

Royal River Watershed



Youth Conservation Corps



2004 Summary Report



Thanks to everyone that helped make the Royal River YCC a success in 2004!



Program Funding and Support

Maine DEP
Casco Bay Estuary Project
Town of New Gloucester
Nine Wicket Foundation
Morton Kelly Charitable Trust

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Sabbathday Lake
Association

Introduction

The Royal River Youth Conservation Corps (RRYCC) finished its first season in August, 2004. This booklet showcases a diversity of the conservation projects that they completed. Their success has enabled us to continue the program in 2005, and possibly expand to two crews.

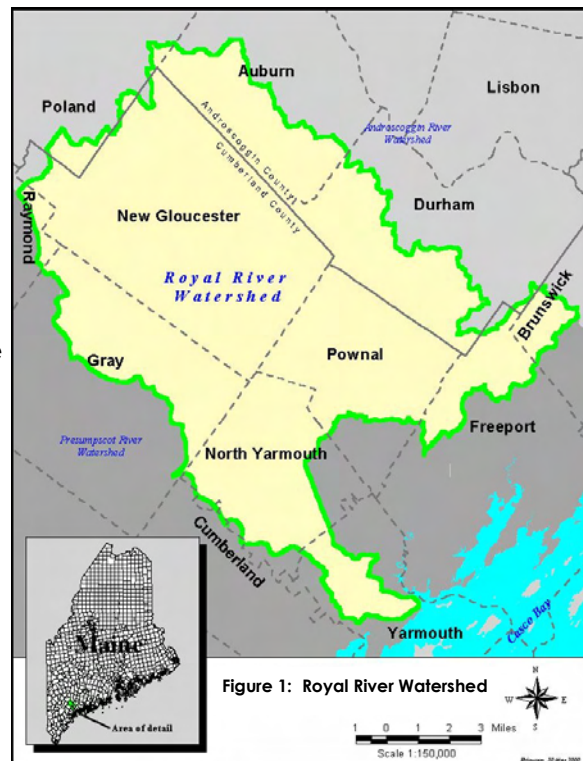
Why do we need a YCC in the Royal River Watershed?

- ◆ The Royal River Watershed and its beautiful natural resources are in jeopardy.

Polluted runoff is harming the scenic beauty, fish, recreational value, clam flats and other critical features of the system. The Royal River YCC was created in 2004 to start fixing these pollution problems within the watershed.

- ◆ The watershed is ready for coordinated on-the-ground action. Several local groups have completed studies and identified specific problem-areas that are perfect candidates for YCC assistance. Additionally, a diverse group of organizers have combined efforts to support and coordinate YCC activities in this region.

- ◆ YCC programs generate a myriad of benefits. The YCC model has been successfully adopted to protect and improve water quality on Sabbathday Lake and several other watersheds in Maine. YCC staff provide the community with free technical assistance, labor and education to help fix pollution problems throughout the watershed.



Organizers rave that a YCC is an effective tool for raising awareness, energizing communities and inspiring local youth to become environmental leaders.

Polluted Runoff: Referred to as “nonpoint source pollution” or NPS, includes road sand, soil, phosphorus, nitrogen, bacteria, debris and other pollutants washed into lakes and streams by water from rainstorms and snowmelt.

Accomplishments

In just seven weeks, a team of five local high school students, led by a crew leader and technical director, successfully completed over 20 erosion and pollution control projects in the Royal River Watershed. By the end of the summer they had:

- ◆ Planted 149 trees and shrubs
- ◆ Moved 45 cubic yards of mulch
- ◆ Hand-placed 25 cubic yards of rock
- ◆ Hand-dug 126 feet of ditches
- ◆ Removed 22 cubic yards of sediment from traps
- ◆ KEPT 18+ TONS OF SOIL OUT OF THE WATER



Summary of Conservation Practices Installed

<u>Type of Conservation Practice</u>	<u>Number Completed</u>
Buffer Planting	6
Infiltration Steps	30
Clean Settling Basin/Ditches	3
Shape/Re-seed Ditch	1
Erosion Control Mulch	4
Culvert Stabilization	4
Trail Stabilization	3
Water Bar/Water Diverter	4
Stone-Lined Turnout	5
Drywell	2
Roof Drip Drain (stone)	1
Storm Drain Stenciling	281
Total	344

Vegetative Buffers

Vegetative buffers are strips of natural vegetation bordering waterbodies that filter out sediment and polluted runoff before it enters the water.



This eroding slope was reinforced with shrubs and erosion control mulch, which acts as a sponge that absorbs water and excess nutrients.

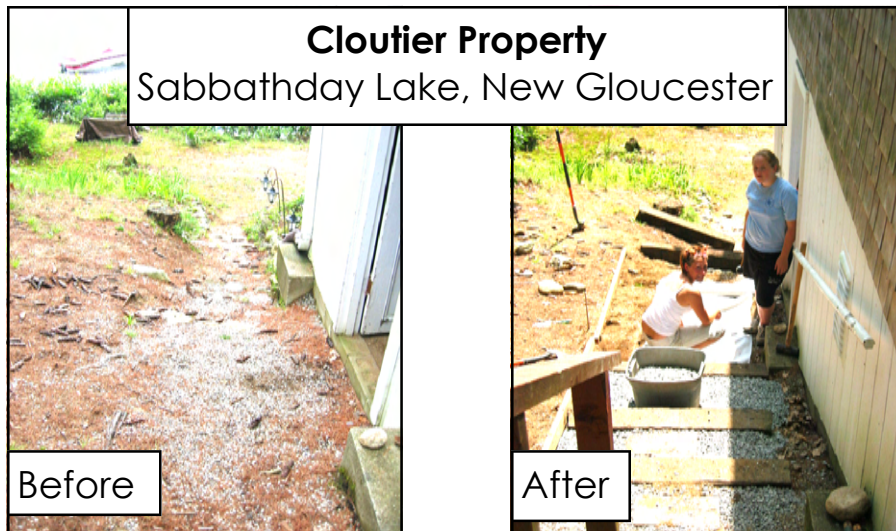


This expansive lawn and picnic area was allowing polluted water to flow uninterrupted into the lake. To remedy this, the YCC planted a long strip of vegetation to filter out impurities and prevent further erosion of the slope.

Buffers that contain mixed root systems of trees, shrubs and groundcovers reduce erosion by stabilizing the soil and reducing the rate of water flow directly into the system.

Infiltration Structures

Infiltration structures prevent erosion by helping runoff filter into the ground. *Infiltration steps* typically consist of timber steps that are back-filled with crushed stone. *Roof drip trenches* and *drywells* capture roof runoff in stone-filled trenches either at gutter downspouts or along driplines if gutters are absent.



These infiltration steps were built to minimize erosion along the slope by slowing the flow of water and by collecting eroding sediment.

Miller Residence
Crystal Lake, Gray



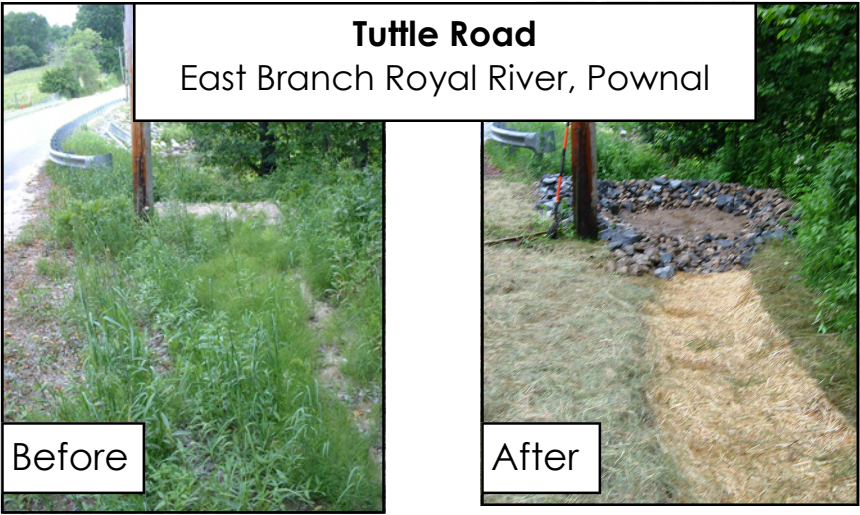
Simpson Residence
Sabbathday Lake, New Gloucester



The Royal River YCC hand-dug a three-foot deep drywell on Crystal Lake and a long dripline trench on Sabbathday Lake. Both structures were filled with crushed stone to facilitate the filtering of roof runoff.

Sediment Basins and Ditches

Sediment basins help collect and store a large volume of water from roads and ditches. The water ponds in the basins, sediment settles out, and the cleaned water percolates into the ground. The accumulated sediment needs to be removed periodically so the basins function properly. *Ditches* should be U-shaped and armored with grass and stone.



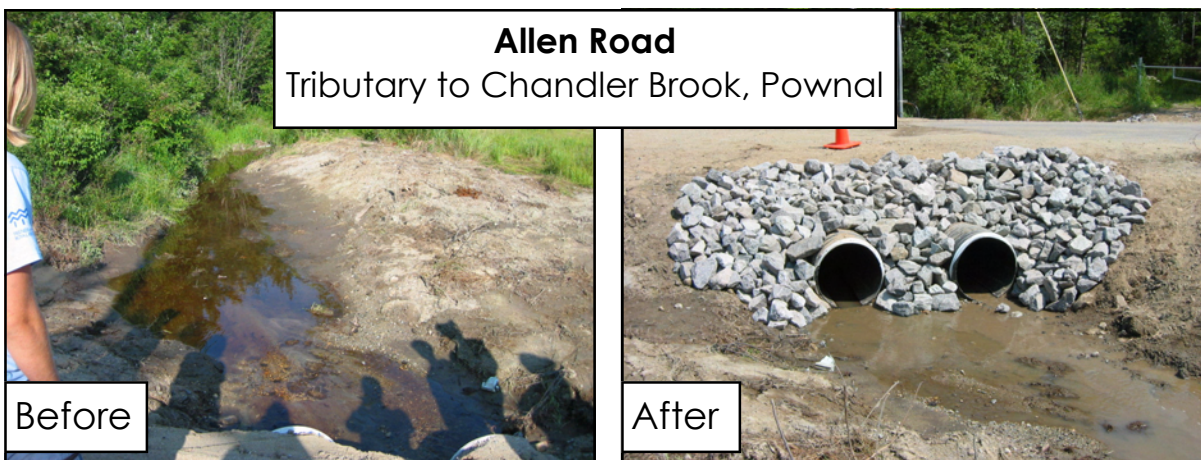
At this location, the YCC removed 12 cubic yards of sediment from an existing structure , and reestablished the boundaries of the failing basin with rock.



Additionally, they reshaped this roadside ditch and re-seeded it using grass seed and a Curlex wood-fiber erosion control mat.

Culvert Stabilizations

Many stream crossings are especially sensitive to erosion and require significant upkeep to ensure proper stream flow.



At both of these stream crossings, the RRYCC cleared blocked culverts, re-seeded unvegetated areas, and reinforced exposed culverts with 3 cubic yards of rip-rap stone.

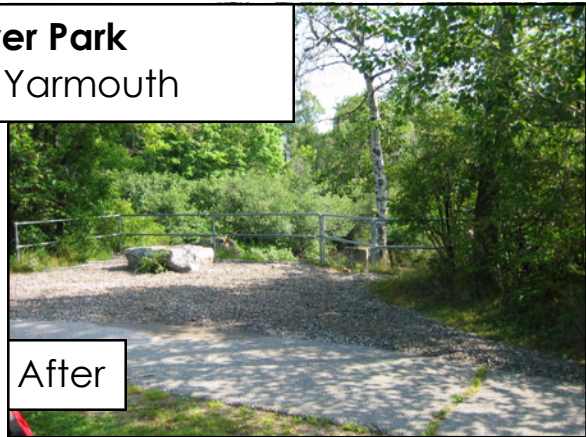
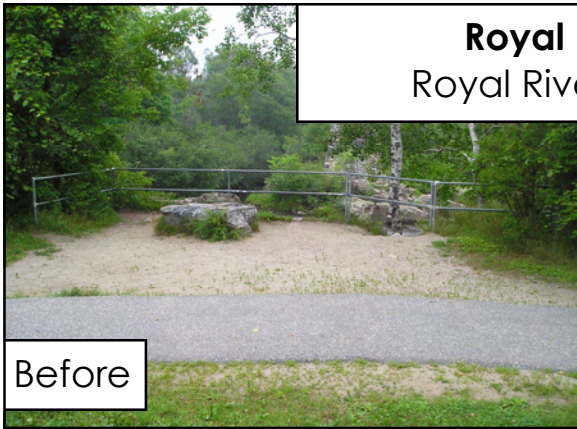


Culvert inlets and outlets should be stabilized with rock rip-rap, and the culverts themselves kept clear of debris. Also, stone plunge pools can be placed below the culvert to prevent erosion.

Trail Stabilizations

Paved or compacted trails prohibit water absorption and increase water flow into adjacent lakes and streams.

Royal River Park Royal River, Yarmouth



Downslope of these paved regions, the RRYCC filled sandy picnic areas and turn-outs with crushed stone. This will help trap sediment and encourage water filtration.



Storm Drain Stenciling

Storm drains collect storm water runoff containing soil, fertilizer, manure, and other toxic substances and debris. This water flows unfiltered into our lakes, streams and eventually the ocean. Stenciling storm drains with a clean water message is an effective way to discourage dumping, increase community awareness, and educate the public about the direct connection between polluted runoff, storm drains, and water quality.



The Royal River YCC stenciled 281 storm drains in two days at a variety of locations in Yarmouth. A water-based, latex paint was used to stencil messages including, "Protect Your Water...Don't Dump," and, "No Dumping...Leads to Stream."



FRIENDS OF THE
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