

## **INTERIM REPORT** January 1 through December 31, 2016 (year 1 of 2)

Project Title: Save Maumee Riparian Buffer Initiative - INDIANA Report Submission Date: January 16, 2017 Reporting Period: January 1, 2016 through December 31, 2016 Project Funder: U.S. Forest Service through GLRI Grant CFDA Urban Community Forestry Program Funding Opportunity # 16-DG-11420004-034 Great Lakes Restoration Initiative # EPA-R5-GL2015-UWM Grant Recipient Contact / Manager : Abigail King, Save Maumee Grassroots Organization Inc., Vice President Phone: 260-417-2500 Email: savemaumee@yahoo.com DUNS: # 056074692 EIN: # 46-4159838

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#### Save Maumee Detailed Budget

Federal Funds Requested: \$50,417.00 Other Resources Projected: \$8,586.00

Projected Project Total: \$59,903.00

### Breakdown 2016 FEDERAL FUNDS DISTRIBUTED: \$25,770.00 2016 MATCH OF OTHER RESOURCES PROVIDED: \$ 26,866.00

**Project Total Value of 2016: \$52,636.** 

#### TOTAL Supplies: \$ 15,006.

*Trees: watering equipment, invasive control \$12,432. Equipment rental: chainsaw personnel, chipper \$2,157. Small Supplies: shovels, gloves \$417.* 

#### TOTAL Personnel: \$ 8,384.48

*Paid Labor, Abigail King, Manager: Planning/Recruiting, Labor, Maintenance Planning/Recruiting and Maintenance hours billed \$21.56/ hour, Labor Hours billed \$20/hour billed \$21.56/hour billed \$20/hour bill* 

#### TOTAL Contractual: \$2,379

Site Design: \$ 1,800 Associated site design: \$579 paid to Personnel Manager to assist

#### TOTAL Match Other Resources: \$26,866

1,184 hours of volunteer labor: \$25,598 Native Species Seed Match :\$1,268 \*all future volunteer hours will be reported on next grant RBI II

REMAINING BALANCE OF FEDERAL FUNDS TO BE REQUESTED IN 2017: \$24,647

# Prepared and completed 4 (of 6) project areas in 2016

# As Narrative Stated:

#### 1st quarter January 1, 2016 - March 31, 2016

- Prepare for 2 of 6 project areas for Bullerman Ditch
  - Contract Earth Source for 2 site consultations
  - Purchase 380 trees + plants
  - Purchase work site equipment
  - Onsite preparation for two work site locations
- Retain volunteer commitment for 2nd & 3rd quarter labor

#### 2nd quarter April 1, 2016 - June 30, 2016

- Confirm volunteer commitment for 2nd & 3rd quarter labor
- Complete site prep. for two Bullerman worksite locations
- Install two Bullerman Ditch locations for a total of 1,000 linear feet of riparian buffer
- Complete any necessary details for completion for two of the six planned locations
- Secure sites at two additional locations
- Contract Earth Source for (at least) one site location in Six Mile Creek
- Purchase trees and plants for (at least) one of the two Six Mile Creek locations

#### 3rd quarter July 1, 2016 - September 30, 2016

- Complete site preparation for two Six Mile worksite locations
- · Purchase of trees and plants for Six Mile worksite locations
- Installation of (at least) one (or) of two of the Six Mile worksite locations
  - 600 linear feet per Six Mile Creek project, and 230 trees per project location
- Seek sites for two additional locations
- Complete any necessary details for completion of (at least) three (or four) of the 6 project areas

#### 4th quarter October 1, 2016 - December 31, 2016

- · Continued inspection and maintenance on all previous worksites
- Prepare for locations 5 & 6
- Retain volunteer commitment for 3rd & 4th quarter

# April 17, 2016 installation COMPLETE Bullerman Ditch Subwatershed Project Area 380 Trees installed, including 13 tree species



Installed over 1,000 linear feet of riparian buffer, with a width no less than 25 feet, yielding approximately .573 acre of added forest along one of the (three) most critical areas of the Upper Maumee River's sub-watersheds, due to **lack of riparian buffers**, urban land-use, CSO's and septic tank failures.



- These added 380 trees will capture 22,440 gallons of water / year to reduce flooding elsewhere
- Sediment load reduction to yield 190 tons of soil retained / year
- Nitrogen load reduction to yield 320 pounds / year
- Phosphorus load reduction to yield 320 pounds / year
- Over 700 volunteer hours were logged, by over 268 volunteers for this site \*Preparation of site included removal of over 800 Asian Honeysuckle bushes

# Save Maumee Riparian Buffer Initiative - Interim Report 2016

**Bullerman Ditch (HUC12: 041000050102)** All 380 trees were planted at Save Maumee's 11th Annual Earth Day, on April 17, 2016, with the invasive removal beginning previous to the tree planting. Save Maumee's Annual Earth Day is the largest attended event with 261 volunteers planting all the trees and logging 526 hours on this day alone. More information and media coverage regarding Earth Day & this specific project:

The entire project area for Bullerman is over 1,000 linear feet by at least 20 feet wide, with majority of areas over 25 feet wide, and an approximate, 22,000 square feet of added riparian buffer, yielding .574 acre of additional forested corridor along the Maumee River Bullerman Sub-watershed. The site appears larger due to 3 power poles along easements across the river, that received no planted trees.

Location: PARCEL NUMBER 02-13-06-326-001.000-074 via Allen County Tax Assessors Office, Indiana GIS (accessed January 8, 2016), Brian Schaper, land owner. The location of the project is adjacent to the improved lot, 800 Glasgow Ave., Fort Wayne, IN 46803 is a Brownfield site, which is adjacent to, and takes on groundwater and runoff from, the brownfield site. Riparian Buffer Initiative tree planting was directly adjacent to, and accepts water from, the brownfield site "above" Save Maumee's project areas 1 & 2 in Bullerman Ditch. The Riparian Buffer Initiative Bullerman Site will be taken over in eminent domain for the Allen County Board of Public Works Tunnel Project, which is part of Fort Wayne's Long Term Control Plan to separate the sewers. Project Lead Fort Wayne City Utilities Planning and Design Services, Kelly Bajic P.E., informed me on January 9, 2017 that eminent domain will take this site, but their project is sensitive to the new trees and have flagged them and know they are there.

"The trees have been tagged, DO NOT REMOVE. It is not guaranteed they will not be damaged, but we are sensitive to the trees and will work to not disturb." -Kelly Bajic

To prep the site: Activities included removal of approximately 800 invasive Asian Honeysuckle species and minimal site disturbance in preparation for planting, with the goal of creating riparian areas with >70 percent canopy coverage.

Problems: The trees suffered from drought, even with the watering schedule. Our area received zero precipitation from April 23 to mid-June two day-in-a row rain event and then zero precipitation to understory canopy trees until mid-July. Beavers are also present and have eaten over 25 trees.



# 3 Day October Tree Planting 2016 COMPLETE Six Mile Creek Subwatershed Project Area 460 Trees installed, including 13 tree species

We need you to help us to install 1,200 linear feet of riparian buffer, with a width no less than 25 feet, yielding approximately .68 acre of added forest along one of the (three) most degraded sub-watersheds to the Upper Maumee River. This is a priority area due to **lack of riverbank buffers**, urban land-use, impaired biotic communities, PCB's, CSO's, septic tank failures, DRP, sediment and exceeding Total Suspended Solids 100% of the time. \*TSS is soil and all pollutants carried with that sediment.



- These added 460 trees will capture 27,140 gallons of water / year to reduce flooding elsewhere
- Sediment load reduction to yield 216 tons of soil retained / year
- Nitrogen load reduction to yield 384 pounds / year
- Phosphorus load reduction to yield 228 pounds / year
- Over 457 hours were logged by over 50 volunteers
- \*Preparation of site included invasive removal of 1,000+ Asian Honeysuckle & 100+ Autumn Olive

**Six Mile Creek - (HUC12: 041000050103)** All 460 trees were planted at Save Maumee's 3 Day Tree Planting October 21, 22, 23rd, with the invasive removal beginning previous to the tree planting. During the three days of tree planting alone, volunteers logged 289.5 hours.

The entire project area for Six Mile Creek is over 1,200 linear feet by at least 20 feet wide, with majority of areas over 25 feet wide, and an approximate, 30,000 square feet of added riparian buffer, yielding .689 acre of additional forested corridor along the Koester Drain that lies within Six Mile Creek Sub-watershed. We had the man-power and trees to complete a larger area than the grant required.

LOCATION: 10930 Stellhorn Rd., New Haven, IN 46774, owned by Andrea Cole. Accommodations were made with Carolyn Cole, adjacent stream owner, for property use. To prep the site: Activities included removal of over 1,000 invasive Asian Honeysuckle and 100 Autumn Olive species with minimal site disturbance in preparation for planting, with the goal of creating woody wetlands and riparian areas with >60 percent canopy coverage of riparian area within 3 years.

### Problems: None with the project itself.

Disappointment is felt with the lack of participation by Allen County Commissioners and Allen County Drainage Board, as they continue to indiscriminately remove all vegetation on both sides of stream banks within the entire Maumee Basin portion that lies in Allen County, Indiana. Lack of communication between government entities continues to drive deforestation along waterways.

Please note, current research indicates control of invasive plants with retention of native trees and vegetation would benefit ALL areas within our projects' boundaries. Selective choice of natives to preserve, while identifying and removing exotic invasive would be most beneficial; even more beneficial than only planting trees, without removing invasives.

**Natives** - desirable and present previous to European decent and should be protected. **Aggressive** - present previous to European decent, but will aggressively outcompete other more particular native species and not necessarily desirable, but not invasive. **Naturalized** - probably not present to European decent, and have the potential to eventually be invasive in the future, but are not considered invasive and currently have beneficial qualities present.

*Exotic* - not present previous to European decent and human activity has moved the species from its indigenous place of orientation.

*Invasive* - almost always not present previous to European decent, but NOT desirable and SHOULD be removed in that area as common practice to land management.

**Trier Ditch - (HUC12: 041000050101)** All 550 trees are scheduled to be planted at Save Maumee's 12th Annual Earth Day on April 22, 2017. Specific location has not been determined, but maps created have narrowed down ideal site locations. A partnership has been established with City of New Haven, Parks and Recreation Department. Partnership meetings have occurred with New Haven Parks & Rec, Superintendent Mike Clendenen and Recreation Director, Anna Gurney and Fort Wayne Urban League Director of Urban Youth Empowerment Program Royal Jordan II and Principal Planner/Finance and Grant Manager at Northeastern Indiana Regional Coordinating Council (NIRC), Kyle Quandt. New Haven will provide equipment and volunteers with the invasive removal that will begin in April, previous to the tree planting. Urban League has dedicated youth volunteers hours to the project and NIRC plans to promote.

# Currently Seeking our Largest Area for Restoration scheduled for planting at Save Maumee's 12th Annual Earth Day on April 22, 2017 Trier Ditch Subwatershed 550 Trees to be planted for this project Planning to install over 1,400 linear feet of riparian buffer, with a width no less than 20 feet, will yield approximately .8 acre of additional forest. Degraded status: Priority 1 due to lack of riparian buffers, urban land-use, CSO's, septic tank failures, Dissolved Reactive Phosphorus (DRP) and sediment. Trier Ditch Legend SubWatershed SWCD Sample Si Roads Populated Area 041000050101 County Line UM WMP pg 102 with additional Rohrbach Rd road enhansements Adding 550 trees would capture 32,450 gallons of water / year to reduce flooding elsewhere

- Sediment load reduction to yield 253.43 tons of soil retained / year
- Nitrogen load reduction to yield 426.66 pounds / year
- Phosphorus load reduction to yield 253.32 pounds / year
- · Gain resident volunteer participation in reforestation efforts



More information and reference narratives and maps found here: <u>http://savemaumee.org/save-maumee-riparian-buffer-initiative/</u>

# Chemical Decisions to remove Asian Honeysuckle & Autumn Olive

via Chemical removal after cutting to a stump.

Abigail King suggested pulling the invasives out, but recommendation was, "do not disturb the soil next to waterways that much."

Glyphosate (RoundUp) was recommended by Heartland Restoration / Earth Source Inc., in the form of the commercial product Rodeo, because it is a water labeled herbicide and the only one approved for in-water use by the DNR. This product did not touch the water for neither the Bullerman nor the Six Mile Creek projects.

"Rodeo has no soil activity, meaning that it will not move and kill other plant life, it becomes inert when soil contact occurs." Even though it is water soluble, warnings were to "beware of exposure...that is nasty stuff and you do not want it on your skin. Add pond dye to the chemical so you are able to tell which plants have been applied with product and do not cut the product with water, use at full strength."

Save Maumee purchased a different manufacture brand AquaNeat, because Matt (chemical specialist) from Ag. Plus with the same chemical contents as Rodeo (Monsanto brand). We purchased,

"AquaNeat because it works just as well as Rodeo if you are killing Asian Honeysuckle in the Spring, please use full strength if you want to kill future growth. If you are killing Asian Honeysuckle in the Fall, use Path Finder and spray it on the green leaves, because it contains a surfactant that sticks to the leaves. In the Spring, the sap is flowing up, so it is more difficult to make the chemical soak into the stump because the plant is pushing forth for Spring. In the Fall the plant is pulling energy back down into the root, so the chemical is more effective in a watered down state."

#### Aqua Neat - Nufarm

EPA REG. NO.	228-365
ACTIVE INGR.	glyphosate (53.8%)
FORMULATION	liquid
CHEM. FAMILY	glycine derivative
GROUP NUMBER	9
SIGNAL WORD	caution
RESTRICTED	no
PACKAGE SIZE	2 x 2.5 gal, 30 gal
	Neufarm.com
KEY USES	accessed 5/15/2016
Aquatic sites (industrial, recreational and public	
areas), wildlife habitat restoration and	
management areas	

*Ag. Plus' other suggestions:* 

Do not prefer AquaNeat for Fall application & prefer the following for Fall Applications Garlon 4 - Dow Product, spray on stem 3-4 inches above

PathFinder II - expensive but effective - \$151.00 for 2.5 gallon jug Triclopyr - oil based chemistry. Different formulations and how to attack a specific problem

AquaNeat (and Rodeo), according to Ricky Kemry, IPFW Purdue Extension Office, said "these products do not contain a non-ionic surfactant." "Plants are becoming resistant to Glyphosate."

### TREE RECOMMENDATIONS

Of the recommended tree species, we were unable to acquire Ash-Leaved-Maple for the Spring project deadline of April 17.

Heartland Restoration, upon further inquiry, said we "do not need erosion control mats because the trees will root out and hold trees in place. Flooding could pull out the erosion control mat out, and take the trees with it." All agencies agreed on seasoned mulch to place around the trees.

Recommendations on planting trees on a violent riverbank (i.e. don't dig the hole larger than the pot's size that it came in, unless the soil is clay). Secure the soil without airpockets and without tamping the roots. Recommendations were made about fascines (Black Willow & Crack Willow), but no action taken to date.

How to Water the Trees:

Meetings with engineer volunteers from our group came up with hooking a sump pump to a marine battery. The pump was placed in a canoe and we used DC kilowatts to amps calculation formula. Watts = Amps x Volts

The current in amps is equal to 1000 times the power P in kilowatts, divided by the voltage V in volts. So amps are equal to 1000 times kilowatts divided by volts:  $I(A) = 1000 \times P(kW) / V(V)$  Interim Report

### The Consent Decree and LTCP for the CSO in Ft. Wayne dates back to 2007/2008

and therefore before the EPA began recognizing and encouraging <u>Green Infrastructure</u> in LTCPs as a lower-cost, lower-maintenance, scalable, climate-resilient (and therefore more effective) solution to CSOs and stormwater generally: https://www.epa.gov/sites/ production/files/2015-10/documents/greening\_cso\_plans\_0.pdf. The LTCP for Ft. Wayne did not even appear to explore Green Infrastructure or source-controls generally. In addition to the focus on just tunnels and ponds back then, part of the resistance elsewhere was linked to public-engagement, as green infrastructure solutions typically require more public buy-in, planning, and ownership than your typical sewer district focused on known and reliable tunnels and pipes may want to engage. This requires a shift on the engagement spectrum from informing to delegating that many in government struggle with, as it represents a loss of direct control without a transfer of accountability. Hybrid strategies are more common, with some level of tunnel capacity reduction more plausible due to capture and avoidance with green infrastructure. Either way, these documents are living and subject to review and update, so working with stormwater entity provides good opportunities to conduct a review and incorporate more GI in the plan (which can be anytime). This incident may in fact trigger a teachable moment that can bring Save Maumee in closer relationship with GI planning and implementation and CSO reduction that ultimately benefits both organizations and the broader community. Need is present to connect to EPA contacts on the State level.

Several cities were at the forefront of testing this implementation in the 2010-2012 time period that led to the publication below, among them were <u>Northeast Ohio</u> and <u>DC Water</u>. Jeremy Peichel, U.S. Forest Service reviewed and offered policy analysis on the DC water plan in an engineering course at Maryland, for addressing additional questions.

Linked below are the Urban Watershed Forestry Manuals. Part 1: https://www.na.fs.fed.us/pubs/uf/watershed1/ urban\_watershed\_forestry\_manual\_part1.pdf Part 2: http://na.fs.fed.us/pubs/uf/watershed2/ urban\_watershed\_forestry\_manual\_part2.pdf Part 3: http://www.na.fs.fed.us/pubs/uf/watershed3/ urban\_watershed\_forestry\_manual\_part3.pdf