



## **DAMS SLATED FOR REMOVAL IN 2005 AND DAMS REMOVED FROM 1999-2004**

### **DAMS SLATED FOR REMOVAL 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](mailto:lwildman@amrivers.org).

**South Batavia Dam, Fox River, IL:** The Kane County Forest Preserve District owns 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. This project is still moving forward and is slated for full removal in September 2005. Contact Drew Ullberg, Kane County Forest Preserve, (630) 232-5980.

**Octoraro Rubble Dam, Octoraro Creek, MD:** The Octoraro Rubble Dam is the only blockage on Octoraro Creek, a tributary of the Susquehanna River just below the Pennsylvania line in Maryland. The dam is currently 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 dam has been permitted for removal, which is currently scheduled for September 2005. Contact Sara Nicholas, American Rivers, (717) 232-8355, [snicholas@amrivers.org](mailto:snicholas@amrivers.org).

**PPG Rubble Dam, Potomac River, MD:** (Cumberland County) 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 2005. This 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 and to promote easier passage of American eel. Along with the Octoraro dam removal, this dam removal represents one of the first removals in Maryland. Contact Jim Thompson, Maryland Department of Natural Resources, (410) 260-8279, [jthompson@dnr.state.md.us](mailto:jthompson@dnr.state.md.us).

**Dimondale Dam, Grand River, MI:** The two structures of this earthen dam were built in 1880 and, together, are 5 feet high and 300 feet long. They were constructed for recreational and mill use. However, they 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 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 (DNR) and the Village of Dimondale on the removal, which is planned for summer/fall 2005.

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The project is expected to cost \$442,400. Contact Chris Freiburger, Michigan DNR, (517) 373-6644, freiburg@michigan.gov.

**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 this dam and is working with the Calhoun Conservation District, Trout Unlimited, and the Michigan DNR to remove the structure in 2005. The goal of this 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 estimated cost for the project is \$202,858. Contact Chris Freiburger, Michigan DNR, (517) 373-6644, freiburg@michigan.gov.

**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 DNR, (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 will also allow sturgeon access to upstream spawning habitat. Total cost for the removal phase (phase II) of the project is \$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 has purchased the dams for the purpose of mitigation credits and will be removing them in the fall of 2005. The dam is a mass concrete dam of 9 feet high. Contact Jim MacBroom, Milone & MacBroom, (203) 271-1773, jimm@miloneandmacbroom.com.

**Carbonpin Dam, tributary to the Nuese River, NC:** A company named Restoration Systems has purchased the dams for the purpose of mitigation credits and will be removing them in the fall of 2005. The dam is a 25 feet high with an inactive FERC power house on it. Contact Jim MacBroom, Milone & MacBroom, (203) 271-1773, jimm@miloneandmacbroom.com.

**Champlin Pond Dams, NH:** These two dams are scheduled for removal Fall 2005. Part of a mitigation package for the Skyhaven Airport project. This restoration includes the transfer of

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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](mailto:dloiselle@des.state.nh.us).

**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. The former mill dam is in a state of disrepair, having recently been listed as a significant hazard by New Jersey dam safety officials. Because the dam has outlived its original purpose and is a liability, the owner has agreed to remove most of the structure. The dam is the only blockage on Lopatcong Creek and will open about 10 miles of additional spawning habitat for American shad and other migratory species. It is slated for removal in summer/fall 2005. Contact Sara Nicholas, American Rivers, (717) 232-8355, [snicholas@americanrivers.org](mailto:snicholas@americanrivers.org).

**Bear Rock 1 and 2 Dams, Bear Rock Run, PA:** These 30-foot high dams were built in 1903-04 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. However, they no longer serve their function and are a liability for the owner, the Highland Sewer and Water Authority. They are among five dams slated for removal in the greater Johnstown area this year and next. Removal is slated for late fall 2004. Contact Ed Englehart, Highland Water and Sewer Authority, (814) 266-3146, [eenglehart@highlandwater.net](mailto:eenglehart@highlandwater.net).

**Benscreek Intake, Ben's Creek (a tributary to the Little Conemaugh River), PA:** Built around 1900-1905, the Ben's Creek Intake is 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 will reduce liability concerns and eliminate the financial burden of maintaining the dam. Removal, which is expected in summer 2005, will also allow for habitat restoration on the Little Conemaugh River. Contact Ed Englehart, Highland Water and Sewer Authority, (814) 266-3146, [eenglehart@highlandwater.net](mailto:eenglehart@highlandwater.net)

**Birch Run Dam, Birch Run, PA:** This 60-foot earthen water supply dam is located on Birch Run, which flows into the Conococheague Creek. The city of Chambersburg owns this now obsolete dam and is removing it due to the dam's failure to meet dam safety standards. The dam is being removed in August 2005. Contact Bruce Mcnew, City of Chambersburg, (717) 261-3288, [bmcnew@chbgboro.com](mailto:bmcnew@chbgboro.com).

**Logan's Reserve Pond Dam, Tributary to the East Branch of Codorus Creek, PA:** (York County) This 59-foot high dam was constructed within the last few years to provide a water supply for the irrigation of a golf course that was never constructed. Additionally, the structure has been identified as a high hazard dam because it presents significant risk to a housing development downstream. Liability concerns have motivated the owners of the dam to seek its removal. The removal, which was originally planned for 2004, was delayed until 2005 because of the discovery of red-bellied turtles. Contact Vince Humenay, Pennsylvania Department of Environmental Protection, (717) 783-7482, [vhumenay@state.pa.us](mailto:vhumenay@state.pa.us).

**Lower Lloydell Dam, South Fork of the Little Conemaugh River, PA:** Built around 1900-1910, the Lower Lloydell Intake is approximately 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 will reduce liability concerns and eliminate the financial burden of maintaining the dam. The project, which was removed in January 2005, will also allow for habitat restoration on the Little Conemaugh River. 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. However, 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 will remove 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. Removal is anticipated in 2005. Contact Sara Nicholas, American Rivers, (717) 232-8355, snicholas@amrivers.org.

**Siloam Dam, Conococheague Creek, PA:** (Chambersburg County) Siloam Dam is owned by the City of Chambersburg and is one of two blockages on the Pennsylvania portion of this creek, which drains into the Potomac River in Maryland. The dam has not been used by the city for decades and is 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 in 2005) to record pre- and post-removal changes in water quality and benthic life. Contact Bruce Mcnew, City of Chambersburg, (717) 261-3288, bmcnew@chbgboro.com.

**Cussewago Creek Dam, Cussewago Creek, PA:** (Meadville, Crawford County) This tributary to French Creek in northwestern Pennsylvania is home to two federally listed freshwater mussel species and boasts a wide diversity of fish and benthic life. The 3.5-foot high, 92-foot long Cussewago Creek Dam, the only blockage on this creek, is slated for removal sometime in 2005. The Conneaut Lake / French Creek Valley Conservancy received a Growing Greener grant from the PA Department of Conservation and Natural Resources to perform the dam removal. The Conservancy is also working to protect the creek by considering nomination of the stream for exceptional value status. Contact Ginny Crowe, Conneaut Lake / French Creek Valley Conservancy, (814) 337-4321, conserve@mdvl.net.

**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

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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. Contact Bill Weihbrecht, Aquatic Resource Restoration Company, (717) 428-9368.

**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 is being 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. Contact Tom Bold, PA Department of Environmental Protection, (717) 772-5950.

**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 is on supports a Class-A wild trout fishery, and removal of the dam, which is slated for 2005, will expand available habitat for the species. Contact Scott Carney, Pennsylvania Boat and Fish Commission, (814) 353-2225, rscarney@state.pa.us.

**Palmerton Dam, Lehigh River, PA:** This 4-foot high, 500-foot wide dam across the Lehigh River is considered an "orphaned" dam with no owner and is therefore a ward of the state. Its original purpose is unknown. It will be removed in September 2005 as part of an effort to restore migratory fish runs to the Lehigh River and improve fish habitat. An associated effort by local groups to create a rail-trail alongside the river will be aided by the removal of this dam. Anticipated cost of removal is \$70,000. Contact Chip Shafer, PA Department of Environmental Protection, (717) 783-7950.

**Frankford Dam, Pennypack Creek, PA:** (city of Philadelphia) Frankford Dam, owned by the city of Philadelphia, is approximately 10 to 15 feet high and about 150 feet wide. Although storms have created breaches in the dam, the remaining debris continues to impede fish migration. A plan is being 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. The project is expected to take place sometime in 2005, depending on funding approval. Contact Jason Cruz, Philadelphia Water Department, (215) 685-4946, Jason.e.cruz@phila.gov.

**Rhawn Street Dam, Pennypack Creek, PA:** (city of Philadelphia). This third blockage on Pennypack Creek, a tributary of the Delaware River that flows through Fairmount Park in downtown Philadelphia, will be removed in fall 2005. Owned by Fairmount Park, Rhawn Street dam is constructed of stone blocks and is partially damaged by floods. It is one of eight blockages on Pennypack Creek through the park and is being removed to promote passage of migratory fish species and to improve fish habitat. All eight blockages will be addressed by the partnership over the next few years. Historical interpretive signage at the site explaining the

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original uses of the mill dam will be part of the project. Anticipated cost of removal is \$40,000. Contact Scott Carney, PA Fish and Boat Commission, (814) 353-2225, rscarney@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. Contact Mark Pennell, URS, (717) 620-2277.

**Binky Lee Preserve, Tributary to Pickering Creek, PA:** (Chester Springs County) This 8-foot high stone masonry dam is no longer functional and the impoundment created by the dam is almost entirely filled with sediment. It is being 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 project is scheduled to take place in summer 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, is scheduled for removal in August 2005. This dam creates 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 is currently the first blockage on Ridley Creek, after the December 2004 removal of the Irving Mill dam located one mile downstream, and will open up an additional three miles of Ridley Creek once removed. Ridley Creek 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. Anticipated removal cost is \$50,000. Contact Steve Kosiak, Delco Anglers, (610) 649-3442.

**Trindle Springs Dam, Silver Spring, PA:** This 15-foot high dam, built of hand-cut stone, is the first blockage on Silver Spring approximately ¼ mile from the confluence with the Conodoguinet Creek, a major tributary of the Susquehanna River near Harrisburg. The creek supports a reproducing population of rainbow trout, and the dam is being removed to improve fishing habitat as well as to remove a liability to the new owner. The dam is over 150 years old and was originally built to power a grist mill. It has not been used for this purpose for many decades. Pennsylvania Fish and Boat Commission will oversee 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. Contact Ray Zomok, PA Department of Environmental Protection, (717) 705-4798.

**Ward and Lochner Dams, Smithtown Creek, PA:** (Bucks County) These two small dams on Smithtown Creek, a tributary of the Delaware River, are scheduled for removal in fall 2005.

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Lochner dam is a 5-foot high stone dam built as a mill dam and is owned by a private owner who wants to improve the creek's water quality and fisheries habitat and eliminate a liability. Ward Dam, a 25-foot high, 50-foot wide concrete dam downstream of Lochner Dam, is also privately owned and being 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 with this project. Anticipated cost of both removals is \$50,000. Contact Mark Pennell, URS, (717) 620-2277.

**Iron Stone Mine Dam, Swatara Creek, PA:** This 4-foot high, 500-foot wide dam is a first blockage across Swatara Creek approximately ½ mile from the creek's confluence with the Susquehanna River, and is being removed to eliminate a liability and to promote migratory fish passage. The dam is owned by a private trust, but is being 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 once the dam is removed. Anticipated cost of removal is \$65,000. Contact Scott Carney, PA Fish and Boat Commission, (814) 353-2225.

**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 Christine, PA 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 is being 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. Anticipated cost of removal is \$30,000. Contact Bob Beran, Beran Associates, (724) 735-2766.

**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 is expected sometime in 2005. Engineering is expected to cost \$20,000 and deconstruction, including significant sedimentation removal, is estimated to cost approximately \$50,000. Contact Dennis Rearden, Berks County Conservancy, (610) 372-4992.

**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 currently serves no purpose. The dam's removal, which is slated for 2005, is expected to help 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](mailto:rscarney@state.pa.us).

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**Whitlinger Dam, Yellow Breeches Creek, PA:** This 8-foot high concrete dam lies upstream from Hoffman Dam on the Yellow Breeches in South Middleton township. The township is interested in removing the dam to eliminate liability, and to avoid repair costs to a deteriorating dam that no longer serves an economic purpose. The removal should 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 \$80,000 - \$100,000. Contact Brian O'Neil, South Middleton Township, (717) 258-5324.

**Rockland Dam, Shenandoah River Middle Branch, VA:** The Rockland Dam is being 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 is privately owned and scheduled for removal in fall 2005. Anticipated cost of removal is \$50,000. Contact Larry Mohn, Virginia Department of Game and Inland Fisheries, (540) 248-9360.

**Country Dam, Apple River, WI:** This 18-foot earthen dam is slated for removal in 2005. The dam partially failed during a flooding event in April 2001 and has been drawdown ever since. Plans include dam removal, streambank restoration, and aquatic habitat improvements. Removal and restoration costs are estimated at \$120,000, and \$50,000 will come from a Wisconsin Department of Natural Resources (DNR) small and abandoned dam grant, the U.S. 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](mailto:hsarakinos@wisconsinrivers.org).

**Big Spring Dam, Big Spring Creek, WI:** This dam is slated for removal in the fall of 2005, and 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 drain downed 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. Over \$60,000 has been applied for or 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 grants and federal resource agencies. 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, the Wisconsin DNR, the Town of New Haven, and Mason Lake District. 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](mailto:hsarakinos@wisconsinrivers.org).

**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 DNR performed drawdowns in 2002 and 2003. In 2003, the Wisconsin DNR 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-



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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 DNR 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 DNR, (262) 574-2122, james.d'antuono@dnr.state.wi.us.

**Manchester Dam, Grand River, WI:** This 16-foot earthen and concrete dam is slated for removal in early winter 2005. The dam is currently 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 DNR 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.

**Grenlie Dam, Grenlie Lake Outlet, WI:** This six-foot earthen dam is located in a natural area and is slated for removal in fall 2005. Removal will also include some stream bank stabilization. The dam has already been drawdown in preparation of removal, and the Wisconsin DNR will be removing the dam at an estimated cost of \$1,000. The dam removal will reestablish the connection between Grenlie Lake and Sannes Creek. This will provide overwintering habitat for trout, and normalize thermal regimes. In addition, there will be an increase in shoreland wetland vegetation, and amphibian diversity. Contact Scott Koehnke, Wisconsin DNR, (715) 526-4232, scott.koehnke@dnr.state.wi.us.

**McCaslin Brook Dam, McCaslin Brook, WI:** This 8-foot by 108-foot dam is primarily made of large boulders and a few crib structures made of wood filled with rock. The structure is currently in poor condition and is prohibiting native brook trout from spawning upstream. In addition, the water temperatures have increased and the dissolved oxygen level has decreased. Heavy sedimentation in the impoundment is also a concern. The dam is slated for removal, which is expected to improve water quality and help increase the population of native brook trout, in 2005. Contact Helen Sarakinos, River Alliance of Wisconsin, (608) 257-2424 ext. 112, hsarakinos@wisconsinrivers.org.

**Spitzer Dams, Milhome Creek, WI:** The River Alliance of Wisconsin is partnering with the Wisconsin DNR, Sheboygan County Parks Department, and Trout Unlimited to remove remnants of four concrete dams and a concrete hatchery raceway. These dams and raceway are slated for removal in summer 2005. Following removal, fish habitat restoration will take place. The project costs are estimated at approximately \$50,000, and have been provided by a Wisconsin Coastal Management Grant, the Wisconsin DNR, 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.

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**Meyer Dam, Mullet River, WI:** In early 2005, the Wisconsin DNR 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 DNR, (920) 892-8756 Ext.3032, [brent.binder@dnr.state.wi.us](mailto: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 DNR 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 DNR staff predicts Osceola Creek will return to a self-sustaining trout fishery by 2010. Contact Heath Benike, Wisconsin DNR, (715) 637-6864, [heath.benike@dnr.state.wi.us](mailto:heath.benike@dnr.state.wi.us).

**Skunk Lake Dam, Skunk Lake Outlet, WI:** This dam is a perched culvert and is scheduled for removal in fall 2005. The culvert will be removed and the creek will be restored to its original bed. The Wisconsin DNR will be removing the dam at a project cost of under \$1,000. The dam removal will support trout habitat. Contact Scott Koehnke, Wisconsin DNR, (715) 526-4232, [scott.koehnke@dnr.state.wi.us](mailto:scott.koehnke@dnr.state.wi.us).

**Planing Mill Dam, Waupaca River, WI:** The city of Waupaca and the Wisconsin DNR 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 DNR grant funded the removal, at a cost of approximately \$20,000. Contact John Edlebeck, City of Waupaca, (715) 258-4420, [jaewaup@yahoo.com](mailto:jaewaup@yahoo.com).

## **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

## AMERICAN RIVERS – DAMS REMOVED FROM 1999-2005

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. Contact Steve Rothert, American Rivers, (530) 478-5672, srothert@americanrivers.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, smclain@americanrivers.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

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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](mailto: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](mailto: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](mailto: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](mailto: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. Contact Grace Levergood, New Hampshire Department of Environmental Services, [www.des.nh.gov/dam/damremoval](http://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

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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. 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.

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**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](mailto: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](mailto: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. Contact Sara Nicholas, American Rivers, (717) 232-8355, [snicholas@americanrivers.org](mailto:snicholas@americanrivers.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](mailto: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. Contact Scott Carney, PA Fish and Boat Commission, (814) 353-2225, [rscarney@state.pa.us](mailto: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

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return to a free flowing state. Rebuilt and modified several times, it was finally removed in 2004. Contact Sara Nicholas, American Rivers, (717) 232-8355, [snicholas@amrivers.org](mailto:snicholas@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. Contact Bob Beran, project manager, (724) 735-2766, [Berans@pathway.net](mailto:Berans@pathway.net).

**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. Contact Pete Ponchieri, Reading Public Museum, (610) 371-5850, ex 225, [pete356@aol.com](mailto: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 Tippet, Friends of the Rappahannock, (540) 373-3448, [john\\_tippet@riverfriends.org](mailto:john_tippet@riverfriends.org).

**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 crumbling structure represented a safety hazard; accidents were not uncommon on its old abutment walls. Removal of this structure was completed in fall 2004. Contact Sara Nicholas, American Rivers, (717) 232-8355, [snicholas@americanrivers.org](mailto:snicholas@americanrivers.org).

**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](mailto:lmohn@dgif.state.va.us).

## AMERICAN RIVERS – DAMS REMOVED FROM 1999-2005

**Ball Park Dam, Maunasha 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 physical 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.

### 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



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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](mailto: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](mailto: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](mailto: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, Foothills 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

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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@americanrivers.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, Massachusetts Riverways Program, (617) 626-1540, brian.graber@state.ma.us.

**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

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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.

**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

## AMERICAN RIVERS – DAMS REMOVED FROM 1999-2005

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. Contact Sara Nicholas, American Rivers, (717) 232-8355, snicholas@americanrivers.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 .

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**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](mailto: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 removed 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](mailto: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](mailto: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](mailto: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

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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](mailto: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](mailto:linda.hyatt@dnr.state.wi.us).

## 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](mailto: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](mailto: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](mailto: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

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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, Florissant 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. Contact Brian Graber, Massachusetts Riverways Program, (617) 626-1540, brian.graber@state.ma.us. .

**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 Squires, 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@americanrivers.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

## AMERICAN RIVERS – DAMS REMOVED FROM 1999-2005

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



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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

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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

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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.

### **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

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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 kadsifly

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have also increased above the former dam site. Contact Helen Sarakinos, River Alliance of Wisconsin, (608) 257-2424 ext. 112, [hsarakinos@wisconsinrivers.org](mailto: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](mailto: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](mailto: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](mailto:hsarakinos@wisconsinrivers.org).

**Oriente 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](mailto: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.

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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](mailto: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](mailto:hsarakinos@wisconsinrivers.org).

### **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](mailto: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](http://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, Massachusetts Riverways Program, (617) 626-1540, [brian.graber@state.ma.us](mailto:brian.graber@state.ma.us).

**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

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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](mailto: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](mailto: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](mailto: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

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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 Lehigh 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



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Elizabeth Lynch, Academy of Natural Science, (570) 893-1137.  
([www.acnatsci.org/research/pcer/manatawny.html](http://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](mailto: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](mailto: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

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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](mailto:hsarakinos@wisconsinrivers.org).

### **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, Waubensee 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.

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**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.

**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.