



Ohio River Foundation's
2017 Youth Conservation Team
Clermont County

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 a 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; 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 student's 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 the 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 the recognized BMPs (Best Management Practices).

Accomplishments

In just three weeks, the team, comprised of six high schools and led by a Crew Supervisor and Program Manager, successfully completed # habitat conservation projects in the Ohio River Watershed. By the end of the session, the teams had:

- Removed 38,150 ft.² of invasive plant
- Trimmed back trail along an 800 ft stretch of paved trail
- Cleaned and dug out 70 water diversion ditches
- Collected 20.5 lbs of debris

Summary of Conservation Practices

Type of Conservation Practice	# of Projects Completed
Invasive Removal	2 *
Debris Cleanup	2 *
Trail Trimming	1
Trail Water diversion ditches	2 *
Stepping Stone Areas	10
Stream Bank armoring	2
Trail Closure	1
Trail Carsonite Post Removal	2
Pollinator garden	1
Owl Pellet Packaging	1
Rain Garden Weed Removal	1
Landscape Weed Removal and Mulching	1
Drain Pipe Removal	2
Large Culvert Dug out and Armored	1
Woody Honeysuckle debris removal using woodchipper	1
TOTAL	30

*Two projects stand for the two parks (Sycamore and Shor) where YCT worked on these types of projects.

Invasive Species Removal



A large honeysuckle happily being sawed down.

Plants that are not indigenous or native can become invasive and 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. The crew worked in Sycamore Park, the largest park in the Clermont county district, removing invasive plant species such as Amur honeysuckle (*Lonicera maackii*).



Dragging honeysuckle to woodchipper



Weeding in rain garden

For one day, the crew went to Clermont County's newest park, Shor Park. Amur honeysuckle (*Lonicera maackii*) was removed here a year ago and left in large piles to be taken care of later. The crew came in and, with assistance from a park employee, used a woodchipper to get rid of the piles. They also cut down honeysuckle along the trails and removed weeds from the park's rain garden.



Before



After

Furthermore, Amur honeysuckle (*Lonicera maackii*) shades 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 over 38,150ft² of invasive Amur honeysuckle (*Lonicera maackii*), Multiflora rose (*Rosa multiflora*), Russian olive (*Elaeagnus angustifolia*), Callery pear (*Pyrus calleryana*), and burning bush (*Euonymus alatus*).

Trail Maintenance and Water Mitigation



Trimming back trail.



Removed carsonite post.

The crew was also given multiple projects besides invasive removal to help maintain the trails and divert water off the trails as fast as possible. Along one side of a paved trail at Sycamore Park, an 800 ft long section of plant growth was trimmed back to allow for easier accessibility to hikers. Two stream banks were armored with rocks to help prevent bank erosion. Stepping stones

were added on multiple sections on the trails in areas that are commonly water logged creating a nuisance for hikers. One trail section was closed down by the crew because it was becoming a hazard for hikers due to its steepness. This also required two carsonite posts to be removed that had signs directing toward this trail section.



Stream bank armoring: before



Stream bank armoring: after



Stepping stones: before



Stepping stones: after

Water mitigation was the crew's biggest task in maintaining the trails since the hills in the park cause water to rush down on the trails and either erode the trails away or create water logged areas. Jim Meyer, Clermont County Trail Consultant, provided the crew with the necessary training to make and clean out water diversion ditches along the trails. Two small drain pipes were also removed with these ditches placed there instead since the pipes easily clogged up. The largest project was digging out one end of a large culvert and reinforcing its sides with rock armoring.



Diversion ditch: before



Diversion ditch: after



Dug out and armored culvert.

Debris Cleanup

Working in a highly visited park will unfortunately mean more trash in the park. The crew collected trash daily, always carrying a large trash bag to pick up debris along the way when going out on the trails for invasive removal. This not only improves the aesthetic appeal of the park, but can protect our waterways from rain potentially washing more litter downstream and depositing it along other stream banks, as well as protect local wildlife that may get stuck in or try to eat a piece of garbage. Fortunately, the crew did not come across as much litter as collected in previous years with only 20.5 lbs of debris collected suggesting that this is a well cared for park.

Education Days



Identifying macroinvertebrates.



Observing live mussels.



Posing with an electrofishing catch

To enrich the YCT experience, one day per week student crews worked with professors from area universities and Raptor experts. The student field scientists explored the connections between the habitat protection work they were performing and watershed ecology. For their first educational day, the students took a trip to the Thomas More College Biology Field Station on the Ohio River to see Professor Chris Lorentz. Here they learned about types of pollution, went electrofishing, operated a YSI (a water quality instrument capable of measuring multiple

parameters) to evaluate the water chemistry of the river, learned about the mussel life cycle, and learned about their ongoing Bluntnose Minnow study.



Learning about differences in raptor wings.



Packaging owl pellets.



Weeding.

The second week, the students took a trip to Raptor Inc. where their trip experience was a culmination of learning and working. Jackie Bray, the associate director, explained that the organization's purpose is to rescue and rehabilitate birds of prey and gave the crew a tour of their facilities and the birds they currently have housed. The crew was also given several projects to help the organization. One task was packaging owl pellets. Owls cannot digest the fur, bones, teeth, feathers, and insect shells from their prey. These parts are later spit up by the owl into a pellet. These pellets are a great educational tool that schools use for dissection. The crew ended up packaging 132 owl pellets.



Pollinator garden: before



Pollinator garden: after



Mulching: before



Mulching: after

The other projects the crew completed were planting a pollinator garden and weeding and mulching landscape areas. A pollinator garden is a great conservation practice due to widespread declines in pollinator diversity. The garden the crew planted included Butterfly milkweed (*Asclepias tuberosa*), Common milkweed (*Asclepias syriaca*), Lanceleaf coreopsis (*Coreopsis lanceolata*), Purple cornflower (*Echinacea purpurea*), and Mystic Illusion dahlia to attract local pollinators. Landscaped areas on the grounds were weeded and mulched for aesthetic reasons for when visitors come to see the birds of prey. In total, 32 Rose of Sharon (*Hibiscus syriacus*) were weeded and mulched.



Collecting macroinvertebrates



Testing conductivity



Experimenting with water evaporation.

The students also visited professor emeritus Mike Miller from University of Cincinnati at the UC Center for Field Studies for their last educational day. They experimented with many water chemistry parameters such as what affects the rate 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 previously collected from several local streams using water chemistry parameters. On site, students went in Dry Fork Creek where they caught macroinvertebrates and stream fish, and they observed how to assess stream health by its morphology through sediment erosion and deposition.

Thanks to everyone who made the 2017 Clermont County Youth Conservation Team season a resounding success!!

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ORF Youth Conservation Team Staff

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Student Crew

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