

## Sweet Pond Failed Dam Remnants

The Rhode Island Chapter of Trout Unlimited in partnership with the Rhode Island Water Resources Board (WRB) will remove the remnants of a failed dam within the Big River Management Area (BRMA) to restore fish passage to 1.5 miles of native Brook Trout habitat. The project will include barrier removal design, permitting, structure removal, and restoration plantings. Studies have documented the thermal benefits which will result from removal of the structure as well as the presence of Brook Trout, [\*Salvelinus fontinalis\*](#).”

Reductions in late spring and early summer water temperatures are expected to benefit wild Brook Trout as far as 1.5 miles downstream.



Sweet Pond Dam creates an impassable barrier for aquatic organisms to 1.5 miles of upstream coldwater habitat. The dam is believed to have suffered a significant failure in 2003, and the remnants are causing habitat fragmentation for aquatic species by blocking aquatic organism passage to thermal refugia and increasing water temperatures to extirpating levels for Brook Trout downstream.

Sweet Pond Dam remnants create a barrier to the upstream migration of fish and macroinvertebrates and isolates 1.5 miles of coldwater habitat located upstream of the Dam. Although the Dam is believed to have suffered a significant failure in 2003, the remnants continue to block migration and increase temperatures well downstream.

The Dam removal project supports the SNEP (Southeast New England Program) goal of Thriving Watersheds and Natural Lands by establishing essential ecological functions, species diversity, and protection from environmental stressors including potential climate change impacts such as warming and changes in precipitation. This supports a variety of native plant and wildlife species inhabiting the Upper Pawtuxet River Watershed.



Removing the remnants of the failed dam will eliminate cumulative reverberating adverse impacts throughout upper portions of the Big River Watershed and improve the overall ecosystem. It will also restore aquatic connectivity to 1.5 miles upstream of the Dam and restore waters 1.5 miles downstream of the Dam to be within the thermal regime for brook trout, a coldwater fish species. It will also eliminate a stagnant shallow pond, create 3 acres of wetlands, and reestablish 250 yards of stream channel through the drained impoundment area. Statistics and thermal data quantifying the benefits of this dam removal were collected by RITU through a NFWF (National Fish and Wildlife Foundation) grant completed from 2021-2022. The data demonstrates that currently the failed Dam and impoundment are isolating Brook Trout and negatively impacting species population fitness. Brook Trout are listed as Species of Greatest Conservation Need in the RIDEM Wildlife Action Plan and the removal of the remnants of the failed dam will increase the resiliency of these critical coldwater obligate species. The failed remnants are also blocking Brook Trout from reaching the spawning gravel beds upstream of the Dam, which are critical to reproduction and Brook Trout fry survival. The newly created 3 acres of wetlands in the Dam impoundment will help stabilize groundwater levels, reduce evaporation, support

a wide range of ecological functions, filter water, and reestablish the critical ecosystem services wetlands provide.

The Sweet Pond Dam is located within the BRMA, which is set aside in State Statute as a future drinking water source for the State. There have been continued efforts by the WRB to champion initiatives that restore the natural filtration and ecosystem services of the BRMA surface waters, wetlands, and ecosystems to benefit the entire State and the future water supply. In addition, the BRMA is the headwaters of the 231 square mile Pawtuxet River watershed, which contains approximately 235,000 Rhode Islanders and provides drinking water to over 60% of the state. The project will help to benefit the State's water supply, upstream headwaters, and ecosystem services by reestablishing critical ecosystem linkages that sustain it.

The Dam and BRMA are located in the headwaters of the upper Pawtuxet River Watershed, and the BRMA is a popular recreation area in central Rhode Island where over 6,000 visitors recreate monthly.

The BRMA is 10 minutes from several disadvantaged communities, including portions of North Kingstown, West Warwick, Cranston, and Providence. The Dam is directly adjacent to a high traffic recreational trail, and an interactive kiosk will be erected on site to provide information on why the Dam was removed, what species benefited, and how even relatively small dams can cause significant impacts on a watershed. The kiosk will have a link to a web-based interface to engage visitors, and educate them on the importance of similar restoration projects.

This project is scheduled to be completed by the Fall of 2025.