



Witch-hazel



Prothonotary Warbler Nesting



American Cranberry Bush

## BASS LAKE PRESERVE

### SPRING BROOK RESTORATION

In 2020, Chagrin River Watershed Partners assisted Geauga Park District with a successful Ohio EPA Section 319(h) Nonpoint Source Program grant application in the amount of \$219,000. This project will improve water and habitat quality for Bass Lake and the Chagrin River Watershed by restoring a section of Spring Brook, a coldwater habitat stream, through natural channel design principles and bioengineering methods.

Prior to restoration, Spring Brook showed signs of degradation, including scouring and channel incision due to a sudden change in the stream's slope. The stream's substrate was previously made up of a healthy combination of cobble, gravel, and sand with well-developed riffles, runs, and pools, which provided excellent habitat for sensitive wildlife. However, the substrate had been scoured down to predominately hardpan clay material, which is very poor habitat. The stream was also becoming shallower and wide, and it was being threatened by increased streambank erosion, associated sediment, and significantly increased head cutting.

This project restored approximately 800 linear feet of stream by reconnecting the stream to its floodplain and reducing the stream's ability to scour the beneficial sediment which makes up the stream's riffles and pools. The project also reconstructed and added more riffle complexes, which added habitat and stability for sensitive coldwater wildlife. The project also included the removal and control of invasive species and about 2 acres of riparian enhancement.



Before shows a lack of vegetation, streambank erosion, and substrate instability.



Post construction pool



Course woody debris



Ohio native brook trout

**Woody Debris:** Spring Brook was enhanced with boulders, woody debris, branch, and log revetments. Coarse woody debris in streams is one of the most influential habitats that can be added to streams. Macroinvertebrates and fish use these materials for food, protection, breeding, and shelter.

**Brook Trout:** Spring Brook Sanctuary is a designated State Nature Preserve that protects Ohio's last known indigenous population of brook trout. The native Ohio brook trout are protected fish in Ohio and are listed as a state threatened species. These fish can only survive in the coldest and cleanest water.

**About Bass Lake Preserve:** Bass Lake Preserve is a 606-acre park well-known for its forested wetland complexes and high-quality tributaries. The preserve and its surrounding wetlands also provide habitat for migrating waterfowl and songbirds, bald eagles, beavers, and state protected Northern Wild Rice (*Zizania aquatica*). Bass Lake and its tributaries drain to the Upper Main Branch of the Chagrin River, which has been designated as a State Scenic River for its exceptional aquatic habitat and riparian forests.

