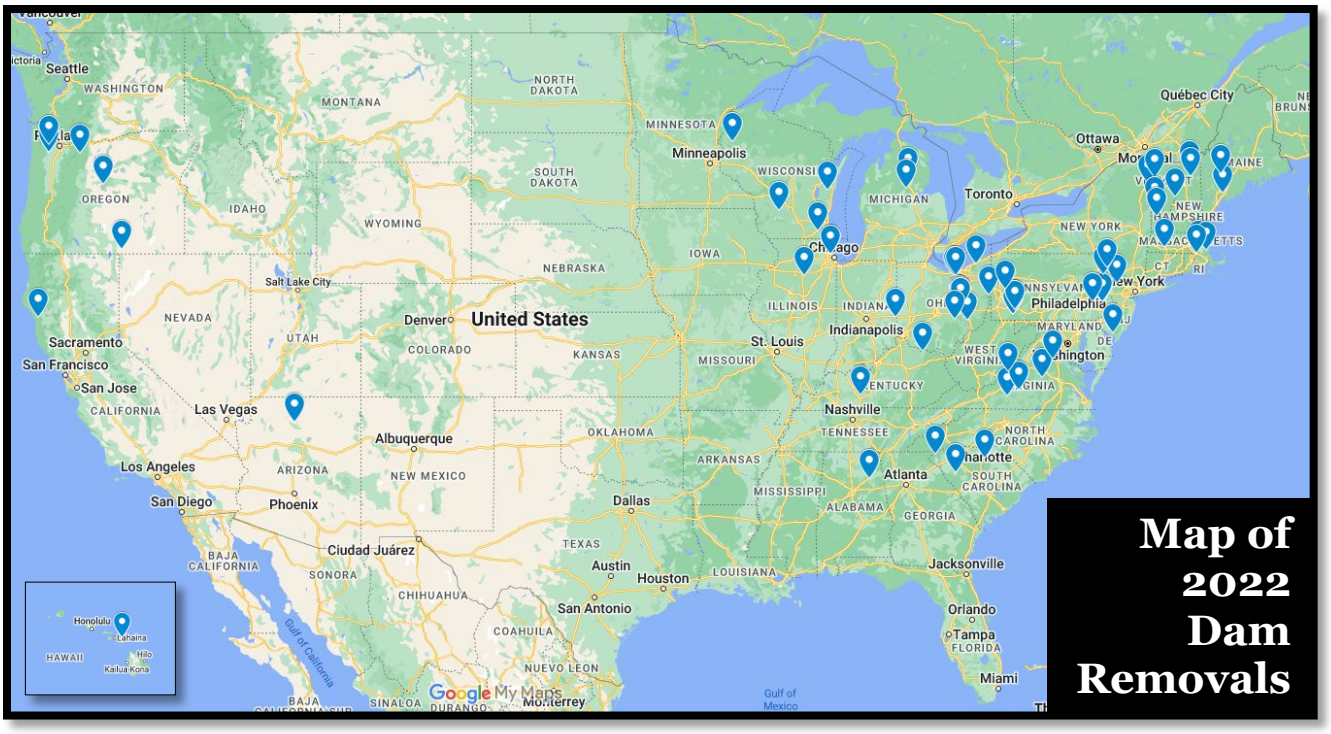
Summary: 2022 U.S. Dam Removals

Timberland Dam, West Branch Tittabawassee River, Michigan
Credit: Huron Pines

2022 Dam Removal Summary Statistics

- Number of dams removed in 2022: 65 removals
- Number of upstream river miles reconnected in 2022: More than 430 miles
- Top states for dam removals in 2022:
  - Ohio (11 removals)
  - Pennsylvania (10 removals)
  - Virginia (6 removals)

- 20 states removed dams in 2022: Alabama, Arizona, California, Hawaii, Illinois, Indiana, Kentucky, Maine, Massachusetts, Michigan, New Hampshire, New Jersey, New York, Ohio, Oregon, Pennsylvania, South Carolina, Virginia, Vermont, and Wisconsin



Historical Dam Removal Summary Statistics

- Total number of dam removals from 1912-2022: 2,025 removals
- Years with the highest numbers of dam removals:
  - 2018 (110 removals)
  - 2019 (104 removals)
  - 2017 (100 removals)

The following are highlights of 2022 dam removals (see Table 1 for the full list).

1. Walton's Mill Dam Removal, Temple Stream, Maine
2. Barren River Lock and Dam No. 1, Barren River, Kentucky
3. Burrells Place Dam, Unnamed tributary to Pigpen Branch, South Carolina

Note: This list includes all dam removals reported to American Rivers (as of February 7, 2022) that occurred in 2022, regardless of the level of American Rivers' involvement. Inclusion on this list does not indicate endorsement by American Rivers.

Contact information is provided for dam removals, if available. For further information about the list, please contact Jessie Thomas-Blate, American Rivers, Director of River Restoration at 202.347.7550 or jthomas@americanrivers.org.

Walton's Mill Dam Removal, Temple Stream, Maine

Photo Credit: Maranda Nemeth

QUICK FACTS

- Dam Height: 16 feet
- Dam Length: 200 feet
- Year Built: 1873
- Dam Use: Mill power
- Upstream Miles Reconnected: 54 miles

The Atlantic Salmon Federation and Town of Farmington collaborated with partners and local residents on the decision to remove Walton's Mill Dam. The plan included rebuilding the adjacent community park and replacing several upstream undersized road stream crossings. The watershed-wide effort will restore more than 54 miles of productive cold-water habitat for wild Atlantic salmon and other native fish. The project is part of a broader effort over the past several decades to restore endangered Atlantic salmon and other sea-run fish to the Kennebec River, an effort ignited by the successful removal of Edwards Dam in 1999.

This dam was located in a public park in the Town of Farmington, Maine. The voters approved the plans for the dam removal and park revitalization project. Working together, the project partners made the park and river safer and more accessible for the community while improving the health of the river. Amenities such as a picnic pavilion, play area, and lighted walkways were included as part of the re-envisioning of the park space. This project illustrates that dam removals can be a win all around for local communities who can see a new future for their public spaces.

The total cost of the project was around $2.7 million. Project partners included the town, the Atlantic Salmon Federation, the National Oceanic and Atmospheric Administration, U.S. Fish and Wildlife Service, Maine Department of Marine Resources, Maine Department of Environmental Protection, Maine Natural Areas Program, and Land and Water Conservation Fund. Funding was also provided by Trout & Salmon Foundation, Fisher Foundation, Cascade Foundation, and several other private foundations.

CONTACT

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Barren River Lock and Dam No. 1, Barren River, Kentucky

Photo Credit: Mike Wilkinson

QUICK FACTS

- Dam Height: 25 feet
- Dam Length: 451 feet
- Year Built: 1841
- Dam Use: Navigation

This project is part of a broader effort to remove dams along the Green and Barren rivers in Kentucky. A dam was originally built at this site in 1841 and expanded in 1933 for commercial navigation purposes. It ceased operation in 1965 after Green River Lock and Dam 4 failed and navigation on the Barren River was no longer possible. Since then, the structure sat unused and deteriorated, creating a pooled condition in the river with lower oxygen levels, more sediment, and higher temperatures— conditions that are detrimental for aquatic life and the overall health of the river. The dam was also a barrier to boat traffic and a potential public safety hazard. All of these issues were addressed when the dam was removed by a U.S. Fish and Wildlife Service construction team in 2022.

Nearby, Lock and Dam #6 was removed on the Green River in 2017, and Green River Lock and Dam #5 is in the process of being removed. Collectively, these projects are a part of one of the largest watershed-scale restoration efforts in Kentucky.

The Barren River is the Green River's largest tributary and home to many fish species, including smallmouth bass, spotted bass, rock bass, bluegill, and muskellunge. The Green River watershed is home to three species of federally threatened and endangered mussels as well. The Barren River is also a treasured location for paddlers.

Project partners included the U.S. Army Corps of Engineers Louisville District, U.S. Fish and Wildlife Service, and The Nature Conservancy.

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Burrell Place Dam, Pigpen Branch, South Carolina

Photo Credit: Mac Stone

QUICK FACTS

- Dam Height: 15 feet
- Dam Length: 165 feet
- Year Built: 1935
- Miles Reconnected: 3 miles

This headwater dam impounded an unnamed branch of Pigpen Creek, a tributary of the Chattooga River which is a federally designated Wild and Scenic River. The dam was removed on March 2, 2022, by the U.S. Fish and Wildlife Service's aquatic habitat restoration team. With the dam removed and sedimentation and temperature impacts eliminated, three miles of stream are once again expected to support native brook trout.

Pigpen Creek is considered impaired brook trout habitat by the South Carolina Department of Natural Resources. Historic data indicate that brook trout was the only fish species that occurred naturally in this stream. A downstream waterfall blocks aquatic organism access to the headwaters of the Pigpen Creek watershed making this reach a viable candidate for brook trout restoration. The Department of Natural Resources renovated the impoundment and stream prior dam removal to eliminate all fish species. The agency will reestablish a unique genetic strain of brook trout native to the creek now that the dam has been removed. A multiyear aquatic resource study is planned to evaluate brook trout restoration and other dam removal benefits.

The dam and land purchased are surrounded by the Sumter National Forest. All of the Pigpen Creek watershed is now protected following the acquisition of the dam, impoundment and surrounding land by Naturaland Trust. The land will be transferred to the U.S. Forest Service after removal of the dam and four buildings, and site remediation. In addition to the land trust and aforementioned agencies, the Mountain Bridge Chapter of Trout Unlimited and American Rivers were collaborators on this project.

CONTACT

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Table 1. Reported Dam Removals from 2022

Dam Name	City/County	River	State
Unnamed Dam	Etowah	Big Wills Creek	AL
Bright Angel Creek Fish Weir	North Rim	Bright Angel Creek	AZ
Cedar Creek Hatchery Dam	Leggett	Cedar Creek	CA
Kaupakalua Reservoir Dam	Maui	Opaepilau Gulch	HI
Buzzi Unicem Dam	Oglesby/Lasalle	Vermilion River	IL
Des Plaines River Dam #4	Park Ridge/Cook	Des Plaines River	IL
Touhy Avenue Reservoir Dam	Park Ridge/Cook	Des Plaines River	IL
Richmond Dam	Richmond	Whitewater River	IN
Barren River Lock and Dam 1	Warren County	Barren River	KY
Lyman Pond Dam	Southampton	Manhan River	MA
Traphole Brook Dam	Norwood	Traphole Brook	MA
Unnamed Low Head Dams	Hanover	Third Herring Brook	MA
West Street Dam	Foxborough	Cocasset River	MA
Upper River Dam (Upper Town Dam)	Lisbon/Androscoggin	Sabattus River	ME
Walton's Mill Dam	Farmington	Temple Stream	ME
Murray Dam	Luzerne	Hunt Creek	MI
Timberland Dam	Roscommon County	West Branch Tittabawassee River	MI
Lyman Falls Dam Remnant Removal	Columbia/Coos County	Connecticut River	NH
County Line Dam	Stillwater/Sussex and Hardwick/Warren	Paulins Kill	NJ
New Jersey No Name # 119 Dam (Lore's Mill Dam)	Commercial/Cumberland	Dividing Creek	NJ
Cold Brook Dam	Willsboro/Essex County	Cold Brook	NY
Brightwood Lake Dam	Painesville/Lake	Kellogg Creek	OH
Broken Aro Sediment Pond No. 46 Dam	Warsaw Junction/Coshocton	Tributary to Simmons Run	OH
Broken Aro Sediment Pond No. 47 Dam	Warsaw Junction/Coshocton	Tributary to Simmons Run	OH
Catfish Li Dam	Dresden/Coshocton	Tributary to Mill Fork	OH
JM Stuart Station Ash Pond No. 10 Dam	Manchester/Adams	Unnamed Tributary to Three Mile Creek	OH
Oberlin Waterworks Old Upground Reservoir Dam	Oberlin/Lorain	Offstream of Plum Creek	OH
Oberlin Waterworks Upground Reservoir Dam	Oberlin/Lorain	Offstream of Plum Creek	OH
Ohio Power Company Pond MM-62 Dam	Unionville/Morgan	Tributary to Dyes Fork	OH
Peabody Coal Company Pond Dam	Dresden/Coshocton	Tributary to Mill Fork	OH
Perry Reclamation Dam No. 3	Redfield/Perry	Tributary to Buckeye Fork	OH
Wellsville Reservoir Dam	Wellsville/Columbiana	Little Yellow Creek	OH
Bailey Nursery Dam	Yamhill County	Salt Creek	OR

Dam Name	City/County	River	State
Balm Grove Dam	Washington County	Gales Creek	OR
Deep Creek Middle Diversion Dam	Lake County	Deep Creek	OR
Prineville Country Club Diversion Dam (Lower Ochoco Creek Dam)	Crook County	Ochoco Creek	OR
Lady Creek Dam	Clackamas County	Lady Creek	OR
Dunbar Creek Lower Jack Dam	Dunbar/Fayette	Dunbar Creek	PA
Dunbar Creek Upper Jack Dam	Dunbar/Fayette	Dunbar Creek	PA
East Greenville Dam (Perkiomen Creek Gage Dam)	Montgomery	Perkiomen Creek	PA
Greenlick Run Lower Dam	Mt. Pleasant/Fayette	Greenlick Run	PA
Greenlick Run Upper Dam	Mt. Pleasant/Fayette	Greenlick Run	PA
Hillegas Dam	Montgomery	West Branch Perkiomen Creek	PA
Hollister Dam (Dry Dam)	Lackwanna	Roaring Brook	PA
Renfrew Dam (Glass Factory Dam)	Renfrew/Butler	Connoquenessing Creek	PA
Ridge Dam	Wayne	Pond Brook	PA
Van Reed Paper Mill Dam	Reading	Cacoosing Creek	PA
Burrell's Place Dam	Oconee County	Unnamed Tributary to Pigpen Branch	SC
Upper Northlake Dam	Greenwood/Greenwood	Unnamed Tributary to Rocky Creek	SC
Wrenn Farms Pond Dam	Lancaster	Tributary to Catawba River	SC
Altice Mill Dam	Rocky Mount/Franklin	Blackwater	VA
McIver Dam	Fluvanna County	Bear Garden Creek	VA
New London Dam #1	Bedford County	Orrix Creek	VA
New London Dam #2	Bedford County	Orrix Creek	VA
Spotswood Drive Dam	Orange County	Fields Run	VA
Wilson Creek Dam	Bath	Wilson Creek	VA
Crooked Creek Button Farm Dam (Colchester Dam)	Colchester/Chittenden	Crooked Creek	VT
Montague Dam	Post Mills/Orange County	Ompompanoosuc River	VT
Pelletier Dam	Castleton/Rutland	Breton Brook	VT
Reynolds Dam	Dorset	Mettawee River	VT
Wyoming Paper Co. Remnant Removal	Guildhall/Essex County	Connecticut River	VT
Chuck Irish Dam	Washington/Sauk County	Tributary to Smith Hollow Creek	WI
Collins Marsh Sub-Impoundment	Rockland/Manitowoc County	Tributary to Mud Creek	WI
East Troy Dam	East Troy/Walworth County	Honey Creek	WI
Jensen Dam	Clam Falls/Polk County	Maple Valley Creek	WI

County Line Dam Removal Site (After), Paulins Kill, NJ; Photo Credit: The Nature Conservancy

Learn More

Full Database of Dam Removals 1912-2022:
www.americanrivers.org/DamRemovalDatabase

Map of U.S. Dams Removed Since 1912:
www.americanrivers.org/DamRemovalMap

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THE STATE OF DAM REMOVAL IN THE UNITED STATES

FEBRUARY 2022

MILL DAM BEING REMOVED FROM THE WATAUGA RIVER, NORTH CAROLINA, JULY 2021.
PHOTO: GAIL LAZARAS, AMERICAN RIVERS

Introduction

The Impact of Dams

Our planet's rivers – our life support system of fresh, clean water – are in crisis. Centuries of dam building, pollution and harmful development have sapped them of their vitality and resilience. In the U.S., only a small fraction of our 3 million miles of rivers remains healthy and free flowing. Few things have such a fundamental impact on a river as a dam, and there are hundreds of thousands of dams with a chokehold on rivers around the country.

Many dams serve an important purpose and should remain in place. However, there are tens of thousands of outdated, obsolete dams nationwide whose impacts to ecology or public safety outweigh the benefits they provide. These dams often threaten public safety, harm Tribal Nations' cultural values and prevent the ability of fish and other aquatic species from migrating, a crucial part of many species' life cycles. Of the more than 90,000 dams inventoried by the U.S. Army Corps of Engineers (only a portion of the total likely number of dams nationwide), it is estimated that roughly 85 percent are older than 50 years, an age when a need for expensive repairs becomes more common. Many, perhaps most, of these aging dams no longer serve their original purpose and are not being maintained; thus, they are in danger of failing, particularly during increasingly severe storm events. In the last few years alone, dam failures or near failures have forced hundreds of thousands of people to evacuate their homes, causing millions of dollars of property damage[1] reported by states in the last decade.

Dams also are a leading reason for the alarming loss of freshwater biodiversity. Seven dams on the Coosa River in Alabama have caused more than thirty freshwater species to go extinct – making it one of North America's worst mass extinctions on record. Also, the once prolific domestic East Coast populations of Atlantic salmon have been nearly destroyed by dams that block access to spawning grounds. On the West Coast, 29 percent of Pacific Northwest and California salmon populations are now extinct and one-third of those remaining are listed as threatened or endangered under the Endangered Species Act.

While hydropower is an important source of electricity and for balancing the grid, hydropower generation and impoundments also release methane, a greenhouse gas that is 25 times more impactful than carbon dioxide over the first 100 years.[2] According to a growing body of academic research, methane emissions from impoundments are substantial and on the rise.

A Movement for River Restoration

Fortunately, a powerful movement is underway to restore healthy, free-flowing rivers by removing dams that no longer serve a purpose or cause more harm than good. Tearing down these barriers restores the natural flow of rivers and allows fish and other species to reach previously blocked habitats. Free-flowing rivers are naturally more resilient to the impacts of climate change.

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[1] The Association of State Dam Safety Officials (ASDSO) indicates that the database is not considered comprehensive and reflects only the data ASDSO has been able to collect. For example, these figures only represent updates made through August 2020 and do not include incidents such as those at the Edenville and Sanford dams in Michigan in 2020.

[2] U.S. Environmental Protection Agency. (n.d) Overview of Greenhouse Gases. https://www.epa.gov/ghgemissions/overview-greenhouse-gases

American Rivers maintains the database on U.S. dam removals. 1,951 dams have already been removed nationwide, with **57 dams removed in 2021 that freed 2,131 miles of rivers upstream**. More than 76 percent of our nation's dam removals have occurred since the removal of Edwards Dam on Maine's Kennebec River in 1999 (Figure 1). The Edwards Dam removal was a turning point because it was the first time the Federal Energy Regulatory Commission ordered a dam removed because its costs outweighed its benefits. The Edwards Dam removal helped turn the once radical concept into an accepted, proven tool for addressing outdated infrastructure and restoring rivers. Today, dam safety offices, fisheries managers, dam owners and communities are taking a second look at the benefits and impacts of dams. Many are deciding that removal is the best option— one that can bring significant benefits to the environment, community and economy.

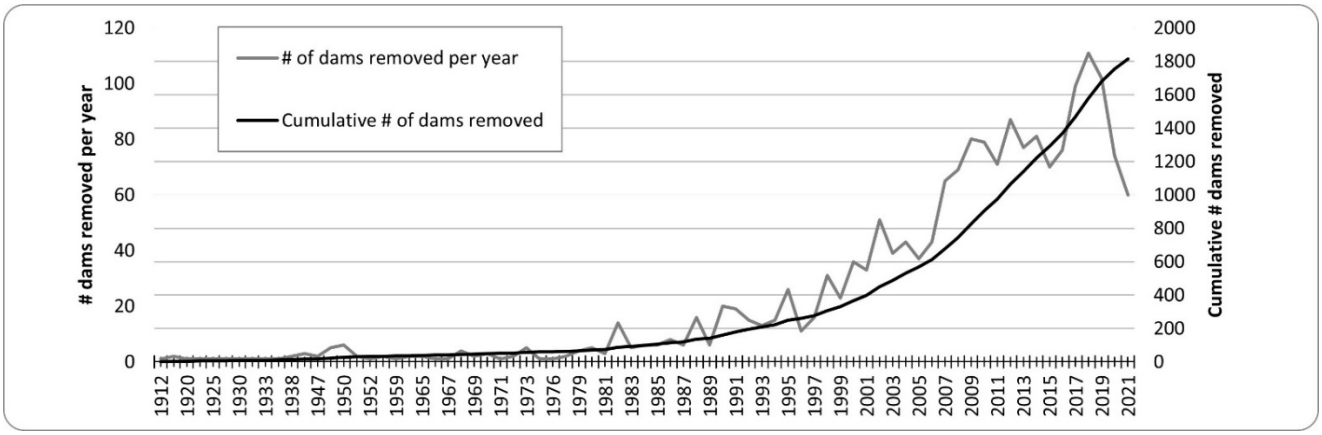


Figure 1. Cumulative number of dams removed versus the number of dams removed per year

What the Numbers Illuminate

Pennsylvania (364 total dams removed) and Wisconsin (152 total dams removed) have long led the country in the removal of dams. A major factor contributing to their success is close collaboration between the state fisheries and dam safety programs. Like many states, these programs are housed in different state agencies. **Intentional efforts to increase interagency communication and partnerships to accomplish their respective missions have resulted in the identification of more opportunities for dam removal and the ability to leverage more state, federal and private resources to assist in the removal of unsafe dams and restoration of important aquatic resources.**

States like Pennsylvania and Wisconsin led the way for dam removal (Figure 2), and other states have answered the clarion call to address outdated dams. For example, Vermont, with just 413 state-regulated dams, has removed 52 dams (13 percent of their inventory compared to Pennsylvania's 11 percent). Vermont's success is due in no small part to the state's commitment to partnership and the years that have been invested in developing relationships and projects through the Vermont Dams Task Force, an interagency and non-profit group focused on addressing aging dams.

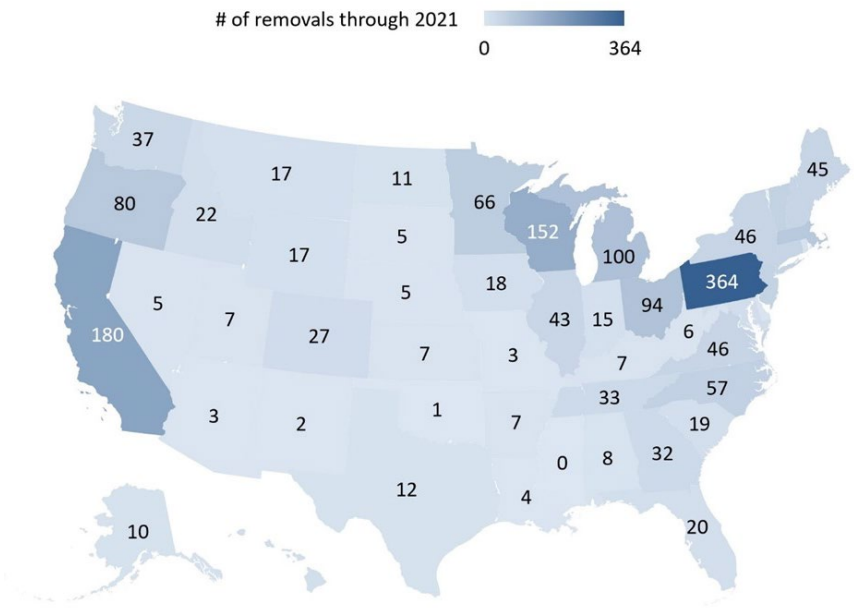


Figure 2. Map of number of dams removed by state from 1912 through 2021

California has significantly grown in the number of dams removed over the last four years, in large part resulting from the work of the Cleveland National Forest and the programmatic approach (known as the Trabuco District Dam Removal Project) they took to remove barriers from U.S. Forest Service land and restore migratory corridors for fish and other aquatic species. Since 2018, Cleveland National Forest has removed 62 dams on Holy Jim, San Juan and Silverado creeks. **This is an important example of how federal agencies should be provided with the funding and staff resources to systematically evaluate dams owned by their agencies to identify those that have exceeded their useful life and where continued maintenance expenses exceed benefits.**

Unfortunately, the more than 1,956 dams removed represents less than two percent of dams in the U.S. Of the dams removed, only 20 percent were dams captured in the U.S. Army Corps of Engineers (Corps) National Inventory of Dams (NID)[3]. The remaining dams removed are indicative of the vast number of largely low-head dams not typically captured in the NID database because they do not meet the dam height, impoundment size or hazard classification criteria established by the Corps. Even among the dams that meet one or more of these criteria, the Corps acknowledges that data is limited by what can be gathered and analyzed with available funding.

A study published in 2015 examined dams and dam removal in New England and found the region's 4,000 dams included in the NID were but a fraction of the more than 14,000 dams found across New England states.[4] Similarly, the Southeast Aquatic Resources Partnership has been working with partners across the country to inventory dams and instream barriers. The Aquatic Barrier Prioritization Tool they created contains 44,815 dams in the nine states that comprise the Great Plains and Intermountain West alone, far more than the number found in the NID.

[3] The National Inventory of Dams was created in response to series of larger dam failures. Congress first authorized the Corps to inventory dams with the National Dam Inspection Act (PL 92-367) of 1972.
[4] Magilligan, F.J., Graber, B., Nislow, K.H., Chipman, J, Sneddon, C.S., and Fox, C. 2016, River restoration by dam removal: assessing riverine re-connectivity and watershed resilience at a regional scale, *Elementa: Science of the Anthropocene*. doi: 10.12952/journal.elementa.000108

In 2002, organizations and agencies involved in the Aspen Institute Dialogue on Dams called for a comprehensive inventory of dams, regardless of size. After almost 20 years, there is real momentum behind the effort. The National Low Head Dam Inventory Task Force is comprised of organizations representing a multitude of interests across the U.S. and is headed by Professor Rollin Hotchkiss of Brigham Young University, Manuela Johnson of the Indiana Department of Homeland Security and Professor Brian Crookston of Utah State University. Organizations such as the American Society of Civil Engineers Environmental and Water Resources Institute, the Association of State Dam Safety Officials and the U.S. Society on Dams are assisting in this nationwide effort to get a true sense of the likely number of dams in the U.S. **Groups like American Rivers and American Whitewater are advocating for a National Low-Head Dam Inventory and Financial Assistance Program through the 2022 Water Resources and Development Act.**

In compiling this report, American Rivers also analyzed dam removal data[5] through the lens of hydropower. Less than three percent of dams removed produced hydropower. While the percentage of hydropower dams that are removed is low, these are often cases where power generation at the site is uneconomical and where electricity can be replaced with wind and solar alternatives at low cost. Notably, there are 133 retired hydropower projects[6] where dam infrastructure remains in the river, creating potential additional opportunities for removal. **The reduction in methane emissions and improved resiliency of the river when removing a dam and restoring the impounded water to a free-flowing system makes dam removal an important strategy for climate mitigation and adaptation**.

The Klamath River is a prime example of how dismantling dams and building climate resilient rivers can go hand-in-hand. Four dams on the Klamath, formerly owned by PacifiCorp, are slated to be removed in 2023 in order to restore salmon runs and improve water quality. A free-flowing Klamath River will better support the river's Tribal Nations and local communities, as rising temperatures threaten resources they depend on. The four Klamath dams produce a nominal amount of power, which will be replaced using renewables, such as new wind energy, and efficiency measures. The hydropower from the Klamath dams should never have been considered "clean" or "green" given the devastation these dams cause to salmon and water quality, and the staggering injustice and harm the dams impose on the river's Tribal Nations. **The Federal Energy Regulatory Commission and other regulators must ensure restoration of the Klamath remains on track to begin in 2023.**

A Future of Free Rivers

President Biden recently signed the Infrastructure Investment and Jobs Act, which includes $2.4 billion for the removal, retrofit and rehabilitation of dams. It's notable that investment for dam removal was included in an infrastructure bill— **acknowledging free-flowing rivers as infrastructure, vital to local economies, public safety and quality of life. It is a sign that we, as a nation, embrace dam removal as an essential strategy for revitalizing our infrastructure and economy and addressing the interconnected challenges of climate change, injustice and biodiversity loss.** At the same time, it is important to improve the safety and environmental performance of dams that remain in place.

[5] To the extent the data was available and verified.
[6] M.M. Johnson, S.-C. Kao, N.M. Samu, and Uría-Martinez, R., (2020). U.S. Hydropower Retired Facilities, 2020. HydroSource. Oak Ridge National Laboratory, Oak Ridge, TN.

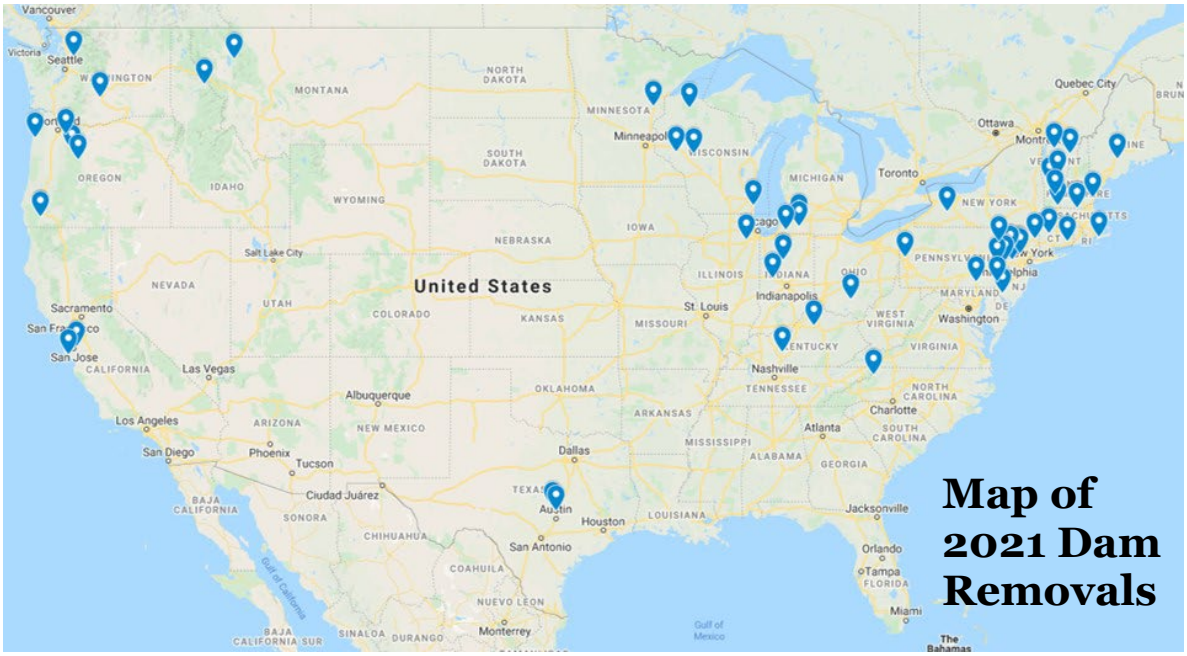
Even as American Rivers and our river restoration partners celebrate progress, there is a tremendous need for more action to remove outdated and unsafe dams. Congress and the Biden administration— in coordination with Tribal Nations and in collaboration with state governments— need to significantly accelerate dam removal efforts nationwide in order to prevent further declines in river health, prevent extinction of fish and wildlife and safeguard the public from failing dams.

Our nation is facing multiple interconnected crises, from climate change, to injustice, to the loss of nature and biodiversity. Rivers flow through these challenges, and river restoration can be a powerful solution.

American Rivers urges Congress to include the 21st Century Dams Act in the upcoming Water Resources Development Act. This will provide programmatic authority and funding authorization for, among other things, the removal of dams with willing owners and funding to increase capacity of state dam safety programs. This is a critical next step in securing our future and the future of those that come after us.

American Rivers imagines a country where everyone has access to clean, safe, healthy rivers; where people don't have to fear being evacuated from their home in the middle of the night because a dilapidated dam is about to fail and where municipal governments can invest tax dollars in community programs rather than patching up outdated infrastructure. We imagine a world where Tribal Nations' spiritual and cultural connection to rivers, water and salmon are honored by bringing Indigenous voices to the forefront and through actions that heal our collective relationship with rivers; where the entire web of life can thrive.

Life depends on rivers, and free rivers work better.



2021 Dam Removal Summary Statistics

- Number of dams removed in 2021: 57 removals
- Number of upstream river miles reconnected in 2021: More than 2,131 miles
- Top states for dam removals in 2021:
  - Vermont, Pennsylvania, and Oregon (all with 7 removals each)
  - New Jersey (6 removals)
  - Wisconsin (4 removals)
- 22 states removed dams in 2021: California, Connecticut, Idaho, Illinois, Indiana, Kentucky, Maine, Massachusetts, Michigan, Minnesota, Montana, New Hampshire, New Jersey, New York, North Carolina, Ohio, Oregon, Pennsylvania, Texas, Vermont, Washington and Wisconsin

Historical Dam Removal Summary Statistics

- Total number of dam removals from 1912-2021: 1,951 removals
- Years with the highest numbers of dam removals:
  - 2018 (111 removals)
  - 2019 (102 removals)
  - 2017 (99 removals)

The following are highlights of 2021 dam removals (Table 1) and a curated list of dam removal projects to watch in 2022 and beyond (Table 2).

1. Ward Mill Dam, Watauga River, North Carolina
2. Sugar Creek Dam, Sugar Creek, Indiana
3. Red Ives Dam, Red Ives Creek, Idaho
4. Hyde Dam, Second Branch of the White River, Vermont
5. Hammel Woods Dam, DuPage River, Illinois

Ward Mill Dam, Watauga River, North Carolina

Photo Credit: Wildlands Engineering

QUICK FACTS

- Dam Height: 20 feet
- Dam Length: 130 feet
- Year Built: 1890
- Dam Use: Hydropower
- Miles Reconnected: 140 miles

After years of effort to negotiate the surrender of the hydropower license, raise funds, and complete the design and permitting process, the removal of Ward Mill Dam permanently freed and reconnected 140 total miles (25 mainstem miles) of North Carolina's Watauga River. The project improved habitat and river connectivity for several aquatic species including resident trout, green floater mussels (*Lasmigona subviridis*) and the Eastern hellbender (*Cryptobranchus alleganiensis alleganiensis*), the largest salamander in the U.S. This project also improved public safety and enhanced recreational opportunities.

The strong partnership and dedication of American Rivers, Blue Ridge Resource Conservation and Development Council, MountainTrue's Watauga Riverkeeper, Buncombe County Soil and Water, Bonneville Environmental Foundation, North Carolina Division of Water Resources, and the U.S. Fish and Wildlife Service enabled this multi-benefit project.

This dam removal was the highest ranked project in the North Carolina Barrier Prioritization Tool, meaning it was the most critical project to complete for river connectivity, landscape condition and presence of threatened and endangered aquatic organisms. It was also ranked in the top 15 percent in the Southeast Aquatic Resources Partnership's regional prioritization (a 14-state region) for watershed condition and connectivity, and in the top five percent in importance throughout the entire region for connectivity alone. The project budget was $350,000.

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Sugar Creek Dam (Crawfordsville Power Plant Dam), Sugar Creek, Indiana

Photo Credit: Ecosystems Connections Institute

QUICK FACTS

- Dam Height: 6 feet
- Dam Length: 200 feet
- Year Built: 1927
- Dam Use: Hydropower
- Miles Reconnected: 611 miles

Built in 1927, this project removed a former hydropower dam that was the last of 11 dams that spanned Sugar Creek, a tributary to the Wabash River in the Ohio River Basin in Indiana. Led by the City of Crawfordsville, the project reconnected 611 upstream river miles of Sugar Creek to the Wabash River for the benefit of smallmouth bass and other resident fish. More than 85 percent of the 74 fish species in Sugar Creek need to migrate up and downstream in the river to complete their life cycles.

The Sugar Creek Dam originally provided power for the Crawfordsville Electric Light and Power Plant. The dam became obsolete in the 1980's when the city switched to another power source for economic reasons. A new solar power project in Crawfordsville produces power equal to that of this dam when it closed.

Sugar Creek is one of the most heavily used steams for recreation in Indiana. Removal of the dam addressed a safety issue, as the structure produced a dangerous hydraulic. At least three people had almost died swimming around the dam and several calls were made to emergency services to rescue boaters, fishermen and swimmers annually.

Project partners included: Ecosystems Connections Institute, City of Crawfordsville, Friends of Sugar Creek and U.S. Fish and Wildlife Service. The project was funded through a grant from the Indiana Department of Natural Resources Lakes and Rivers Program, with in-kind support for hauling of concrete provided by the City of Crawfordsville.

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Red Ives Dam, Red Ives Creek, Idaho

Photo Credit: U.S. Forest Service

QUICK FACTS

- Dam Height: 5 feet
- Dam Length: 25 feet
- Year Built: 1935
- Dam Use: Hydropower
- Miles Reconnected: 5 miles

After 20 years of anticipation, Red Ives Dam, a hydroelectric diversion dam on Red Ives Creek in Idaho, was removed from Idaho Panhandle National Forest as a collaborative effort between U.S. Forest Service, U.S. Fish and Wildlife Service, Trout Unlimited, U.S. Department of Interior's Natural Resource Damage Assessment and Restoration Program, and Idaho Conservation League. The dam was originally constructed in 1935 to provide power to a ranger station. However, it had not been used for this purpose in many years.

The project construction encountered some challenges, as a fire compromised the major access road to the site. Fortunately, the project site was not compromised and the concrete and rebar comprising the dam were able to be removed. Further complicating the project were hoot owl (*Strix varia*, also known as barred owl) restrictions for equipment use.

One of the major goals of the project was to reconnect habitat for federally-threatened bull trout (*Salvelinus confluentus*). A tributary within the upper St. Joe River Basin, Red Ives Creek was designated by the U.S. Fish and Wildlife Service as critical habitat for bull trout in 2010. This dam removal will allow bull trout unimpeded access to five miles of upstream critical spawning and rearing habitat.

This project was funded by the U.S. Fish and Wildlife Service, the U.S. Forest Service, Idaho Conservation League, Resources Legacy Fund and the Coeur d'Alene Basin Restoration Partnership.

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Hyde Dam, Second Branch of the White River, Vermont

Photo Credit: White River Partnership

QUICK FACTS

- Dam Height: 14 feet
- Dam Length: 45 feet
- Year Built: 1930s
- Dam Use: Saw/grist mill
- Miles Reconnected: 34 miles

Hyde Dam was located on Vermont's Second Branch of the White River at the site of a former mill that had a dam as early as the 1700's. Upon completion of the dam removal project, partners will develop the historic site (including an interpretive sign) as a new public access area for angling, swimming and boating.

In 2016, Hyde Dam's owner reached out to the project partners to express interest in selling the dam property. White River Partnership and the Vermont River Conservancy have been working toward dam removal since purchasing the property in 2018. The removal project included measures to protect archaeological resources, removal of sediment upstream of the dam, removal of the dam minus the abutments supporting the mill building, removal of the stacked-stone grist mill foundation, stabilizing the banks upstream, and planting a native tree buffer.

This dam removal reconnected 34 upstream river miles for fish and wildlife, improved water quality and sediment transport, and eliminated a public safety hazard.

This project is part of a larger effort by the White River Partnership to remove six dams in the White River watershed. It also builds upon the momentum of the Vermont Dams Task Force as one of seven dam removals for Vermont in 2021.

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Hammel Woods Dam, DuPage River, Illinois

Photo Credit: Chad Merda, Will County Forest Preserve District

QUICK FACTS

- Dam Height: 4 feet
- Year Built: 1930s
- Dam Use: Recreation

The low-head Hammel Woods Dam was removed by the Will County Forest Preserve District from the DuPage River because three people had drowned at this site in recent years. The dam was originally built in the 1930s by the Civilian Conservation Corps to create a pool for summer recreation. However, over time it became clear that the dam was decreasing the health of the river for fish and wildlife and was a hazard to paddlers.

This project builds upon an effort by The Conservation Foundation to evaluate the impacts of dams in the DuPage River watershed. This initiative has identified a number of dams that no longer serve a useful purpose where dam removal could be considered.

The Hammel Woods Dam site is publicly accessible as part of the DuPage River Water Trail. Local residents will be able to put their kayaks into the river and paddle around safely now that the dam has been removed. Project partners included: Will County Forest Preserve District, Lower DuPage River Watershed Coalition and The Conservation Foundation. The Lower DuPage Watershed Coalition, a group of municipalities and park districts along the DuPage River, funded the project.

This project is complemented in the broader watershed by the neighboring Forest Preserves of Cook County who have been working to remove unsafe and ecologically harmful dams on the Des Plaines and North Branch Chicago River in recent years (see our “projects to watch” list below for more information).

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Table 1. Reported Dam Removals from 2021

Dam Name	City/County	River	State
Columbine Dam	Santa Clara	Flint Creek	CA
Lower Mill Creek Dam (Unnamed)	Santa Cruz	Mill Creek	CA
Picker Pond Dam (Oxboro Brook Pond Dam)	Montville	Oxoboxo	CT
Roraback Pond Dam	Harwinton	Leadmine Brook Tributary	CT
Red Ives Dam	Shoshone County	Red Ives Creek	ID
Hammel Woods Dam	Shorewood	DuPage River	IL
Logansport Lower Dam	Logansport/Cass County	Eel River	IN
Logansport Upper Dam	Logansport/Cass County	Eel River	IN
Sugar Creek Dam (Crawfordsville Power Plant Dam)	Crawfordsville/Montgomery	Sugar Creek	IN
Elkhorn Dam	Franklin County	Elkhorn Creek	KY
Falmouth Rod & Gun Club Dam	Falmouth/Barnstable County	Childs River	MA
Gulf Brook Dam	Pepperell	Gulf Brook	MA
Sucker Brook Dam	Pepperell	Sucker Brook	MA
Morneau Remnants Dam	Vassalboro/Kennebec	China Lake Outlet Stream	ME
Milham Park Dam	Kalamazoo	Portage Creek	MI
Parkville Dam	Portage	Portage River	MI
Pucker Street Dam (Niles Dam)	Niles/Berrien	Dowagiac	MI
Willow River Dam	Willow River Pine	Willow River	MN
Hall Creek Barrier Dam	Lake County	Hall Creek	MT
Ward Mill Dam	Valle Crucis/Watauga	Watauga River	NC
Lower Peverly Pond Dam	Newington	Peverly Brook	NH
Camp Beisler Dam	Lebanon Township/Hunterdon County	Spruce Run	NJ
Jericho Pond Dam	Stow Creek Township	Stow Creek	NJ
Lake Hartung Dam	Jefferson Township/ Morris County	Russia Brook	NJ
Lake Hudsonia Dam	Morris	Hibernia Brook	NJ
No. 10 Watergate Pond Dam	Hardwick Township/Warren County	Vancampens Brook	NJ
No. 2 Watergate Pond Dam	Hardwick Township/Warren County	Vancampens Brook	NJ
Lower Chia Lin Dam	Stormville	Leetown Brook	NY
Pike Dam	Pike	Wiscoy Creek	NY
Stewart Lake Dam	Ross County	Tributary to Stony Creek	OH
Breitenbush Diversion Dam	Detroit/Marion	Breitenbush Creek	OR
Eagle Fern Dam	Clackamas County	North Fork Eagle Creek	OR
Harboldt Dam	Josephine County	Slate Creek	OR

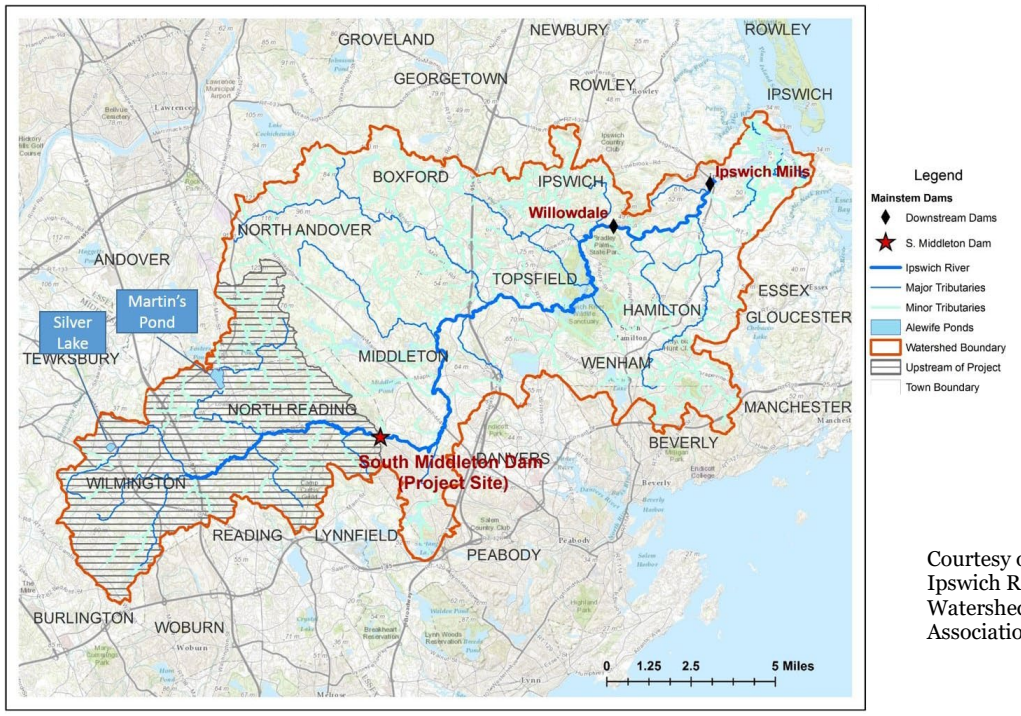
Dam Name	City/County	River	State
Plainview Dam	Sisters	Whychus Creek	OR
South Fork Fish Lake Creek Passage Weirs 1 & 2	Jefferson County	Lake Creek, tributary to Metolius River	OR
Three Rivers - Cedar Creek Weir Dam	Tillamook County	Cedar Creek	OR
Welter Creek Dams #1 and #2	Josephine County	Welter Creek	OR
Aluta Mill Road Dam	Northampton County	Bushkill Creek	PA
Crayola Dam (Water Power Dam)	Palmer Twp, Northampton County	Bushkill Creek	PA
Geigers Bridge Dam	Lehigh County	Tributary to the Jordan Creek	PA
Kehm Run Dam	York	Kehm Run	PA
Lenape Cabin Club Dam	Pocopson Township	Brandywine Creek	PA
O'Conner Reservoir Dam	Jessup	Sterry Creek	PA
Slippery Rock-Wortemburg Pump Dam	West Liberty	Slippery Rock Creek	PA
San Gabriel River Ranch Lake Dam	Williamson	Lackey Creek	TX
Upper Brushy Creek WS Site 10B Dam	Williamson	Tributary Chandler Branch	TX
Browns Mill Dam	West Burke/Caledonia	Sutton River	VT
Dunklee Pond Dam	Rutland	Tenney Brook	VT
Hyde Dam	Bethel/Windsor County	Second Branch White River	VT
Johnson Mill Dam	Bakersfield/Franklin County	Bogue Branch	VT
Lawrence Dam (Guilford Dam)	Guilford	Broad Brook	VT
Montagna Dams 1 & 2	Windham	Turkey Mountain Brook	VT
Nelson Dam	Yakima	Naches River	WA
Pilchuck Dam	Pilchuck	Pilchuck River	WA
Clark County Dam #12	Foster	Hay Creek	WI
Johnston Dam	Grandview	Unnamed Wetland	WI
Kaydo Dam	Caledonia	Hoods Creek	WI
Rock Falls Dam	Rock Creek	Rock Creek	WI

Copco 1 Dam, Klamath River; Photo Credit: Daniel Nylen

Thousands of dams need to come down in the U.S., and there are opportunities for river restoration at every size and scale. American Rivers curated the following list of 25 dam removal projects to watch for in 2022 and beyond which is meant to illustrate examples and highlight opportunities of the types of dam removal projects that exist across the country The "projects to watch" list is not exhaustive. The projects range from small dams with willing owners where river restoration will deliver important local benefits, to bigger dam removal efforts that are vital to saving species from extinction and addressing longstanding injustices across entire regions.

1. Ipswich Mills Dam and South Middleton Dam, Ipswich River, Massachusetts
2. Mahoning River Dams, Mahoning River, Ohio
3. Scott Dam, Eel River, California
4. Snake River Dams, Snake River, Washington

Ipswich Mills Dam and South Middleton Dam, Ipswich River, Massachusetts



Courtesy of the Ipswich River Watershed Association

QUICK FACTS

- # Dam Removals: 2
- Dam Use: Mill
- Upstream River Miles Blocked: 106+ miles

The Ipswich River Watershed Association has been working for years towards the removal of the Ipswich Mills and South Middleton dams on the Ipswich River in Massachusetts. The Ipswich Mills Dam removal project has experienced slow and sporadic progress over more than 20 years because of its delicate location within the heart of historic downtown Ipswich, Massachusetts. As a head-of-tide dam and first significant barrier along the mainstem of the Ipswich River, the Ipswich Mills Dam has interrupted the ecology of the river for almost 400 years. As one of *America's Most Endangered Rivers*® of 2021, the Ipswich River is in dire need of an investment in restoration and conservation. This project would increase the climate resiliency of a river in need and be a triumph and testament to the hard work and dedication of the community, local and state government, and the multitude of organizations who have contributed to advancing this project.

The removal of the South Middleton Dam has been many years in the making, but 2022 promises to be a big year for the project. Ipswich River Watershed Association is partnering with Bostik (dam owners), Inter-Fluve, Massachusetts Division of Ecological Restoration, U.S. Fish and Wildlife Service, and the National Oceanic and Atmospheric Administration on what will be the first major dam removal project to take place on the Ipswich River. The removal of the South Middleton Dam will restore connectivity to more than 57 miles of habitat as well as 119 acres of coastal headwater ponds. This project has the potential to be a premier example of the multi-benefit nature of dam removal projects. The majority of necessary permits have been secured, but one final push is needed to finish the permitting and secure the funding required to move to construction.

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Mahoning River Dams, Mahoning River, Ohio

Summit Street Dam; Photo Credit: Jack Pearce [flickr]

QUICK FACTS

- # Dam Removals: 9
- Years Built: 1800's
- Dam Use: Industrial steel mills
- Upstream River Miles Blocked: 30+ miles

The Eastgate Regional Council of Governments and thirteen local communities are working together to restore the Mahoning River in Ohio through a series of nine low-head dam removal projects. These dams were built to provide cooling water for the steel industry that is no longer in business along the Mahoning River. The obsolete structures are now seen as a liability, while a free-flowing river will be an asset to these communities. The Mahoning River Corridor Revitalization Plan re-envisions this river corridor and provides a roadmap for communities to realize a new future for the river. The regional goal to restore the river's free flowing status and improve water quality is echoed by each river community.

The Lowellville Dam was the first dam removal and river restoration project to take place in the Mahoning River. It was the catalyst for subsequent projects that would follow. Lowellville's project involved not only dam removal and stream restoration, but the removal of approximately 10,000 total cubic yards of contaminated sediment left behind by past industrial activities. The remaining dam removals will also need to address contamination from their industrial past.

Remaining dams to be removed throughout the 2020's include: Struthers Dam, Center Street Dam, Mahoning Avenue Dam, Crescent Street Dam, Girard Dam, South Main Street Dam, Summit Street Dam and Leavittsburg Dam.

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Scott Dam, Eel River, California

Photo Credit: California Trout

QUICK FACTS

- Dam Height: 138 feet
- Year Built: 1922
- Dam Use: Hydropower
- Upstream River Miles Blocked: 150 miles

Scott Dam on California's Eel River in Mendocino National Forest is one of two dams that make up the Potter Valley Project. The Eel River is the third-largest watershed in California, traversing Trinity, Lake, Mendocino and Humboldt counties. It was once home to some of the West Coast's most productive salmon and steelhead fisheries. The Potter Valley Project, a hydropower facility that transfers water from the Eel River into the Russian River was built in the early 20th Century. The project now produces very little power and completely blocks fish passage to the Eel River's headwaters.

When PG&E decided in 2020 not to pursue a new license from FERC for the Potter Valley Project, California Trout, Humboldt County, the Mendocino County Inland Water & Power Commission, the Round Valley Indian Tribes and Sonoma County Water Agency decided to protect the region's economy and environment and work together to develop a plan for the future of the project that meets the needs of all communities in the Russian and Eel River basins. Together, they are developing a Two-Basin solution to meet regional water needs while restoring fisheries. However, the current fate of the Two-Basin Partnership is unclear given PG&E's unwillingness to fund any of the studies required for license transfer. Regardless, there is clear scientific proof that the best path forward for the health of the Eel River and for water assurance to the Russian River is to remove Scott Dam.

This project highlights the finite lifespan of hydropower projects and how they can eventually become obsolete. In this case, like many others to come, the effectiveness of the dam has dwindled while other energy sources have become more efficient making it a liability for dam owner PG&E.

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Four Dams, Lower Snake River, Washington

Photo Credit: Carl Zoch

QUICK FACTS

- # Dam Removals: 4
- Years Built: 1955-1975
- Dam Use: hydropower, transportation, irrigation
- Upstream River Miles Blocked: 140+ miles

From 1955 to 1975, the U.S. Army Corps of Engineers built four dams on the lower Snake River – the biggest tributary to the Columbia River – in southeast Washington. The dams – Ice Harbor, Lower Monumental, Little Goose and Lower Granite – have provided hydropower, barge transportation and irrigation benefits to the region, but at a staggering cost. The four dams turned 140 miles of cool, free-flowing river into a series of warm, stagnant reservoirs. The dams disrupt and slow natural river flows, create reservoir temperatures lethal to salmon, and impede salmon migration. The threat posed by the dams is exacerbated by climate change, which is warming up the Snake River and making conditions even more dire for salmon. In spring 2021, researchers with the Nez Perce Tribe Department of Fisheries Resource Management predicted that by 2025, 77 percent of wild Chinook populations will likely have reached "quasi-extinction levels." Scientists believe all four salmon and steelhead runs in the Snake River Basin will go extinct without urgent action. Furthermore, the dams on the lower Snake River are an ongoing source of injustice and the loss of salmon is violating Native American rights ensured by treaty with the U.S. government.

In February 2021, Congressman Mike Simpson (R-ID) proposed a $33.5 billion framework to restore Snake River salmon by removing the four dams. U.S. Senator Patty Murray (D-WA) and Washington Governor Jay Inslee have launched an initiative to examine how to replace the dams' services and will share their findings in July 2022. The four Northwest states and the Biden administration must work together to advance legislation that removes the four lower Snake dams, recovers salmon runs, honors commitments to tribes and invests to replace the dams' benefits.

CONTACT

David Moryc
American Rivers
503-827-8648
dmoryc@americanrivers.org

Table 2. Projects to Watch in 2022 and Beyond

Dam Name	City	State	River	Expected Construction Year
Lake Bella Vista Dam	Bentonville	AR	Little Sugar Creek	TBD
Matilija Dam	Ojai/Ventura	CA	Matilija Creek	2023
Rindge Dam	Malibu	CA	Malibu Creek	2027
Scott Dam	Mendocino National Forest	CA	Eel River	TBD
Searsville Dam	Portola Valley	CA	San Francisquito Creek	TBD
Klamath River Dams: John C. Boyle Dam, Copco No. 1 and 2 dams, Iron Gate Dam	Multiple	CA, OR	Klamath River	2023
Bancroft Mills Dam No. 4	Wilmington	DE	Brandywine River	2022
Rodman Dam	Putnam and Marion counties	FL	Ocklawaha River	TBD
Des Plaines River Dams: Touhy Road Dam and Dam No. 4	Chicago (Multiple)	IL	Des Plaines	2022, 2023
Hickey-Martin Dam	Norman	IN	Henderson Creek	2022
Ipswich Mills Dam	Ipswich	MA	Ipswich River	
South Middleton Dam	Middleton	MA	Ipswich River	2022
Cypress Branch Dam	Millington	MD	Cypress Branch	2023
Walton's Mill Dam	Farmington	ME	Temple Stream	2022
Lower St. Anthony Falls Dam and Lock and Dam 1	Minneapolis-St. Paul	MN	Mississippi River	TBD
Maiden Lane Dam	Town of Cortlandt	NY	Furnace Brook	2023
Mahoning River Dams: Center Street Dam, Crescent Street Dam, Girard Dam, Leavittsburg Dam, Mahoning Avenue Dam, South Main Street Dam, Struthers Dam, Summit Street Dam	Youngstown, multiple	OH	Mahoning River	ongoing
Kellogg Dam	Milwaukie	OR	Kellogg Creek	2023
Chiques Roller Mill Dam	Manheim	PA	Chiques Creek	2023
Oakland Dam	Oakland and Susquehanna boroughs	PA	Susquehanna River	2022
Chattooga River Brook Trout Tributary Dam	Mountain Rest	SC	Pig Pen Creek	2022
Ashland Mill Dam	Ashland	VA	South Anna River	2023
Lower Snake River Dams: Ice Harbor Dam, Lower Monumental Dam, Little Goose Dam, and Lower Granite Dam	Multiple	WA	Snake River	TBD

Dam Name	City	State	River	Expected Construction Year
Powell Dam and Upper Dam	River Falls	WI	Kinnickinnic River	2026
Albright Power Station Dam	Kingwood	WV	Cheat River	TBD

Lower St. Anthony Falls Dam, Mississippi River; Photo Credit: August Schwerdfeger [flickr]

Chiques Roller Mill Dam, Chiques Creek, PA; Photo Credit: Jessie Thomas-Blate

Learn More

Full Database of Dam Removals 1912-2021:
www.americanrivers.org/DamRemovalDatabase

Map of U.S. Dams Removed Since 1912:
www.americanrivers.org/DamRemovalMap

Database of Upcoming Projects to Watch:
www.americanrivers.org/DamsToRemove

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American Rivers
RIVERS CONNECT US®

69 Dams Removed in 2020 to Restore Rivers

American Rivers releases annual list including dams in California, Connecticut, Illinois, Indiana, Iowa, Massachusetts, Michigan, Minnesota, Montana, New Hampshire, New Jersey, New York, North Carolina, Ohio, Oklahoma, Oregon, Pennsylvania, South Carolina, Texas, Vermont, Virginia, Washington, and Wisconsin for a total of 23 states.

Nationwide, 1,797 dams have been removed from 1912 through 2020.

Dam removal brings a variety of benefits to local communities, including restoring river health and clean water, revitalizing fish and wildlife, improving public safety and recreation, and enhancing local economies. Working in a variety of functions with partner organizations throughout the country, American Rivers contributed financial and technical support in many of the removals.

Contact information is provided for dam removals, if available. For further information about the list, please contact Jessie Thomas-Blate, American Rivers, Director of River Restoration at 202.347.7550 or jthomas@americanrivers.org.

This list includes all dam removals reported to American Rivers (as of February 10, 2021) that occurred in 2020, regardless of the level of American Rivers' involvement. Inclusion on this list does not indicate endorsement by American Rivers. Dams are categorized alphabetically by state.

Beale Dam, Dry Creek, California

A 2016 anadromous salmonid habitat assessment stated that migratory salmonids were not likely accessing habitat upstream of Beale Lake due to the presence of the dam and an undersized pool and weir fishway. In 2020, Beale Dam, owned by the U.S. Air Force, was removed and a nature-like fishway was constructed at the upstream end of Beale Lake to address the natural falls that remain a partial barrier following dam removal. This project will provide upstream passage of salmonids to Spenceville Wildlife Area, which has the most suitable water temperature conditions for summer steelhead rearing in Dry Creek. The dam was 12 feet high and 165 feet long, built in 1943, and made of concrete.

Contact: Paul Cadrett, U.S. Fish and Wildlife Service, 209-649-0898, paul_cadrett@fws.gov

Roy's Dam, San Geronimo Creek, California

By removing a 100-year-old dam and 20-year-old fish ladder on the former San Geronimo Valley golf course that was limiting the migration of endangered coho salmon and creating poor habitat conditions for other aquatic species, the Salmon Protection and Watershed Network created a free-flowing 250-feet long new creek channel where the former dam was. Coupled with more work next year, the project will restore a total of five acres of creek floodplain habitat across a quarter-mile long of San Geronimo Creek. In addition to providing critical habitat for young salmon the project will create valuable habitat for terrestrial wildlife and increase the amount of trees for nesting birds. A new, 100-foot pedestrian bridge

was installed over the creek to provide safe fish viewing over a wider, more complex and stable creek channel.

Contact: Preston Brown, Turtle Island Restoration Network, 303-877-0880, preston@seaturtles.org

York Dam, York Creek, California

This project included the partial removal of the Upper York Creek Dam (UYCD) and armoring of the new streambank adjacent to the existing spillway and roadway, excavation of a low flow "pilot" channel in sediments impounded by the dam, disposal of sediment to an upland location(s), and construction of approximately 36 log structures downstream of the dam to capture a portion of the remaining impounded sediment released from upstream of the dam during storm events. The long-term outcomes of the project are expected to have positive impacts on federally-listed species and other wildlife. This earthen dam (24 feet high by 225 feet long) was owned by the City of St. Helena, California.

Contact: Brian Bartell, Whitman, Requardt and Associates, 415-524-7588, bartell@wra-ca.com

Slocomb Pond Dam, Roaring Brook, Connecticut

In October 2020, the 12 feet high by 82 feet long Slocomb Pond Dam was removed from Roaring Brook in Connecticut. The Town of Glastonbury removed this former mill dam that was built in 1939. This project involved the removal of an Ambursen spillway, and the excavation/removal of some impounded sediment. Benefits of the project included: improved fish passage for resident species and sea lamprey (there are natural falls downstream), restored sediment transport, improved water quality, and improved public safety (part of town park). Project partners also expect new fishing opportunities at the site.

Contact: Daniel A. Pennington, Town of Glastonbury, 860-652-7736, daniel.pennington@glastonbury-ct.gov

Fort Dodge Hydroelectric Dam, Des Moines River, Iowa

This 17 feet high by 366 feet long hydropower dam, built around 1917, was removed by the City of Fort Dodge in 2020. The project improved river integrity by preventing future degradation, restored natural in-stream habitat conditions, and aimed to meet the designated uses for the river.

Contact: Snyder and Associates, 1-888-964-2020

Springbrook Marsh Dam #1 (Arrow Road Dam\Dragon Lake Wetland), Spring Creek #1, Illinois

This small (4 feet high by 35 feet long) concrete weir was constructed in 1983. Its removal reconnected nearly 4 miles of habitat, increased river sinuosity, built pool and riffle sequences, increased stream and floodplain connectivity, built adjacent wetland, increased the percentage of riverbed covered with sand and gravel, improved aeshetic appeal and increased recreation opportunities.

Contact: Stephen McCracken, Dupage River Salt Creek Workgroup, 630-428-4500, x 118, smccracken@theconservationfoundation.org

Elkhart River Dam, Elkhart River, Indiana

The Elkhart River Dam, an approximately 8-foot-tall low-head dam, was built around 1890 to increase the elevation of the river to divert water into raceways that were used to power industry in downtown Elkhart, Indiana. Over time as development occurred, these raceways filled and the dam no longer served a purpose. The dam gave rise to the name of Waterfall Drive, the street located adjacent to the former dam. The former dam was located approximately one-half mile upstream of the Elkhart River's confluence with the St. Joseph River. With the Elkhart River being the largest tributary of the St. Joseph River, this dam served as a significant barrier to fish migrating out of the St. Joseph River. The dam's removal reconnected 40 miles of upstream habitat, allowed for the recolonization of 16 species of fish in the Elkhart River and population integration for approximately 50 fish species, including endangered or threatened species (e.g., greater redhorse, longnose dace, and northern brook lamprey).

Contact: Daragh Deegan, City of Elkhart, 574-293-2572, daragh.deegan@coei.org

Horseshoe Pond Dam, Weweantic River, Massachusetts

This project involving a small (6 feet high by 45 feet long) 1800s era mill dam included the removal of a concrete spillway, notching of a legacy earthen dam, habitat enhancement for rainbow smelt, creation of two canoe launches, filling of the raceway to convert to an access trail, access trail improvements, scour protection of bridge abutments, and bridge improvements for pedestrian safety.

Contacts: Sara N. da Silva Quintal, Buzzards Bay Coalition, 508-999-6363 x 225, quintal@savebuzzardsbay.org; Paul Woodworth, Princeton Hydro, 860-652-8911, pwoodworth@princetonhydro.com

Middle Bog Dam, Coonamessett River, Massachusetts

Phase Two of the Coonamessett River Bog Restoration and Culvert Replacement Project included the removal of Middle Bog Dam and restoration of 39 acres of wetlands by removing former commercial cranberry bogs. In addition, three failing culverts were replaced with a large box culvert to allow migratory fish to access their upstream habitat, including the 158-acre Coonamessett Pond.

Contact: Steve Fuller, SumCo Eco-Contracting, 978-744-1516, sfuller@sumcoeco.com

Petersons Pond Dam, Third Herring Brook, Massachusetts

The removal of the Petersons Pond Dam reconnected 1.3 miles of instream habitat for migratory and native fish and concluded a broader restoration project involving the removal of three dams on Third Herring Brook. The goal of the project was to reconnect the stream to the headwaters at Jacobs Pond, which would result in a total of 9.7 miles of stream opened between the three dam removals and access to 59 acres of habitat. Historically, Third Herring Brook housed a very large run of river herring, hence its name, but was dammed in the early 1600s. This project will improve resiliency of the river to the effects of climate change, including increased storm and flood risks. Other benefits include: improved water quality via sediment transportation and base flow hydrology, reduced thermal pollution, improved habitat connectivity, improved public safety, and eliminated liability and maintenance costs. The work at the

Peterson Pond Dam is intended to create a controlled breach of the structure which will prevent permanent re-impoundment of the pond and therefore address certain dam safety deficiencies at the existing dam embankment. The breaching of the dam will be through its full height such that the new river channel is within natural foundation material. Some portions of the existing embankment dam beyond the new channel and overbanks, including masonry structures with historic significance, will remain and be preserved.

Contacts: Steve Fuller, SumCo Eco-Contracting, 978-744-1515, sfuller@sumcoeco.com; Joseph Gould, MA Division of Ecological Restoration, 617-626-1581, joseph.gould@mass.gov; Jaime Masterson, U.S. Fish and Wildlife Service, Jaime_Masterson@fws.gov

Tel-Electric Pond Dam, West Branch Housatonic River, Massachusetts

This 22 feet high by 100 feet long former stone and concrete mill dam was constructed around 1900. This project involved dam removal, upstream channel restoration, sediment dredging and disposal, and infrastructure protection. The project restored river processes, improved access to coldwater habitat, improved water quality, increased flood resilience, and improved recreational opportunities.

Contact: Kristopher Houle, MA Division of Ecological Restoration, 617-626-1543, kris.houle@mass.gov

West Beaver Dam Brook - Lower Berm and Upper Berm, West Beaver Dam Brook, Massachusetts

This dual earthen dam/berm removal was part of a larger stream and wetland restoration project of a former cranberry bog. The project was intended to improve fish passage and wildlife movement, improve aquatic organism habitat, reconnect stream channel to floodplain, provide public recreational space and an educational learning area.

Contact: Lauren Kras, MA Audubon, 603-801-4628, lkras@massaudubon.org

Mitchell Creek Dam, Mitchell Creek, Michigan

This project involved a small (2.5 feet high by 70 feet long) dam removal and U.S. Forest Service Road 5988 decommissioning. Benefits of the project include: improved aquatic organism passage, water temperature, and stream function (sediment transport, hydrology), improved roadway system, and eliminated flooding/drainage issues.

Contact: Doug Gullekson, U.S. Forest Service, 231-942-4948, doug.gullekson@usda.gov

Niles Dam, Dowagiac River, Michigan

This project involved dam removal with pilot channel river restoration. Dam removal started in May 2020 and will continue through March 2021. Likewise, river excavation began in June 2020 and will continue through July 2021. An 1828 wood legacy dam was found in July 2020. Project managers worked with the State Historic Preservation Office (SHPO) to document and remove it. This dam removal improved connectivity, including fish passage for steelhead, Chinook salmon, coho salmon, brown trout, and

smallmouth bass, and improved stream function. It also removed a safety hazard and navigation barrier and improved fishing opportunities upstream.

Contact: Jeff Dunlap, City of Niles, 269-591-0476, UtilitiesManager@nilesmi.org

Unnamed Dam, Pebble Creek, Michigan

This project involved the removal of a small (3.5 feet high by 32 feet long) illegal dam. The removal is expected to improve connectivity, fish passage, and stream function, improve public safety, and reduce flooding.

Contact: Marty Boote, Environmental Consulting & Technology, Inc., 734-478-2589, durackp@michigan.gov

Lizzie Lake Dam (aka Hosterman Dam) and Prairie Lake Dam, Pelican River, Minnesota

These two dams on the Pelican River in Minnesota were removed and replaced with rapids. Both concrete dams were constructed in the 1930s. The project was expected to improve fish and aquatic organism passage and spawning habitat, enhance recreation, retain the lake level, and reduce site maintenance.

Contact: Amanda Hillman, MN Dept Natural Resources, 218-671-7953, amanda.hillman@state.mn.us

Sand Hill Lake Dam, Sand Hill River, Minnesota

In 1956, this small (8 feet high by 37 feet long) dam was installed with a metal I-beam. This dam was removed and replaced with rapids. The project was expected to result in improved fish and aquatic organism passage and spawning habitat, reconnected Sand Hill Lake, maintained lake levels, and reduced maintenance at the site.

Contact: Nathan Olson, MN Dept Natural Resources, 218-846-8292, nathan.olson@state.mn.us

Soldiers and Sailors Dam, Cottonwood River, Minnesota

This dam removal is part of a three-part dam project, and reconnected 18 upstream river miles for the benefit of fish and aquatic organism passage, habitat and morphological diversity. The project also enhanced recreational opportunities and removed a safety hazard.

Contact: Amanda Hillman, MN Dept Natural Resources, 218-671-7953, amanda.hillman@state.mn.us

Two Rivers Dam (aka Hallock Dam), Two Rivers, Minnesota

This dam was removed and replaced with rapids. In 1961, this 8 feet high by 61 feet long concrete dam was built for the purposes of flood control. The project reconnected 31 upstream rivers miles for improved fish and aquatic organism passage, habitat and morphological diversity. It also enhanced recreation, retained water level, reduced site maintenance, and improved safety.

Contact: Amanda Hillman, MN Dept Natural Resources, 218-671-7953, amanda.hillman@state.mn.us

Rattlesnake Creek Dam, Rattlesnake Creek, Montana

This dam removal reestablished the connection between the Rattlesnake Wilderness at the headwaters and the Clark Fork River for the first time in more than 100 years. Ultimately, all manmade structures will be removed, 1,000 feet of stream channel will be restored, and 5 acres of wetland and floodplain will be created. A public-private partnership was formed to accomplish this project between the City of Missoula, Missoula Water, Trout Unlimited, the Watershed Education Network, and the Montana Department of Fish, Wildlife and Parks.

Contact: Rob Roberts, Trout Unlimited, 406-540-2994, rob.roberts@tu.org

Unnamed Dam, Teppe Creek, Montana

This project involved the hand removal of an unauthorized structure created by snowmobilers on public lands managed by Flathead National Forest. The dam had accelerated lateral stream erosion at the site. The project improved fish passage and stream morphologic stability, and improved native species habitat connectivity.

Contact: Nate Dieterich, U.S. Forest Service, 406-758-5219, nathan.r.dieterich@usda.gov

Payne Branch Dam, Middle Fork of the New River, North Carolina

Payne Branch Dam was 20 feet high by 240 feet long and built in 1924 for hydropower. This project involved a dam removal that included sediment removal and stream restoration through the reach to allow aquatic organism passage using natural channel design techniques. The dam removal has made it possible for free passage upstream for populations that have not been able to inter-spawn for over a century. A dam breach that occurred in the 1970s left a 16-foot drop at the notch, continually disconnecting aquatic communities. The Middle Fork New River is home to the Eastern Hellbender (a giant salamander of special concern) as well as brook, rainbow, brown trout and additional endemic species such as the Appalachia darter, bigmouth chub, bluestone sculpin, candy darter, Kanawha darter, Kanawha minnow, and the New River shiner. Recreational activities are now more accessible and safer. There are more riffles and pools for fishing and swimming. Also, the site is much safer now to swim and fish around.

Contact: Alan Walker, Resource Institute, Inc., 336-750-0522

Shuler Creek Dam, Shuler Creek, North Carolina

This project involved the removal of a small (4-foot high) wood dam to improve aquatic habitat for native fish and other aquatic organisms. The project reconnected 41 upstream river miles for the benefit of fish and wildlife.

Contact: Brady Dodd, U.S. Forest Service, brady.dodd@usda.gov; Greg Jennings, Jennings Environmental, greg@jenningsenv.com

South Branch Gale River Dam, South Branch Gale River, New Hampshire

The South Branch of the Gale River was blocked by a 21-foot high concrete and earthen dam in Bethlehem, New Hampshire, in White Mountain National Forest. The dam was a complete barrier for fish and disrupted natural riverine processes. The Littleton Water and Light Department (LWLD) constructed the dam and associated infrastructure in 1955 for water supply; however, it was no longer in use and had become a maintenance burden. In keeping with the original Special Use Permit from the Forest Service, the dam had to be removed if it was not in use. Removal of the dam was a priority as measured under several river connectivity prioritization methodologies and will restore connectivity to approximately 15 miles of river above the dam and approximately 21 miles of river downstream of the dam. Working together on this project, the partners included the LWLD, American Rivers, New Hampshire Department of Ecological Resources, New Hampshire Fish and Game, U.S. Fish and Wildlife Service, The Nature Conservancy, and the U.S. Forest Service.

Contact: Amy Singler, American Rivers, 413-584-2183, asingler@americanrivers.org

Upper Sawyer Mill Dam, Bellamy River, New Hampshire

The Upper Sawyer Mill Dam, located 2,500 feet upstream of Great Bay, was the second fish passage barrier on the Bellamy River. The dam disrupted natural stream processes and was a high hazard dam. The dam also lacked any fishway and blocked all passage for resident and migratory fish except for American eels. Historically, blueback herring, alewives, American shad, and Atlantic salmon had access to almost the entire extent of the Bellamy River system. Removal restored access for alewife, sea lamprey and American eel up to the Bellamy River Park Dam. Dam removal is expected to restore fish passage to six miles of the Bellamy River, delist the "Sawyer Mill Pond" from the 303(d) list of impaired waters, restore 21 acres of floodplain, reduce flood elevations, and remove legacy contaminants from the Bellamy River. Work elements included: removal of a stone dam, channel modifications to enhance fish passage, bank stabilization, contaminated sediment removal, armoring at the Rt. 108 Bridge and stabilizing stormwater outfalls.

Contact: Jaime Masterson, U.S. Fish and Wildlife Service, Jaime_Masterson@fws.gov

Warren Hills Regional School District Dam, Tributary to Pohatcong Creek, New Jersey

Built in 1930, this earthen dam (12 feet high by 100 feet long) was removed via an emergency permit. The project reconnected a headwater stream, improved public safety, and eliminated a hazard for downstream buildings.

Contact: Clay Emerson, Princeton Hydro, 609-203-8980, cemerson@princetonhydro.com

Bear Brook Lower Dam, Bear Brook, New York

This stone masonry dam was removed from Bear Brook in 2020.

May's Field Dam, Moodna Creek, New York

The Town of Blooming Grove removed this dam for the purpose of flood drainage improvements to reduce surface water elevations within adjacent waterways during storm events. It was six feet high and 90 feet long and made of concrete masonry.

Contact: Robert Jeroloman, Town of Blooming Grove, 845-496-5223, bgtownsupervisor@gmail.com

Remington Arms Company Dam (English Street Dam), Steele Creek, New York

This 13 feet high by 32 feet long hollow, concrete gravity-fed Ambursen-style dam was built in 1917. The primary objectives of this dam removal project were to reduce flooding damages within the village of Ilion by improving channel conveyance and competence and to diffuse energy during high-flow events by creation of a connected floodplain where possible. This is part of a broader effort to reduce flood disaster impacts in the Village of Ilion.

Contact: Mark Carabetta, SLR (formerly Milone & MacBroom, Inc.), 845-633-8153, mcarabetta@mminc.com

Smith Mills Dam, Silver Creek, New York

Smith Mills Dam was abandoned and falling into disrepair. It was ranked by the New York State Inventory of Dams as an intermediate hazard. The reservoir behind the dam had filled in, and a dam failure would have resulted in washing sediment downstream, adversely affecting the aquatic life and habitat. The objective of this project was to remove the dam and sediment behind the dam, and restore the stream channel to provide fish passage. A series of rock riffle grade control structures were installed in the channel for fish passage.

Contact: Tom Hoffman, U.S. Fish and Wildlife Service, thomas_hoffman@fws.gov

Strook's Felt Factory Dam, Quassaic Creek, New York

This project involved the removal of the dam spillway (a retaining wall remains), stabilization of the upstream river right bank with cobbles/boulders from dam, and regrading the impounded sediment to form a gravel bar and gradual channel slope. Riverkeeper received a grant from the New York State Department of Environmental Conservation Hudson River Estuary Program to remove the Stooks Felt Mill Dam on the Quassaick Creek.

Contact: Dr. George Jackman, Riverkeeper, Inc., 914-478-4502, gjackman@riverkeeper.org; Paul Woodworth, Princeton Hydro, 860-652-8911, pwoodworth@princetonhydro.com

Unnamed Dam (Furnace Brook Barrier #1), Furnace Brook, New York

A dam spillway and remnants of a small concrete-deck bridge 200 feet downstream were removed, and the channel was restored using stone masonry from the dam. Riverkeeper received a grant from the New York State Department of Environmental Conservation Hudson River Estuary Program to remove the

first barrier on the stream as well as debris from a collapsed bridge. Engineering plans for the removal of the next barrier (Maiden Lane Dam) were also produced. The project restored fish passage to some diadromous and resident fishes and enhanced fishing opportunities.

Contact: Dr. George Jackman, Riverkeeper, Inc., 914-478-4502, gjackman@riverkeeper.org; Paul Woodworth, Princeton Hydro, 860-652-8911, pwoodworth@princetonhydro.com

Athens Fish & Game Club Lake Dam, Tributary to Rockcamp Creek, Ohio

This 35 feet high by 215 feet long earthen dam was built in 1938 for private recreational purposes. Ultimately, it was removed because it was a high hazard dam in poor condition.

Brecksville Diversion Dam (Canal Diversion Dam, State Route 82 Dam, Station Road Dam) and Pinery Feeder Dam, Cuyahoga River, Ohio

Located in Cuyahoga Valley National Park, this dual dam removal project improved fish habitat, water temperatures, and natural flow of water and sediment. The Pinery Feeder Dam was first built in 1827 to divert Cuyahoga River Water into the Ohio & Erie Canal. Then the great flood of 1913 destroyed the canal system. After that, the dam had little use until it was rebuilt as Brecksville Dam in 1952 for industrial use. Both the more recent Brecksville Dam as well as the remnant Pinery Feeder Dam were removed in 2020.

Contact: Pamela Barnes, National Park Service, 440-241-5857, pamela_barnes@nps.gov

Bucyrus Reservoir No. 2 Dam (Pines Reservoir Dam), Tributary to the Sandusky River, Ohio

Built in 1919, this 23 feet high by 500 feet long earthen water supply dam was removed in 2020 because it was a significant hazard class dam in poor condition.

Crooksville Reservoir No. 1 and No. 2 Dams, Dry Run, Ohio

These two earthen water supply dams were owned by the Village of Crooksville, Ohio. Being high hazard dams in poor condition, they were removed in 2020.

Lowellville Dam, Mahoning River, Ohio

This dam was composed of eight short piers with square ends on the upstream side and pointed ends on the downstream side. A small triangular concrete abutment formed the termination of each end of the dam. The project involved dredging approximately 10,000 cubic yards of contaminated sediment along with the removal of the dam which was built for the steel industry in the early 1900s.

Contact: Eastgate Regional Council of Governments, 330-779-3800

Ottawa River Dam (Allentown Dam), Ottawa River, Ohio

This lowhead dam next to Route 81 in Allentown, Ohio, was removed in August 2020. A 2013 Ohio EPA Total Maximum Daily Load (TMDL) report recommended the removal of the dam because it was a

barrier to fish passage and water quality. The dam was not the only cause of the upstream impairment, but the state thought that it was significant enough of a barrier that removal would result in water quality improvement. During construction, volunteers were able to relocate and save 79 mussels representing 9 different species. Now aquatic life is able to move freely through that section of the stream.

Contact: Ottawa River Coalition, 419-228-0017

Six Mile Dam, Walhonding River, Ohio

The Six Mile Dam was constructed in 1830 as part of the Walhonding Canal system that originally served to feed water into the canal, but later served solely as a hydraulic race for a mill and hydroelectric plant at Roscoe, Ohio. In 1953, the mill and hydropower plant ceased operation and the dam no longer served a purpose. The original owner of the dam, the Board of Public Works, transferred ownership to the Ohio Department of Natural Resources (ODNR). The dam had also become a safety hazard due to the age and condition of the dam. Removing the dam would reduce human hazards and property loss risk caused by dam failure, reduce the risk of accidental drowning, and reduce the long-term maintenance cost to the state. Initially, a partial dam removal along the north side of the structure was performed to allow for slow and controlled partial drawdown of the pool, thus minimizing sediment transport downstream and potential impacts to the environment. The controlled drawdown also allowed staff from Stantec, the ODNR, and U.S. Fish and Wildlife Service to recover and relocate mussels from exposed areas upstream of the dam. Following complete removal, habitat features using natural channel design were installed to enhance habitat for aquatic life and enhance sportfishing opportunities for anglers. Bank stabilization will also be necessary on the eroding north bank downstream from the dam.

Contacts: Mike Greenlee, Ohio Department of Natural Resources-Division of Wildlife, 740-589-9930, mike.greenlee@dnr.state.oh.gov; John Navarro, 740-265-6346, john.navarro@dnr.state.oh.gov

Spring Lake Dam, Tributary to the Great Miami River, Ohio

Built in 1952, this private recreational dam was 21 feet high by 950 feet long. It was a high hazard dam that was removed due to its dilapidated condition.

Woodside Lake Dam, Factory Run (Tributary to Mill Creek), Ohio

This 15 feet high by 235 feet long earthen dam was removed in 2020. It was a significant hazard dam that was removed due to its poor condition.

NW Oklahoma City Sludge Lagoon No. 1 Dam, Tributary to Bluff Creek, Oklahoma

Built in 1954, this 30 feet high by 1265 feet long rock dam was removed in 2020.

Contact: Mr. Chris Browning, Oklahoma City Water Utilities Trust

Kelley Creek Dam, Kelley Creek, Oregon

The Kelley Creek Dam Removal project removed a complete fish passage barrier from Kelley Creek, the largest tributary to Johnson Creek. This dam blocked salmon, steelhead and lamprey from accessing spawning and rearing habitat. The project included: full removal of the dam, transfer of the Point of Diversion for the existing water right downstream, and the installation of a submersible pump to maintain the water right. Additionally, an engineered riffle was constructed downstream of the pump to maintain the intake pool, and a boulder weir was installed immediately upstream of the pump to focus flows toward the center of the pool and keep the pump screen free of debris. Upstream, an engineered streambed was constructed to stabilize the stream channel in the former dam's footprint. Lastly, livestock exclusion fencing was installed to protect the stream and newly planted riparian vegetation.

Contact: Chuck Lobdell, Johnson Creek Watershed Council, 503-781-3137, chuck@jcwc.org

Lower Bridgepoint Dam, Williams Creek, Oregon

The Applegate Partnership & Watershed Council, with full cooperation of the private landowners and Bureau of Land Management, implemented this dam removal project to remove the existing push-up gravel dam, install a new fish screen that meets state and federal fish screen criteria, and pipe the existing open irrigation ditch to improve irrigation water delivery by reducing return flows and excessive water diversion and reducing water temperature through reduction of solar gains. Reconnecting the river provided access to spawning and rearing habitats for endangered coho salmon, Chinook salmon, steelhead, cutthroat trout, and Pacific lamprey.

Contact: Julie Cymore, Applegate Partnership & Watershed Council, 541-890-9765, julie@apwc.org

North Fork Klaskanine Dam, Silver Creek, New York

The project's purpose was to remove the North Fork Klaskanine Intake Dam #2, remove and plug an existing waterline pipe that runs beneath the stream channel, and conduct minor bank shaping and stabilization following the dam's removal. This dam was built in 1932 to provide flows for a fish hatchery. The project restored natural channel processes, including streambed formation, transport of large wood, and full volitional fish passage. It also expanded amount of spawning/rearing/holding fish habitat, increased aquatic connectivity, and provided access to deep cold-water pools for summer refuge for juvenile salmonids. The restored watershed connectivity was expected to improve salmonid production and prey abundance for marine mammals, including Orca, as well as Tribal, commercial and sport fishing anglers.

Contact: Kregg Smith, Oregon Department of Fish & Wildlife, 503-947-6217, kregg.m.smith@state.or.us

Gensamer Dam, Tributary to Neshaminy River, Pennsylvania

This small four feet high by 12 feet long private dam was removed in July 2020.

Log Dam (Rock Dam), Long Run, Pennsylvania

Owned by the PA Department of Conservation and Natural Resources, this small (three feet high by 12 feet long) dam was removed in June 2020.

Pittsburgh Cut Flower Lower and Upper Dams, Montour Run, Pennsylvania

These two dams were owned by 4137 Bakerstown Road, LLC. A developer is planning to build a 55-and-over housing development. Their project involved removing two detention ponds and building a pump station to transport sewage from the development.

Burson Lake Dam, Reedy Creek, South Carolina

This project, led by staff at the Francis Marion-Sumter National Forest, removed a dam that had created a recreation lake because the spillway was undermined. This earthen dam was built in 1990, and its spillway was damaged by spring 2020 rain events. The U.S. Forest Service (USFS) decided to remove the dam due to increased risk of failure during 2020 hurricane season (before scheduled repairs could be completed). USFS repurposed part of funds intended for culvert replacement by U.S. Fish and Wildlife Service (USFWS) to pay for dam removal. A USFWS restoration team did the construction. USFS intends to use this as a demonstration site to show dam owners in the Piedmont/foothills what a restored site looks like. This project restored the aquatic community and potential rare species habitat for Bartram's bass, removed a safety hazard, eliminated ongoing maintenance costs to taxpayers, and promoted greater climate change resilience.

Contact: (James) Keith Whalen, U.S. Forest Service, 803-561-4076, james.whalen@usda.gov

Carmet Pond Dam, Unnamed tributary of South Tyger River, South Carolina

This project involved the removal of a dilapidated earthen dam. South Carolina Dam Safety officials required removal using an "engineered breach," which reportedly falls short of ecological restoration goals. The bottom width of the breach is 25 feet and side slopes are 3:1.

Contact: Chuck Owens, SC Dam Safety Program, 864-372-3092, OwensC2@dhec.sc.gov

Buddin Dam, Sabine River, Texas

Built in 1994 for recreational purposes, this 23 feet high by 251 feet long dam was removed in 2020.

Lawler Dam, Trinity River, Texas

In August 2020, this nine feet high by 1150 feet long earthen dam was removed.

Liberty Hall Dam, Unnamed tributary to Mechums River, Virginia

Located on private property in Albemarle County, Virginia, the Liberty Hall Stream Restoration Project included the removal of a legacy earthen dam historically used as a recreational pond and restoring and enhancing portions of an unnamed perennial tributary to Mechums River and creation of emergent

riparian wetlands around the restored channel. The existing agricultural pond was constructed in approximately 1950. The concrete dam structure was undermined and broken in several places, and the pond had filled with sediment. The dam was also a barrier for fish passage.

Contact: Kip Mumaw, Ecosystem Services, 540-239-1428, kip@ecosystemservices.us

River Run Dam, Rivanna River, Virginia

This project involved removing two existing, earthen embankments that had experienced erosion and restoring the historic channel extending approximately 560 linear feet. The project approach required excavation of a new channel and filling of the existing channel. Material generated from the dam removal was used to fill the existing channel. Trees within the limits of clearing were used for instream grade control structures to create a step-pool channel.

Contact: Kip Mumaw, Ecosystem Services, 540-239-1428, kip@ecosystemservices.us

Camp Wihakowi Dam, Bull Run, Vermont

This project involved the removal of a former recreation pond to restore river connectivity for existing trout populations and to recreate the floodplain. The Camp Wihakowi Dam was built in 1920 by owners of a summer camp to create a swimming reservoir. The dam was in poor condition and was partially breached on the left and right sides. The dam was holding back an estimated 26,000 cubic yards of accumulated sediment, which, in the event of a failure, would cause water quality and habitat damage to downstream areas including the mainstem Dog River and eventually Lake Champlain downstream. The Friends of the Winooski worked to remove this structure along with the state and other local entities.

Contact: Michele W. Braun, Friends of the Winooski River, 802-279-3771, michele@winooskiriver.org

Henne Dam, Unnamed tributary to Mill River, Vermont

The removal of Henne Dam and the replacement of the undersized culvert with a bridge in 2020 has provided passage for brook trout and other aquatic organisms to an unnamed tributary to Mill Brook in Perkinsville, VT, within the Upper Connecticut River Basin. Removal of the dam and culvert reconnected and re-established passage (upstream and downstream) of 27 miles of mainstem and tributary habitat on Mill Brook to the Connecticut River. Migratory brook trout and other focal species have access to high quality habitat in cooler tributary streams for spawning and rearing. The project was completed utilizing a U.S. Fish and Wildlife Service team, including staff and operators from refuges, Partners for Fish and Wildlife, and coordination from Fisheries and Aquatic Conservation.

Contacts: Ron Rhodes, CT River Conservancy, 413-768-4994, rrhodes@ctriver.org; Phil Herzig, U.S. Fish and Wildlife Service, phillip_herzig@fws.gov

Magic Mountain Dam, Thompsonburg Brook, Vermont

The removal of the Magic Mountain Dam will provide fish passage on Thompsonburg Brook in the West River watershed. The benefits of dam removal for Species of Greatest Conservation Need (SGCN), in

particular brook trout, include: improved access to available riverine aquatic habitat and food resources, avoidance of predator interactions, ability to recolonize upstream reaches after catastrophic events such as floods, ability to seek thermal refuge during warm summer months, promotion of genetic diversity, improved lotic habitats, and increased sediment and nutrient transport.

Contacts: Ron Rhodes, CT River Conservancy, 413-768-4994, rrhodes@ctriver.org; Chris Smith, U.S. Fish and Wildlife Service, chris_e_smith@fws.gov

Middle Fork Nooksack River Dam, Middle Fork Nooksack River, Washington

The Middle Fork Nooksack Fish Passage Project will reestablish access to approximately 16 miles of critical spawning and rearing habitat for Puget Sound Endangered Species Act listed Chinook salmon, steelhead, and bull trout. Project elements include: removal of a 25ft tall diversion dam to restore fish passage, maintaining municipal water supply by relocating intake upstream, and adding a fish screen for fish protection. The project was developed, designed, permitted, $20,000,000 was raised, and dam removal/channel restoration completed in three years— a record to our knowledge for a project of this complexity. The project, an effort of American Rivers, the Nooksack Indian Tribe, Lummi Nation, City of Bellingham, Paul G. Allen Family Foundation and others demonstrates the power of public-private partnership and innovative solutions to infrastructure challenges.

Contacts: April McEwen, American Rivers, amcewen@americanrivers.org; Steve Day, City of Bellingham, smday@cob.org

Pilchuck River Diversion Dam, Pilchuck River, Washington

The Tulalip Tribes worked with the City of Snohomish and many project funders to completely remove two adjacent dams on the Pilchuck River in Washington State primarily to provide unimpeded threatened and endangered species fish passage to over 36 miles of pristine upstream habitat for the benefit of Chinook, coho, chum, and pink salmon, steelhead trout, bull trout, cutthroat trout, and a variety of other aquatic species. The project was expected to increase fish stocks, increase safety, reduce risk from potential dam failure, and increase recreational opportunities.

Contact: Brett Shattuck, The Tulalip Tribes, 360-716-4618, bshattuck@tulaliptribes-nsn.gov

Cranberry Creek Flowage Dam, Cranberry Creek, Wisconsin

This project involved the removal of a dam in its entirety to match upstream and downstream conditions, including the concrete spillway, bottom draw structure and pipe, and sheet pile cutoff wall. This 12 feet high by 600 feet long dam was built for recreational purposes in 1969. Its removal improved connectivity to upstream resources (Class 1 trout stream at dam location) and improved navigational connectivity.

Contact: Clint Meyer, Douglas County Parks & Recreation Supervisor, 715-378-2219, clint.meyer@douglascountywi.org

Little Round Lake Dam, Little Round Lake Outlet, Wisconsin

This project involved the removal of a double cell wooden box dam with stoplog guides under a roadway and replacement with a concrete box culvert to maintain access to several private homes. High water levels had been causing erosion problems on lakefront properties. The dam was not operated with stoplogs for many years and thus connectivity and benefits to removal are not as apparent.

Contacts: Jay Kozlowski, Sawyer County Zoning and Conservation, 715-634-8288, jay.kozlowski@sawyercountygov.org

Menominee Bay Shore Dam, North Branch Oconto River, Wisconsin

This project involved the removal of timbers and rocks that were still in the river long after a partial abandonment of the dam between 1950 and 1961. Trout Unlimited took initiative and worked with riparian property owners to remove the dam to promote fish passage.

Contact: Chris Collier, Trout Unlimited, 419-296-4390, chris.collier@tu.org

Pokegama Lake Dam, Unnamed Tributary to North Fork Clam River, Wisconsin

This project involved the removal of stoplogs and stoplog guides from one dam and the filling of other three culverts under the roadway with cementitious flowable fill. Rip-rap was placed downstream of the structure and Cranberry Marsh Road for scour protection.

Contacts: Erik Lietz, Oakridge Engineering, 715-723-6777, Erik@OakridgeEng.com

Stolte Dam, Unnamed Tributary to North Fork Clam River, Wisconsin

This project involved the removal of corrugated metal pipe and a portion of the earthen embankment so as to no longer impound water. This 25 feet high by 470 feet long dam was originally built in 1974 to create a farm pond.

Contacts: Neil Pfaff, Vierbicher Associates Inc., 608-402-6380, npfa@vierbicher.com

90 Dams Removed in 2019 to Restore Rivers

American Rivers releases annual list including dams in Alabama, California, Colorado, Connecticut, Delaware, Florida, Georgia, Hawaii, Indiana, Iowa, Maine, Massachusetts, Michigan, Minnesota, New Hampshire, New Jersey, New York, Ohio, Oregon, Pennsylvania, South Carolina, Texas, Vermont, Virginia, West Virginia, and Wisconsin for a total of 26 states.

Nationwide, 1,722 dams have been removed from 1912 through 2019.

Dam removal brings a variety of benefits to local communities, including restoring river health and clean water, revitalizing fish and wildlife, improving public safety and recreation, and enhancing local economies. Working in a variety of functions with partner organizations throughout the country, American Rivers contributed financial and technical support in many of the removals.

Contact information is provided for dam removals, if available. For further information about the list, please contact Jessie Thomas-Blate, American Rivers, Director of River Restoration at 202.347.7550 or jthomas@americanrivers.org.

This list includes all dam removals reported to American Rivers (as of February 6, 2020) that occurred in 2019, regardless of the level of American Rivers' involvement. Inclusion on this list does not indicate endorsement by American Rivers. Dams are categorized alphabetically by state.

Howle and Turner Dam, Tallapoosa River, Alabama

The removal of Howle and Turner Dam was in the works for over four years. This project was the result of a great partnership between the U.S. Fish and Wildlife Service's Partners for Fish and Wildlife program and the Alabama Rivers and Streams Network. The Service coordinated the pre-restoration planning and worked with their Fisheries and Aquatic Conservation Aquatic Habitat Restoration Team to carry out the demolition and restoration of the river channel. The 16-foot high by 100-foot wide concrete and steel dam was located on the Tallapoosa River, one of Alabama's major rivers. The dam was originally built in 1935 to power a grist mill and cotton gin, but outlived its original purpose. The dam held historical significance to the locals of east Alabama, as it was a rural center of commerce for over half a century. In June 2019, Howle and Turner was removed to improve water quality and create habitat for rare mussel species such as fine-lined pocketbook and delicate spike.

Contact: Eric Spadgenske, U.S. Fish and Wildlife Service, 251-441-5872, eric_spadgenske@fws.gov

Livingston Dam, Sucarnoochee River, Alabama

Built in 1979 to contribute to the water supply, Livingston Dam was deconstructed in April 2019 to restore the Sucarnoochee River and its tributaries as it no longer served its purpose.

Cleveland National Forest Dam Removals (SJFD12, SJFD13, SJFD14, SJFD15, SJFD17, SJFD18, SJFD19, SJFD20, SJFD21, SJFD22, SJFD23, SJFD24, SJFD25, SJFD26, SJFD27, HJFD3, HJFD4, HFD5, SCFD4, SCFD5), San Juan Creek, Holy Jim Creek and Silverado Creek, California

In 2019, the Cleveland National Forest (CNF) removed a total of 20 dams from three different creeks, ranging from 2 to 13 feet tall by 2 to 69 feet long. The dams are part of a larger project led by CNF to enhance aquatic organism passage by removing approximately 81 dams upon completion, called the Trabuco District Dam Removal Project. The project can be credited for California's recent increase in yearly dam removals and will hopefully pave the way for other dam removal projects. Every year, the quality of habitat, safety, and natural stream processes along the creeks improve exponentially. The project specifically benefits the locally extinct southern California steelhead trout, as the suitable habitat supports the potential for re-introduction and re-establishment. Each dam removed reduces the risk of injury associated with recreational use along the creeks.

Contact: Kristen Winter, Cleveland National Forest, 858-674-2956, kwinter@fs.fed.us

Blog Post: https://www.americanrivers.org/2019/09/a-programmatic-approach-to-dam-removal-and-river-restoration-cleveland-national-forest-ca/

Iron Horse Dam, Green Valley Creek, California

Funded by the California Department of Fish and Wildlife Fisheries Restoration Grants Program, this 10-foot high by 20-foot long grouted rock dam was removed in September 2019 to provide unimpeded access to Coho salmon at all ranges of flows throughout Green Valley and Atascadero Creeks.

Contact: Jason Hoorn, Gold Ridge Resource Conservation District, 707-823-5244, jason@goldridgercd.org

Maria Ygnacio Debris Basin Dam Main Branch and East Branch, Maria Ygnacio Creek, California

These dams, both around 20-foot high by 120-foot long, were built in 1990 as debris retention basins. The Main Branch Dam removal involved the complete removal of a grouted rock debris dam and grouted rock inlet structure to restore steelhead passage and sediment transport. The East Branch Dam had become completely dammed and diverted into a constructed debris basin in response to a fire, and in its removal was rerouted into its historical creek channel to restore fish passage and sediment transport.

Contact: Seth Shank, Santa Barbara County Flood Control District, 805-568-3443, sshank@cosbpw.net

Cucharas #5 Dam, Cucharas River, Colorado

Originally built in 1913 for irrigation, Cucharas #5 Dam was removed in January 2019 for safety reasons. Tallest on the 2019 dam removal list, Cucharas #5 stood 135 feet tall and 530 feet wide.

Contact: Bill McCormick, CO Division of Water Resources, 719-338-6124, bill.mccormick@state.co.us

Hidden Treasure Dam, Henson Creek, Colorado

Hidden Treasure Dam was originally built in the 1890s to provide hydropower to Ute-Ulay mine. The historical dam is one of the last remnants of the mining communities associated with the Hidden Treasure, Hard Tack, and Ute-Ulay mines, which operated between 1890 and the 1930s. The stone dam first broke in 1973, causing the deaths of hundreds of fish 14 miles downstream due to the release of toxic metals and chemicals. Before its removal, the community of Hinsdale County were concerned that its small opening and sturdy structure made it susceptible to debris blockages and collapse, which would send a surge of water and debris into Lake City. The dam was removed in 2019 to mitigate these flood and pollution risks following a declaration of emergency for Hinsdale County from the Colorado Governor Jared Polis. To preserve the historical value of Hidden Treasure Dam while still sufficiently mitigating risks, it was lowered by 30 feet using a robotic jackhammer and the opening at the bottom was widened with explosives. A grant from Natural Resources Conservation Service Emergency Watershed Protection funded the majority of the project, which carried a hefty price.

Contact: Eric Spadgenske, U.S. Fish and Wildlife Service, 251-441-5872, eric_spadgenske@fws.gov

Old Papermill Pond Dam, East Aspetuck, Connecticut

The Nature Conservancy Connecticut led this project with funding assistance from the U.S. Fish and Wildlife Service's Natural Resource Damage Assessment Housatonic funds. This 10-foot high by 100-foot long concrete dam was constructed around the 1880s to power a mill. Its removal reduced the accumulation of sand and improved brook trout habitat and passage while still preserving its recreational activities such as fishing and fishing derbies.

Contact: Sally Harold, formerly with The Nature Conservancy Connecticut

Post Office Dam, Beaver Brook, Connecticut

Post Office Dam (9 feet tall) was also removed by The Nature Conservancy Connecticut. The small stone dam was removed using a grip hoist with no further cost, engineering or construction. This project is expected to provide passage for anadromous fish, mitigate flood risks, and relieve the town of a burden. The removal of Post Office Dam was part of a larger project to remove a second upstream dam.

Contact: Sally Harold, formerly with The Nature Conservancy Connecticut

Brandywine Dam, Brandywine Creek, Delaware

This 115-year old Brandywine Dam was built to allow city water pipes to cross Brandywine Creek, and was removed to update the infrastructure to flexible iron pipes that will be buried beneath the creek bed. The removal of this 3-foot tall and 176-foot long concrete dam reconnected 3.5 miles of stream to give upstream access to migratory fish, such as the American shad.

Contact: Bryan Lennon, Assistant Water Division Director City of Wilmington, 302-576-3075, bplennon@wilmingtonde.gov

Atwell Pond Dam, Poplar Branch, Florida

Owned by the Eglin Air Force Base, this earthen dam (12-foot tall by 365-foot long) was removed in January 2019 to improve habitat for the threatened Gulf sturgeon, as well as eliminate a potential hazard and liability. It was built in 1959 for fishing and recreation and its removal reconnected 0.9 miles of Poplar Branch.

Contact: William Pizzolato, Jackson Guard, Eglin Air Force Base, 850-883-1190, william.pizzolato@us.af

Metts Pond Dam, Holley Creek, Florida

Metts Pond Dam, also owned by the Eglin Airforce Base, was removed in early 2019 to enhance habitat and reduce safety risk after the pond was abandoned when the area closed for military activity. Built in 1951, the removal of Metts Pond Dam (8-foot high by 75-foot long) opened 3.1 miles of Holley Creek.

Contact: William Pizzolato, Jackson Guard, Eglin Air Force Base, 850-883-1190, william.pizzolato@us.af

Athens Waterworks Dam, Unnamed tributary to Sandy Creek, Georgia

Athens Waterworks Dam was removed in 2019 because it was out of compliance with Georgia Safe Dams Act. The owners, High Point Investors LLC, chose to remove the obsolete dam rather than rehabilitate.

Contact: Brian Kimsey, Carter Engineering Consultants, 770-725-1200, brian@carterengineering.net

Opaeula 15 Reservoir Dam, Unnamed tributary of Opaeula Stream, Hawaii

Opaeula 15 Reservoir Dam was a massive (21-foot tall, 2,200-foot long) earthen dam originally built in 1910 for irrigation and removed in May 2019 because it no longer served a purpose.

Contact: Edwin Matsuda, Hawaii Department of Land and Natural Resources, 808-587-0268, edwin.y.matsuda@hawaii.gov

Corydon Water Works Dam #2 (Middle) and Corydon Water Works Dam #3 (North), Indian Creek, Indiana

Corydon Water Works Dam #2 (10-foot high by 180-foot long) and Corydon Water Works Dam #3 (12-foot high by 165-foot long) were owned by Corydon Water Supplies. Their removal in October 2019 reconnected a cumulative 48.73 miles of Indian Creek and the local community hopes to see a potential hellbender reintroduction, as well as improved safety conditions.

Contact for Corydon Water Works Dam #2: Cassandra Hauswald, The Nature Conservancy, 812-737-2087, chauswald@tnc.org

Contact for Corydon Water Works Dam #3: Dr. Jerry Sweeten, Ecosystems Connections Institute, 260-901-0561, jesweeten@ecosystemsconnections.com

George R. Dale Dam, White River, Indiana

George R. Dale Dam is one of 5 dams located in Muncie, Indiana, and was removed along with the Indiana Steel and Wire Co. Dam thanks to collaboration between the Indiana Department of Natural Resources, U.S. Fish and Wildlife Service, The Delaware County Soil and Water Conservation District, Muncie Bureau of Water Quality, the Community Enhancement Project, Inc., Muncie Sanitary District and the City of Muncie. This project was funded by the Indiana Lake and River Enhancement Program, Ed and Virginia Ball Foundation, and U.S. Fish and Wildlife Service Fish Passage Program. The removal of George R. Dale Dam, built in 1984 for recreational purposes, reconnected 128 miles of White River to restore its historical free-flow ideal for fish habitat. The Muncie Bureau of Water Quality will be conducting future monitoring of the river to evaluate changes as a result of the dam's removal.

Contact: John Craddock, Community Enhancement Projects, Inc, 765-748-6481, jmc4is@comcast.net

Indiana Steel and Wire Co. Dam, White River, Indiana

Removed in August 2019, this 19th century dam was originally built for an industrial water intake. The Indiana Steel and Wire Co. Dam was removed as part of a larger project to remove or modify three of Muncie's five dams. The completion of this project marks great progress towards the restoration of the White River, which has a total of 12 dams upstream.

Contact: John Craddock, Community Enhancement Projects, Inc, 765-748-6481, jmc4is@comcast.net

Little Dam, Des Moines River, Iowa

The removal of Little Dam (8-foot tall by 270-foot long) was part of a project involving the removal of the larger Fort Dodge Hydroelectric Dam, which is projected for completion in summer 2020. The Fort Dodge demolition is predicted to restore 278 miles of the Des Moines River and have positive impacts on the aquatic environment and safety for recreational users. The primary goals for this dam removal project include improving the integrity of the river by preventing future degradation, restoring natural in-stream habitat conditions, and meeting the designated uses for the river.

Contact: Fort Dodge City Council with Rachel Contracting Inc.

Head Tide Dam Modification and Site Enhancement, Sheepscot River, Maine

A 23-foot section of the western side of the Head Tide Dam (15-foot high by 120-foot long) was removed in July 2019 to ensure safe and timely passage for Atlantic salmon, alewife, blueback herring, American shad, sea lamprey, American eel, and Eastern brook trout to the watershed. While the concrete dam was constructed in 1916, a dam has existed at the site since 1765, constructed to power mills. After the mills closed, the dam was breached on both sides in the 1950's, but these openings restricted flow and created a velocity barrier for fish passage. The 2019 partial dam removal improved river habitat and connectivity

for nine species of migratory fish. The project also replaced the river overlook, improved safe public access, preserved this history of the site, and provided paddling access through the reach.

Contacts: Andrew Goode, Atlantic Salmon Federation, 207-725-2833, andy@asf.comcastbiz.net
Ron Rhodes, Connecticut River Conservancy, 802-457-6114, rrhodes@crc.org

Saccarappa Dam 1 and Saccarappa Dam 2, Presumpscot River, Maine

This project included the removal of two separate adjacent dams on the Presumpscot River, both originally built in 1911 for hydroelectric power— the Saccarappa Dam 1 (12-foot tall by 239-foot long) and the Saccarappa Dam 2 (12-foot tall by 154-foot long). The goals of this project were the restoration of fish passage and productivity of fish populations, as well as improvements in the downtown area through expansion of the "River Walk." Restoring the productivity of the fish populations in the Presumpscot is vital not just for those who fish along the river, but also for the health of the fishing industry in Casco Bay and the Gulf of Maine. Migratory fish found in the Presumpscot, like alewives and bluebacks, are critical bait for the lobster fishery and key to the entire food system. The removal of these dams also opens up the longest and cleanest stretch of riverway in the most densely populated area of the state for the first time in two centuries and will greatly enhance the economic and recreational value of the river.

Contact: Barry Stemm, Sappi North America, 207-856-4584, barry.stemm@sappi.com

Elm Street Dam, Jones River, Massachusetts

Removal of the Town of Kingston-owned Elm Street Dam improved fish passage on the Jones River, an important diadromous fish run, and reconnected more than 24 miles of the river's habitat. Additionally, it restored fish passage and habitat for rainbow smelt, American eel, and river herring. Work included removal of the concrete dam (9-foot tall by 200-foot wide) and associated structures, excavation of in-stream sediments, protection of surrounding infrastructure, placement of in-stream armoring and constructed riffle, and site restoration.

Contacts: Pine DuBois, Jones River Watershed Association, 781-424-0353, pine@jonesriver.org
Georgeann Keer, MA Division of Ecological Restoration, 617-626-1246, georgeann.keer@mass.gov

Atlanta Sportsmen Dam, Smith Creek, Michigan

The Atlanta Sportsmen Dam, constructed in 1980, is a 13-foot tall by 200-foot long earthen dam that was removed in August 2019 to provide passage for fish, to restore its natural flow and to eliminate the financial burden needed to manage the structure.

Contact: Keith Fisher, MI Department of Natural Resources, 989-275-5151, Fisherk2@Michigan.gov

Corunna Dam, Shiawassee River, Michigan

Built in 1843, this old concrete and timber dam was originally used to power a mill. In addition to the removal of the 10-foot tall, 200-foot long dilapidated dam, the project consisted of installing natural engineering elements to manage flow and create aquatic habitat, and add recreational enhancements such

as a walkway, fishing opportunities, and an accessible kayak launch. This project is funded by the Michigan Department of Natural Resources, U.S. Fish and Wildlife Service and the Saginaw Bay Watershed Initiative Network.

Contact: Merilee Lawson, City of Corunna, 989-743-3650, mlawson@corunna-mi.gov

Gingery Dam, Middle Branch Cedar River, Michigan

A partial failure years ago drove the initiative for the complete removal of the small, private Gingery Dam in August 2019. Its removal was funded by the Michigan Department of Natural Resources-Aquatic Habitat Grant Program, U.S Fish & Wildlife Service, Saginaw Bay Watershed Initiative Network (WIN), Walters Family Foundation, Bay Area Community Foundation, Martuch Chapter of Trout Unlimited, and a cash contribution from the landowner.

Contacts: Josh Leisen, Huron Pines, 989-448-2293, josh@huronpines.org

Ramus Dam, East Branch Pine River, Michigan

Earthen Ramus Dam (2-foot tall by 20-foot long) was removed in September of 2019 due to dam failure and safety. Its removal was funded by National Fish & Wildlife Foundation-Sustain Our Great Lakes, Michigan Department of Natural Resources- Habitat Improvement Account, and the Walters Family Foundation.

Contacts: Josh Leisen, Huron Pines, 989-448-2293, josh@huronpines.org

Shiawassee Town Dam, Shiawassee River, Michigan

19-foot high by 570-foot long, this concrete dam was built in 1904 to generate power. Its removal reconnects 12 miles of the Shiawassee River and the local community benefits greatly from the eliminated safety risk. This project was funded by the Michigan Department of Natural Resources-Aquatic Habitat Grant Program and Dam Removal Grant Program, U.S. Fish & Wildlife Service, and the Saginaw Bay Watershed Initiative Network (WIN).

Contact: Merilee Lawson, City of Corunna, 989-743-3650, mlawson@corunna-mi.gov

Mound Creek South Pool Dam, Mound Creek, Minnesota

Mound Creek South Pool Dam (24-foot tall by 847-foot long) was removed to stabilize reservoir sediments, create riffle and pool habitat diversity and expand the range of Topeka shiner and 28 other species found downstream.

Contact: Steve Hennessy, MN Department of Natural Resources Parks and Trails, steve.hennessy@state.mn.us

Ferry Brook Dam, Ferry Brook, New Hampshire

A section of earthen Ferry Brook Dam was removed in August 2019 along with remnants of the culvert outlet structure. The 11-foot high by 305-foot long dam, built in 1964 for conservation and agricultural purposes, was removed to reconnect the stream channel through the site, improve aquatic organism passage and water quality, and to eliminate safety and flood hazards.

Contact: Steve Pitlyk, Natural Resources Conservation Service (NRCS), steven.pytlik@usda.gov

Hubner Pond Dam, Unnamed Tributary to Hubbard Brook, New Hampshire

Funded and supervised by the Natural Resources Conservation Service (NRCS), this project involved the removal of an earthen dam (30-foot tall by 270-foot long) on Hubner Pond to address safety concerns and restore the stream channel through the former impoundment for eastern brook trout and other aquatic organism passage. The project also included the replacement of a 36-inch by 20-foot culvert with a 12-foot by 22-foot bridge, plus outlet restoration at one 5-foot by 50-foot metal culvert downstream.

Contact: Steve Pitlyk, Natural Resources Conservation Service (NRCS), steven.pytlik@usda.gov

Little Hale Pond Dam, Littlehole Creek, New Hampshire

This project included the removal of an existing outlet control structure (drop-inlet and stop log bay) dam (1.2 acre pond) and associated 30-inch culvert within Bagdad Road and replacement with a 6.5-foot-wide by 5-foot-tall by 64-foot-long concrete box culvert, embedded with one-foot of stream simulation material. The project also included installation of a bioretention swale and tree box filter to upgrade existing stormwater infrastructure. The removal of this 15-foot tall by 130-foot long dam was intended to improve water quality, American eel and other aquatic organism passage, and removal of a flood and safety hazard, as well as elimination of long-term maintenance costs.

Contact: April Talon, PE, Durham Public Works, 603-868-5578, atalon@ci.durham.nh.us

Munn Pond Dam, Unnamed Tributary to Androscoggin River, New Hampshire

A total of 63 feet (a timber crib spillway and sections of the dam) of this formerly 440-foot long earthen dam was removed in June 2019 to address safety concerns and restore a stream channel through the former spillway for brook trout and aquatic organism passage. This project also increased wetland buffers, improved sediment transport, restored a stable flow, increased fishing opportunities, and removed a threat to public safety and a long-term maintenance costs. The Munn Pond Dam removal would not have been possible without the NH Fish and Game Department, Androscoggin Valley Fish & Game Association, Town of Errol Forest Commission, and Town of Errol Select Board. The design and construction oversight/removal work was completed by the NH Department of Environmental Services Dam Bureau.

Contact: Bill Thomas, NH Department of Environmental Services Dam Removal and River Restoration Program, 603-271-8870, William.thomas@des.nh.gov

Pine Mill Dam, Clark Brook, New Hampshire

In September 2019, the 15-foot by 180-foot concrete Pine Mill Dam was removed to improve brook trout passage and restore natural flow and stream conditions. Restoration included the incorporation of steps, pools, riffles and large pieces of wood at dimensions and frequencies similar to those found in the reference reach to provide for channel stability, dissipation of flow energy and improvements to fish habitat. The improved channel design also incorporated bank and floodplain areas that will be seeded and planted with native vegetation, and reinforced with geotextile fabrics, providing roughly two years of erosion protection to ensure long-term establishment of vegetation.

Contact: Ron Rhodes, Connecticut River Conservancy, 413-768-4994, rrhodes@ctriver.org

Upper Sawyer Mill Dam, Bellamy River, New Hampshire

Built in 1880, the removal of this dam was the second phase of a two-phase project. The first phase included the removal of Lower Sawyer Mill Dam in 2018, originally located 350 feet downstream of the Upper Sawyer Mill Dam. The completion of this project reconnected approximately one mile of mainstream river, provide passage and access to freshwater habitat for diadromous fish species, improve fish passage and help restoration efforts for an additional 5.9 miles of mainstem river. This is expected to facilitate the reintroduction of migratory fish species such as rainbow smelt, river herring, alewife, American eel and American shad. Additionally, the removal of the dams will restore approximately 21 acres of previously inundated wetlands and it is expected that the currently listed water quality impairments of this section of the Bellamy River will be eliminated.

Contact: NH Department of Environmental Services; NH Coastal Program

Burnt Mills Dam, Lamington River, New Jersey

Constructed in the 1800s, this 8-foot tall by 75-foot long dam was originally built to power a grist mill. The structure had been previously breached and was removed primarily for safety reasons and its dilapidated state. The removal is expected to benefit the quality of in-stream habitat, reduce bank erosion and flooding, and help rare mussel populations recover.

Contact: Evan Madlinger, Natural Resources Conservation Service (NRCS), 908-483-2362, Evan.Madlinger@usda.gov

Nicholson Road Dam, Unnamed Tributary of Stump Pond Stream, New York

This earthen dam was removed in August 2019 because it no longer served a purpose.

Contact: Thomas Boland, New York City Department of Environmental Protection

Batavia Dam, Little Miami River, Ohio

This low-head dam was constructed in 1945 in cooperation with the Ohio Department of Natural Resources to conserve water during the dry seasons and to provide a water source for the Village of Batavia. The dam was obsolete as the Village of Batavia now sources their water from Clermont County. The dam was removed for public safety reasons due to the recreational activities (boating and fishing) that

take place at the dam, as well as improving the water quality and fish passage, increased habitat, and restoration of river flow. This project was completed in collaboration with the Valley View Foundation, Clermont Soil and Water Conservation District and Ohio Environmental Protection Agency, with the support of the Batavia Village Council. The Ohio Environmental Protection Agency's Division of Environmental and Funding Assistance fully funded the project through their Water Resource Restoration Sponsor Program.

Contacts: Becky McClatchey, Clermont Soil & Water Conservation District, 513-732-7075
The Valley View Foundation, 513-218-1098

Burton Lake Dam, Bridge Creek, Ohio

The 9.1-foot high by 575-foot wide Burton Lake Dam was breached in 2019. Muddy seepage was noted coming from below the principal spillway in this former dam. The owner was ordered to drain the lake until it could be rehabilitated, modified or breached. The dam owner decided to breach the dam as the cheapest solution.

Kinsman Lake Dam, Stratton Creek, Ohio

In July 2019, this 23-foot tall by 570-foot wide dam was removed due to dam failure after a rain event. Six inches of rain throughout the course of a few hours flowed over the spillway and road and tore away part of the earthen embankment, cutting off access to 20 to 25 homes. The county engineer repaired the road, but not the dam.

Sauder Lake Dam, Unnamed Tributary to Black Fork Mohican River, Ohio

This 31.4-foot high by 175-foot wide dam was breached in 2019. It was originally built in the 1990s for recreational purposes. The dam had become dilapidated and was subsequently breached.

Smith-Meyer-Roper Dam, Ashland Creek, Oregon

This project involved removing the 2.5-foot tall by 30-foot wide dam, reprofiling the channel, installing an irrigation water collection box, removing 0.25 acre of blackberry and replanting the area with native riparian plant species, and installing interpretive signs. The removal of the 1948 dam reconnected two miles of valuable Coho salmon and steelhead spawning and rearing habitat and benefited upstream migrating juveniles seeking cold water refuge in the summer and high water refuge in the winter. Landowners benefit as well from an improved irrigation water delivery system that does not rely on aging infrastructure.

Contact: Brian Barr, Rogue River Watershed Council, bbarr@rogueriverwc.org

Cold Stream Dam, Cold Stream, Pennsylvania

The Cold Stream Dam (6-foot tall by 150-foot wide) removal was part of a larger project by Pennsylvania American Water to remove a total of four dams from Cold Stream (1) and Trout Run (3) in 2019. PA American Water removed these former water supply reservoirs to eliminate unnecessary infrastructure, as

they are now obsolete. Trout Run and Cold Stream listed wild trout resources, but a larger reservoir still remains immediately upstream of Cold Stream Dam.

Contact: Kurt Staller, PA American Water, 717-550-1528, Kurt.Staller@amwater.com

Garmantown Dam, West Branch Susquehanna River, Pennsylvania

This dam (3-foot tall by 50-foot wide) was removed in July 2019 to improve recreation access and habitat connectivity for wild brook trout. This project was completed in partnership with Trout Unlimited and the local Conservation District.

Contact: Lisa Hollingsworth-Segedy, American Rivers, 412-727-6130, lh-segedy@americanrivers.org

Gunter Valley Dam, Trout Run, Pennsylvania

High-hazard Gunter Valley Dam was removed to eliminate unnecessary infrastructure and restore natural riverine function. The 83-foot high by 550-foot wide dam was originally built in 1961 as a water supply reservoir, and its removal was funded by the PA Department of Conservation and Natural Resources.

Contact: Ed Raptosh, PA Dept. of Conservation and Natural Resources, 717-783-3329, eraptosh@pa.gov

Haskins Dam, Tohickon Creek, Pennsylvania

Constructed in the 19th century, this 5-foot tall by 400-foot wide dam was removed by the PA Department of Conservation and Natural Resources.

Contact: Jack Hill, PA Dept. of Conservation and Natural Resources, 717-772-0293, jahill@pa.gov

Kulp Dam, Saucon Creek, Pennsylvania

In August 2019, this 3-foot high by 50-foot long dam was removed to improve water quality, reduce flooding and erosion, facilitate fish passage, and benefit recreation.

Contact: Kristie Fach, Wildlands Conservancy, 610-965-4397, kfach@wildlandspa.org

Lemoyne Borough Dam, Unnamed Tributary to Susquehanna River, Pennsylvania

After being partially breached, this concrete dam (4-foot high by 20-foot long) was removed in April 2019.

Contact: Mike Knouse, RETTEW Associates, Inc., 717-516-7523, mike.knouse@rettew.com

Lower Klondike Dam, Lehigh River, Pennsylvania

This project involved the removal of a large earthen dam (15-foot by 1,450-foot long), restoration of the stream channel, and wetland plantings and restoration in the former impoundment. The removal of this

dam is expected to lower stream temperatures, improve fish passage, improve nutrient movement, reduce flooding and improve fishing and recreational activities.

Contact: Kristie Fach, Wildlands Conservancy, 610-965-4397, kfach@wildlandspa.org

Lower Trout Run Dam, Middle Trout Run Dam, and Upper Trout Run Dam, Trout Run, Pennsylvania

Part of a larger project led by Pennsylvania American Water, these three dams (ranging from 2.5 to 8 feet high by 100 to 250 feet long) were removed to eliminate obsolete infrastructure on Trout Run and Cold Water Stream. The four former water supply reservoirs were no longer serving a purpose, as PA American Water switched to groundwater. The removal of the 19th century dams reconnected seven miles of stream for fish passage.

Contact: Kurt Staller, PA American Water, 717-550-1528, Kurt.Staller@amwater.com

Mill Dam/Wernersville State Hospital Dam, Hospital Creek, Pennsylvania

Formerly a surface water supply, Mill Dam/Wernersville State Hospital Dam was removed on State Hospital property in an effort to eliminate unneeded infrastructure. This dam (25-foot high by 248-foot long) was built in 1937 and removed in August 2019.

Contact: Josh Fair, PA Dept. of Environmental Protection, 717-772-5988, josfair@pa.gov

Mt. Joy Waterworks Dam, Little Chiques Creek, Pennsylvania

The 4-foot high by 125-foot long Mt. Joy Waterworks Dam was a low-head dam removed when Lancaster Career and Technology Center acquired the property and sought help to eliminate the safety hazard.

Contact: Ben Lorson, PA Fish and Boat Commission, 814-359-5106, belorson@pa.gov

Patton Dam, Chest Creek, Pennsylvania

Constructed in the 1940s, Patton Dam (12-foot high by 70-foot long) was removed to reduce flood risk and facilitate habitat connectivity for wild brook trout, hellbender, American eel and Eastern Elliptio mussels. This project was completed in collaboration with Trout Unlimited and the Conservation District.

Contact: Lisa Hollingsworth-Segedy, American Rivers, 412-727-6130, lh-segedy@americanrivers.org

Scotland Pond Dams, Conococheague Creek, Pennsylvania

This project removed two adjacent dams that were functioning as one dam on Conococheague Creek in Scotland, PA. The removal of the Scotland Pond Dams increased public safety as it reduced the potential for localized flooding and alleviated in-stream hazards to paddlers. The removal also restored approximately 1,000 feet of previously impounded aquatic habitat to its natural function and flow. The dam impeded natural sediment transport, and rich sediment release downstream will eventually allow for

breeding grounds and more diverse habitats for aquatic life. Additionally, the now undivided waters are ideal for kayaking, canoeing, and other recreational activities, and the Township has thus implemented a kayak/canoe launch. This project was led by the Township in partnership with PFBC, SCI, American Rivers, ECS Mid-Atlantic (design/permitting/construction management) and its contractor, RiverLogic.

Contact: Jessie Thomas-Blate, American Rivers, 202-347-7550, jthomas@americanrivers.org

Blog Post: https://www.americanrivers.org/2020/02/cheers-to-greene-township-on-scotland-pond-dam-removal/

Congaree Creek Dam, Congaree Creek, South Carolina

Formerly the water supply for the town of Cayce, this dam (15-foot high by 40-foot long) was removed in May of 2019 to restore ten miles of mainstem Congaree Creek. Congaree Creek is a popular feature of the S.C. Department of Natural Resources' nature reserve, and the now uninterrupted flow supports not only aquatic life such as blueback herring, American eels, sunfish, shiners, and darters, but also paddlers and outdoor enthusiasts. American Rivers, Congaree Riverkeeper, the South Carolina Department of Natural Resources, the City of Cayce, and the U.S. Fish and Wildlife Service collaborated to complete this successful project.

Contact: Lorianne Riggin, SC Department of Natural Resources, 803.734.4199, RigginL@dnr.sc.gov

Blog Post: https://www.americanrivers.org/2019/11/congaree-creek-flowing-free-thanks-to-dam-removal/

Matthews Creek Dam, Matthews Creek, South Carolina

Originally built for fishing and recreation, Matthews Creek Dam (8-foot high by 100-foot long) was removed to unblock what is considered one of the most important streams for Southern Appalachian brook trout in South Carolina. The removal improves temperatures for brook trout spawning known 1,500 feet downstream. The U.S. Fish and Wildlife Service Aquatic Habitat Restoration Team and Mountain Bridge Chapter of Trout Unlimited were both heavily involved in this project.

Contact: Mac Stone, Naturaland Trust, 864-387-6079, macstone@naturalandtrust.org

San Gabriel River Ranch Dam, Lackey Creek, Texas

Constructed in 1969, San Gabriel River Ranch Dam (26-foot high by 640-feet long) was a large, earthen dam removed for economic reasons.

Contact: Dustin Mortensen, Freese and Nichols, Inc., 512-617-3137, dgm@freese.com

Johnson Dam, Unnamed Tributary of the Connecticut River, Vermont

Removal of this concrete gravity dam occurred in September 2019.

Contact: Ron Rhodes, Connecticut River Conservancy, 413-768-4994, rrhodes@ctriver.org

Kidder Hill Dam, Saxtons River, Vermont

In August 2019, this concrete dam (6-foot high by 30-foot long) was removed to provide fish passage and restore natural flow.

Contact: Ron Rhodes, Connecticut River Conservancy, 413-768-4994, rrhodes@ctriver.org

Upper Eaton Dam and Lower Eaton Dam, First Branch White River, Vermont

The Eaton dams both sat on bedrock falls on the First Branch of the White River. The project involved the complete removal of the dam, penstock, and sediment. Upper Eaton (8-foot high by 100-foot long) was rebuilt in 1924, and Lower Eaton (15-foot high by 230-foot long) was first constructed in 1776 and rebuilt in 1943. Their removal improved water quality, aquatic passage 15 miles upstream, recreation, public safety, and freed the river for the first time since 1776.

Contact: Greg Russ, White River Partnership, 802-763-7733, greg@whiteriverpartnership.org

Blog Post: https://www.americanrivers.org/2020/02/busting-dams-on-vermonts-white-river/

Mill Pond Dam, Indian Brook, Vermont

Mill Pond Dam was a 12-foot tall by 170-foot wide stone dam removed in October 2019.

Weston Lower Dam, Tributary to West River, Vermont

Weston Lower Dam was a concrete gravity dam removed in August 2019 for failure, safety, and restoration reasons.

Jordan's Point Dam, Maury River, Virginia

Jordan’s Point Dam (10-foot high by 180-foot wide) was a historical, concrete dam built in 1911 and located in Lexington, VA. Prior to deconstruction, it was structurally compromised with many cracks, and had outlived its purpose of powering various mill operations. When the dam was first breached and the water level lowered during its removal, another timber crib dam was revealed and subsequently removed. This project improved riverine ecology, hydrology and habitat restoration along 1.2 miles of Maury River upstream. Additionally, the project removed a significant safety hazard and was expected to greatly benefit recreation and river usage along City Park. The dam had been a safety concern for the community since 2006, when a teenager drowned going over the dam into the hydraulic current.

Contact: Louise Finger, VA Department of Game and Inland Fisheries, 540-248-9378, louise.finger@dgif.virginia.gov

Appalachian Lake Dam, Fike Run, West Virginia

Appalachian Lake Dam was removed to mitigate the construction of Cobun Creek #2 Dam 15. This earthen dam was built in 1973 and its removal also benefits the restoration of Fike Run.

Contact: James W. Fetty, Jr. PE, Morgantown Utility Board, 304-292-8443, jfetty@mub.org

Brumfield Dam/Tyler Farm Pond Dam, Unnamed Tributary of Tyler Creek, West Virginia

This earthen dam was removed from an unnamed tributary of Tyler Creek in West Virginia in 2019.

Gile Flowage Sub-Impoundment, West Fork Montreal River, Wisconsin

This 8-foot tall dam, originally built in 1995 and used for recreation, was removed in 2019 for safety reasons.

Contact: Mark Stephenson, 608-225-4733, mark.stephenson@wisconsin.gov

Sowinski Dam, Wisconsin River, Wisconsin

Originally built in 1950, Sowinski dam was a 175-foot wide dam removed in 2019 for safety reasons.

Contact: Mark Stephenson, 608-225-4733, mark.stephenson@wisconsin.gov

99 Dams Removed to Restore Rivers in 2018

American Rivers releases annual list including dams in California, Connecticut, Florida, Georgia, Illinois, Indiana, Maine, Maryland, Massachusetts, Michigan, Minnesota, New Hampshire, New Jersey, New York, North Carolina, Ohio, Oregon, Pennsylvania, Rhode Island, Vermont and Wisconsin.

Nationwide, 1,605 dams have been removed from 1912 through 2018.

Dam removal brings a variety of benefits to local communities, including restoring river health and clean water, revitalizing fish and wildlife, improving public safety and recreation, and enhancing local economies. Working in a variety of functions with partner organizations throughout the country, American Rivers contributed financial and technical support in many of the removals.

Contact information is provided for dam removals, if available. For further information about the list, please contact Jessie Thomas-Blate, American Rivers, Associate Director of River Restoration at 202.347.7550 or jthomas@americanrivers.org.

This list includes all dam removals reported to American Rivers (as of June 26, 2019) that occurred in 2018, regardless of the level of American Rivers' involvement. Inclusion on this list does not indicate endorsement by American Rivers. Dams are categorized alphabetically by state.

Dennett Dam, Tuolumne River, California

This project involved the removal of Dennett Dam, an abandoned low-head dam located on the lower Tuolumne River in Modesto, California. The dam has been an instream barrier to anadromous fish passage, controlling local hydraulic and sediment transport conditions, for over 60 years, while also impeding water flow in the river. It is also a significant safety hazard adjacent to a major park and has been the location of three drowning deaths in the last five years, including two children.
Contact: Patrick Koepele, Tuolumne River Trust, 209-236-0330, patrick@tuolumne.org

Cleveland National Forest Dam Removals (HJFD1, HJFD2, HJFD11, HJFD21, HJFD22, HJFD23, HJFD25, HJFD26, HJFD29, HJFD30, HJFD31, HJFD32, HJFD33, HJFD34, HJFD34.1/35, HJFD37, HJFD40, HJFD41, SJFD28, SJFD29, SJFD30, SJFD31, SJFD1, SJFD2, SJFD3, SJFD4, SJFD5, SJFD6, SJFD7, SJFD9, SJFD10, SJFD11, TCFD11), Holy Jim Creek, San Juan Creek and Trabuco Creek, California

The Cleveland National Forest in 2018 removed 33 dams in total— 18 dams from Holy Jim Creek, four in upper San Juan Creek, 10 in lower San Juan Creek and one from Trabuco Creek. Originally the dams were constructed to create pools for a stocked rainbow trout fishery, conserve water and wildlife and provide water for fire suppression. However, with no maintenance for over 40 years, some of the dams were no longer serving their intended purpose. These dams in Cleveland National Forest were removed to improve stream conditions and provide adequate fish passage and wildlife habitat.
Contact: Kristen Winter, Cleveland National Forest, 858-674-2956, kwinter@fs.fed.us

Lagunita Diversion Dam, San Francisquito Creek, California

The 119-year-old dam obstructed the upstream migration of endangered steelhead trout. In July 2018, Lagunita Dam Diversion Project removed the dam to restore 480 feet of the creek, improving fish passage

with pools, shallows and native plants, improved sediment flow, and exposure to areas needed for spawning.
Contact: Rachel Berjerano, Stanford University, 650-725-5482, racheli@stanford.edu

Blackledge River Dam, Blackledge River, Connecticut

The Blackledge River Dam located in Blackledge Falls Park in Glastonbury, Connecticut, was removed in early 2018. This 11-foot high by 200-foot long dam was built around 1830 to power an up-and-down saw mill. The project reconnected 2.5 miles of habitat upstream for migratory fish. This project was part of a mitigation agreement for when the Town of Glastonbury riprapped the Connecticut River riverbank.
Contact: Daniel Pennington, Town of Glastonbury, 860-652-7736, daniel.pennington@glastonbury-ct.gov

Flock Process Dam, Norwalk River, Connecticut

The 15-foot high Flock Process Dam was built in 1879 to power a mill. This dam was impeding runs of migratory fish along the river. The project was a partnership between the City of Norwalk, the State of Connecticut Department of Energy and Environmental Protection (DEEP). and the U.S. Fish and Wildlife Service. Removal of the dam will eliminate the risk of failure and catastrophic flooding that has threatened local communities downstream, and promote a healthy, functioning ecosystem, including natural sediment transport to coastal wetlands and beaches.
Contact: Alexis Cherichetti, AECOM, 231-922-4301, troy.naperla@aecom.com

Heminway Pond Dam, Steele Brook, Connecticut

Constructed in 1940, this 14-foot high by 40-foot long earthen and concrete dam was originally used in the manufacture of silk thread. However, it had become dilapidated. The dam removal restored riparian functions and provided for the stabilization/removal of contaminants. The project was also expected to reduce flood risk and improve access to the park.
Contact: Roy Cavanaugh, Town of Watertown, cavanaught@watertownct.org

Brandt Pond Dam, Fox Head Branch, and Buck Pond Dam, Double Head Branch, Florida

The Brandt Pond Dam (9-foot high by 230-foot long) and Buck Pond Dam (10-foot high by 235-foot long) were removed from Eglin Air Force Base in 2018. These removals are part of a larger effort on the base to remove dilapidated dams no longer in use. Both earthen dam removals enhanced habitat for fish while removing a safety hazard.
Contact: William Pizzolato, Jackson Guard, Eglin Air Force Base, 850-883-1190, william.pizzolato@us.af.mil

White Dam, Middle Oconee/Altamaha River, Georgia

Constructed between 1912 and 1913, White Dam was fully operational by 1916 as a hydroelectric power plant that powered a Whitehall textile mill, but it has been inoperable for decades. The dam was removed in July 2018, to maximize environmental and ecosystem benefits, increase human safety, and provide for recreational use of the river while conserving the historic value and a portion of the dam. This project has allowed native as well as migratory fish to travel upstream more easily, and improved hydrological function and flow of materials downstream.
Contact: Lisa Hollingsworth-Segedy, American Rivers, 412-727-6130, lhollingsworth-segedy@americanrivers.org
James Shelton, University of Georgia, 706-614-6313, jshelton@uga.edu

Danville Dam, Vermilion River, Illinois

This 11-foot high by 207-foot long concrete dam was built in 1914 to supply water to public utilities and industry. The dam had altered flow, degraded habitat, and created a safety hazard for the public. This project included the concrete removal of the dam spillway, west abutment and the two abandoned piers. Completion of the dam removal project returned a section of the river to a more natural free flowing state, benefitting an extraordinarily high number of fish and other aquatic species in greatest need of conservation. This project reconnected 190 square miles upstream of Danville Dam in the Vermilion River Basin.
Contact: Lindell Loy, PE, SE, IL Department of Natural Resources, 217-782-4250, Lindell.Loy@illinois.gov

Ellsworth Park Dam, North Fork Vermilion River, Illinois

The project included two dam removals— Danville Dam (see above) and Ellsworth Park Dam. In total, this joint project opened 175 stream miles upstream of Danville Dam and Ellsworth Park Dam in the Vermilion River Basin, benefitting two federally listed mussel species (Northern riffleshell and clubshell), 26 state-listed species, and many game species, including smallmouth bass. The project will also open downstream access to the Middle Fork Vermilion River, Illinois' only National Scenic River.
Contact: Prairie Rivers Network

Emerichsville Dam (16th Street Dam), West Fork White River, Indiana

In October 2018, this 10-foot high by 360-foot long concrete dam was removed after it began to breach. The project is anticipated to provide passage of warm water fish species and remove a safety hazard.
Contact: Steve Sumerlott, Citizen Energy

Fox Farm Road Dam (Warsaw Water Supply Dam), Tippecanoe River, Indiana

Indiana Department of Natural Resources led the effort to remove the 3-foot high by 50-foot long obsolete dam in August 2018. Built in the early 1960s, Fox Farm Road Dam was removed from the Tippecanoe River after becoming a safety hazard and future liability. Completion of the project is expected to improve the fish population in the river.
Contact: Doug Keller, Indiana Department of Natural Resources, 317-232-409, dkeller@dnr.in.gov

Coopers Mill Dam, Sheepscot River, Maine

First constructed in the early 1800s, the 185-foot long, and nearly 20-foot tall Coopers Mill Dam removal opened habitat for Atlantic salmon, alewife, blueback herring, American shad, sea lamprey, American eel, and Eastern brook trout. Originally constructed to power a mill and serve as fire protection, the Coopers Mill Dam was removed in August 2018 when deferred maintenance led to a reduced level of service for fire protection, unsustainable operation and maintenance costs, and public safety concerns. The dam also blocked fish passage. The removed dam improved habitat and stream connectivity for seven species of migratory fish. The project also restored fire protection water supply through installation of a new run-of-river system. The project team also worked to preserve the history of the dam and mill site while improving public access.
Contact: Andrew Goode, Atlantic Salmon Federation, 207-725-2833, andy@asf.comcast.net

Lombard Dam, Outlet Stream, Maine

This project removed a relic dam and restored an approximately 5-acre impoundment to riverine conditions. Lombard Dam is the third of six dams to be addressed on Outlet Stream, which connects China Lake's 3900 acres to the Sebasticook River in the Kennebec River Watershed. When complete, the Outlet Stream Restoration Project will restore connectivity for native migratory fish and will yield an

estimated 950,000 alewives per year to the Sebasticook River fishery, which has enjoyed tremendous recovery since the removals of the Fort Halifax and Edwards Dams. In addition to alewives, the project benefits American eel, Lamprey eel, and Atlantic salmon.
Contact: Landis Hudson, Maine Rivers, landis@mainerivers.org

Smelt Brook Dam, Smelt Brook, Maine

This 135-foot long granite block dam was built in 1967 to create a trout pond. The dam's removal improved fish passage for rainbow smelt, brook trout, American eel and tom cod, as well as established an outdoor classroom for the study of ecology and restoration.
Contact: Shri Verrill, Downeast Salmon Federation, 207-483-4336, shri@mainesalmonrivers.org

Bloede Dam, Patapsco River, Maryland

The Bloede Dam removal is the linchpin of a larger plan— including removal of the Union and Simkins dams in 2010— to restore more than 65 miles of spawning habitat for blueback herring, alewife, American shad, hickory shad, and more than 183 miles for American eel in the Patapsco River watershed. Originally built in the early 1900s to supply electrical power to the cities of Catonsville in Baltimore County and Ellicott City in Howard County, the 34-foot high by 220-foot long dam was owned by the Maryland Department of Natural Resources. At the time of demolition, it served no functional purpose, but caused numerous injuries and deaths, with at least nine dam-related deaths since the 1980s.
Contact: Serena McClain, American Rivers, 202-347-7550, smcclain@americanrivers.org

Barstowe's Pond Dam, Cotley River, Massachusetts

Built in 1800s, the Barstowe's Pond Dam was the first and only impediment to stream fishes between the Taunton River and the headwaters of the Cotley River. Barstowe's Pond Dam was an 8.5-foot tall and 92-foot long wooden dam that provided no fish passage on a tributary to the Taunton River. The dam removal project is anticipated to benefit river herring by providing access to eight miles of riverine habitat, improving natural sediment movement and allowing access to miles of habitat for alewife and American eel. Removal of the dam will also eliminate a public safety hazard.
Contact: Nick Wildman, MA Department of Fish and Game, 617-626-1542, nick.wildman@state.ma.us

Coonamessett River Lower Dam, Coonamessett River, Massachusetts

The six-foot high and 400-foot long, Coonamessett River Lower Dam was built in the 1700s to supply water. Removed in May 2018, this project eliminated the aging mill and increased the benefits of a restored river system. The project is opening 30 miles of high-quality habitat for American eel and river herring, which are under consideration for federal listing. It will also reduce the probability of flooding and eliminate the potential for catastrophic dam breaches posed by this obsolete dam. This is the first of a two-phase project.
Contact: Beth Lambert, MA Department of Fish and Game, 617-626-1544, beth.lambert@state.ma.us

Holmes Dam, Town Brook, Massachusetts

The 19-foot high Holmes Dam was the fourth dam to be removed on Town Brook. The current project also involved the restoration of the nearby Newfield Street Bridge. The project started in 2002, with the removal of the Billington Street Dam. Since then, new improved fishways were added to the Jenney Grist Mill and Newfield Street dams, the Water Street Dam was lowered (2004) and rock ramp constructed (2013), the Off-Billington Street Dam was removed (2013), and the Plymco Dam was removed (2015). Now, river herring and other fish will be able to swim freely through all 1.7 miles of Town Brook for the first time in over 300 years. The entire habitat restoration project is expected to be completed by 2020.

Contact: David Gould, Plymouth Department of Marine and Environmental Affairs, 508-747-1620 x10134, dgould@townhall.plymouth.ma.us

Roberts Meadow Upper Reservoir Dam, Roberts Meadow Brook, Massachusetts

Built in 1883 for water supply, the Roberts Meadow Upper Reservoir Dam was 30-foot tall by 65-foot wide. The dam was no longer in use and was in need of repair. It was removed in three stages over the course of the summer in 2018 in order to allow for natural redistribution of sediment within the eight acre impoundment. The removal opened 10 miles of cold-water habitat for brook trout and spiny sculpin.
Contact: Donna LaScaleia, City of Northampton

West Britannia Dam, Mill River, Massachusetts

Built in 1824, the West Britannia Dam was an earthen berm and masonry dam that blocked more than 30 miles of riverine habitat and approximately 560 acres of freshwater pond habitat for alewife, blueback herring and American eel. The eight-foot tall by 85-foot long dam was removed in March 2018 to reduce flood risk, eliminate a potential safety hazard, improve recreational opportunities and restore environmental health.
Contact: Amy Singler, American Rivers, 413-584-2183, asingler@americanrivers.org
Beth Lambert, MA Department of Fish and Game, (617) 626-1544, beth.lambert@state.ma.us

Alcott Dam, Portage Creek, Michigan

This 12-foot tall by 30-foot long, concrete dam was removed to restore native fish habitat. The dam no longer was serving a useful function, was preventing fish migration while holding contaminated sediment in place that required special handling and disposal. Removing the dam will improve habitat connectivity and provide a larger space for fish to move around, which will have a positive impact on the population throughout the creek.
Concrete: Troy Naperala, AECOM, 231-922-4301, troy.naperla@aecom.com

Cannon Creek #2 Flooding Dam, Cannon's Creek, Michigan

In July 2018, Cannon Creek #2 Flooding Dam (less than 5-foot tall and 500-foot long) was removed as it was no longer serving a useful purpose.
Contact: Keith Fisher, MI Department of Natural Resources, 989-275-5151, Fisherk2@Michigan.gov

Heil Road Dam, Black Creek, Michigan

This 23-foot high by 120-foot long earthen dam built in 1970 for recreational purposes, was removed in November 2018 due to structural deficiencies.

Maple River Dam (Lake Kathleen Dam), Black Creek, Michigan

In November 2018, this 20-foot tall by 880-foot long, earthen structure built in 1966 was removed. It was originally built to produce hydropower.

Otesego Township Dam, Kalamazoo River, Michigan

The removal of Otsego Township Dam was part of a project to clean up PCB-laden sediments in the Kalamazoo River as part of an 80-mile Allied Paper/Portage Creek/Kalamazoo River Superfund site, listed on EPA's National Priorities List in August 1990. Polychlorinated biphenyl (PCBs) leftover from processes at paper mills operating on the river beginning in the 1950s is the primary concern targeted in the cleanup.
Contact: Mark Mills, Michigan Department of Natural Resources, millsm@michigan.gov

Sabin Dam, Boardman River, Michigan

When fully implemented, the Boardman River Dams Ecosystem Restoration Project will reconnect over 160 miles of free-flowing, cold-water streams and restore hundreds of acres of wetland and upland habitat. It is one of the most comprehensive dam removal and restoration projects in Michigan's history and one of the largest such projects in the Great Lakes Basin. The Sabin Dam is the last of three dams on the Boardman River to be removed. The project included numerous stakeholders and worked to provide full valley bottom restoration, including channel, floodplain and upland habitat restoration. The removed dam and restored channel is expected to increase upstream migration of aquatic organisms and eliminate thermal impacts of the existing dam to the Boardman River. The Boardman River is a top-quality trout stream with three linear miles designated with "Blue Ribbon" status.
Contact: Carl A. Platz, U.S. Army Corps of Engineers, 616-842-5510, carl.a.platz@usace.army.mil

Solon Dam, Tager Creek, Michigan

To eliminate warm water discharge and restore stream habitat, this 24-foot tall by 160-foot long earthen dam was removed in September 2018.

Trout Brook Pond Dam, Trout Brook, Michigan

The Trout Brook Pond Dam was a 9-foot tall by 295-foot long earthen dam, built in 1958 to create a fishing pond. In August 2018, the dam was removed to reconnect and restore a headwater stream channel.
Contact: Neal Godby, MI Department of Natural Resources, 989-732-3541, godbyn@michigan.gov

Marsh Lake Dam, Minnesota River, Minnesota

This fixed-crest concrete dam (28-foot high by 11800-foot long) was built in 1938 to control flooding. Owned and maintained by the U.S. Army Corps of Engineers, this dam was removed in October 2018 to restore fish habitat, provide fish passage, improve fish diversity, and allow for better access to the site along with new walking/biking trails.
Contact: Shahin Khazrajafari, U.S. Army Corps of Engineers, 651-290-5219, shahin.khazrajafari@usace.army.mil

Pelican Lake Dam (Fish Lake Dam), Pelican River, Minnesota

This seven-foot tall by 140-foot long fixed-crest concrete dam was built in 1938 to control lake levels. In June 2018, the dam was removed to improve fish passage, reduce bank erosion, improve habitat, and support public safety and recreation.
Contact: James Wolters, MN Department of Natural Resources Fisheries, 218-739-7576, james.wolters@state.mn.us

Lower Sawyer Mill Dam, Bellamy River, New Hampshire

The Lower Sawyer Mill Dam was the first dam on the Bellamy River and was located approximately 2,000 linear feet upstream of the head of tide (tributary to Great Bay). The dam removal was the first phase of a two phase project, which also includes removal of the Upper Sawyer Mill Dam. The Upper Dam is located approximately 350 feet upstream of the Lower Dam and removal is planned for the summer of 2019. Removal of both dams will reconnect approximately 1 mile of mainstem river, provide passage and access to freshwater habitat for diadromous fish species and improve fish passage and help facilitate restoration efforts for an additional 5.9 miles of mainstem river. Additionally, removal of the dams will restore approximately 21 acres of previously inundated wetlands, eliminate two unsafe dams, improve flood resiliency and restore water quality.
Contact: Kevin Lucey, NH Department of Environmental Services, Coastal Program, 603-559-0026, Kevin.Lucey@des.nh.gov

Columbia Lake Dam, Paulins Kill, New Jersey

This project was led by The Nature Conservancy (TNC) with American Rivers managing the design phase (Princeton Hydro engineer) and TNC managing the construction phase (Sumco/River Logic contractors). Columbia Lake Dam was an operational hydropower dam at the outset of the project, which took approximately five years from initiation to the start of the removal in June 2018. The project consisted of the removal of Columbia Lake Dam and a downstream remnant dam on Paulins Kill, which collectively acted as the first physical barrier to fish migration and negatively impacted river flow.

Owned by NJ Department of Environmental Protection Division of Fish and Wildlife, the dam was 18-foot tall and 330-foot long, and originally built in 1909. The removal of the dam reconnected aquatic habitat for migratory fish including American shad, restored 32 acres of floodplains, and provided safe and new recreational opportunities. The project is also anticipated to increase abundance and diversity of macroinvertebrates, including freshwater mussels, that are indicative of good water quality.
Contacts: Laura Craig, American Rivers, 856-786-9000, lcraig@americanrivers.org
Barbara Brummer, The Nature Conservancy, 908-879-7262, bbrummer@tnc.org

Kincaid Lake Dam, Big Clems Run, New Jersey

Originally built in 1926 for recreational purposes, this 16-foot tall by 100-foot long earthen dam was removed in May 2018. The dam was removed as the owners could not afford the rehabilitation cost. Removal of the dam reconnected 10 miles upstream and 3.4 miles downstream to Mullica Hill Pond Dam.
Contact: Jillian Lawrence, NJDEP, 609-984-0859, Jillian.Lawrence@dep.nj.gov

Lake Basgalore Dam, Tributary to Raccoon Creek, New Jersey

This 13-foot tall by 180-foot long earthen dam built for recreational purposes was removed in September 2018 because the owner could not afford the rehabilitation cost.
Contact: Richard Tamagno, NJDEP, 609-984-0859, Richard.Tamagno@dep.nj.gov

Oriskany Falls Dam, Tributary to Oriskany Creek, New York

In 1917, Oriskany Falls Dam was built to supply water. It was a 15-foot tall by 95-foot long buttress dam that was removed in October 2018.

Prison Dam, New York

The Prison Dam was removed in New York in 2018.

Rome Dam, West Branch Ausable River, New York

This 37-foot tall by 205-foot long concrete structure used to be a paper mill dam. It was removed in November 2018.
Contact: Roy Schiff, Milone and MacBroom, 802-882-8335

Sidney Reservoir Dam, Peckham Brook, New York

Originally built in 1908 to supply water, this 20-feet tall by 300-feet long earthen structure was removed in October 2018.

Hoosier Dam, Rocky River, North Carolina

Built in 1922, Hoosier Dam was successfully removed in November 2018 with the help of groups such as National Fish and Wildlife Foundation (NFWF), Unique Places LLC., U. S. Fish and Wildlife (USFWS), Federal Energy Regulatory Commission (FERC), NC State Historic Preservation Office, and Wildlands

Engineering. The dam was a monumental obstacle to an endangered species, Cape Fear shiner, found only in central North Carolina. It blocked fish migration, which led to a decline in population upstream of the dam; therefore, removal of the dam is believed to provide critical habitat for Cape Fear shiner.
Contact: Aaron Aho, Unique Places LLC., aaho@uniqueplacesllc.com

Ballville Dam, Sandusky River, Ohio

Built in 1911 to produce hydropower, this 34.4-foot tall by 423-foot long concrete gravity structure was removed in September 2018. Removal of the dam is anticipated to improve fish passage.

Pres Vannes Lake Dam, Tributary to Sugar Creek, Ohio

This 17.6-foot tall by 211-foot long earthfill dam built in 1951 was removed in April 2018 to replace the principal spillway so that the dam can become a roadway embankment.

Tait Station Dam, Great Miami River, Ohio

In July 2018, this four-foot tall by 625-foot long concrete structure was removed as a mitigation solution for unavoidable stream impacts in the Great Miami River Watershed. Built in the year 1935, Tait Station Dam was originally used for water cooling for power plant production.

Williamsburg Low-Head Dam, East Fork of the Little Miami River, Ohio

The removal of a 1940s low-head dam on the East Fork Little Miami River reconnected more than 60 miles of free-flowing river. Immediate habitat improvements will help maintain the river's Exceptional Warm Water Habitat designation. Diverse mussel populations historically thrived in the East Fork, including state and federally listed species. Two young boys drowned in the turbulent water downstream of the dam in the 1970s. The community can now enjoy safer recreation on the East Fork.
Contact: Becky McClatchey, Clermont Soil and Water Conservation District, 513-732-7075, rmcclatchey@clermontcountyohio.gov

C-2 Meyers 1, Salt Creek (Little Butte Creek), Oregon

This 3-foot tall by 9-foot long structure was originally used for a water diversion for irrigation. C-2 Meyers 1 was removed to eliminate the need for annual push up dam construction, and to enhance fish passage and benefit the native fish species.

C-2 Meyers 2, Salt Creek (Little Butte Creek), Oregon

In 2018, this 2.5-foot tall by 6-foot long push-up dam was removed to improve fish passage and provide greater resiliency for native as well as migratory fish species. Removal of the dam reconnected 0.4 river miles.

Forest Creek Dam, Forest Creek, Oregon

Built in early 1950s to divert water to mill ponds and a bridge, this 8-foot tall by 20-foot long concrete dam was removed in 2018. Removal of this abandoned and obsolete dam will benefit species such as South Oregon Northern Californian Coast Coho salmon, steelhead trout and cutthroat trout.

Hartman Ditch Dam, Humbug Creek, Oregon

Removal of this abandoned dam has reconnected 0.4 river miles and is anticipated to benefit cutthroat trout.

Jamison Dam, Jamison Creek, Oregon

Originally used for irrigation and domestic purposes, Jamison Dam was removed in 2018 to benefit fish species such as summer steelhead and resident cutthroat trout.

Delp Dam, Indian Creek, Pennsylvania

Delp Dam is a low-hazard dam originally built to provide water for Philip Swartley's Mill (later Keller's Creamery). The dam was no longer serving a useful purpose and was removed as compensatory mitigation for construction on the Northeast Extension of the PA Turnpike. This project was completed in two phases. Phase I involved the removal of the dam and limited, required stabilization directly around the dam. Phase II will take place approximately one year after the dam removal to allow the stream to stabilize, and will include any additional bank grading and in-stream stabilization work that is needed. Removal of the dam helped restore natural form and function to a stream that supports habitat for resident fish and wildlife. American Rivers, the PA Turnpike Commission, and the PA Fish and Boat Commission were the primary partners for this project.
Contact: Jessie Thomas-Blate, American Rivers, 202-347-7550, jthomas@americanrivers.org

Downing Ridge Dam, East Branch Brandywine Creek, Pennsylvania

Funded by PA Department of Transportation through PA Fish and Boat Commission and managed by American Rivers, removal of Downing Ridge Dam on East Branch Brandywine Creek was designed to eliminate a public safety hazard and improve fish passage. Built in 1917, this 5.25-foot tall by 182-foot long concrete structure used to be a water diversion for a paper company. This project is anticipated to improve fish passage along with upstream utility and downstream public water supply intakes.
Contacts: Lisa Hollingsworth-Segedy, American Rivers, 412-727-6130, lhollingsworth-segedy@americanrivers.org
Jan Bowers, Chester Country, 610-344-5400, jbowers@chesco.org

Dunbar #1 Dam, Dunbar Creek, Pennsylvania

Dunbar #1 Dam was built in 1901-- a 16-foot tall by 450-foot long concrete structure initially used to supply water for coke ovens. It was breached in September 2018 to improve fish access and passage, and eliminate a public safety hazard. The removal project consists of two phases— phase I consisted of the removal of the stream barrier from across the stream channel, and phase II (2019) will be removal of the remaining dam structure from across the floodplain.
Contact: Lisa Hollingsworth-Segedy, American Rivers, 412-727-6130, lhollingsworth-segedy@americanrivers.org

Johns Run Dam, Johns Run, Pennsylvania

This project consisted of removal of a log and stone dam that was a remnant of the early settlement of the area, and a complete barrier to fish passage. Logs were cut and removed by hand, as were the cobbles, boulder, and mortar forming the dam foundation. Removal of the dam will allow passage for trout, recolonization of the upstream watershed by blacknose dace, improve fishing access, and eliminate a public safety hazard. Copper mesh material removed from the dam was donated to the Brockway Center for Arts and Technology to be recycled into art projects.
Contact: Luke Bobnar, Western Pennsylvania Conservancy, 814-776-1114, lbobnar@paconserve.org

Krady Mill Dam, Chiques Creek, Pennsylvania

Krady Mill Dam (D36-200) was a low-hazard dam originally built in the late 1800s to provide water power to a historic mill (still onsite). The concrete dam was approximately 5-foot high by 100-foot long. The dam was disconnected from the mill and no longer was serving a useful purpose. Removal of Krady

Mill Dam opened up access to a network of 9.7 river miles and restored natural form and function to a stream that supports American eel, resident fish, and historic diadromous fish runs.
Contact: Jessie Thomas-Blate, American Rivers, 202-347-7550, jthomas@americanrivers.org

Trexler Dam, Jordan Creek, Pennsylvania

Trexler Dam was a 15-foot tall by 175-foot long concrete dam originally built for recreational purposes. The project included dam removal and wetland restoration of an impounded spring along the Jordan Creek tributaries, in order to restore fish and wetland habitat. Furthermore, this project is expected to enhance species diversity and habitat, contribute cool spring water to the Jordan Creek, and eliminate a public safety hazard.
Contact: Kristie Fach, Wildland Conservancy, 610-965-4397 ext. 124, kfach@wildlandspa.org

Wagners Dam, McMichael Creek, Pennsylvania

Wagners Dam was removed in 2018 from McMichael Creek in Pennsylvania.

Shady Lea Mill Pond Dam, Mattatuxet River, Rhode Island

This stone/concrete dam was built in the 1820s for a textile mill. Its removal opened access to 0.5 miles of habitat for river herring and American eel.

Camp Killooleet Dam, Hancock Branch, Vermont

Built in the early 1900s, this 14-foot high by 165-foot long dam was built to create a trout fishing pond. The project reconnected 87 miles of stream for fish passage, improved in-stream habitat and channel stability, and reconnected the Hancock Branch to the floodplain along its north bank.
Contact: Greg Russ, White River Partnership, 802-763-7733, info@whiteriverpartnership.org

Cold Brook Dam, Cold Brook, Vermont

This private 3-foot tall concrete dam was removed in 2018.
Contact: Ron Rhodes, Connecticut River Conservancy, rrhodes@ctriver.org

Norwich Reservoir Dam, Charles Brown Brook, Vermont
This 20-foot tall by 200-foot wide concrete dam was built by the Norwich Fire District No. 1. It improved habitat for cold water species and eliminated maintenance costs and liability.
Contact: Ron Rhodes, Connecticut River Conservancy, rrhodes@ctriver.org

Shashoua Dam, Tributary to Mad River, Vermont

This 20-foot high privately-owned earthen dam was removed in 2018.

Estabrook Dam, Milwaukee River, Wisconsin

Milwaukee County and Milwaukee Metropolitan Sewerage District have worked on fish passage alternatives and ultimately the removal of the Estabrook Dam in Glendale, Wisconsin. The dam was built in historic limestone quarries within the floodplain and near-bank areas of the Milwaukee River. The removal of the nine-foot tall by 784-foot long gravity and earthen dam improved water quality, reduced sedimentation, and reconnected fish with upstream habitat.
Contact: Tom Chapman, Milwaukee Metropolitan Sewerage District, 414-225-2154, TChapman@mmsd.com

Monterey Dam, Rock River, Wisconsin

Built in 1846, the Monterey Dam was created to generate electricity. Years of wear and structural deficiencies pushed the City of Janesville to remove the 10-foot high dam in July 2018. Removal of the dam will increase coastal resiliency by protecting against storm surge, improve connectivity throughout the floodplain to allow natural water flow and maintain the health of a self-sustaining river and wetland ecosystem supporting local wildlife, as well as habitat for river herring, American eel, and other native species.

Contact: Tim Whittaker, City of Janesville, 608-755-3169, whittakert@ci.janesville.wi.us

86 Dams Removed to Restore Rivers in 2017

American Rivers releases annual list including dams in Alaska, California, Connecticut, Iowa, Indiana, Kentucky, Massachusetts, Maine, Michigan, Minnesota, Nevada, New Hampshire, New Jersey, North Carolina, Ohio, Oregon, Pennsylvania, Tennessee, Vermont, Washington and Wisconsin.

Nationwide, 1,492 dams have been removed from 1912 through 2017.

Dam removal brings a variety of benefits to local communities, including restoring river health and clean water, revitalizing fish and wildlife, improving public safety and recreation, and enhancing local economies. Working in a variety of functions with partner organizations throughout the country, American Rivers contributed financial and technical support in many of the removals.

Contact information is provided for dam removals, if available. For further information about the list, please contact Jessie Thomas-Blate, American Rivers, Associate Director of River Restoration at 202.347.7550 or jthomas@americanrivers.org.

This list includes all dam removals reported to American Rivers (as of February 13, 2018) that occurred in 2017, regardless of the level of American Rivers' involvement. Inclusion on this list does not indicate endorsement by American Rivers. Dams are categorized alphabetically by state.

Lower Eklutna River Dam, Eklutna River, Alaska

Originally built to provide hydropower, but no longer in use, the Lower Eklutna River Dam was removed in October 2017 in one of Alaska's most ambitious habitat restoration projects ever. The Eklutna Native Corporation and the Native Village of Eklutna partnered with The Conservation Fund to work within a brief construction window in a 300-foot deep steep-walled canyon to open seven miles of the Eklutna River for salmon migration. This project has provided construction work for the local tribe, boosting the economy and helping to restore treasured runs of salmon.
Contact: Brad Meiklejohn, The Conservation Fund, 907-694-9060, bmeiklejohn@conservationfund.org

Cleveland National Forest Dam Removals (HJFD15, HJFD16, HJFD17, HJFD18, HJFD19, SCFD10, SCFD12, SCFD7, SCFD8), Holy Jim Creek and Silverado Creek, California

The U.S. Forest Service removed nine dams along Holy Jim Creek and Silverado Creek in California in 2017. These removals are part of a larger project to remove approximately 80 dams from four streams in Orange County. The dams, mostly built in the 1970s, range from 2.5 to 9.3 feet high by 2.2 to 53 feet long. Collectively, the dam removals are expected to improve stream conditions and fish passage, hopefully leading to the future recovery of endangered steelhead.
Contact: Kirsten Winter, Cleveland National Forest, 858-674-2956, kwinter@fs.fed.us

Milliken Creek Dam, Milliken Creek, California

Built in the 1950s for golf course irrigation, Milliken Creek Dam was removed in order to reduce flooding and improve fish passage. This dam was comprised of a concrete shell filled with dirt, plus a corrugated steel culvert.

Brunswick Mill #1 Dam, Moosup River, Connecticut

For the removal of Brunswick Mill #1 Dam, Connecticut Department of Energy and Environmental Protection (CT DEEP) worked closely with American Rivers and Natural Resources Conservation Service. This timber crib dam was built in the early 1800s by a private individual. It was removed to reduce liability for the owner and improve fish passage and natural river function.
Contact: Amy Singler, American Rivers, 413-584-2183, asingler@americanrivers.org

Scantic River Dam (Springborn Dam), Scantic River, Connecticut

The 26-foot high Scantic River Dam was built in 1890 to power a mill. Its removal will improve fish passage for migratory fish species, and lengthen a whitewater paddling stretch for public recreation. The Scantic River Watershed Association hosts an annual Scantic Spring Splash canoe and kayak race, and Springborn Dam is a notorious portage along the race route. American Rivers helped fund an early feasibility study assessing the potential removal of the dam in 2009 through our national partnership with the NOAA Community-based Restoration Center.
Contact: Steve Gephard, CT DEEP Fisheries, 860-447-4316, steve.gephard@ct.gov

Fawn River Hatchery Dam, Fawn River, Indiana

This earthen dam and the two spillway structures associated with it were removed in November 2017. The stream channel is being restored through the former mill pond area. This state-owned dam was built sometime prior to 1915 for mill power. Its removal reconnected 26 river miles for fish passage, and removed a barrier for paddlers.
Contact: Doug Keller, Indiana Dept of Natural Resources, 317-232-4093, dkeller@dnr.in.gov

Quaker Mill Dam, Maquoteka River, Iowa

This 22-foot high by 196-foot long dilapidated concrete hydropower dam was built in the 1920s and removed in May 2017. There are plans for the site to become a public access point for the river, and the removal will improve passage for paddlers and fish. Approximately eight stream miles will be reconnected through this dam removal. One of the main goals of this project was to reduce flooding for upstream homes.
Contact: Nate Hoogeveen, Iowa DNR Land and Water Bureau, 515-725-2991, nate.hoogeveen@dnr.iowa.gov

Lock and Dam No. 6, Green River, Kentucky

In recent years, the U.S. Army Corps of Engineers' Louisville District undertook an economic assessment of navigation dams on the Green and Barren rivers in Kentucky, and received Congressional approval to de-authorize (i.e., retire) five little-used locks and dams. Lock and Dam No. 6 was quickly removed from the Green River by the U.S. Fish and Wildlife Service (USFWS)—utilizing a construction crew that has successfully removed several dams throughout the southeast—in April 2017, due to its deteriorated condition and safety hazard. Other project partners included: Kentucky Department of Fish and Wildlife Resources, Mammoth Cave National Park, The Nature Conservancy and Kentucky Waterways Alliance. In addition to the project improving habitat for fish, mussels and invertebrates, the dam's impoundment was filling a portion of Mammoth Cave National Park with water and sediment, and that part of the caves will now be accessible for important archaeological study. The project is precedent-setting for removing uneconomical, expensive federal navigation infrastructure and for the federal partnership between the Army Corps and USFWS.
Contact: Mike Hensley, The Nature Conservancy, 270-576-4790, mhensley@tnc.org

Masse Dam, China Lake Outlet Stream, Maine

Removal of the Masse Dam is part of a multi-phased effort of dam removals and fishway installations to restore alewife to China Lake. This private 17-foot high concrete dam was built originally for a sawmill. This project is located upstream of the site of the Edwards Dam removal on a tributary to the Kennebec River.
Contact: Alewife Restoration Initiative

Wight's Pond Dam, Bagaduce River, Maine

This 3-foot high by 40-foot long concrete dam was owned by the Town of Penobscot in Maine. This removal will provide access to a 192 acre spawning pond for migration of alewives (*Alosa pseudoharengus*). The dam had a denil fishway but never had flow during outmigration due to the poor design of the dam. The town expects to increase the alewife fishery to the point that the state will allow a licensed harvest. Alewives are a popular, and traditional, fresh lobster bait, and the town stands to benefit financially from this restoration. The Nature Conservancy and NOAA were the major funders of this project through the NOAA Penobscot Habitat Focus Area grant.
Contact: Ciona Ulbrich, Maine Coast Heritage Trust, 207-729-7366, culbrich@mcht.org

Balmoral Dam and Marland Place Dam, Shawsheen River, Massachusetts

The removal of the Balmoral Dam, originally built as an ornamental structure, and Marland Place Dam, built to power a former mill, reconnected approximately five miles and 16 acres of habitat along the Shawsheen River in Andover, Massachusetts. The Shawsheen River is a tributary to the Merrimack River, an important ecological resource and believed to support some of New England's largest shad runs. In addition to improving passage for migratory fish, the removal of these aging structures will improve safety for paddlers and reduce risk to adjacent property owners along the river. The project's central location within the town of Andover has also provided educational opportunities. American Rivers helped fund an early feasibility study assessing the potential dam removals through our national partnership with the NOAA Community-based Restoration Center.
Contact: Nick Wildman, Massachusetts Division of Ecological Restoration, 617-626-1528, nick.wildman@state.ma.us

Carver Cotton Gin Pond Dam, Satucket River, Massachusetts

This 15-foot high by 60-foot long mill dam was built in the 1890s and removed in October 2017. Approximately 13 miles of river were opened for fish passage; the project restored river processes and connectivity and increased access to river herring spawning grounds. Other benefits included the elimination of a public safety hazard and protection of upstream infrastructure.
Contact: Kristopher Houle, Massachusetts Division of Ecological Restoration, 617-626-1543, kris.houle@state.ma.us

Charles River Mill Dam (Pearl Street Mill Dam), Charles River, Massachusetts

The Town of Bellingham led this project to remove an obsolete and aging dam. The project involved dredging to address mercury contamination in sediment. This 13.5-foot high by 250-foot long concrete mill dam was built prior to 1900, and had become a public safety hazard and liability.
Contact: Alex Hackman, Massachusetts Division of Ecological Restoration, 617-626-1548, alex.hackman@state.ma.us

Coonamessett Lower Bog Dam, Coonamessett River, Massachusetts

The removal of Coonamessett Lower Bog Dam is part of the first phase of a larger restoration project aiming to restore connectivity to 2.2 miles of river through two dam removals and culvert replacements.

The full project will improve access for migratory fish to 158 acres of spawning habitat. In addition, 56 acres of former cranberry bogs will be restored to natural wetlands.
Contact: Betsy Gladfelter, Falmouth Conservation Commission

Hamant Brook Lower, Middle, and Upper Pond Dams, Hamant Brook, Massachusetts

Three dams on Hamant Brook in Massachusetts were removed in Fall 2017 in order to restore connectivity to coldwater habitat for native trout and endangered turtles. Hamant Brook runs through the Leadmine Conservation Area—880 acres of protected municipal conservation land. The project includes work to improve public access to the protected lands, while removing a public safety hazard and improving habitat for fish and wildlife. The Hamant Brook Restoration Project is supported by the landowners (Town of Sturbridge and Old Sturbridge Village), in partnership with the Massachusetts Division of Fisheries and Wildlife, American Rivers, and the Massachusetts Division of Ecological Restoration.
Contact: Amy Singler, American Rivers, 413-584-2183, asingler@americanrivers.org

Mordecai Lincoln Road Pond Dam (Hunters Pond Dam), Bound Brook, Massachusetts

The Town of Scituate led the effort to remove this 11-foot high by 220-foot long obsolete former mill dam. They eliminated a public safety hazard and future town financial liability. The project also improved fish passage and access to river herring spawning grounds, and restored river processes and connectivity.
Contact: Kristopher Houle, Massachusetts Division of Ecological Restoration, 617-626-1543, kris.houle@state.ma.us

Boardman Dam, Boardman River, Michigan

The Boardman River Dam removal is part of a larger restoration effort to address four barriers along the Boardman River in Michigan. This removal not only removed an impediment to fish passage, but also improved a river crossing for local residents. Previously, the Brown Bridge Dam was removed in 2013, and plans are in place to remove Sabin Dam and modify Union Street Dam in the near future. The largest river restoration project in Michigan's history, collectively the project will restore more than two river miles of native coldwater fisheries habitat, more than 250 acres of wetlands and nearly 60 acres of upland habitat.
Contact: Nate Winkler, Conservation Resource Alliance, 231-946-6817, nate@rivercare.org

Buhl Dam, South Branch Pine River, Michigan

In May 2017, this 20-foot high by 30-foot long dam was removed from the South Branch Pine River in Michigan. The Buhl family originally built this dam to create a recreational pond for their family lodge. Approximately 20 miles of river was reconnected for fish passage, to address erosion issues, and to reduce thermal impacts. This project was made possible through joint efforts by Huron Pines, U.S. Forest Service, Pine River-Van Etten Lake Watershed Coalition (PRVEL), Michigan Department of Natural Resources, National Fish and Wildlife-Sustain Our Great Lakes and the U.S. Fish and Wildlife Service.
Contact: John Bailey, Huron Pines, 989-448-2293 ext. 19, john@huronpines.org

Dog Lake Dam, McMasters Creek, Michigan

This 6.5-foot high by 620-foot long earthen gravity dam was built in 1957 for recreational purposes. Michigan Department of Natural Resources (DNR) removed the structure in September 2017 because it had become dilapidated. The project is anticipated to restore natural stream function and provide fish passage.
Contact: Keith Fisher, Michigan DNR Wildlife Division, 989-275-5151, FISHERK2@michigan.gov

Molasses River Flooding #1 Dam, Molasses River, Michigan

In September 2017, this 5-foot high by 815-foot long earthen dam was removed because it had fallen into disrepair. It was built in 1949 for recreational purposes. The project is anticipated to restore natural stream function and provide fish passage.
Contact: Keith Fisher, Michigan DNR Wildlife Division, 989-275-5151, FISHERK2@michigan.gov

Rainy River Dam, West Branch Upper Rainy River, Michigan

Michigan Department of Natural Resources (DNR) removed this dam in September 2017 because it was dilapidated. The structure was built in 1960 for recreational purposes. The project is anticipated to restore natural stream function and provide fish passage.
Contact: Keith Fisher, Michigan DNR Wildlife Division, 989-275-5151, FISHERK2@michigan.gov

Union Spring Dam, Union River, Michigan

The Union Spring Dam was replaced with a bridge crossing in August 2017, in order to accommodate the needs of the community. Built in 1965, this 13-foot high by 180-foot long earthen dam was no longer needed. Connectivity was restored to approximately one mile of river, and the project improved hiking opportunities and access to natural areas.
Contact: Eric Cadeau, Michigan DNR Parks & Recreation Division, 906-353-6651 x 112, CadeauE@michigan.gov

Chester Creek Dams 1 & 2, Chester Creek, Minnesota

In October 2017, the City of Duluth removed these two dams that were built in 1939 for recreational purposes. The river channel was restored, the banks were stabilized, ponding was eliminated which will improve water temperatures for trout, and built up sediment was removed. The project was also expected to improve angling, minimize future flooding, improve park aesthetics, promote natural river function, and strengthen relationships between local agencies.
Contact: Kate Kubiak, South St. Louis Soil and Water Conservation District, 218-723-4946, Kate.kubiak@southstlouisswcd.org

Drywood Creek Dam, Drywood Creek, Minnesota

Built in 1972 as a barrier for carp, Drywood Creek Dam was a failing concrete dam (6-foot high by 30-foot long) and earthen dike. For this project, a rock riffle was constructed and the historic channel was reconnected. Other goals of the project were to reestablish a functional/stable stream morphology and improve stream stability and water quality.
Contact: Ryan Bjerke, Minnesota Dept of Natural Resources, 320-839-3823, Ryan.Bjerke@state.mn.us

Sauk River Dam, Sauk River, Minnesota

In June 2017, the Sauk River Dam was removed from under a pedestrian bridge near Whitney Park in St. Cloud, Minnesota, but bridge was left in place for public use. The dam was originally built in the 1930s to create a swimming hole. This project added over 0.6 acres of native planting, restored and stabilized over 150 feet of shoreline, and will reduce pollutant loading to the Sauk River.
Contact: Greg Berg, Stearns County Soil and Water Conservation District, 320-251-7800 x3, Greg.Berg@mn.nacdnet.net

Shell Lake Dam, Shell River, Minnesota

In June 2017, this dam was replaced with a rock rapids to improve fish passage. This dam was originally built during the Great Depression in 1937, by the Works Progress Administration.
Contact: Jeff Tillma, MN Dept Natural Resources, 218-328-8834, jeff.tillma@state.mn.us

Chester Dam (Crestview Reservoir), Adobe Creek, Nevada

This 5-foot high by 160-foot long earthen irrigation dam was constructed in 1964. It was removed because it was no longer serving a useful purpose and created a safety hazard.

Ice Plant #1, 2, and 3 Dams, Gleason Creek, Nevada
This series of three high risk erosion control dams in Humboldt-Toiyabe National Forest were removed because the dams did not function in the flood control purpose for which they were built. These earthen dams were built in 1972, and removed to lower safety risk.
Contact: Sierra Brewer, U.S. Forest Service, 775-352-1264, sierrabrewer@fs.fed.us

Judd Brook Dam, Judd Brook, New Hampshire

This 5.1-foot tall by 42-foot long dam was removed in October 2017. It was originally created by a private entity that used it for water diversion.

Flower Hill Dam, Unnamed tributary to the Shabakunk River, New Jersey

The College of New Jersey removed this 10-foot high by 365-foot long earthen dam in July 2017.
Contact: Richard Tamagno, NJ Dept Environmental Protection, 609-984-0859, Richard.Tamagno@dep.nj.gov

Kazmar Pond Dam, Unnamed tributary to Wawayanda Creek, New Jersey

In October 2017, this 6-foot high by 40-foot long concrete gravity dam was removed. The project eliminated the safety hazard of a partially breached dam.
Contact: Zachary Kohl, NJ Dept Environmental Protection, 609-984-0859, Zachary.Kohl@dep.nj.gov

Weston Mills Dam, Millstone River, New Jersey

Originally built in 1844 and rebuilt in 1935, the 5-foot tall by 112.5-foot long earthen Weston Mills Dam provided power for mills. The project reconnected 4.5 river miles for American shad and river herring spawning, improved water quality, enhanced public safety, improved fishing, and provided new boating opportunities. Part of the project involved stabilizing the attached grist mill foundation walls and recovering and documenting archaeological artifacts.
Contact: John W. Jengo, Stantec, Inc., 610-407-7914, John.Jengo@stantec.com

Milburnie Dam, Neuse River, North Carolina

This project restored 32,590 linear feet of the Neuse River in Wake County, North Carolina, and created the Milburnie Dam Mitigation Bank. The Milburnie Dam (15-foot high by 600-foot long) was originally built in 1813 and rebuilt around 1900, and has seen a variety of uses over the years, including a saw mill, gristmill, papermill, and hydropower. Goals of the project included: aquatic community re-establishment, habitat restoration for rare, threatened or endangered species, opening 6.17 miles for fish passage, water quality improvement, supporting independent scientific research relating to the ecology of dams and dam removal, and removing the hydraulic current of the river that can cause drownings.
Contact: George Howard, Restoration Systems, 919-306-4258, george@restorationsystems.com

Rush Mountain Dam, Greer Creek, North Carolina

Soon after Conserving Carolina took ownership of the property, it was discovered that the pond outlet was not functioning and water was overtopping and eroding Rush Mountain Dam. On further investigation, they discovered that the dam appeared to have been constructed or repaired with debris such as shingles and tires. Additionally, they were having serious issues with trespassers near the dam. They decided to remove the attractive nuisance and liability of a complete failure of the earthen dam.
Contact: David Lee, Conserving Carolina, 828-697-5777 ext. 213, david@conservingcarolina.org

Bradford Sewage Lagoon I and II, offstream near Ballinger Run, Ohio

In September 2017, the Village of Bradford removed these two dams built in 1963 for waste retention. The dams were no longer serving a useful purpose.

Jockey Hollow (Conservation Pond) No. 1, 2, and 3 Dams, Tributary to Boggs Fork, Ohio

These three dams were no longer serving a useful purpose and were removed in December 2017. They were originally built for mining purposes and then served some recreational function. Collectively, the dam removals opened approximately one mile of river habitat.

Killdeer Upground Reservoir, offstream near Tymochtee Creek, Ohio

Built in 1971 to create a recreational lake, this earthen dam was removed to eliminate embankment stability issues and create a wildlife area.

Whispering Pines Lake Dam, Tributary to Deer Creek, Ohio

This 13-foot high by 615-foot long recreational earthen dam was removed in November 2017 due to liability and maintenance concerns.

Willow Grove Park Dam, Little Beaver Creek, Ohio

This 6-foot high low-head dam was removed in January 2017 near Lisbon, Ohio. The removal was part of a compensatory settlement with the current owners of a former Salem-area chemical company responsible for contaminating the Middle Fork of the Little Beaver Creek.

Beeson-Robinson Diversion Dam, Wagner Creek, Oregon

The Rogue River Watershed Council removed the Beeson-Robinson Diversion Dam and replaced it with a re-profiled stream channel with a five percent gradient over 115 feet. This engineered stream channel design is expected to improve fish passage while mimicking the pool that is created behind the dam each irrigation season. The project will re-connect three miles of stream for juvenile and adult steelhead and possibly Coho salmon.
Contact: Alexis Brickner, Rogue River Watershed Council, 541-423-6158, abrickner@rogueriverwc.org

Dillon Diversion Dam, Umatilla River, Oregon

Built in 1915 by the Dillon Irrigation Company, this 16-foot high by 200-foot long was removed in July 2017. Its removal re-established 2.6 miles of habitat for federally listed Mid-Columbia steelhead, Chinook and coho salmon, and Pacific lamprey. The project also addressed maintenance and irrigation challenges associated with the structure. Large bedload sediment movement within this reach of the Umatilla had been documented to clog the fish ladder and block the ability of water to access the irrigation ditch. Removal reconnected habitat for salmon and steelhead at all life stages and allowed for a more reliable irrigation system to be put in place.
Contact: Michael Ward, Umatilla Basin Watershed Council, 541-276-2190

Camp Michaux Lower Dam, Toms Run, Pennsylvania

This 4.5-foot high by 32-foot long dam was built in 1928. It had become obsolete, and its removal would provide passage and refuge for Eastern brook trout.
Contact: Craig Fetterhoff, PA Dept Conservation and Natural Resources, 717-783-3319, cfetterhoff@pa.gov

Dugan Run Dam, Dugan Run, Pennsylvania

In January 2017, this 8-foot high by 80-foot long dam was removed from Dugan Run in the Lower Susquehanna River watershed.

Dunbar Dams 2 and 3, Dunbar Creek, Pennsylvania

Both of these 12-foot high by 500-foot long dams were removed in January 2017 from this tributary of the Youghiogheny River. The dams originally provided water supply for coke ovens. The project reconnected coldwater habitat, restored stable stream banks and river function, and improved river recreational opportunities.
Contact: Lisa Hollingsworth-Segedy, American Rivers, 412-727-6130, lh-segedy@americanrivers.org

East Branch Saucon Dam, Tributary to the Lehigh River, Pennsylvania

Owned by the City of Bethlehem, this 4-foot high by 20-foot long concrete dam was removed in September 2017. The project is expected to improve fish and other aquatic wildlife passage, restore coldwater conditions, stabilize stream banks and river function, eliminate a public safety hazard, and reduce flooding.
Contact: Kristie Fach, Wildlands Conservancy, 610-965-4397 x124, kfach@wildlandspa.org

Eckenrode Mills Dam, Chest Creek, Pennsylvania

This stone masonry dam (5-foot high by 100-foot long) was built around 1830. The dam was obsolete, and its removal reconnected habitat for wild brook trout, hellbenders, and possibly American eel.
Contact: Lisa Hollingsworth-Segedy, American Rivers, 412-727-6130, lh-segedy@americanrivers.org

Gorson Dam, Tributary to the Delaware River, Pennsylvania

In May 2017, this 11-foot high by 567-foot long earthen dam was removed. The dam was originally built in 1918 by the Girl Scouts of America.

Maple Dam, Tunkhannock Creek, Pennsylvania

This stone masonry dam was 3-foot tall by 60-foot wide. It was removed to reconnect 15 miles of river, improve fish and other aquatic wildlife passage, restore coldwater conditions, eliminate a public safety hazard, and reduce flooding.
Contact: Kristie Fach, Wildlands Conservancy, 610-965-4397 x124, kfach@wildlandspa.org

Millbrook Farms Dam, Tributary to the Lehigh River, Pennsylvania
This stone masonry dam (4-foot high by 115-foot long) was built to power a grist mill in 1831. Having become obsolete, it was removed to reconnect 5 miles of river, improve fish and other aquatic wildlife passage, restore coldwater conditions, eliminate a public safety hazard, and reduce flooding.
Contact: Kristie Fach, Wildlands Conservancy, 610-965-4397 x124, kfach@wildlandspa.org

Mountain Springs Dam 2, Bowmans Creek, Pennsylvania

In 1911, this 18-foot high by 722-foot long concrete dam was built for recreational purposes. However, it had fallen into disuse and was deemed to be structurally deficient. This removal opened 2 miles of river for fish passage, established a more natural flow regime, and eliminated a public safety hazard.
Contact: Lisa Hollingsworth-Segedy, American Rivers, 412-727-6130, lh-segedy@americanrivers.org

PGC Dams 1, 2, and 3, Lehigh River, Pennsylvania

In September 2017, these three earthen dams owned by the Pennsylvania Game Commission were removed. The water quality downstream is expected to benefit from natural buffering of wetlands, and habitat for wetland species was restored.
Contact: Kristie Fach, Wildlands Conservancy, 610-965-4397 x124, kfach@wildlandspa.org

Solomons Creek Dam, Solomons Creek, Pennsylvania

This 6-foot high by 80-foot long stone masonry dam in Ashley Borough, Pennsylvania, was removed in July 2017. It had become dilapidated, served no useful purpose, and blocked access to habitat for Eastern brook trout. The project is expected to restore the natural form and function of the stream channel, enhance instream and riparian habitats, provide additional cross sectional area for the stream to convey high flows, and limit erosion.
Contact: Ben Lorson, PA Fish and Boat Commission, 814-359-5106, blorson@gmail.com

Tyler Hill Dam, Sunny Brook, Pennsylvania

Built in 1820, this 13-foot high by 160-foot long stone masonry dam was originally constructed by a private entity for recreational purposes.

Wildcat Run Dam, Wildcat Run, Pennsylvania

In January 2017, this 14-foot high by 120-foot long dam was removed.

Nashville Zoo Dam Weir 1 and 2, Cathy Jo Branch tributary to Mill Creek, Tennessee

This pair of small (4-foot high by 8-foot long) concrete and rebar dams were removed in February 2017. The project restored 0.5 miles of upstream habitat for Nashville crayfish, reestablished natural sediment transport downstream, restored flow and open habitat, and increased habitat for Nashville Zoo's local conservation exhibits.
Contact: Mekayle Houghton, Cumberland River Compact, 615-210-9600, mekayle.houghton@cumberlandrivercompact.org

Roaring River Fish Dam, Roaring River, Tennessee

In August 2017, this 10-foot high by 220-foot long was removed. The dam was originally built in 1976 as a fish barrier meant to keep "rough" fish from downstream Cordell Hull reservoir out of the river. The project opened up passage for several migrating fish species, and it may reconnect hellbender populations. Partners restored riffle run habitat upstream of dam, removed a safety hazard, improved river passage for paddling, and increased fishing opportunities.
Contact: Mark Thurman, Tennessee Wildlife Resources Agency, 931-797-9500, mark.thurman@tn.gov

Bagatelle Dam, West River Tributary, Vermont

This private concrete dam (10-foot high by 15-foot long) was built in 1939 to create a pond. Its removal reconnected five miles of habitat for fish passage.
Contact: Ron Rhodes, Connecticut River Conservancy, 802-457-6114, rrhodes@ctriver.org

Dummerston Dam, West River, Vermont

Removal of this 1920s era dam in Dummerston, Vermont, will open up four miles of brook trout habitat that connects to the West River and then directly to the Connecticut River. The project also aims to limit localized flooding and improve recreational fishing.
Contact: Ron Rhodes, Connecticut River Conservancy, 802-457-6114, rrhodes@ctriver.org

East Burke Dam, Passumpsic River, Vermont

This 13-foot high by 150-foot long concrete mill dam was built around 1931. The project reconnected 99 miles of river to improve passage for Eastern brook trout. It also aimed to limit localized flooding and improve recreational fishing.
Contact: Ron Rhodes, Connecticut River Conservancy, 802-457-6114, rrhodes@ctriver.org

East Highgate Dam, Missisquoi River, Vermont

Built around 1807 for mill power and other manufacturing interests, this dilapidated dam had become a safety hazard on the Northern Forest Canoe Trail.
Contact: Noah Pollack, Northern Forest Canoe Trail, 802-496-2285, noah@northernforestcanoetrail.org

Geer Dam, Ompompanoosuc River, Vermont

This project removed an unused hydropower dam from the mainstem of the Ompomanoosuc River, created a natural downstream gradient, corrected geomorphic compatibility, improved water quality, opened 17 miles of brook trout habitat, and created future flood resiliency. The 6-foot high by 20-foot long hydropower dam was built in 1983.
Contact: Ron Rhodes, Connecticut River Conservancy, 802-457-6114, rrhodes@ctriver.org

Harrington Road Dam, Mill Brook, Vermont

In February 2017, this private stone masonry dam was removed to improve aquatic organism passage.
Contact: Marie Caduto, Vermont Dept Environmental Conservation, 802-289-0633, marie.caduto@vermont.gov

Mill Pond Dam, Sullivan Creek, Washington

The Inland Portland Cement Company constructed a log crib dam (1909) and a gated concrete dam (1921), both of which were removed as part of this project. While it was part of the Sullivan Creek Hydroelectric Project in Colville National Forest, Mill Pond Dam did not perform hydroelectric functions or provide flood protection. As part of the Federal Energy Regulatory Commission (FERC) processes to relicense the Boundary Project (owned by Seattle City Light) , and to Surrender the license for the Sullivan Creek Project (owned by Pend Oreille County PUD), it was agreed that Mill Pond Dam should be removed to restore Sullivan Creek to a more natural riverine condition.
Contact: Thomas O'Keefe, American Whitewater, 425-417-9012, okeefe@americanwhitewater.org

Old Okauchee Dam, Oconomowoc Lake, Wisconsin

The Old Okauchee Dam was removed in Waukesha, Wisconsin, in 2017.
Contact: Michelle Hase, WI Department of Natural Resources, 262-574-2127, michelle.hase@wisconsin.gov

72 Dams Removed to Restore Rivers in 2016

American Rivers releases annual list including dams in California, Colorado, Connecticut, Illinois, Indiana, Massachusetts, Michigan, Minnesota, New Hampshire, New Jersey, New York, North Carolina, Oregon, Pennsylvania, Texas, Utah, Vermont, Virginia, Washington, West Virginia, and Wisconsin.

Nationwide, 1384 dams have been removed from 1912 through 2016.

Dam removal brings a variety of benefits to local communities, including restoring river health and clean water, revitalizing fish and wildlife, improving public safety and recreation, and enhancing local economies. Working in a variety of functions with partner organizations throughout the country, American Rivers contributed financial and technical support in many of the removals.

Contact information is provided for dam removals, if available. For further information about the list, please contact Jessie Thomas-Blate, American Rivers, Associate Director of River Restoration at 202.347.7550 or jthomas@americanrivers.org.

This list includes all known dam removals that occurred in 2016, regardless of the level of American Rivers' involvement. Inclusion on this list does not indicate endorsement by American Rivers. Dams are categorized alphabetically by state.

Benbow Dam, South Fork Eel River, California

Formerly standing 20-foot high by 300-foot long, the removal of the Benbow Dam is California's second largest dam removal to date. Benbow Dam was causing safety issues and was in disrepair. The banks of the lake had eroded due to the unnatural wave action caused by the lake and sediment accumulation upstream of the dam. The project will open 50 miles of habitat for salmon, river otters, mountain lions, yellow-legged frogs, and bears. It will also provide new recreational opportunities for the community. *Contact: Bob Lagliuco, NOAA Restoration Center, 707-825-5166, bob.pagliuco@noaa.gov*

Old Carmel River Dam, Carmel River, California

This structure was just downstream of the San Clemente Dam on the Carmel River in California. This project will contribute to the 25 miles of spawning and rearing habitat for South-Central California Coast steelhead. It will also help restore the natural sediment regime, reduce channel incision, and improve habitat for threatened California red-legged frogs. *Contact: Thomas Christianson, California American Water, 831-238-2547*

Riss East, North and South Dams, Four Mile Creek, Colorado

In October 2016, these three illegal dams were removed from the Four Mile Creek, a tributary to the Arkansas River in Colorado. The dams ranged from 38 to 56 feet in height and were built in 1967 for personal fishing purposes. Following a court-ordered removal, three miles were opened for fish passage. *Contact: Mark Perry, Colorado Division of Water Resources, 719-542-3368, mark.perry@state.co.us*

Carpenter Dam & Clark Brothers Dam, Quinnipiac River, Connecticut

A pair of dams in the Quinnipiac River blocking the passage of migratory fish were removed in August 2016. Carpenter Dam in Meriden, Connecticut, and Clark Bothers Dam in Southington, Connecticut, were very old, with Clark Brothers possibly dating back to 1750. Removal of these dilapidated dams reconnected the Quinnipiac River from the Long Island Sound almost up to its headwaters. A 30-inch water pipe was also removed as part of this project, making this stretch of river passable to recreational boaters as well as fish. *Contact: Gwen Macdonald, Save the Sound, 203-787-0646 x123, gmacdonald@savethesound.org*

Century Brass Dam, Mad River, Connecticut

In May 2016, this dam was removed from the Mad River in Connecticut. This concrete dam was dilapidated and no longer serving any useful purpose. This removal project opened up 1.2 miles of habitat for resident fish. *Contact: Kevin Carifa, Connecticut Department of Transportation, Kevin.Carifa@ct.gov*

Norton Paper Mill Dam, Jeremy River, Connecticut

Originally constructed in 1726 to power a mill, this 20-foot high structure was no longer serving a useful purpose, blocked fish passage, and would have required expensive repairs. It was removed from the Jeremy River in December 2016. *Contact: Sally Harold, The Nature Conservancy, 203-226-4991 x113, sharold@tnc.org*

Dempster Street Dam, Des Plaines River, Illinois

The Cook County Forest Preserve District removed this dam in October 2016 as part of a broader initiative to remove seven low-head dams that prevent fish passage, trap bedload material of sand and gravel, and are hazardous to paddlers. This dam was no longer serving a purpose. *Contact: Eric Otto, Forest Preserves of Cook County, 708-771-1382, eric.otto@cookcountyil.gov*

Wright Woods (Dam No. 1A) and Mac Arthur Woods (Dam No. 1B) Dams, Des Plaines River, Illinois

The Lake County Forest Preserve District removed these two dams in order to open up approximately 27 miles of river habitat. This project was designed to improve passage for fish and other aquatic life and provide safe passage for paddlers. *Contact: Jim Anderson, Lake County Forest Preserve District, 847-968-3282*

Winnetka Dam, Skokie River, Illinois

This low-head dam was removed in 2016 by the Cook County Forest Preserve District. The project opened up 0.5-mile of riverine habitat. *Contract: Eric Otto, Forest Preserves of Cook County, 708-771-1382, eric.otto@cookcountyil.gov*

Huntington Mill Dam, Little River, Indiana

The Huntington Mill Dam was built around 1861 to power a flour mill. More than 18 miles of habitat was opened for passage of a state endangered darter species. The project was also designed to increase recreation with the installation of adjacent trails, remove a safety hazard and moderate flood impacts to upstream areas. *Contact: Bryn Keplinger, City of Huntington, 260-356-5146, bryn.keplinger@huntington.in.us*

Mexico Dam, Eel River, Indiana

In October 2016, this 5-foot tall by 160-foot long concrete dam was removed from the Eel River in Mexico, Indiana. *Contact: Dr. Jerry Sweeten, Manchester University, 260-982-5307, jesweeten@manchester.edu*

Beaver Dam Brook Dam, Beaver Dam Brook, Massachusetts

Formerly used for cranberry farming, this project removed a barrier to fish passage and restored more than 200 acres of cranberry bog to river/wetland ecosystem. *Contact: Glorianna Davenport, Tidmarsh Farms/Living Observatory, 617-642-7934, gid@media.mit.edu*

Bleachery Dam, Rattlesnake Brook, Massachusetts

The Bleachery Dam was located at the mouth of the Rattlesnake Brook, which flows to the Assonet River, a tributary of the Taunton River in Freetown, Massachusetts. The removal will support public safety, benefit migratory fish by opening seven miles of habitat, reduce local flooding and improve water quality. This dam was owned by the City of Fall River for back-up water supply, but never used for that purpose. *Contact: Kristopher Houle, Massachusetts Division of Ecological Restoration, 617-626-1543, kris.houle@state.ma.us*

Tack Factory Dam, Third Herring Brook, Massachusetts

The Tack Factory Dam was the first dam on Third Herring Brook upstream from the tidal North River. This dam was removed in December 2016 in order to open 8.5 miles of river for passage of river herring and American eel and to restore riverine physical processes. This river is a tributary to the state-designated Scenic section of the North River, which lists anadromous fish as an outstanding, remarkable resource value. This dam was also a safety hazard and liability for the dam owner. *Contact: Nick Wildman, Massachusetts Division of Ecological Restoration, 617-626-1527, nick.wildman@state.ma.us*

Timber Dam, Amethyst Brook, Massachusetts

This dam was estimated to have been built between 1739 and 1820. The dam was previously unknown as it was buried under sediment until a downstream dam was removed. The project opened access to one-half mile of cold water habitat, and also helped to restore sediment movement within a degraded stream system. *Contact: Alex Hackman, Massachusetts Department of Fish and Game, 617-626-1548, alex.hackman@state.ma.us*

Winchell Dam, Westfield River, Massachusetts

This dam was formerly used to create a water supply impoundment, but was no longer in use. In May 2016, the City of Westfield removed the structure to improve fish passage and river function, as well as eliminate a safety hazard. Winchell Dam is one of five outdated former reservoir dams that the City of Westfield has identified for removal. *Contact: Paul Beaulieu, Tighe & Bond, 413-572-3254, pgbeaulieu@tighebond.com*

Fuller Creek Pond Dam, Thunder Bay, Michigan

In September 2016, this 8-foot high by 75-foot long earthen dam was removed because it had become dilapidated. Formerly used for research purposes, this removal opened almost one-half mile of habitat. *Contact: Todd Wills, Michigan Department of Natura Resources Fisheries, 586-465-4771, willst@michigan.gov*

Kassouni Dam, Pere Marquette River, Michigan

Built around 1950 for a private pond, this small (5-foot high by 15-foot long) concrete structure was removed because it was deteriorating. The project opened one mile of habitat for fish passage. *Contact: Gib King, U.S. Fish and Wildlife Service, 517-351-2241, gib_king@fws.gov*

Lyons Dam, Grand River, Michigan

In August 2016, this former hydropower dam was removed by the Village of Lyons. The project opened 15.5 miles of river for fish passage, sediment transport, and restoration of higher gradient habitat. It also aimed to remove the city's liability, increase recreational use of the river, and improve aesthetics. *Contacts: Scott Hanshue, Michigan Department of Natural Resources, 269-685-6851 x118, hanshues1@michigan.gov; Melissa Eldridge, Ionia Conservation District, 616-527-2620, melissa.eldridge@mi.nacdnet.net*

Adrian Dam, Kanaranzi River, Minnesota

This project removed an old cement six feet high weir dam and replaced it with six rock riffles spaced over 2,000 feet for improved fish passage. Minnesota Department of Transportation aimed to make up the elevation difference for the one mile of stream fall lost when they built an interstate highway and cut off a one mile loop of the river that went south of the interstate in order to avoid building a bridge. *Contact: Scott Ralston, U.S. Fish and Wildlife Service, 507-831-2220, Scott_Ralston@fws.gov*

Sand Hill Dams 1, 2, 3, & 4, Sand Hill River, Minnesota

These four concrete dams were installed on the Sand Hill River as part of a flood control project conducted by the U.S. Army Corps of Engineers in the 1950s. The obstructions took their toll on fish populations by preventing fish migrations, a problem that contributed to wiping out lake sturgeon from the Red River Basin and reduced fishing opportunities in many streams. This project aimed to restore fish passage from the Red River to 50 miles of quality upstream lake sturgeon and walleye habitats in the Sand Hill River by modifying four structures which currently block access. The project included the construction of rock-arch rapids. *Contact: Jamison Wendel, Minnesota Department of Natural Resources, 218-846-8385, Jamison.Wendel@state.mn.us*

Shady Lake Dam, Middle Fork Zumbro River, Minnesota

Removal of this failed dam began in December 2016. It is planned to include construction of rock-arch rapids. The project is expected to increase fish diversity and species richness upstream of the dam, and stabilize sediments accumulated upstream of the dam. *Contact: Terry Lee, Olmsted County, 507-328-6000, Lee.terry@co.olmsted.mn.us*

Cane River Dam, Cane River, North Carolina

This dam was built for hydropower in the early 1900s. The Blue Ridge Resource Conservation and Development Council and the U.S. Fish and Wildlife Service were the project leads. The removal of this dam will allow for the expansion of critical habitat for the federally-listed Appalachian elktoe mussel (*Alasmidonta raveneliana*) and the state species of concern the Eastern hellbender (*Cryptobranchus alleganiensis*). *Contact: Jonathan Hartsell, Blue Ridge Resource Conservation and Development Council, 828-284-9818, hartselljonathan@gmail.com*

Granite Mill Dams 1, 2, & 3, Haw River, North Carolina

This project included the full removal of three remnant dams with the largest of the three being the 2-foot high by 270-foot long Granite Mill Dam. In the 1800s, the Granite Mill Dam was built and rebuilt several

times on the Haw River in the Cape Fear River Basin to power area industry. Before demolition started, only remnants of the dams were left that created a public safety hazard and negative impact to river health. *Contact: Erin McCombs , American Rivers, 828-649-7887, emccombs@americanrivers.org*

Little Buck Creek Pond Dam, Little Tennessee River, North Carolina

This dam and an associated water control structure were removed in order to provide aquatic organism passage and improve stream temperature. Dam removal also eliminated maintenance costs and a potential safety hazard. *Contact: Jason Farmer, U.S. Forest Service, 828-479-6431, jfarmer@fs.fed.us*

Santeetlah Fish Barrier, Santeetlah River, North Carolina

The objective for this project was to restore the watershed to conditions that are more suitable to the native fish and aquatic salamander populations. The Santeetlah Creek Fish Barrier was constructed in the 1960s to prevent native fish from swimming upstream into Santeetlah Creek. The creek was then poisoned upstream of the barrier to remove the native fish and restocked with non-native rainbow and brown trout. In the 1980s, the U.S. Forest Service attempted to construct a fish ladder on the barrier to provide passage for trout, but Santeetlah Creek is too warm at this elevation to support native brook trout. *Contact: Jason Farmer, U.S. Forest Service, 828-479-6431, jfarmer@fs.fed.us*

Shuford Mill Dam, Henry Fork River, North Carolina

The Shuford Mill Dam, formerly a 35-foot tall, 275-foot wide masonry and concrete dam on the Henry Fork River in Brookford, North Carolina, was constructed in the late 1800s to power an adjacent textile mill, but stopped being maintained years ago after the mill closed and the dam no longer served a purpose. The dam removal eliminates the public safety risk of an unmaintained dam, improves the local community's ability to recreate safely on the Henry Fork River, and restores 10 miles of the Henry Fork River for connectivity of aquatic habitat for fish and mussel species. This project is an excellent example of a partnership where American Rivers worked with the Carolina Land and Lakes Resource Conservation and Development Council, the U.S. Fish and Wildlife Service and others to remove an old and outdated dam. *Contacts: Erin McCombs, American Rivers, 828-649-7887, emccombs@americanrivers.org; Melissa Patton, Carolina Land and Lakes RC&D, 828-212-9245*

Umstead Dam, Cape Fear River Basin, North Carolina

This dam was removed from the Cape Fear River Basin in 2016 by Backwater Inc.

Great Dam, Exeter River, New Hampshire

This project involved the removal of a dam built in 1831 on an important coastal river for migratory species. Dams have been at or near this site since the mid-1600s. The dam impoundment stretched for over four miles and blocked access to 21 miles of habitat. Migratory species were already returning during the construction, finding their way back to historic habitat after nearly four centuries. *Contact: Office of Public Works, Town of Exeter, PublicWorks@exeternh.gov*

McQuesten Dams 1, 2, and 3, McQuesten Brook, New Hampshire

These three dams were all part of a priority dam removal site identified in the McQuesten Brook Watershed Restoration Plan lead by the New Hampshire Rivers Council. They were unregistered dams with no ownership linkage and created an impoundment called "McQuesten Pond." The pond is on the 303(d) list of impaired waters due to elevated levels of chlorophyll-a and insufficient dissolved oxygen and oxygen saturation to support fish. Post-removal conditions will support designated uses, create more fish passage in the watershed, and alleviate flooding of adjacent businesses. *Contact: Michele Tremblay, The New Hampshire Rivers Council, 603-796-2615, mlt@naturesource.net*

South Main Street Dam, McQuesten Brook, New Hampshire

This priority dam removal site was identified in the McQuesten Brook Watershed Restoration Plan lead by the New Hampshire Rivers Council. This was an unregistered dam with no ownership linkage, and it resulted in the death of wild adult Eastern brook trout during high flows. The dam was removed by the project partners to eliminate the mortality of trout and to improve aquatic organism passage and geomorphic integrity in the watershed. *Contact: Michele Tremblay, The New Hampshire Rivers Council, 603-796-2615, mlt@naturesource.net*

Hughesville Dam, Musconetcong River, New Jersey

This dam was the lowest blockage on the Musconetcong River and removal provided access to two miles of historic river herring spawning and nursery habitat. Migratory fish species that will benefit from the project include American shad, alewife, blueback herring and American eel. In addition to fish passage, removal of the dam restored free-flowing conditions to the Musconetcong River, allowed passage of aquatic organisms, improved water quality and restored natural movement of sediments. The Musconetcong Watershed Association coordinated work with property owners, engineers, contractors and partners including U.S. Fish and Wildlife Service, the New Jersey Department of Environmental Protection, American Rivers and others. *Contact: Alan Hunt, Musconetcong Watershed Association, 908-537-7060, alan@musconetcong.org*

Westor Dam, Willow Brook, New Jersey

In December 2016, this earthen dam was breached because it was breaking down and no longer serving a useful purpose. *Contact: Sarah Hatala, New Jersey Department of Environmental Protection Bureau of Dam Safety, 609-984-0859, sarah.hatala@dep.nj.gov*

Ausable Quarry Dam, West Branch Ausable River, New York

Located within the Sentinel Range Wilderness Area, this dam was removed over the course of five years by Trout Unlimited.

Hogansburg Dam, Saint Regis River, New York

Following the decision that re-licensing of the Hogansburg Project was cost-prohibitive, the Saint Regis Mohawk Tribe led the removal of the 281-foot long and 12-foot high Hogansburg Dam. As the first impassible barrier to fish on the St. Regis River, removal of the dam restored access to 555 miles of stream habitat in the watershed, returned project land to the Saint Regis Mohawk Tribe, and also included protection of an upstream bridge. Completion of the project marked the first removal of a hydropower dam in New York State and the first removal of a federally-licensed dam in the U.S. by a Native American tribe. *Contact: Tony David, Saint Regis Mohawk Tribe, Environment Division, 518-358-5937 x112, tony.david@srmt-nsn.gov*

Shapp Pond Dam, East Branch Wappinger Creek, New York

Built in 1967, a significant portion of this dilapidated concrete 12-foot high by 72-foot long dam was removed in September 2016, to open nearly five miles of habitat for American eel, resident fish such as trout, and many other organisms. *Contact: Dutchess County Soil and Water Conservation District, 845-677-8011, dutch@dutchessswcd.org*

Wynants Kill Dam (aka Hudson Valley Fuel Dam), Wynants Kill, New York

In the City of Troy, the first barrier to fish was removed on the Wynants Kill in early May 2016, and in less than five days, alewives had retaken the tributary as spawning habitat for the first time in 85 years.

The City of Troy got a tributary restoration grant from the New York Department of Environmental Conservation Hudson River Estuary Program and removed the barrier, reconnecting more than one-quarter mile of spawning habitat for river herring, and improving habitat for many other species including American eel. This barrier had been identified by World Resources Institute staff as a critical barrier to migratory and resident fish, as well as many other aquatic and riparian organisms. *Contact: Leah Rae, Riverkeeper, 914-715-6821, lrae@riverkeeper.org*

Odell Dam, Hood River, Oregon

Formerly used for small-scale hydropower, the removal of this structure opened up two miles for passage of winter steelhead, coastal cutthroat trout and other species. The project also aimed to improve water quality and reduce streambed siltation downstream from the former dam site. *Contact: Cindi Thieman, Hood River Watershed Group, 541-386-6063, cindy@hoodriverswcd.org*

Hershey's Mill Dam #2, Ridley Creek, Pennsylvania

This nearly 7-foot high by 350-foot long dam was removed from Ridley Creek in East Goshen Township, Pennsylvania, in September 2016.

Bald Knob Dam, Potato Garden Run, Pennsylvania

Built in 1974, this 65-foot high by 650-foot long dam was deteriorating and removed for safety reasons in September 2016. *Contact: Anthony Rosenberger, Chapman Properties, LLC, (860) 627-8999*

Beaver Pond Dam, Stockport Creek, Pennsylvania

Likely constructed sometime before 1919, this 26-foot high by 130-foot long dam was removed from Stockport Creek in Buckingham Township, Pennsylvania.

Bridle Path Dam, Monocacy Creek, Pennsylvania

In July 2016, this small concrete dam was removed to open one mile of river for fish passage and habitat improvement. The project returned the creek to free-flowing natural conditions with stable, vegetated streambanks and a narrower, cooler stream channel. It also improved fish passage for recreational opportunities and reduced flooding, erosion and sedimentation. *Contact: Kristie Fach, Wildlands Conservancy, 610-965-4397, kfach@wildlandspa.org*

Dunbar #4 Dam, Dunbar Creek, Pennsylvania

Built in 1902, this 14-foot high by 140-foot long concrete dam was removed from Dunbar Creek after it failed. The project reconnected 43 river miles for wild brook trout and eliminated an obsolete safety hazard. *Contact: Lisa Hollingsworth-Segedy, American Rivers, 412-727-6130, lh-segedy@americanrivers.org*

Firepond Dam, Dutchman Run, Pennsylvania

In September 2016, this 5-foot high by 25-foot long concrete dam was removed in order to open one and a half miles of aquatic habitat for wild brook trout and eliminate obsolete infrastructure. *Contact: Lisa Hollingsworth-Segedy, American Rivers, 412-727-6130, lh-segedy@americanrivers.org*

Hinnershitz Settling Basin Dam, Antietam Creek, Pennsylvania

This 9-foot high obsolete dam was removed by the Reading Area Water Authority in August 2016. *Contact: Reading Area Water Authority, 610-406-6300*

Long Run Dam, Long Run, Pennsylvania

Built in 1935, this 7.5-foot high by 276-foot long stone masonry dam had fallen into disrepair. The project improved aquatic habitat connectivity for wild brook trout and eliminated obsolete infrastructure in order to increase public safety. *Contact: Jack Hill, Pennsylvania Department of Conservation and Natural Resources, jahill@pa.gov*

Olyphant #1 Dam, Grassy Island Creek, Pennsylvania

In October 2016, this 102-year old dam was removed because it was deteriorating and serving no useful purpose. *Contact: Jack Hill, Pennsylvania Department of Conservation and Natural Resources, jahill@pa.gov*

Unnamed (unofficially Bridle Path Dam), Monocacy Creek, Pennsylvania

Removal of this run-of-the-river dam was completed to restore fish passage and aquatic habitat, improve water quality, and reduce flooding and erosion. Native trees and shrubs were planted after removal to establish a riparian buffer. *Contact: Kristie Fach, Wildlands Conservancy, 610-965-4397, kfach@wildlandspa.org*

Ottine Dam, San Marcos River, Texas

This 108-year old dam was damaged by a storm in 2008 and has been a safety hazard in the San Marcos River ever since. Without the dam, the river will have an unobstructed 39 mile stretch of water and regain its natural movement and flow. This will benefit fish and other aquatic species, including mussels. Kayakers and canoers that participate in the Texas Water Safari annual race from the San Marcos headwaters to the coast will no longer be required to port and carry their equipment up and down a steep incline to bypass the dangerous dam. Texas Parks and Wildlife Department is also considering now adding the stretch of river to their paddling trails system for Palmetto State Park, which is just downstream of the dam, to enhance the local economy. *Contact: Mike Montagne, U.S. Fish and Wildlife Service, 512-353-0011 ex. 236, mike_montagne@fws.gov*

Mill Creek Dam, Jordan River, Utah

This abandoned dam on National Forest lands in Utah was removed in November 2016. Originally built around 1915 for hydropower, the dam was removed to open four miles of habitat for Bonneville cutthroat trout. The project also allowed for the elimination of maintenance costs. *Contact: Paul Cowley, U.S. Forest Service, 801-999-2177, pcowley@fs.fed.us*

Monumental Mills Dam, Hazel River, Virginia

A high priority removal for improving aquatic connectivity for migratory fish species, this project opened up 28 miles of the Hazel River, plus an additional 257 upstream functional network miles for migratory and resident fish migration. This project will allow for healthier fish and mussel populations and restored natural stream habitat and function. In addition, a waterway hazard for paddlers has been removed. *Contact: Alan Weaver, Virginia Department of Game and Inland Fisheries, 804-367-6795, alan.weaver@dgif.virginia.gov*

Power Dam, Pigg River, Virginia

This project restored 2.2 miles of aquatic instream habitat for the federally-listed endangered Roanoke logperch (*Percina rex*). Another mile upstream of the dam's impoundment and five miles downstream of the dam were restored through increasing complexity of instream habitat, vegetation, and competency to transport sediment. The project also improved the remaining 45-mile river segment downstream to

Leesville Lake through changes in channel habitat, stability, and complexity by restoring continuity to the headwaters. *Contact: Dave Byrd, U.S. Fish and Wildlife Service, 804-824-2412, david_byrd@fws.gov; Bill Tanger, Friends of the Rivers of Virginia, 540-266-0237, bill.tanger@verizon.net*

Randolph Dam (aka Sargent, Osgood, and Roundy Dam), White River, Vermont

Constructed in the 1930s in order to protect a bridge abutment from scour, this 4-foot high by 80-foot long metal dam was removed in September 2016. This removal opened up 88 miles of river habitat for Eastern brook trout (*Salvelinus fontinalis*). The project is also expected to limit localized flooding and improve recreational fishing. *Contact: Mary Russ, White River Partnership, 802-763-7733 Box 1, mary@whiteriverpartnership.org*

Reed Diversion Dam, Manashtash Creek, Washington

Removal of this 10-foot high dam has opened 20 miles of habitat for passage for steelhead, coho and chinook salmon. In this case, a number of water supply diversions in a watershed were consolidated, water was returned to tributary creeks, and fish passage was improved while maintaining water for use by private water diverters. *Contact: Christina Wollman, Kittitas County Flood Control Zone District, 509-962-7523, Christina.wollman@co.kittitas.wa.us*

Five Mile Creek Dam, Five Mile Creek, Wisconsin

This 12-foot high by 40-foot long former water supply dam was removed in 2016. *Contact: Joe Behlen, Wisconsin Department of Natural Resources, 715-421-9940, joseph.behlen@wisconsin.gov*

Gordon Dam, Eu Claire River, Wisconsin

Built in 1932, this 33-foot high by 1550-foot long former hydropower dam was removed in 2016. *Contact: Frank Dallam, Wisconsin Department of Natural Resources, 715-635-4064, frank.dallam@wisconsin.gov*

Haskins Dam, White River, Wisconsin

This 18-foot high dam was removed from the White River, Wisconsin, in 2016. *Contact: Tanya Lourigan, Wisconsin Department of Natural Resources, 608-275-3287, tanya.lourigan@wisconsin.gov*

Mineral Springs Creek Dam, Mineral Springs Creek, Wisconsin

This 10-foot high by 40-foot long dam was removed from Mineral Springs Creek, Wisconsin, in 2016. *Contact: Andrea Knutson, Wisconsin Department of Natural Resources, 262-574-2188, AndreaK.Knutson@wisconsin.gov*

Highland Dam, Two Lick Dam and West Milford Dam, West Fork River, West Virginia

These three dams were constructed in the early 1900s for water supply. Their collective removal opened up 490 miles of habitat for endangered freshwater mussels (snuffbox (*Epioblasma triquetra*) and clubshell (*Pleurobema clava*)) and native species of fish. The project also increased access for recreation and safe passage for paddlers on the water trail. The total estimated socioeconomic benefit of the project is $25 million. *Contact: Callie McMunigal, U.S. Fish and Wildlife Service, 304-536-1361 x151, callie_mcmunigal@fws.gov*

62 Dams Removed to Restore Rivers in 2015

American Rivers releases annual list including dams in California, Connecticut, Hawaii, Illinois, Maine, Maryland, Massachusetts, Michigan, Minnesota, Montana, New Hampshire, New Jersey, New York, North Carolina, Ohio, Oregon, Pennsylvania, Rhode Island, Tennessee, Vermont, and Virginia

Nationwide, 1300 dams have been removed from 1912 through 2015.

Dam removal brings a variety of benefits to local communities, including restoring river health and clean water, revitalizing fish and wildlife, improving public safety and recreation, and enhancing local economies. Working in a variety of functions with partner organizations throughout the country, American Rivers contributed financial and technical support in many of the removals.

Contact information is provided for dam removals, if available. For further information about the list, please contact Jessie Thomas-Blate, American Rivers, Associate Director of River Restoration at 202.347.7550 or jthomas@americanrivers.org.

This list includes all known dam removals that occurred in 2015, regardless of the level of American Rivers' involvement. Inclusion on this list does not indicate endorsement by American Rivers. Dams are categorized alphabetically by state.

Memorial Park Dam, Pescadero Creek, California

In October 2015, the Memorial Park Dam was removed as part of the Memorial Park Fish Passage Improvement Project. This project opened 62 miles of creek habitat to coho salmon and improved migratory conditions for juvenile salmonids. The project will also increase the flood flow capacity of the river. *Contact:* Kellyx Nelson, San Mateo County Resource Conservation District, kellyx@sanmateorcd.org

San Clemente Dam, Carmel River, California

Removal of the 106 feet high San Clemente Dam represents the largest dam removal project in California history. The antiquated dam threatened 1,500 homes and other public buildings in the event of a large flood or earthquake. Now over 25 miles of essential spawning and rearing habitat in the Carmel River is open to South-Central California Coast steelhead, sediment is moving through the system in a natural way to replenish downstream beaches, and habitat has been improved for threatened California Red-Legged Frogs and other species. *Contact:* J. Aman Gonzalez, California American Water, julio.gonzalez@amwater.com

Ed Bills Pond Dam, East Branch Eightmile River, Connecticut

The Ed Bills Pond Dam project is the third in a series of removals in the Eightmile River Watershed, which is a tributary to the Connecticut River. The dam removal restored upstream

access for migratory fish and five acres of river, wetland and floodplain habitat. This project was also beneficial for reducing flooding at a downstream bridge. *Contact:* Amy Singler, American Rivers, asingler@americanrivers.org

Griswold Rubber Dam, Moosup River, Connecticut

The Griswold Rubber Dam removal is the third barrier removal on the Moosup River as part of a partnership with Connecticut Department of Energy and Environmental Protection and Natural Resources Conservation Service to restore the Moosup River, a tributary to the Quinebaug River. This low-head dam was removed to improve fish passage and restore the health of the river. *Contact:* Amy Singler, American Rivers, asingler@americanrivers.org

Hyde Pond Dam, Whitford Brook, Connecticut

The Hyde Pond Dam removal was completed this year on Whitford Brook, a tributary of the Mystic River. This project restored fish passage to 4.1 stream miles and habitat for alewife, blueback herring and American eel (candidate species under the Endangered Species Act), and mitigated flooding risk downstream of the dam. *Contact:* Gwen Macdonald, Save the Sound, gmacdonald@savethesound.org

Pond Lily Dam, West River/Long Island Sound, Connecticut

The Pond Lily Dam removal project increased the capacity of the river and associated communities to withstand storms by eliminating the looming hazard of catastrophic dam failure during future flooding. Originally built to support a grist mill in 1794, removal of this dilapidated structure opened approximately 2.6 miles of the West River and 76 acres of Konold's Pond habitat to migratory fish, including river herring, American eel and American shad. The project redefines best practices by applying the innovative solution of dam removal to improve coastal defenses. *Contact:* John Champion, Save the Sound, jchampion@savethesound.org

Straight Pond Dam, Poquetanuck River, Connecticut

The Straight Pond Dam was a small (2 feet high, 40 feet long) state-owned structure on the Poquetanuck River, a tributary of the Thames River. Removal of this structure opened up 1.3 miles of habitat for fish passage and mussel movement through the river. *Contact:* Steve Gephard, Connecticut Department of Energy and Environmental Protection, steve.gephard@ct.gov

Talbot Wildlife Management Area Dam, Merrick Brook, Connecticut

Located in Scotland, Connecticut, the small (4 feet high, 60 feet long) Talbot Wildlife Management Area Dam was dilapidated and in need of removal. This project helped improve river connectivity for trout. *Contact:* Brian Murphy, Connecticut Department of Energy and Environmental Protection, brian.murphy@ct.gov

White Rock Dam, Pawcatuck River, Connecticut/Rhode Island

The White Rock Dam crosses the border between Stonington, Connecticut, and Westerly, Rhode Island. Originally built around 1770 for mill power, this dam had been replaced multiple times with different materials. This project opened up 15 miles of the river for fish passage, and helped

mitigate flood waters near the river. *Contact:* Terry Sullivan, The Nature Conservancy, tsullivan@tnc.org

Ahukini Reservoir Dam, Kapaia Ditch, Kauai, Hawaii

In 1926, the Ahukini Reservoir was created for irrigation purposes using a 15 feet high by 2500 feet long dam. It was removed in 2015. *Contact:* Edwin Matsuda, Hawaii Department of Land and Natural Resources, edwin.y.matsuda@hawaii.gov

Winnetka Dam, Skokie River, Illinois

The Forest Preserve District of Cook County removed the Winnetka Dam in November 2015. The structure was a concrete-capped sheet piling dam with wing walls. The goals of this project were to improve water quality in the vicinity of the dam, remove barriers that prevent free movement of fish and other aquatic organisms, provide safe recreation opportunities, and eliminate maintenance concerns and expenses related to the aging dam. *Contact:* Eric Otto, Cook County Forest Preserve District, eric.otto@cookcountyil.gov

Millie Turner Dam, Nissitissit River, Massachusetts

The Millie Turner Pond Dam was located on the Nissitissit River and was part of property acquired by the Massachusetts Department of Fish and Game in 2010 for its significant ecological value. Removal of this 10-foot-high dam will benefit coldwater fish and numerous rare species that use the considerable area of protected open space nearby. *Contact:* Alex Hackman, Massachusetts Division of Ecological Restoration, alex.hackman@state.ma.us

Plymco Dam, Town Brook, Massachusetts

The Plymco Dam removal project restored fish passage to a historic herring run, including hundreds of acres of prime spawning habitat. Besides the dam removal, the project also daylighted a 72-foot culverted portion of Town Brook. Previous phases removed the Billington Street Dam, the Off-Billington Street Dam, and improved fish passage at the mouth of the brook. *Contact:* Nick Wildman, Massachusetts Division of Ecological Restoration, nick.wildman@state.ma.us

Centreville Dam, Gravel Run, Maryland

A smaller structure at five feet tall and ten feet long, the Centreville Dam exacerbated upstream flooding on Gravel Run, threatening local businesses and the police station that are located along the former impoundment. With climate change expected to increase the incidence of flooding in the area, American Rivers, the Town of Centreville and others partnered to improve local flood resiliency by removing the dam and restoring the natural stream channel and surrounding habitat. In addition to alleviating some upstream flooding, removal of the dam allowed access to 13 miles of additional upstream habitat for alewife, river herring, American eel and other native fish. *Contact:* Serena McClain, American Rivers, 202-347-7550, smcclain@amrivers.org

Goff Mill Brook Dam, Goff Mill Brook, Maine

In September 2015, the Goff Mill Brook Dam (4 feet high by 25 feet long) was removed in Arundel, Maine. The goal of this project was to restore ecological function to the river. Seven

miles of river were reconnected through this dam removal. *Contact:* Wells National Estuarine Research Reserve and the Sebago Chapter of Trout Unlimited

Morgan Dam, Perry Cree, Michigan

Through the removal of the dilapidated Morgan Dam, 50 miles of habitat were reconnected to improve fish passage, ecological function, and fishing and recreational use. *Contact:* Chris Freiburger, Michigan Department of Natural Resources, freiburgerc@michigan.gov

Song of the Morning Ranch Dam (Golden Lotus Dam; Lansing Club Dam), Pigeon River, Michigan

Located on a Blue Ribbon trout stream, the Song of the Morning Ranch Dam separated the headwaters of the Pigeon River from the rest of this thriving cold water system. In 2008, a silt spill caused a catastrophic fish kill downstream, and ultimately led to a collaborative agreement to restore the river and remove this 22 feet high dam. Careful management of sediment at this dam removal site will ensure that the Pigeon River is able to thrive following the removal. *Contact:* Jim Pawloski, Michigan Department of Environmental Quality, pawloskij@michigan.gov

Thompson Dam, Thompson Creek, Michigan

Built in 1944, the Thompson Dam was a 6 feet high by 36 feet long structure on a tributary to the Manistique River in Michigan. This project opened four river miles for fish passage, improvement of ecological function, and enhancement of river recreation. *Contact:* Jan VanAmberg, Michigan Department of Natural Resources, vanambergj@michigan.gov

Williams Creek Dam, Williams Creek, Michigan

A second dam removal occurred in July 2015 in Thompson, Michigan— the Williams Creek Dam. This structure was 10 feet high by 80 feet long, and a maintenance burden and liability concern. This project opened two miles of river habitat for fish and river recreation. *Contact:* Jan VanAmberg, Michigan Department of Natural Resources, vanambergj@michigan.gov

Wraco Lodge Dam, Wolf Creek, Michigan

In September 2015, crews removed the remnants of the failed earthen Wraco Lodge Dam that had been blocking Wolf Creek. This project restored five miles of river habitat. *Contact:* Jim Pawloski, Michigan Department of Environmental Quality, pawloskij@michigan.gov

Barnesville Dam, Whiskey Creek, Minnesota

In November 2015, the Barnesville Dam was removed and a rock rapid was constructed on Whiskey Creek, a tributary to the Nelson River. *Contact:* Amy Childers, Minnesota Department of Natural Resources Stream Habitat Program, amy.r.childers@state.mn.us

High Island Creek Dam, High Island Creek, Minnesota

In November 2015, the High Island Creek Dam was removed from a Mississippi River Basin tributary. *Contact:* Amy Childers, Minnesota Department of Natural Resources Stream Habitat Program, amy.r.childers@state.mn.us

Knutson Dam, Mississippi River Basin, Minnesota

The Knutson Dam was removed from the Mississippi River Basin in November 2015. Following the removal, a rock rapid was installed at the site. *Contact:* Amy Childers, Minnesota Department of Natural Resources Stream Habitat Program, amy.r.childers@state.mn.us

Mike Horse Dam, Blackfoot River, Montana

The Mike Horse Dam impounded a mine tailings pond on Helena National Forest. The U.S. Forest Service partnered with Montana Department of Environmental Quality to manage the reclamation and remediation of the tailings and dam removal. The lead and zinc mine tailings date back to the World War II-era. This $40 million project was funded through a settlement between the state and former mine owner Asarco. In 1975, this dam blew out, sending 200,000 cubic yards of tailings downstream, devastating fish and other river species. *Contact:* Shellie Haaland, Montana Department of Environmental Quality, shaaland@mt.gov

Lower Big Hungry Dam, Big Hungry River, North Carolina

The Lower Big Hungry Dam was built atop a bedrock cascade in a narrow location in the valley on the Big Hungry River. Originally a hydropower facility, the structure had fallen into disrepair and presented a safety liability. The structure also impaired physical and biological processes within the watershed. The Upper Big Hungry Dam (less than one mile upstream) will likely be removed in the next two years. *Contact:* Scott Loftis, North Carolina Wildlife Resources Commission, scott.loftis@ncwildlife.org

Greene Wildlife Pond Dam, Merrimack River, New Hampshire

In November 2015, the 13 feet high by 190 feet long Greene Wildlife Pond Dam was removed from the Merrimack River. The structure had become obsolete, and its removal reconnected four miles of river. *Contact:* Steve Doyon, New Hampshire Department of Environmental Services, steve.doyon@des.nh.gov

Tannery Brook Dam, Merrimack River, New Hampshire

The Tannery Brook Dam was removed from the Merrimack River in August 2015. This obsolete structure was 19 feet high by 175 feet long, and its removal opened up 2.5 miles of river habitat. *Contact:* Steve Doyon, New Hampshire Department of Environmental Services, steve.doyon@des.nh.gov

Westecunk Creek Barrier, Westecunk Creek, New Jersey

This project involved the removal of the Westecunk Creek Barrier and subsequent re-contouring and planting of the surrounding banks. The structure was partially decommissioned and water was flowing freely through the main structure before the restoration project commenced. This

project is expected to improve passage for migratory and year-round resident fish species, especially alewife, blueback herring and American eel. *Contact:* Virginia Rettig, U.S. Fish and Wildlife Service, virginia_rettig@fws.gov

Chenango 7 Wildlife Pond Dam, Tributary to Kelsey Creek, New York

The 8 feet high by 120 feet long Chenango 7 Wildlife Pond Dam was removed in Bainbridge, New York, in September 2015.

Petro Dam (Lower Mill Brook Dam), Mill Brook, New York

In December 2015, the Petro Dam was finally removed from Mill Brook after sustaining damage from Hurricane Irene in 2011.

Saw Mill Dam, Bouquet River, New York

The Village of Willsboro removed the Saw Mill Dam in September 2015. This timber crib structure was 9 feet high and 200 feet long.

Morrow Lake Dam, Flint Run, Ohio

The Ohio Division of Mineral Resources Management completed this project to remove an old strip mine pond created by the Morrow Lake Dam. This dam was nearly 40 feet high and 275 feet long.

Canyon Creek Meadows Dam, Canyon Creek, Oregon

Considered the most unsafe dam in the State of Oregon, the Canyon Creek Meadows Dam was removed in October 2015 to eliminate a high hazard structure. This project was also designed to improve channel connectivity and sediment transport, including movement of large wood. *Contact:* Ken Loffink, Oregon Department of Fish and Wildlife, ken.j.loffink@state.or.us

Wimer and Fielder Dams, Evans Creek, Rogue River Basin, Oregon

This pair of concrete dams was built in the 1930's for private irrigation diversion. By the 1980's, the dams were obsolete and left to deteriorate without regular maintenance. With these removals, salmon and steelhead will be able to move 70 miles farther upstream to colder habitats more suitable for spawning. The Oregon Department of Fish and Wildlife had listed these barriers as two of the top ten impediments to fish passage in the state (out of more than 40,000 manmade obstacles). *Contact:* Denise Hoffert, American Rivers, denise.amrivers@peak.org

Adams Run Dam, Adams Run, Pennsylvania

On Adams Run, a tributary to the Susquehanna River, an obsolete earthen dam (9 feet high by 230 feet long) was removed in 2015. *Contact:* Pine Grove Borough, 570-345-3555

Cherry Run Dam, Cherry Run, Pennsylvania

This project involved removal of an obsolete dam in order to make room for the installation of an Acid Mine Drainage treatment system. *Contact:* Mark Killar, Western Pennsylvania Conservancy, mkillar@paconserve.org

Croton Lake Dam, Crow Creek, Pennsylvania

On a tributary to the Delaware River, the 15 feet high by 190 feet long Croton Lake Dam was removed. This structure had been part of a retention basin that had become obsolete. *Contact:* Croton Lake Association, 215-649-2815

Duck Marsh Pond 26 Dam, Mosquito Creek, Pennsylvania

Built in the 1950's, Duck Marsh Pond 26 Dam was removed from a Susquehanna River tributary to improve habitat connectivity and access for fish, restore wetlands, and improve fishing opportunities. This removal was the second in a broader project. *Contact:* Chip Schaffer, Pennsylvania Game Commission, fschaffer@pa.gov

Dunn Dam, Sandy Run, Pennsylvania

The Dunn Dam was removed in 2015 on a tributary to the Delaware River. *Contact:* Chester Valley Golf Course, 215-647-5219

Egypt Plant Dam and Egypt Quarry Dam, Coplay Creek, Pennsylvania

The removal of Egypt Plant Dam and Egypt Quarry Dam have collectively opened up four miles of river on a tributary to the Lehigh River in Pennsylvania. *Contact:* Kristie Fach, Wildlands Conservancy, 610-965-4397 x124, kfach@wildlandspa.org

Fairway #7 Pond Dam, Valley Creek, Pennsylvania

This small (2 feet high by 14 feet long) stone masonry dam became obsolete and was removed in 2015 from a Delaware River tributary.

Gibson Pumping Station Dam, Pigeon Creek, Pennsylvania

The Gibson Pumping Station Dam was removed from a tributary to the Ohio River in 2015. The structure had become obsolete and created a liability.

Heistand Sawmill Dam, Chiques Creek, Pennsylvania

Built around 1920, the Heistand Sawmill Dam, located on a tributary to the Susquehanna River, was removed in the summer of 2015. This 15 feet high by 200 feet long dam had become obsolete. Its removal opened up 36.6 miles of habitat for migratory fish species, and eliminated a public safety hazard. *Contact:* Laura Craig, American Rivers, lcraig@americanrivers.org

Ingham Creek Dam, Aquetong Creek, Pennsylvania

An earthen structure, the Ingham Creek Dam (24 feet high by 645 feet long) was removed in 2015 because it had become an obsolete liability. *Contact:* Solebury Township, 215-297-5656

Lake Lehman Dam, Codorus Creek, Pennsylvania

Orignally created for water supply purposes, the Lake Lehman Dam was 52 feet high by 680 feet long. This earthen structure was removed in 2015 because it had become obsolete. *Contact:* Glatfelter Paper Co, 717-225-4711

Laurel Park Dam, Conewango Creek, Pennsylvania

In 1926, Laurel Park Dam (16 feet high by 280 feet long) was constructed for recreational purposes on a tributary to the Susquehanna River. This dam had become obsolete, and was removed in 2015.

McNamara Dam, Field Brook, Pennsylvania

The 24 feet high McNamara Dam was removed from a tributary to the Susquehanna River in 2015. The earthen dam had become a liability for the owner.

Pulaski Mills Dam, Shenango River, Pennsylvania

The Pulaski Mills Dam (8 feet high by 400 feet long) failed and was consequently removed in 2015. This project reconnected 11 miles of river in a tributary to the Ohio River. This project is expected to benefit freshwater mussels and improve angling and boating access. *Contact:* Chip Schaffer, Pennsylvania Game Commission, fschaffer@pa.gov

Scholars Run Diversion Dam, Scholars Run, Pennsylvania

The Scholars Run Diversion Dam (5 feet high by 40 feet long) was removed in November 2015 as part of a bridge replacement project. This obsolete structure's removal will reconnect two miles of stream and help to reduce highway flooding. *Contact:* Donald Peppe, Zelienople Borough, zelieborough@zoominternet.net

SGL #69 Dam 13, West Branch Sugar Creek, Pennsylvania

This obsolete dam was removed from a tributary to the Ohio River in 2015. *Contact:* Chip Schaffer, Pennsylvania Game Commission, fschaffer@pa.gov

Summit Hill Dam, Darby Creek, Pennsylvania

The 9 feet high earthen Summit Hill Dam was removed from a Delaware River tributary in 2015. This project restored one mile of river.

Taylor Run Dam, Taylor Run, Pennsylvania

Standing 6 feet high and 120 feet long, the earthen Taylor Run Dam was originally built for water supply purposes. This project improved habitat connectivity and fish passage on nearly six miles of a Susquehanna River tributary. *Contact:* Tioga County Conservation District, 570-724-1801

Trexler Nature Preserve Dam, Jordan Creek, Pennsylvania

Removal of the Trexler Nature Preserve Dam on a Delaware River tributary reconnected 10 miles of river. *Contact:* Kristie Fach, Wildlands Conservancy, kfach@wildlandspa.org

Unnamed Dam, Frankstown Branch of Susquehanna River, Pennsylvania

This failed unnamed dam (12 feet high by 50 feet long) on a Susquehanna River tributary was removed in August 2015. The project involved dam removal and stream channel improvements using Large Woody Debris. Habitat connectivity was restored on one mile of river and passage

for wild brook trout was improved. *Contact:* Lisa Hollingsworth-Segedy, American Rivers, lh-segedy@americanrivers.org

Water Supply Dam, Little Meshoppen Creek, Pennsylvania

This nine feet high municipal water supply dam was removed from a Susquehanna River tributary in 2015. *Contact:* Meshoppen Borough, 570- 833-5556

Woodland Dam, Little Sewickley Creek, Pennsylvania

In August 2015, the Woodland Dam (3 feet high by 45 feet long) was removed from an Ohio River tributary. This project reestablished connectivity for 17.6 river miles, and eliminated an obsolete public safety hazard. *Contact:* Eric Chapman, Western PA Conservancy, echapman@paconserve.org

Sevenmile Dam, Sevenmile Creek, Tennessee

The lowhead Sevenmile Dam was removed to improve aquatic organism passage on Sevenmile Creek, a tributary to the Cumberland River in Nashville, Tennessee. This project improved passage for the federally endangered Nashville crayfish (*Orconectes shoupi*), which is only found in the Mill Creek watershed, of which Sevenmile Creek is a part. *Contact:* Mekayle Houghton, Cumberland River Compact, Mekayle.Houghton@cumberlandrivercompact.org

Upper Citico Creek Dam, Citico Creek, Tennessee

The Upper Citico Creek Dam was removed in October 2015 on a tributary to the Tennessee River. This structure was owned by the U.S. Forest Service, and was removed in order to restore aquatic organism passage and support natural ecological river function. The project opened up 2.3 river miles on Citico Creek. *Contact:* Erin McCombs, American Rivers, emccombs@americanrivers.org

Marion Ice Plant Dam, Middle Fork Holston River, Virginia

In February 2015, the 12 feet high by 95 feet long Marion Ice Plant Dam was removed to restore connectivity to 15 miles of the Middle Fork Holston River. *Contact:* Melanie Carter, U.S. Fish and Wildlife Service, melanie_carter@fws.gov

Groton Dam #9, Wells River, Vermont

Groton Dam #9 (10 feet high by 160 feet long) was removed from a tributary to the Connecticut River in September 2015. This project reconnected 34 miles of river, improving fish passage and recreational opportunities. *Contact:* Ron Rhodes, Connecticut River Watershed Council

72 Dams Removed to Restore Rivers in 2014

American Rivers releases annual list including dams in California, Colorado, Connecticut, Delaware, Iowa, Idaho, Illinois, Maine, Massachusetts, Michigan, New Hampshire, New Jersey, Ohio, Oregon, Pennsylvania, Tennessee, Vermont, Virginia, and Wisconsin

Nationwide, 1,185 dams have been removed to date.

Dam removal brings a variety of benefits to local communities, including restoring river health and clean water, revitalizing fish and wildlife, improving public safety and recreation, and enhancing local economies. Working in a variety of functions with partner organizations throughout the country, American Rivers contributed financial and technical support in many of the removals.

Contact information is provided for dam removals, if available. For further information about the list, please contact Jessie Thomas-Blate, American Rivers, Associate Director, Conservation at 202.347.7550 or jthomas@americanrivers.org.

This list includes all known dam removals that occurred in 2014, regardless of the level of American Rivers' involvement. Inclusion on this list does not indicate endorsement by American Rivers. Dams are categorized alphabetically by state.

Hammer Diversion Dam, South Fork Cottonwood Creek, California

In September 2014, the Hammer Diversion Dam was removed on the South Fork of Cottonwood Creek. Built around 1934, this dam was originally used for hydropower. However, the fish ladder constructed at the dam was no longer functioning. This dam removal opened up five miles of historic Spring Chinook and Steelhead Trout habitat. *Contact:* Tricia Parker Hamelberg, U.S. Fish and Wildlife Service, 530-527-3043 x248, Tricia_Parker@fws.gov

HJFD 6, 7, 8, 9, & 10 (Holy Jim Canyon) and TCFD 7, 9, 10, & 11 (Trabuco Creek), California

These nine dams, ranging from 1.5 to 9-feet in height and 12 to 40-feet in length, were removed by the U.S. Forest Service in December of this year in Rancho Santa Margarita. These are the first of hopefully many more dams to be removed to restore riverine health and provide passage for several aquatic species in the southwest canyons of the Santa Ana Mountains. *Contact:* Kirsten Winter, U.S. Forest Service, 858-674-2956, kwinter@fs.fed.us

Lion Creek Diversion Dam, Lion Creek, California

The Lion Creek Diversion Dam was removed near Ojai in October 2014. At a height of 3-feet and a length of 25-feet, this dam was built around 1940 to provide water for the Middle Lion Creek Campground. However, this concrete diversion dam was no longer serving a useful purpose and was removed to restore seven miles of habitat for spawning Steelhead Trout.

Unknown Dam, Olds Creek, California

Though the name of this dam is unknown, it is believed to have been constructed around 1908 by the Mendocino Redwood Company. This dam was removed to restore 2.6 miles of habitat for Coho Salmon. *Contact:* Anna Halligan, Trout Unlimited, ahalligan@tu.org

Dewey No. 1, Denver, Colorado

This municipal water storage dam was removed in December 2014, after outliving its original purpose. Built around 1900, this earthen dam measured 15-feet high and 3600-feet long. Project proponents expect some economic benefit to the removal if the site is developed for commercial use in the future.

Moosup Dam #1, Moosup River, Connecticut

In June 2014, this 6-feet high by 90-feet long stone dam was removed from the Moosup River. Its removal opened 1.62 miles of river habitat for fish passage. This project is part of a planned suite of five dam removals. *Contact:* Amy Singler, American Rivers, 413-584-2183, asingler@americanrivers.org; Brian Murphy, CT Department of Energy and Environmental Protection, brian.murphy@ct.gov

Byrnes Mill Dam (Dam No. 1), White Clay Creek National Wild and Scenic River, Delaware

On December 4th, 2014, the Byrnes Mill Dam (also known as White Clay Creek Dam No. 1) was removed to allow for fish passage. It is the first recorded dam removal in the State of Delaware. The removal reconnects 3.5 miles of habitat for migratory and resident fish in the White Clay Creek National Wild and Scenic River to the tidal Christina and Delaware Rivers, and is the first of several anticipated removals along this stretch of river. The project was led by the University of Delaware Water Resources Agency with funding from American Rivers-NOAA Community-Based Restoration Program. *Contact:* Laura Craig, American Rivers, 856-786-9000, lcraig@americanrivers.org; Gerald Kauffman, University of Delaware, 302-831-4929, jerryk@udel.edu

Boone Waterworks Dam, Des Moines River, Iowa

It was a long winter of construction, but removal of the Boone Waterworks Dam (3 feet height by 212 feet length) on the Des Moines River was completed in April 2014. Built in 1933, five fatalities had been reported since 1971 at this concrete dam site. The City of Boone decided to remove this safety hazard and improve recreation by converting it to rapids.

Goldfield Dam, Shell Rock River, Iowa

This project removed a former low-head dam (4.5 feet height by 50 feet length) and converted the site into small rock-arch rapids in August 2014. This structure was built around 1934 by the City of Goldfield. The project was a collaborative effort between the City, local citizens, and the Iowa Department of Natural Resources (DNR), who supplied some of the grant funds and assisted with project management, design, and construction supervision. This project is expected to improve fish passage, stabilize eroding bluffs, and create fish habitat upstream.

Manchester Dam, Maquoketa River, Iowa

Originally built around 1905, the Manchester Dam (11 feet height by 154 feet length) was removed earlier this year as a town revitalization project, including the future installation of a whitewater park. This project had many partners, including Iowa Department of Natural Resources, Iowa Resource Enhancement and Protection Program, Vision Iowa, and many others. Along with the dam removal, another big project expense was the need to lower an existing water main in the river bed.

Quasqueton Dam, Wapsipinicon River, Iowa

This project removed the Quasqueton Dam (6 feet height by 210 feet length) and converted the site into rock arch rapids in late August 2014. Built in 1932, the dam was owned by the City of Quasqueton and was on the Wapsipinicon River Water Trail in Buchanan County. Iowa Department of Natural Resources low-head dam mitigation grants and technical/design support helped make this project possible. This dam removal is expected to improve fish passage and recreational safety. Click here to view a video of the dangerous conditions created by this dam.

Rockford Dam, Shell Rock River, Iowa

Built around 1872, this dam (8 feet height by 170 feet length) originally provided water power for a grain mill. However, the structure had fallen into disrepair and needed to be removed. This project opened up 60 miles of seasonal habitat for mussels and several native fish like smallmouth bass, walleye, and rock bass. It also eliminated a safety hazard and improved access to the river. Stream bank restoration immediately followed this dam removal and has restored the river's health and improved navigation for both paddlers and anglers on a scenic part of the Shell Rock River. *Contact:* Louise Mauldin, USFWS, 608-783-8407, louise_mauldin@fws.gov

Hoffman Duffy Dam, Unnamed tributary to Rattlesnake Creek, Idaho

In October 2104, the Bureau of Land Management removed this 9.5-feet high and 570-feet long earthen dam that was creating a retention pond for seasonal runoff. Dam removal mitigated safety concerns for downstream residents and a nearby highway. A smaller impoundment was maintained for migratory birds and antelope. *Contact:* Ken Donley, Bureau of Land Management, 208-373-3857, Kdonley@blm.gov

Dam #1, Des Plaines River, Illinois

Located near Wheeling, Illinois, this 5-feet high by 127-feet long dam was owned by the Forest Preserve District of Cook County. Its removal opened 9 miles of river habitat. This restoration project on the Des Plaines River will eventually involve seven total removals between Wisconsin and Joliet, Illinois. *Contact:* Eric Otto, Forest Preserves of Cook County, 708-771-1382, eric.otto@cookcountyil.gov

Dam #2, Des Plaines River, Illinois

The Forest Preserve District of Cook County owned this 4.5-feet high by 151-feet long dam. Its removal opened 13 miles of river habitat. This restoration project on the Des Plaines River will eventually involve seven total removals between Wisconsin and Joliet, Illinois. *Contact:* Eric Otto, Forest Preserves of Cook County, 708-771-1382, eric.otto@cookcountyil.gov

Washburn Mill Pond Dam, Salmon River, Maine

Owned by the Town of Washburn, this concrete dam was built in the late 1800's. In March 2014, this dam was removed to reconnect 20 miles of stream for the benefit of Atlantic Salmon and Eastern Brook Trout. This removal also improved fishing, reduced maintenance costs, and improved public safety. *Contact:* Nick Archer, Maine Department of Environmental Protection, 207-764-0477, nick.d.archer@maine.gov

Bartlett Pond Dam, Wekepeke Brook, Massachusetts

This 84-feet long concrete dam was owned by the Town of Lancaster, and removed for safety, ecological, and economic reasons. Its removal opened up 18 miles of habitat for Eastern Brook Trout and other coldwater-dependant fish species. *Contact:* Alex Hackman, Massachusetts Department of Fish and Game, 617-626-1548, alex.hackman@state.ma.us

Carding Mill Dam, Cold River, Massachusetts

In the 1800's, this stone dam (8 feet height by 80 feet length) was constructed as a mill dam, and it was later used for cranberry bog water control. In March 2014, the dam was removed only 20 days after the initial site visit because it was deemed a major safety hazard by the inspecting engineer. Partners (Town of Harwich, Harwich Conservation Trust, and Massachusetts Division of Ecological Restoration) fast-tracked the project with emergency permits. Ultimately, the project opened up 0.6 miles of river habitat while removing a safety hazard. *Contact:* Alex Hackman, Massachusetts Department of Fish and Game, 617-626-1548, alex.hackman@state.ma.us

International Paper Co. Dam No. 2, Fall River, Massachusetts

Built for industrial water supply in the 1880's, this stone and timber mortar dam was 10-feet high by 50-feet long. This project, completed in December 2014, opened up 41 miles of habitat for Eastern Brook Trout, river herring, Sea Lamprey, and American Eel. *Contact:* Amy Singler, American Rivers, 413-584-2183, asingler@americanrivers.org;

Alex Hackman, Massachusetts Department of Fish and Game, 617-626-1548, alex.hackman@state.ma.us

Kinne Brook Dam, Kinne Brook, Massachusetts

In September 2014, the Kinne Brook Dam was removed to improve habitat connectivity over a ten mile span for Eastern Brook Trout and other coldwater-dependant fish species. This concrete dam (6 feet height by 30 feet length) was built in 1941 to create a private bass pond. Funds from the Natural Resources Conservation Service's Environmental Quality Incentives Program were used for this dam removal. *Contact:* Amy Singler, American Rivers, 413-584-2183, asingler@americanrivers.org; Colin Lawson, Trout Unlimited, 603-228-2200, clawson@tu.org

Mill Pond Dam, Third Herring Brook, Massachusetts

This project is the first of three dam removals on Third Herring Brook. The South Shore YMCA owned this stone and earthen dam. Its removal opened 0.3 miles of river for passage of river herring, American Eel, and Eastern Brook Trout, and improved public safety. *Contact:* Samantha Woods, North and South Rivers Watershed Association, 781-659-8168

Ceresco Dam, Kalamazoo River, Michigan

On June 5, 2014, this 23-feet high and 350-feet long concrete dam was removed to restore 2.5 miles and reconnect 15 miles of aquatic habitat in the Kalamazoo River watershed. Originally built around 1906 for hydropower purposes, this removal was designed to improve river habitat, water quality, and nutrient cycling; restore a natural flow regime and sediment transport; and improve habitat for fishing and paddling. *Contact:* Luke Trumble, Michigan Department of Environmental Quality, Dam Safety, 517-284-5581, trumblel@michigan.gov

Childsdale Dam, Rogue River, Michigan

In October 2014, the remnants of the Childsdale Dam were finally removed following a breach during floods in 1986. This 35-feet long rock crib dam once supplied water to a paper mill. Now it has been removed in order to improve stream stability, provide aquatic organism passage, and allow for safe canoe/kayak travel. *Contact:* Scott Hanshue, Michigan Department of Natural Resources, Fisheries Division, 269-685-6851 x118, hanshues1@michigan.gov

Freeport Dam, Coldwater River, Michigan

The 100 feet concrete Freeport Dam was removed in October 2014, after it had fallen into disrepair. Seventeen miles of fish habitat have been opened up by this project, improving stream stability, providing aquatic organism passage, and enhancing angling opportunities. *Contact:* Scott Hanshue, Michigan Department of Natural Resources, Fisheries Division, 269-685-6851 x118, hanshues1@michigan.gov

Misty Acres Dam, Unnamed tributary to Betsie River, Michigan

Built in the 1930's, this 6-feet high and 45-feet long dam was originally used for a private family farm. Having fallen into a state of disrepair, the dam was removed in August 2014 to restore the natural stream channel and eliminate the risk of a future dam failure. The dam material at this site was used to construct a snake hibernaculum. *Contact:* Kimberly Balke, Conservation Resource Alliance, 231-946-6817, kim@rivercare.org

Morgan Dam, Highbanks Creek, Michigan

In October 2014, the Morgan Dam was removed because it had fallen into a state of disrepair. This 5-feet high by 200-feet long old mill dam was made of rock and concrete. Its removal opened 31 miles of river habitat, and improved stream stability and aquatic organism passage. *Contact:* Joanne Barnard, Barry Conservation District, 269-948-8056, joanne.barnard@mi.nacdnet.net

Prairie Creek Dam, Prairie Creek, Michigan

Standing at 7-feet high and 60-feet long, the Prairie Creek Dam was removed this fall in order to improve stream stability, provide aquatic organism passage, and enhance angling opportunities. This project opened up 21 miles of habitat. *Contact:* Scott Hanshue, Michigan Department of Natural Resources, Fisheries Division, 269-685-6851 x118, hanshues1@michigan.gov

Boyce Pond Dam/Horseshoe Pond Dam, Unnamed tributary to Kemp Brook, New Hampshire

Originally built in the late 1700's or early 1800's for a sawmill, this 11-feet high by 210-feet long rock and earthen dam was removed primarily for safety reasons. There was a risk that a dam failure would impact a small rural road downstream. Removal in October 2014 has opened up four miles of habitat for fish passage and improved water quality.

Union Village Dam, Branch River, New Hampshire

Built around 1861, this privately owned concrete and masonry hydropower dam was 15-feet high and 103-feet long. In October 2014, it was removed for safety reasons and to eliminate maintenance costs.

Camp Inawendiwin Lower Dam, Friendship Creek, New Jersey

This earthen/timber dam was built for recreational purposes. Standing at 11-feet high and 450-feet long, it had become dilapidated following a storm and needed to be removed for safety reasons. *Contact:* Darin Shaffer, NJ Department of Environmental Protection, Dam Safety, darin.shaffer@dep.nj.gov

Cedar Creek Weir, Cedar Creek, New Jersey

Built in 1932, the U.S. Geological Survey used this 5-feet high by 60-feet long concrete dam for stream gauging. This removal has restored three miles of habitat through improved tidal flushing and migratory fish access. It has also eliminated an erosion

hazard and reduced flooding impacts. This project was a joint effort of USFWS, Barnegat Bay Partnership of Ocean County College, NJ Department of Environmental Protection, and Berkeley Township. *Contact:* Eric Schrading, US Fish & Wildlife Service, 609-646-9310, Eric_Schrading@fws.gov

Piraneo Lake Dam, Unnamed tributary to Pequest River, New Jersey

Made of concrete, stone, and earth, this 10-feet high by 400-feet long dam had fallen into disrepair after being damaged by a storm. It was removed in January 2014. *Contact:* Darin Shaffer, NJ Department of Environmental Protection, Dam Safety, darin.shaffer@dep.nj.gov

Unexpected Road Dam, Unnamed tributary to Hospitality Branch, New Jersey

This 7.5-feet high by 800-feet long earthen/timber dam had fallen into disrepair after being damaged by a storm. It was removed in July 2014. *Contact:* Darin Shaffer, NJ Department of Environmental Protection, Dam Safety, darin.shaffer@dep.nj.gov

Fink Dam, Harpham Dam, Heart Break Dam, Oscada Dam, & Pittinger Dam, Unnamed tributary to Cuyahoga River, Ohio

In September 2014, these five dilapidated earthen dams were removed by the National Park Service from an unnamed tributary to the Cuyahoga River that flows through the Cuyahoga Valley National Park. The dams range in height from 15 to 20 feet. *Contact:* Mark E. Baker, National Park Service, 303-969-2921, mark_e_baker@nps.gov

Hoefeet Dam, Birch Creek (tributary of Umatilla River), Oregon

This 5-feet tall concrete dam was originally used for irrigation purposes. Its removal opened up 66 miles for migration of federally-listed summer steelhead, as well as Redband Trout and Coho Salmon.

Pine Meadow Ranch Dam, Whychus Creek, Oregon

In the late 1980's, this 6-feet tall concrete dam replaced early earthen irrigation structures dating back to the 1800's. Partners on this project helped the dam owner, Pine Meadow Ranch, work out a better, more efficient source of irrigation water, and the concrete structure was removed to open up 13 miles of habitat for steelhead and salmon while reconnecting the floodplain. This project was funded by the Pelton-Round Butte Mitigation Fund, The Nature Conservancy, Reser Family Foundation, Patagonia, and the National Fish and Wildlife Foundation.

Atlas Dam, Hokendauqua Creek, Pennsylvania

In October 2014, the water supply dam for the Atlas Cement Plant was removed from Hokendauqua Creek. Built in 1869, the concrete dam measured 12-feet high and 600-feet long. Its removal restored access to 25 miles of aquatic habitat. *Contact:* Jack Kraeuter, PA Department of Environmental Protection, Dam Safety, 717-772-5959, jkraeuter@pa.gov

Commodore Dam, Hinty Run, Pennsylvania

Built in the 1940's, this earthen and concrete core dam was used for the public water supply by the Green Township Water Authority. In June 2014, this 16-feet high and 230-feet long dam was removed in order to increase habitat connectivity for wild brook trout and eliminate a high-hazard dam. *Contact:* Lisa Hollingsworth-Segedy, American Rivers, 412-727-6130, lhollingsworthsegedy@americanrivers.org; Green Township Municipal Authority, 724-254-1343

Cove Valley Christian Camp Dam, Little Cove Creek, Pennsylvania

Owned by the Cove Valley Christian Camp, this 25-feet high concrete structure was removed in April 2014. The project is expected to improve water quality and passage for resident fish. American Rivers funded and managed the design and permitting phase through a Pennsylvania-Natural Resources Conservation Service (NRCS) technical agreement. *Contact:* Laura Craig, American Rivers, 856-786-9000, lcraig@americanrivers.org; Sara Nicholas, The Nature Conservancy, 717-232-6001, snicholas@tnc.org

Derry Run Basin C Dam, Tributary to Little Conewago Creek, Pennsylvania

This 8-feet high by 220-feet long earthen dam was removed in September 2014. This dam experienced a partial failure during a storm event. Subsequently, the owner determined that the dam was not needed for stormwater management. *Contact:* Jack Kraeuter, PA Department of Environmental Protection, Dam Safety, 717-772-5959, jkraeuter@pa.gov

Duck Marsh Pond Dam No. 26 & Duck Marsh Pond Dam No. 27, Mosquito Creek, Pennsylvania

This pair of earthen dams was built in the 1950's by the Pennsylvania Game Commission for waterfowl habitat and lake fishing. Removal of Dam No. 26 (10 feet height by 670 feet length) and Dam No. 27 (8 feet height by 600 feet length) will reconnect habitat for brook trout and improve recreational opportunities. These projects were completed with Pennsylvania Game Commission labor and equipment. *Contact:* Chip Schaffer, PA Game Commission, 717-787-9620 x3602, fschaffer@state.pa.us

Duck Pond Dam, Muddy Run, Pennsylvania

This sheet metal dam (6 feet height by 100 feet length) was constructed in the 1980's by the PA Game Commission and PA Department of Conservation and Natural Resources to create waterfowl habitat. This dam never functioned as designed and was no longer serving any useful purpose; it was subsequently removed in October 2014. The removal opened nine miles of habitat to allow for a spawning run for lake fish, restoration of wetland functionality, and elimination of a public safety hazard. *Contact:* Jake Weiland, PA Department of Conservation and Natural Resources, 724-368-8811, jweiland@pa.gov

Furnace Creek Dam, Furnace Creek, Pennsylvania

Built around 1960 for municipal water supply purposes, the earthen Furnace Creek Dam was 63-feet high by 372-feet long. It was removed in August 2014. *Contact:* Lisa Hollingsworth-Segedy, American Rivers, 412-727-6130, lhollingsworthsegedy@americanrivers.org

Han Maum Dam, Trib to Leavitt Branch Broadhead Creek, Pennsylvania

This dam was removed in November 2014. *Contact:* Jack Kraeuter, PA Department of Environmental Protection, Dam Safety, 717-772-5959, jkraeuter@pa.gov

Hershey School Intake Dam, Spring Creek, Pennsylvania

This 5.5-feet high by 35-feet long concrete dam was removed in April 2014 because it was no longer serving a useful purpose. *Contact:* Jack Kraeuter, PA Department of Environmental Protection, Dam Safety, 717-772-5959, jkraeuter@pa.gov

Kladder Dam, Frankstown Branch, Pennsylvania

Built in the 1920's, the Hollidaysburg Borough used this earthen and concrete dam to supply water. The removal of the Kladder Dam (10 feet height by 100 feet length) in October 2014 will jettison a blockage to fish passage for a previously unknown wild brook trout stream and eliminate a liability for the borough. A second, partially breached upstream dam will be removed in 2015 to open an additional mile of habitat. *Contact:* Lisa Hollingsworth-Segedy, American Rivers, 412-727-6130, lhollingsworthsegedy@americanrivers.org; Rick Pope, Hollidaysburg Borough, 814-695-7543, rpope@hollidaysburghpa.org

Mt Joy (SICO) Dam, Little Chiques Creek, Pennsylvania

In July 2014, this 4-feet high by 80-feet long stone masonry dam was removed. It was originally built by a private owner for recreational purposes. *Contact:* Jack Kraeuter, PA Department of Environmental Protection, Dam Safety, 717-772-5959, jkraeuter@pa.gov

Picric Dam, Drifeetwood Branch of Sinnemahoning Creek, Pennsylvania

This 4-feet high by 100-feet long dam was removed after it was determined that it no longer served a useful purpose. This removal opened up 21.6 miles of habitat for fish passage and eliminated obsolete infrastructure. This project used Sinnemahoning Settlement Funds. *Contact:* Ben Lorson, PA Fish and Boat Commission, 814-359-5106, belorson@pa.gov

Rounick Pond Dam, Mill Creek, Pennsylvania

This 6-feet high by 50-feet long masonry dam was removed in 2014 because it was no longer serving a useful purpose. *Contact:* Jack Kraeuter, PA Department of Environmental Protection, Dam Safety, 717-772-5959, jkraeuter@pa.gov

SunRay (Hospital) Dam and unnamed remnant, Conewango Creek, Pennsylvania

Built in the early 1900's, the Warren State Hospital built this dam for water supply purposes. Previously, a rock-filled timber crib remnant dam had existed at this site since the 1870's. This 10-feet high by 200-feet long dam was no longer serving a useful purpose and was removed in September 2014. This project opened more than 27 miles of habitat for freshwater mussels and fish host species (including endangered mussel species), removed the last barriers on mainstem, improved public safety, reduced flood risk, and improved safety for boating access. Removal of these final barriers contributed significantly to Conewango Creek being nominated for, and winning, Pennsylvania 2015 River of the Year recognition. *Contact:* Lisa Hollingsworth-Segedy, American Rivers, 412-727-6130, lhollingsworthsegedy@americanrivers.org; Tia Drescher, Glade Township, 814-726-2159, secretary@gladetwp.org; Kirk Johnson, Conewango Creek Watershed Association, kjohnson@pawild.org

Two Mile Run Dam, Two Mile Run, Pennsylvania

This 3-feet high by 30-feet long dam was removed to restore five miles of river. *Contact:* Jack Kraeuter, PA Department of Environmental Protection, Dam Safety, 717-772-5959, jkraeuter@pa.gov

Washburn Run Dam, Washburn Run, Pennsylvania

In the 1930's, the PA Game Commission built this stone masonry water supply dam (5 feet height by 46 feet length) for a camp. This project will make one mile of habitat available to wild brook trout and improve the thermal profile of the river. This project was a design/build partnership between PA Fish and Boat Commission and U.S. Fish and Wildlife Service. *Contact:* Ben Lorson, PA Fish and Boat Commission, 814-359-5106, belorson@pa.gov

Brown's Mill Dam, East Fork of the Stone's River, Tennessee

Built around 1829, this structure (2 feet height by 70 feet length) was originally made of logs and later fortified with concrete. This project will increase aquatic species diversity, improve water quality, decrease bank erosion, improve public river access, and provide for safer paddling. As a result of this dam removal, the East Fork of the Stones River now has 25 miles of free-flowing stream from Readyville to Walter Hill, TN. *Contact:* Pandy English, Tennessee Wildlife Resources Agency, 615-781-6643, Pandy.English@tn.gov

McCabe Golf Course Dam, Richland Creek, Tennessee

This low-head concrete dam (5 feet height by 50 feet length) was built in 1970 by Metro Nashville to create a pool for water withdrawal to irrigate a golf course. This dam removal returned an 800 feet pool to functioning, diverse riffle-pool stream habitat. It is also located immediately adjacent to a greenway trail and has potential for public education about the benefits of dam removal. This project happened as part of a mandate of the state permit to continue to withdraw water. *Contact:* Mekayle Houghton, Cumberland River Compact, 615-210-9600, Mekayle.Houghton@cumberlandrivercompact.org

Franconia Paper Co. Dam, Wells River, Vermont

This concrete dam (6 feet height by 60 feet length) was built in the early 1900's. Its removal opened up 22 miles of habitat for Eastern Brook Trout and other coldwater-dependant fish species. Fishing opportunities were also enhanced through this project. *Contact:* Ron Rhodes, CT River Watershed Council, rrhodes@ctriver.org

Kendrick Pond Dam, Sugar Hollow Brook, Vermont

This 13-feet high by 35-feet long stone masonry dam impounded a shallow reservoir that impacted the water quality of the downstream trout habitat due to an increase in temperature and decrease in water quality. Removing the trapped silt ensured that it would not contribute to the phosphorous issues within Lake Champlain. Funding and support for this project came from the Friends of the Town of Pittsford, VT ANR, and the U.S. Fish and Wildlife Service. Built in the 1870's for an ice pond, this dam's removal opened up ten miles of habitat for brown, brook, and rainbow trout, and improved water quality.

Harvell Dam, Appomattox River, Virginia

This project resulted in successfully removing Harvell Dam (9 feet height by 400 feet length), which was the first blockage on the Appomattox River— restoring permanent fish passage at the site. Built around 1890, this structure was designed first for mills and navigational purposes, and then for hydropower. The previously installed Denil fishway was inadequate for fish passage and a fishway retrofit was not feasible. This project reconnected 126.5 miles of habitat for resident and migratory fish species, expanded access to critical anadromous spawning and rearing habitat, eliminated a drowning threat, reduced flooding potential, provided additional recreational boating opportunities, and provided additional wade fishing opportunities just upstream of the dam. *Contact:* Serena McClain, American Rivers, 202-347-7550, smcclain@americanrivers.org; Alan Weaver, Virginia Department of Game and Inland Fisheries, 804-367-6795, alan.weaver@dgif.virginia.gov

Marion Kihn Dam, Unnamed tributary to Mecan River, Wisconsin

This privately-owned wooden/earthen dam (8.3 feet height by 290 feet length) was removed due to its state of disrepair, which was causing a public safety hazard. *Contact:* Bill Sturtevant, WI Department of Natural Resources, 608-266-8033, William.Sturtevant@Wisconsin.gov

Poplar Dam, Poplar River, Wisconsin

This dam was 19-feet high by 400-feet long. It was a private dam built for recreational use, and it was removed in 2014. *Contact:* Frank Dallam, WI Department of Natural Resources, 715-635-4064, frank.dallam@wisconsin.gov

51 Dams Removed to Restore Rivers in 2013

Communities in 18 states, working in partnership with non-profit organizations and state and federal agencies, removed 51 dams in 2013, American Rivers announced today. Outdated or unsafe dams came out of rivers in Alabama, California, Colorado, Idaho, Illinois, Maine, Massachusetts, Michigan, New Jersey, North Carolina, Ohio, Oregon, Pennsylvania, South Dakota, Vermont, Virginia, Wisconsin and Wyoming, restoring more than 500 miles of streams for the benefit of fish, wildlife and people.

American Rivers will add the information on these 51 dam removals to its database of nearly 1,150 dams that have been removed across the country since 1912. Most of those dams (nearly 850) were removed in the past 20 years. American Rivers is the only organization maintaining a record of dam removals in the United States and uses the information to communicate the benefits of dam removal, which include restoring river health and clean water, revitalizing fish and wildlife, improving public safety and recreation, and enhancing local economies.

To accompany the 2013 list, American Rivers launched an interactive map that includes all known dam removals in the United States as far back as 1936. The map features the name of the dam and river, location, year the dam was removed, and a description. Explore the map at www.AmericanRivers.org/DamRemovalsMap.

Contact information is provided for each dam removal. For further information about the list, please contact Laura Craig, American Rivers, Associate Director, River Restoration at 856-786-9000 or lcraig@americanrivers.org.

American Rivers played a role in 25 of the dam removals in 2013. This list includes all known dam removals, regardless of the level of American Rivers' involvement. Dams are categorized by alphabetically by state.

Goodwins Mill Dam, Big Canoe Creek, Alabama
The Goodwins Mill Dam, built in the early 1900s had been abandoned in the 1930s, but continued to create a barrier to fish in Big Canoe Creek until its removal in November 2013. The removal of this stone dam is expected to benefit at least two federally protected mussel species, the southern pocketbook and triangular kidneyshell. Contact: Eric Spadgenske, U.S. Fish and Wildlife Service, 251-441-5872, Eric_Spadgenske@fws.gov

Old Shadow Lake Dam, Turkey Creek, Alabama
In the 1920s an 6-foot tall, 85-foot high concrete dam was constructed on Turkey Creek to create a recreational area for fishing and swimming outside of Birmingham, Alabama. The Old Shallow Lake had filled in with sediment and the dam had become unstable by the time of its removal in November 2013. The restoration of free flowing stream conditions and fish passage will benefit the endangered vermilion darter, which is only found in Turkey Creek and two small tributaries. Contact: Eric Spadgenske, U.S. Fish and Wildlife Service, 251-441-5872, Eric_Spadgenske@fws.gov

Cahill Dam, Branciforte Creek, California
In October 2013, the 8-foot high, 40-foot wide Cahill Dam in Santa Cruz was removed. Built in 1931 from concrete and rebar, this privately owned dam was intended for water supply, recreation, and fire protection. Its removal allows steelhead and coho salmon to access miles of additional habitat. Contact: Kelli Camera, Santa Cruz Resource Conservation District, 831-464-2950 x 15, kcamara@rcdsantacruz.org

Idylwilde Dam, Big Thompson River, Colorado
Idylwilde Dam in Larimer County, Colorado, originally built in 1925 and rebuilt in 1979, provided hydropower for the City of Loveland. This concrete dam was 57 feet high and 235 feet wide. The structure was removed after being severely damaged during the September 2013 flooding, which affected much of Colorado. Earth material contained behind the dam was used to rebuild US Highway 34. Contact: Steve Adams, City of Loveland Water and Power, Steve.Adams@cityofloveland.org

Josh Ames Diversion Dam, Sterling Natural Area Restoration, Cache la Poudre River, Colorado
As part of the Sterling Natural Area Restoration project by the City of Fort Collins in partnership with the Colorado Water Trust, the Josh Ames Diversion Dam was removed in November 2013. The removal of this 6-foot high, 110-foot long dam restored natural flow to a half mile of impounded river, and will improve connectivity, fish habitat, and cottonwood regeneration as well as improve recreation for floaters and anglers. Contact: Rick Bachand, City of Fort Collins, 970-217-0821, rbachand@fcgov.com

Dutch Flat Dam, West Fork of Little Bear Creek, Idaho
In September 2013 the Dutch Flat Dam was removed from a disused drinking water reservoir in Troy, ID. Originally built in 1919, the reservoir had filled with silt by 1925. The removal of this 10 foot high, 175-foot wide concrete dam gives access to 7 miles of spawning habitat for steelhead which migrate up the Columbia River each spring. The project was sponsored by the City of Troy with assistance from the Latah Soil and Water conservation District, and also included channel restoration and a fenced educational site adjacent to a recreational bike and walking trail. Contact: Ken Stinson, Latah SWCD, 509-338-2549, kstinson@latahsoil.org

Blackberry Creek Dam, Blackberry Creek, Illinois
The 10-foot high, 32-foot wide limestone Blackberry Creek Dam shared a cracked abutment with a county road and was removed as part of the Illinois Dam Safety Initiative. The project also connected fish in the Fox River to 32 miles of spawning and rearing habitat in Blackberry Creek following removal in January 2013. Contact: Loren Wobig, Illinois Department of Natural Resources, 217-782-9130, loren.wobig@illinois.gov

Gravesleigh Pond Dam, Sackett Brook, Massachusetts
In October 2013, the Massachusetts Audubon assisted the Town of Pittsfield in removing the Gravesleigh Pond Dam as part of a wetland impacts mitigation project for the expansion of the municipal airport. The removal of this 6-foot high, 60-foot wide concrete dam restores habitat for brook trout and wood turtles on 8.4 miles of stream that had been impounded since the 1930's. The Mass Audubon Sanctuary runs onsite educational programs for the public and school

groups, and will incorporate dam removal and river restoration as part of their program. Contact: Tom Lautzenheiser, Massachusetts Audubon, 413-584-3009 x822, tlautzenheiser@massaudubon.org

Off Billington Street Dam, Town Brook, Massachusetts
The Town of Plymouth removed an 8.4-foot high, 110-foot wide concrete and stone industrial mill dam in November of 2013, replacing it with a bridge. The dam is the third dam to be removed on the brook, which until 10 years ago, had 6 dams on it. The Town of Plymouth is also completing design plans for the next dam, Plymco Dam, which is the most upstream dam on the brook. The project restored spawning habitat for river herring and removed a public safety hazard. Contact: David Gould, Town of Plymouth, 508-747-1620, dgould@townhall.plymouth.ma.us

Whittenton Dam, Mill River, Massachusetts
In August 2013, the 8-foot high, 100-foot wide Whittenton Dam was removed as the second in a string of three dam removals from the Mill River in Taunton, MA. Built in 1832, this concrete dam originally provided power for textile and other mills. Concerns over dam owner liability, public safety, and fish passage prompted its removal. A near failure in 2005 that would have caused catastrophic flooding resulted in the evacuation of 2000 people from downtown Taunton. The project also improved floodplain and river habitat for river herring, American eel, lamprey, and turtles. Contact: Beth Lambert, Massachusetts Division of Ecological Restoration, 617 626-1526, Beth.Lambert@state.ma.us

Randall Mill Dam, Chandler Brook, Maine
The Chandler Brook in Pownal, Maine is running free for the first time since 1796 after the July 2013 removal of the Randal Mill Dam. Originally used as a sawmill, the 10-foot high, 65-foot wide dam was removed after the private owner learned about the benefits of the proposed removal of two dams on the Royal River in the Town of Yarmouth. The removal was part of the Sebago Trout Unlimited and Casco Bay Estuary Project and will restore three miles of brook trout habitat. Contact: Steve Heinze, Sebago TU, 207 781-4762, heinz@maine.rr.com

Swett Brook Dam, Swett Brook, Maine
In July of 2013, the Sebago Chapter of Trout Unlimited in partnership with Mollyockett Chapter and the Casco Bay Estuary Partnership removed a 4-foot high, 60-foot wide dam near Waterford Maine on Swett Brook, a tributary of the Crooked River. This project provides access to three miles of spawning habitat to landlocked salmon. Contact: Steve Heinze, Sebago TU, 207 781-4762, heinz@maine.rr.com

Veazie Dam, Penobscot River, Maine
The removal of the Veazie Dam on the Penobscot River kicked off to much excited in July 2013. This 30-foot high, 850-foot wide concrete buttress style hydropower dam was constructed in 1913, but dams had been recorded on the site since at least the 1830's. Atlantic salmon and other sea run fish will have access to 1000 miles of migratory habitat when combined with the removal of Great Works and passage being planned at the Howland Dam upstream. Contact: Laura Rose Day, Penobscot River Restoration Trust, 207-232-5976, laura@penobscotriver.org

Vassar Dam, Cass River, Michigan
The City of Vassar removed a 200-foot wide concrete hydropower dam in the summer of 2013 from the Cass River in Tuscola County, Michigan. The dam was originally built in the 1850s to power a saw mill, but was considered an unsightly public safety hazard. Its removal restores connectivity to 12 miles of the Cass River, and an additional 41 miles when combined with the 2014 removal of Frankenmuth Dam. Contact: Jim Palowski, Michigan Department of Environmental Quality, 989-370-1528, palowski@michigan.gov

Lassiter Mill Dam, Uwharrie River, North Carolina
Lassiter Mill Dam, a 12-foot high, 200-foot wide concrete structure built in 1805 to power a gristmill was removed in Randolph County in August. This removal opens up 14.6 miles of habitat on the Uwharrie River for American shad, American eel, and mussels. Contact: Peter Raabe, American Rivers, praabe@americanrivers.org

Smitherman's Dam, Little River, North Carolina
The removal of Smitherman's Dam adds restored river connectivity that will benefit fish, mussels, and American eel in the Little River. Smitherman's Dam was built to power a cotton mill in 1890, and the project to remove the 12-foot high, 150-foot wide structure includes a new canoe access and lengthened walking trails connecting existing parks. Contact: Greg Zephir, Town of Troy, 910-572-3661 manager@troy.nc.us

Upper Swepsonville Dam, Haw River, North Carolina
John Armstrong built the Upper Swepsonville Dam in 1790 to power his grist and sawmills. The Town of Swepsonville owned this 3.5-foot high dam at the time of its removal in October 2013. The removal of this structure allows fish passage and safer paddling on the Haw River Paddle Trail. Contact: Peter Raabe, American Rivers, praabe@americanrivers.org

Nevius Street Dam, Raritan River, New Jersey
The Nevius Street Dam in the Borough of Raritan was removed in July 2013. The removal of this 3.5-foot high, 195-foot wide stone dam restores natural flow and anadromous fish passage to 3 miles of the Raritan River for the first time since 1901. Its removal also improves recreational opportunities on the river. This is the third dam on the Raritan River to be removed since 2010. Contact: John W. Jengo, PG, MWH Americas, Inc. 610-407-7914, John.Jengo@mwhglobal.com

Sooy Lake Dam, Burrs Mill Brook Tributary, New Jersey
An 8-foot high 500-foot wide private earthen dam built for agricultural purposes was removed from Woodland Township in December of 2013. Contact: Darin Shaffer, New Jersey Department of Environmental Protection Dam Safety, darin.shaffer@dep.state.nj.us

Stone's Dam, Hakihokake Creek, New Jersey
In April 2013, Stone's dam was removed from Hakihokake Creek in Milford after it was severely damaged during Hurricane Irene. The concrete dam was 9 feet high and 95 feet wide. Contact: Robert Martucci, Borough Engineer, 908-995-4323

Wrubel Swimming Pool Dam, Cresskill Brook, New Jersey
An 8-foot high, 60-foot wide dam was removed from the Cresskill Brook in New Jersey. This concrete dam was built to dam water for a private swimming pool. Contact: Darin Shaffer, NJDEP Dam Safety, darin.shaffer@dep.state.nj.us

LeFever Powerhouse Dam, Cuyahoga River, Ohio
This low head dam, which historically provided water power, was removed in August 2013, following the removal of the Sheraton Mill Dam just downstream. The removal is expected to lead to water quality improvements and increased public safety. Contact: Joel Bingham, Manager of Restoration, RiverWorks, jbingham@EnviroScienceInc.com

Sheraton Mill Dam, Sheraton Mill Dam, Cuyahoga River, Ohio
This nearly 100-year old, low head dam historically provided water power. It was removed in July 2013 to improve water quality and public safety. Contact: Joel Bingham, Manager of Restoration, RiverWorks, jbingham@EnviroScienceInc.com

Corral Creek Dam, Corral Creek, Oregon
The 4-foot high 35-foot wide concrete Corral Creek Dam in Sherwood was built in 1945 to supply irrigation for pasture lands, but had fallen into disrepair and could no longer serve its purpose. Its removal provides rearing habitat for juvenile Chinook salmon, winter steelhead, and cutthroat trout, and will improve channel processes including sediment transport and wood distribution. Contact: Jenne Reische Clackamas Soil and Water Conservation District, 503-210-6011, jreische@conservationdistrict.org

Cox Creek Dam, Cox Creek, Oregon
In Albany, Oregon a 6-foot high, 120-foot wide concrete dam built in 1932 was removed in June. This project has resulted in the creation of off-channel refugia and rearing habitat for juvenile Chinook salmon, wintersteelhead, and cutthroat trout. This project was a collaboration between the Calapooia Watershed Council, City of Albany and the industrial landowner. Contact: Denise Hoffert-Hay, Confluence Consulting, 541-619-5896, hofferthay@peak.org

Hamby Dam, Birch Creek, Oregon
A concrete dam built to divert river flows for irrigation was removed from Birch Creek near Pilot Rock. The removal of the Hamby Dam restores channel connectivity through 35 river miles. Contact: Adriana Morales, Oregon Department Fish and Wildlife, 541-276-2344

Sandy River Delta Dam, Sandy River, Oregon
In 1930 the Oregon Game Commission built a 750-foot long dam in a misguided attempt to improve fish runs in the Sandy River, a tributary of the Columbia. Its construction resulted in summer ponding and increased stranding and death for juvenile salmonids. The dam was removed in September 2013 by the Army Corp of Engineers and the Portland Water Bureau, providing yearlong access during to the Sandy River through a variety of flow conditions. Contact: Lynn Burditt, USDA Forest Service, 541-308-1706, lburditt@fs.fed.us

Stearns Dam, Crooked River, Oregon
The relocation of an irrigation diversion allowed for the removal of a 6-foot high, 150-foot wide dam in Prineville Oregon. The Stearns Dam on the Crooked River was built in 1934, and its removal provides access to 12 miles of adult spawning and juvenile rearing habitat for chinook salmon and steelhead. Contact: Chris Gannon, Crooked River Watershed Council, 541-447-8567, chris@crwc.info

Tokay Canal Dam, Jones Creek, Oregon
A concrete dam built in 1932 to allow the Tokay Canal to pass through Jones Creek was removed in November of 2013. The canal, which brings Rogue River Water to the Grants Pass Irrigation District, was buried underneath Jones Creek which allowed for the removal of the 8-foot high, 32-foot wide dam. The project included stream channel restoration and connected 2.6 miles of spawning and rearing habitat for steelhead and coho salmon. Jones Creek is considered the most important producer of summer steelhead on the Middle Rogue. Contact: Dan Delany, Stream Restoration Alliance of Middle Rogue, Dan@sramiddlerogue.org

Wright Dam, Mill Creek, Oregon
A 4-foot high 65-foot wide concrete irrigation diversion was removed in The Dalles in August 2013, restoring connectivity through 14 miles of Mill Creek. Contact: Marty Olson, Oregon Department Fish and Wildlife, 541-296-8026.

Zell Dam, Walla Walla River, Oregon
This 3-foot high, by 60-foot wide irrigation diversion dam was removed in September 2013. Removal of this barrier reconnected 49 miles of river. Contact: Brian Wolcott, Walla Walla Watershed Council, brian.wolcott@wwbwc.org

Big Run Park Dam, Big Run, Pennsylvania
A deteriorated stone dam that was blocking fish passage was removed from Big Run Park in Graham Township in September 2013. The removal of this 2-foot high 30-foot wide dam improves brook trout habitat and will result in an entirely free flowing watershed following a culvert replacement in the second phase of the project. Contact: Melvin Smeal, Big Run Park Association, 814-345-6036, grahamtwp@gmail.com

Colonial Industrial Quarter Dam, Monocacy Creek, Pennsylvania
Concerns over flooding in the historic Colonial Industrial Quarter in the City of Bethlehem resulted in the removal of a 6-foot high and 50-foot wide Work Projects Administration-era concrete dam. The removal is expected to improve river conditions and fish passage, and enhance angling and area aesthetics. Contact: Ralph Carp, City of Bethlehem, 610-865-7061, rcarp@bethlehem-pa.gov

Cross Dam, Brookhouser Creek, Pennsylvania
A 20-foot high earthen dam built for recreation on Brookhouser Creek was breached in Hayfield Township for public safety and to restore a free flowing stream condition. Contact: Jack Kraeuter, Pennsylvania Department of Environmental Protection, 717-772-5959, jkraeuter@pa.gov

Jordan Creek Dams, Jordan Creek, Pennsylvania
Four Dams were removed from the Jordan Creek in 2013 between July and September, including the 3.5-foot high, 50-foot wide Jordan Park Dam in Allentown, and three dams in Whitehall Township at McArthur Road, Route 22, and Helfrich Springs, each 3-feet high and 60-feet wide. The dams had contributed to decreased water quality and were negatively impacting aquatic habitat by impounding and over-widening Jordan Creek. The project benefited public safety by reconnecting the stream to its floodplain, thereby increasing water storage capacity in flood events. Contact: Kristie Fach, Wildlands Conservancy, 610-965-4397 ext. 124, kfach@wildlandspa.org

Little Lehigh Dams, Little Lehigh Creek, Pennsylvania
Wildlands Conservancy of Emmaus, PA in partnership with the City of Allentown removed two dams on the Little Lehigh Creek in 2013 as part of a multiyear project which includes stream and floodplain habitat restoration. The 3-foot high, 60-foot wide Trout Hatchery Dam and the 2.5-foot high, 95-foot wide Robin Hood Bridge dams were removed in October 2013. The project is intended to improve trout habitat by removing silt restoring gravel bed substrate conditions. Contact: Kristie Fach, Wildlands Conservancy, 610-965-4397 ext. 124, kfach@wildlandspa.org

Sherwood Hollow Dam and Old Skinner Dam, Skinner Creek, Pennsylvania
Two Civilian Conservation Corps era dams were removed from Skinner Creek, Liberty Township in August. Sherwood Hollow Dam, at 10-foot high and 60-foot wide, and Old Skinner Dam at 4-foot high and 40-foot wide were cut stone masonry dams built for water supply, but use was discontinued in the 1970's due to bacterial contamination. The removal of these dams provides access to vital habitat for Pennsylvania-Endangered burbot as well as brook trout. Contact: Dick Kallenborn, Port Allegany Borough, 814-642-2526, portaboro@zitomedia.com

Trough Creek Dam, Great Trough Creek, Pennsylvania
A Civilian Conservation Corps era stone and masonry dam that stood 8 ft. high and 100 ft. wide was removed in September in Todd Township from the Great Trough Creek. The removal of this abandoned dam will restore passage through 25 miles of river for shiner, white sucker and other river resident species, and allow for the creation of a new canoe and kayak camping ground by the state park. Contact: Andy St. John, Pennsylvania Department of Conservation and Natural Resources, 814-695-6807, astjohn@pa.gov

Klondike Dam, Big Sioux River, South Dakota
The Klondike Dam was removed from the Big Sioux River on the South Dakota/Iowa border in January 2013. In order to keep the hydraulic head necessary for alluvial wells located upstream of the project, a stone arch rapid was constructed in the dam's former location, which will allow for fish migration and reduced hazard for recreational paddlers. Contact: South Dakota Department of Game, Fish, and Parks, 605-594-3824.

Mossy Creek Dam, Mossy Creek, Virginia
In August 2013, Trout Unlimited and the Fish and Wildlife Service removed a relic dam from Mossy Creek in August County, Virginia. Mossy Creek had been dammed in this location since the 1700's, and the existing 13-foot high dam, owned by the Augusta Milling Company, had been bypassed by Mossy Creek. The project will increase angling opportunities, improve habitat,

and provide access to 5.4 miles of stream for trout and American eel. Contact: Seth Coffman, Trout Unlimited, 540-333-0689, scoffman@tu.org

Beaver Dam Pond, Vermont
The City of Rutland removed the Beaver Pond Dam outlet in hopes of killing off the invasive weeds in the pond to prevent its spread to downstream water supplies. Contact: City of Rutland Public Works, 802- 773-1800.

Dufresne Dam, Battenkill River, Vermont
A 12-foot high and 263-foot wide earthen dam with a concrete spillway was removed from the Battenkill River in Manchester, Vermont in September 2013. The removal of this mill dam built in 1908 opens of 5 miles of upstream habitat to the Battenkill's wild brook and brown trout populations. Contact: Ken Cox, Vermont Fish and Wildlife, 802-885-8828

Henry Bridge Dam, Walloomsac River, Vermont
The Henry Bridge Dam was removed from the Walloomsac River in Bennington Vermont in September 2013 due to safety concerns. This relict dam was first built in 1812 and once powered a paper mill. Contact: Town of Bennington, 603-588-2189

Bruemmerville Dam, Silver Creek, Wisconsin
The Silver Creek near Algoma Wisconsin is flowing free for the first time in over 100 years after the removal of the Bruemmerville Dam. This 8-foot high, 150-foot wide dam was originally built for mill power and fire suppression, and its removal restored free flowing stream conditions, improved fish passage, and allowed for the creation of a floodplain park. Contact: Matt Payette, Kewaunee County, 920-388-0444, payettem@kewauneeco.org

Upper Nemahbin Roller Mill Dam, Bark River, Wisconsin
The Upper Nemahbin Roller Mill Dam was built on the Bark River near Delafield, Wisconsin in 1880. The dam stood 10 feet high and 270 feet wide.. Its removal in November 2013 benefits fish passage and stream conditions and removes a public hazard. Contact: Michelle Hase, Wisconsin Division of Natural Resources, 262–574–2127, Michelle.Hase@wisconsin.gov

Newbold Diversion Dam, Gros Ventre River, Wyoming
A low head log and rock irrigation diversion dam was removed from the Gros Ventre River in Grand Teton National Park in March 2013. The failing structure had previously been noted as a safety risk to park users. The removal of this structure opens up 100 miles of stream for spawning and sustaining cutthroat trout and bluehead sucker. Contact: Sue Consolo-Murphy, National Park Service, sue_consolo-murphy@nps.gov

63 dams removed to restore rivers in 2012

American Rivers releases annual list including dams in California, Connecticut, Georgia, Illinois, Maine, Maryland, Massachusetts, Michigan, Minnesota, New Hampshire, New Jersey, New York, North Carolina, Ohio, Oregon, Pennsylvania, Vermont, Washington and Wisconsin

Nationwide, 1,057 dams have been removed to date. 593 dams have been removed since 1999.

Dam removal brings a variety of benefits to local communities, including restoring river health and clean water, revitalizing fish and wildlife, improving public safety and recreation, and enhancing local economies. Working in a variety of functions with partner organizations throughout the country, American Rivers contributed financial and technical support in many of the removals.

Contact information is provided for each dam removal. For further information about the list, please contact Serena McClain, American Rivers, Director, River Restoration at 202.243.7044 or smcclain@americanrivers.org.

This list includes all known dam removals that occurred in 2012, regardless of the level of American Rivers' involvement. Dams are categorized by alphabetically by state.

Bear Creek Dam #3, Bear Creek (San Francisquito Creek), California
The removal of Bear Creek Dam #3 occurred in October of 2012 and restored more than 6 river miles. The concrete and grouted cobble dam built in the 1940s was 7-feet tall and 27-feet wide. The removal will improve steelhead passage and also increasing ecological connectivity. Contact: Kristine Atkinson, California Department of Fish and Wildlife, kristine.atkinson@wildlife.ca.gov, 916-445-2416.

Camp Nine Dam, Stanislaus River, California
The Federal Energy and Regulatory Commission Spring Gap-Stanislaus Project was built in the early 1960s of thick steel braces mounted on concrete pads affixed to bedrock. Originally owned by PG&E, the removal of this dam will help to minimize impacts to recreation, water quality, and fish and wildlife resources as well as eliminating a hazard to public safety. Contact: Randy Beckwith, California Department of Water Resources, Randy.Beckwith@water.ca.gov.

Hostler Creek Dam, Hostler Creek (Tributary of the Trinity and Klamath River), California
Removed in October of 2012, the Hostler Dam was 14-feet tall. Built initially in 1940 of concrete and rebar, it was first used as a fish passage barrier and an irrigation diversion. It was finally removed in 2012 to provide coho and chinook salmon, as well as steelhead,

access to more than a mile of historic habitat. This project was done in partnership with the U.S. Department of Agriculture and included upgrades to the irrigation diversion system. Contact: Bob Pagliuco, National Oceanic and Atmospheric Administration, bob.pagliuco@noaa.gov.

Rutan Dam, Anguilla Brook, Connecticut
Built before 1900, the Rutan Dam was originally part of a mink farm that has been vacant since 1970. This stone-faced, earthen dam was 9-feet tall and 120-feet wide when it was removed in August of 2012. The removal opened up 11 miles of diadromous fish habitat, enhanced mussel populations and reduced non-native species. Additionally, the dam was structurally unsafe, so its removal eliminated a flood risk. Contact: Sally Harold, The Nature Conservancy – Connecticut, sharold@tnc.org.

Spoonville Dam, Farmington River, Connecticut
At 25-feet tall and 500-feet long, the Spoonville Dam was built for hydroelectricity in 1980. The concrete structure was removed to enhance public safety and increase connectivity for diadromous fish. The removal restored 52 miles of river, opening up habitat for American shad, enhancing mussel populations, and improving the scenic quality of this stretch of the Farmington River. Contact: Eileen Fielding, Farmington River Watershed Association, 860-658-4442, efielding@frwa.org.

Eagle and Phenix Dam, Chattahoochee River, Georgia
The Eagle and Phenix Dam was constructed in 1868 of granite stone and masonry to power the Eagle and Phenix textile mill. Standing at 1,009-feet long, the dam was removed in 2012. The newly free flowing river will help to restore natural flowing conditions to the Chattahoochee.

Fairbanks Dam, Des Plaines River, Illinois
Removed in 2012, the Fairbanks Dam was a 2-foot high, 158-foot long dam made of concrete. This is one of three dams on the Des Plaines River that was removed for ecological benefits as well as public safety. The removal opened up 1 mile of river habitat that will help upstream fish communities. Contact: Jeff Zuercher, U.S. Army Corps of Engineers, 312-846-5558, Jeffrey.K.Zuercher@usace.army.mil.

Hofmann Dam, Des Plaines River, Illinois
Removed in 2012, the Hofmann Dam was a 12.5-foot high, 158-foot long concrete structure originally built in 1950. This is one of three dams on the Des Plaines River that was removed for ecological benefits as well as public safety. The removal opened up ten miles of river habitat that will help upstream fish communities. Contact: Jeff Zuercher, U.S. Army Corps of Engineers, 312-846-5558, Jeffrey.K.Zuercher@usace.army.mil.

Unnamed Dam, Royal River, Maine
Twenty-five massive granite blocks, remnants of an old industrial dam, were removed from the Royal River in August of 2012. The project is expected to restore back-channel habitat for aquatic species (e.g., white suckers, common shiners) around Middle Falls and Factory Island. The project is part of a larger restoration effort that will hopefully result

in the removal of the East Elm Street and Bridge Street dams. Contact: Landis Hudson, Maine Rivers, landis@mainerivers.org.

Great Works Dam, Penobscot River, Maine
Built in 1887, the 1000-foot long dam was removed in 2012. Originally built as a concrete hydroelectric dam, the dam removal will restore habitat for Atlantic salmon, shad and river herring among others. The Great Works Dam was removed as part of a larger restoration project for the Penobscot River that will eventually open up 1,000 miles of fish habitat. Additionally, the removal will provide numerous community benefits including paddling and fishing. Contact: Laura Rose Day, Penobscot River Restoration Trust, 207-232-5976, laura@penobscotriver.org.

Clifford Branch Dam, Clifford Branch, Maryland
The Clifford Branch Dam was built in 1872 and originally used as water supply for the city of Frederick. Standing at 6-feet tall and 15-feet long, the dam was made of concrete and stone. The dam was removed in 2012 to restore river habitat for eastern brook trout and is expected to produce healthier populations of trout. Contact: Aimee Weldon, Potomac Conservancy, weldon@potomac.org.

Bartlett Rod Shop Co. Dam, Amethyst Brook, Massachusetts
The stone Bartlett Rod Shop Co. Dam was 20-feet high and 170-feet wide. Originally built as a source of power for a fly rod company in 1820, the dam was removed in October 2012 to restore cold water fisheries and improve public safety for the community. Contact: Alex Hackman, Massachusetts Division of Ecological Restoration, 617-626-1548, alex.hackman@state.ma.us.

Wellingsly Brook Restoration Dams, Wellingsly Brook, Massachusetts
In October of 2012, a series of three dams were removed on the Wellingsly Brook. These low-head, concrete dams ranged in size from 3 to 5 feet and were removed to restore habitat for sea-run native brook trout. Contact: Alex Hackman, Massachusetts Division of Ecological Restoration, 617-626-1548, alex.hackman@state.ma.us.

Curtis Pond Dam, Boston Brook, Massachusetts
Removed in June of 2012, the Curtis Pond Dam removal is the first in a series of dam removals in the Ipswich River Watershed. This dam was removed to restore instream flow, migratory fish passage and improve river habitat. In particular, this removal will benefit river herring and American eel, two species that are being evaluated for the federal endangered species list. The dam has been deteriorating over the years, and by removing it, the owners (town of Danvers) will avoid future liability and upkeep. Contact: Tim Purinton, Massachusetts Division of Ecological Restoration, tim.purinton@state.ma.us.

Hopewell Mills Dam, Mill River, Massachusetts
The 8-feet high and 350-foot long Hopewell Mills Dam was removed in September of 2012 in Taunton, MA. Originally built in the 1700s, the stone and concrete dam was used to power a mill. Today, the dam is no longer in use and is being removed to restore a

quarter mile of fish passage and river habitat, as well as reduce liability for the dam owners. Contact: Beth Lambert, Massachusetts Division of Ecological Restoration, 617-626-1526, beth.lambert@state.ma.us.

Thunder Brook Restoration Project, Thunder Brook, Massachusetts
Removed in August of 2012, the 15-foot high, 18-foot long concrete and masonry dam was originally used as the town water supply. This dam was removed as a part of the Thunder Brook Restoration Project to restore 2.4 miles of habitat for brook trout and other cold-water species, as well as increase public safety. Contact: Nick Wildman, Massachusetts Division of Ecological Restoration, 617-626-1527, nick.wildman@state.ma.us.

Phillipston Reservoir Dams, Thousand Acre Brook, Massachusetts
Two dams were removed as a part of the Phillipston Reservoir Dam. The first dam was 15-feet high and 1100-feet long, and the second was 8-feet high and 30-feet long. Both earthen dams were built in the late 1800s for water supply. The dams were removed to improve public safety and eliminate future maintenance costs. Additionally, the dam removals are part of a wetland reconnection project. Contact: Alex Hackman, Massachusetts Division of Ecological Restoration, 617-626-1548, alex.hackman@state.ma.us.

Brown Bridge Dam, Boardman River, Michigan
The Brown Bridge Dam on the Boardman River was removed in August of 2012, the first in a series of 3 dam removals along the river. Built in 1921 for hydroelectric power, the dam was decommissioned in 1996 after it was determined it was no longer economically feasible to produce power on the Boardman River. Removal of all 3 dams will eventually restore18 miles of the river, reconnecting the river to Grand Traverse Bay and will also reconnect the river to an additional 160 miles of rivers and tributaries. This is the largest river restoration project undertaken in Michigan's history. Contact: Amy Beyer, Conservation Resource Alliance, amy@rivercare.org.

Windom Dam, West Fork Des Moines River, Minnesota
Removed by the City of Windom in 2012, the 16-foot high and 100-foot long concrete dam was built in 1963. The dam was removed because it had partially failed and was a public safety hazard. Contact: Jason Boyle, Minnesota Department of Natural Resources, Jason.Boyle@state.mn.us.

Montevideo Dam, Chippewa River, Minnesota
Removed in 2012, the Montevideo Dam was 12-feet high and 120-feet long. Built in 1958, this concrete dam was owned by the City of Montevideo. The dam was removed to improve public safety and provide fish passage. Contact: Jason Boyle, Minnesota Department of Natural Resources, Jason.Boyle@state.mn.us.

Jenkins Road McQuade Brook Dam, McQuade Brook, New Hampshire
Removed in the summer of 2012, the Jenkins Road McQuade Brook Dam was 14-feet high and 40-feet long. Built in the 1930s, the concrete dam was owned by the town of

Bedford for transportation purposes. The dam was removed to mitigate flood impacts and was a public safety hazard. The removal will restore one mile of McQuade Brook, and will also help resident aquatic species and amphibians. Contact: Jeff Foote, Town of Bedford, 603-472-3070, jfoote@bedfordnh.org.

Anne Jackson Girl Scout Dam, Unnamed Tributary to the Souhegan River, New Hampshire
Removed in 2012, the 8-foot tall and 88-foot long concrete dam in Wilton, NH was built between 1900 and 1915 by the Abbott family for scenic and recreation purposes. It was removed to improve safety and reduce liability, as well as to provide better habitat for resident aquatic species and amphibians. The removal will restore almost one mile of this tributary to a free flowing system. Contact: Mike Zienkiewicz, Girl Scouts of the Green and White Mountains, 603-627-4158 ext 148, mzienkiewicz@girlscoutsgwm.org.

Beaver Lake Dam, Beaver Brook, New Hampshire
Beaver Brook was restored in October of 2012 in Derry, NH. Built in 1913, by the town of Derry, the 8-feet high and 320-feet long concrete dam was constructed as a supplemental water supply source for the downstream Benjamin Chase Mill. The dam was removed for safety and liability purposes, as well as providing a better habitat for aquatic species and amphibians. Contact: Craig Durette, Town of Derry Public Works, 603-432-6144, craigdurrett@ci.derry.nh.us.

Roberts Street Dam, Raritan River, New Jersey
The concrete and sheet-piling dam was removed in the summer of 2012 to restore passage for migratory fish. The restoration will improve in-stream habitat and eliminate safety hazards for the local community. Contact: Darin Shaffer, New Jersey Dam Safety Department of Environmental Protection, 609-984-0859, darin.shaffer@dep.state.nj.us .

Sylvan Lake Dam, New Jersey
The dam was removed in October of 2012 in Skillman, NJ. Contact: Darin Shaffer, New Jersey Dam Safety Department of Environmental Protection, 609-984-0859, darin.shaffer@dep.state.nj.us .

Chandlers Dynamo Dam, Little River, North Carolina
Originally built in 1902 for electricity for a local foundry, the rock and cement Chandlers Dynamo Dam was 5-feet high and 157-feet long. The removal of the dam restored 116 river miles for shad and other native fish and mussels. Additionally, the removal will allow for new greenway paddling. This is the first in a four part dam removal series in the Little River Watershed. Contact: Mark Cantrell, U.S. Fish and Wildlife Service, 828-215-1739, mark_a_cantrell@fws.gov.

Troy Number 1 Dam, Densons Creek, North Carolina
Removed in September of 2012, Troy Number 1 Dam was 6-feet high and 83-feet long and built of concrete. Originally built in 1930 as a source of water supply, the restoration will open up one river mile for mussel and native fish habitat. Additionally, the removal

will benefit the local community's greenway. Contact: Mark Cantrell, U.S. Fish and Wildlife Service, 828-215-1739, mark_a_cantrell@fws.gov.

Hillburn Reservoir Dam, New York
Built in Rockland, NY in 1906, the Hillburn Reservoir Dam was 22-feet high and 295-feet long. The masonry dam was originally built for water supply purposes, however, the spillway was deficient and therefore the dam was no longer needed. Contact: Alon Dominitz, New York Department of Environmental Conservation, Dam Safety, axdomini@gw.dec.state.ny.us.

Eagle Lake Removal, Tributary to Summit Brook, New York
The earthen Eagle Lake Dam originally stood10-feet tall and 400-feet long and was built for recreational purposes. However, the dam was significantly damaged during Hurricane Irene and was removed in 2012. Contact: Alon Dominitz, New York Department of Environmental Conservation, Dam Safety, axdomini@gw.dec.state.ny.us.

Karpel Dam, Unnamed Tributary to Pipe Creek, New York
Built in Tioga, NY, the 14-foot tall and 100-foot long earthen dam was built for recreational purposes. Karpel Dam was deemed deficient and removed in 2012 for public safety and to reduce upstream flooding. Contact: Alon Dominitz, New York Department of Environmental Conservation, Dam Safety, axdomini@gw.dec.state.ny.us.

M Seeman Dam, West Branch of Limestone Creek, New York
The restoration of the West Branch of Limestone Creek was completed in 2012 with the removal of the earthen M Seeman Dam. Originally standing at 40-feet tall and built for recreational purposes in Onondaga, NY, the dam was a significant hazard for the community before removal. Contact: Alon Dominitz, New York Department of Environmental Conservation, Dam Safety, axdomini@gw.dec.state.ny.us.

German Farm Dam, Auglaize River, Ohio
Originally constructed in the 1930's as a timber crib dam, the German Farm Dam was eventually modified into a concrete arch dam. However, the Dam was determined to be a public safety hazard and was restricting fish and wildlife habitat and migration. Removed in 2012, the free flowing river has allowed for water quality improvement as well as benefits for fish and wildlife. Contact: Genesis Contracting, (419) 866-5971.

5th Avenue Dam, Olentangy River, Ohio
Built in 1935, the 5th Avenue Dam was removed in August of 2012. The concrete arch dam, standing at 8-feet tall, originally served as a hydropower source for the Ohio State University campus but had not been in use since 1950. The removal had many ecological benefits, such as restoring habitat for fish and wildlife as well as improving water quality. In addition, the community benefited from the removal as well through the removal of a public safety hazard, enhanced aesthetics and a revitalized community. Contact: George Zonders, Columbus Department of Public Utilities, (614) 645-2926, gjzonders@columbus.gov.

Farmers Ditch Irrigation Dam, Little Applegate River, Oregon
Removed in September of 2012, the 9-foot high, 70-foot long concrete dam was built in the 1920s. Removed to promote better fish passage, approximately 20 miles new river habitat were restored. The restoration will also improve stream function of the Little Applegate River. Contact: Rich Kilbane, Oregon Department of Fish and Wildlife, 541-826-8774, rich.m.kilbane@state.or.us.

South Fork Necanicum Diversion Dam, South Fork Necanicum, Oregon
Removed in September of 2012, the concrete dam originally stood 8-feet tall and 50-feet long. Built by the city of Seaside in the 1920's for drinking water purposes, the dam was removed to improve fish passage, fish screening and downstream transport. The restoration opened up 3.4 miles of new habitat. Contact: Amy Hortsman, U.S. Fish and Wildlife Service, 360-604-2512, amy_horstman@fws.gov.

Valsetz Dam Removal, South Fork Siletz River, Oregon
Built in 1916, the wood crib dam stood 10-feet tall and 50-feet long. Removed in September of 2012 to improve for fish passage and stream function, the restoration project opened up roughly 17 miles of river habitat and improved access to historic spawning grounds that will likely lead to increased numbers of native fish. Contact: Derek Wilson, Oregon Department of Fish and Wildlife, 541-265-8306, derek.r.wilson@state.or.us.

Sisters Dam Removal, Wychus Creek, Oregon
The Sisters Dam was originally owned and operated by the local irrigation district and was built of wood and stanchions. In 2012, the dam was removed for fish passage and improved stream function. The restoration has opened up about 19 miles of river habitat. Contact: Matthias Perle, Upper Deschutes Watershed Council, 541-382-6103, mperle@restorethedeschutes.org.

Confluence Dam Removal, Allen Creek, Oregon
Originally built as an irrigation diversion, the concrete dam stood at 3-feet tall and 20-feet long. Removed in 2012, the dam was taken down primarily for fish passage and restored approximately 10 miles of river habitat. In addition, the restoration project will also improve stream function. Contact: Garry Sanders, Crooked River Watershed Council, garry@crwc.com.

Ward Dam Removal, Mckay Creek, Oregon
Removed in 2012, the Ward Dam was taken down to improve fish passage and restore approximately 13 miles of river habitat. Originally built as an irrigation diversion, the concrete dam stood at 3-feet tall and 20-feet long. In addition to fish passage, the restoration also improved stream function. Contact: Garry Sanders, Crooked River Watershed Council, garry@crwc.com.

Taylor Dam Removal, Birch Creek, Oregon
The Taylor Dam removal restored approximately 50 miles of river habitat for fish and wildlife. Additionally, the restoration process will also improve the stream function.

Removed in August of 2012, the 8-foot high and 50-foot long concrete dam was originally built as an irrigation diversion. Contact: Adriana Morales, Oregon Department of Fish and Wildlife, 541-276-2344, adriana.m.morales@state.or.us.

Low Dam Removal, Birch Creek, Oregon
In September of 2012, the 3-foot high and 25-foot long concrete Low Dam was removed from Birch Creek. Originally, the dam was built as an irrigation diversion. Restoring approximately 30 river miles, the dam was removed for fish passage and improved stream function. Contact: Adriana Morales, Oregon Department of Fish and Wildlife, 541-276-2344, adriana.m.morales@state.or.us.

Westinghouse Dam/Trafford Dam, Turtle Creek, Pennsylvania
Removed in September of 2012, the 6-foot high and 60-foot long concrete dam was built in 1900 for industrial water supply for the Westinghouse industrial plant. The dam was removed as a part of a PennDOT mitigation project. The 1.39 river miles restored will increase habitat connectivity and fish passage, as well as removing a safety hazard. Contact: Lisa Hollingsworth-Segedy, 412-727-6130, lh-segedy@americanrivers.org.

Cupola Dam and Lewis Mills Dam, East Branch Brandywine Creek, Pennsylvania
As part of a double removal, both the Cupola and Lewis Mills Dams were removed in 2012. Originally, both were privately owned stacked stone dams that stood 8.5-feet tall. Contact: Jack Kraeuter, Pennsylvania Department of Environmental Protection, 717-772-5959, jkraeuter@pa.gov.

Boswell Dam Removal, Tributary to Quemahoning Creek, Pennsylvania
Constructed in 1919, the earthen Boswell Dam originally stood 14-feet high and 281-feet long. Built initially as a municipal source of water, the dam was removed in 2012 to eliminate a stormwater hazard caused by the partially breached dam. While there are minimal ecological benefits, the removal will remove a public safety hazard. Contact: Jack Kraeuter, Pennsylvania Department of Environmental Protection, 717-772-5959, jkraeuter@pa.gov.

Rakes Pond Dam, Pond Creek, Pennsylvania
Originally built for a privately owned recreational lake in 1932 in Smithfield Township, the Rakes Pond earthen dam stood at 10-feet tall and 330-feet long. Contact: Jack Kraeuter, Pennsylvania Department of Environmental Protection, 717-772-5959, jkraeuter@pa.gov.

Valley View Dam Removal, Little Fishing Creek, Pennsylvania
Built in 1960 to construct a privately owned recreational lake in Greenwood Township, the Valley View earthen dam stood at 20-feet tall and 380-feet long. Contact: Jack Kraeuter, Pennsylvania Department of Environmental Protection, 717-772-5959, jkraeuter@pa.gov.

American Legion, Perkiomen Creek, Pennsylvania

The American Legion Post 184 Dam was a concrete capped, stone and timber crib dam owned by Post 184. The dam was removed because of impairment to upstream habitat. The restoration will improve connectivity for fish passage at a very popular fishing site. Contact: Laura Craig, American Rivers, 856-786-9000, lcraig@americanrivers.org.

Multiple Dams, Darby Creek, Pennsylvania
Three dams—Hoffman Park Dam, Kent Park Dam, and the Darby Borough Dam—were removed beginning in September of 2012 as part of an effort to restore the urban Darby Creek. These dams ranged in size from 4-feet tall, 40-feet long to 10-feet tall and 90-feet long. Built in the early 1800s of stone masonry, the restoration will improve in-stream habitat, alleviate localized flooding, and reconnect the river for resident and migratory fish. The restoration will result in opening the lower 9.7 miles of Darby Creek. Additionally, the removal will improve river conditions and safety for the local community. Contact: Laura Craig, American Rivers, 856-786-9000, lcraig@americanrivers.org.

Siebert Dam, Miller Run, Pennsylvania
Originally built to supply water, the Siebert Dam was removed in 2012 in Somerset County, PA. The restoration occurred as part of a PennDOT mitigation project and will improve habitat connectivity for resident aquatic species. Contact: Jack Kraeuter, Pennsylvania Department of Environmental Protection, 717-772-5959, jkraeuter@pa.gov.

Harpeth River Dam, Harpeth River, Tennessee
The Harpeth River Watershed Association, along with the U.S. Fish and Wildlife Service, U.S. Army Corps of Engineers, TN Department of Environment and Conservation and other state and federal agencies, partnered on the removal of the Harpeth River Dam in July 2012. The dam, which was owned by the City of Franklin, was removed as part of the city's modernization of its water withdrawals and will provide improved habitat for smallmouth bass, striped darter, rainbow darter, finescale darter and others. The removal will open up more than 125 miles and make the Harpeth River one of the few rivers in TN that is entirely free flowing. Located within 30 minutes of downtown Nashville, the Harpeth River is a State designated Scenic River and is one of the most archeologically and historically-significant rivers in the State. Contact: Anneli TerryNelson, Harpeth River Watershed Association, annelitn@harpethriver.org.

Marshfield-8, Winooski River, Vermont
Construction commenced for the Marshfield-8 dam in 1958, and was completed as a hydropower facility in 1965. The dam stood at 11-feet tall and 93-feet long and was made of concrete and stone. Removed in coordination with the owner, who was concerned about the safety of the dam, the restoration mitigated the public safety hazard and restored fish passage in the Winooski River. Contact: B.T. Fitzgerald, Vermont Agency of Natural Resources, 802-490-6153, brian.fitzgerald@state.vt.us.

Martha Creek Dam, Tributary to Trout Creek, Washington

Built in 1924 to supply water for a nearby nursery, Martha Creek Dam was removed in 2012. Originally standing at 7-feet tall and 40-feet long, the dam was made of concrete and stone. In order to restore critical upstream steelhead habitat, dam removal was the best option. Contact: Bengt Coffin, U.S. Forest Service, Gifford Pinchot National Forest, 509-395-3425, bcoffin@fs.fed.us.

Upper and Lower Pamperin Park Dam, Duck Creek, Wisconsin
Removed in Brown County in 2012, the Lower Pamperin Park Dam is a part of a restoration project on Duck Creek involving several low-head dams. This particular removal will increase upstream connectivity for fish and other aquatic species, providing better feeding, spawning, and nursery habitat. Additionally, the restoration will allow for riverbank improvements to impede upstream migration of sea lamprey. Contact: Bill Sturtevant, Wisconsin Department of Natural Resources, William.Sturtevant@Wisconsin.gov.

Black Creek Earth – Mazomanie, Black Earth Creek, Wisconsin
The concrete and earthen Black Creek Earth – Mazomanie was removed in June of 2012. Contact: Bill Sturtevant, Wisconsin Department of Natural Resources, William.Sturtevant@Wisconsin.gov.

Leeson Park Dam, Springbrook Creek, Wisconsin
The Leeson Park Dam was removed by the city of Beloit in 2012. The dam, which was cracked and crumbling in places, was in a state of disrepair. Contact: City of Beloit, Department of Public Works, 608-364-6690.

Newburg Dam Removal, Milwaukee River, Wisconsin
The timber and concrete Newburg Dam stood 5-feet tall and had impaired water quality and blocked the movement of fish since the 1840s. The dam was removed in Wisconsin in 2012 and was accompanied by construction of a paved walking trail, observation deck, and canoe access. Contact: Andrew Struck, Ozaukee County Planning and Parks, 262-238-8275, astruck@co.ozaukee.wi.us.

50 dams removed to restore rivers in 2011

Nationwide, 1,059 dams have been removed to date. 595 dams have been removed since 1999.

Shades Branch Steel Ford, Shades Branch, Alabama
Unnamed ford, Crooked Creek, Arkansas
Frankel Dams, Aspetuck River, Connecticut
Armitage Dam, Des Plaines River, Illinois
Indian Head Lake Dam, Unnamed tributary to Whitelick Creek, Indiana
Wapping Road Dam, Jones River, Massachusetts
Shoreys Brook Dam, Shoreys Brook, Maine
Paint Creek Dam, Paint Creek, Michigan
Bunker Pond Dam, Lamprey River, New Hampshire
Buck Street Dam, Suncook River, New Hampshire
Stevens Brook Dam, Stevens Brook, New Hampshire
Riegelsville Mill Dam, Musconetcong River, New Jersey
Finesville Dam, Musconetcong River, New Jersey
Calco Diffusion Weir Dam, Raritan River, New Jersey
Sterling Lake Dam, Duffield Run, New Jersey
Willever Lake Dam, Pohatcong Creek, New Jersey
Fullenkamp Property, Catfish Brook, New Jersey
Bodine Pond Dam, Unnamed tributary to Capoolong Creek, New Jersey
Breakneck Brook Dam, Breakneck Brook, New York
West Winfield Dam, Unadilla River, New York
Earl's Pond Dam, Eaton Brook, New York
Broome Corporate Park Pond Dam #1, Tributary to Susquehannna River, New York
Jansen Road Dam, Unnamed Creek, New York
Fowler Finch Dam, Tributary to Carrs Creek, New York
Sodom Dam, Calapooia River, Oregon
Rosegarden Dam, Yellow Breeches, Pennsylvania
Unnamed dam (Right mill race dam), Unnamed tributary to Yellow Breeches, Pennsylvania
Unnamed dam (Left mill race dam), Unnamed tributary to Yellow Breeches, Pennsylvania
Norristown Farm Park Dam, Stony Creek, Pennsylvania
Sumner Dam, Gulph Creek, Pennsylvania
Plymouth Crossing Dam, Wissahickon Creek, Pennsylvania
Acheys Mill Dam, Unami Creek, Pennsylvania
Ellsworth No. 2 Dam, Center Branch of Pigeon Creek, Pennsylvania
War Dam, Morrison Run, Pennsylvania
Black Creek Intake Dam, Black Creek, Pennsylvania
Black Creek Middle Dam, Black Creek, Pennsylvania

Thornhurst Country Club Dam, Pond Creek, Pennsylvania
Wolf Mill Dam, Unnamed tributary to Logan Spring Run, Pennsylvania
Bigby Dam, Bigby Run, Pennsylvania
Pawtuxet Falls Dam, Pawtuxet River, Rhode Island
Woodside Dam 1, Twelve Mile River, South Carolina
Woodside Dam 2, Twelve Mile River, South Carolina
Ramworks Dam, South River, Virginia
Cumberland Marsh Dam, Pamunkey River, Virginia
Brantley Dam, Dan River, Virginia
Condit Dam, White Salmon River, Washington
Elwha Dam, Elwha River, Washington
Glines Canyon, Elwha River, Washington
Campbellsport Millpond Dam, Milwaukee River, Wisconsin
Spread Creek Dam, Spread Creek, Wyoming

60 dams removed to restore rivers in 2010

American Rivers releases annual list including dams in California, Maine, Maryland, Massachusetts, Michigan, North Carolina, New Hampshire, New York, Pennsylvania, Ohio, Oregon, Rhode Island, Virginia and Vermont.

Nationwide, 888 dams have been removed to date. 450 dams have been removed since 1999.

Dam removal brings a variety of benefits to local communities, including restoring river health and clean water, revitalizing fish and wildlife, improving public safety and recreation, and enhancing local economies. Working in a variety of functions with partner organizations throughout the country, American Rivers contributed financial and technical support in many of the removals and was solely responsible for the removal of a number of others.

Contact information is provided for each dam removal. For further information about the list, please contact Serena McClain, American Rivers' Director of River Restoration Program at 202.243.7044 or smcclain@americanrivers.org.

This list includes all known dam removals that occurred in 2010, regardless of the level of American Rivers' involvement. Dams are categorized by alphabetically by state.

Glenbrook Gulch Dam, Glenbrook Gulch (Albion River), California:
The 10-foot high Glenbrook Gulch Dam removal restored 0.66 miles of the Albion River for coho and steelhead. The project will also restore instream habitat with the placement of large woody debris, re-establish hydrologic connectivity, and prevent collapse of this earthen structure. Contact: Joe Pecharich (NOAA), (707) 575-6095, joe.pecharich@noaa.gov.

Lower Montsweag Dam, Montsweag Brook, Maine:
Lower Montsweag Brook Dam acted as a complete barrier to fish passage. The goal of the project was to restore native and diadromous fisheries resources in the lower watershed though removal of the dam, which was completed in early November 2010. Originally erected as an emergency water source for the Maine Yankee Atomic Plant, the dam is no longer in use because the plant is closed. The removal of the 35-foot tall by 216-foot long dam allowed for diadromous species to benefit including the American eel, river herring, and brook trout. Fish passage was also restored – 20 acres of impoundment, 3 acres of stream and 17 acres of wetlands. It also reconnected the Brook with 200 acres of restored tidal marsh downstream. Another goal of the project is to leverage long-term

monitoring of the brook for hands-on education and field science opportunities for local students. This project was partially funded by the American Rivers-NOAA River Grants program. Contact: Dan Creek (Chewonki Foundation), (207) 332-5792, dncreek@gmail.com.

Martin Brook Upper Dam, Saint Johns River, Maine:
The Martin Brook Upper Dam was removed in 2010 in Madawaska, ME. Contact: Dan Baumert (Natural Resources Conservation Service), dan.baumert@me.usda.gov.

West Winterport Dam, Marsh Stream, Maine:
The removal of the 16-foot by 85-foot long West Winterport Dam from the North Branch of Marsh Stream opened up more than 20 miles of river and stream habitat for a variety of native sea-run fish species, Atlantic salmon, sea-run brook trout, alewives, blueback herring, sea lamprey, American shad, and American eel. Dam removal eliminated a 4.5-mile long impoundment and restored this section of the river to its natural conditions. The North Branch of Marsh Stream has returned to being a complex riverine ecosystem with various pools and riffle/run habitat with large boulders and a mix of sand, gravel, and cobble substrate. A large amount of large woody debris was also uncovered within the stream channel following the removal of the impoundment. The project is also expected to increase recreational fishing opportunities for brook trout. This project was partially funded by the American Rivers-NOAA River Grants program. Contact: John Borrows (Maine Council – Atlantic Salmon Federation), (207) 725-2833, asfjb@blazenetme.net.

Simkins Dam, Patapsco River, Maryland:
The Simkins Dam, which originally powered a textile mill, was removed in 2010 to restore habitat for American eel, alewife, blueback herring and American shad. In addition to restoring 20 miles of habitat for these migratory species, the removal of the Simkins Dam is anticipated to increase oxygenation and improve water quality, restore the natural flow of sediment, and allow for greater navigability for boaters, tubers with the decreased safety hazards. This project was partially funded by an ARRA grant from the NOAA Restoration Center. Contact: Serena McClain (American Rivers), (202) 347-7550, smcclain@amrivers.org.

Union Dam, Patapsco River, Maryland:
The 24-foot tall and 355-foot long Union Dam was built in 1900 for the purposes of powering a textile mill. Hurricane Agnes breached the dam in 1972. Since then, it has exacerbated erosion and created velocity barriers for fish passage. The removal restored 23 miles of the river for migratory fish and eliminated a safety hazard for boaters and other users. This project was partially funded by an ARRA grant from the NOAA Restoration Center. Contact: Serena McClain (American Rivers), (202) 347-7550, smcclain@amrivers.org.

Briggsville Dam, North Branch Hoosic River, Massachusetts:
The removal of the 15-foot high and 200-foot long Briggsville Dam in the town of Clarksburg, Massachusetts involves removing the dam, stabilizing the banks and planting trees, protecting an upstream bridge, and restoring over 30 miles of high quality

headwater streams and exemplary trout habitat. Removing the dam will help its owner, Cascade School Supplies, avoid closing the facility, laying off employees, and leaving the community without one of its largest employers. Cascade School Supplies has been in business for 78 years and seasonally employs more than 150 people in Berkshire County, including their facility in Clarksburg, a small rural town in northwestern Massachusetts. Contact: Brian Graber (American Rivers), (413) 585-5896, bgraber@americanrivers.org.

Forge Pond Dam, Assonet River, Massachusetts:
The Forge Pond Dam in Freetown breached during heavy storms in early February 2010, threatening nearby homes, and served as a wake-up call for dam owners statewide. The 300 year-old dam is one of the most unsafe dams in Massachusetts. The complete removal restored stream habitat for smelt and herring. Contact: Beth Lambert (Massachusetts Division of Ecological Restoration), 617-626-1549, beth.lambert@state.ma.us.

Lower Hathaway Brook Dam, Hathaway Brook, Massachusetts:
The Lower Hathaway Brook Dam was removed in 2010 in Dalton, MA. Contact: Contact: Doug Gove (AEComm), (781) 224-6316, doug.gove@aecom.com.

Sawmill Pond Dam, Eel River, Massachusetts:
The Sawmill Pond Dam was erected in 1850 and stood 12 feet tall by 100 feet long. This removal restored 2 miles of the Eel River, providing fish passage for the American Eel, Eastern Brook trout and improving water quality. Contact: Alex Hackman (Massachusetts Division of Ecological Restoration), alex.hackman@state.ma.us.

Upper Hathaway Brook Dam, Hathaway Brook, Massachusetts:
The Upper Hathaway Brook Dam was removed in 2010 in Dalton, MA. Contact: Doug Gove (AEComm), (781) 224-6316, doug.gove@aecom.com.

Cascade Dam, North Branch of the Clinton River, Michigan:
The concrete Cascade Dam stood 18 feet tall and 120 feet wide in Romeo, Michigan. It was removed for ecological reasons, which allowed for unimpeded fish passage through a headwater stream. Contact: Byron Lane (Michigan Department of Environmental Quality), laneb@michigan.gov.

Club Dam, Butternut Creek, Michigan:
Established in the 1960's, The Club Dam in Charlotte, Michigan was a source of irrigation for surrounding communities. The wooden dam stood 3 feet tall by 7 feet long, and when removed restored 17 miles of Butternut Creek. The removal allowed for unimpeded fish passage and restored high gradient habitat and stream function. Contact: Chris Freiburger (Michigan Department of Natural Resources), (517) 373-6644, freiburg@michigan.gov.

Glass Creek Dam, Glass Creek, Michigan:
In 1970, Barry County, Michigan erected the concrete Glass Creek Dam to help the local wildlife. In 2010, the removal of the 5-foot tall and 25-foot long dam restored a mile of

Glass Creek by increasing high gradient habitat, stream function and unimpeded fish passage. Contact: Chris Freiburger (Michigan Department of Natural Resources), (517) 373-6644, freiburg@michigan.gov.

Jonesville Millpond Dam, Saint Joseph River, Michigan:
The 9-foot tall dam Jonesville Millpond Dam was constructed in 1872 as a mill site. The timber crib partially failed and was removed in 2010. Contact: Chris Freiburger (Michigan Department of Natural Resources), (517) 373-6644, freiburg@michigan.gov.

Wolcott Dam, North Branch of the Clinton River, Michigan:
The Wolcott Dam in Wolcott, Michigan was constructed originally as a mill site. This concrete dam stood 2 feet high by 45 feet long. In 2010, Wolcott Dam was removed to restore natural stream function, allow for unimpeded fish passage and restore high gradient habitat. Contact: Chris Freiburger (Michigan Department of Natural Resources), (517) 373-6644, freiburg@michigan.gov.

Heads Pond Dam, Browns Brook, New Hampshire:
The 9-foot tall Heads Pond Dam was removed in 2010 in Hooksett, NH. Contact: Deb Loiselle (New Hampshire Department of Environmental Services), (603) 271-8870, Deborah.Loiselle@des.nh.gov.

Homestead Woolen Mills Dam, Ashuelot River, New Hampshire:
The Homestead Woolen Mills Dam, a timber crib structure, had been in disrepair for several years. The high cost to repair the dam, coupled with the desire to restore the free-flowing river, prompted the dam owner, Homestead Woolen Mill, Inc., to pursue removal as an option for meeting dam safety requirements. The dam, which stood 14 feet tall and170 feet long, was located on the Ashuelot River in Swanzey, New Hampshire, and is immediately downstream from the historic Thompson Covered Bridge. By opening up about 25 miles of river habitat, this project not only restored fish passage, but also improved natural flows and aquatic habitat for a host of freshwater biodiversity in the ecologically significant Ashuelot River. Early feasibility work on this project was partially funded by the American Rivers-NOAA River Grants program. Contact: Deb Loiselle (New Hampshire Department of Environmental Services), (603) 271-8870, Deborah.Loiselle@des.nh.gov.

LaSalle Dam, Great Chazy River, New York:
The LaSalle Dam was removed in October of 2010, in Altona, NY. The 40-foot tall and 200-feet wide concrete dam was built in 1923 and was owned by the town of Altona and used as a hydropower dam. No longer considered safe, the dam was removed for the safety of the community, and to benefit the fishing industry. Contact: Donald Rhodes P.E (LaBerge Group), drhodes@labergegroup.com, (518) 458-7112.

William Miaski Dam, tributary to Kinderhook Creek, New York:

This 13.5-foot high, low hazard earthen dam was built in 1970 for recreational use. The privately-owned dam was removed in 2010. Contact: Thomas Bates (McDonald Engineering), (518) 382-1774.

Altapass Dam, Roses Creek, North Carolina:
The Altapass Dam, a privately-owned earthen dam in the French Broad River basin, was removed in the summer of 2010 through a partnership between the owners, the Blue Ridge Resource Conservation and Development Council, and the US Fish and Wildlife Service. The dam removal was combined with additional stream restoration and re-planting along the banks. It is expected to improve native brook trout habitat in the creek, allow for passage upstream, and improve water quality by restoring natural temperatures and re-oxygenating the water. Contact: Cliff Vinson (Blue Ridge RC&D), cliff.vinson@nc.usda.gov.

Buckhorn Dam, Buckhorn Creek, North Carolina:
Progress Energy removed this large, obsolete dam in the spring of 2010 to improve public safety and restore the creek, which feeds into the Cape Fear River. The dam had outlived its purpose of supplying water to a power generation facility and was serving as a hazard for hunters, hikers, and others passing through on state game land. The removal was combined with restoration of two tributaries and re-planting of stream banks. It is expected to benefit resident fish and insects, which in turn will support wildlife populations in the game land. Contact: Lynnette Batt (American Rivers), lbatt@americanrivers.org.

Dillsboro Dam, Tuckasegee River, North Carolina:
The Dillsboro Dam, a hydropower dam owned by Duke Energy, was removed in 2010 as part a FERC relicensing agreement. The removal of this concrete dam will restore critical habitat for aquatic species in the Tuckasegee River, including the endangered Appalachian Elktoe Mussel. In addition to the ecological benefits, the removal has uncovered new whitewater for the paddlers in the region. Contact: Lynnette Batt (American Rivers), lbatt@amrivers.org.

East Branch Dam, Euclid Creek, Ohio:
In December of 2010, the 6-foot high, 40-foot wide concrete East Branch Dam on Euclid Creek was removed. The removal will allow for better fish migration in the small streams from Lake Erie, increasing recreational fishing opportunities and improving water quality. The barrier, which is 77-years-old, originally was used to provide water for swimming at a YMCA camp; however, the dam is no longer serving a useful purpose. Contact: Claire Posius (The Euclid Creek Watershed Council), (216) 524-6580.

Panhandle Road Dam, Olentangy River, Ohio:
This 4-foot tall dam was built in 1941 for recreational use. The concrete dam was removed as mitigation and is expected to improve fish and wildlife habitat and water quality. Contact: Tim Hill (Ohio Department of Transportation), (614) 466-7100.

Gold Ray Dam, Rogue River, Oregon:

The Gold Ray Dam on the Rogue River was removed in October of 2010. In addition to the 38-foot tall concrete structure built in 1941, the original 1904 timber crib structure also needed to be removed. The dam was initially used for hydroelectricity; however, in 1972, when Jackson County took ownership, the hydro facilities were taken offline. The removal has improved access to 333 miles of high quality spawning habitat, including 1.5 miles of habitat previously inundated by the dam's reservoir. Contact: Bob Hunter (Waterwatch), (541) 826-4399, bob@waterwatch.org.

Powerdale Dam, Hood River, Oregon:
In fall of 2010, the Powerdale Dam was removed from the Hood River, allowing a three-mile reach to benefit from significantly improved flows. The dated hydroelectric dam was built in 1923 by PacifiCorp. During the relicensing process, PacifiCorp found removing the dam was the least costly alternative for the project. The removal improved many miles of fish passage, and 465 acres associated with the project have been transferred to the Columbia Land Trust to protect the natural character of the Hood River Basin. The community will benefit from improved water quality, and salmon and steelhead runs will allow for increased recreational opportunities. Contact: Brett Swift (American Rivers), (503) 827-8648, bswift@americanrivers.org.

8 Unnamed Dams, Rolling Rock Creek, Pennsylvania:
The eight unnamed, lowhead dams on Rolling Rock Creek in Ligonier, Pennsylvania were removed from private property in 2010. Contact: Vince Humenay (Pennsylvania Department of Environmental Protection), (814) 342-8146, vhumenay@state.pa.us.

Bendigo State Park Dam, East Branch Clarion Creek, Pennsylvania:
Owned by the Department of Conservation and Natural Resources, the Bendigo State Park Dam was originally constructed in 1900 for increased water supply. . In past years, this 5-foot tall by 200-foot long dam failed and blocked fish passage. The removal restored five miles of habitat on the river and improved public safety. Contact: Lisa Hollingsworth-Segedy (American Rivers), (412) 727-6130, LHollingsworth-Segedy@americanrivers.org.

Big Brown Dam, Browns Run, Pennsylvania:
Built in the 1950's for water supply by the Spangler Municipal Authority, the Big Brown Dam measured 37 feet tall by 290 feet wide. The earthen structure was removed in 2010 to alleviate safety concerns and to increase habitat connectivity for brook trout. Funding for this removal was provided by the Growing Greener Program. Contact: Lisa Hollingsworth-Segedy (American Rivers), (412) 727-6130, LHollingsworth-Segedy@americanrivers.org.

Bigby Run Dam, Bigby Creek, Pennsylvania:
This former water supply dam was removed as a stream mitigation project for PennDOT road construction. Contact: Scott Carney (Pennsylvania Fish and Boat Commission), (814) 359-5124, rscarney@state.pa.us.

Dayton Dam, Sixmile Creek, Pennsylvania:

Originally used as a source of private water supplies in the early 1900's, the Dayton Dam in Centre, PA was removed in 2010 due to a lack of use. The removal was a $44,000 construction project. Once removed, the 6-foot tall dam restored 4 miles of river habitat, allowing for increased connectivity for brook trout and other aquatic species. Contact: Katie Ombalski (Clearwater Conservancy), (814) 237-0400, Katie@clearwaterconservancy.org.

Dundaff Dam, Dundaff Creek, Pennsylvania:
Located in Greenfield Township, the Dundaff Dam was 7 feet tall and 55 feet long. Privately owned and built in 1956 by a rod and gun club, the dam was constructed for recreational purposes. The dam was removed for its poor condition and silted impoundment. Removal improved 5.8 miles of habitat. Contact: Laura Craig (American Rivers), (856) 786-9000, lcraig@americanrivers.org.

Fairless Murray Dam, Slippery Rock Creek, Pennsylvania:
Removed in 2010, the Fairless Murray Dam restored 4 miles of Rock Creek. This provided increased habitat connectivity and minimized safety hazards for the public. Funding for this removal came from the Growing Green Program. Contact: Lisa Hollingsworth-Segedy (American Rivers), (412) 727-6130, LHollingsworth-Segedy@americanrivers.org.

Fisher Dam, Pequea Creek, Pennsylvania:
The Salisbury Township Fisher Dam stood 2 feet tall and was 35 feet in length. This dam was privately owned and used to power an Amish farm specializing in ice cutting. The concrete dam began to erode from lack of use. Its removal restored 0.08 river miles, allowing for habitat connectivity and reduced erosion. This dam was the second dam to be removed on Pequea Creek since 2006. Contact: Scott Carney (Pennsylvania Fish and Boat Commission), (814) 359-5124, rscarney@state.pa.us.

Glenwood Dam, Mill Creek, Pennsylvania:
The City of Erie built the 3-foot tall Glenwood dam in 1920 to increase water supply. It was removed in 2010 because it caused the creek to undercut the structural walls of the Erie Zoo. The Glenwood Dam removal was funded by the Growing Greener Program. Contact: Lisa Hollingsworth-Segedy (American Rivers), (412) 727-6130, LHollingsworth-Segedy@americanrivers.org.

Lower Saucon Sportsmens Association (LSSA) Dam, East Branch Saucon Creek, Pennsylvania:
The concrete LSSA Dam was removed due to safety concerns. A half-mile of river was restored, improving aquatic species habitat and safety for anglers. The removal of the 2-foot by 50-foot long dam in Lower Saucon Township cost $13,200. Funding for this project was provided by the Growing Green Program. Contact: Laura Craig (American Rivers), (856) 786-9000, lcraig@americanrivers.org.

Meadow Run Dam, Meadow Run, Pennsylvania:

Built in 1920 as a driveway crossing, the concrete Meadow Run Dam was removed in 2010. It was 4 feet tall by 90 feet long, and when removed, it restored 16 miles of river habitat. Contact: Lisa Hollingsworth-Segedy (American Rivers), (412) 727-6130, LHollingsworth-Segedy@americanrivers.org.

Middle Spring (Shoops) Dam, Middle Spring Creek, Pennsylvania:
Removed in 2010, the Middle Springs (Shoops) Dam was constructed in 1901. It was used first as a mill and later for hydroelectric power. The dam was removed to eliminate owner liability and increase habitat for aquatic species on a popular trout stream. Contact: Laura Craig (American Rivers), (856) 786-9000, lcraig@americanrivers.org.

Mussers Gap Dam, Unnamed Tributary to Slab Cabin Run, Pennsylvania:
The 6-foot tall concrete dam was built in the early 1900's by the Pennsylvania Department of Conservation and Natural Resources. Removed in 2010, the failing Mussers Gap Dam restored habitat connectivity for the brook trout. Contact: Katie Ombalski (Clearwater Conservancy), (814) 237-0400, Katie@clearwaterconservancy.org.

Nicodemus Dam, Unnamed Tributary to West Branch Antietam Creek, Pennsylvania:
The Nicodemus Dam was removed in 2010 due to failing structures which threatened a bridge immediately downstream. Originally, a privately owned Grist mill, the dam removal restored 5.4 river miles, allowing for wetlands restoration and habitat connectivity. The removal of the Nicodemus Dam was funded by the Growing Greener Program. Contact: Terry Snyder (PennDOT), (717) 787-4813, terrysnyde@state.pa.us.

Pumping Station Dam, Dunkard Creek, Pennsylvania:
Located in Wayne, Pennsylvania, Pumping Station Dam was constructed in 1912 for private water supply. The 16-foot by 80-foot dam built of concrete cost $110,000 to remove. The removal of the failing dam restored 0.25 miles of river habitat for fish passage, as well as eliminated public safety concerns. Contact: Lisa Hollingsworth-Segedy (American Rivers), (412) 727-6130, LHollingsworth-Segedy@americanrivers.org.

Rush Brook Dam, Rush Brook, Pennsylvania:
Removed in 2010 due to its poor condition, the dam originally stood 19 feet high by 260 feet long. Built by Delaware & Hudson Railroad Co. for water supply in 1893, it was constructed of concrete, earthen fill and masonry. The removal benefited instream habitat for trout. Contact: Vince Humenay (Pennsylvania Department of Environmental Protection), (814) 342-8146, vhumenay@state.pa.us.

Savan Dam, Little Mahoning Creek, Pennsylvania:
This deteriorating lowhead stone masonry dam located on conservation property owned by Western Pennsylvania Conservancy was removed for stream restoration. Contact:

Nick Pinizzotto (Western Pennsylvania Conservancy), (724) 459-0753, npinizzotto@paconserve.org.

Smucker Dam, Groff Run, Pennsylvania:
This 3.5-foot tall by 25-foot long Smucker Dam was built in the middle of the 19th century and provided mechanical power to an Amish farm near New Holland. The structure, which was no longer serving a purpose, was removed in 2010 to improve the stream ecology. Contact: Scott Carney (Pennsylvania Fish and Boat Commission), (814) 359-5124, rscarney@state.pa.us.

Stroud Preserve Dam, Tributary to East Branch Brandywine Creek, Pennsylvania:
The Stroud Preserve Dam, located in West Chester, PA, was removed in December 2010. Contact: Gary Gimbert (Natural Lands Trust), (215) 699-1578, ggimbert@natlands.org.

Unnamed (Witman) Dam, Furnace Run, Pennsylvania:
Breached in 2010, the 8.5-foot by 25-foot dam in Oley Furnace, Pennsylvania was removed to alleviate localized flooding and eliminate the owner's liability. This dam was originally constructed in 1919 as a privately owned sawmill. The removal allowed for restoration of a half-mile of the river, allowing for high quality, cold water habitat for fish and macro-invertebrates to return. This removal was funded by Growing Greener Program. Contact: Laura Craig (American Rivers), (856) 786-9000, lcraig@americanrivers.org.

(Unnamed Upper) Dam, West Branch Chester Creek, Pennsylvania:
Built in the 19th century, the 12-foot tall and 120-foot long dam was removed in 2010. Made of concrete and stone, removal eliminated owner liability and restored 1.1 miles of free-flowing conditions on Chester Creek. The removal also ameliorated flooding of local businesses. This removal was funded by Growing Greener Program. Contact: Dick Lehr (Aston Township), (610) 494-9660.

West Leechburg Dam, West Branch Penn Run, Pennsylvania:
Originally used for water supply, the 45-foot tall by 200-foot wide West Leechburg Dam was becoming increasingly dilapidated. The removal of the failing dam restored 3 miles of river habitat as well as improved public safety. Contact: Lisa Hollingsworth-Segedy (American Rivers), (412) 727-6130, LHollingsworth-Segedy@americanrivers.org.

Zimmerman Dam, Conestoga River, Pennsylvania:
The privately owned Zimmerman Dam was used to power a carding mill and later was an agricultural power source. The 4-foot tall by 83-foot wide timber crib and stone dam was built in 1842 and removed in 2010 to restore free-flowing conditions. It reestablished habitat connectivity and fish passage within the Conestoga River. Contact: Scott Carney (Pennsylvania Fish and Boat Commission), (814) 359-5124, rscarney@state.pa.us.

Lower Shannock Falls Dam, Pawcatuck River, Rhode Island:
The Lower Shannock Falls Dam was originally built in the 1820s as part of a textile mill. The dam was removed as part of a larger river habitat and fish passage restoration project on the Pawcatuck River. The Wood-Pawcatuck Watershed Association (WPWA) and project partners are working to provide fish passage at the three dams on the upper

Pawcatuck River: Lower Shannock Falls, Upper Shannock (or Horseshoe Falls) and Kenyon Millpond Dam. The project will allow access to 10 miles of the Pawcatuck River and will open up an additional 1,300 acres of spawning habitat including Wordens Pond. This dam, which no longer served its intended purpose, prevented access to migrating fish such as American shad and river herring. The mill site next to the river is being redeveloped into a public access and riverfront park by the Town of Richmond. Early feasibility and design work on this project was partially funded by the American Rivers-NOAA River Grants program. Contact: Chris Fox (Wood-Pawcatuck Watershed Association), (401) 539-9017, chris@wpwa.org.

Paragon Dam, Woonsaquatucket River, Rhode Island:
The Paragon Dam was removed in 2010 in Providence, Rhode Island. The dam removal is part of a larger project to provide fish passage on the entire Woonasquatucket River through removal or fish ladders at five dams on the river. Already two fish ladders and partial removal of a small dam provide passage, leaving only one ladder left to be built. Contact: Andy Lipsky (NRCS), (401)-822-8842, andrew.lipsky@ri.usda.gov

Riverton Dam, North Folk Shenandoah River, Virginia:
Removed on October 25, 2010, the Riverton Dam stood 8 feet tall by 175 feet long. The dam had become increasingly dilapidated in recent years and played a major role in the deaths of at least two citizens. Removal of the dam eliminates this dangerous hazard, as well as restores habitat for American eel, small mouth bass, and other species. Contact: Alan Weaver (Virginia Department of Game and Inland Fisheries), alan.weaver@dgif.virginia.gov.

Union Brook Dam, Union Brook, Vermont:
Removed in September of 2010, the 18-foot by 145-foot dam was built in 1931 as a private dam. For ecological, safety and economic reasons, the dam was removed, allowing 0.25 river miles to be restored for brook trout populations. Contact: Brian T. Fitzgerald (Vermont Agency of Natural Resources), brian.fitzgerald@state.vt.us.

Zebedee Wetland Dam, Zebedee Brook, Vermont:
Originally built in the 1960's, removal of the earthfill dam restored the natural hydrology of the Zebedee Brook and Wetland. The dam stood at 4 feet tall and 100 feet long and was originally used by the Upper Valley Land Trust for water supply. Contact: Brian T. Fitzgerald (Vermont Agency of Natural Resources), brian.fitzgerald@state.vt.us.

DAMS SLATED FOR REMOVAL IN 2009

TOTAL NUMBER OF DAMS REMOVED: ~798
TOTAL NUMBER OF DAMS REMOVED SINCE 1999: 358

58 DAMS REMOVED OR SLATED TO BE REMOVED IN 2009

Camp Meeker Dam, Dutch Bill Creek, CA: The Camp Meeker Dam is owned by the Camp Meeker Recreation and Park District and was built in the 1950s for recreation purposes. Its removal is part of a larger restoration project, which includes the replacement of the dam with an 80-foot bridge, nearby culvert replacements, and other instream improvements. The dam's removal resulted in the reopening of 3.4 miles of spawning habitat for coho salmon and steelhead trout. Additionally, the absence of the dam will result in better water quality and greater access to the creek.
Contact: Lisa Hulette, Gold Ridge Resource Conservation District, 707-874-2907, lisa@goldridgercd.org.

Waterman Dam, Waterman Creek (tributary of Pescadero Creek), CA: The Waterman Dam was built in 1900 for industrial purposes and is currently owned by Redtree Properties. The timber dam, located in Boulder Creek, stood 12 feet high and was 50 feet long. Its removal will restore 1.5 river miles and result in improved habitat for steelhead trout.
Contact: Kit Crump, NOAA Restoration Center, 707-575-6080, kit.crump@noaa.gov.

Unnamed Dam, Ferson Creek, IL: This Kane County dam, the first of two removals, was taken out in order to reconnect Ferson Creek to Fox River and improve the health of upstream fish and mussel communities, thus preventing further loss of species. The upper dam, which was built in the early 1900s, was 3.5 feet tall and 60 feet long and was removed in October. The removal of the upper and lower dams on Ferson Creek is expected to restore six river miles.
Contact: Ken Anderson, Kane County Department of Environmental Management, 630-208-3179, andersonken@co.kane.il.us.

Unnamed Dam, Ferson Creek, IL: This Kane County dam, the second of two dam removals, is being taken out in order to reconnect Ferson Creek to Fox River and improve the health of upstream fish and mussel communities, thus preventing further loss of species. The lower dam, built in the mid-1900s, is 1.5 feet tall and 45 feet long and is expected to be removed by the end of November. The removal of the upper and lower dams on Ferson Creek is expected to restore six river miles.
Contact: Ken Anderson, Kane County Department of Environmental Management, 630-208-3179, andersonken@co.kane.il.us.

Eel River Headwaters Restoration, Eel River, MA: These earthen dams include wooden and concrete bog control structures, and each measures roughly eight feet tall and 250 feet long. Located in Plymouth, the dams have controlled the operation of

cranberry bogs since the late nineteenth century. Three of the dams have been removed, and the remaining four are slated for removal in December. These removals are part of a project that will restore habitat for American eel, herring, and brook trout. The project will also restore 1.7 miles of the Eel River, and 40 acres of wetlands that include 17,000 Atlantic white cedar trees.
Contact: Brian Graber, American Rivers, 413-585-5896, bgraber@amrivers,org.

Lower Dam, Ox Pasture Brook, MA: This 8-foot tall, 70-foot long dam, which is slated for removal in December, was built for recreational purposes. By restoring one river mile, the removal of this concrete and earthen dam will benefit American eel and rainbow smelt in addition to improving water quality.
Contact: Alex Hackman, Massachusetts Department of Fish & Game Division of Ecological Restoration, alex.hackman@state.ma.us.

Lower Flume Dam, Red Brook, MA: The removal of the lower flume of Red Brook occurred in August and restored 0.5 river miles. Reasons for the lower flume's removal include habitat enhancement, improvement of sediment transport, and elimination of erosion potential in the future. The removal of the concrete and steel structure expanded spawning habitat for salter brook trout, improved floodplain connectivity, enhanced natural sediment transport, and facilitated fish passage for diadromous fish.
Contact: Tim Purinton, Massachusetts Riverways Program, 617-626-1542, tim.purinton@state.ma.us.

Middle Flume Dam, Red Brook, MA: The removal of the Middle Flume of Red Brook occurred in August and restored 0.5 river miles. Reasons for the Middle Flume's removal include habitat enhancement, improvement of sediment transport, and elimination of erosion potential in the future. The removal of the concrete structure expanded spawning habitat for salter brook trout, improved floodplain connectivity, enhanced natural sediment transport, and facilitated fish passage for diadromous fish.
Contact: Tim Purinton, Massachusetts Riverways Program, 617-626-1542, tim.purinton@state.ma.us.

Union Dam, Patapsco River, MD: Built around 1900, Union Dam historically supplied water power for the J.W. Dickey Textile Mills in Baltimore County, across the Patapsco River from Ellicott City. This 24-foot high by 355-foot long concrete buttress dam was breached during Hurricane Agnes in 1972. Since then, bank erosion on the right side of the breach has worsened and water velocities have increased. The erosion is threatening a major sewage line and efforts to stabilize the bank with rip-rap have failed. Removal of the dam, which began in 2009, will improve fish passage and decrease this recreational hazard. This project is being removed thanks to Maryland Department of Natural Resources and ARRA stimulus funds provided to American Rivers by NOAA.
Contact: Serena McClain, American Rivers, 202-347-7550, smcclain@amrivers.org.

Maple Hill Dam, Butternut Creek, MI: Located in Charlotte, this 3.5—foot tall, 25-foot long concrete dam was originally built for irrigation purposes. Its removal will

improve fish habitat and facilitate fish passage through the restoration of three river miles.
Contact: Chris Freiburger, Michigan Department of Natural Resources, 517-373-6644, freiburg@michigan.gov.

Cascade Dam, north branch of the Clinton River, MI: Located in Romeo, the removal of this 18-foot tall,120-foot long concrete dam will restore access to high quality habitat for steelhead and other aquatic species.

Wolcott Dam, north branch of the Clinton River, MI: This concrete dam, which is two feet tall and 45 feet long, was originally built to power a mill. Removal of the Wolcott Dam will restore access to high quality habitat for steelhead and other aquatic species.

Rice Creek Dam, Rice Creek, MI: This 12-foot high, 500-foot long former mill pond dam was built in 1835. The city of Marshall owns the dam and is working with the Calhoun Conservation District, Trout Unlimited, and the Michigan Department of Natural Resources to remove the structure. The goal of the project is to enhance the inland fishery and other aquatic resources of Rice Creek by restoring a 0.8 mile millrace and historic channel at Ketchum Park in Marshall. This site is unique because it is historically significant, openly visible and in a public park, and the only dam on the creek, thus its removal would open the entirety of Rice Creek (a cold water trout stream) to fish passage.
Contact: Carl Fedders, City of Marshall, 269-781-3985, cfedders@cityofmarshall.com.

Chesaning Dam, Shiawassee River, MI: Locate in the City of Chesaning, the 9-foot tall by 250-foot long dam was owned by the city and was built in 1863. The structure failed and was removed to alleviate concerns over safety and liability. The removal, which restored 18 river miles, has improved safety, recreational use of the river, fish passage, aquatic habitats, and the river's aesthetic appeal.
Contact: Mike Neilson, Wade Trim Engineering, 989-686-3100.

Thompson Dam, Thompson Creek, MI: This concrete dam, located in Thompson, stood at five feet tall and was 35 feet long. It was built in 1940 as part of the state fish hatchery. The removal will provide access to two miles of fish habitat in this headwater stream. Lower water temperatures as a result of the removal are also expected to benefit local trout populations.
Contact: Jessica Mistak, Michigan Department of Natural Resources, 906-249-1611, mistakjl@michigan.gov.

Nashville Dam, Thornapple River, MI: Located in Barry County, this 8-foot tall, 170-foot long rock/timbercrib dam was originally built in 1890 to power a local mill. Removal of the Nashville Dam will restore access to 60 miles of habitat for aquatic species and is expected to open up additional access to park land. A fairly robust monitoring plan is also being planned by a number of local partners to assess the success of this restoration project.

Contact: Joanne Barnard, Barry Conservation District, 269-948-8056, joanne.barnard@mi.nacdnet.net.

Unnamed Dam, Williams Creek, MI: This concrete and earthen dam was built in 1924 as a state fish hatchery. Its removal will restore two river miles and facilitate the passage of salmon and steelhead.
Contact: Jessica Mistak, Michigan Department of Natural Resources, 906-249-1611, mistakjl@michigan.gov.

Unnamed Dam, Sims Creek, NC: This dam was removed in order to allow aquatic wildlife to have better access to the headwaters of Sims Creek. The Blue Ridge Parkway and National Park Service were in charge of the removal of this dam and received help from the Appalachian State University Chapter of Friends of the Blue Ridge Parkway. The dam's removal will reduce sedimentation and benefit the creek's brown trout population.
Contact: Bob Cherry, Blue Ridge Parkway, 828-295-7591, bob_cherry@nps.gov.

Unnamed Dam, Toe River, NC: This 10-foot tall concrete dam was built in 1918 for the purposes of power generation. Its removal restored 44 river miles and provided additional habitiat for olive darter, sharphead darter, and Appalachian elktoe mussel. The dam removal has also played a role in improving access to the river and recreational opportunities. Spruce Pine, the dam's location, was named a Heritage Trout Water City by the state of North Carolina. Additionally, Toe River Valley Watch has begun work on a paddling trail.
Contact: Cliff Vinson, Blue Ridge Conservation and Development Council, 828-765-4701, cliff.vinson@ns.usda.gov.

Steele's Mill Dam Hitchcock Creek, Yadkin River, NC: This 15-foot tall by 100-foot long dam was originally built in the late 1800s as a hydropower dam. The dam ceased generating power in 1999, and FERC issued a license exemption in 2001. Removal of this stone dam restored 15 miles of habitat for American shad, hickory shad, striped bass, American eel, and Atlantic sturgeon. Project proponents also anticipate that the dam removal will improve tourism in Richmond County by improving recreational opportunities on Hitchcock Creek.
Contact: Monty Crump, City of Rockingham, 910-895-9088, citymanager@gorockingham.com.

Maxwell Pond Dam, Black Brook, NH: Removal of Maxwell Pond Dam on New Hampshire's Black Brook (a tributary of the Merrimack River) is one example of a project that will have many benefits for the community. The City of Manchester, the New Hampshire Department of Environmental Services, and other partners worked together to remove this outdated dam and restore eight miles of free-flowing river for alewife, blueback herring, Atlantic salmon, and other migratory fish. The city is planning a major park revitalization effort, in anticipation of the new free-flowing stream. This project also improved overall water quality and will be instrumental in getting Black Brook removed from the state's "impaired waters" list.

Contact: Steve Landry, New Hampshire Department of Environmental Services, 603-271-2969 stephen.landry@des.nh.gov.

Winnicut Dam, Winnicut River, NH: Built in 1957, the Winnicut Dam was removed in August 2009 in order to provide an additional 39 miles of historic spawning habitat for blueback herring, American eel, and rainbow smelt. Boaters are also expected to benefit from improved recreational opportunities that have resulted from the dam's removal. The project was removed by New Hampshire Department of Environmental Services with ARRA stimulus funds provided by NOAA.
Contact: Kevin Lucey, New Hampshire Department of Environmental Services, 603-559-0026, kevin.lucey@des.nh.gov.

Seber Dam, Musconetcong River, NJ: This 100-foot long dam was located in Hackettstown. Its removal improved water quality, facilitated fish passage, reduced flood hazards, and created more boating opportunities.
Contact: Beth Styler Barry, Musconetcong Watershed Association, 908-537-7060, beth@musconetcong.org.

Fort Covington Dam, Salmon River, NY: The Fort Covington Dam was the first barrier on the Salmon River, located five miles from where it meets the St. Lawrence River. The deteriorated and undersized dam was a public safety hazard that also contributed to upstream flooding because it causes high flows to back up more than they naturally would in a free-flowing river. In addition to improving public safety, the dam removal will enhance recreational boating opportunities and reestablish fish access to more than 35 miles of the Salmon River and tributaries. The project will restore sport fisheries and bring significant benefits to this rural community.
Contact: Stephanie Lindloff, American Rivers, 518-482-2631, slindloff@americanrivers.org.

Unnamed dam, Stillwater River, OH: This dam was built in the 1920s for flood control. It was made of concrete and stood eight feet tall was150 feet long. Its removal, which will restore one mile of the Stillwater River, will benefit small-mouth bass, reduce silting, and diminish bank erosion. Other benefits of the dam's removal include greater access to the river, and more boating and fishing opportunities.
Contact: Joe Zimmerman, Five Rivers MetroParks, 937-277-4825, joseph.zimmerman@metroparks.org.

Savage Rapids Dam, Rogue River, OR: This 39-foot high, 500-foot long dam was built in 1921 for water supply purposes. Its removal is expected to benefit coho salmon, steelhead trout, and chinook salmon.
Contact: Bob Hunter, Oregon WaterWatch, 541-772-6116, bob@waterwatch.org.

Smethport Reservoir, Blacksmith Run, PA: Originally built in 1881, this 21-foot tall, 105-foot long, high-hazard dam was removed in 2009. The removal restored 1.9 river miles, and restored brook trout habitats and populations. Contact Lisa Hollingsworth-Segedy, American Rivers, 412-727-6120, lh-segedy@amrivers.org.

Carters Dam, Conewango Creek, PA: This concrete dam was built in 1866 for industrial purposes. It was owned by the Commonwealth of Pennsylvania and was six feet tall and 400 feet long. The Carters Dam was a deteriorating structure, and its removal restored 3.4 river miles. The removal improved water quality, reconnected fragmented mussel habitats, and restored passage for host species.
Contact: Vince Humenay, Department of Environmental Protection, 814-342-8146, vhumenay@state.pa.us.

Boydstown Dam, Connoquenessing Creek, PA: Located in Butler, this concrete and earthen dam was owned by the Pennsylvania-American Water Company. It was built in 1896 for water supply purposes and stood at 28 feet tall and was 330 feet long. The dam was removed for both economic reasons and safety concerns, and the removal has resulted in improved water quality.
Contact: Vince Humenay, Department of Environmental Protection, 814-342-8146, vhumenay@state.pa.us.

Collapsible Butler Dam, Connequenessing Creek, PA: The Collapsible Butler Dam is expected to be removed by the end of November. The dam is a failing structure, and its removal is occurring for ecological and safety reasons. The removal is expected to facilitate fish passage.
Contact: Lisa Hollingsworth-Segedy, American Rivers, 412-727-6120, lh-segedy@amrivers.org.

Harmony Junction Dam, Connoquenessing Creek, PA: This 8.5-foot tall by 153-foot long concrete dam was originally built in 1915 for industrial purposes. The dam was purchased in recent years by the Wild Waterways Conservancy for the purposes of removing the dam and reconnecting the floodplain and improving instream storage and water quality. In addition to decreased flooding, the removal has resulted in the restoration of 15 river miles for aquatic species and increased access and recreational opportunities.
Contact: Lisa Hollingsworth-Segedy, American Rivers, 412-727-6120, lh-segedy@amrivers.org.

Barr Slope Reservoir, trib. to Dixon Run, PA: This earthen dam is located in Clymer, and was constructed in 1908 for water supply. This 27-foot tall, 320 foot long dam was removed in 2009 because of safety concerns.
Contact: Vince Humenay, Department of Environmental Protection, 814-342-8146, vhumenay@state.pa.us.

Axe Factory Dam, Fishing Creek, PA: The Axe Factory Dam was removed for ecological, liability, and economic reasons. The removal restored three river miles and improved fish passage.
Contact: Vince Humenay, Department of Environmental Protection, 814-342-8146, vhumenay@state.pa.us.

Lake Poco Dam, trib. to Jacoby Creek, PA: This 13-foot tall, 200-foot long earthen dam was a failing structure that was removed due to safety concerns. By removing the dam, the tributary's water quality will improve and 0.6 river miles will be restored.
Contact: Vince Humenay, Department of Environmental Protection, 814-342-8146, vhumenay@state.pa.us.

Unnamed Dam, Johnson Run, PA: This 5-foot high concrete dam was originally built for water supply in 1960. The removal reduced liability while restoring free-flowing conditions instream and reconnecting the floodplain area in this Susquehanna tributary.
Contact: Vince Humenay, Pennsylvania Department of Environmental Protection, 814-342-8146, vhumenay@state.pa.us.

Unnamed Dam, Jordan Creek, PA: The dam was owned by Trimet Technical Products and was built in 1920 for industrial purposes. This 3-foot tall, 70-foot long concrete dam was removed in 2009 and has resulted in restoration of two river miles for aquatic species and improved water quality.
Contact: Sara Strassman, American Rivers, 717-763-0741, sstrassman@amrivers.org.

Geises Dam, Lithia Springs Creek, PA: Located in Northumberland, the 5-foot tall concrete dam was built in 1960 for water supply purposes. The dam was removed for safety and economic reasons. The removal resulted in improved water quality and the restoration of two river miles.
Contact: Vince Humenay, Department of Environmental Protection, 814-342-8146, vhumenay@state.pa.us.

Howell Dam, trib. to Little Sewickley Creek, PA: This 23-foot tall, 387-foot long earthen dam was originally built in 1910 for water supply. No longer in use, the removal of this high-hazard structure has improved water quality and restored one mile of the creek.
Contact: Lisa Hollingsworth-Segedy, American Rivers, 412-727-6120, lh-segedy@amrivers.org.

Intake Dam, Little Shickshinny Creek, PA: This 8-foot tall, 40-foot long concrete dam was owned by the Pennsylvania Game Commission and was built for water supply purposes. Removal of the dam has resulted in improved water quality for aquatic species.
Contact: Vince Humenay, Department of Environmental Protection, 814-342-8146, vhumenay@state.pa.us.

Service Water Dam, Mahoning Creek, PA: Located in Danville, this 10-foot tall, 140-foot long concrete dam was removed in order to restore 8.9 river miles of habitat for fish and to improve water quality.
Contact: Vince Humenay, Department of Environmental Protection, 814-342-8146, vhumenay@state.pa.us.

Saucon Park Dam, Saucon Creek, PA: This 4.5-foot tall, 125-foot long concrete dam was originally built for industrial purposes. The removal of the Saucon Park Dam

restored three miles of spawning habitat for migratory fish, reduced localized flooding, and also resulted in better water quality.
Contact: Sara Strassman, American Rivers, 717-763-0741, sstrassman@amrivers.org.

Plymouth Dam, Schuylkill River, PA: This pre-1930 timber-crib dam was eight feet tall and 330 feet long and built for industrial purposes. It was owned by the Commonwealth of Pennsylvania and was removed for ecological, safety, and economic reasons. Its removal restored 24 miles of the Schuylkill River and improved habitats for American shad and American eel, more boating and fishing opportunities, and greater access to the river.
Contact: Vince Humenay, Department of Environmental Protection, 814-342-8146, vhumenay@state.pa.us.

Vincent Dam, Schuylkill River, PA: This 7-foot tall, 342-foot long timber-crib dam was built in 1842 for industrial purposes. It was owned by the Commonwealth of Pennsylvania and was removed for ecological, safety, and economic reasons. Its removal restored 55 miles of the Schuylkill River, resulting in better water quality, improved habitats for American shad and American eel, and more boating and fishing opportunities.
Contact: Vince Humenay, Department of Environmental Protection, 814-342-8146, vhumenay@state.pa.us.

Snare Run, Snare Run Reservoir, PA: This 22-foot high concrete and stone dam, located in Williamsburg, was built in 1904 for water supply purposes. The dam was a failing structure that was removed for both safety and economic reasons. The removal resulted in improved water quality.
Contact: Lisa Hollingsworth-Segedy, American Rivers, 412-727-6120, lh-segedy@amrivers.org.

Unnamed Dam, West Branch Chester Creek, PA: This 10-foot high, 90-foot long dam, which is slated for removal in December, was built in 1917 for industrial purposes and is being removed for both ecological and safety reasons. The dam is made of concrete and stone and is in an advanced state of disrepair. The removal will restore 0.3 river miles and facilitate fish passage.
Contact: Sara Strassman, American Rivers, 717-763-0741, sstrassman@amrivers.org.

Green Lane Dam, Yellow Breeches Creek, PA: This concrete dam, which measures nine feet high and is 140 feet long, is owned by the Commonwealth of Pennsylvania. Located in New Cumberland, the dam was built in 1915 for industrial purposes and is being removed due to both ecological and safety concerns. The removal of the Green Lane Dam will restore 1.8 miles of Yellow Breeches Creek, one of Pennsylvania's premiere trout streams, and enhance fishing and boating opportunities.
Contact: Vince Humenay, Department of Environmental Protection, 814-342-8146, vhumenay@state.pa.us.

Wasena Park Dam, Roanoke River, VA: The 5-foot tall Wasena Park Dam was removed for ecological and recreational reasons. The absence of the dam benefits logperch and creates more boating opportunities.
Contact: Greg Reed, Western Virginia Water Authority, 540-853-5700, info@westernvawater.org.

Satus Dam, Satus Creek, WA: Located in Toppenish, the Satus Dam was built as part of the Wapato Irrigation Project. It was 3.5 feet high and125 feet long and cost $250,000 to remove. The removal of the concrete dam restored approximately 90 river miles, which improved habitat for steelhead trout.
Contact: Brandon Rogers, Yakama Nation Fisheries, brandonr@yakama.com

Unnamed Dam, Skokomish River, WA: This dam was owned by Tacoma Power, and built in 1953. Its removal will restore three river miles and facilitate fish passage.
Contact: Mike Anderson, Skokomish Watershed Action Team, 206-624-6430, manderson@twsnw.org.

Hemlock Dam, Trout Creek, WA: Originally built in 1935 for power generation, the 25-foot high Hemlock Dam was removed in 2009 to eliminate safety concerns at this high hazard structure and to restore migratory fish habitat. The removal of the dam restored 15 river miles and improved habitat for steelhead trout.
Contact: Kavita Heyn, American Rivers, 503-827-8648, kheyn@amrivers.org.

Bruton Dam, tributary to the Yakima River, WA: This 8-foot tall concrete dam was built in 1965 for irrigation diversion. The removal of the Bruton Dam has restored 30 river miles and provided upstream passage and habitat for salmon.
Contact: Kittitas Conservation Trust, 509-649-2951, kct@inlandnet.com.

Namahbin Roller Mil Dam, Bark River, WI: The dam, located in Waukesha County, failed during floods in 2008 and is now slated for removal this year.
Contact: Helen Sarakinos, River Alliance of Wisconsin, 608-257-2424, hsarakinos@wisconsinrivers.org.

DAMS SLATED FOR REMOVAL IN 2008

TOTAL NUMBER OF DAMS REMOVED: ~748
TOTAL NUMBER OF DAMS REMOVED SINCE 1999: 306

64 DAMS REMOVED OR SLATED TO BE REMOVED IN 2008

Upper York Creek Dam, Upper York Creek, CA: Removal began in August on this St. Helena earthen dam that was built in 1900. The removal is being undertaken by the St. Helena Department of Public Works and others in order to restore access and improve habitat for steelhead trout. Contact Jonathan Goldman, St. Helena Director of Public Works, (707) 968-2658.

Whites Gulch Dam #1, Whites Gulch, CA: The Whites Gulch Dam is located on the Salmon River, a tributary of the Klamath River, in Siskiyou County, California, not far from the Oregon border. Whites Gulch sits in the middle of thick vegetation and tree-lined streams, ideal for spawning salmon. The original dam was constructed on the river in the late 1800s and was replaced by the current dam in the 1980s. The river was originally home to a large salmon population, supporting a salmon cannery and sportfishing, but now the dam blocks salmon from reaching their upstream spawning habitat, and populations are dwindling. With the October removal of the dam, there is now an additional 1.5 miles of habitat available to coho and spring run chinook salmon. Contact Leah Mahan, NOAA Restoration Center, (707) 825-5161, leah.mahan@noaa.gov.

Shasta River Water Association Diversion Dam, Shasta River, CA: This diversion dam is slated for removal this fall in order to provide access to additional spawning habitat for coho and chinook salmon. Contact Andrew Baker, North Coast Regional Water Quality Control Board, (707) 576-2690, abaker@waterboards.ca.gov.

Camp Meeker Summer Dam, Dutch Bill Creek, CA: This 12-foot high dam was originally built in the 1950s as a seasonal swimming hole for the local community. Dutch Bill Creek is one of only five remaining streams in the Russian River system where wild juvenile coho are known to exist for each year of the species' three year reproduction life cycle. The Department of Fish and Game identified Dutch Bill Creek as having the highest possible rank for restoration and management potential in the Central California Coast Coho ESU. Its removal will restore more than 3 miles of habitat for steelhead and coho. Contact Lisa Hulette, Gold Ridge Resource Conservation District, (707) 874-2907, lisa@goldridgercd.org.

East Mill Creek Barrier, East Mill Creek, CA: This 12-foot high barrier is slated for removal in 2008 in order to restore access to spawning habitat for coho and steelhead. Contact Drew Barber, Mattole Salmon Group, (707) 629-3433, drew@mattole.org.

McDowell Grove Dam, West Branch of the DuPage River, IL: The McDowell Grove Dam is slated for removal this fall in order to restore the river's natural flow regime. The restoration includes the removal of contaminated sediments and is expected to benefit some 23 fish and mussel species. Contact John Oldenburg, DuPage County Forest Preserve District, (630) 933-7200.

New Way Dam Dam, Red Brook, MA: The New Way Dam was removed in September of this year as part of a larger restoration project spearheaded by the Massachusetts' Riverways program, the Trustees of Reservations, and others to restore one of the state's last remaining native sea-run brook trout populations. This project was partially funded by the American Rivers-NOAA River Grants program. Contact Tim Purinton, Massachusetts Riverways Program, (617) 626-1542, tim.purinton@state.ma.us.

Union Dam, Patapsco River, MD: Built around 1900, Union Dam historically supplied water power for the J.W. Dickey Textile Mills in Baltimore County, across the Patapsco River from Ellicott City. This 24-foot high by 355-foot long concrete buttress dam was breached during a storm event in 1990. Since then, bank erosion on the right side of the breach has worsened and water velocities have increased. The erosion is threatening a major sewage line and efforts to stabilize the bank with rip-rap have failed. Removal of the dam should occur during either the winter 2008 or 2009 in order to stabilize the banks and minimize the hazards posed by the breached dam. Some fish passage has been possible since the 1990 breach; more can be expected after the total removal. Contact Jim Thompson, Maryland Department of Natural Resources, (410) 260-8269, jthompson@dnr.state.md.us.

Maple Hill Dam, Butternut Creek, MI: This 3.5-foot high concrete dam was built in the 1930s and is used for irrigation by the Maple Hill Cemetery. It is being removed to restore access to high quality habitat in this headwaters stream.

Plainwell Dam #1, Kalamazoo River, MI: This 21-foot high dam was originally built in 1902 for power production. The dam has since fallen out of use and into disrepair and is being removed this year. Contact Paul Bucholtz, Michigan Department of Environmental Quality, (517) 373-8174, **bucholtzp@michigan.gov**.

Dexter Dam, Mill Creek, MI: This 15-foot high concrete dam was originally built for power production. It is slated for removal this year for safety and ecological reasons. Contact Michael Donahue, URS Corporation, (248) 553-9449.

Rice Creek Dam, Rice Creek (tributary to the Kalamazoo River), MI: This 12-foot high, 500-foot long former mill pond dam was built in 1835. The city of Marshall owns the dam and is working with the Calhoun Conservation District, Trout Unlimited, and the Michigan Department of Natural Resources to remove the structure. The project is slated for 2007. The goal of the project is to enhance the inland fishery and other aquatic resources of Rice Creek by restoring a 0.8 mile millrace and historic channel at Ketchum Park in Marshall. This site is unique in that it is: (1) historically significant, (2) openly visible and in a public park, and (3) the only dam on the creek, thus its removal would

open the entirety of Rice Creek (a cold water trout stream) to fish passage. The dam is currently having preliminary hydraulic work completed. The estimated cost for the project is $202,858. Contact Chris Freiburger, Michigan Department of Natural Resources, (517) 373-6644, freiburg@michigan.gov.

Chesaning Dam, Shiawassee River, MI: Built in 1863 to power a grist mill, this dam has fallen into disrepair and is being removed for safety and liability reasons. The removal is expected to benefit the local community's recreation and tourism base. Contact Tom Meder, Shiawassee River Restoration Committee.

Milltown Dam, Clark Fork River, MT: This large, privately owned dam is slated for removal in late 2007 as part of a larger effort to remove tons of sediment contaminated with heavy metals from behind this crumbling dam. Removal of the dam and contaminated sediment will eliminate the risk of all of the arsenic and other heavy metals being swept downstream if the dam breached. The removal will also reconnect the Clark Fork and Blackfoot Rivers. Contact Matt Clifford, Clark Fork Coalition, (406) 542-0539.

Steele's Mill, Hitchcock Creek, NC: This 15-foot tall by 100-foot long dam was originally built in the late 1800s as a hydropower dam. The dam ceased generating power in 1999, and FERC issued a license exemption in 2001. NOAA is working with the local community in order to remove this dam and restore access to historic spawning habitat for American shad and American eel. The removal of this dam, slated for fall 2007, will provide these migratory fish access to 15 new river miles. Contact Howard Schnabolk, National Oceanic and Atmospheric Administration, (843) 740-1328.

Maxwell Pond Dam, Black Brook, NH: Maxwell Pond Dam on New Hampshire's Black Brook (a tributary of the Merrimack River), which is slated for removal this fall, is one example of project that will have many benefits for the community. The City of Manchester, the New Hampshire Department of Environmental Services, and other partners are taking innovative steps to remove this outdated dam and restore eight miles of free-flowing river for alewife, blueback herring, Atlantic salmon, and other migratory fish. The city is planning a major park revitalization effort, in anticipating of the new free-flowing stream. The stream restoration project will improve overall water quality and get Black Brook removed from the state's "impaired waters" list. Contact Steve Landry, New Hampshire Department of Environmental Services, (603) 271-2969, **Stephen.landry@des.nh.gov**.

Ice Pond Dam and Unregistered Dam, Ice Pond Brook, NH: The town of Jackson is slated to remove these two small dams originally built in the 1800s. Contact Deb Loiselle, New Hampshire Department of Environmental Services, (603) 271-8870, **dloiselle@des.state.nh.us**.

Upper IPC Dam, Newfound River, NH: The dam, originally built in 1936, is slated for removal this winter. Contact Deb Loiselle, New Hampshire Department of Environmental Services, (603) 271-8870, **dloiselle@des.state.nh.us**.

Pearl Lake Brook Dam, Pearl Lake Brook, NH: Originally built in 1935, this dam was removed in July 2008. Deb Loiselle, New Hampshire Department of Environmental Services, (603) 271-8870, **dloiselle@des.state.nh.us**.

Merrimack Village Dam, Souhegan River, NH: The dam, which was originally built in 1907 to power a gristmill, had last served as a source of drinking water supply. However, the dam was structurally deficient and in need of repairs. The dam's owner determined it was more beneficial to remove the dam, restoring the river and eliminating safety and liability concerns. The dam was removed in September 2008 and restored some 14 miles of habitat for migratory fish. This project was partially funded by the American Rivers-NOAA River Grants program. Deb Loiselle, New Hampshire Department of Environmental Services, (603) 271-8870, **dloiselle@des.state.nh.us**.

Rex Tannery Dam, Unnamed Tributary to the Lamprey River, NH: This unregistered dam was discovered during a Brownfields investigation. New Hampshire Dam Safety was called to the site where they declared it a dam and ordered the private owner to either register it as a dam or remove the structure. The dam is slated to be notched down to the streambed with the potential for removal of the entire structure depending on the makeup of the dam. Contact Deb Loiselle, New Hampshire Department of Environmental Services, (603) 271-8870, **dloiselle@des.state.nh.us**.

Upper Crown Mill Dam, Nine Mile Creek, NY: The Upper Crown Mill Dam on Nine Mile Creek was originally built in 1868 and powered a mill that manufactured uniforms for the Union Army during the Civil War. It is slated for removal in conjunction with a redevelopment of the old mill site. The project is expected to improve fish passage and restore sediment flow. Contact Stephanie Lindloff, American Rivers, (518) 482-2631, **slindloff@amrivers.org**.

Crownshield Dam, North Branch Boquet River, NY: This 7-foot high concrete dam was removed this year in order to facilitate fish passage and habitat restoration. Contact Stephanie Lindloff, American Rivers, (518) 482-2631, **slindloff@amrivers.org**.

Fort Covington Dam, Salmon River, NY: The Fort Covington Dam in particular is the first barrier on the Salmon River, located five miles from where it meets the St. Lawrence River. The deteriorated and undersized dam is a public safety hazard that also contributes to upstream flooding because it causes high flows to back up more than they naturally would in a free-flowing river. In addition to improving public safety, the dam removal will enhance recreational boating opportunities and reestablish fish access to more than 35 miles of the Salmon River and tributaries. The project will restore sport fisheries and bring significant benefits to this rural community. Contact Stephanie Lindloff, American Rivers, (518) 482-2631, **slindloff@amrivers.org**.

Lower Little Pond Dam, Unnamed Tributary to Beaverkill River, NY: This dam was removed in 2008 for safety and ecological reasons. Contact Stephanie Lindloff, American Rivers, (518) 482-2631, **slindloff@amrivers.org**.

Wolf Park Dam and Nelson Park Dam, Alum Creek, OH: Friends of Alum Creek & Tributaries have been working to remove the Wolf Park Dam and the Nelson Park Dam, both on Alum Creek, to improve public safety, as at least two deaths have been documented at the Wolf Park Dam. The project will also improve water quality and restore natural stream flows. Contact Joe Bonnell, Friends of Alum Creek, (614) 409-0511.

Elk Creek Dam, Elk Creek, OR: The Elk Creek Dam was originally constructed for flood control but was never completed. A trap and haul program was used to move fish upstream of the dam for several years but it caused harm to the fish and was more expensive than dam removal. To restore fish passage, in July a notch was created in the dam and the stream is now free flowing. Bob Hunter, WaterWatch of Oregon, (541) 772-6116.

Gold Hill Dam, Rogue River, OR: Outside of the Savage Rapids Dam, which is scheduled to be removed in 2009, the Gold Hill Dam on the Rogue River was the largest impediment to salmon and steelhead migration. Gold Hill Dam's removal in July 2008 is an essential component of restoring the Wild and Scenic Rogue River by removing outdated infrastructure. Contact Craig Harper, Rogue Valley Council of Governments, (541) 423-1369.

Chiloquin Dam, Sprague River, OR: The Chiloquin Dam on the Williamson River was also removed in July 2008. A diverse group of partners, which included irrigators and the Klamath Tribes, came together to remove the dam and restore 80 miles of habitat for two species of endangered sucker fish. Contact Christine Karas, U.S. Bureau of Reclamation, (541) 883-6935.

Unnamed Dams (2), Bear Run, PA: The two stone dams on Bear Run, originally part of the grounds for the staff of Frank Lloyd Wright's Fallingwater, were removed in August 2008 by the Western Pennsylvania Conservancy, the Pennsylvania Fish and Boat Commission and American Rivers. The restoration will reconnect wild brook trout populations on this state scenic river and has already uncovered natural bedrock features and riffle habitat in the impoundment. Contact Sara Strassman, American Rivers, (717) 763-0741, **sstrassman@amrivers.org**.

Unnamed (Mixel) Dam, Doubling Gap Creek, PA: The removal of this 7-foot high concrete masonry dam is being done by the Pennsylvania Turnpike Commission as mitigation for a transportation project. The removal is expected to benefit wild brook trout, blacknose dace, creek chub, cutlips minnow, tessellated darter and white sucker. It will also eliminate a public safety hazard. Contact Sara Strassman, American Rivers, (717) 763-0741, **sstrassman@amrivers.org**.

Unnamed Dam, Johnson Run, PA: This 5-foot high concrete dam was originally built for water supply in 1960. The removal will reduce liability while restoring free-flowing conditions instream and reconnecting the floodplain area in this Susquehanna tributary.

Contact Vince Humenay, Pennsylvania Department of Environmental Protection, (814) 342-8146, **vhumenay@state.pa.us**.

Trimet Dam, Jordan Creek, PA: This 3-foot high dam no longer serves a purpose and is being removed to restore fish passage. Contact Vince Humenay, Pennsylvania Department of Environmental Protection, (814) 342-8146, **vhumenay@state.pa.us**.

Laurel Run Dam #2, Laurel Run, PA: This 37-foot high hazard dam is being removed to improve public safety and liability concerns. The area is currently used as a recreational area and dumping grounds. The site is extremely dangerous for users, due to the dam height and other site conditions. The removal will provide an opportunity for aquatic and significant riparian restoration. Contact Vince Humenay, Pennsylvania Department of Environmental Protection, (814) 342-8146, vhumenay@state.pa.us.

Manners Run Dam, Manners Run, PA: This dam is slated for removal in 2008. Contact Sara Strassman, American Rivers, (717) 763-0741, **sstrassman@amrivers.org**.

Unnamed Ohiopyle Dam, Meadow Run, PA: This dam is slated for removal in 2008. Contact Sara Strassman, American Rivers, (717) 763-0741, **sstrassman@amrivers.org**.

Pine Run Dam #1, Pine Run, PA: This 43-foot high hazard dam is being removed to improve public safety and liability concerns. The area is currently used as a recreational area and dumping grounds. The site is extremely dangerous for users, due to the dam height and other site conditions. The removal will provide an opportunity for aquatic and significant riparian restoration. Contact Vince Humenay, Pennsylvania Department of Environmental Protection, (814) 342-8146, vhumenay@state.pa.us.

Rolling Rock Dams (9), Rolling Rock Creek, PA: The removal of these dams is being undertaken for the purposes of ecological restoration and to reduce liability. It is expected to benefit the coldwater resources of Rolling Rock Creek. Contact Sara Strassman, American Rivers, (717) 763-0741, **sstrassman@amrivers.org**.

Vincent Dam, Schuylkill River, PA: This dam is slated for removal in 2008. Contact Sara Strassman, American Rivers, (717) 763-0741, **sstrassman@amrivers.org**.

Claysville School Street Dam #1, tributary to Dutch Fork, PA: Originally built to supply water, the dam has fallen into disrepair, and it was found that removal of the structure was the most cost effective way to reduce liability. Contact Vince Humenay, Pennsylvania Department of Environmental Protection, (814) 342-8146, vhumenay@state.pa.us.

Unnamed Dam, tributary to Neshaminy Creek, PA: This 2.5-foot high concrete dam is exacerbating erosion and is being removed by the Pennsylvania Department of Environmental Protection. Contact Vince Humenay, Pennsylvania Department of Environmental Protection, (814) 342-8146, vhumenay@state.pa.us.

Mt. Carmel Dams 1 and 2, Unnamed Headwaters, PA: These two earthen dams are being removed as part of a mitigation package. The dams currently create thermal pollution of these spring seeps. Removal will restore a headwaters tributary to the Susquehanna mainstem. Contact Vince Humenay, Pennsylvania Department of Environmental Protection, (814) 342-8146, vhumenay@state.pa.us.

Green Lane Farms Dam, Yellow Breeches Creek, PA: This removal is slated for this winter. Contact Sara Strassman, American Rivers, (717) 763-0741, **sstrassman@amrivers.org**.

Spangler Mill Dam, Yellow Breeches Creek, PA: This 8-foot high state-owned dam is being removed to eliminate liability and increase fish passage and recreational opportunities. Contact Sara Strassman, American Rivers, (717) 763-0741, **sstrassman@amrivers.org**.

Cox Brook Dam, Cox Brook (tributary to the Dog River), VT: This 10-foot high, privately owned dam was originally built in 1932 to provide students at Norwich University with engineering experience. The Vermont Department of Fish and Wildlife identified the Cox Brook Dam as a source of declining rainbow trout populations above the impoundment. Removing Cox Brook Dam will aid one of only three natural trout streams in Vermont, benefiting wild rainbow and brown trout. It will also eliminate liability and restore sediment transport to an unstable downstream reach that is in close proximity to bridges and other infrastructure. Contact Brian Fitzgerald, Vermont Agency of Natural Resources, (802) 241-3468, **brian.fitzgerald@state.vt.us**.

Stevensville Brook Dam, Stevensville Brook, VT: This is an 8-foot high by 30-foot long concrete dam that was constructed around 1930 in order to create a private swimming hole. Over time, sediment collected behind the dam became a maintenance problem that has had ongoing environmental impacts. The owner worked with the Vermont Agency of Natural Resources to develop a plan for complete removal of the structure, which is expected to aid in restoration of stream habitat, fish passage, and sediment transport. The removal is expected to cost $5,000 and be finished fall 2007. Contact Brian Fitzgerald, Vermont Agency of Natural Resources, (802) 241-3468, **brian.fitzgerald@state.vt.us**.

Woodley Dam, Apple River, WI: This 18-foot high earthen dam is slated for removal in fall 2008. While the decision to remove was made a long time ago, the project has been mired in controversy due the proposed construction of a snowmobile bridge over the pilings of the original dam and the dam removal permit was contested by local river advocates concerned over the associated activities with bridge building. The dam partially failed during a flooding event in April 2001 and was drained for safety reasons. Plans include dam removal, streambank stabilization and the construction of a snowmobile bridge. Removal and restoration costs are estimated at $120,000, and funds will be provided by a Wisconsin Department of Natural Resources small and abandoned dam grant, the US Fish and Wildlife Service, and Polk County. Benefits include elimination of a safety hazard, improved warm water fish habitat, and passage for

canoeists. Contact: Helen Sarakinos, River Alliance of Wisconsin, (608) 257-2424, hsarakinos@wisconsinrivers.org.

Big Spring Dam, Big Spring Creek, WI: Removal of this dam began in July 2008. Big Spring dam is located on a section of Class I brook trout stream. The 18-foot gravity and earthen dam was in poor condition and in 1998, the impoundment was drained for safety reasons. Because the dam is classified as a high hazard dam and has spillway capacity requirements, estimated costs for repair exceeded one million dollars. Removal and restoration costs are estimated at $120,000. Restoration of the stream will happen in several phases with the involvement of many partners ranging from the landowner, the River Alliance of Wisconsin, Inter-Fluve, Adams County, and the Wisconsin Department of Natural Resources. Benefits of the dam removal include improving water quality and fish passage for native brook and brown trout fisheries. Contact: Helen Sarakinos, River Alliance of Wisconsin, (608) 257-2424, hsarakinos@wisconsinrivers.org.

Four Hill Flowage, Big Wiergor Creek, WI: This 13-foot high dam is slated for removal in 2008. Big Wiergor Creek and its tributaries constitute a popular brook trout fishery and it is anticipated that with the dam removal, brook trout populations and fishing opportunities will improve. The estimated project cost, $40,000, is being shared between Rusk County and the Natural Resources Conservation Service. Contact Paul Teska, Rusk County Forestry Department; (715) 532-2113, pteska@ruskcountywi.us.

Unnamed dams (2), Mukwonago River, WI: The Nature Conservancy will remove two half-century-old dams at its Crooked Creek Preserve. The dams are considered unsafe, and they have impacted the ecological health of the Mukwonago River by altering the river's flow and raising its temperature. The Conservancy will restore the land and water around the dams— including springs that constitute most of the river's headwaters—to their historic natural condition. The Conservancy consulted with the Wisconsin Department of Natural Resources, the U.S. Fish and Wildlife Service and the Natural Resources Conservation Service on the project. The work is expected to cost about $150,000 and is being paid for with a mix of state and federal grants as well as private money. Contact: Chris Anderson, The Nature Conservancy, (608) 381-0746, canderson@tnc.org.

Wisconsin Lutheran Seminary Dam, Pidgeon Creek, WI: This project is in the final steps of design and is slated for removal this winter. The removal project will cost $38,000 that will come from the Environmental Damage Compensation Account. The removal of the dam from Pigeon Creek will improve the quality of water and habitat for aquatic life, recreational use, and aesthetic quality as well as eliminate the Seminary's liability, operating, and maintenance costs. Contact: Tanya Meyer, Wisconsin Department of Natural Resources, **tanya.meyer@wisconsin.gov**.

DAMS SLATED FOR REMOVAL IN 2007
AND
DAMS REMOVED FROM 1999-2006

TOTAL NUMBER OF DAM REMOVED: ~715
TOTAL NUMBER OF DAMS REMOVED SINCE 1999: 273

54 DAMS REMOVED OR SLATED TO BE REMOVED IN 2007

Unnamed Dam, Mud Creek, AL: An unnamed dam that was built to illegally capture raw sewage that was leaking from a wastewater treatment plant was removed in August 2007. The removal was one of two options given to the Hanceville Water and Sewer Board. Prior to removal of the dam, the biosolids that had accumulated in the sludge behind it had to be removed. The quality of the water near the site has and will continue to be monitored to assess both the impacts of the structure the water treatment plant. Leslie Durham, P.E., Alabama Dept of Economic & Community Affairs, (334) 242-5506, leslie.durham@adeca.alabama.gov.

Zemko Dam, East Branch of Eightmile River, CT: The Zemko Dam, formerly a privately owned structure recently purchased by The Nature Conservancy, is a 5-foot high stone and earthen fill structure scheduled for removal in fall 2007. The removal is expected to restore migratory fish access to historic spawning and nursery habitat for Atlantic salmon, sea lamprey and American eel. The project was funded in part through a partnership between NOAA Community-based Restoration Program and American Rivers. Contact Laura Wildman, American Rivers, (860) 652-9911, lwildman@amrivers.org.

Raymond Brook Pond Dam, Raymond Brook, CT: This 4-foot high concrete and rubble structure was removed from Raymond Brook, a tributary of the Salmon River in summer 2007. The dam owner, tired of the liability associated with a deteriorating dam and looking to turn a muck-filled pond back into a gently flowing stream, was supportive of the restoration project and the opportunity to partner with local and national groups to ensure its success. The dam's removal is restoring access to more than 16 miles of upstream riverine habitat within the Salmon River Watershed, reconnecting the river for juvenile Atlantic salmon, American eel and native resident riverine species such as brook trout. Funding and technical assistance for the removal was provided through the partnership between NOAA Community-based Restoration Program and American Rivers. Contact Laura Wildman, American Rivers, (860) 652-9911, lwildman@amrivers.org.

PPG Rubble Dam, Potomac River, MD: The PPG Dam, once owned by the Pittsburg Plate & Glass company and now by Allegany County, was originally built to impound water for a pumping station that pumped river water for industrial uses. Today it serves no function and is scheduled for removal in fall 2007. The 10-foot high dam, constructed of boulders, impounds half a mile of the Potomac River and is being removed both to reduce a navigational hazard, thus increasing boating opportunities, and to promote easier passage of American eel. Along with the already-completed Octoraro Dam removal, this removal represents one of the first in Maryland. The project was funded in part through a partnership between NOAA Community-based

Restoration Program and American Rivers. Contact Jim Thompson, Maryland Department of Natural Resources, (410) 260-8269, jthompson@dnr.state.md.us.

Raven Rock Dam, Raven Rock Creek, MD: The Raven Rock Dam 6.5-foot tall stone and mortar dam was built in the 1920s as a water supply source for the city of Hagerstown. The removal, which occurred in late September 2007, will help restore the natural function of the stream and provide access to quality habitat for brook trout. Contact Jim Thompson, Maryland Department of Natural Resources, (410) 260-8269, jthompson@dnr.state.md.us.

Puckum Branch Dam, Puckum Branch Stream, MD: Built around 1940, Puckum Branch Dam was an earthen dam approximately 8 feet high and 200 feet long and has a pipe culvert. It was built to accommodate a logging road and was removed to allow for fish passage and stream restoration. Alewife, blueback herring and perch are among the fish species expected to benefit most significantly from the removal. Removal of Puckum Branch Dam occurred in January 2007. Contact Jim Thompson, Maryland Department of Natural Resources, (410) 260-8269, jthompson@dnr.state.md.us.

Union Dam, Patapsco River, MD: Built around 1900, Union Dam historically supplied water power for the J.W. Dickey Textile Mills in Baltimore County, across the Patapsco River from Ellicott City. This 24-foot high by 355-foot long concrete buttress dam was breached during a storm event in 1990. Since then, bank erosion on the right side of the breach has worsened and water velocities have increased. The erosion is threatening a major sewage line and efforts to stabilize the bank with rip-rap have failed. Removal of the dam should occur during either the winter 2007 or 2008 in order to stabilize the banks and minimize the hazards posed by the breached dam. Some fish passage has been possible since the 1990 breach; more can be expected after the total removal. Contact Jim Thompson, Maryland Department of Natural Resources, (410) 260-8269, jthompson@dnr.state.md.us.

Unnamed Dam, Green River, MI: Removal of this 8-foot dam was shepherded by Conservation Resource Alliance and a series of partners in order to enhance fish migration between the Green and Jordan Rivers and potentially trout spawning habitat. The dam, originally built as a water diversion for the Green River Trout Farm, was removed in late summer 2007. Because a minimum water elevation needed to be maintained for the diversion, the project design involved installing a series of rocky step pools. Contact Mark Johnson, Conservation Resource Alliance, (231) 946-6817.

Rice Creek Dam, Rice Creek (tributary to the Kalamazoo River), MI: This 12-foot high, 500-foot long former mill pond dam was built in 1835. The city of Marshall owns the dam and is working with the Calhoun Conservation District, Trout Unlimited, and the Michigan Department of Natural Resources to remove the structure. The project is slated for 2007. The goal of the project is to enhance the inland fishery and other aquatic resources of Rice Creek by restoring a 0.8 mile millrace and historic channel at Ketchum Park in Marshall. This site is unique in that it is: (1) historically significant, (2) openly visible and in a public park, and (3) the only dam on the creek, thus its removal would open the entirety of Rice Creek (a cold water trout stream) to fish passage. The dam is currently having preliminary hydraulic work completed. The estimated cost for the project is $202,858. Contact Chris Freiburger, Michigan Department of Natural Resources, (517) 373-6644, freiburg@michigan.gov.

Milltown Dam, Clark Fork River, MT: This large, privately owned dam is slated for removal in late 2007 as part of a larger effort to remove tons of sediment contaminated with heavy metals from behind this crumbling dam. Removal of the dam and contaminated sediment will eliminate the risk of all of the arsenic and other heavy metals being swept downstream if the dam breached. The removal will also reconnect the Clark Fork and Blackfoot Rivers. Contact Matt Clifford, Clark Fork Coalition, (406) 542-0539.

Steele's Mill, Hitchcock Creek, NC: This 15-foot tall by 100-foot long dam was originally built in the late 1800s as a hydropower dam. The dam ceased generating power in 1999, and FERC issued a license exemption in 2001. NOAA is working with the local community in order to remove this dam and restore access to historic spawning habitat for American shad and American eel. The removal of this dam, slated for fall 2007, will provide these migratory fish access to 15 new river miles. Contact Howard Schnabolk, National Oceanic and Atmospheric Administration, (843) 740-1328.

Unnamed Dam, Unnamed Tributary, Raymond, NH: This unregistered dam was discovered during a Brownfields investigation. New Hampshire Dam Safety was called to the site where they declared it a dam and ordered the private owner to either register it as a dam or remove the structure. The dam is slated to be notched down to the streambed with the potential for removal of the entire structure depending on the makeup of the dam. Contact Deb Loiselle, New Hampshire Department of Environmental Services, (603) 271-8870, dloiselle@des.state.nh.us.

Plainsboro/Cranbury Dam, Cranberry Brook, a tributary of the Millstone River, NJ: This 8-foot high and 650-foot long earthen embankment dam as built in the 1930s to create an irrigation withdrawal point for the surrounding agricultural lands. This dam, owned by a local condominium association, contributes to degraded water quality and blocks the movement of resident fishes such as smallmouth bass. The total project is expected to cost approximately $150,000 with funding provided through private grant and the association general funds. Removal of the dam will also allow the regeneration of a 30 acre riparian forest that pre-dated the dam, and create a corridor connection between the upstream and downstream existing forested corridors. Contact Dewey Lima, New Jersey Department of Environmental Protection, (609) 984-0859, dewey.lima@dep.state.nj.us.

Lower Kakeout Dam, Stone House Brook, NJ: This 16.8-foot high earthen dam was built in 1926 as an early water supply source. This publicly owned structure is currently serving no purpose and is being removed to eliminate the current liability. Contact Dewey Lima, New Jersey Department of Environmental Protection, (609) 984-0859, dewey.lima@dep.state.nj.us.

West Milford Lake Dam, Long House Creek, NJ: This 16-foot high earthen dam was built in 1929 for the purposes of recreation. The privately owned dam is in a state of disrepair and is being removed by the state for safety reasons. Contact Dewey Lima, New Jersey Department of Environmental Protection, (609) 984-0859, dewey.lima@dep.state.nj.us.

Gruendyke Mill Dam, Musconetcong River, NJ: This 7-foot high and 150-foot long concrete/masonry dam was built in the 19th century and reconstructed several times in the early

1900s to service a mill and also enable ice harvesting. The dam experienced flood damage in 2000 and is severely deteriorated. It also contributes to degraded water quality and blocks the movement of resident fishes such as brown trout. The dam owners, who operate a restaurant near the dam, are donating a parcel of river frontage to be available for public access once the dam, a public safety hazard, is removed. The total project is expected to cost approximately $200,000 with funding provided by federal, state, county, and private partners. The Musconetcong Watershed Association, which is leading the project, considers the remaining 19 dams on the river to be candidates for dam removal as well. Contact Beth Styler Barry, Musconetcong Watershed Association, (908) 537-7060, beth@musconetcong.org.

American Legion Pool Dam, Canasawacta Creek Dam, NY: This 4-foot high dam in the City of Norwich was removed during the summer to reduce localized flooding exacerbated by the structure. The dam, originally built to create a children's swimming area, had outlived its usefulness. City Alderman also expressed concerns that the dam caused a safety hazard because of the number of children playing on or around it every summer. Contact Alon Dominitz, New York State Department of Environmental Conservation, (518) 402-8130, axdomini@gw.dec.state.ny.us.

Unnamed Dam, Bear Creek, OR: Information pending. Craig Harper, Rogue Valley Council of Governments.

Brownsville Dam, Calapooia River, OR: This 5-foot high dam, originally built in 1858 to divert water for a millrace, was removed in August 2007 in order to restore access to critical habitat for spring Chinook and steelhead. With the dam gone, these migratory fish will now have access to more than 40 miles of spawning habitat. This project is one of the first projects funded under NOAA's Open Rivers Initiative, providing funding for community-driven small dam and barrier removal projects. Contact Kerry Griffin, National Oceanic and Atmospheric Administration, (503) 872-2738, kerry.griffin@noaa.gov.

Marmot Dam, Sandy River, OR: Removal began on the 47-foot high Marmot Dam, built in 1912 as part of PGE's Bull Run Hydroelectric project, in July 2007. In recent years it became clear that addressing the harm the dams caused to salmon and bringing the project up to date with modern environmental protections would be very costly. In 2002, PGE signed an agreement with 22 organizations to decommission the project. Once the Little Sandy Dam, the second dam in the settlement, is removed next year, the project will open more than 100 miles of high quality habitat for threatened salmon and steelhead and increase recreational opportunities for boaters. Contact Amy Kober, American Rivers, (206) 213-0330 x23, akober@amrivers.org.

South Fork Klaskanine Dam, South Fork Klaskanine River, OR: The South Fork Klaskanine Dam was originally built in 1980 to divert water to a commercial hatchery in Youngs Bay. The removal of this structure occurred in August 2007 in order to provide fish passage for migrating salmonids with fish screens and an intake being installed to fulfill the water diversion obligations. This removal will result in access to 2.25 miles of spawning and rearing habitat for coho, cutthroat, and steelhead and allow for natural stream processes to occur, such as sediment and woody debris transport. The project was funded in part through a partnership between

NOAA Community-based Restoration Program and American Rivers. Contact Catie Fernandez, CREST, (503) 325-0435, cfernandez@columbiaestuary.org.

Glenburn Pond Dam, Ackerly Creek, PA: The Natural Lands Trust is removing this dam on Ackerly Creek in Lackawanna County, PA over a series of phases that will take several years in order to assess, contain and mitigate the movement of contaminated sediment from a former upstream industrial input. The project will ultimately remove a liability and expense and restore approximately 20 acres of natural wetland and riparian area that has been inundated. Contact Scott Wendle, Natural Lands Trust, (610) 353-5587, swendle@natlands.org.

Bear Rock 1 and 2 Dams, Bear Rock Run, PA: These 30-foot high dams were built from 1903 to 1904 by the Mountain Springs Water Co., later the Summit Water Supply Co. (a predecessor to Highland Sewer and Water Authority) to provide a water supply to the Pennsylvania Rail Road in the Cresson/Gallitzin areas. The dams no longer serve their function and are a liability for the owner, the Highland Sewer and Water Authority. The removal of these dams will complete a series of 4 dam removal projects in the greater Johnstown area. The dams are slated for removal in late summer 2007. The project was funded in part through an American Rivers' Free Flowing Pennsylvania grant. Contact Ed Englehart, Highland Water and Sewer Authority, (814) 266-3146, eenglehart@highlandwater.net

Smith Dam, Unnamed tributary to Cedar Run, PA: This dam was built in 1916 to create a duck pond. It is 3 feet high by 34 feet long and made out of concrete with a wooden flow control. Removal, expected to cost $17,200 and slated for fall 2007, should improve water quality and fish habitat and passage. The project is funded in part through an American Rivers' Free Flowing Pennsylvania grant. Contact Sara Deuling, American Rivers, (717) 763-0741, sdeuling@amrivers.org.

Unnamed Dam, Unnamed tributary to Cedar Run, PA: Built in 1911 to create a duck pond, this dam is 3 feet high by 30 feet long and made out of concrete with a 2-foot wooden plank opening. Combined with other restoration work on the same tributary, removal of this dam will open fish passage and improve water quality. It is expected to be taken out in 2007 for the cost of $17,200. The project was funded in part through an American Rivers' Free Flowing Pennsylvania grant. Contact Sara Deuling, American Rivers, (717) 763-0741, sdeuling@amrivers.org.

Crabapple Dam, Crabapple Run, PA: In July 2007, the Pennsylvania Department of Environmental Protection removed this high hazard dam in Fayette County, PA. The earthen dam was 30-foot tall and 720-foot long and dated from 1906, when it was used to supply water to the Washington Coal and Coke Co. mines and ovens, though its more recent use was recreational. Contact Tom Bold, Pennsylvania Department of Environmental Protection, tbold@state.pa.us.

Unnamed dam, Fishing Creek, PA: This dam in Columbia County was built by PennDOT in 1968. It consists of sheet-piling and is approximately 5 feet high and 380 feet long. The dam serves no useful purpose and its removal will restore free-flowing dynamics and fish passage and

will include the removal of floodplain obstructions and an abandoned RR trestle bridge. Contact Sara Deuling, American Rivers, (717) 763-0741, sdeuling@amrivers.org.

Behrend Capped Waterfall Dam, Fourmile Creek, PA: Fourmile Creek is designated as a warmwater and migratory fishery and features natural ledges on its lower mainstem as it heads for Lake Erie. The Behrend Capped Waterfall dam was a 2.5-foot tall, 40-foot long concrete-capped natural ledge. Its original purpose and date of construction are unknown. The dam was in a state of disrepair and the owner wished to restore the natural waterfall and stream channel. The dam was removed for less than $10,000 in August 2007. Contact Dave Skellie, Pennsylvania Sea Grant, (814) 217-9014, dus18@psu.edu.

Spring Creek Inc. Dam, Fourmile Creek, PA: This removal is a companion project to the Behrend Capped Waterfall Dam removal and will take place in August 2007. The dam is approximately 2-foot tall and served formerly as a concrete-encased sewer line. The dam is being removed to restore a natural waterfall and will cost less than $10,000. Contact Dave Skellie, Pennsylvania Sea Grant, (814) 217-9014, dus18@psu.edu.

Unnamed dam, tributary to Glade Run, PA: Owned by PA Game Commission, this 3-foot tall, 30-foot long concrete and stone run-of-the-river dam is located in Northumberland County. The dam is no longer serving a useful purpose and will be removed in late 2007 to restore connectivity to this warmwater fishery and rid the Commonwealth of a potential liability. The removal is expected to cost less than $10,000. Contact Dave Kristine, Pennsylvania Fish and Boat Commission, (814) 353-2225, dkristine@state.pa.us.

Unnamed dam, Indian Run, PA: A dam will be removed on Indian Run, a warmwater tributary of the South Branch Conewago Creek for the purpose of eliminating a threat to public safety and restoring the stream to a free flowing condition. The project will restore approximately 550 lineal feet of stream channel. The dam is located in York County, PA.

Dauberville Dam, Irish Creek, PA: The removal of the remnants of the Dauberville dam across the warmwater fishery, Irish Creek, is expected in 2007. The dam was previously breached and the full removal will eliminate a threat to public safety and restore the stream to a free flowing condition. Contact Dave Kristine, Pennsylvania Fish & Boat Commission, (814) 353-2237, dkristine@state.pa.us.

Girl Scout Dam, Laurel Run, PA: The Girl Scout Dam is a 6-foot high by 50-foot long structure that is in an advanced state of disrepair and presents a safety hazard to the public. In addition to liability concerns, the dam is causing significant bank erosion and blocks fish from accessing historic spawning habitat. The small river that it impounds supports a Class-A wild trout fishery, and removal of the dam, which is slated for 2007, will expand available habitat for the species. Contact Scott Carney, Pennsylvania Boat and Fish Commission, (814) 353-2225, rscarney@state.pa.us.

Mann dams, West Branch Little Conestoga Creek, PA: Two dams on the West Branch of Little Conestoga Creek are expected to be removed in late 2007 or early 2008. These projects will include extensive riparian restoration for approximately 2,500 lineal stream feet. The

projects will benefit water quality and resident fishes. One dam is a small remnant approximately 1-foot tall and 10-foot long that had an unknown use, the other is approximately 4-foot and 25-foot long that was originally a stream crossing that was built upon over time and eventually functioned as a dam. The dam removals are estimated to cost approximately $70,000, which includes significant costs to stabilize a span bridge crossing over the larger dam structure. Contact Dave Kristine, Pennsylvania Fish & Boat Commission, (814) 353-2237, dkristine@state.pa.us.

Heilman Dam, Mahoning Creek, PA: The 15-foot high municipally-owned Heilman Dam was removed in August 2007. Built in 1914 to supply water for steam-powered locomotives, the dam no longer served a purpose yet posed a public safety hazard and liability for Lehighton Borough. Removal of the dam restores fishery access to 18 miles of river upstream and provides safer conditions for the borough to establish a riverfront park. Removal of the dam and resulting water quality improvements will provide additional habitat for trout, as well as migratory fishes such as American shad and herring that are the focus of a long-term restoration effort in the Lehigh River Watershed. The total project is expected to cost $120,000, including grants from the American Rivers-NOAA Community-based Restoration Partnership grant program and the American Rivers' Free Flowing Pennsylvania grant program. Contact Stephanie Lindloff, American Rivers, (518) 482-2631, slindloff@amrivers.org.

Beiler Dam, tributary to Muddy Run, PA: The Beiler dam is a 2.5-foot tall former power supply to an Amish farm. The dam is no longer serving a functional purpose and has negative ecological impacts to the freshwater ecosystem of this tributary to Muddy Run. The 2007 removal will restore 150-foot of stream and will be funded in part by the Natural Resource Conservation Service. Contact Jack Hill, Pennsylvania Department of Environmental Protection, (717) 772-5988, jahill@state.pa.us.

Okehocking Dam, Ridley Creek, PA: The third dam to be removed from Ridley Creek since 2004, the Okehocking Dam, located in a township preserve, will improve water quality and restore free-flowing dynamics to this section of Ridley Creek. The concrete dam of unknown age is approximately 5-foot tall and 90-foot long serving an upstream drainage area of 9.5 square miles. Its original purpose was water supply to a power plant. The dam removal is part of a larger effort to remove invasive plants and restore the riparian areas along the creek and will benefit the high-quality coldwater fishery of this section of Ridley Creek. The removal is expected in fall 2007. Contact Mary McLoughlin, Willistown Township, (610) 640-1669, mhm@willistown.pa.us.

McCoy-Linn Dam, Spring Creek, PA: Approximately 25-foot high and 101-foot long, McCoy-Linn Dam was originally built in 1774 as a source for water power and was subsequently rebuilt several times, most recently in 1936. A run-of-the-river dam, the present McCoy-Linn Dam was breached several times in storm events and is in bad condition. At an estimated cost for removal of $406,600, taking out McCoy-Linn Dam will remove a safety hazard, create a riverfront recreational area, improve downstream water quality and open the creek for fish passage. Although the site has significant historical relevance, the dam's condition was unsustainable and it was removed in fall 2007. The project was funded in part through an

American Rivers' Free Flowing Pennsylvania grant. Contact Dave Kristine, Pennsylvania Fish and Boat Commission, (814) 353-2237, dkristine@state.pa.us.

Alameda Park Dam, Sullivan Run, PA: Built in 1900, this dam is 9 feet tall and 180 feet long. Originally intended for recreational use at an amusement park, the dam is partially breached. Removing it, for an estimated cost of $52,500, should restore park land, reduce a safety hazard, improve water quality and open fish passage by restoring the stream to a free-flowing condition. It is slated for removal in fall 2007. The project is funded in part through an American Rivers' Free Flowing Pennsylvania grant. Contact Sara Deuling, American Rivers, (717) 763-0741, sdeuling@amrivers.org

Cheltenham Dam, Tacony/Tookany Creek, PA: This former flour mill dam is expected to be removed in 2007 or early 2008. The dam is 9-foot tall and 60-foot long and is constructed of stone and concrete. The dam currently serves no functional purpose, is deteriorating, poses a significant liability and safety concern, degrades aquatic habitat and water quality, and contributes to localized flooding. The estimated cost of removal and associated restoration is $187,000. Funding is provided in part by the National Fish & Wildlife Foundation. Contact Dave Kristine, Pennsylvania Fish & Boat Commission, (814) 353-2237, dkristine@state.pa.us.

Bailey Dam, tributary to Turtle Creek, PA: This small project in Union County, PA will restore fish passage and natural stream dynamics. The dam was removed in summer 2007. Contact Dave Kristine, Pennsylvania Fish & Boat Commission, (814) 353-2237, dkristine@state.pa.us.

Wanamie Dam, Wanamie Run, PA: The Wanamie Dam, in Luzerne County, was a high-hazard dam 26-foot tall and 255-foot long. The dam was constructed in 1850 and updated in 1884 and built of earth and stone masonry. The original purpose was as a water storage facility for a downstream intake dam which supplied municipal water and water to a colliery. A dam inspection from November 1914 recorded that while failure of the storage dam may not cause failure of the intake dam, it would submerge the entrances to several coal mines belonging to the Lehigh & Wilkes Barre Coal Company, "resulting, no doubt, in considerable loss of life." The dam was removed in early 2007 by the Earth Conservancy, who owns the property and dam. Contact Vince Humenay, Pennsylvania Department of Environmental Protection, vhumenay@state.pa.us.

Berwinsdale Dam, North Witmer Run, PA: The Berwinsdale Dam was removed in June 2007 to avoid environmental impacts of imminent failure of this earth & concrete dam. The dam was 7-foot tall and 70-foot long and is believed to have been built in the early 1900s as a timber splash dam or for ice harvesting. The removal will provide positive ecological benefits to the coldwater fishery of North Witmer Run in Clearfield County. Contact Vince Humenay, Pennsylvania Department of Environmental Protection, (814) 342-8146, vhumenay@state.pa.us.

Wittlinger Dam, Yellow Breeches Creek, PA: The remainder of this 8-foot high concrete dam lies upstream from Hoffman Dam on the Yellow Breeches in South Middleton Township. The township chose to remove the dam to eliminate liability and avoid repair costs to a deteriorating breached dam that no longer served an economic purpose. The removal will also improve habitat

for resident trout. Partners are working with the township to ensure that a historic raceway built with the dam to serve a mill will be preserved. Post-removal plans may include a water trail or improved fishing and boating access at the former dam site. Anticipated cost of removal is $90,000. The dam was removed in early fall 2007. The project was funded in part through an American Rivers' Free Flowing Pennsylvania grant. Contact Brian O'Neill, South Middleton Township, (717) 258-5324.

Woolen Mills Dam, Rivanna River, VA: Originally built in 1830 to provide water power to a mill and as part of a series of dams and locks, the Woolen Mills Dam was removed in August 2007 as part of an effort by the local community and state of Virginia to remove an aging dam and restore access to more than 16 miles of spawning habitat for migratory fish such as American shad. Original design work for this project was funded in part through a grant from the American Rivers-NOAA Community-based Restoration Partnership grant program. Contact Jason Halbert, Rivanna River Restoration Committee, (804) 347-5337.

Quinn Dam, Tye River, VA: The removal of the Quinn Dam in summer 2007 marked the removal of an aging dam that served no purpose other than to prevent migratory fish such as alewife and blueback herring from reaching historic spawning habitat. With the dam removed, more than 20 miles of the river will run free again. Contact Jason Halbert, Virginia Organizing Project, (804) 347-5337.

Pinney Hollow Brook Dam, Pinney Hollow Brook, VT: This 12-foot by 67-foot concrete dam was originally built in 1933 to create a state park swimming hole. The dam was removed in summer 2007. However, because the dam is on the National Register of Historic Places and part of the Coolidge State Park Historic District, remnants of the dam will be left in place as "stable ruins" and interpretive signage will be erected. The removal is expected to benefit wild brook trout. Contact Brian Fitzgerald, Vermont Agency of Natural Resources, (802) 241-3468, brian.fitzgerald@state.vt.us.

Stevensville Brook Dam, Stevensville Brook, VT: This is an 8-foot high by 30-foot long concrete dam that was constructed around 1930 in order to create a private swimming hole. Over time, sediment collected behind the dam became a maintenance problem that has had ongoing environmental impacts. The owner worked with the Vermont Agency of Natural Resources to develop a plan for complete removal of the structure, which is expected to aid in restoration of stream habitat, fish passage, and sediment transport. The removal is expected to cost $5,000 and be finished fall 2007. Contact Brian Fitzgerald, Vermont Agency of Natural Resources, (802) 241-3468, brian.fitzgerald@state.vt.us.

Pott Diversion Dam, Lower Currier Creek, WA: This 12-foot high dam is actually formed by checkboards that have been placed across two eight-foot culverts. Originally used as an agricultural diversion, this blockage is being removed to restore access to steelhead rearing habitat. Removal is expected to be completed in fall/winter 2007. Contact David Gerth, Kittitas Conservation Trust, (509) 649-2951.

Big Spring Dam, Big Spring Creek, WI: This dam removal and 7-acre wetland restoration is slated to begin in the fall of 2007 and is located on a section of Class I brook trout stream. The

18-foot high gravity and earthen dam was in poor condition and in 1998, the impoundment was drained for safety reasons. Because the dam is classified as a high hazard dam and has spillway capacity requirements, estimated costs for repair exceeded one million dollars. Removal and restoration costs are estimated at $300,000. Over $225,000 has been secured for both physical restoration and a public participation process regarding what the local community would like to see at the former impoundment. Funding sources include hydropower settlement funds, state dam abandonment and river restoration grants, NRCS and U.S. Fish and Wildlife Service grants. Restoration of the stream will happen in several phases with the involvement of many partners ranging from the dam owner, surrounding landowners, the River Alliance of Wisconsin, Inter-Fluve, Adams County, the Wisconsin Department of Natural Resources, the Town of New Haven, NRCS and U.S. Fish and Wildlife Service. Benefits of the dam removal include improving water quality and the native brook and brown trout fisheries. Contact Helen Sarakinos, River Alliance of Wisconsin, (608) 257-2424, hsarakinos@wisconsinrivers.org.

Four Hill Flowage, Big Wiergor Creek, WI: This 13-foot high dam is slated for removal in 2007. Big Wiergor Creek and its tributaries constitute a popular brook trout fishery and it is anticipated that with the dam removal, brook trout populations and fishing opportunities will improve. The estimated project cost is $40,000, and there is partner cost sharing between Rusk County and the Natural Resources Conservation Service. Contact Paul Teska, Rusk County Forestry Department; (715) 532-2113, pteska@ruskcountywi.us.

Wisconsin Lutheran Seminary Dam, Pigeon Creek, WI: The removal of a crumbling 4-foot high dam owned by the Wisconsin Lutheran Seminary is slated for sometime in 2007. The dam, which has seen better days, is in an advanced state of disrepair. Removal of the structure will provide steelhead and salmon in Lake Michigan access to habitat in Pigeon Creek for the first time in 80 years. Contact Will Wawryzn, Wisconsin Department of Natural Resources, (414) 263-8699.

33 Dams Removed in 2006

Niles and Sunol Dams, Alameda Creek, CA: The Niles and Sunol Dams were removed in late summer 2006 by the San Francisco Public Utilities Commission. Originally built in 1880 and 1900 respectively for the purposes of supporting the local water system, the dams had been offline since the 1930s and were only serving to impede upstream passage for Central California Coastal steelhead. Removal of these dams will enhance native fish habitat and improve flow on Alameda Creek. Contact Jeff Miller, Alameda Creek Alliance, (510) 499-9185, alamedacreek@hotmail.com.

Horse Creek Dam, Horse Creek, CA: This 12-foot dam is located in the Sisquoc Wild and Scenic River corridor of the Los Padres National Forest. The dam is a complete barrier to the endangered southern steelhead and is being removed to restore access to approximately 13 miles of habitat. The structure was removed in October 2006. This project was funded in part through the partnership between NOAA Community-based Restoration Program and American Rivers. Contact Steve Rothert, American Rivers, (530) 478-5672, srothert@amrivers.org.

Tucker Road Ford, Soquel Creek, CA: This 5-foot high concrete ford on Soquel Creek was removed in 2006 and replaced with a 120-foot bridge. Removal of the ford, which originally blocked steelhead and coho salmon habitat, is expected to provide access to 2.5 miles of salmonid spawning and rearing habitat, decrease sedimentation and pollution of Soquel Creek, and increase native riparian vegetation at the project site. This project was funded in part through the partnership between NOAA Community-based Restoration Program and American Rivers. Contact Steve Rothert, American Rivers, (530) 478-5672, srothert@amrivers.org.

Unnamed Dam, Ward Creek, CA: This unnamed concrete dam on Ward Creek was originally built as a private water system that is no longer in use. Removal of this dilapidated structure occurred in fall 2006. The project is part of a larger watershed effort known as the Ward Creek Watershed Restoration Project and is expected to benefit erosion problems and migratory fish habitat. Contact Peter Maholland, California Tahoe Conservancy, (530) 542-5580.

Cove Dam, Bear River, ID: The Cove Dam, an 89 year old former hydropower dam, was removed in September 2006 by Pacificorp, the dam's owner. The removal was a collaborative effort that came as a result of the hydropower relicensing process this aging dam was undergoing. Once complete, this restored stream will benefit native fish populations and recreational interests. The project cost is estimated to be around $3 million. Contact (pending)

Ballou Dam, Yokum Brook, MA: This 10-foot tall by 50-foot long concrete dam was originally part of a now closed mill complex. The dam was no longer used for its original purpose and blocked an Atlantic salmon restoration stream with high quality habitat for coldwater species. Ballou Dam was removed by the Town of Becket and funded by a partnership developed by the Massachusetts Riverways Program. Removal was completed in December 2006. Contact Tim Purinton, Massachusetts Riverways, (617) 626-1542, tim.purinton@state.ma.us.

Upper Cook's Canyon Dam, Galloway Brook, MA: Upper Cooks Canyon Dam was a low-hazard 9.5-foot high and 84-foot long earthen berm dam with a concrete and wood control structure. It served no current purpose and was removed because of the owner's liability concerns and restore habitat for resident species. The dam was removed in June 2006. Contact Tim Purinton, Massachusetts Riverways, (617) 626-1542, tim.purinton@state.ma.us.

Robbins Dike Dam, Red Brook, MA: This was an earthen berm dam with a wood control structure, estimated to be 5.5 feet high and 100 feet long. Built in the early 1900s, the dam was meant to promote trout spawning in a fishery created by the impoundment, as well as preserve water levels for a defunct cranberry operation. As understanding of fish behavior and spawning habits has improved since those times, the dam was removed in fall 2006, because it inundated salter brook trout spawning habitat with excessive sediment. Contact Tim Purinton, Massachusetts Riverways, (617) 626-1542, tim.purinton@state.ma.us.

Madison Electric Works Dam, Sandy River, ME: The Madison Electric Works Dam is a small hydropower dam that was removed in 2006. The dam was removed as part of a license surrender by Madison Electric Works, the dam's owner, and is expected to open more than 30 miles of historic spawning habitat for Atlantic salmon, American shad and other migratory fish. Contact Laura Wildman, American Rivers, (860) 652-9911, lwildman@amrivers.org.

Dimondale Dam, Grand River, MI: The two structures of this earthen dam were built in 1880 and, together, were 5 feet high and 300 feet long. They were originally constructed for recreational and mill use, but over time have substantially failed and will be partially removed and replaced with a "W" weir to restore fish passage and prevent migration of accumulated sediments. The project will also allow for the improved use of the park and the river. The Lansing Board of Power and Light, the dam's owner, is collaborating with the Michigan Department of Natural Resources and the Village of Dimondale on the removal. Originally expected to be taken out in 2005, the removal was delayed due to permitting issues. Removal occurred in July 2006. The project is expected to cost $442,400. Contact Chris Freiburger, Michigan Department of Natural Resources, (517) 373-6644, freiburg@michigan,gov.

Hersey Dam, Hersey River, Tributary to the Muskegon River, MI: The Hersey Dam was removed in September 2006 in order to restore this premier coldwater trout stream. Removing the dam and sediment that has accumulated behind it will restore the Hersey's natural flow and water temperature, improve fish habitat and increase recreational opportunities. Contact Sharon Hanshue, Michigan DNR, (517) 335-4058, hanshus1@michigan.gov.

City of Charlotte Dam, Battle Creek River, MI: Built near the turn of the century and used to provide cooling water for turbines of a public water facility, the dam was about 6 feet tall and made of concrete. It was removed to allow for natural river function and fish passage and also to return the degraded stream back to a viable river within the City of Charlotte's park system. This project involves not only the dam removal, but also restoration of a mile-long section of river that is being re-meandered (from a straight ditch). Removal occurred in October 2006 for a cost of $180,000. Contact Chris Freiburger, Michigan Department of Natural Resources, (517) 373-6644, freiburg@michigan.gov.

Potagannissing Dam, Potagannissing River,MI: The state-owned Potagannising Dam was approximately 6-feet tall and 75-feet wide. The dam was removed in 2006 to improve fish passage, primarily northern pike. In order to maintain water levels in the impoundment and still allow for the passage of fish, approximately 4-foot of head of the dam was removed and a series of three rock weirs were built below the dam to construct rapids that will allow all fish species to have unimpeded fish passage. Contact Byron Lane, Michigan Department of Environmental Quality, (517) 241-9862.

Stimson Dam, Blackfoot River, MT: The removal of the Stimson Dam on the Blackfoot River served as the lead-in for the Milltown Dam removal, which is expected to occur in 2007. Built in 1884 to power a local sawmill, the dam had suffered severe ice damage in 1996. Once Milltown is removed and riverine habitat starts to restore itself, native fish will have access to habitat up past the former Stimson site. Contact Matt Clifford, Clark Fork Coalition, (406) 542-0539.

Harry Pursel Dam, Lopatcong Creek, NJ: (Phillipsburg County) This 15-foot high dam was originally built in 1925 to provide water for a working mill owned by Henry Pursel. By 1945, the mill was converted into a local Agway store. More recently, the mill dam was in a state of disrepair, having been listed as a significant hazard by New Jersey dam safety officials. Because the dam had outlived its original purpose and was a liability, the owner agreed to remove most of

the structure and it was taken out in the spring of 2006. The dam was the only blockage on Lopatcong Creek and its removal has opened up 10 miles of additional spawning habitat for American shad and other migratory species. Benefits of the removal have already begun to be realized. During the spring floods of 2006, adjacent property and the local Agway store escaped the flooding they have seen in years past. The project was funded in part through a partnership between NOAA Community-based Restoration Program and American Rivers. Contact Stephanie Lindloff, American Rivers, (518) 482-2631, slindloff@amrivers.org.

Buck & Jones Dam, Little Applegate River, OR: Originally constructed in 1900 for the purposes of flood irrigation, the Buck & Jones Irrigation Dam is slated for removal in fall 2006. The irrigators are converting to a sprinkler irrigation system. Removal of this dam should improve fish passage, stream flow and reduce the temperature of the river. Steelhead (rainbow trout) and cutthroat trout regularly use this section of river. Contact Brent Crowe, Oregon Department of Fish and Wildlife, (541) 826-8774, Brent.D.Crowe@state.or.us.

Shissler Dam, Tributary to Bennett Run, PA: This privately owned dam was originally built for recreation/aesthetic purposes and was removed in late summer 2006. The removal was ordered by the PA Department of Environmental Protection because the dam overtopped and had structural damage. The removal opened up 1.1 miles of stream, reducing thermal impacts on the stream. Contact Vince Humenay, Bureau of Waterways Engineering, (717) 783-7482, vhumenay@state.pa.us.

Old Furnace Dam, Black Log Creek, PA: A concrete, run-of-the-river dam, Old Furnace Dam was 8 feet in height by 150 feet in length. The dam was built in 1918, likely for water power. Old Furnace Dam was partially breached, and removed to eliminate a safety hazard, prevent further deepening of the plunge pool, reduce streambank erosion considerably, and restore a high quality riffle. Full removal occurred in late 2006. Contact Sara Deuling, American Rivers, (717) 763-0741, sdeuling@amrivers.org.

Palmerton Dam, Lehigh River, PA: This 2.5-foot high, 300-foot long dam across the Lehigh River is considered an "orphaned" dam with no owner and is therefore a ward of the state. Its original purpose was industrial water supply. Its removal is part of an effort to restore migratory fish runs to the Lehigh River and improve fish habitat. Palmerton Dam was taken out in April 2006 at a cost of $83,000. The project was funded in part through a partnership between NOAA Community-based Restoration Program and American Rivers. Contact Chip Shafer, Pennsylvania Department of Environmental Protection, (717) 783-7950, fschaffer@state.pa.us.

Graceland Dam, tributary to Neshannock Creek, PA: Originally 17 feet in height and 30 feet in length, the dam was breached to 4 feet in height by several storms and high water events. Built in the 1930s out of earth and stone with concrete, the dam was originally meant to create an ornamental pool. The dam has exacerbated localized flooding and erosion, causing degradation of the streambank near the dam. At an estimated cost of $30,000 for removal, taking out the dam will eliminate a public safety hazard caused by the highly unstable and partially breached structure as well as open several miles of habitat to fish and other aquatic species. Removal occurred in fall 2006. The project is funded in part through an American Rivers' Free Flowing

Pennsylvania grant. Contact Sara Deuling, American Rivers, (717) 763-0741, sdeuling@amrivers.org

Millmont Dam, Penns Creek, PA: Millmont Dam was a low-head dam removed in June 2006. The removal is expected to open more than nine miles of habitat to migratory fish, as well as reducing the occurrence and severity of flooding on upstream properties. Contact Vince Humenay, Bureau of Waterways Engineering, (717) 783-7482, vhumenay@state.pa.us.

Frankford Dam, Pennypack Creek, PA: (City of Philadelphia) Frankford Dam, owned by the City of Philadelphia, was approximately 10 to 15 feet high and about 150 feet long. Although storms have created breaches in the dam, the remaining debris was continuing to impede fish migration. A plan was developed to allow for the partial removal of the obstructions while preserving the historical integrity of the remaining infrastructure. This will allow for fish passage and help restore the ecological health of Pennypack Creek. Removal occurred in October 2006. The project was funded in part through an American Rivers' Free Flowing Pennsylvania grant. Contact Jason Cruz, Philadelphia Water Department, (215) 685-4946, Jason.e.cruz@phila.gov.

Rhawn Street Dam, Pennypack Creek, PA: (City of Philadelphia) The third blockage on Pennypack Creek, a tributary of the Delaware River that flows through Fairmount Park in downtown Philadelphia, was removed in November 2006. Owned by Fairmount Park, Rhawn Street Dam was constructed of stone blocks and was partially damaged by floods. It was one of eight blockages on Pennypack Creek through the park and was removed to promote passage of migratory fish species and to improve fish habitat. All eight blockages on the creek will be addressed over the next few years. Historical interpretive signage at the site explaining the original uses of the mill dam will be part of the project. The project was funded in part through an American Rivers' Free Flowing Pennsylvania grant. Contact Scott Carney, Pennsylvania Fish and Boat Commission, (814) 353-2225, rscarney@state.pa.us.

James Ford's Dam, Pequea Creek, PA: This dam was originally used for water power and was constructed diagonally across the creek to divert water into a headrace. It was 5 feet high and 300 feet long and consists of dry masonry and some timber. It was a low hazard dam and was built in the overflow style that intentionally permitted some water to cross the structure. Its age is unknown, but it was first inspected and photographed by the state in 1919. The impoundment was 4 acres, with a maximum depth of 4 feet. A stream restoration project was being planned through a local sportsmen's group when removal was suggested as a means to restore a larger section of the river. This dam was removed in April 2006, at a cost of $46,000. The removal of this dam along with the other restoration work will restore over 2 miles of Pequea Creek, reduce localized flooding, improve water quality and allow passage for fish and other aquatic organisms. The project was funded in part through an American Rivers' Free Flowing Pennsylvania grant. Contact Sara Deuling, American Rivers, (717) 763-0741, sdeuling@amrivers.org.

Silver Spring Dam, Trindle Spring Run, PA: This 9-foot high dam, built of hand-cut stone, was the first blockage on Trindle Spring Run approximately ¼ mile from its confluence with Conodoguinet Creek, a major tributary of the Susquehanna River near Harrisburg. The creek

supports a reproducing population of rainbow trout, and the dam was removed to improve fishing habitat as well as to remove a liability to the new dam owner. The dam is over 150 years old and was originally built to power a grist mill, but it has not been used for this purpose for many decades. The Pennsylvania Fish and Boat Commission oversaw the removal to ensure that it does not harm resident trout. Anticipated costs of removal are unknown as they will be carried by the new owners. Removal was completed in July 2006. The project was funded in part through an American Rivers' Free Flowing Pennsylvania grant. Contact Sara Deuling, American Rivers, (717) 763-0741, sdeuling@amrivers.org.

Ward and Lochner Dams, Smithtown Creek, PA: (Bucks County) These two small dams on Smithtown Creek, a tributary of the Delaware River, were removed in April 2006. Lochner Dam was a 7-foot high stone dam built to provide a swimming hole and was owned by a private owner who wants to improve the creek's water quality and fisheries habitat and eliminate a liability. Ward Dam, a 8-foot high, 50-foot wide concrete dam downstream of Lochner Dam, was also privately owned and removed to restore the creek and eliminate a liability. Because there is still one dam downstream of these two, there are no immediate benefits to migratory fish. The approximate cost of both removals is $50,000. The project was funded in part through an American Rivers' Free Flowing Pennsylvania grant. Contact Sara Deuling, American Rivers, (717) 763-0741, sdeuling@amrivers.org.

Hackenberg Dam, Strodes Run, tributary to Juniata River, PA: Hackenberg Dam was a small 4-foot by 35-foot concrete dam in a severely deteriorated condition. It was an impediment to passage of fish, caused severe erosion, and contributed to localized flooding issues. The removal, which took place in April 2006 and cost approximately $6,000, should reduce erosion and flooding while restoring a high quality cold water fishery. Contact Dave Kristine, Pennsylvania Fish and Boat Commission, (814) 353-2225, dkristine@state.pa.us.

Iron Stone Mine Dam, Swatara Creek, PA: This 4-foot high, 500-foot wide dam was the first blockage across Swatara Creek approximately ½ mile from the creek's confluence with the Susquehanna River and was removed in February 2006 at a cost of $83,000 to eliminate a liability and to promote migratory fish passage. The dam was owned by a private trust, but is its removal was coordinated closely with the borough of Middletown, just upriver from Three Mile Island. The borough hopes to improve access for boaters and for hikers with a greenway along the creek. The project was funded in part through a partnership between NOAA Community-based Restoration Program and American Rivers. Contact Scott Carney, Pennsylvania Fish and Boat Commission, (814) 353-2225, rscarney@state.pa.us.

Mohnton Dam, Wyomissing Creek, PA: (Town of Mohnton) Mohnton Dam was constructed in the mid 1800s to power an iron works mill. In the early 1900s the mill was decommissioned and the dam was converted for use as a public water supply. This second use ended in the 1970s, and the dam has remained unused since this time. The dam has caused severe sedimentation of the impoundment; dam removal will help restore the creek and allow for the passage of fish. Removal occurred sometime in fall 2006. The project was funded in part through a partnership between NOAA Community-based Restoration Program and American Rivers. The project was funded in part through an American Rivers' Free Flowing Pennsylvania grant. Contact Sara Deuling, American Rivers, (717) 763-0741, sdeuling@amrivers.org.

Dalewood Dam, unnamed tributary of Ball Mountain Brook, VT: This was an 18-foot high by 190-foot wide earthen dam. It was built in 1977 for recreational and aesthetic purposes. Recently, the outlet structure was failing so the owner drained the pond. Rather than reconstructing the outlet, the owner opted to replace the outlet structure with a fish-friendly box culvert. A public road crosses the top of the dam, so it cannot be completely removed. The replacement should restore stream habitat in the former impoundment and enable fish passage. Removal was completed in October 2006. Contact Brian Fitzgerald, Vermont Agency of Natural Resources, (802) 241-3468, brian.fitzgerald@state.vt.us.

Iron Run Dam, Iron Run Creek, WI: Removed in 2006. Contact: Dan Koich, Wisconsin Department of Natural Resources, (715) 839-3769, Daniel.Koich@dnr.state.wi.us.

Manchester Mill Dam, Grand River, WI: Built in 1854 as a source of water power for a grist mill, this 12-foot earthen and concrete run of the river dam was removed in February 2006. The dam was a safety liability and had been under orders for repair since the early 1980s and there was concern that the structure might fail entirely. The cost of removal was approximately $20,000 and was funded by two grants: the Wisconsin Department of Natural Resources Abandoned Dams Program, and the USDA Wildlife Habitat Incentives Program. Costs are pending for minor stream bank stabilization and aquatic habitat restoration. In addition to eliminating safety concerns, dam removal opened up 12 miles of habitat and fish passage to warm water fish species. Contact Derek Kavanaugh, Green Lake County, (920) 294-4051, dkavanaugh@co.green-lake.wi.us.

34 DAMS REMOVED IN 2005

Pizzini Dam, Eight Mile River, CT: This 4.5-foot stone masonry dam was removed in July 2005. This structure was removed as part of a larger restoration effort on the Eight Mile River and opened the remaining historical habitat to fish and restore natural riverine functions of the river. Contact Laura Wildman, American Rivers, (860) 652-9911, lwildman@amrivers.org.

South Batavia Dam, Fox River, IL: The Kane County Forest Preserve District owned this 7-foot high and 700-foot long 87-year old dam. It was scheduled for removal in September 2002 to eliminate the public safety hazard presented by its poor condition and to allow for the passage of fish. However, a review process carried out by the state and federal regulatory agencies delayed removal. While the plans were being reviewed, storms created significant breaches that now enable fish to move past the dam. Because of these breaches, the removal was delayed throughout 2004 and the full dam was not removed until 2005. Contact Drew Ullberg, Kane County Forest Preserve, (630) 232-5980.

Octoraro Rubble Dam, Octoraro Creek, MD: Removed in October of 2005, the Octoraro Rubble Dam previously was the only blockage on Octoraro Creek, a tributary of the Susquehanna River just below the Pennsylvania line in Maryland. The dam was blocking an estimated annual run of 600,000 blueback herring, as well as hickory shad, from entering the creek's 19 miles of high quality habitat. The removal cleared the way for these fish to utilize upstream spawning grounds. The project was funded in part through a partnership between

NOAA Community-based Restoration Program and American Rivers. Contact Jim Thompson, Maryland Department of Natural Resources, (410) 260-8279, jthompson@dnr.state.md.us.

Grayling Dam, AuSable River, MI: Built in 1933 and owned by the city of Grayling, the Grayling Dam was 9 feet high with an 85 acre pond. The community chose a partial removal in order to promote healthy stream ecosystem function by restoring free movement of aquatic organisms and restoring water quality to nearly pre-dam conditions while managing instream sediments. A partial removal also retains a local point of interest that is important to the community. The breach, which occurred in 2005, was funded in part by Sport Fish Restoration Act funds and cost $391,925. Contact Jessica Mistak, Michigan Department of Natural Resources, (906) 249-1611, mistakjl@michigan.gov.

Otter Tail Power Dam, Red Lake River, MN: Originally built to provide power to the town of Crookston, the 10-foot high Otter Tail Power Dam was removed in 2005 because of safety and bank stability issues. Since the 1950s, some 18 deaths have occurred at the site and erosion had become a real threat to the homes and hospital along its bank. The removal is part of a larger project aimed at shoring up stream banks, widening the downstream channel for flood control, and restoring a park near the removal site. Because the dam pool provided stability, counterbalancing upstream dikes, a series of rapids were designed into the removal to maintain water levels and provide a recreational opportunity for interested kayakers. The removal of the Otter Tail Power Dam also allows sturgeon access to upstream spawning habitat. Total cost for the removal phase of the project was $1.4 million. Contact Keith Mykleseth, City of Crookston (Alderman)/The Nature Conservancy, (218) 637-2146, kmykleseth@tnc.org.

Lowell Dam, tributary of the Nuese River, NC: A company named Restoration Systems purchased the 10 foot high concrete gravity dam for the purpose of mitigation credits and removed it in the fall of 2005. The dam had been built about 100 years ago and used as a mill. Its removal opens about 39 miles of spawning habitat and there are already reports of shad migrating past the former dam. Contact Jim MacBroom, Milone & MacBroom, (203) 271-1773, jimm@miloneandmacbroom.com.

Carbonpin Dam, tributary to the Nuese River, NC: Restoration Systems, LLC purchased the dam (along with the Lowell Dam) for the purpose of mitigation credits and removed the structure in the fall of 2005. The dam was 25 feet high, topped by an inactive FERC power house. The removal went as planned, except for uncovering a large amount of debris in the dam's pool. This material, consisting largely of a submerged log jam, was also removed. Contact Jim MacBroom, Milone & MacBroom, (203) 271-1773, jimm@miloneandmacbroom.com.

Champlin Pond Dams, Clark Brook, NH: These two dams were removed in 2005, with final inspection occurring in June 2006. The removal was part of a mitigation package for the Skyhaven Airport project. This restoration includes the transfer of 184 acres of land to the Society for the Protection of New Hampshire Forests. Contact Deb Loiselle, New Hampshire Department of Environmental Services, (603) 271-8870, dloiselle@des.state.nh.us.

Munroe Falls Dam, Cuyahoga River, OH: This 11-foot high dam was removed in 2005 by the Summit County Department of Environmental Services as part of an effort to improve water quality on the Cuyahoga River.

Benscreek Intake, Ben's Creek (a tributary to the Little Conemaugh River), PA: Built around 1900 to 1905, the Ben's Creek Intake was approximately 6 feet high by 60 feet wide. The Intake was originally constructed to provide a water source to the steam locomotives along the mainline of the Pennsylvania Rail Road in the Portage and Wilmore areas. Removal reduces liability concerns and eliminates the financial burden of maintaining the dam. The removal, which occurred in 2005, allows for habitat restoration on the Little Conemaugh River. The project was funded in part through an American Rivers' Free Flowing Pennsylvania grant. Contact Ed Englehart, Highland Water and Sewer Authority, (814) 266-3146, eenglehart@highlandwater.net

Birch Run Dam, Birch Run, PA: This 60-foot earthen water supply dam was located on Birch Run, which flows into the Conococheague Creek. The city of Chambersburg owns this now obsolete dam and decided to remove it due to the dam's failure to meet dam safety standards. It was removed in 2005. Contact Bruce Mcnew, City of Chambersburg, (717) 261-3288, bmcnew@chbgboro.com.

Lower Lloydell Dam, South Fork of the Little Conemaugh River, PA: Built around 1900 to 1910, the Lower Lloydell Intake when built was 5 feet high by 70 feet wide. The dam was originally constructed to create a water reservoir to be used by its owner, Lloydell Water Co. (a predecessor to Highland Sewer and Water Authority) to supply water, via pumping, to the coal-mining community of Dunlo/Llanfair. Removal reduces liability concerns and eliminates the financial burden of maintaining the dam. The project, which resulted in a January 2005 removal, allows for habitat restoration on the Little Conemaugh River. The project was funded in part through an American Rivers' Free Flowing Pennsylvania grant. Contact Ed Englehart, Highland Water and Sewer Authority, (814) 266-3146, eenglehart@highlandwater.net.

Sharrer's Mill Dam, Conewago Creek, PA: (Adams County) Sharrer's Mill Dam was originally constructed for use by a flour mill. The dam is no longer in operation, but the mill building is still used to mix livestock feed. The dam is 6.5 feet high and 260 feet long. Recently, Conewago Creek breached the south side of the dam and created a new creek, causing safety and ecological concerns that prompted the proposal to remove the dam. The project removed the portion of the dam that lies across the stream channel, leaving the abutments in place on either side of the bank for stability and posterity. This took place in 2005. The project was funded in part through an American Rivers' Free Flowing Pennsylvania grant. Contact Sara Deuling, American Rivers, (717) 763-0741, sdeuling@amrivers.org

Siloam Dam, Conococheague Creek, PA: (Chambersburg County) Siloam Dam is owned by the City of Chambersburg and was one of two blockages on the Pennsylvania portion of this creek, which drains into the Potomac River in Maryland. The dam had not been used by the city for decades and was considered a liability and an impediment to water quality and resident fish species. It was removed in June 2005, and a local watershed group—the Conococheague Watershed Association—is actively monitoring this site and the downstream dam at Wilson

College (also slated for removal) to record pre- and post-removal changes in water quality and benthic life. The project was funded in part through an American Rivers' Free Flowing Pennsylvania grant. Contact Bruce Mcnew, City of Chambersburg, (717) 261-3288, bmcnew@chbgboro.com.

Goldsboro Dam, Fishing Creek, PA: This 4-foot high dam, constructed out of utility poles and corrugated metal, was the only blockage on this 19-mile creek, a tributary of the Susquehanna River. It was removed in June 2005 as part of an experimental project designed to promote fish passage while also preserving the scour hole below the dam and the small impoundment above the dam to accommodate Goldsboro borough's interest in maintaining a water supply for its fire trucks and a spring fishing derby site. The dam was replaced with two large W-shaped rock crossveins that create two step-pools that recreate deep-water habitat for the fishing derby but still allow migratory and resident fish passage to the upstream portions of the creek. A dry hydrant built along the edge of the creek as part of the project allows the borough's fire trucks improved access to fill up their tanker trucks. Total cost of the removal and construction of weirs was $45,000. The project was funded in part through a partnership between NOAA Community-based Restoration Program and American Rivers, as well as an American Rivers' Free Flowing Pennsylvania grant. Contact Bill Weihbrecht, URS Corporation, (717) 620-2277.

Kohut Pond Dam, Hess Run, PA: This 12-foot high earthen water-supply dam on private property is part of an emergency action led by the PA Department of Environmental Protection to protect downstream property when heavy rains undercut this dam. The dam failed and was partially rebuilt earlier in 2005, but as a high-hazard dam with potential to cause downstream loss of life or property it has been required to be removed by the state. The dam removal, which was complete in August 2005, should also improve local fish habitat, particularly for trout. The project was funded in part through an American Rivers' Free Flowing Pennsylvania grant. Contact Tom Bold, Pennsylvania Department of Environmental Protection, (717) 772-5950, tbold@state.pa.us.

Goodrich Dam, Perkiomen Creek, PA: Goodrich Dam, the first blockage on Perkiomen Creek approximately ½ mile upstream from the Schuylkill River, was removed in June 2005 as the first of six planned removals on this creek. The 12-foot high concrete and timber-crib dam was originally used to divert water for manufacturing, but its ownership has been contested for the past several years. The Montgomery County Parks Department, Perkiomen Watershed Conservancy, and other groups are working to increase boating access to the creek following these removals and are also discussing extending a hiking-biking trail along the creek to the Schuylkill River. The project was funded in part through a partnership between NOAA Community-based Restoration Program and American Rivers. Contact Scott Carney, Pennsylvania Fish & Boat Commission, (814) 353-2225, rscarney@state.pa.us.

Binky Lee Preserve, Tributary to Pickering Creek, PA: (Chester Springs County) This 8-foot high stone masonry dam was no longer functional and the impoundment created by the dam was almost entirely filled with sediment. It was removed to allow the creek to return to a free flowing state. The owner of the dam, the Natural Lands Trust, plans to dredge the sediment in the impoundment and move the dirt offsite. Sediment removal will return the stream to its original grade elevation. As the restoration effort proceeds, the stream will be realigned with its

downstream section. The removal took place in 2005. Contact Vince Humenay, Pennsylvania Department of Environmental Protection, (717) 783-7482, vhumenay@state.pa.us.

Sharpless Dam, Ridley Creek, PA: The Sharpless Dam, a 12-foot high concrete dam co-owned by the city of Chester and a private owner, was removed in 2005. This dam created a popular swimming hole where many documented drownings have occurred over the years. The original purpose of the 150-year-old dam was for water supply. It was the first blockage on Ridley Creek, after the December 2004 removal of the Irving Mill dam located one mile downstream, and its removal opens up an additional three miles of Ridley Creek, which drains into the Delaware River and has historic American shad use. This removal should improve fish habitat and fish passage and eliminate a known safety hazard. Follow-up projects include a plan to re-establish wetlands on the grounds of Taylor Arboretum next to the dam site by the Crum-Ridley-Chester Watershed Association. Removal cost was $50,000. The project was funded in part through an American Rivers' Free Flowing Pennsylvania grant. Contact Steve Kosiak, Delco Anglers, (610) 649-3442.

Unnamed Dam, Wallace Run, PA: (Centre County) This 4-foot, privately owned dam was removed in June 2005 to restore this native trout stream and relieve the current owner of liability. Contact Dave Kristine, Pennsylvania Fish and Boat Commission, (814) 353-2237.

Main Street Dam, Wolf Creek, PA: This 12-foot high cement dam sits across Wolf Creek in the center of downtown Grove City and abuts the property of Grove City College. It was removed, along with a second dam that was removed in fall 2004 some four miles upstream, to alleviate liability, flooding, and to improve fish habitat. Wolf Creek does not host any migratory fish species, but boasts a good diversity of resident species and drains eventually into the Ohio River. Follow-up plans include turning the former impoundment area into a passive recreation area for the college or for flood-tolerant athletic fields. The cost of removal is $30,000. The project was funded in part through an American Rivers' Free Flowing Pennsylvania grant. Contact Scott Carney, Pennsylvania Fish & Boat Commission, (814) 353-2225, rscarney@state.pa.us.

Hoffman Dam, Yellow Breaches Creek, PA: The Hoffman Dam, built around the turn of the century to power a mill, is 8 feet high by 130 feet wide. The mill structure is no longer used as a mill, and the dam serves no purpose. The dam's removal, which happened in 2005, is expected to restore the coldwater fishery in the creek as well as eliminate any liability concerns. Contact Scott Carney, Pennsylvania Boat and Fish Commission, (814) 353-2225, rscarney@state.pa.us.

Rockland Dam, Shenandoah River Middle Branch, VA: The Rockland Dam was removed by a partnership of the Chesapeake Bay Foundation and the Virginia Department of Game and Inland Fisheries to promote passage of American eel and to improve boating safety and aquatic habitat. The 15-foot high concrete dam was privately owned. The project was funded in part through a partnership between NOAA Community-based Restoration Program and American Rivers. Contact Larry Mohn, Virginia Department of Game and Inland Fisheries, (540) 248-9360.

Genesee Roller Mill Dam and Unnamed Dam, Genesee Creek, WI: These two dams, a 15 foot wide concrete dam and a 480 foot earthen embankment, were removed in early 2005. Because of dam failure and safety precautions, the Wisconsin Department of Natural Resources performed drawdowns in 2002 and 2003. In 2003, the Wisconsin Department of Natural Resources purchased the dams and three acres of adjacent property for $15,000, with the intention of dam removal and river diversion around the highly sedimented millpond. In addition to dam removal, restoration work took place to promote in-stream habitat for naturally reproducing brook and brown trout, and to restore native wetland and riparian habitat in the riparian corridor. Carroll College, Trout Unlimited, and the Wisconsin Wetlands Association worked with the Wisconsin Department of Natural Resources to remove the dam and to raise the estimated $75,000 removal and restoration costs. The dam removal will allow trout to migrate the entire 6-mile, spring fed stream which boasts high aquatic biodiversity and excellent water quality. Contact Jim D'Antuono, Wisconsin Department of Natural Resources, (262) 574-2122, james.d'antuono@dnr.state.wi.us.

Manchester Dam, Grand River, WI: This 16-foot earthen and concrete dam was removed in early winter 2005. The dam was a safety liability and has been under orders for repair since the early 1980s. There is fear that the structure will fail entirely. It is estimated that the dam removal will cost approximately $50,000 versus $411,000 for dam repair. Dam removal has been funded by two grants: the Wisconsin Department of Natural Resources Abandoned Dams Program, and the USDA Wildlife Habitat Incentives Program. Costs are pending for minor stream bank stabilization and aquatic habitat restoration. In addition to eliminating safety concerns, dam removal will open up 12 miles of habitat and fish passage to warm water fish species. Contact Derek Kavanaugh, Green Lake County, (920) 294-4051, dkavanaugh@co.green-lake.wi.us.

Spitzer Dams, Milhome Creek, WI: The River Alliance of Wisconsin partnered with the Wisconsin Department of Natural Resources and Sheboygan County Parks Department to remove remnants of four concrete dams and a concrete hatchery raceway in the headwaters of a coldwater trout stream. These dams and raceway were removed in fall 2005 and additional instream restoration work was completed in spring 2006. The project costs were approximately $50,000, and were provided by a Wisconsin Coastal Management Grant, the Wisconsin Department of Natural Resources, and Trout Stamp funding. These removals will restore instream habitat of the headwaters and spring pond of the Class I brook trout stream, and open up habitat for fish for as far as 27 stream miles. Contact Helen Sarakinos, River Alliance of Wisconsin, (608) 257-2424, hsarakinos@wisconsinrivers.org.

Meyer Dam, Mullet River, WI: In early 2005, the Wisconsin Department of Natural Resources removed the Meyer Dam and 80 feet of embankment. The removal also included stabilizing banks and restoring disturbed areas. The city of Plymouth initially looked at site because of sedimentation problems and repeated neighborhood basement flooding. At the outset, the city applied for a permanent drawdown with the intention of creating a walking trail through a riverine habitat at a cost of $230,000 over five years. However, heavy rains in 2004 destroyed much of their work, and the city applied for abandonment. Dam removal funds came from Environmental Damage Compensation Fund. Removal costs were approximately $7,600 compared to an estimate of $200,000 for dredging (excluding any dam maintenance or ongoing dredging). The removal may affect populations of smallmouth bass in the river. Contact Brent

Binder, Wisconsin Department of Natural Resources, (920) 892-8756 Ext.3032, brent.binder@dnr.state.wi.us.

Millpond Dam, Osceola Creek, WI: This five-foot rock dam was removed in summer 2005, and was first uncovered when a flood in September 2002 broke through a dam further downstream, and drained the impoundment. Now that the dam has been removed, the Wisconsin Department of Natural Resources intends to rebuild the stream banks and provide better habitat for trout. In addition, final clean-up of the downstream dam, which is not impeding river flow, will take place. Final removal costs are still pending and were provided through Trout Stamp funding. Stream restoration costs are estimated at approximately $38,000 over a three year period. Wisconsin Department of Natural Resources staff predicts Osceola Creek will return to a self-sustaining trout fishery by 2010. Contact Heath Benike, Wisconsin Department of Natural Resources, (715) 637-6864, heath.benike@dnr.state.wi.us.

Planing Mill Dam, Waupaca River, WI: The city of Waupaca and the Wisconsin Department of Natural Resources removed the concrete dam in summer 2005 to eliminate a public safety hazard, to improve aquatic habitat, and to enhance canoeing opportunities. The project also included seeding and stabilization of the banks, and is expected to benefit fish species such as brown trout, greater redhorse, smallmouth bass and state-threatened western sand darter that were blocked by the structures. The city of Waupaca and a Wisconsin Department of Natural Resources grant funded the removal, at a cost of approximately $20,000. Contact John Edlebeck, City of Waupaca, (715) 258-4420, jaewaup@yahoo.com or Scott Koehnke, Water Management Specialist, Wisconsin Department of Natural Resources, 715/526-4232; 715/524-3214(fax), scott.koehnke@dnr.state.wi.us.

37 DAMS REMOVED IN 2004

Unnamed Dam, Allison Creek, AK: This 6-foot high and 30-foot wide, privately owned dam was removed in 2004. Originally built for stream gauging in 1970, the dam no longer served its intended purpose and was a blockage to fish passage on Allison Creek. Its removal is expected to help restore Allison Creek's ecological integrity by restoring the free movement of fish and other aquatic organisms. Contact Meagan Boltwood, Anchorage Waterways Council, (907) 743-1052, Meagan@awcgroup.org.

Marvel Slab Dam, Cahaba River, AL: This 6-foot high by 210-foot wide concrete dam was removed in October 2004. The dam was originally built in 1965 as bridge (consisting of 46 culverts) that allowed coal and logging trucks and strip mining equipment to cross the river. Abandoned in the 1980s, the dam blocks access to habitat for migratory fish; has resulted in habitat destruction for mussels, freshwater snails, and plants; and is a safety concern for recreational users. The removal is expected to restore the connectivity of the stream, providing access to historic spawning and feeding habitat. Contact Paul Freeman, The Nature Conservancy or Alabama, (205) 251-1155, pfreeman@tnc.org.

York Creek Diversion Structure, York Creek, CA: Removal of this concrete masonry diversion structure opened 2.5 miles of high-quality shaded habitat for steelhead and native rainbow trout and increased delivery of spawning-sized gravel to lower York Creek and the Napa

River. The diversion structure was removed and replaced with an alternative diversion device—an infiltration gallery in the streambed—to prevent entrainment of juvenile steelhead in 2004. The project was funded in part through a partnership between NOAA Community-based Restoration Program and American Rivers. Contact Steve Rothert, American Rivers, (530) 478-5672, srothert@amrivers.org.

Chase Brass Dam, Naugatuck River, CT: This 4-foot high by 100-foot long dam was built around the turn of the century to provide water to a nearby brass mill. The original timber crib structure of the orphaned Chase Brass Dam is now encased in concrete and presents liability issues due to lack of proper maintenance. The dam, which is part of a larger network of dams along the Naugatuck River, was removed to the bedrock in August 2004 to provide access to historic spawning habitat for several migratory fish species and improve water quality. To date, at least five of the eight dams that are part of the Naugatuck River restoration project have already been removed. Contact Ray Spry, Waterbury's Water Pollution Control Facility, (203) 753-0217.

Unnamed Ford, Rock Creek, Washington, D.C.: The second of two 2 to 4 feet tall unnamed fords (abandoned road crossings) was removed in fall 2004. The ford was removed as part of a larger environmental mitigation package for the Woodrow Wilson Bridge project, which also includes an additional 22 blockages (e.g., abandoned sewer lines, weirs, dams) removed or retrofitted with fish passage. Removal of the ford, which is owned by the Smithsonian National Zoological Park, opened additional habitat for alewife, blueback herring, and American eel. Contact Serena McClain, American Rivers, (202) 347-7550, smcclain@amrivers.org.

Hopkinton Dam, IA: According to an article in the *Waterloo Cedar-Falls Courier*, the Delaware County Conservation Board removed the Hopkinton Dam in 2004. We are still in the process of tracking down reliable contact information for this project.

Charlotte City Dam, Battle Creek River, MI: This 8-foot high earthen dam was built in 1903 for recreational use. The city of Charlotte drew down the dam in 2003 and worked with Michigan Department of Natural Resources (DNR) and the local conservation district to remove the concrete spillway and restore the stream channel in 2004. The removal, which cost $160,710, was funded by the Michigan DNR, the city of Charlotte, and the Great Lakes Commission. The removal is expected to improve water quality, reduce erosion, and provide habitat for warm-water fisheries such as pike and smallmouth bass. Contact Chris Freiburger, Michigan DNR, (517) 373-6644, freiburg@michigan.gov.

Elm Street Dam, Battle Creek River, MI: This sheet pile dam, constructed in the 1920s, was 3.5 feet high and 100 feet long. Originally constructed by Consumers Energy to maintain the water level for a cooling water intake, it no longer served its purpose. Consumers Energy agreed to work with the Michigan DNR toward removal to restore fish passage and improve water quality and stream habitat in the vicinity. The dam was removed in 2004. Contact Chris Freiburger, Michigan DNR, (517) 373-6644, freiburg@michigan.gov.

Marquette City Dam #1, Dead River, MI: This 10-foot high, 200-foot long retired hydropower dam was owned by the Marquette Board of Light and Power. It was ordered to be removed by

the Federal Energy Regulatory Commission (FERC) in order to restore fish passage and improve fisheries habitat. The Marquette County Conservation District received a Federal Emergency Management Agency (FEMA) grant to remove the dam and continued working with the Board of Light and Power to complete the project in June 2004 at an estimated cost of $200,000. Rather than remove the entire structure, the final project resulted in a partial breach that freed the river and restored passage for fish. Contact Jessica Mistak, Michigan DNR, (906) 249-1611, mistakjl@michigan.gov.

Kimberly-Clark Dam, North Branch Spars Creek, MI: This 2-foot high, 200-foot long earthen dam was built in 1965 for recreational use as a trout pond. The dam, which was owned by Michigan DNR and was located in the Sturgeon River watershed, was removed in 2004. Contact Sharon Hanshue, Michigan DNR, (517) 335-4058, hanshus1@michigan.gov.

Tannery Creek Dam, Tannery Creek, Petoskey, MI: Tannery Creek Dam was a small dam that prevented upstream fish passage and caused considerable warming of downstream waters. It was located on Tannery Creek, a coldwater stream that supports resident brook trout. Removal of the dam restored three miles of fragmented brook trout habitat. This removal was completed in November 2004. Contact Susan Wells, U.S. Fish & Wildlife Service, (989) 356-5102.

West Henniker Dam, Contoocook River, NH: This 10-foot by 130-foot concrete gravity dam was originally built for a paper mill. Since the early 1980s, however, the dam had not served any purpose. Because the site, which was owned by the town of Henniker, is heavily contaminated, it is considered a Brownfield by the U.S. Environmental Protection Agency and thus requires emergency action. Removal of the dam occurred during summer 2004. The project restored 15 miles of Contoocook River from Hillsborough to Hopkinton to free-flowing condition, which is expected to benefit juvenile Atlantic salmon, American eel, and trout. The estimated cost of removing the dam was $160,000. The project was funded in part through a partnership between NOAA Community-based Restoration Program and American Rivers. Contact Grace Levergood, New Hampshire Department of Environmental Services, www.des.nh.gov/dam/damremoval, (603) 271-8870.

Bellamy River Dam V, Bellamy River, NH: This crumbling timber crib dam was roughly 4 feet high and 90 feet wide. Originally scheduled for removal in 2003, permitting delays pushed this project back a year—it was removed in 2004. Removal of the head-of-tide dam provided additional habitat for smelt and river herring. Contact Cheri Patterson, New Hampshire Fish and Game Department, (603) 868-1095, cpatterson@nhfgd.org.

Badger Pond Dam, Tioga River, NH: This high-hazard, privately-owned dam was partially breached in an emergency action in December 2003. Last summer a 45-foot wide section of the 18-foot high dam was removed to eliminate the public safety hazard. The project also reconnected 12 miles of the Tioga River and tributaries, and is expected to benefit trout, darters and additional resident fish species. Removal of the structure was completed in 2004. Contact Grace Levergood, New Hampshire Department of Environmental Services, (603) 271-8870.

Cuddebackville Dam, Neversink River, NY: This 5-foot tall dam was originally built to divert water into a hydropower canal and was owned by Orange County at the time of its removal. In a

partnership between The Nature Conservancy and the U.S. Army Corps of Engineers, removal of the Cuddebackville Dam was completed in fall 2004 in order to improve habitat for migratory fish, endangered mussels, and resident fish. Plans for restoration included regrading the streambed, planting, and long-term monitoring. Contact Colin Apse, The Nature Conservancy, (845) 255-9051, capse@tnc.org.

Kent Dam, Cuyahoga River, OH: (city of Kent) In March 2000, the Ohio EPA issued a Middle Cuyahoga River TMDL that formally identified the Kent Dam as a significant cause of water quality problems associated with the Cuyahoga River. Ohio EPA and the city of Kent considered a number of options to meet these standards, including more stringent limits at the city's wastewater treatment plant or modification or elimination of the Kent Dam. However, upgrades at the wastewater treatment plant would have been very costly and had no benefit in meeting water quality standards in the Kent Dam pool. Because of the importance of the dam to the city's history, most of the dam was left in place while routing the river through an old lock at the dam. In order to maintain the appearance of the dam, water is continually cycled over the dam, much like a fountain, while the former impoundment was converted into a park. This project was completed in 2004. Contact Bob Brown, City of Kent, (330) 676-7241, bbrown@kent-ohio.org.

Detter's Mill Dam, Conewago Creek, PA: Approximately 7 feet high by 250 feet long, this structure was an abandoned mill dam constructed from rock indigenous to the area. The structure was in an advanced state of disrepair that allowed water to flow through. Removal took place in June 2004 and has opened seven miles of spawning habitat for American shad, blueback herring, and American eel. In addition to restoring fish habitat, removal was the most cost effective solution for eliminating the safety concerns at the dam. The project was funded in part through a partnership between NOAA Community-based Restoration Program and American Rivers. Contact Scott Carney, Pennsylvania Fish and Boat Commission, (814) 353-2225, rscarney@state.pa.us.

Durham Dam, Cooks Creek, PA: (Durham Township) Durham Dam was a 10-foot high, unused dam that had become a liability concern. Located just 1,000 feet from the Delaware River, the dam also impeded the movement of American shad and other migratory fish in this ecologically sensitive area. Habitat restoration and safety issues provided the primary motivation for the dam removal project. The dam was removed in April 2004. Contact Vince Humenay, Pennsylvania Department of Environmental Protection, (717) 783-7482, vhumenay@state.pa.us.

Cleversburg Water Supply Dam, Milesburn Run, PA: (South Hampton Township) The Cleversburg Water Supply Dam, built in 1902, is 4 feet high with a one-acre impoundment. It was constructed as a water supply dam, but was no longer functional. The dam and impoundment were located within a Pennsylvania state forest, on land managed by the Bureau of Forestry. Stream restoration was the primary reason for dam removal, which was completed in 2004. Contact Vince Humenay, Pennsylvania Department of Environmental Protection, (717) 783-7482, vhumenay@state.pa.us.

Two Unnamed Dams, Poplar Run, PA: (Tremont Township) Both of these unnamed stone masonry dams were between 10 and 12 feet high and were originally constructed to enhance water supply. Both dams no longer served a purpose and were a financial drain. They were removed in the summer of 2004. Contact Vince Humenay, Pennsylvania Department of Environmental Protection, (717) 783-7482, vhumenay@state.pa.us.

Irving Mill Dam, Ridley Creek, PA: This 12-foot by 100-foot dam was removed in fall 2004. The dam served no purpose and was in an advanced state of disrepair. The structure was the first dam on Ridley Creek from the confluence of the Delaware River, and its removal opened two miles of spawning habitat for blueback herring, alewife, and possibly American and hickory shad. This project is part of a watershed effort to provide fish passage at the five dams in the Ridley Creek drainage. The project was funded in part through an American Rivers' Free Flowing Pennsylvania grant. Contact Sara Deuling, American Rivers, (717) 763-0741, sdeuling@amrivers.org.

Twining Valley Golf Course Dam, Tributary to Sandy Run, PA: (Upper Dublin Township) The Tawning Valley Golf Course Dam was 15 feet high and was originally constructed to provide irrigation to the adjacent golf course and enhance aesthetics. It was backed by a 1.5-acre impoundment. The dam was responsible for downstream flooding, and it presented a significant hazard to a downstream housing development. Removal of the dam was completed in the summer of 2004. Contact Vince Humenay, Pennsylvania Department of Environmental Protection, (717) 783-7482, vhumenay@state.pa.us.

Reedsville Milling Company Dam, Tea Creek, PA: (Mifflin County) Constructed as a mill dam in the 1970s, the Reedsville Milling Company Dam was 14 feet high and 47 feet long. It had a timber crib and a body of rock and concrete and had been reinforced and updated several times. The primary objective of the removal was to restore the ecological health of the stream by stabilizing the stream channel. This dam had already been drawn down under an emergency permit. The impoundment had significant sedimentation, and the project required extensive stream restoration. The dam removal was completed in October 2004. Estimated costs for the removal were $70,000. The project was funded in part through an American Rivers' Free Flowing Pennsylvania grant. Contact Scott Carney, PA Fish and Boat Commission, (814) 353-2225, rscarney@state.pa.us.

Charming Forge Dam, Tulpehocken Creek, PA: Built in the 1800s as a source of power for a hammer mill forge, Charming Forge Dam was 7 feet tall by 131 feet long. Its impoundment played host to warm-water fish such as carp and bullhead, and the area below the dam was stocked with trout. The heavy sedimentation caused by the dam had created a dead spot on Tulpehocken Creek. The removal project allowed this section of the Tulpehocken Creek to return to a free flowing state. Rebuilt and modified several times, it was finally removed in 2004. Contact Sara Deuling, American Rivers, (717) 763-0741, sdeuling@amrivers.org.

Upper Grove City Dam, Wolf Creek, PA: Built in 1885 to power a grist mill, the 5.5-foot high, 105-foot long Upper Dam on Wolf Creek in northwestern Pennsylvania was removed in September 2004. The former impoundment area became a park following restoration, and the project had an active partnership among local businesses, conservation groups and others. The

removal was part of a larger restoration effort that includes removal of the Main Street dam in downtown Grove City in 2005. The project was funded in part through an American Rivers' Free Flowing Pennsylvania grant program. Contact Scott Carney, Pennsylvania Fish & Boat Commission, (814) 353-2225, rscarney@state.pa.us.

Reading Public Museum Dams, Wyomissing Creek, PA: (Reading) Two dams on the grounds of the Reading Public Museum were removed in September 2004. The upper dam was 3 feet high and 45 feet long and was built around the turn of the century. The 8-foot high, 60-foot long lower dam was constructed of rock and was built in the early 1900s after the construction of the Reading Public Museum. The Museum sought their removal because the dams were rundown and a financial burden to maintain. Anadromous fish are expected to benefit from the removals once all eight blockages have been addressed downstream on the Schuylkill River. Because the dams were eligible for listing on the National Register of Historic Places, the removal plans incorporated historical review as required by section 106 of the National Historic Preservation Act. Mitigation included photo documentation of both dams, the preservation of portions of the lower dam, and the preservation of the rock walls that surrounded the impoundments. Part of the restoration effort included educational signage designed by the Reading Public Museum to showcase the river restoration. The project was funded in part through a partnership between NOAA Community-based Restoration Program and American Rivers, as well as an American Rivers' Free Flowing Pennsylvania grant. Contact Pete Ponchieri, Reading Public Museum, (610) 371-5850, ex 225, pete356@aol.com.

Embrey Dam, Rappahannock River, VA: (Fredericksburg) In February 2004 the U.S. Army Corps of Engineers, under the watchful eye of Senator John Warner, detonated 600 tons of explosives to breach Embrey Dam on the Rappahannock River in northern Virginia. The initial breaching of this aging structure, which had outlived any initial usefulness, was part of a longer-term removal process that cleared the entire dam out of the river by 2005. With the removal, more than 170 miles of habitat are now open to several species of migratory fish, including American shad and river herring, as well as paddlers and other river lovers. Contact John Tippett, Friends of the Rappahannock, (540) 373-3448, john_tippet@riverfriends.org or Alan Weaver, Virginia Department of Game and Inland Fisheries, (804) 367-6795 alan.weaver@dgif.virginia.gov.

McGaheysville Dam, South Branch of the Shenandoah River, VA: This dam was built in the 1920s as a power source for the city of Harrisonburg. It was damaged in 1958 and had been out of use ever since. The dam footer remained, stretching 350 feet in length and creating a blockage to fish and canoeists. The crumbing structure represented a safety hazard; accidents were not uncommon on its old abutment walls. Removal of this structure was completed in fall 2004. The project was funded in part through a partnership between NOAA Community-based Restoration Program and American Rivers. Contact Serena McClain, American Rivers, (202) 347-7550, smcclain@amrivers.org or Larry Mohn, Virginia Department of Game and Inland Fisheries, lmohn@dgif.state.va.us.

Knightly Dam, Middle Branch of the Shenandoah River, VA: This dam was removed in August 2004. Contact Larry Mohn, Virginia Department of Game and Inland Fisheries, lmohn@dgif.state.va.us.

Ball Park Dam, Maunesha River, WI: In 2001, the impoundment of the Ball Park Dam was lowered to facilitate repair of an upstream bridge. An inspection of the dam determined that it was in need of numerous repairs estimated to cost over $750,000, versus $125,000 to remove the structure. The city of Waterloo decided to remove the 11-foot dam and restore the river and shoreline. Removal of the Ball Park Dam is expected to improve fish movement, species and habitat diversity navigation and water quality of this warm water river. This removal was completed in 2004. Contact Laura Stremick-Thompson, Wisconsin DNR, (920) 387-7876, Laura.Stremick-Thompson@dnr.state.wi.us.

Knowles Dam and Hemlock Dam, Oconto River, WI: These were two small dams under 8 feet in height that were removed from the Oconto River in the Chequamegon-Nicolet National Forest in 2004. Removal of these 110-year old logging dams restored a cold-water fishery and particularly benefited native brook trout populations. Contact Tom Moris, Wildlife Biologist, Chequamegon-Nicolet National Forest, (715) 674-4481.

Kenosha Country Club Dam, Pike River, WI: A novel partnership between a private country club, county, state and federal agencies, and non-profit organizations has led to the removal of the 4-foot high concrete structure which blocks upstream movement of salmon and other fish from Lake Michigan. The dam was removed in 2004. Anticipated benefits include increased habitat for Lake Michigan migratory species. Contact Art Kitchen, U.S. Fish & Wildlife Service, (608) 221-1206, art_kitchen@fws.gov.

Athens Dam, Potato Creek, WI: This rock and concrete dam was less than 10-feet tall and was breached in September 2003 because it was in a state of disrepair and the impoundment waters were damaging nearby park property. Removal of the structure occurred in 2004. Contact Keith Patrick, Wisconsin DNR, (715) 241-7502, Keith.Patrick@dnr.state.wi.us.

Six-Mile Creek Dam, Six-Mile Creek, WI: The dam was removed in late November 2004. This small dam, owned by the Eau Claire Electrical Co-Op, had a notable warming effect and was a phyisical barrier to cold water fish migration and caused documented warming of stream water. It was located near the Eau Claire Electric Coop building. The dam was one identified by inventory completed several years ago by the Wisconsin DNR and had required several years of actions and monitoring. Contact Dan Koich, Wisconsin DNR, Daniel.Koich@dnr.state.wi.us.

34 DAMS REMOVED IN 2003

A-Frame Dam, Brandy Creek, CA: This 30-foot by 100-foot earthen dam was originally built in the 1950's for recreational purposes before the National Park Service owned the land. The dam, which was removed in November 2003, was in major need of repairs and at risk of failing. The National Park Service decided to remove the dam to restore the creek back to its natural condition. After the removal the area was revegetated and trails were rerouted that had previously crossed the dam. Contact Jerry Wheeler, National Park Service, (530) 242-3430, jerry_wheeler@nps.gov.

Haypress Pond Dam, Haypress Pond, CA: This 20-foot tall earthen dam was originally built for a watering stock. Removal occurred in July 2003 in an effort to restore natural hydrologic conditions (creek and riparian habitat) and to remove breeding habitat for non-native bullfrogs. Contact Darren Fong, Golden Gate National Recreation Area, (415) 331-8716, Darren_Fong@nps.gov.

Cascade Diversion Dam, Merced River, CA: This 18-foot by 184-foot timbercrib dam was originally built in 1916 to supply power to the Yosemite Valley. Located on the Merced River, a wild and scenic river, in Yosemite National Park, the dam had not supplied power to the valley since 1986 and was currently serving no purpose. Because the dam was in an advanced state of disrepair, National Park Service chose to remove the dam and restore this portion of the river. Removal of the dam was completed in December 2003. Contact Steve Evans, Friends of the Rivers, (916) 442-3155, sevans@friendsoftheriver.org.

Unnamed Dam, Murphy Creek, CA: Removal occurred on this 12-foot earthen dam in August 2003. Originally built as a watering hole for cattle from an area ranch, the dam was being removed to restore natural riverine function and is expected to bring wildlife and native salmon back to the creek. The project—which was driven by a diverse partnership including area landowners, the San Joaquin Resource Conservation District, and other public agencies—also included additional habitat restoration work such as riparian tree plantings and erosion control with native grasses. Total cost for the project was approximately $700,000. Contact John Brody, Natural Resources Conservation Service, (209) 327-2823.

Mumford Dam, Russian River (West Fork), CA: This 60-foot wide dam was removed in summer 2003. The removal of this structure, however, left a 7-foot apron in place that will not be visible or block fish under most flow conditions. It will allow Chinook salmon, Coho salmon and steelhead access to as much as 45 miles of rearing habitat. Removal of the dam restored approximately 720 feet of stream channel below Mumford Dam. The Sonoma County Water Agency is responsible for maintenance and monitoring of the project for five years after construction is complete. Contact Ron Benkert, Sonoma County Water Agency, (707) 547-1905, rcb@scwa.ca.gov.

East Panther Creek Dam, East Panther Creek, CA: This dam owned by Pacific Gas & Electric (PG&E) was breached in July 2003. While this breach restored natural flows to East Panther Creek, portions of the dam were left in place to slowly meter out impounded sediment with removal of the remaining structure scheduled for 2008. PG&E agreed to breach this dam on East Panther Creek, a tributary of the Mokelumne River, as part of a larger restoration settlement allowing them to obtain a new operating license from FERC in 2001. The settlement restored natural flow patterns to the Mokelumne and also includes the removal of West Panther Creek and Beaver Creek dams (see write-ups below). The biggest ecological benefit comes from the fact that the diversion points at these impoundments are no longer used and all of the previously diverted water now remains in the river for conservation purposes. Contact Pete Bell, Foothill Conservancy, 209-296-5734.

West Panther Creek Dam, West Panther Creek, CA: Removal occurred in August 2003 on the 16-foot hydropower dam owned by PG&E. Built in the 1930s, this dam was part of a larger

complex of dams and reservoirs known as the Mokelumne Project that provided electricity to 200,000 homes. A 1997 flood, however, dumped sediment behind the dam and rendered in ineffective. PG&E agreed to remove this dam on West Panther Creek, a tributary of the Mokelumne River, as part of a larger restoration settlement allowing them to obtain a new operating license from FERC in 2001. The settlement will restore natural flow patterns to the Mokelumne and includes the removal of two dams and the breaching of another in the watershed. The removal on West Panther Creek is expected to open additional habitat for trout and allow sediment to more naturally disperse throughout the system. The biggest ecological benefit comes from the fact that the diversion points at these impoundments will no longer be used and all of the previously diverted water will now remain in the river for conservation purposes. Contact Pete Bell, Foothills Conservancy, 209-296-5734.

Unnamed Ford, Rock Creek, D.C.: The first of two unnamed fords (abandoned road crossings) 2 to 4 feet tall was removed in December 2003. The ford was removed as part of a larger environmental mitigation package for the Woodrow Wilson Bridge project, which also included an additional 22 blockages (e.g., abandoned sewer lines, weirs, dams) removed or retrofitted with fish passage. Removal of the ford, which was owned by the Smithsonian National Zoological Park, opened additional habitat for alewife, blueback herring, and American eel. Contact Serena McClain, American Rivers, (202) 347-7550, smcclain@amrivers.org.

YWCA Dam, Brewster Creek (Tributary to Fox River), IL: This dam was originally used by the YWCA Camp Tu-Endie-Wei for recreational water sports. Because the dam was deemed unsafe and the reservoir was filling with sediment, the YWCA decided to remove the structure instead of undergoing an expensive repair process. Removal of the dam began in June 2003. The project, a phased removal completed in February 2004, is being studied jointly by the USGS and the Illinois EPA in a pilot project evaluating sediment, dissolved oxygen, and geomorphic response. To date, less sediment than expected has moved from the site. Contact Karen Kosky, Kane County Department of Environmental Management, (630) 208-8665 or Steve Pescitelli, Illinois Department of Natural Resources, (630) 553-0164, spescitelli@dnrmail.state.il.us.

Silk Mill Dam, Yokum Brook, MA: This 15-foot concrete dam, which formerly served to power an old mill, was removed in February 2003 to benefit resident and migratory fish populations (Atlantic salmon). This project is part of a larger restoration effort to restore Yokum Brook to free-flowing status with plans for breaching a downstream dam already in the works. Contact Brian Graber, American Rivers, (413) 585-5896, bgraber@amrivers.org.

Copemish Dam, First Creek (tributary to Bear Creek), MI: Built in 1950, this 8-foot high earthen dam was owned by the Village of Copemish primarily for recreational use. The removal, which was conducted in stages, began in 2000 and was done in conjunction with road crossing (snowmobile trail) replacement aimed at restoring fish passage. The removal was completed in 2003 by the Road Commission. Funding for this $50,000 project was contributed by the USDA Forest Service, the Bear Creek Watershed Council, and Conservation Resource Alliance. Contact Sharon Hanshue, Michigan Department of Natural Resources, (517) 335-4058, hanshus1@michigan.gov.

Sturgeon River Dam, Sturgeon River, MI: Deconstruction began on this 45-foot hydropower dam in summer 2003 by the hydropower owner, We Energies. The removal of Sturgeon Dam is part of an agreement made by We Energies, federal and state resource agencies, and the Michigan Hydropower Reform Coalition in 1996. The removal of this structure will happen in three phases over a four to five year time period and will open spawning habitat for lake sturgeon. Removing the dam in stages will allow for the reservoir and sediment transport to stabilize and reduce fish and wildlife impacts. Contact Sharon Hanshue, Michigan Department of Natural Resources, (517) 335-4058, hanshus1@michigan.gov.

Haley Dam, **Lake Hudson Recreation Area, MI:** The Haley Dam served no purpose and it was removed in 2003 to eliminate maintenance costs and to improve fishing.

Bearcamp River Dam, Bearcamp River, NH: This 20-foot by 231-foot concrete dam was removed in fall 2003. The dam was removed to eliminate dam safety concerns and as part of one of New Hampshire's larger river restoration efforts. Removal of this structure increased spawning habitat for brook trout and landlocked Atlantic salmon. Contact Deb Loiselle, New Hampshire Department of Environmental Services, (603) 271-8870, dloiselle@des.state.nh.us.

St. John's Dam, Sandusky River, OH: Because this 7-foot by 150-foot concrete dam, which is owned by the Ohio-American Water Company, was in an advanced state of disrepair, the owner decided removal was more economically viable than repairing or rebuilding the dam. An upstream campsite community raised initial concerns about the removal, but both the water company and the state worked with the community to assuage fears. The dam was breached in spring 2003 to drain the impoundment and protect downstream infrastructure and the remaining structure was removed in fall 2003. Removal of the dam, partially funded by state license plate funds, is expected to improve water quality and fish habitat on this state wild and scenic river. The owner also donated land in the riparian corridor in the form of a conservation easement that was used to build a park and as an access point to the river. Contact Bob Vargo, Ohio Department of Natural Resources, (419) 981-6319, bob.vargo@dnr.state.oh.us.

Unnamed Dam, Ottawa River, OH: This 5-foot by 50-foot dam was located within the Miakonda Boy Scout Camp. It was successfully removed in spring 2003. Contact Larry Goedde, Ohio Department of Natural Resources, (419) 429-8370, larry.goedde@dnr.state.oh.us.

Buck & Jones Diversion Dam, Little Applegate River, OR: This 5-foot by 100-foot concrete diversion dam was removed in 2003 as a joint project of the Applegate River Watershed Council and the U.S. Army Corps of Engineers. This is a Stanchen dam—concrete that spans the channel with metal stanchen placed in the holes, similar to a flashboard. The removal is expected to improved fish passage. Contact Daniel Newberry, Applegate River Watershed Council, (541) 899-9982.

Dinner Creek Dam, Dinner Creek, OR: This 35-foot long and 10-foot high concrete, gravity dam was built in 1925 for a municipal water supply and was completely filled with sediment. The dam blocked upstream migration of fish and other aquatic species, including native cutthroat trout. The U.S. Army removed the dam in August 2003. An interdisciplinary group of researchers at Oregon State University plan to document the results of the removal, including

impacts on sediment transport, turbidity, channel morphology, and water quality. Contact Laura Bernstein, Umpqua National Forest, (541) 767-5041.

Unnamed Dam, Wagner Creek, OR: Originally built as a diversion point for the city of Talent, this 4-foot concrete dam was removed in November 2003. Removal of this structure opened additional habitat for coho salmon, steelhead, and cutthroat trout. The project was the work of a diverse coalition of partners, including Ashland-based environmental group Headwaters, which is working with the Talent Irrigation District, Oregon Department of Fish and Wildlife, Southern Oregon University's AuCoin Institute, Ashland Watershed Partners, Rogue Basin Technical Pool, Rogue River National Forest and Rogue Valley Council of Governments. This removal is only one in a series of removal and fish passage projects on Neil and Wagner Creeks aimed at restoring fisheries in the basin. Contact Lester Naught, City of Talent, (541) 535-3828, pubworksles@cityoftalent.org.

Black Dam, Conodoguinet Creek, PA: Removal on this 10-foot by 350-foot privately owned concrete dam occurred in July 2003. Once a source of water for an old feed mill, the dam currently served no purpose when it was removed. As one of the last dams on Conodoguinet Creek without fish passage, removal of Black Dam opened 22 miles of habitat for American shad, blueback herring, alewife, and potentially American eel. Contact Scott Carney, Pennsylvania Fish and Boat Commission, (814) 353-2225, rscarney@state.pa.us.

Collegeville Mill Dam, Perkiomen Creek, PA: This 6-foot by 250-foot concrete dam was built in 1708 and was previously connected to the Collegeville Mill. The dam served no purpose and had fallen into a state of disrepair. Subsequently, it was removed in fall 2003 to eliminate owner liability and threat to public safety. Contact Scott Carney, Pennsylvania Fish and Boat Commission, (814) 353-2225, rscarney@state.pa.us.

Daniel Esh Dam, Mill Creek, PA: Approximately 2 feet high, this Amish-owned dam was removed July 2003. Originally built to impound water for skating and to power a very small pump, the dam was the fifth of six blockages on Mill Creek, a tributary of the Conestoga Creek and the Susquehanna River. The remaining blockages are being addressed through a combination of removals and fish passage projects, most of which are currently in the design stage. In addition to dam removal and buffer planting, U.S. Fish and Wildlife Service partners built a single-strand high-tensile-wire fence along both streambanks to keep cattle from walking into the stream. Follow-up work includes building stone crossings at intervals along the streambank so the farmer can get cattle from one side to the other for rotational grazing and so cattle can still drink from the stream at limited access spots. The project was funded in part through a partnership between NOAA Community-based Restoration Program and American Rivers. Contact Sara Deuling, American Rivers, (717) 763-0741, sdeuling@amrivers.org.

Cold River Dam, Cold River, VT: This 7-foot by 90-foot boulder dam, originally built in the 1970s by Cold River Materials, was removed in September 2003 to restore fish passage to this reach of Cold River and to enrich aquatic habitat. Biologists have plans to monitor fish, in particular brown and rainbow trout, and insect species following the removal in order to better assess the benefits to these populations. Contact Jim MacCartney, Trout Unlimited and National Park Service, (603) 226-3436, jmaccartney@tu.org.

Hillside Farm Dam, Tributary to the Ompompanoosuc River, VT: This 18-foot high privately owned, earthen fill dam was removed in August 2003 due to failing construction. Contact Brian Fitzgerald, Vermont Agency of Natural Resources, (802) 241-3468, brian.fitzgerald@anr.state.vt.us .

Johnson State College Dam, Tributary to the LaMoille River, VT: This 30-foot high earthen fill dam was originally built for aesthetic purposes at the entrance of Johnson State College. The spillway failed and the cost of repair was greater than the cost of removal, so the dam removed in October 2003. There is currently ongoing stream restoration work at the site. Contact Brian Fitzgerald, Vermont Agency of Natural Resources, (802) 241-3468, brian.fitzgerald@anr.state.vt.us .

Three Unnamed Barriers, Icicle Creek (tributary of the Wenatchee River, which is a tributary of the Columbia River), WA: A series of three 8 to 10-foot weirs and dams on Icicle Creek were removed in summer/fall 2003. These blockages were part of a series of five blockages that make up the old infrastructure of the Leavenworth National Fish Hatchery, which was built after Grand Coulee Dam was erected in the 1930s. The original diversion dam and series of weirs were built in the original channel for holding adult salmon and steelhead, while the majority of the river's flow was diverted to a newly constructed canal. These structures were abandoned when fisheries biologists realized that high summer temperatures were killing the trapped fish. Restoration of Icicle Creek to its original channel was spearheaded by the Icicle Creek Watershed Council and their work with the U.S. Fish and Wildlife Service. The initial government price tag for the project was $12 million, but through the ingenuity of these citizen activists, they were able to contribute volunteer hours and foundation dollars to bring the initial phase of the project to $228,000. Phase 1 of the project involves the removal of these three weirs and dams, while phase 2 calls on the U.S. Fish and Wildlife Service to install a fish ladder at the diversion dam along with a fish sorter. The removals opened an additional two to three miles of habitat for salmon and return flow to the original channel of Icicle Creek. Once phase 2 is completed, an additional 21 miles of spawning habitat will be accessible to wild salmon. Contact Buford Howell, Icicle Creek Watershed Council, (509) 548-6017.

Two Boulder Creek Dams, Boulder Creek, WI: These two remnant timber crib and cement dams were removal by the owner in summer 2003 to restore the coldwater creek and eliminate the liability created by the two dams. One of the dams has no known purpose and the other was intended to create a fish hatchery. Removal is expected to return this portion of the creek to its original coldwater habitat and improve water quality by normalizing the temperature of the creek. Contact Helen Sarakinos, River Alliance of Wisconsin, (608) 275-2424 ext. 112, hsarakinos@wisconsinrivers.org.

Clark's Mill Dam, Magdantz Creek, WI: This 7-foot by 166-foot gravity and earthen dam was removed because of the extensive cost estimated to repair the structure. It was removed in September 2003 and is expected to lead to restoration of a brook trout habitat and return the creek to a free-flowing status. Contact Linda Hyatt, Wisconsin Department of Natural Resources, (920) 787-4686, linda.hyatt@dnr.state.wi.us.

Unnamed Dam, Branch River, WI: This 5-foot by 40-foot dam was removed in summer 2003 because it prohibited fish migration. Contact Helen Sarakinos, River Alliance of Wisconsin, (608) 275-2424 ext. 112, hsarakinos@wisconsinrivers.org.

Waubeka Dam, Milwaukee River, WI: This 10-foot by 222-foot rock dam was removed in March 2003 because the dam failed a safety inspection and the owner chose to remove the dam rather than pay the (estimated) high cost of repair. The removal is expected to improve water quality and expose riffle habitat for smallmouth bass. Contact Helen Sarakinos, River Alliance of Wisconsin, (608) 275-2424 ext. 112, hsarakinos@wisconsinrivers.org.

White River Dam, Fox River, WI: This 12-foot by 250-foot rock and timber crib dam was removed in December 2003 because it no longer impounded water, but remained a safety hazard. The removal eliminated a safety liability, and a big impact to fisheries is not expected, it opened up the Fox River to fish migration for species such as lake sturgeon, flathead catfish, and walleye. Contact Linda Hyatt, Wisconsin Department of Natural Resources, (920) 787-4686, linda.hyatt@dnr.state.wi.us.

44 DAMS REMOVED IN 2002

Davidson Ditch Diversion Dam, Chatanika River, AK: This dam, which was removed on January 21, 2002, was originally built to support industrial use in the 1920s, but was severely damaged in the flood of 1967. Removal of the dam opened 65 miles of upstream habitat to chinook and chum salmon, whitefish, sheefish, Arctic grayling, and northern pike. Increased recreational opportunities will also be gained from the restored stream. Contact Mike Roy, U.S. Fish and Wildlife Service, (907) 786-3825, Michael_Roy@fws.gov.

Crocker Creek Dam, Crocker Creek, CA: This 30-foot by 80-foot concrete flashboard dam, removed in summer/fall 2002, was originally built in 1904 for recreational use, but had been abandoned for many years. Removal of the dam opened 2 miles of habitat for chinook and steelhead. The total cost of this project was estimated to be $460,000. Contact Ron Benkert, Sonoma County Water Agency, (707) 547-1905, rcb@scwa.ca.gov.

Unnamed Arizona Crossing, Solstice Creek, CA: The National Park Service began work on removing an unnamed blockage, an arizona crossing (abandoned road crossing) in Solstice Creek in April 2002. Removal of this blockage is part of a larger restoration project by the National Park Service to remove several small barriers, including the crossing, culverts, and a bridge apron, and to restore spawning habitat for steelhead. Removal was completed in fall 2002. Contact Charles Karpowicz, National Park Service, (202) 513-7022, charles_karpowicz@nps.gov.

Unnamed Dam, Ferrari Creek, CA: A 5-foot earthen dam on Ferrari Creek, which was located on the Coast Dairies and Land Company property along the coast in Santa Cruz County, was removed in January 2002. The dam was a barrier to steelhead—but since the removal, fish have returned at least as far as the former dam site and vegetation has reestablished itself. Katherine Elliot, Trust for Public Land, (415) 495-5660.

North Debris Dam, Unnamed Tributary to the LA River, Santa Monica Mountains National Recreation Area, CA: This 20-foot earthen dam was originally built to catch debris for a downstream reservoir. Because it had outlived its useful life, it was removed sometime in 2001-2002. Contact Charles Karpowicz, National Park Service, (202) 513-7022, charles_karpowicz@nps.gov.

Trancas Debris Dam, Unnamed Tributary to Trancas Canyon, Santa Monica Mountains National Recreation Area, CA: This 15-foot steel and timber structure originally served as a debris control for downstream reaches of the river. It was removed sometime in 2001-2002. Contact Charles Karpowicz, National Park Service, (202) 513-7022, charles_karpowicz@nps.gov.

Two Unnamed Dams, Unnamed Tributary to the Platt River, Florrisant Fossil Bed National Monument, CO: These small dams were removed in 2002 as part of a floodplain restoration effort. Contact Charles Karpowicz, National Park Service, (202) 513-7022, charles_karpowicz@nps.gov.

Billington Street Dam, Town Brook, MA: The Billington Street Dam was removed in 2002. Erosion at this over 200-year old earthen dam and deterioration of its fishway had blocked migration of alewives each spring. Removal of this dam and restoration of Town Brook has restored the fisheries in an area where the pilgrims historically came to fish for alewife. The project was funded in part through a partnership between NOAA Community-based Restoration Program and American Rivers. Contact Brian Graber, American Rivers, (413) 585-5896, bgraber@amrivers.org.

Polly Pond Dam, Big Run (tributary to the Potomac River), Chesapeake & Ohio Canal National Historic Park, MD: This 25-foot earthen dam was originally part of a canal waste weir. It was determined that removal of the dam would be the most cost-effective way to preserve the canal weir, which is off-stream. Removal of the dam happened sometime in 2001-2002. Contact Charles Karpowicz, National Park Service, (202) 513-7022, charles_karpowicz@nps.gov.

Main Street Dam, Sebasticook River, ME: Removal of this dam began in July 2002. Once removed, fish passage and riverine habitat were restored for alewife on the Sebasticook River. Fish passage plans have been completed for the North Street Dam, the next dam upstream, which will extend spawning habitat through Newport to the Sebasticook Lake. Contact Jeff Reardon, Trout Unlimited, (207) 623-1470, jreardon@tu.org or Tom Squiers, Maine Department of Marine Resources, (207) 624-6348, tom.squires@maine.gov.

Sennebec Dam, St. George River, ME: This 15-foot by 240-foot dam was removed in fall 2002. The dam removal is one part of a collaborative effort to restore fish passage to the St. George River and maintain desirable water levels in Sennebec Pond. The former hydro dam was badly deteriorated, and its owners determined that the cheapest way to restore fish passage and maintain lake levels was to remove the dam and build a 30-inch high rock ramp fishway at the natural outlet of the pond. Contact David Glasser, Sennebec Pond Association, at (207) 236-

8330, agavedave@msn.com; Jeff Reardon, Trout Unlimited, (207) 373-0700, jreardon@tu.org ; or Laura Wildman, American Rivers, (860) 652-9911, lwildman@amrivers.org.

Smelt Hill, Presumpscot River, ME: A 1996 flood extensively damaged this hydropower dam and its fish ladder preventing the facility from producing power or passing fish without first undergoing expensive repairs. Instead the owners decided to remove the structure, which occurred in fall 2002. Dam removal is expected to restore the lower portion of the Presumpscot, creating habitat for striped bass, smelt, river herring, and American eel and opening passage for other migratory fish. This was a Coastal America project, part of an overall effort in the Northeast to restore anadromous fisheries migration corridors and restore salt marshes and wetlands throughout our estuaries. The Maine Departments of Environmental Protection and Marine Resources, and the Coastal Conservation Association, spearheaded the removal of the Smelt Hill dam, with significant funding and engineering assistance from the U.S. Army Corp of Engineers, and other assistance from local interests. The U.S. Army Corps of Engineers and the Maine Department of Environmental Protection worked with numerous local interests to accomplish this project. Contact Dusti Faucher, Friends of the Presumpscot, (207) 892-8281, coveredbridge45@mindspring.com.

Mill Pond Dam, Chippewa River, MI: This 15-foot by 110-foot concrete dam was removed in an effort to eliminate safety concerns and restore riverine habitat. Removal of the dam opened 71 miles of habitat for steelhead, bluegills, and other resident fish. The removal was being funded by the Michigan Natural Resources Trust Fund. Contact Greg Baderschneider, Director of Parks, City of Mount Pleasant, (989) 779-5331.

Randall Dam, Coldwater River, MI: Randall Dam, owned by the Village of Union City and built in 1912, was 85 feet long with 12 feet of head. The dam was originally used to divert water to a mill and was in a state of disrepair. The decision to remove the dam was aided by the fact that the structure was no longer serving a purpose, and removal costs ($78,000) were much less than estimated costs to repair (repair costs exceeded $200,000). Removal of the dam was completed in 2002. Contact Jessica Mistak, Michigan DNR, (906) 249-1611, mistakjl@michigan.gov.

Stronach Dam, Pine River, MI: This 18-foot by 350-foot concrete hydropower dam was removed in 2002. The dam, built in 1918, was no longer economical to operate as a hydropower facility. Removal is expected to increase trout populations and recreational opportunities at this popular whitewater stream. Contact Sharon Hanshue, Michigan Department of Natural Resources, (517) 335-4058, hanshus1@michigan.gov.

Winchester Dam, Ashuelot River, NH: This 3-foot by 105-foot timber crib dam was removed in summer 2002. The dam was removed due to safety concerns and as part of a broader restoration effort on the Ashuelot River. Removal of this dam opened additional spawning habitat for American shad, river herring, American eel, and Atlantic salmon, and is expected to benefit the dwarf wedge mussel, a federal endangered species indigenous to the Ashuelot River. Contact Stephanie Lindloff, New Hampshire Department of Environmental Services, (603) 271-8870, slindloff@des.state.nh.us.

Freedom Park Dam, Little Sugar Creek, NC: This dam, which was removed in fall of 2002, was a 28 feet thick, 60 feet wide, 10 feet tall, hollow-concrete structure with 3 radial sluice gates used to regulate water levels. It was built in the early 1970s as part of park revitalization effort and to create a pond for paddleboats and other recreation as part of a "riverwalk". Removal of the structure is part of an overall restoration plan for Freedom Park and Little Sugar Creek and is expected to improve water quality (temperature and oxygen levels) and uncover prime fish habitat. Contact Andrew Burg, Mecklenburg County Storm Water Services, (704) 336-4328,burgaa@co.mecklenburg.nc.us.

Unnamed Dam, Unnamed Tributary of Marks Creek, NC: This 25-foot by 400-foot earthen fill dam was removed and the stream has been restored. The removal of this dam was part of a mitigation package for the building of Knightdale Bypass and includes wetlands and floodplain restoration in addition to dam removal. Contact Brad Fairley, Stantec Consulting, (919) 851-6866**,** bfairley@stantec.com.

Gray Reservoir Dam, Black Creek, NY: This 34-foot by 385-foot buttress dam was removed in fall 2002. Originally it was built in 1905-1906 as a water storage facility for local mills and a backup water supply for the city of Utica. The dam owner, the Upper Mohawk Valley Regional Water Board, decided to remove the dam when it failed inspection and rebuilding proved uneconomical. The estimated cost for removal was $300,000 compared to an estimated $1.5 million to rebuild the structure. Benefits of restoring Black Creek are expected to include a more natural stream channel, restored brook trout fishery, and increased public access to the river. Contact Dick Goodney, Upper Mohawk Valley Regional Water Board, (315) 792-0336.

Dennison Dam, Olentangy River, OH: Dennison Dam, which was originally built to provide electrical power for a neighboring cottage, was removed in October 2002. Removal of this dam is part of a larger restoration effort on the Olentangy River looking at removing the remaining dams on the portion of the river in Delaware County. This removal is expected to improve water quality, fish and aquatic habitat, and has already uncovered a natural waterfall that existed on the site. Cost of the removal was $17,000. Contact Tim Peterkoski, Ohio Department of Natural Resources.

Milan Wildlife Area Dam, Huron River, OH: This structure, popularly known as the Coho Dam, was a 5-foot by 100-foot concrete dam built in 1969 to hold coho salmon. The dam served no purpose prior to its removal, which occurred in June 2002. Removal of the dam opened 25 miles of spawning habitat for steelhead and coho salmon. Contact Larry Goedde, Ohio Department of Natural Resources, (419) 429-8370, larry.goedde@dnr.state.oh.us.

Byrne Diversion Dam, Beaver Creek, OR: This 3-foot concrete dam was removed in summer 2002. The structure was originally built as an irrigation diversion dam, but was abandoned when the owner switched the point of diversion. Removal of this dam increased access to spawning habitat for steelhead and coho salmon. Contact Jerry Vogt, Oregon Department of Fish and Wildlife, (541) 826-8774, jerry.f.vogt@state.or.us.

Irrigation Push-Up Dam, Applegate River, OR: This 4-foot gravel pushup dam used for irrigation was decommissioned for the first time in 2002. The Applegate River Watershed

Council worked with the owner to develop an alternative irrigation system that utilizes an instream pump to divert water. Contact Daniel Newberry, Applegate River Watershed Council, (541) 899-9982.

Rock Creek Dam, Tributary to the Powder River, OR: This small hydropower dam, owned by Oregon Trail Electric Cooperative, was removed in November 2002. Contact Stephanie Burchfield, Oregon Department of Fish and Wildlife, 503-872-5255, ext 5580, stephanie.burchfield@state.or.us.

Maple Gulch Diversion Dam, Evans Creek, OR: This 13-foot concrete dam was built in the early 1900s to supply water for a schoolhouse. The dam, which was no longer serving its original purpose, was removed to restore natural sediment flow and fish passage. Removal was completed in summer 2002. The access point has been seeded and mulched and the vegetation has come back. Further planting was scheduled to occur in February/March 2003. The sediment transport in the restored stream is being monitored. Contact Jane Lafore, Medford District Bureau of Reclamation, (541) 618-2364.

Young's Dam, Lititz Run, PA: This 3-foot tall dam was removed in 2002 by the owner. Contact Scott Carney, Pennsylvania Fish and Boat Commission, (814) 353-2225, rscarney@state.pa.us.

Afton Dam, Bass Creek, WI: This dam was breached in 1996 to help alleviate safety concerns. The remaining structure was removed in September 2002. Bass Creek has been designated an Exceptional Resource Water by the state and supports the redfin shiner which is a state-listed species. Dam removal is expected to improve habitat for northern pike and smallmouth bass, and may enable upstream wetland restoration. Contact Helen Sarakinos, River Alliance of Wisconsin, (608) 275-2424 ext. 112, hsarakinos@wisconsinrivers.org or Sue Josheff, Wisconsin Department of Natural Resources, (608) 275-3305. .

Grand River Dam, Grand River, WI: This 11-foot hydraulic head, concrete dam was removed in July 2002. Contact: Linda Hyatt, Wisconsin Department of Natural Resources Dam Safety Engineer, 920-787-4686, linda.hyatt@dnr.state.wi.us.

Schweitzer Dam, Cedar Creek, WI: This 8-foot by 30-foot timber crib dam was removed in October 2002. Prior to the dam removal, Schweitzer pond had thick mats of algae and non-native Eurasian milfoil during summer months—resulting in a fish population dominated by carp. This dam was removed in an effort to improve water quality and alleviate this habitat impairment. Removal of this dam restored the entire creek from a shallow and algae-filled impoundment to a free-flowing stream and natural floodplain open to public use. Contact Will Wawrzyn, Wisconsin Department of Natural Resources, (414) 263-8699.

Woods Creek Dam, Woods Creek, WI: This 16-foot by 200-foot hydropower dam was removed as part of a Federal Energy Regulatory Commission relicensing process, known as the Wilderness Shores Agreement. Removal of this dam is expected to return this high quality brook trout stream to its former free-flowing state and allow brook trout access to overwintering habitat in the larger waters of the Pine and Popple Rivers. Since the removal, the stream is handling the

sediment load and attempting to reestablish its natural streambed. Contact Bob Martini, Wisconsin Department of Natural Resources, (715) 365-8969.

Silver Springs multi-dam complex, tributary of Onion River, WI: This extensive headwaters restoration project included earthen berms and 13 dams ranging from 4 to 8 feet in height with wooden or concrete control structures, the removal of which began in April 2002. A private conservation buyer purchased the site to restore important wild trout habitat and sold the property to the Wisconsin Department of Natural Resources. Trout Unlimited worked with the Wisconsin Department of Natural Resources to drain the 13 ponds, remove the structures, and restore the stream channels. Contact Laura Hewitt, Trout Unlimited, (608) 250-2757, lhewitt@tu.org.

23 DAMS REMOVED IN 2001

Two Swim Dams, Alameda Creek, CA: Two dams on the upper stretches of Alameda Creek were removed in 2001. Contact Pete Alexander, East Bay Regional Park District, (510) 635-0135 ext. 2342.

McGoldrick Dam, Ashuelot River, NH: This dam was removed in August 2001. The McGoldrick Paper Company agreed to remove the dam to allow passage of migratory fish to upstream spawning habitat. Because the site has historical value, photo documentation, biographies, and interpretive signage were developed as part of the restoration effort. Contact Deb Loiselle, New Hampshire Department of Environmental Services, (603) 271-8870, dloiselle@des.state.nh.us.

Four Amish Dams, Muddy Run, PA: The removal of eight small dams began in December 2000. All of the dams were originally used to provide running water to Amish farms, but only one still served this purpose. Four of the dams were removed in 2000 and the remaining four dams were removed in summer 2001. Contact Scott Carney, Pennsylvania Fish and Boat Commission, (814) 353-2225, rscarney@state.pa.us.

Good Hope Dam, Conodoguinet Creek, PA: This 8-foot dam, which had no identifiable owner, was removed in November 2001 by mechanical separation. The removal opened 22.2 miles of spawning habitat for migratory fish, such as river herring and American shad, and removed a significant safety hazard. This project includes a multi-year study of physical, chemical, and biological parameters and extensive riparian restoration that is currently underway by Pennsylvania State University and the U.S. Geological Survey. The total project cost including removal, riparian restoration, public outreach and education, and monitoring is estimated at $300,000. Contact Scott Carney, Pennsylvania Fish and Boat Commission, (814) 353-2225, rscarney@state.pa.us.

Meisers Mill Dam, Manantango Creek, PA: This 5-foot by 75-foot partially breached dam was removed in 2001. The owner removed the structure to eliminate maintenance and liability costs and to stop significant erosion of riverside property. The removal opened approximately five miles of the river and cost approximately $5,000. Contact Scott Carney, Pennsylvania Fish and Boat Commission, (814) 353-2225, rscarney@state.pa.us.

Intake Dam, Rife Run, PA: This 8-foot by 50-foot dam was removed in early 2001 by mechanical separation. The owner removed the dam to eliminate liability, maintenance costs, and a public safety hazard. The total project cost including removal and stream restoration was $15,000. Removal of this dam has restored the free flowing character of the stream and opened additional habitat for aquatic organisms. Contact Scott Carney, Pennsylvania Fish and Boat Commission, (814) 353-2225, rscarney@state.pa.us.

Hammer Creek Dam, Hammer Creek, PA: The dam was removed in late 2001 due to safety and liability concerns. Before removal, people were often seen walking on the 8-foot high dam, which was very slippery and had a 6-foot deep pool with hydraulic activity below. Unfortunately the sediment dispersal was not managed correctly during the removal process, and as a result negative impacts have occurred to downstream habitat. Officials are currently studying the effect dam removal had on the macroinvertebrate community and on fluvial geomorphologic processes in order to determine how the ecology of the stream has changed. Immediate impacts include channel adjustment in the reservoir area and the movement of sediment downstream that has filled in pools that typically provide deep-water habitat for trout. Early study results show depressed macroinvertebrate populations and some soil erosion due to movement of sediment. However, at the site of the former reservoir, gravel substrate and riffles have begun to appear, indicating that the impacts may be short-term. Contact Scott Carney, Pennsylvania Fish and Boat Commission, (814) 353-2225, rscarney@state.pa.us.

Two Unnamed Dams, Huston Run, PA: The Amish used these small dams to generate power in order to obtain well water, and like the four Amish dams removed in 2000 (see write up below), removal has led to restoration of the native coldwater fishery. Improvements in water quality and habitat have also resulted. Contact Scott Carney, Pennsylvania Fish and Boat Commission, (814) 353-2225, rscarney@state.pa.us.

Goldsborough Creek Dam, Goldsborough Creek, WA: This obsolete dam, owned by Simpson Timber Company, was removed in May 2001. Since the removal the amount of wildlife seen in the area has increased, including increased sightings of birds, smolts, and spawning fish such as coho salmon, chum salmon, chinook salmon, steelhead, and cutthroat trout. There is now increased access to use the area for low-key recreation and as an interpretive site that allows walk-in access. One challenging aspect of the project was successfully using the silt and debris built up behind the dam to fill in the streambed. To achieve this, a series of weirs are being installed to restore the stream over a 2,000-ft reach. Contact Patti Case, Simpson Timber Company, (360) 427-4733.

Deerskin Dam, Deerskin River, WI: This dam, which had been ownerless for 30 years and had never conformed to Wisconsin's dam safety codes, was removed in June 2001. Dam removal is expected to improve water quality and restore about 3.5 miles of coldwater fisheries habitat at a cost of approximately $15,000—as opposed to the repair cost estimate of $400,000. Contact Helen Sarakinos, River Alliance of Wisconsin, (608) 257-2424 ext. 112, hsarakinos@wisconsinrivers.org.

Franklin Dam, Sheboygan River, WI: Removal of the dam gates and a portion of this structure began in September 2000 and the remainder of the dam was removed in early May 2001. Repair estimates were between $350,000 and $ 400,000 while the actual cost of removal was $190,000. Removal restored 10 miles of free flowing river, improved water quality, and benefited smallmouth bass and northern pike. Since removal, populations of mayfly and kadisfly have also increased above the former dam site. Contact Helen Sarakinos, River Alliance of Wisconsin, (608) 257-2424 ext. 112, hsarakinos@wisconsinrivers.org.

Kamrath Dam, Tributary of Onion River, WI: This 5-foot high dam, which was on land purchased by a private individual in order to restore coldwater habitat for wild trout and other species, was removed in April 2001 by a partnership including Trout Unlimited and the Wisconsin DNR. In addition to dam removal, the restoration plan included removing other fish passage restrictions and restoring the stream channel. Since the removal of the dam and restoration project, the stream has returned to its historic, meandering path. As a result, the restoration of crucial habitat in the headwaters of a coldwater fishery is occurring, which benefits the health of the entire Great Lakes Basin. Contact Laura Hewitt, Trout Unlimited, (608) 250-2757, lhewitt@tu.org.

LaValle Dam, Baraboo River, WI: This dam, the uppermost dam on the Baraboo River, was removed in March 2001. This is the third dam to be removed from the Baraboo River since 1997. A local environmental group purchased the dam for the purpose of removing it. Contact John Laub, Sand County Foundation, (608) 244-3512.

Linen Mill Dam, Baraboo River, WI: This dam, removed in fall 2001, is the last of four dams to be removed from the Baraboo River. Cost of the removal was $58,000 compared to repair estimates of $100,000 to $150,000. With this removal, the river flows freely for its entire length—over 120 miles of main stem and almost 500 miles of tributaries. This is the longest stretch of main stem, free-flowing river to be restored in the nation. The removals resulted in habitat improvements for smallmouth bass, walleye, sauger, channel catfish, lake sturgeon, and paddlefish. Since the dam was removed, natural rapids were also restored, and the first paddling shop recently opened as recreation has risen. Contact Helen Sarakinos, River Alliance of Wisconsin, (608) 257-2424 ext. 112, hsarakinos@wisconsinrivers.org.

New Fane Dam, East Branch of the Milwaukee River, WI: This old mill dam, which was removed in 2001, had not functioned since the 1950s and was in serious disrepair. The $50,000 removal cost restored six miles of free flowing river and benefited many species, including three state fish species of concern. Contact Helen Sarakinos, River Alliance of Wisconsin, (608) 257-2424 ext. 112, hsarakinos@wisconsinrivers.org.

Orienta Dam, Iron River, WI: This hydropower dam, which was built in the 1930s, but that had not functioned since damaged in a major flood in 1985, was removed in 2001. The dam owner was granted a permit to abandon and remove the dam. Dam removal improved at least 1.5 miles of spawning habitat for salmon and trout migrating from Lake Superior. As part of the dam removal, a temporary low-sill dam was created to prevent sea lampreys and introduced salmonids from entering the pristine upstream habitat, which includes native brook trout habitat. The estimated cost of the removal was approximately $500,000—less than half the estimated

repair cost. Contact Helen Sarakinos, River Alliance of Wisconsin, (608) 257-2424 ext. 112, hsarakinos@wisconsinrivers.org.

Waubeka Dam, Milwaukee River, WI: Removal of this dam began with breaching the dam in the summer of 2000 and was completed with removal of the remaining dam structure in 2001. The 150-year old dam was originally built to power an old feed mill but was inoperational since 1961. Following a canoeing accident, dam inspectors found the dam was in a serious state of disrepair and in danger of failing. Due to the economic obligations associated with repairing and maintaining the dam, it was agreed the dam would be removed. Removal of the dam resulted in restored oxygen and temperature levels; the return of sediment and nutrients to sediment-starved downstream reaches; decreased flood risk; and additional habitat for smallmouth bass and other warmwater sportfish. The town also plans to use the additional public land to create public parks and is considering building a historical center to commemorate the rich Native American culture associated with the river. Contact Helen Sarakinos, River Alliance of Wisconsin, (608) 257-2424 ext. 112, hsarakinos@wisconsinrivers.org.

Chair Factory Dam, Milwaukee River, WI: This dam was removed from December 2000 to January 2001. The cost to replace the dam was estimated at more than twice the $175,000 for removal. Its removal has exposed riffle habitat important to smallmouth bass and other sportfish. Water quality has also been improved by eliminating the existence of warmer and oxygen deprived water that was once above the dam. Contact Helen Sarakinos, River Alliance of Wisconsin, (608) 257-2424 ext. 112, hsarakinos@wisconsinrivers.org.

28 DAMS REMOVED IN 2000

McCormick-Saeltzer Dam, Clear Creek, CA: This 93 year old dam, which was 18 feet tall and 60 feet wide and was located on a tributary to the Sacramento River, was removed in October 2000. The removal opened 12 miles of spawning habitat to threatened salmon and steelhead, providing enough habitat to produce an additional 2,000 fish of each species per year. Contact Steve Evans, Friends of the River, (916) 442- 3155, sevans@friendsoftheriver.org.

Dam and Lock, Kissimmee River, FL: Dam S65B and the associated boat lock were removed in June 2000. This removal has reconnected and restored 14 miles of natural meandering river channel and has allowed water to overflow on the floodplain, amplifying wetlands. Shortly after completion of this phase of the project in February 2001, the region suffered a record drought that caused little water to flow until June 2001. Since then, continuous flow was re-established and the river has experienced physical, chemical, and biological changes indicative of restoration. The river channel has been flushed of accumulated organic sediments, the dissolved oxygen level that was once a critical limiting factor has increased, changes have occurred in the invertebrate food base, and use of the river channel by shorebirds has risen. Another dam is going to be removed within the next two years as part of the second phase of this project. Contact Lou Toth, South Florida Water Management District, (561) 682-6615. (www.sfwmd.gov/org/erd/krr/index.html)

Old Berkshire Mill Dam, Housatonic River, MA: This dam on the East Branch of the Housatonic River was breached in November 2000, doubling the available trout habitat. Contact Brian Graber, American Rivers, (413) 585-5896, bgraber@amrivers.org.

East Machias Dam, East Machias River, ME: This dam was removed July 2000. The dam was built in 1926 by Bangor Hydroelectric Company but was in such poor condition by 1962 that they sold it to the town of East Machias for $1. The 16-foot by 150-foot dam was considered a public safety problem, blocked some recreational canoeing and kayaking and obstructed fish passage during certain flow conditions. Vegetation planting was initiated in spring 2001 to stabilize the stream bank. Since its removal, hundreds of volunteers have joined in planting trees and restoring riparian habitat. Many recreational canoers and kayakers have returned to the river and interest in extending a canoe race down the newly opened stretch of river has arisen. The removal opened up 40 miles at the head of the river, ultimately restoring over 300 miles of critical Atlantic salmon habitat to a free flowing condition. Contact Dwayne Shaw, Downeast Salmon Foundation, (207) 483-4336.

Fibron Trout Pond Dam, Anguilm Creek, MI: Fibron Trout Pond Dam was a Michigan DNR Fisheries Division owned low-head earthen dam built in 1964. It was removed by Michigan DNR Fisheries Division Construction Crew in August 2000. Contact Jessica Mistak, Michigan DNR, (906) 249-1611, mistakjl@michigan.gov.

Big Rapids Dam, Muskegon River, MI: This dam was removed in summer and fall 2000. The dam was a safety hazard and its removal has opened up nearly 120 miles of free flowing reaches, one of the longest reaches of river in Michigan. The removal of Big Rapids Dam has made this stretch of river safer for canoeing and swimming and more aesthetically pleasing. The community is currently constructing a riverwalk to draw more people to the river. Furthermore, the preliminary results of a USGS Assessment Study on the effects of removing the dams has found that the water quality was not effected and the habitat quality has dramatically improved as boulder and cobble hard bottoms are in a greater abundance. Contact Steven Stilwell, City of Big Rapids, (231) 592-4021.

Three Unnamed Dams, Ashland Creek, OR: These three diversion dams were removed due to safety and maintenance problems caused during a major flood event. Removal of these dams opened additional habitat to steelhead and resident species. Contact Jerry Vogt, Oregon Department of Fish and Wildlife, (541) 826-8774.

Barnitz Mill Dam, Yellow Breeches Creek, PA: The dam owner, Dickenson Township, opted to remove this structure in order to eliminate maintenance and liability costs and a public safety hazard. The removal and associated restoration will improve stream habitat and ecosystem health, enhance public recreation, and provide a public park at the site. The cost of the project was approximately $25,000. Contact Scott Carney, Pennsylvania Fish and Boat Commission, (814) 353-2225, rscarney@state.pa.us.

Four Amish Dams, Muddy Run, PA: The removal of eight small dams began in December 2000. All of the dams were originally used to provide running water to Amish farms, but only one still served that purpose. Four of the dams were removed in 2000 and the remaining four

dams were removed in spring 2001. Removal has restored the coldwater fishery and improved water quality, which is necessary to sustain the trout fishery. This fisheries restoration has resulted in an increase in angling activity. Contact Scott Carney, Pennsylvania Fish and Boat Commission, (814) 353-2225, rscarney@state.pa.us.

Franklin Mill Dam, Middle Creek, PA: This dam was removed in spring 2000 because the dam owner wanted to eliminate maintenance costs and liability. Approximately 40 miles of habitat for migratory fish was opened up, a public safety hazard was removed and stream habitat was improved. The EPA Chesapeake Bay Program provided the total cost of $14,000 and Penn State is conducting monitoring fish and aquatic macroinvertebrate populations to document changes in diversity and relative abundance in response to removal of the dam at the site. Contact Scott Carney, Pennsylvania Fish and Boat Commission, (814) 353-2225, rscarney@state.pa.us.

Hinkletown Mill Dam, Conestoga River, PA: This dam was removed in 2000 to facilitate construction of a new bridge. Because several dams exist downstream, no river miles were opened for migratory fish, but advantages to the removal include stream habitat and ecosystem restoration and enhanced public safety. A study done by Pennsylvania State University since the removal has shown that the natural river now supports more diversity and higher populations of aquatic life than in the man-made mill pool. The benthic macroinvertebrate community found in the riffles after removal includes more families than the samples taken from the pool areas created by the dam before its removal. Contact Scott Carney, Pennsylvania Fish and Boat Commission, (814) 353-2225, rscarney@state.pa.us.

Martins Dam, Cocalico Creek, PA: This dam was removed in 2000 because Ephrata Township and the owner wanted to eliminate a public safety hazard (the dam was adjacent to a new housing development). The total cost of $20,000 covers the removal by mechanical separation and riparian restoration work. Due to blockages to fish migration downstream, no miles were opened to migratory fishes but advantages to removal include stream habitat and ecosystem restoration, enhanced public safety, and reduced owner liability. Contact Scott Carney, Pennsylvania Fish and Boat Commission, (814) 353-2225, rscarney@state.pa.us.

Muren's (Seitzville Mill) Dam, South Branch of Codorus Creek, PA: This 12-foot by 100-foot dam was removed in summer 2000 for $25,000. The owner removed the dam to eliminate liability costs, but the removal has resulted in improved stream habitat and passage for trout and resident fish and improved water quality. The removal is part of larger effort to restore the South Branch of Codorus Creek. Contact Scott Carney, Pennsylvania Fish and Boat Commission, (814) 353-2225, rscarney@state.pa.us.

Wild Lands Conservancy Dam, Little Leheigh Creek, PA: This dam was removed in summer 2000 as part of a stream restoration demonstration project. The 5-foot by 75-foot dam was removed for approximately $5,000. Since removal, the fish passage has been restored and substrate conditions have improved, becoming a hard gravel, cobble substrate rather than a thick layer of silt. Habitat for the macroinvertebrate community has also increased. The quality of the natural fishery has improved and summer floaters face fewer obstructions as they move

downstream, as well. Contact Scott Carney, Pennsylvania Fish and Boat Commission, (814) 353-2225, rscarney@state.pa.us.

Unnamed Dam, Manatawny Creek, PA: This dam, which was built around 1850, was removed in August 2000. In addition to the removal and restoration activities, the Academy of Natural Sciences is conducting in-depth research on the effects of the removal in order to help develop a balanced, scientifically based policy regarding dam removal in Pennsylvania. Contact Elizabeth Lynch, Academy of Natural Science, (570) 893-1137. (www.acnatsci.org/research/pcer/manatawny.html)

Chancellorsville Brygadier A & B Dam, Tributary of Hunting Run, VA: These two inactive dams were removed in 2000 to eliminate the need for maintenance and to restore the area to a civil war historical appearance. The Park Service estimates the removal cost was $15,000. Contact Gregg Knapp, National Park Service, (540) 785-7448.

Fredericksburgh Milstead A & B Dams, Unnamed stream, VA: These two inactive dams were removed from an intermittent stream in 2000 to eliminate safety issues and the need for maintenance. The Park Service estimates the removal cost was $75,000. Contact Gregg Knapp, National Park Service, (540) 785-7448.

Unnamed Dam, Headquarters Creek at Willapa National Wildlife Refuge, WA: This 5-foot dam was originally built in the early 1940s as a source of water for the refuge. The Willapa National Wildlife Refuge, in conjunction with the U.S. Fish and Wildlife Service, decided to partially remove the dam in order to restore the stream and re-establish the sediment transport process. Since the removal of the dam, officials have seen a return of cutthroat trout and an increase in salmon runs. They have also been able to restore some of the rich amphibian diversity the region is known for. Contact Charlie Stenvall, U.S. Fish and Wildlife Service, (360) 484-3482, Charlie_stenvall@r1.fws.gov.

Oak Street Dam, Baraboo River, WI: This dam, removed in the winter 2000, was the second of four dams to be removed on the Baraboo River. This $30,000 removal cost 10 times less than the estimated repair cost. Once all four dams are removed, the river will flow freely along its entire length, over 120 miles. The removal opened up spawning grounds important to sturgeon, endangered paddlefish, and small mouth bass. Canoeing activity has grown, increasing revenue in the town of Baraboo, and the town plans to develop the waterfront as recreation and a community-gathering place. Contact Helen Sarakinos, River Alliance of Wisconsin, (608) 257-2424 ext. 112, hsarakinos@wisconsinrivers.org.

Rockdale Dam, Koshkonong Creek, WI: In 1998, this 75-year old dam was determined to need extensive repairs. Two years worth of community meetings resulted in near consensus that the dam and pond were not worth the cost of repair. After the dam's removal in 2000, the village began restoring the river and adjacent prairie land, while expanding a nearby county park. Contact Sue Josheff, Wisconsin Department of Natural Resources, (608) 275-3305.

Shopiere Dam, Turtle Creek, WI: The dam, removed in the summer 2000, was the only obstruction on Turtle Creek. The ownerless dam was in a state of disrepair and needed to be

removed or repaired. While the state of Wisconsin decided to remove the dam for economic and safety reasons—cost of the removal was $100,000 compared to a repair estimate of $251,000—removal restored 30 miles of free-flowing river and improved habitat for smallmouth bass, walleye, catfish, Northern pike, and three state listed species (Ozark minnow, greater redhorse, and gravel chub). Water quality improved for the previously oxygen-deprived and sediment-choked stretch of the creek, and riffle habitat was restored. Turtle Creek is now a state-listed Exceptional Resource Water, a designation given to water in good condition with a valuable fishery. Restoration of the site continues as sixteen acres of previously submerged land undergoes wildlife habitat restoration. Contact Helen Sarakinos, River Alliance of Wisconsin, (608) 257-2424 ext. 112, hsarakinos@wisconsinrivers.org.

20 DAMS REMOVED IN 1999

Anaconda Dam, Freight Street Dam, Platts Mill Dam, and Union City Dam, Naugatuck River, CT: In the spring and summer 1999, three dams on the Naugatuck were completely removed and one dam was breached. The full Naugatuck River Watershed Anadromous Fish Restoration Project is expected to significantly improve water quality and restore 32 miles of river, allowing passage for sea-run brown trout, American shad, alewives, blueback herring, and other aquatic species for the first time in over a century. The project represents a remarkable commitment to river system restoration on a scale rarely attempted.

Colburn Mill Pond Dam, Colburn Creek, ID: In September 1999, the Colburn Mill Pond Dam was breached, allowing fish to travel upstream for the first time in over 50 years. Colburn Creek now provides more than three miles of much needed spawning habitat for several trout species.

Stone Gate Dam, Waubansee Creek, IL: In July 1999, Illinois removed a dam from the Fox River that had been damaged during a flood incident in 1996 and posed a safety threat. The removal is expected to restore riffle habitat along this section of the river.

Canaan Lake Outlet Dam, Machias River, ME: The Canaan Lake Outlet Dam was used by the lumber industry for log drives from the 1800s through the 1960s. The dam, which was largely deteriorated prior to its removal in the summer of 1999, impeded the passage of migratory fish (including Atlantic salmon) to upstream spawning habitat.

Brownville Dam, Pleasant River, ME: The Brownville Dam, which was partially breached prior to its removal in August 1999, was the only impediment to adult salmon migration on the Pleasant River. Now with the dam gone, there is an opportunity to develop a recreational area at this site, in addition to the improved conditions for migratory fish.

Edwards Dam, Kennebec River, ME: The Edwards Dam was removed through a voluntary settlement agreement over the summer and fall of 1999. It was completed in October 1999 under budget and ahead of schedule.

Hampden Recreation Area Dam, Souadabscook Stream, ME: The Hampden Recreation Area Dam, which was removed in July 1999, was only two feet in height, but during low flows,

it prohibited the upstream passage of fish. Further, the reservoir, which at one time served as a community swimming hole, contributed to water quality degradation of Souadabscook Stream.

Souadabscook Falls Dam, Souadabscook Stream, ME: The Souadabscook Falls Dam, which was partially breached in July 1999, prohibited migratory fish passage during low flows and often hindered fish passage during high flows when debris became trapped behind the dam. The dam at one time generated hydropower, but was inactive prior to its removal.

Archer's Mill Dam, Stetson Stream, ME: Archer's Mill Dam was over 100 years old and was a barrier to migrating fish prior to its removal in September 1999. The removal-and associated dredging to remove lumber, bark, sawdust and debris that accumulated behind the dam-will improve stream habitat and water quality on Stetson Stream. Removal estimated at $13,000.

Wasman Dam, Tributary to the Pawpaw River, MI: This privately owned dam was built around 1860. The dam failed in 1998 and was thus removed in 1999.

Two dams, various rivers, MN: In 1999, the state of Minnesota removed two dams-the Frazee Dam on the Otter Tail River and the Appleton Mill Pond Dam on the Pomme de Terre River.

Rains Mill Dam, Little River, NC: The removal of Rains Mill Dam in December 1999, in which the US Marine Corps assisted using plastic explosives, has significant environmental benefits. These included opening 49 miles of historic spawning ground on the Little River for American shad, hickory shad, alewife, shortnose sturgeon, Atlantic sturgeon, and striped bass; improving water quality; and enhancing recreational opportunities on the Haw River.

Pool Colony Dam, Van Campens Brook (trib.), NJ: The Pool Colony Dam was removed by the National Park Service in 1999 as part of the agency's dam safety program, which states that NPS dams should either be maintained or drained.

Alphonso Dam, Evans Creek, OR: In July 1999, the US Bureau of Land Management decided to remove this defunct irrigation dam as a means to restore historic fish passage conditions. The removal of Alphonso Dam will enable the threatened coho salmon and other fish species to migrate up the East Fork of Evans Creek for the first time in 100 years and reach an additional 12 miles of spawning and rearing habitat. Removal estimated at $55,000.

Unnamed Dam, Poorman Creek, OR: This diversion dam was in need of safety and maintenance due to a previous flood event. The dam was no longer serving a purpose to the owner, and permission was give to Oregon Department of Fish and Wildlife for removal. Removal opened some upstream habitat that had been blocked during low flow to steelhead and other species.

Ward Paper Mill Dam, Prairie River, WI: With the removal of the Ward Paper Mill Dam in the fall 1999, the Prairie River now flows freely for its entire length for the first time in 100 years. The $125,000 removal is expected to benefit northern pike, walleye, smallmouth bass, muskellunge, brown and brook trout, as well as provide an additional 40 acres of wetlands and 90 acres of parkland for the community.

AMERICAN RIVERS – DAMS REMOVED FROM 1999-2007