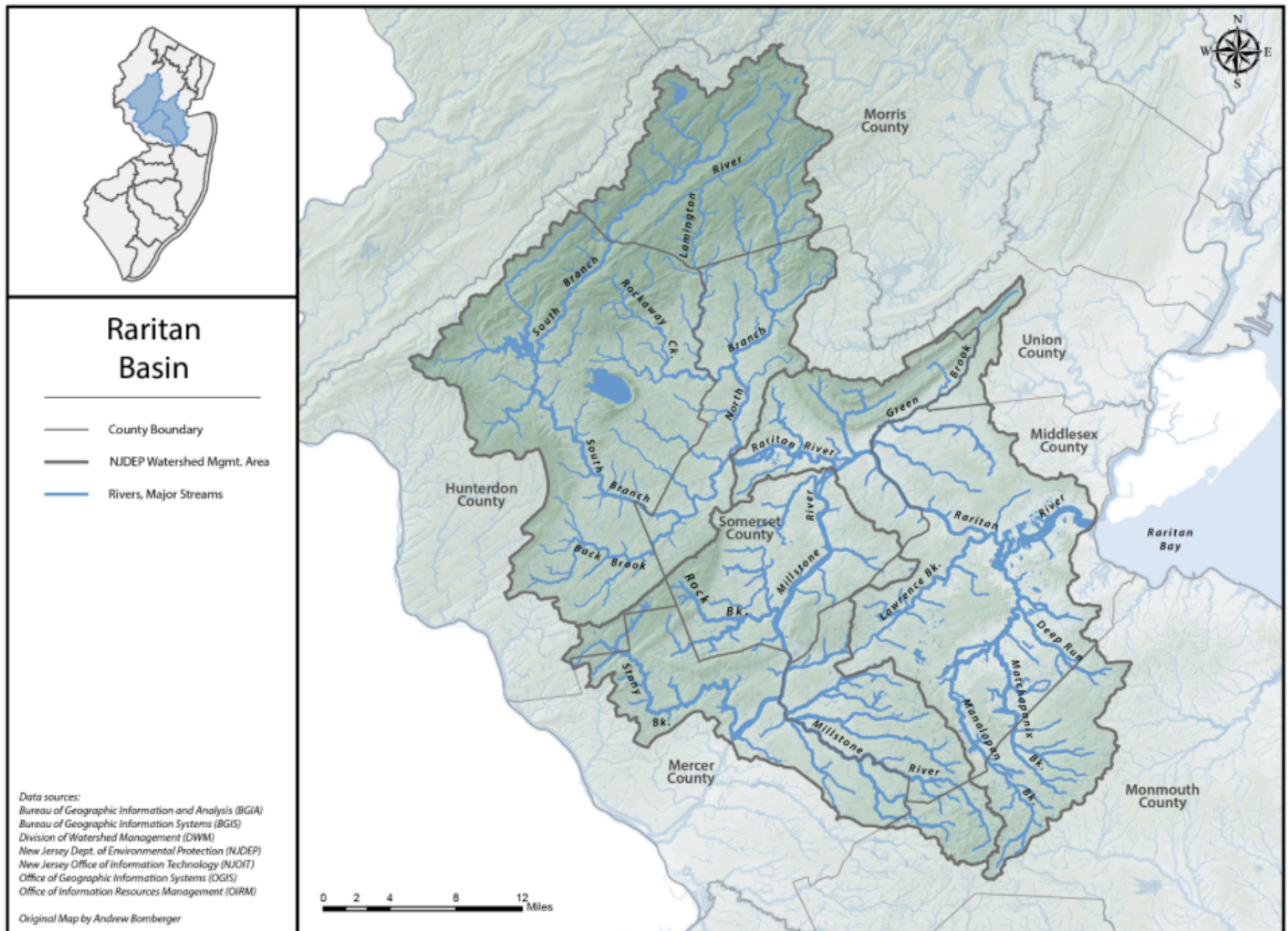


## The Raritan River Watershed

(raritanheadwaters.org)

The Raritan Headwaters region is located in north-central New Jersey and is defined by the area of land that drains into the North and South Branches of the Raritan River, which drains to the Raritan Bay and Atlantic Ocean. The watershed (drainage basin) of the Raritan River covers approximately 1100 square miles, making it the largest river basin located entirely within the State of New Jersey.

The Raritan Headwaters region provides clean water to approximately 1.5 million people in central New Jersey including drinking water, process water for industries, and irrigation water for farms, nurseries, and golf courses. In addition, the watershed is used for many recreational activities such as boating, fishing, and hiking, and provides habitat for many aquatic and terrestrial organisms, including many rare plants and animals.



map: [raritan.rutgers.edu](http://raritan.rutgers.edu)

## A Guide to Raritan River Access Points

([nynjbaykeeper.org](http://nynjbaykeeper.org))

The Raritan River flows through seven counties and 100 municipalities, and it has seen both glory days and great degradation over the past three centuries. In colonial times and through the 19th Century, the Raritan was viewed as an economically lucrative shortcut across the state, avoiding the long boat trip around Cape May. In 1830, three thousand Irish immigrants began handshovelling a canal that paralleled the Raritan and its tributary the Millstone River—an artificial waterway meant to join the Delaware River and Raritan Bay. The triumphal opening of that canal in 1834 was celebrated with a ceremonial barge ride along the new Delaware and Raritan Canal by state governor Peter Vroom, ending at New Brunswick with a 24 gun salute (though no one saluted the hundreds of Irish

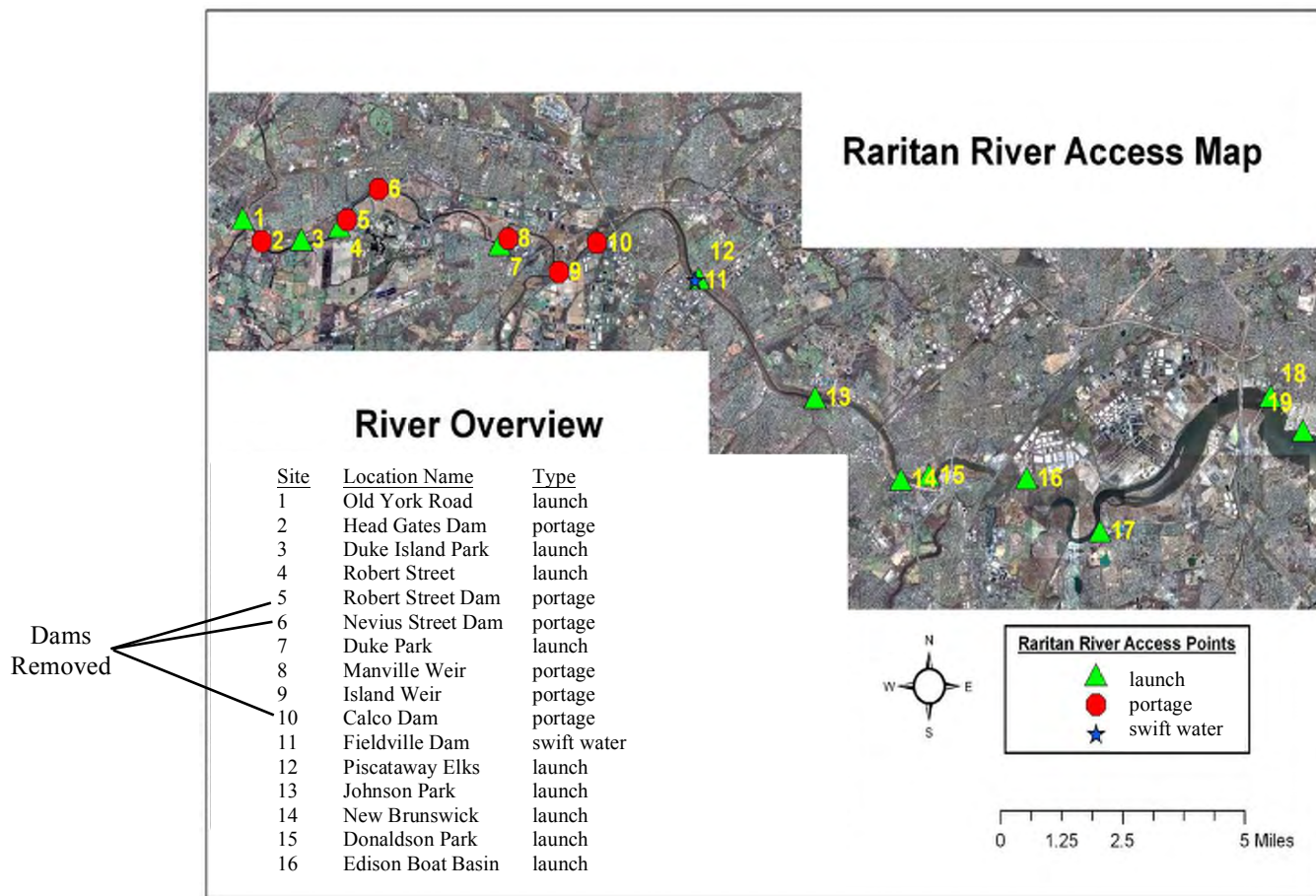
laborers who died in a cholera epidemic while building the canal). In the 1860's, Civil War gunboats cruised the Raritan and the D&R Canal on their way to seeing battle in the South.

The river also spawned significant factory towns along its length, such as New Brunswick and Perth Amboy, creating a booming 19th Century economy and a lingering legacy of industrial pollution throughout the 20th Century. Raritan Riverkeeper Bill Schultz can still remember boyhood days in the 1960s when he could not swim in the Raritan River without coming home with oil spots on his body requiring a scrubbing with kerosene. The Raritan Riverkeeper, NY-NJ Baykeeper, and other environmental groups have worked long to see the Raritan cleaned up, and they, along with federal, state, and municipal officials have seen great progress.

The Raritan River in the 21st century is a river in recovery. While still suffering from pollution, the stream continues to get cleaner, the result of grassroots environmental advocacy and strong state and federal water protection legislation such as the U.S. Clean Water Act. However, development pressures are growing along the Raritan, as green open space is fast swallowed up by home and commercial construction. Stormwater runoff, containing high nitrogen and toxic loads, is also a growing threat to the river – a threat that Raritan Riverkeeper, NY/NJ Baykeeper and other groups continue to address.

Today's Raritan River boasts considerable wildlife. More than 200 species of bird can be spotted along the Raritan, living, breeding and migrating within its Piedmont flora. The word "Raritan" is believed to be Algonquin for "stream overflows," a translation that aptly describes the river's repeated annual flooding, water which nourishes stretches of northern deciduous floodplain forest. Black cherry, black locust, red and silver maple, elm and ash trees are all fed by the seasonal spill of water and rich silt overflowing the river's banks. Paddlers who may make frequent landings ashore, also need to know that another common plant thrives in the riverside sun. Poison ivy is prolific, and it grows in all its forms: as groundcover, a woody shrub, and tree-clinging vine.

Wildlife also abounds along the Raritan, surprising those who might expect an entirely urban landscape. Mallards, cormorants and herons patrol the waters. Dead floodplain snags provide hollow cavities for raccoons, opossums, kingfishers and woodpeckers. Local corn fields and other vegetable crops provide food for browsing deer and wild turkeys (much to the annoyance of local farmers). Then there are fish. The Raritan is a boon to anglers, with largemouth and smallmouth bass, trout, shad, chain pickerel, sunfish and yellow perch being common. The river's tidal stretches host striped bass, fluke, winter flounder, weakfish and bluefish. Anglers should check current New Jersey state fish advisories before consuming any fish taken from the Raritan River.





## Raritan River Access Point #5: Robert Street Dam, Raritan; **Hazard**

**Location:** 1,000 feet downstream from the Robert Street launch point in Raritan Borough. 40°33'23.54"N 074°38'55"W.

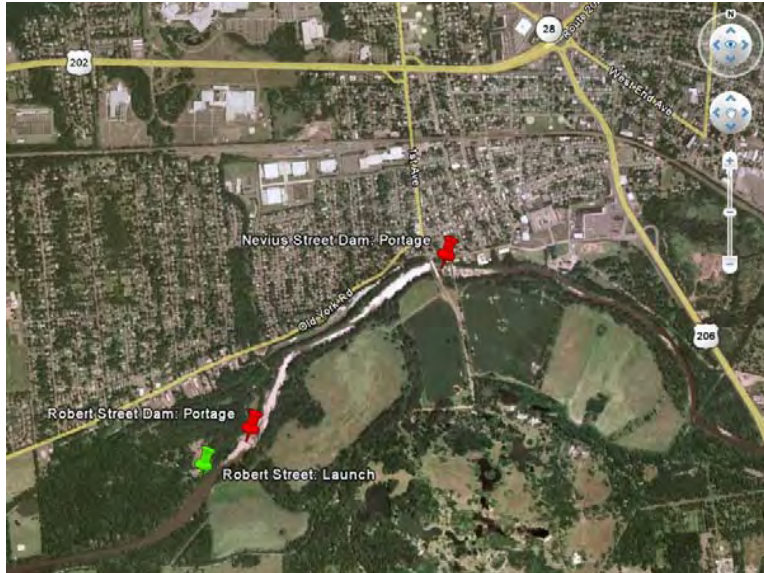
**Access Info:** This dam is in Duke Island Park spanning between the Park and the private property of Duke Farms. This is a very dangerous dam; it is hard to see from upriver and has a powerful hydraulic. There are no warnings approaching the dam. DO NOT TRY TO RUN THIS DAM. Portage can be made on either side of the river depending on seasonal plant growth.

**Facilities:** None.

**Non-Emergency:** Park Office: 908.722.7779; Raritan Police Department: 908.725.6700

**Emergency:** 911

**Next Point Downriver:** Nevius Street Dam, 0.87 mile.





## Raritan River Access Point #6: Nevius Street Dam, Raritan; **Hazard**

**Location:** Between Nevius St. and Lyman St. in Raritan Borough. Dam is located at 40°33'53.19"N 074°38'11"W.

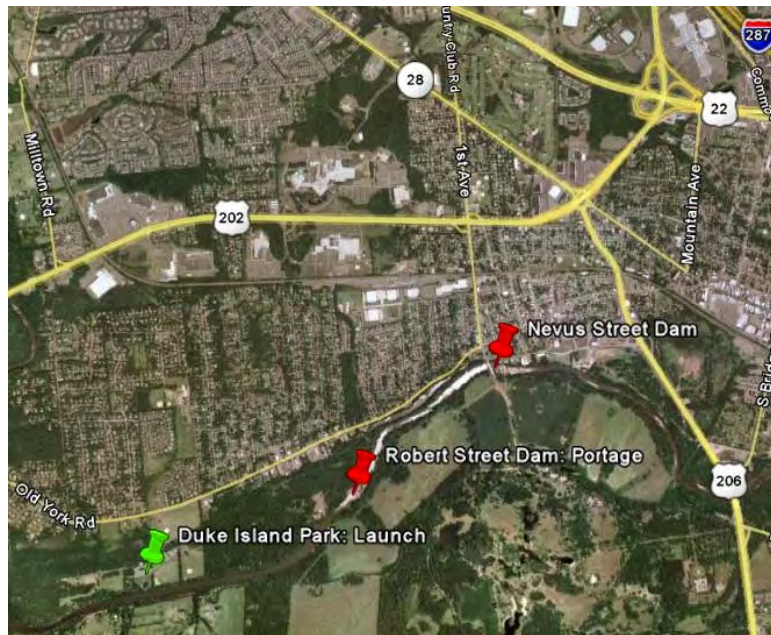
**Access Info:** The dam is located between two bridges that are about 250 feet apart, making it easy to locate. There is no signage denoting the dam approach. This is a dangerous dam with a strong hydraulic and requires a portage. Portage is on the right headed downriver. **DO NOT TRY TO RUN THIS DAM.**

**Facilities:** None.

**Non-Emergency:** Raritan Police Department:  
908.725.6700.

**Emergency:** 911

**Next Point Downriver:**  
Duke Park Launch,  
Manville, 3.13 miles.





## Raritan River Access Point #10: Calco Dam, Bridgewater; **Hazard**

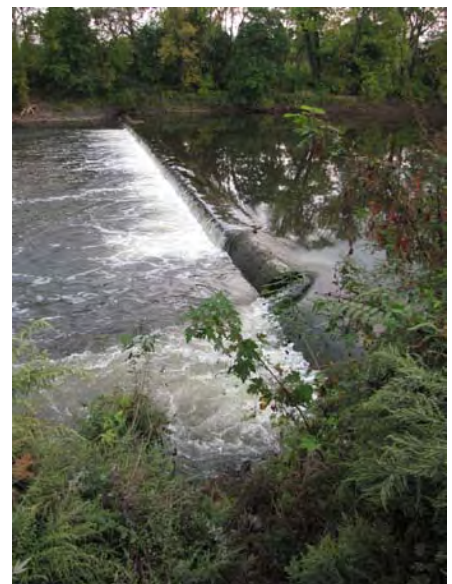
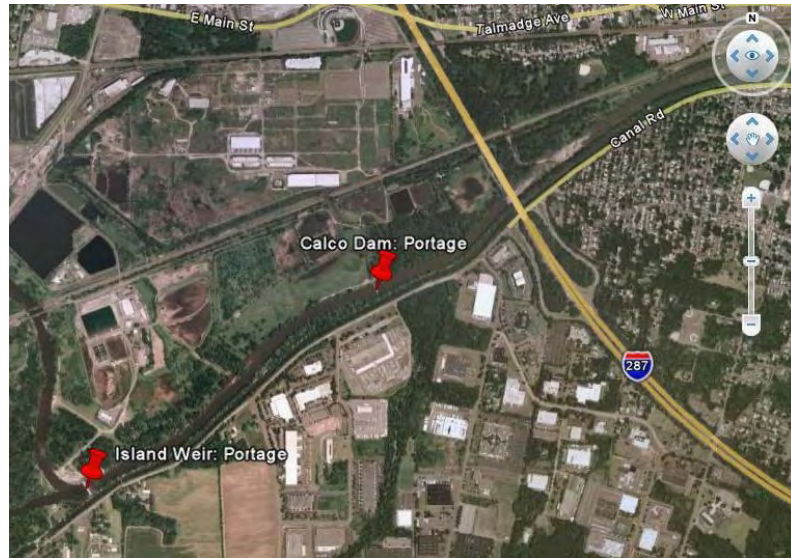
**Location:** This dam spans Bridgewater on the left and Franklin Township on the right headed downriver. Located at 40°33'01.88"N. 074°33'04.83"W.

**Access Info:** This dam's hazard depends on river height. It should be portaged on the right headed down river. The dam is notched on river left. There is no signage denoting the dam approach.

**Facilities:** None.

**Non-Emergency:** Franklin Township Police  
Department: 732.873.5533  
Bridgewater Police  
Department: 908.722.4111.  
**Emergency:** 911

**Next Point Downriver:**  
Fieldville Dam and  
Piscataway Elks Launch,  
3.06 miles.



# Robert Street Dam Removal Project

## A Raritan River Restoration Initiative

The New Jersey Department of Environmental Protection's Office of Natural Resource Restoration (NJDEP ONRR), in conjunction with El Paso Corporation, are implementing the removal of the Robert Street Dam, located at Raritan River Mile 27.9, to allow anadromous and catadromous fish species to freely migrate upstream and downstream of the dam site. This project, guided by the technical groundwork developed by National Oceanic and Atmospheric Administration (NOAA) Restoration Center, fulfills objectives outlined in the 2006 Open Rivers Initiative (ORI) and the goals set forth by the Sustainable Raritan River Initiative.



The Robert Street Dam was reconstructed in 1964 after the original dam at this location failed. The original dam had partially overturned, subsided, and was breached through numerous structural fissures that destabilized the structure, so that older structure was encased and buried beneath the reconstructed dam. The removal of Robert Street Dam is a major Raritan River watershed restoration priority because it poses one of the most substantial impediments to fish migration

The Raritan River and its sub order tributaries combine to form the largest interior watershed to support migratory fish in New Jersey. These river segments are suitable spawning and nursery habitat for American shad (*Alosa sapidissima*), hickory shad (*Alosa mediocris*), alewife (*Alosa pseudoharengus*), and blueback herring (*Alosa aestivalis*), which formerly populated the river in such numbers that they supported a commercial seine-haul fishery in the 19<sup>th</sup> century.

The shallow water depths and large grain size substrates characteristic of the Raritan River and tributary stream beds in the vicinity of the Robert Street Dam make this stretch of river an ideal spawning and juvenile growth habitat for shad and river (alewife and blueback) herring.



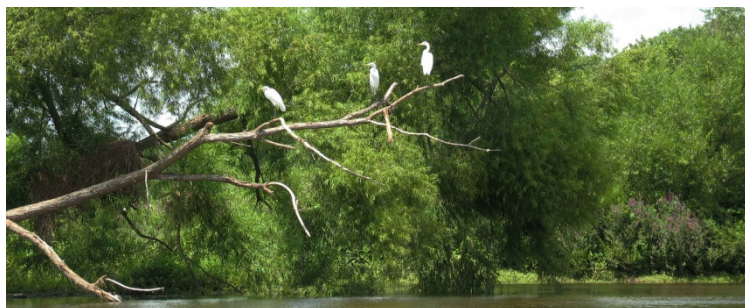
In addition to preventing spawning runs of migratory anadromous fish (species that spend their adult life stages in the ocean and return to fresh water to spawn), dams limit dispersal of resident freshwater fish species, cause crowding just downstream of the dam structure, and produce differences in biodiversity between upstream and downstream locations. Additionally, dams alter riverine habitats by producing lake-like conditions upstream of the structures, which can favor



undesirable species, cause siltation of spawning and feeding habitats, and trigger deleterious effects on water quality, such as when thick, filamentous algal mats blanket acres of stagnant water upriver of the Robert Street Dam in the summer months.



Demolition of the Robert Street Dam will eliminate the most significant barrier to anadromous fish passage along two miles of the main stem of the Raritan River between RM 27.9 and RM 29.9 (up to the Headgates Dam), thereby restoring access to historically significant spawning grounds for American shad and other migratory fish whose populations are in a steep decline along the Atlantic coast. Dam removal provides direct physical benefits; for example, the natural river process of transporting and depositing gravels, sand, nutrients, and woody debris is restored, enabling rivers to provide the diversity of habitats necessary for species to survive and thrive.



Dam removal will also benefit resident aquatic insects and birds, including the bald eagle (*Haliaeetus leucocephalus*), the great blue heron (*Ardea Herodias*), a New Jersey species of Special Concern, the great egret (*Ardea alba*), a NJDEP species of Regional Priority, and the belted kingfishers (*Megasceryle alcyon*).

Juvenile fish are an important food source for the aforementioned wading birds, which also utilize the river corridor for nesting. The Robert Street Dam appears to reduce the foraging habitat available for wading birds by submerging the river shoreline up to the steep embankments and it has decreased natural river channel heterogeneity in the impounded areas of fish passage.

Lastly, but certainly as compelling as the aforementioned ecological benefits, is that low head dams like the Robert Street Dam are “drowning machines,” presenting deadly safety hazards to recreational users of the river. Drowning victims become inextricably trapped in a submerged hydraulic jump and reverse roller that occurs just downstream from the dam. Hundreds of the people have been killed over the last four decades at low head dams across the United States, including individuals who have drowned at the Robert Street Dam.



In summary, dam removal is one of the most successful and proven methods of restoring rivers and there are significant ecological (in addition to commercial and recreational) benefits for the removal of the Robert Street Dam. The Robert Street Dam removal project is considered to be regional significance because of its long-term, watershed-wide benefits, and this specific project has long been of interest to a diversity of parties, including federal, state, local, and private partners.

For more information on restoring fish passage on the Raritan River, please visit:

[www.habitat.noaa.gov/ourwork/fishpassage.html](http://www.habitat.noaa.gov/ourwork/fishpassage.html) and [www.raritan.rutgers.edu/](http://www.raritan.rutgers.edu/)

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