

# Ohio River Foundation's

## 2015 Youth Conservation Team – Cincinnati Parks Crew

### Background Information

The Ohio River Foundation's Youth Conservation Team (YCT) program has completed more than 200 projects in Ohio, Indiana, and Kentucky since its inaugural 2011 summer season.

### What is a Youth Conservation Team?

The Ohio River Foundation's Youth Conservation Team (YCT) project comprises groups of five or six local high school students hired for summer habitat protection and restoration work. A Crew Supervisor organizes the conservation projects and schedules work for the teams. A YCT Program Manager oversees the program, provides training for the Crew and Crew Supervisor, serves as liaison to the participating communities.

During the summer, the crews work six hours per day four days per week to install conservation projects that reduce erosion and runoff in the target watershed. Potential projects include planting trees and shrubs along streams and lakeshores; removing winter sand from ditches, culverts, and settling basins; rock lining ditches and culverts; and installing water bars and other diversions to direct water from dirt roads and paths to vegetated areas. Landowners that receive YCT services provide the materials necessary for construction, but the YCT labor is provided free of charge.

There is also an educational component to the program. Expert scientists, professors, and educators supplement the students' labor with one day per week of information and hands-on instruction relative to the watershed protection and restoration work being performed.

The goals of the YCT Project are to: (1) improve water quality in the Ohio River watershed, (2) foster local stewardship, (3) provide students a work-study hands-on professional experience, and (4) build strong town and community support to sustain the program through local funding.

### Why do we need Youth Conservation Teams?

In other parts of the country these types of programs have proven to be one of the most effective ways for local communities to correct soil erosion problems and protect water quality long term. Despite improvements, water quality in the Ohio River watershed remains degraded. As rivers, creeks, and streams are cleaned up, development along the shoreline is resulting in significant soil erosion and a loss of vegetated buffers. Increased runoff and erosion has also altered stream channels and continues to degrade the river's once thriving fishery. Ohio River Foundation is working to reverse these impacts on both private and public lands through the implementation of recognized BMPs (Best Management Practices).

## Accomplishments



In just three weeks, the team, comprised of seven high school students led by a Crew Director and Program Manager, successfully completed 16 habitat conservation projects in the Ohio River Watershed. By the end of the session, the teams had saved Cincinnati Parks in labor costs, and:

- Removed 48,000 ft.<sup>2</sup> (144,000 lbs.) invasives/release cuts
- Collected 340 lbs. debris
- Removed 19,000 ft.<sup>2</sup> (60,000 lbs.) woody plants from meadow/wetland areas

## Summary of Conservation Practices

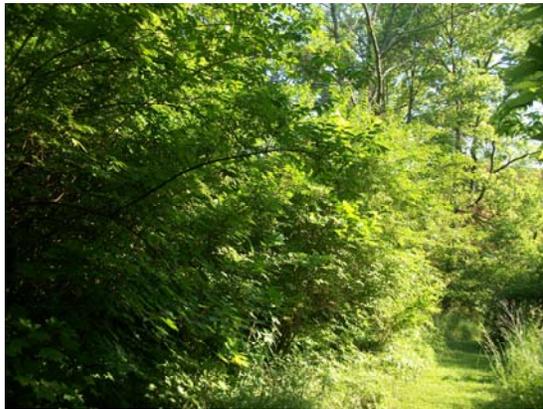
Type of Conservation Practice	Projects Completed
Invasive Removal	5
Release Cuts	3
Woody Removal	4
Debris Cleanup	4
TOTAL	16

## Invasive Species Removal and Green Infrastructure



Working together to pull out a tangled multiflora rose stem

Plants that are not indigenous or native can adversely affect the habitats and bioregions they invade. They out-compete native species, putting at risk plants and animals that are dependent on the native species for survival.



Before



After

Throughout many of the Cincinnati Parks, Japanese honeysuckle (*Lonicera maackii*) suffocates native trees and other plants. As pictured above, the removal of this aggressive non-native plant allows sunlight to reach the forest floor so young native trees can grow. Also pictured above, existing trees are visible and no longer choked out as the competition is greatly reduced. The YCT took down nearly 50,000 ft.<sup>2</sup> of invasive Japanese honeysuckle (*Lonicera maackii*), Callery pear (*Pyrus calleryana*), multiflora rose (*Rosa multiflora*), grapevines (*Vitis spp.*), and garlic mustard (*Alliaria petiolate*).

## Wetland and Meadow Preservation



Before (wetland area)



After

The succession of many natural areas in Hamilton County is to grow into deciduous forest. In order to preserve some areas as a prairie or wetland, woody plants spreading from bordering forests must be maintained and removed periodically. The crew removed woody plants from a wetland area in a small neighborhood which were growing up and blocking the view of the trail. Not only did this project help preserve one of the few wetlands left in Ohio, but this helps the park guests feel safer and are more likely to utilize the walking trails through the park with the view cleared.



Working to cut and drag woody plants out of a prairie area.

The crew also worked in a prairie area that was planted by the parks with native seed many years ago and has begun to revert to forest. This large area is adjacent to a picnic area and after being cleared, provides a view down to a creek from the shaded picnic area above. It also provides habitat for important prairie flora and fauna.

## Debris Cleanup



Collecting trash near a picnic area.

Working in small city parks situated in the suburbs presents the opportunity to work more closely with the public; where there are more people, there is more trash. The crew collected trash almost daily, particularly near picnic shelters, along trail edges, and other frequently used areas. This not only improves the aesthetic appeal of the park, but can protect local wildlife that may get stuck in or eat a piece of the garbage.

## Education Days



Doing a water distribution activity.



Practicing identifying wildflowers.

To enrich the YCT experience, one day per week student crews worked with professors from area universities. The student field scientists explored the connections between the habitat protection work they were performing and watershed ecology. During their first education day, they learned about watersheds, riparian zones, the current and historic state of the Cincinnati river corridor, and how to use a dichotomous field guide to identify wildflowers and other plants.



Using dye to calculate flow rate and patterns.



Observing the macroinvertebrate catch.

The second week, they experimented with many water chemistry parameters such as what affects rates of light absorption in water, nutrients in water, runoff and absorption rates of different surfaces and soil types, dissolved oxygen, conductivity, turbidity, and more. They were able to compare water pre-collected from several different area streams using these water chemistry parameters. In a nearby stream, they caught macroinvertebrates and stream fish, and observed how to assess stream health by its morphology through sediment erosion and deposition at the UC Center for Field Studies with professor emeritus Mike Miller, University of Cincinnati.



Observing live mussels.



Measuring turbidity.



Holding an electrofishing catch.

The students also took a trip to the Thomas More Field Station on the Ohio River to see professor Chris Lorentz, where they learned about the types of pollution, went electrofishing, used a YSI (a water quality testing instrument, capable of measuring multiple parameters) to take water chemistry, learned about the mussel life cycle and current ongoing mussel research, and took an algae sample. They also got to participate in a Bluntnose Minnow study by counting fish eggs on different color pvc pipes to determine substrate preference for breeding.

# Thanks to everyone who made the 2015 Hamilton County Youth Conservation Team season a resounding success!!

## Program Funding and Support

Ashland, Inc.

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## ORF Youth Conservation Team Staff

Rich Cogen, Program Manager

Sarah Meadows, Crew Supervisor

## Student Crew

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