

FINAL REPORT

Save Maumee Riparian Buffer Initiative II (RBI II) (blended with RBI I)

Reporting Period: January 1, 2017 through December 31, 2018 (ending year 2 of 2)

Report Submitted: January 10, 2019

Recipient Account Number : G42692096002



Riparian Buffer Initiative II COMPLETED (Jan 1, 2017-November 25, 2018)

Riparian Buffer Initiative I COMPLETED (Jan 1, 2016-April 2017)

RBI I: SPXFDS15 continuing grant through RBI II #: SPXF6U16

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 Manager : Abigail King, Save Maumee Grassroots Organization Inc., President

Phone: 260-417-2500

USDA Forest Service Oversight by Jeremy Peichel (2016-November 2018)

USDA Forest Service Oversight by Donna Marie Foster (November 2018-December 31, 2018)

***all receipts and hard-copy volunteer signature sheets are available**

***the volunteer workload is the success story of the Riparian Buffer Initiative**

All projects are COMPLETED within budget and schedule (6 of 6 projects).

More information, reference narratives, maps and required signage found here:

<http://savemaumee.org/save-maumee-riparian-buffer-initiative/>

- 1) Sept.-Dec. 2018 Check and maintained trees for proper growth and removal of competitive vegetation growth near the trees. Replanted any trees with “shallow roots” and removed invasive species with contractual labor and volunteers. Estimated tree mortality rate at each site.
- 2) Sept-Dec 2018 Ordered and installed large replacement trees at all sites, between 5 gallon to 18’ knit bag 2” to help compete with aggressive/invasive near the newly planted trees. Chose shade tolerant DNR approved native trees. <http://savemaumee.org/tree-selection-for-save-maumee-riparian-buffer-initiative/>
- 3) Sept.-Dec. 2018 Created, ordered and installed three large site signs (Heatherwood, Moser, Deetz). Other sites did not receive physical signs because two sites are on private property

and one site was taken in eminent domain for Fort Wayne Tunnel Project for the Long Term Control Plan. More signage found here: <http://savemaumee.org/save-maumee-riparian-buffer-initiative/>

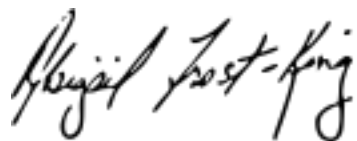
Tree Conditions: Fatality of trees were estimated at a 10% loss after five (5 of 6) project sites had trees replaced. Estimated living trees after replacement planting is remaining trees. One site's (almost all 380) trees, were destroyed due to eminent domain land acquisition, but approximately 40 trees remain in tact. Many trees had been browsed by deer/mice/beavers and will benefit from casings around future trees. Some did not travel well from the nursery, others were planted poorly by volunteers or without proper light, some were taken or destroyed by rising flood "flashy" conditions. Most of these floodway areas are violent. Precipitation was higher than average in 2018, occurring on regular intervals so overgrowth occurred in the most disturbed soil this year. Disturbed soil was due to removal of historic trash and removal of invasive species. Grant recipient manager is working to secure volunteers to continue to assist tree maintenance beyond this requirement of 2019. <http://savemaumee.org/tree-selection-for-save-maumee-riparian-buffer-initiative/>

Please note that invasive species continue to be a problem in all areas encountered thus far. Invasive species & growth around the trees remain the #1 cost and time consuming portion of our land management techniques at all Save Maumee Riparian Buffer Initiative sites. Everyone wants to plant a tree, but selective invasive removal is more difficult. Good seasonal rain was plentiful for these plants to thrive.

Full engagement and cooperation with Allen County (Indiana) Surveyors Office and the Allen County Drainage Board for current and future projects like this one. Allen County Drainage Board cooperating with our project plantings on one side of legal drains and ditches, which lie within the Upper Maumee Watershed in Allen County, has been an added benefit to streams served by the Riparian Buffer Initiative. Other partners include East Allen Community Schools, New Haven High School, Indiana Institute of Technology, New Haven-Adams Township Parks and Recreation, Upper Maumee Watershed Partnership, Tri-State Alliance and local colleges have provided advertising and volunteers.

Thank you for time in assessing our project. Should you need any more information, please do not hesitate to contact me.

Respectfully submitted by,



This research was conducted in cooperation with the USDA Forest Service. Grant recipients of the USDA Forest Service and EPA have responsibilities to conduct their programs according to USDA's nondiscrimination policy. Save Maumee, the USDA and the EPA are equal opportunity providers, employers and lenders. Full Civil Rights Disclosure here: <http://savemaumee.org/civil-rights-nondiscriminatory-policy/>

Riparian Buffer Initiative (RBI II) Final Reporting 01/01/17- 12/31/2018

DETAILED BUDGET for RIPARIAN BUFFER INITIATIVE II		COMPLETED
Federal Funds Available & Expended:		\$91,857.90
Required Other Resources nonfederal match:		\$28,064.40
Required Projected Project Total:		\$119,922.30
ACTUAL VALUE OF RBI II, Jan 1, 2017 - December 31, 2018:		\$165,259.91
FEDERAL FUNDS REIMBURSEMENT TOTAL:		\$91,857.90
	2018	\$45,271.78
	2017	\$46,586.12
OTHER RESOURCES TOTAL nonfederal match:		\$73,402.01
2018		\$26,585.02
2017		\$46,816.99

Previous Reimbursements Itemized

January 1, 2017-March 27, 2017 (RBI 1 & RBI II) =\$14,472.13

USDA Invoice #1 (March 28 - April 26, 2017),

USDA Invoice #2 (May 1 - June 23, 2017),

USDA Invoice #3 (July 1 - August 18, 2017,

USDA Invoice #4 (August 19 - October 18, 2017),

USDA Invoice #5 (October 19 - December 31, 2017),

USDA Invoice #6 (January 1 - May 1, 2018)

USDA Invoice #7 (May 2 - August 20, 2018)

USDA Invoice #8 (August 21 - November 25, 2018)

EXPENDED ALL FUNDS & FULFILLED ALL REQUIREMENTS before Dec. 31, 2018

*please note that a jug of chemical application PathFinder™ for invasive removal was purchased and returned for \$142.18 that is not included in this document.

* Itemized List for expenditures for RBI I can be found in USDA Invoice #1 and "Finances Report"

Save Maumee Riparian Buffer Initiative Jan 2016 - December 2018

Hydrologic Unit Code 12	HUC12: 041000050102	HUC12: 041000050101	HUC12: 041000050103	Both Riparian Buffer Initiative I & II
Subwatershed/Date Planted	Bullerman April 2016 & Oct 2017	Trier April 2017 & April 2017	Six Mile Oct 2016 April 2018	*TOTALS
Details of 6 sites: October 2018 replacement trees were installed at 5 sites.	2016 SITE TAKEN IN EMINENT DOMAIN which involved 380 trees (40 still remain)	Highest fatality rate @ Moser due to violent flashy conditions	both private property and landowners dedicated to preservation	Fatality rate would average approx. 10% if eminent domain site was not included
Increased Riparian Buffer LINEAR FEET	1,000 linear feet	3,120 linear feet	2,400 linear feet	6,520 linear feet
Increased Riparian Buffer AREA	25,000 square feet (.57 acre)	78,000 square feet (1.8 acres)	60,000 square feet (1.4 acre)	163,000 (3.7 acres) of area increased
Trees Planted (plus 127 replacement trees) native trees (75%) and shrubs (25%)	789+26	1100+52	920+49	2,936 trees planted
Trees Living, December 2018 (close estimate after replacement trees)	455	950	870	2,275 trees living
Capture stormwater #gallons/year (59 gallons/ tree)	26,845	56,050	51,330	134,225 gallons of stormwater captured
Nitrogen load reduction to yield # of pounds/year	10.67 lbs/yr	33.28 lbs/yr	25.60 lbs/yr	69.55 pounds reduced
Phosphorus load reduction to yield # of pounds/year	6.33 lbs/yr	19.76 lbs/yr	15.20 lbs/yr	41.29 pounds reduced
Sediment load reduction to yield #tons/ year	6.33 tons/yr	19.76 tons/yr	14.40 tons/yr	40.49 tons of sediment

*Please note that the previous load reduction numbers provided were 30 year totals for nitrogen, phosphorus and sediment found and calculated using the Upper Maumee Watershed Management Plan, Section 6.0 Goals, Measures, and Objectives, 2014.

CONTINUED: RBI NON FEDERAL GRANT MATCH Jan 2016-Dec 2018

Hydrologic Unit Code 12	HUC12: 041000050102	HUC12: 041000050101	HUC12: 041000050103	Both RBI I & II TOTALS
NON-FEDERAL MATCH Volunteer Hours Logged approx/per site	Bullerman April 2016 & Oct 2017 Deetz	Trier April 2017 & April 2017	Six Mile Oct 2016 April 2018	*TOTALS
Jan - June 2016 Volunteer hours logged @21.62/hr	727 hours by 268 different volunteers			\$15,717.74
June - Dec 2016 Volunteer hours logged @21.62/hr			457 hours by 50 different volunteers	\$9,880.34
Jan-April 2017 Volunteer hours logged @21.62		1,387 hours logged by 209 different volunteers		\$29,986.94
May-June 2017= 54 hours / 11 different volunteers				\$1,167.48
July 2017-Aug 2017 58.5 hours logged by 5 different volunteers				\$1,264.77
Sept - Dec 2017 Volunteer hours logged @21.62	511.7 hours by 42 different people			\$11,062.95
Jan 2018-May 1, 2018 volunteer hours @21.62/hr			876 hours by 130 different volunteers	\$18,939.12
May 2 - Aug 20, 2018 - class on poison for distribution/event promo PLUS 10 hours (19 volunteers overall)	29.5 hours	59 hours	29.5 hours	\$2,767.36
8/21/18-10/26/18 tree maintenance & remove invasive species (all locations 8 different people)	13 hours	26 hours	13 hours	\$1,124.24
Delivering and replanting trees November 2018	25.5 hours by 7 people	62.5 hours by 15 different people	53 hours by 20 people	\$3,048.42
Abigail King Manager overage volunteer @\$25/hour	5 hours	10 hours	5 hours	\$500
NON-FEDERAL MATCH Printing Jan-April 2017				\$680
SEED TOTAL				\$4,129.40
Estimated Totals for RBI I & II	1,312 volunteer hours logged (approx.)	1,544.5 volunteer hours logged (approx.)	1,433.5 volunteer hours logged (approx.)	\$100,268.76

Site seized in eminent domain for Board of Public Works Long Term Control Project



The site was for Fort Wayne Long Term Control Project. The tunnel is 200 feet underground and 5 miles long and comes up directly into our work site.

JGLOCAL

AFTER



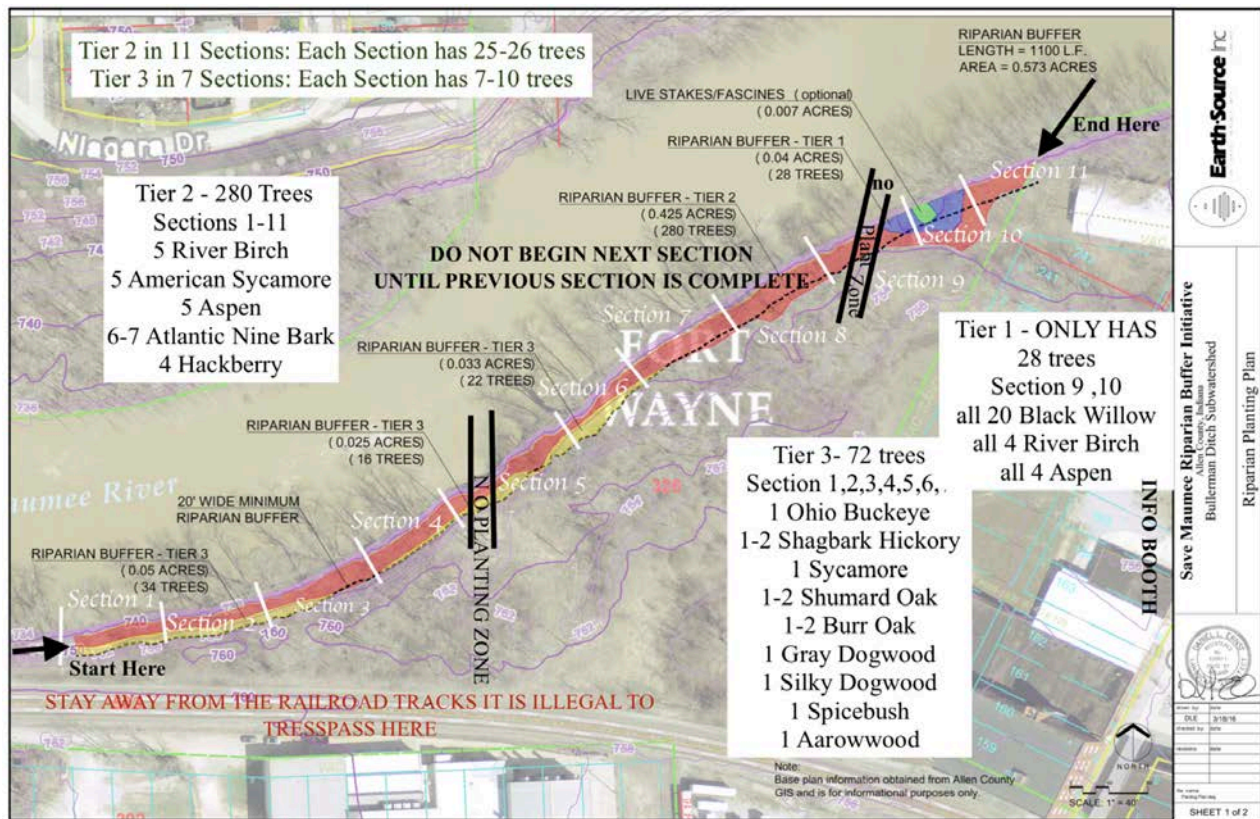
This aerial view shows the shafts for first phase of the city's overflow reduction tunnel project. The larger shaft, 66 feet in diameter, and the smaller 30-foot-diameter shaft are expected to be done by summer. (Cathie Rowand | The Journal Gazette)

Wednesday, April 04, 2018 1:00 am

Tunnel project now getting deep

Nearly 140 feet to go before shafts become accessible

Bullerman Ditch Subwatershed physical address - 800 Glasgow Ave. Fort Wayne, IN 46803 (RBI I) Completed April, 2016
Site seized in eminent domain for Board of Public Works Long Term Control Project

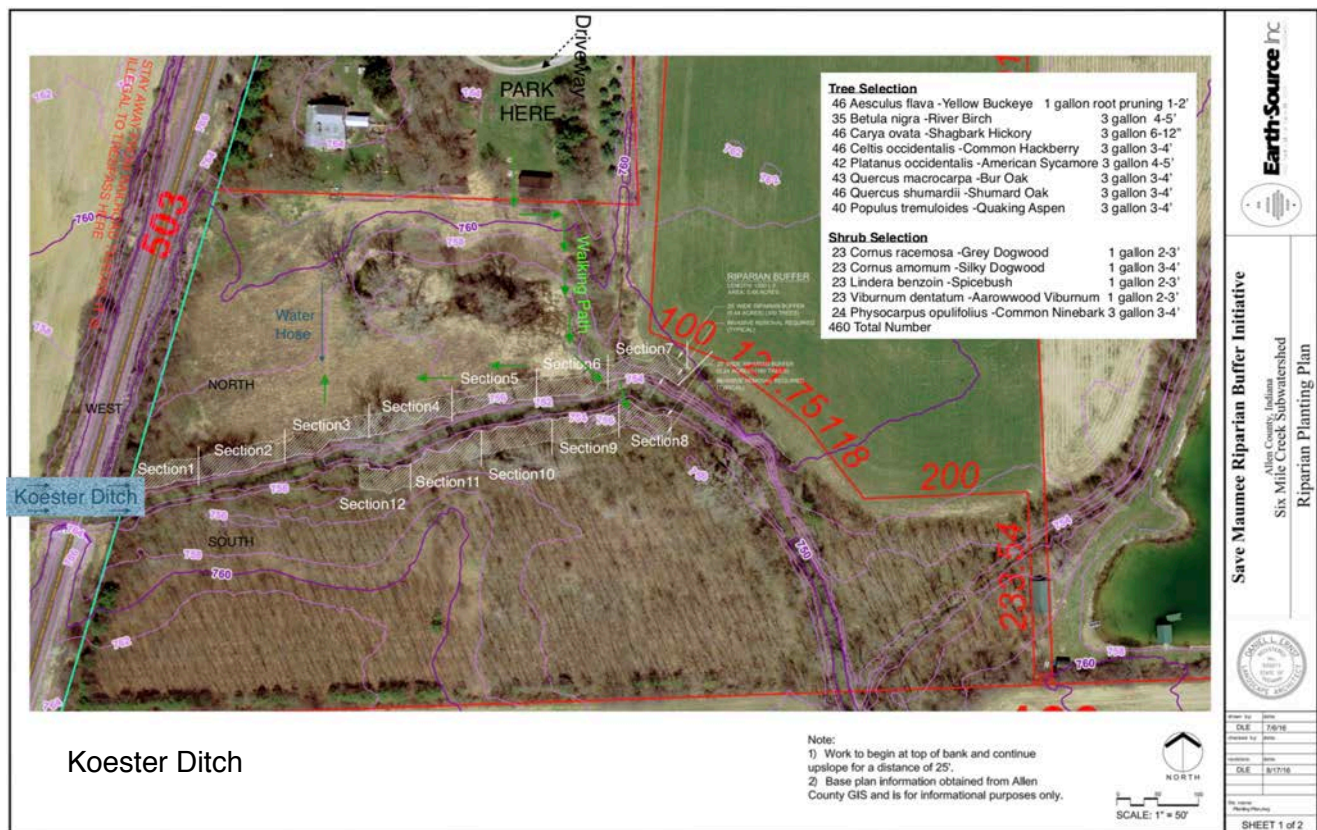


Bullerman Ditch (HUC12: 041000050102) Location: PARCEL NUMBER 02-13-06-326-001.000-074 via Allen County Tax Assessors Office, Indiana GIS (accessed January 8, 2016), Brian Schaper, land owner neither disclosed nor knew, that the property was to be seized. The location of the project is adjacent to the 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"

This Project Site was 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 Riparian Buffer Initiative Manager on January 9, 2017. "The largest Board of Public Works Project is sensitive to the new trees and have flagged them and know they are there." Approximately 40 trees from our project remain along the Maumee River.

Upon windshield survey, most of the trees have been lost due to the large scope of the Tunnel Project that is 200 feet underground and spans 5 miles. The boring machine now enters the earth where the project site is located. Most of the trees were lost due to the heavy removal of vegetation for the largest Public Works project that has ever been undertaken. Ariel photos have not yet been taken. Approximately 40 trees from our project remain along the Maumee River.

Six-Mile Creek physical address _____ New Haven, IN 46774 (RBI I)
Completed October 2016



Six Mile Creek - (HUC12: 041000050103) 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. Volunteer hours allowed completion of a larger area of tree planting and invasive removal than the grant required. Due to private property, no signage is required onsite but present on the website. <http://savemaumee.org/save-maumee-riparian-buffer-initiative/>

LOCATION: Accommodations were made with adjacent stream owner, for property use. To prepare 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% canopy coverage of riparian area within 3 years.

Problems: None with the project itself. Lack of communication between government entities continues to drive deforestation along waterways in Allen County, Indiana.

	Save Maumee Riparian Buffer Initiative		
	Allen County, Indiana Trier Ditch Subwatershed		
Riparian Planting Plan - Heatherwood Park South			
Drawn By: [Signature] Date: 10/14/17 Checked By: [Signature] Date: 10/20/17			
See legend, Working Plan Sheet			

Trier Ditch - (HUC12: 041000050101) - The entire Trier Subwatershed (Maps 1-3) measuring approximately 3,120 linear feet, by at least 25 feet wide, adding 1.79 acres of forested corridor to this subwatershed. Project area was larger than grant required, planting 1,100 trees (550 trees Heatherwood Park and 550 trees Moser Park) at Save Maumee's 12th Annual Earth Days (April 21, April 22 and April 23, 2017) to complete the Riparian Buffer Initiative I and begin first project with Riparian Buffer II - SEE DOC: [2016-2017 GRANT BUDGE WORKBOOK RBI I COMPLETE](#) and DOC: [2017-2018 Grant Budget Workbook RBI II](#) for financial breakdown of separation of these two projects (RBI I & RBI II).

Heatherwood Park (Map 1 and Map 2) equating to approx. 1,667 linear feet and Moser Park (Map 3) equating to approx. 1,453 linear feet. Sections are delineated to help volunteers and measure between 125ft to 190ft per section. In April 2017 alone, 209 volunteers logged 1,387 hours to these project sites, which does not include maintenance volunteer hours or replanting.

Landownership was established to be the Allen County Drainage Board/Allen County Commissioners due to "legal drain" designation. Approval was given through the Allen County Surveyors Office, Ditch Maintenance, Jeremy Freimuth. Description of project was made at Allen County Drainage Board meeting on April 13, 2017. A partnership was established with City of New Haven, Parks and Recreation Department and East Allen Community Schools. Partnership meetings occurred with New Haven Parks & Rec, Superintendent Mike Clendenen and Recreation Director, Anna Gurney. Approval for East Allen Community Schools property was established by Doug Roemer, Director of Facilities. New Haven provided equipment and volunteers to help with invasive removal and tree planting. Assistance provided by; 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. Urban League dedicated youth volunteers hours to the project and NIRC promoted.

**Trier Ditch physical address - Moser Park, 601 W. Main St. New Haven, IN 46774 (RBI II)
Completed April 22, 2017 - Sections 1 through 9 include 550 trees (19 species)**

Trier Ditch Subwatershed Map 3 (of 3)

- Betula nigra - River birch - 3 gallon 3-4'
- Carya illinoensis - Northern pecan - 3 gallon 4-5'
- Carya ovata - Shagbark Hickory - 3 gallon 6-12"
- Celtis occidentalis - Hackberry - 3 gallon 3-5'
- Platanus occidentalis - Sycamore - 3 gallon 5-6'
- Populus tremuloides - Quaking Aspen - 5 gallon 4-5'
- Quercus bicolor - Swamp White oak - 5 gallon 5-6'
- Quercus macrocarpa - Bur oak - 3 gallon 3-4'
- Quercus muehlenbergii - Chinquapin oak - 3 gallon 5-6'
- Quercus shumardii - Shumard oak - 3 gallon 2-3'
- Salix nigra - Black willow - 3 gallon
- Sassafras albidum - Sassafras - 3 gallon 2-3'
- Taxodium distichum - Bald cypress - 3 gallon 5-6'
- Shrubs**
- Cornus racemosa - Grey Dogwood - 3 gallon 3-4'
- Cornus amomum - Silky dogwood - 3 gallon 4-5'
- Lindera benzoin - Spicebush - 3 gallon 2-3'
- Physocarpus opulifolius - Common Ninebark - 3 gallon
- Viburnum dentatum - Arrowwood Viburnum - 3 gallon 3-4'



Trier Ditch Lower



EarthSource Inc.

Save Maumee Riparian Buffer Initiative

Allen County, Indiana

Trier Ditch Subwatershed

Riparian Planting Plan - Moser Park

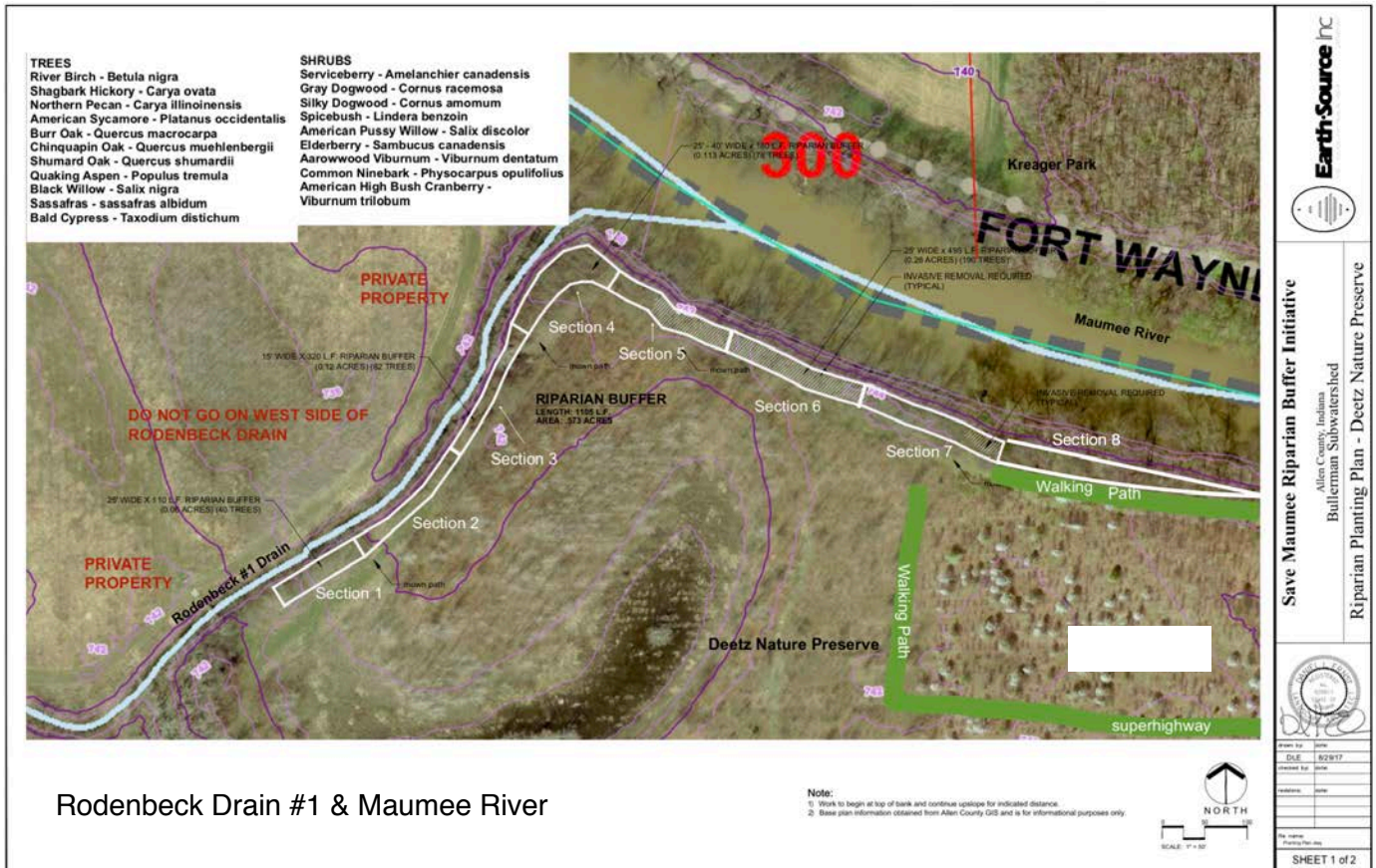


Allen County, Indiana

Drawn by	DLE	3/14/17
Checked by		
Revised by		
Revised date		
Revised by		
Revised date		
Revised by		
Revised date		

SHEET 1 of 4

Bullerman Ditch - Deetz Nature Preserve - 7801-8499 Parrott Rd. Fort Wayne, IN 46803 (RBI II)
Completed October 2017

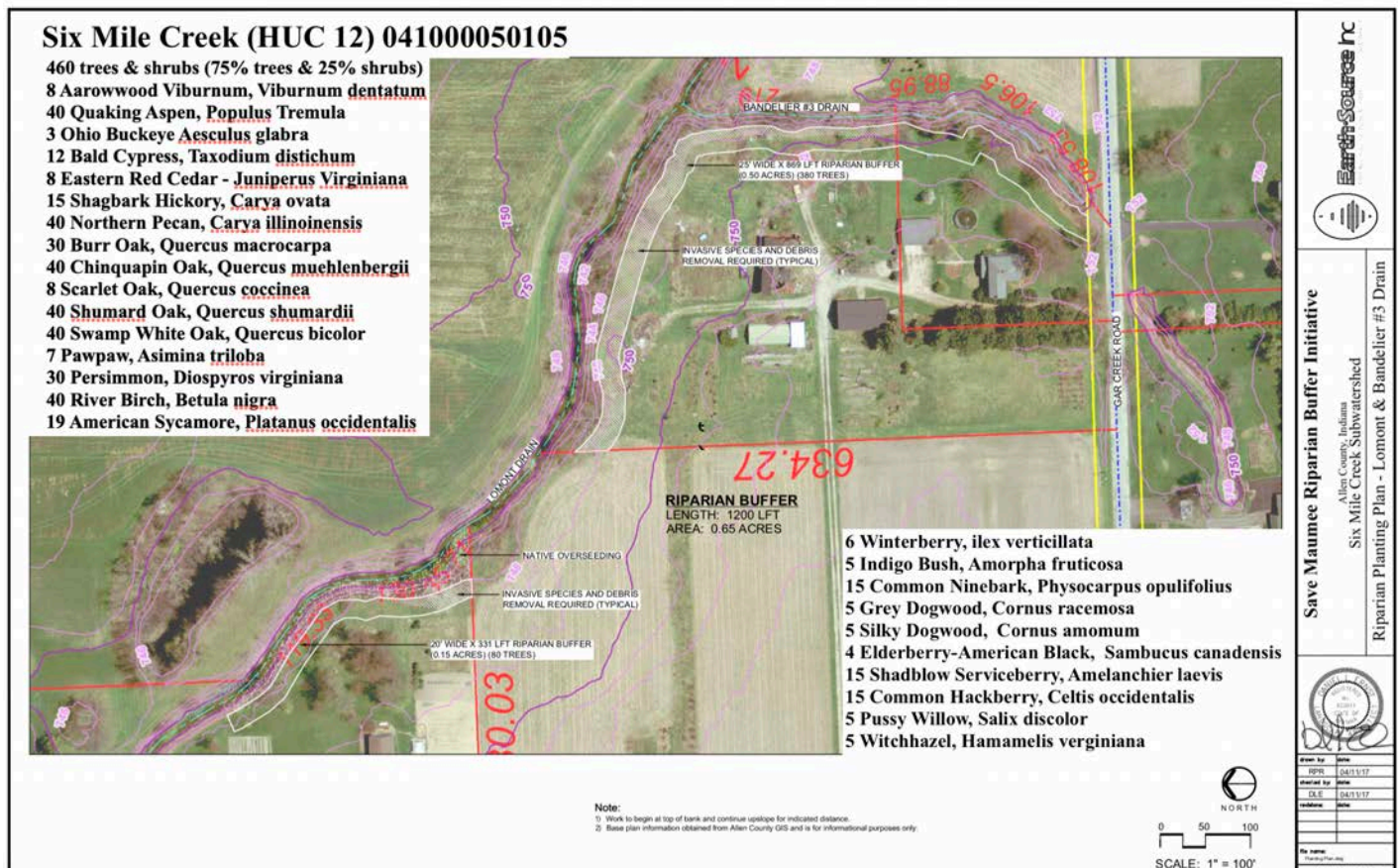


Bullerman Ditch Subwatershed (HUC12: 041000050102)

Ordered and installed 409 trees (requirement is 380 trees) due to perfect seasonal and weather conditions at Deetz Nature Preserve, where there was a narrow tree line present. We planted 409 trees on October 14 & 15, 2017, with invasive removal beginning on September 21, 2017. Over 511 hours were logged by approximately 45 different volunteers between September 25 through October 16. This area is a severed oxbow from the Maumee and has wetland areas present in this Nature Preserve.

The entire project area for Bullerman is over 1,100 linear feet by at least 20 feet wide, with majority of areas over 25 feet wide, and an approximate, 27,500 square feet of added riparian buffer, yielding .63 acre of additional forested corridor along the Maumee River Bullerman Sub-watershed. This nature preserve has heavy infestation of Callery Pear and other invasive species. Partnerships included New Haven (Adams Township) Parks and Recreation with on-site labor contributions from Indiana Tech Foreign Exchange Program in Fort Wayne. International Students from IIT College, Homestead High School Key Club Students, New Haven High School Alternative School Program students and New Haven High School Special Education Program students were involved.

Six-Mile Creek - physical address _____, New Haven,
Indiana, Allen County. Planted 460 trees (25 species) April 23, 2018



Six-Mile Creek Subwatershed HUC12: 041000050103 OR HUC14: 04100005010060

Lamont Drain lies within Sixmile Creek (HUC12) between Bremer Rd., Gar Creek Rd. and Berthaud Rd. **Bandelier #3 Drain** flows into Lamont from the southwest. **BANDELIER #3 DRAIN** flows northeast and joins **LAMONT DRAIN** flowing north and west toward the main stem of the Maumee River.

ALL project work is located on private property on the south side of Lamont Drain and the west side of Bandelier #3 Drain because Allen County Surveyors Office has scheduled drain maintenance in Six Mile Creek on the north side of this project location. We have been working with the Allen County Drainage Board/Surveyor, to help with their mitigation requirements and protect vegetation on one side of legal drains/ditches.

Within Six Mile Creek subwatershed, we installed over 1,200 linear feet of riparian buffer, with a width no less than 20 feet (averaging 25 feet wide), yielding upon completion .74 acres (or 32,250 square feet) of increased stormwater retention, by adding 460 native trees. Save Maumee began selectively removing invasive species previous to tree installation in early April 2018.

This project broke ground on April 2, 2018, with selective removal of invasive species. Asian honeysuckle, autumn olive and callery pear stumps received glyphosate (Rodeo TM) application without surfactant, applied by volunteers, to stop/stunt future growth of the invasive. April 20, 2018 the trees were delivered and planted within the week. Earth Day public event was held April 22 & 23, 2018, logging approximately 825 hours by approximately 130 different people at this site alone. The trees will continue to be monitored. Save Maumee is working to secure volunteers to continue to assist tree maintenance beyond the scope of this project.

RELATED MAPS OF INTEREST: <http://savemaumee.org/lamont-drain-riparian-buffer-initiative/>

Other grant related

On August 21, 2017, Save Maumee commented on **Indiana's Great Lakes Water Quality Agreement, Domestic Action Plan for the Western Lake Erie Basin**. To see comments directly related to our work regarding the Riparian Buffer Initiative, please see: <http://savemaumee.org/comments-to-glwqa-for-indiana/>

Received funding from Lush Cosmetics, Charity Pot for volunteer items like portable toilets, sweatshirts and advertising for our work on Save Maumee Riparian Buffer Initiative

Comprehensive Tree Locations - 75% Trees & 25% Shrubs - list reviewed by DNR Indiana Forester Carrie Tauscher, USDA Forest Service Jeremy Peichel, Purdue Extension Office Ricky Kemry, Tree Steward Michelle Briggs

Save Maumee RBI SITE TREES:	Most Trees 3 gallon - some 5 gallon - some 1 gallon	RBI I - Bullerman	RBI I - Six Mile Creek	RBI I - Trier Ditch	RBI II - Trier Ditch	RBI II - Bullerman	RBI II - Six Mile Creek
Common Name	Scientific Description	Glasgow 2016 380 Trees	Andrea Cole 2016 460 Trees	Heatherwood 2017 550 Trees	Moser Park 2017 550 Trees	Deetz Nat. Pres. 409 Trees	15503 Gar Creek Rd. 460 Trees
American Cranberry Bush	<i>Viburnum trilobum</i>					11	0
Arrowwood Viburnum	<i>Viburnum dentatum</i>	6	23	25	25	11	8
Aspen, Quaking	<i>Populus tremula</i>	54	40	50	50	33	40
Buckeye, Ohio	<i>Aesculus glabra</i>	7					3
Buckeye, Yellow	<i>Aesculus flava</i>		46				0
Cyprus, Bald	<i>Taxodium distichum</i>			15	15	28	12
Dogwood, Grey	<i>Cornus racemosa</i>	6	23	25	25	11	5
Dogwood, Silky	<i>Cornus amomum</i>	6	23	25	25	11	5
Eastern Red Cedar	<i>Sambucus canadensis</i>	0	0	0	0	0	8
Elderberry	<i>Sambucus canadensis</i>					14	4
Hackberry, Common	<i>Celtis occidentalis</i>	46	46	50	50		15
Indigo Bush	<i>Amorpha fruticosa</i>						5
Maple, Ash-Leaved (unavailable in a 3 state region)	<i>Acer Negundo</i>	0	0	0	0	0	0
Ninebark, Atlantic	<i>Physocarpus opulifolius</i>	71					0
Ninebark, Common	<i>Physocarpus opulifolius</i>		24	25	25	11	15
Northern Pecan	<i>Carya illinoensis</i>			15	15	26	40
Oak, Burr	<i>Quercus macrocarpa</i>	12	43	50	50	26	30
Oak, Chinquapin	<i>Quercus muehlenbergii</i>			15	15	26	40
Oak, Scarlet	<i>Quercus coccinea</i>						8
Oak, Shumard	<i>Quercus shumardii</i>	12	46	50	50	26	40
Oak, Swamp White	<i>Quercus bicolor</i>			15	15		40
Paw Paw -Indiana Banana	<i>Asimina triloba</i>						7
Persimmon	<i>Diospyros virginiana</i>						30
Red Bud	<i>Cercis canadensis</i>		seeds planted	seeds planted	seeds planted	seeds planted	seeds planted
River Birch	<i>Betula nigra</i>	58	35	50	50	26	40
Sassafras	<i>Sassafras album</i>			10	10	30	0
Serviceberry, Shadblow	<i>Amelanchier canadensis</i>					12	15
Shagbark Hickory	<i>Carya ovata</i>	15	46	40	40	26	15
Spicebush	<i>Lindera benzoin</i>	6	23	30	30	11	0
Sycamore, American	<i>Platanus occidentalis</i>	64	42	50	50	26	19
Willow, Black	<i>Salix nigra</i>	20		10	10	33	0
Willow, Pussy	<i>Salix discolor</i>					11	5
Witchhazel, Common	<i>Hamamelis virginiana</i>						5
Winterberry	<i>Ilex verticillata</i>						6
TOTAL TREES PLANTED		380	460	550	550	409	460
Required by grant		380	460	550	550	380	460

Replacement trees were purchased and planted at 5 locations in October / November 2018

LARGE REPLACEMENT TREES Replanted in Oct/Nov 2018	Most trees between 7-15 gallon size due to Jeremy Peichel's suggestion	Cole Prope rty	Deet z Natur e Pres	Heath erwoo d Park	Moser Park	Gar Creek Rd.
Common Name	Scientific Description					
American Basswood	<i>Tilia americana</i>		1	1		
American Beech	<i>Fagus grandifolia</i>	2	1	1	1	1
American Hornbeam	<i>Carpinus caroliniana</i>	1	1	1	1	1
Aspen, Quaking	<i>Populus tremula</i>	1	1	1		
Black Gum	<i>Nyssa sylvatica</i>	1	1	1	1	1
Buckeye, Ohio	<i>Aesculus glabra</i>	1	1	1		
Buckeye, Yellow	<i>Aesculus flava</i>	2	1		2	
Eastern Red Cedar	<i>Juniperus Virginiana</i>	1		1		
Hackberry, Sugar	<i>Celtis laevigata</i>	2	2	2	2	2
Hickory, Shellbark	<i>Carya laciniosa</i>	1	1	1		
Hop Hornbeam	<i>Ostrya virginiana</i>	1	1	1	1	1
Oak, Black	<i>Quercus velutina</i>	1	1	1	1	1
Oak, Burr	<i>Quercus macrocarpa</i>	1	1	1	1	1
Oak, Chestnut	<i>Quercus prinus</i>	1	1	1	1	1
Oak, Overcup	<i>Quercus lyrata</i>	1	1	1	1	1
Oak, Swamp Chestnut	<i>Quercus michauxxii</i>	1	1	2	1	1
Oak, Swamp White	<i>Quercus bicolor</i>	1	1	1	1	1
Oak, White	<i>Quercus alba</i>	1	1	1	1	1
Paw Paw -Indiana Banana	<i>Asimina triloba</i>	1	1	1	1	1
Persimmon	<i>Diospyros virginiana</i>	2	1	2	1	
River Birch	<i>Betula nigra</i>	1	1	1	1	1
Serviceberry, Allegheny	<i>Amelanchier laevis</i>	2		2	1	
Sycamore, American	<i>Platanus occidentalis</i>	1	2	2	1	1
Sweetgum	<i>Liquidamber styraciflua</i>	1	1	1	1	2
Willow, Black	<i>Salix nigra</i>	1	1	1		
Witchhazel, Common	<i>Hamamelis verginiana</i>	1	1	1	1	1
TOTAL TREES RE-PLANTED		30	26	30	22	19

TOTAL VALUE of SEED PLANTED AT ALL (6) SITES:

\$4,129.40

Jan 1, 2016 through December 31, 2018

NONFEDERAL SEED MATCH	RBI II - Six Mile	RBI I & II - BOTH TRIED Heatherwood & Moser Parks	RBI II - Bullerman	n/a	RBI I - Six Mile	COST / OZ 2017	COST / LB 2017	RBI I - Bullerman
common name / type specimen	15503 Gar Creek Rd		planted@deetz 2017	collected @seed harvest	planted@ Six Mile Creek	price/oz	price/lb	Bullerman - 800 Glasgow April 2016
CUP PLANT (<i>Silphium perfoliatum</i>)		15oz - \$105	2oz	6oz	2 oz - \$14	\$7.00	\$96.00	\$150 = 25 large pre-grown plants
Common Milkweed (<i>Asclepias syriaca</i>)	6oz - \$66	1lb - \$160	2oz	6oz	1lb \$160	\$11.00	\$160.00	
BLACK EYED SUSAN (<i>Rudbeckia hirta</i>)		3oz \$15	2oz	5oz	3oz - \$15	\$5.00	\$80.00	
Spotted Joe-Pye-Weed (<i>Eutrochium maculatum</i>)						\$28.00	\$448.00	
ROSINWEED (<i>Silphium integrifolium</i>)						\$10.00	\$150.00	
Compass Plant (<i>Silphium laciniatum</i>)			1oz	7oz		\$13.00	\$200.00	
BEE BALM (<i>Monarda didyma</i>)			2g = \$5	2g		\$50.00	\$800.00	
Smooth/Prairie Ironweed (<i>Vernonia fasciculata</i>) Tall Ironweed (<i>vernonia gigantea</i>)		1lb 4oz (tall) \$289	4oz	1lb	4oz (tall) \$64	\$16/oz \$20/oz	\$225.00	1lb \$225
Downy SUNFLOWER (<i>Helianthus mollis</i>)			5oz	1lb		\$11.00	\$160.00	
Foxglove Beard Tongue/Penstemon (<i>Penstemon digitalis</i>)						\$10.00	\$150.00	
Big Bluestem (<i>Andropogon gerardii</i>)		3lb - \$48	5oz	1lb	1 lb - \$16	\$2.00	\$16.00	2lbs \$32
Little Blue Stem (<i>Schizachyrium scoparium</i>)			4oz	7oz		\$2.00	\$27.00	
Gama Grass -- (<i>Tripsacum dactyloides</i>)			2oz	7oz		\$1.90	\$17.50	
Indian Grass (<i>Sorghastrum nutans</i>)		2lbs \$26	2oz	1lb	6pz - \$10	\$2.00	\$24.00	2lbs \$16
CANADA WILD RYE (<i>Elymus canadensis glaucifolius</i>)		1lb - \$24	3oz	7oz	1lb - \$24	\$2.00	\$24.00	
Yellow Coneflower (<i>Ratibida pinnata</i>)		1oz \$7	3oz	3oz	1oz - \$7	\$7.00	\$105.00	
Pale Purple Coneflower (<i>Echinacea pallida</i>)		7oz - \$49	3oz	6oz	1oz - \$7	\$18.00	\$288.00	
Large-Flowered Water Plantain (<i>Alisma triviale</i>)			0	5oz		\$13.00	\$200.00	
Blue Joint Grass (<i>Calamagrostis canadensis</i>)						\$50.00	\$800.00	
False Sunflower (<i>Heliopsis helianthoides</i>)			3oz	1lb		\$7.00	\$105.00	
Sawtooth Sunflower (<i>Helianthus grosseserratus</i>)			4oz			\$20.00	\$320.00	
False Boneset (<i>brickellia eupatorioides</i>)	1 oz - \$23	2oz \$70	5oz	1lb	2oz - \$70	\$23.00	\$368.00	
White Snakeroot (<i>Ageratina altissima</i>)			1oz	9oz		\$50.00	\$800.00	
New England Aster (<i>Symphyotrichum novae-angliae</i>)		2oz - \$30	3oz	1lb	2 oz \$30	\$30.00	\$450.00	
Smooth blue Aster (<i>Symphyotrichum laeve</i>)						\$20.00	\$300.00	

CONTINUED: NON FEDERAL GRANT MATCH, SEED PLANTED AT EACH SITE & VALUE

NONFEDERAL SEED MATCH	RBI II - Six Mile	RBI I & II - BOTH TRIED	RBI II - Bullerman	n/a	RBI I - Six Mile	COST / OZ 2017	COST / LB 2017	RBI I - Bullerman
common name / type specimen	15503 Gar Creek Rd	Heatherwood & Moser Parks	planted@deetz 2017Report	collected @seed harvest	planted@ Six Mile Creek	price/oz	price/lb	Bullerman - 800 Glasgow April 2016
Blue Forsythia (Forsythia heterophylla)						\$7.00	\$80.00	
Anise Hyssop (Agastache foeniculum)			0 6oz			\$24.00	\$384.00	
Wild Bergamot (Monarda fistulosa)		2oz - \$30	6oz	6oz	2 oz - \$30	\$15.00	\$225.00	
Common Buttonbush (Cephalanthus occidentalis)				1lb		\$12.00	\$192.00	
Common Sneezeweed (Helenium autumnale)			1oz	1lb		\$15.00	\$225.00	
Wild Senna (Senna hebecarpa)	2 oz - \$22	2oz - \$22	1oz	9oz	1oz - \$11	\$11.00	\$150.00	
Prairie Dock (Silphium terebinthinaceum)		1oz \$24	2oz	1lb	1oz - \$24	\$24.00	\$384.00	
Smooth Sumac (Rhus glabra)		1lb - \$20	2 lbs	8lbs	1lb - \$20	\$11.95	\$42.50	
Stalk Grain Sedge (Carex stipata)			1oz	6oz		\$25.00	\$368.00	
Wool Grass (Scirpus cyperinus)	2oz - \$50		2lb	3 lbs		\$11.00	\$160.00	
Asa's Gray Sedge (Carex grayi)				1 oz		\$37.00	\$560.00	
Meadow Sedge (Carex granularis)				4 grams		\$14.00	\$224.00	
Bicknell's Sedge (Carex bicknellii)		2oz \$50	1oz		1 oz - \$25	\$20.00	\$320.00	
Crested Sedge (Carex cristatella)				1 oz		\$35.00	\$560.00	
Yarrow (Achillea millefolium)			1oz	1 oz		\$11.00	\$176.00	
Squaw Weed (packera obovata)		2lbs \$95						\$95 2lbs
Marsh Rose Mallow (hibiscus)		1oz - \$13			1oz - \$13			
Prairie Dropseed (sporobolus)		1oz \$12			1oz - \$12			
Evening Primrose	1 oz - \$15	6oz - \$90			6oz - \$90			
Virginia Wild Rye		\$80						\$80.00
Marsh Milkweed (asclepias)		4oz - \$92			1oz - \$23			
Tested seed Oats		\$5						\$5 - 10 lbs
Assorted chaff & seed (heavy)	1lb - \$30	\$44						
TOTAL VALUE OF SEED PER SITE	\$206.	\$1,400.	\$1,255.80	n/a	\$665.00			\$602.60

TOTAL VALUE January 1, 2016 through December 31, 2018 SEED PLANTED AT ALL (6) SITES: **\$4,129.40**

TERMS:



Tier 1 - Stream Side Zone - closest to the stream & a lower elevation. The trees and other types of plants physically protect the stream from runoff & erosion, and provide shaded area over water.

Tier 2 - Middle Zone - This is the zone that filters, slows down and absorbs runoff before it enters the stream. Wetlands or wooded forest capture and store sediment, nutrients and other pollutants.

Tier 3 - Outer Zone - This is the "buffer" of the buffer. It is the farthest zone from the stream and the closest to roads, usually elevation is higher here than Tier 1 or Tier 2.

Tiers - represent differences in elevation; making it easier to identify proper location for specific needs of different tree species.

Sections - mark general locations to help volunteers identify "where you are standing". For example, the more experienced volunteers are dedicated to a specific *section* and will plant all the trees in their specific assigned *section* (sized between 100-200 linear feet). The *section* leaders/ tree-referees wear yellow safety-vests to identify themselves to new volunteers and assist anyone where needed. Helps to designate responsibility to those who are dedicated and attend projects regularly.

Natives - desirable and present previous to European decent and should be protected.

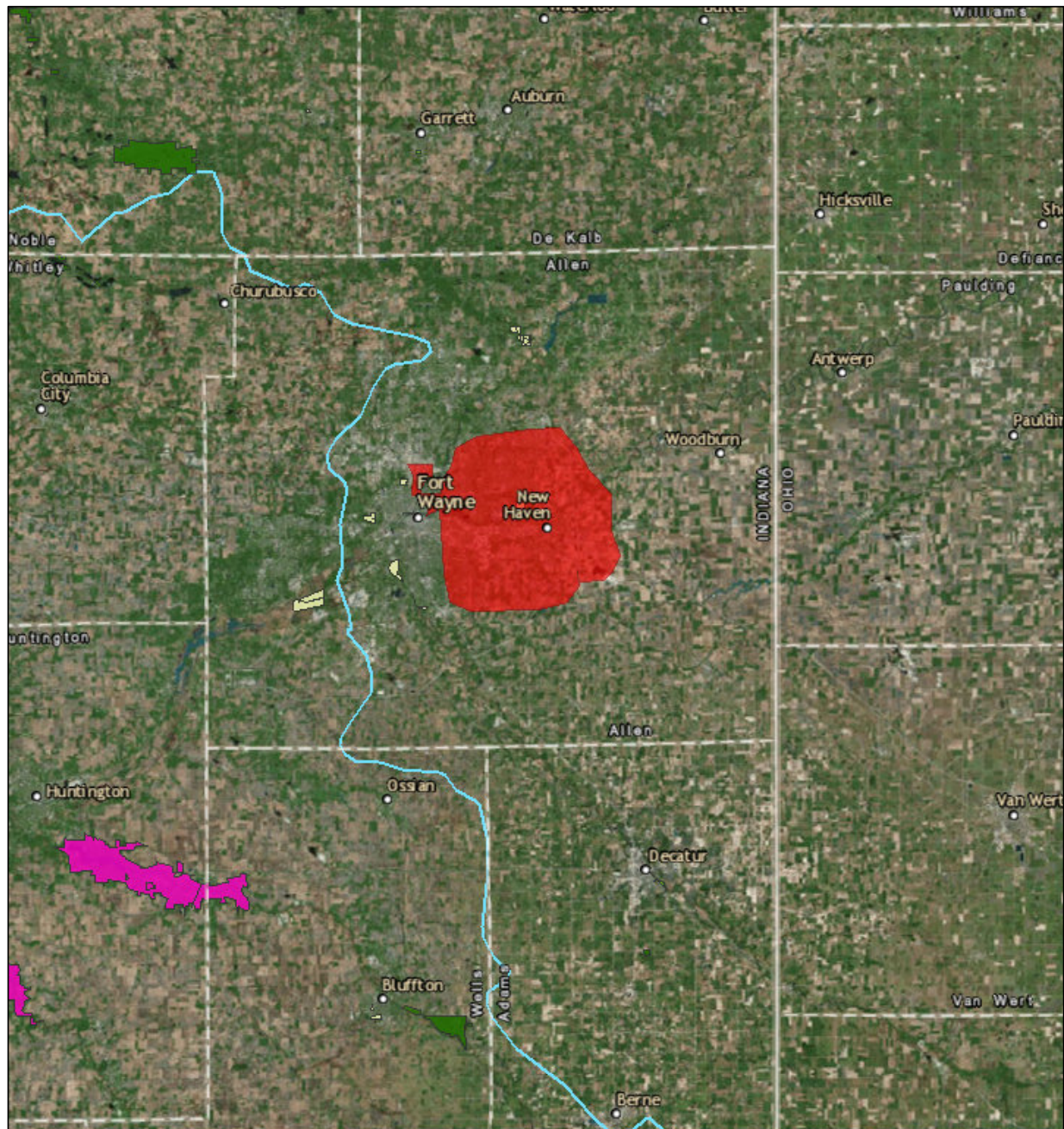
Aggressive - present previous to European decent, but will aggressively outcompete other more particular native species and not necessarily desirable, but not invasive.

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.

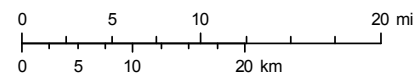
Allen County, Indiana ~ RBI I & II Project Locations



June 18, 2016

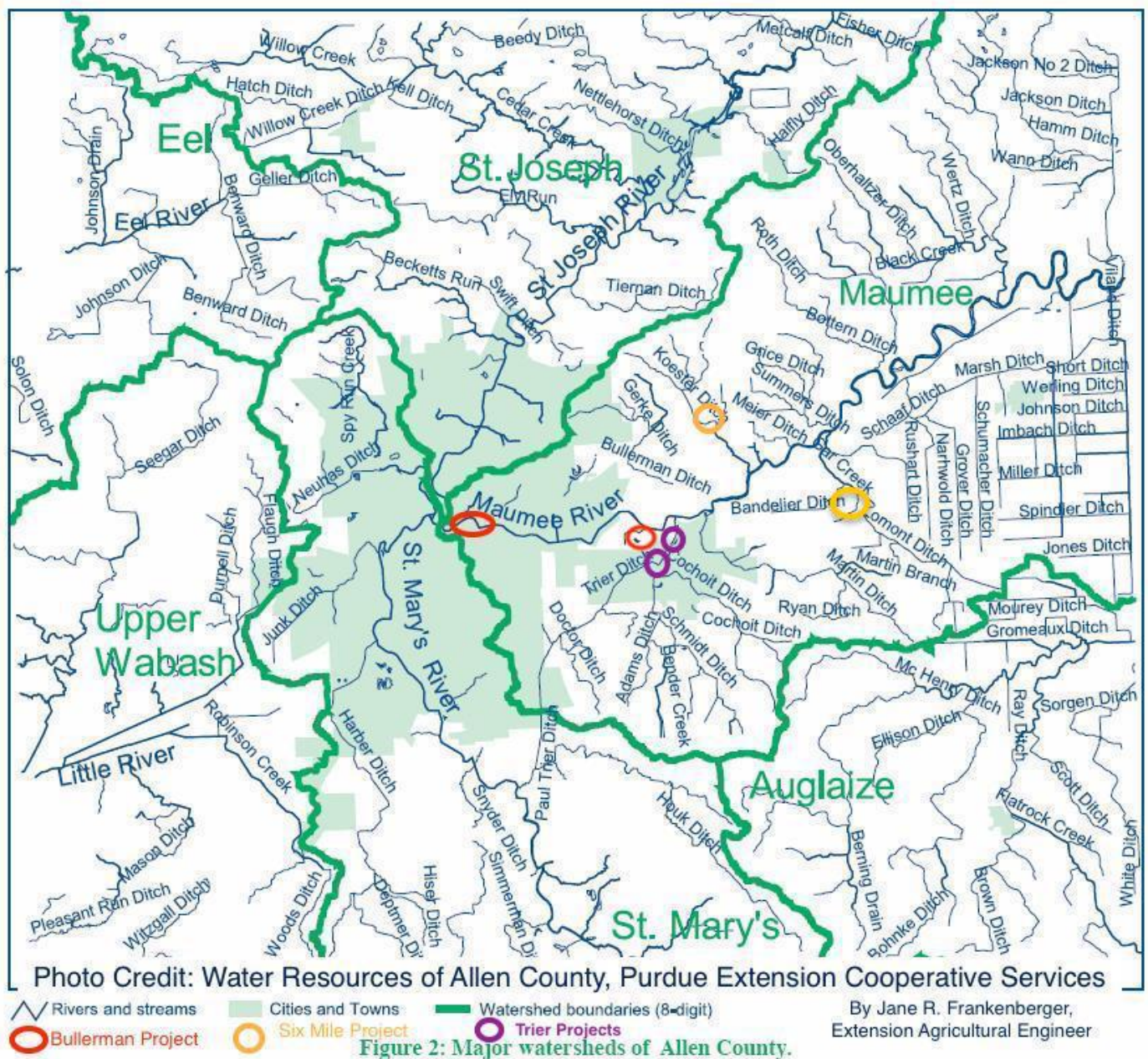


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Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community
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RBI I & II Specific Project Locations



- * Bullerman Ditch physical address - 800 Glasgow Ave. Fort Wayne, IN 46803 (RBI I) - eminent domain
- * Six-Mile Creek physical address _____ New Haven, IN 46774 (RBI I)
- * Trier Ditch physical address - Heatherwood Park, 1000 Hartzell Rd. New Haven 46774 (RBI I)
- * Trier Ditch physical address - Moser Park, 601 W. Main St. New Haven, IN 46774 (RBI II)
- * Bullerman Ditch - Deetz Nature Preserve - 7801-8499 Parrott Rd. Fort Wayne, IN 46803 (RBI II)
- * Six-Mile Creek physical address _____ New Haven, IN 46774 (RBI II)

Save Maumee



RIPARIAN BUFFER INITIATIVE



A Riparian Area is an area of trees and shrubs or unmowed meadow located along surface water. The Maumee Basin you are standing in right now, is located in the Great Black Swamp. Scientists and experts have identified reforestation of trees along streams, as a way to protect surface water quality. To date, most of the forested corridor next to rivers and streams in Allen County have been removed and need to be reforested. The goal is to encourage native tree and plant growth next to streams and selectively remove invasive plant and shrub species.

RIPARIAN BUFFERS FOR HEALTHY STREAMS

A healthy stream ecosystem depends on how we manage the land around it, particularly the riparian zone.

The riparian zone includes the stream channel, stream banks and surrounding floodplain. A riparian buffer is an area of trees and shrubs located along a stream or river, which provides many benefits.

Save Maumee Grassroots Organization's volunteers planted 400 trees in Deetz Nature Preserve to improve water quality by increasing buffer zones. These trees were planted along one side of the Rodenbeck Drain and along the Maumee River, through support of the United States Environmental Protection Agency (EPA), Great Lakes Restoration Initiative (GLRI), and the USDA Forest Service. This stream lies within an area of concern within the Western Lake Erie Basin, and this project implements best management practices in high priority areas draining directly into Lake Erie from this stream. Each tree is estimated to reduce stormwater-runoff by 20 gallons per tree, per year, to help improve water quality.

BENEFITS OF BUFFERS ALONG STREAMS

Trees hold soil in place to help maintain ditches, so they do not fill-in through erosion

Trees provide shade, increasing dissolved oxygen available to aquatic life

Reduces the impact of floods and stormwater runoff caused from urbanization

Reduces soil from eroding into streams, to decrease sedimentation in the water

Provides natural filtration to absorb nutrients and pollutants

Increases wildlife habitat for aquatic & terrestrial wildlife habitat

Tree roots stabilize streambanks & protect property

This institution, the EPA, and the U.S. Forest Service are equal opportunity providers, employers and lenders.



Picture courtesy of Black Swamp Conservancy



There were 3 signs created and placed at the 3 public park sites; Moser, Heatherwood, and Deetz. There were two different designs, with the only difference being Trier Ditch or Bullerman Ditch information (white section with blue words).

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