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Ecological Restoration in the Plaster Creek Watershed

The Plaster Creek watershed is the area of land starting in Dutton and stretching to south Grand Rapids that drains to Plaster Creek. Historically, Plaster Creek was a natural beauty and even an area of high spirituality for the Native Americans. However, over the past one hundred years Plaster Creek has become extremely polluted and abused. The main threats that face the creek now come from the diverse land use throughout the watershed. Within the watershed there is agricultural land, residential land, and commercial use land. This leads to five types of major pollution in the watershed: sediment, bacterial contamination, nutrient pollution, thermal pollution, and toxic contamination. All of the pollution problems are enhanced during a large rain. When it rains in the watershed all the pollution sources collect on impermeable surfaces and run straight into the creek. Plaster Creek Stewards has begun to focus on the control of rainwater runoff to help lower the effect of these pollutants on the creek.

Plaster Creek Stewards main method of storm water management is the construction and maintenance of rain gardens. Rain gardens are designed to capture rain runoff and have it soak into the ground instead of having it flow into storm drains. A rain garden consists of a rock channel that leads to a basin. The rocks help slow down the water as it flows into the basin. In the basin, the water begins to soak into the ground. In addition, the gardens are planted with native plants that have deep roots. The deep roots help soak up and hold rain water. Moreover, the native plants help promote larger native biodiversity in a more urban and developed area.

My job this summer has covered all the steps in implementing rain gardens and native plantings. It begins with greenhouse work: transplanting young plants and maintaining the Plaster Creek Stewards greenhouse. Next, I have worked on finding sites for grant funded curb cut rain gardens. These gardens are constructed in the city owned land between roads and sidewalks and have a cut in the curb to allow water to be collected off the roads. Because they are on city owned land, they must be approved locations by the city. Once potential sites are found, Plaster Creek Stewards works with the homeowners to design and plant a rain garden. I have been involved in the planting of six curb cut rain gardens this summer with six more scheduled for the remainder of the summer. I have also been involved in the construction of rain gardens at an ICCF home site and private homes. Another aspect, of the job, is maintaining previously planted gardens. Plaster Creek Stewards will weed and replant previously planted rain gardens and native plantings.

In addition to the hands on construction and maintenance portion of the job there is a research component. I have helped in collecting data on last years curb cut gardens, so that Plaster Creek Stewards can see what plants and designs are working well after a year. One early finding from that is that compost in the gardens promote plant health and we have started using compost in all new gardens.

By working for Plaster Creek Stewards this summer, I have learned how to grow and manage plants. I have learned how to implement responsible land use while creating a new aesthetic to landscaping. I have also learned how to begin the discussion of environmental care and responsibility within the community. Most importantly, I have seen how to be a responsible steward of God's creation.

