

Northern Waterthrush
Parkesia novaboracensis

CRYSTAL CREEK RESTORATION PROJECT

Green Darner
Anax junius



Improving Water Quality and Aquatic Habitat within Crystal Creek Watershed



Illinois Chorus Frog
Pseudacris illinoensis



American Toad
Anaxyrus americanus



Blanding's Turtle
Emydoidea blandingii



Common Snapping Turtle
Chelydra serpentina



Orangethroat Darter
Etheostoma spectabile

WHAT IS ROCK PROTECTION AND WHY ARE THE STREAMBANKS RE-SHAPED?

Outside bends of meandering streams receive the strongest flows following significant rain events in urban areas. Without protection, these flows cause the streambanks to erode. Stone, made up of natural rock, is placed in these areas to stabilize the bank and prevent erosion.

Streambank re-shaping, from a steep slope to a more gentle grade, creates floodplain and allows for planting with deep-rooted native vegetation. Native plants hold the soil in place as water levels rise and velocity increases.



Natural rock is used to stabilize eroded streambanks



This restored portion of Crystal Creek mimics the natural conditions that existed prior to the stream being relocated and channelized in the 1960s. Ecological restoration projects create green infrastructure connections that improve water quality, reduce flooding, make the ecosystem more resilient, and restore biological diversity.

Funding for this project provided, in part, by the Illinois Environmental Protection Agency through Section 319 of the Clean Water Act. Grant #3192308

LAKE IN THE HILLS SANITARY DISTRICT

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

Baxter&Woodman Natural Resources

WHAT ARE RIFFLES AND HOW DO THEY BENEFIT A STREAM?

Riffles are features in a stream where water is shallow and fast flowing over a substrate of rock and gravel. Riffles provide multiple benefits: they reduce streambank erosion by focusing the flow of water to the center of the channel, increase oxygen levels as water flows over the rocks and becomes aerated, provide fish and aquatic insect habitat, and help create deeper pools on the downstream end.



Constructed riffles providing habitat and oxygenating the water



Mallard Duck
Anas platyrhynchos

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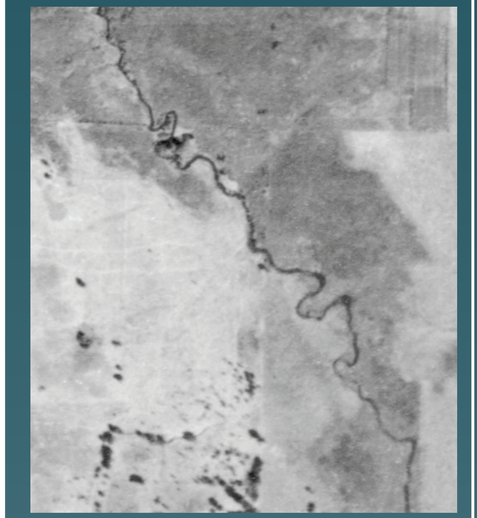
Monarch
Danaus plexippus

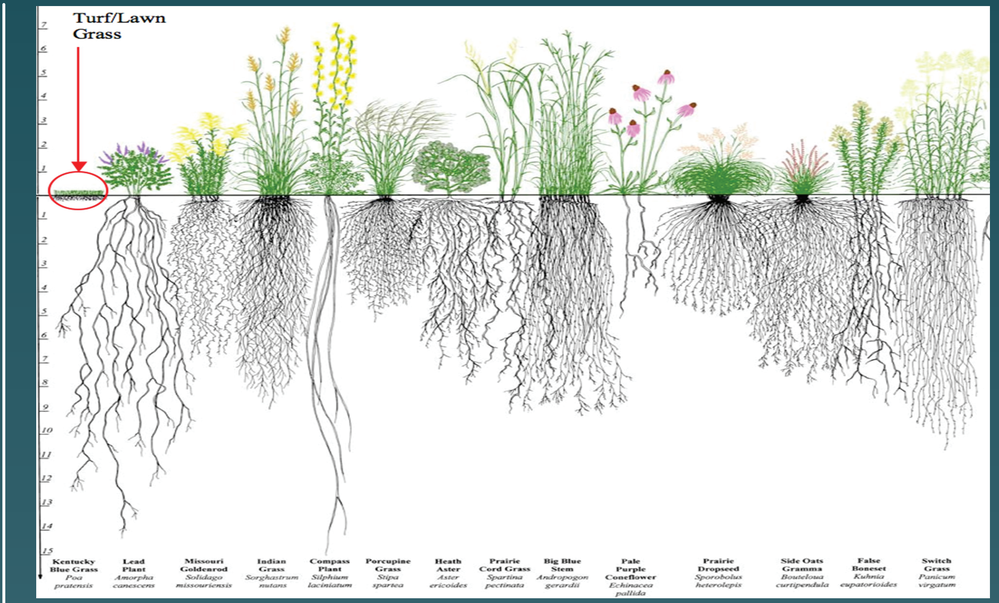
Restoring Ecological Health within Crystal Creek Watershed

RESTORING THE LAND

Ecological restoration is the process whereby ecologists investigate the historic native plant communities that once occupied a site and use this information to restore ecological health to the land. The area comprising Crystal Creek was historically nearly absent of trees and consisted primarily of prairie and meandering stream corridor.



Historical 1930s aerial of project site



Native plants have deep root systems which hold soil in place, promote water infiltration, protect water quality, provide pollinator habitat, and require little maintenance.
Turf grass, on the other hand, has very shallow roots, needs to be mowed and fertilized, and does not benefit the ecosystem.

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POLLINATOR HABITAT

Each picture showcases a pollinator on a native flower you may see in this ecological restoration.



ATTRACTING POLLINATORS

Local pollinators such as bees, birds, butterflies, and moths evolved alongside native plants and have formed a symbiotic relationship. This means that the plants and pollinators benefit from each other. For example, milkweeds bloom in mid-summer at the time when adult monarchs are looking to lay their eggs. This is important because milkweeds are the only plants monarch caterpillars eat. In turn, the milkweeds get pollinated.









LONG TERM STEWARDSHIP

This restored ecosystem will be managed long term by selectively controlling invasive species, occasionally removing weedy trees and shrubs, and by implementing prescribed burns.