

# Marrek Pond Dam Removal and Restoration

## History and Background

Marrek Pond was an impoundment formed by a dam constructed on a headwater stream of the east branch of the Rocky River. This pond was named after the former owner Henrietta Marrek who sold the 43-acre property that contained the pond to the Cleveland Metroparks in 2008.

After heavy rains in 2015, water breached the dam and caused major damage to the structure. Cleveland Metroparks received a grant from Ohio EPA to remove the dam and restore the natural flow of the tributary by reestablishing the stream channel and restoring the surrounding wetland.

Restoration took place between 2016 and 2019. The site has now been restored to its natural hydrology and functionality as a wetland habitat.



Left: Marrek Pond before dam failure.  
Right: Dam after failure.

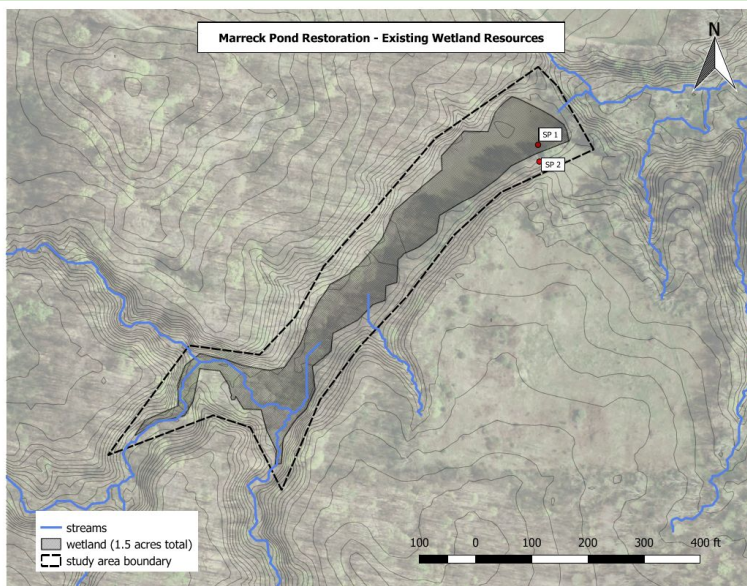
## Restoration Process

The Marrek Pond project was comprised of two main parts: removing the artificial dam, and reestablishing stream and wetland habitats.

The dam removal eliminated barriers to aquatic animal migration and restored the area's natural hydrology. Metroparks staff was careful to conserve existing natural resources at Marrek. The existing game fish in Marrek Pond were relocated before construction crews removed the dam and drained the pond.

Following the dam removal a stream was created through the former pond bed. This included the construction of a meandering stream channel and riffle habitat. Regrading the stream channel allowed water flow to access the surrounding floodplain which created additional wetland habitat as well as enhancing the existing wetland. Live stakes and log grade control structures were added to stabilize the soil and limit erosion. Trees, shrubs, and native grasses were planted on site to promote a healthier, vegetated floodplain.

A new culvert was installed underneath the Buckeye Trail downstream of the restoration area to accommodate the new flow pattern and allow fish passage.



## Timeline

### 2008

Land was purchased by the Cleveland Metroparks.

### 2015

Heavy rains caused major damage to the dam at Marrek Pond.

### 2016

Game fish population was transferred from the pond in October and in December the pond was drained.

### 2017

Native woody species were planted along the stream bank and log grade control structures were installed in the stream.

### 2018

Volunteers contributed to the project by removing invasive plants and installing log grade control structures in the stream.

### 2019

Last of the planned log grade control structures were installed and woody plants were added to the riparian zone.

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# Additional Information



Marrek Pond after drainage in 2016

The restoration of the former Marrek Pond site has promoted an increase in biodiversity. During restoration the local seed bank from the original wetland in the restoration zone sprouted a lush cover of rice cutgrass, orange jewelweed, and shallow sedge. The wetland area also provides new habitat for wildlife. Amphibians such as green frogs, American toads, and northern two-lined salamanders as well as benthic macroinvertebrates including minnow mayflies and crayfish are now commonly found.

The former Marrek Pond site is being monitored following the completion of the project. Metroparks staff will assess habitat quality for plants and wildlife as well as the structural integrity of the stream channel and bank.

## Results

- Removed 1 dam
- Reestablished 640 linear feet of stream channel and flood plain
- Restored 970 linear feet of natural flow
- Installed 8+ log grade control structures
- Installed 1 in-stream riffle habitat
- Planted native grasses, shrubs, and trees in a 1 acre riparian area
- Installed 1 fish passage culvert
- Restored 0.9 acre of wetland
- Enhanced 0.4 acre of existing wetland



Project site after stream channel is reestablished in 2017



Restored project site in Spring of 2019

The restored stream and wetland will contribute to the health of the Hinckley Lake watershed. Along with improved hydrologic functionality, the new habitat will promote wildlife in the area and add to the experience of visitors to Hinckley Reservation for years to come.