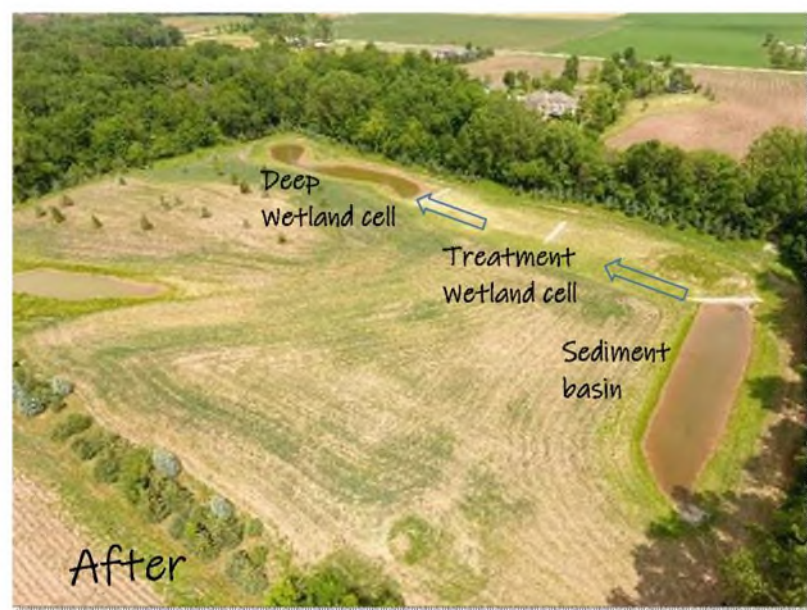


# Agricultural Runoff Treatment Systems (ARTS)



## Cooperating Partners



Wes Kotila  
Engineering Technician  
Outagamie County LCD

In the fall of 2020, Outagamie County Land Conservation Department provided assistance to a private landowner with the construction of a treatment wetland complex in the West Plum Creek watershed. The site started as an active farm field which was converted to a combination of sediment basins, wetland cells, and upland native plantings. These systems are being referred to as ARTS (Agricultural Runoff Treatment Systems). Plum Creek is an extremely flashy system where the water level can rise several feet very quickly after storm events. The intent of this project is to divert excessive runoff from the stream corridor into the complex. The project was possible by utilizing a combination of funds provided by GLRI (Great Lakes Restoration Initiative) through Fox-Wolf Watershed Alliance, The Nature Conservancy, and landowner contributions.

The treatment occurs through multiple cells that work in tandem to promote wetland vegetation along with accumulating sediment. Water from the stream is diverted into the system through an 8" pipe. The first phase of treatment is a sediment basin that is approximately  $\frac{1}{2}$  acre in size. After the coarser sediment has settled, the water flows through a 1-acre treatment wetland cell; further reducing sediment as well as promoting wetland plant growth. Lastly, the water flows to a deep wetland cell for further settling and water quality improvement. The site was planted with a seeding mixture of native grasses, forbs, and wildflowers that were provided by the U.S. Fish and Wildlife Services.

The project is an innovative practice that combines water storage with nutrient reductions that could be a staple in future conservation work. Along with the stated benefits to the watershed, this site should be a great location to give tours and educate interested parties on the benefits of agricultural runoff treatment systems. - *Wes Kotila*