

## Appendix K. The Middle Huron Watershed Management Plan, Section 1

### Water quality accomplishments from plan partners from 2009-2021

Municipality/Organization	Accomplishment
Ann Arbor Trout Unlimited	AATU planted a section of the western bank of Mill Creek in Dexter to stabilize the bank and provide natural vegetation (substantial amounts of reed canary grass were removed to facilitate planting).
	Continues to monitor Mill Creek flow and temperature
City of Dexter	Forest Street Outfall @ Mill Creek Park - TSS Treatment
	Main Street Bridge Replacement and Mill Pond drawdown
	Main Street Stormwater and Water Quality Improvements- TSS Treatment
	Outfall improvements for Baker Road Stormwater Outfall (Streambank stabilization)
	Mill Creek Park and Stormwater Improvements
	Central Street Stormwater Outfall (TSS Treatment)
	Hudson Street Stormwater- Repair of failed outfall near Cottonwood Condos
	Reconstruction of failed Huron Street Outfall
	Consolidation of stormwater four outfalls to Mill Creek near Creekside School
	Repair of failed outfall on Grand Street (outlets adjacent to Mill Creek behind Grandview Commons)
	Passing of Coal Tar Sealants Ordinance
	Improvements/maintenance on the WWTP
	Completion of Stormwater Master Plan and Stormwater Asset Management Program (SAW)
Dexter Township	Sewer installed along all lakes, replacing septic fields
	Lake associations conducting education against fertilization and burning leaves near lakes
	Thousands of preserved natural areas to maintain water quality (13,000 acres)
	Conservation Design Ordinance-- encourage preserved open space contiguous to these preserved natural areas
	Fix of a road crossing over a tributary to Four Mile Lake.
Huron Clinton Metropark Authority	In 2016 HCMA hired OHM Advisors with a SAW grant to do a comprehensive review of their stormwater conveyance system and develop a stormwater management plan to prioritize reductions of impacts on water quality (Appendix K).

	65 miles of shoreline has been inspected to assess erosion with 16,119 ft listed as major and 167510 ft listed as minor, with recommendations given for different restoration types depending on site conditions
	94 miles of streambank inspected using the Rosgen Modified Bank Erosion Index, with 5,309 feet ranked as very high and 78,514 feet ranked as high
	Green Infrastructure summary created for each park; recommendations for implementation (Appendix H)
Scio Township	Scio Township has reported 30 completed land preservation projects over the last 15 years (1,479 acres)
	1. Botsford: 11 acres of mature woods with Spring wildflower blooms, and a branch of Honey Creek; conservation easement purchase with public access
	2. Fox Science Preserve: 49 acres with woods and wetlands, long used as an educational site for glacial history and plant succession; open to the public as a county preserve
	3. Davenport-Lattof: 173 acres of mature woods, farm fields and wetlands with Mill Creek frontage (state natural river); conservation easement purchase
	4. Scio Church Woods: 90 acres of mature woods, headwater streams and wetlands with Spring wildflower blooms; open to the public as a county preserve
	5. Parker: 23 acres of woods adjacent to the protected sesquicentennial Parker farm; conservation easement donation
	6. Scherdt: 100 acres of mature woods, wetlands and farm fields; conservation easement purchase
	7. Hathaway: five acres of mature woods with a branch of Honey Creek; conservation easement donation
	8. Green: 38 acres of woods and restored fields with a branch of Honey Creek; conservation easement purchase with public access
	9. Schneider: 50 acres of farm fields and wetlands; conservation easement purchase
	10. Helmer: 137 acres of farm fields and wetlands with a branch of Mill Creek; conservation easement purchase
	11. Sloan: 50 acres of woods with Mill Creek frontage (state natural river); open to the public as a Township preserve
	12. Moore: 24 acres of farm fields, woods and historic barn; conservation easement purchase
	13. White: 66 acres of farm fields; conservation easement purchase
	14. Van Curler: 90 acres of woods with pond and stream; soon to be open to the public as a Township preserve
15. Kempter-Levine: 60 acres of woods and farm fields; in use by a young organic farming couple; conservation	

easement purchase with an access easement in the northeast corner
16. Jenkins: 55 acres of woods, wetlands and a branch of Honey Creek; open to the public with increasing access as a Township preserve
17. Frey: 68 acres of woods and fields; conservation easement purchase with access easement to connect Township properties
18. Dam Tsig Foundation: 44 acres of farm fields and wetlands; conservation easement purchase
19. Vander Haagen: 30 acres of upland and lowland woods with a branch of Honey Creek adjacent to the Jenkins property; open to the public with increasing access as a Township preserve
20. Graham: 10 acres of lowland woods with a branch of Honey Creek; open to the public with increasing access as a Township preserve
21. Russell: 9 acres of lowland and upland woods adjacent to the Jenkins property; open to the public with increasing access as a Township preserve
22. Saalfeld: 9 acres of wetlands and old field; open to the public with increasing access as a Township preserve
23. Snowcap: 10 acres of wetlands and young woods; an extension of the Zeeb Rd. pathway runs along the edge
24. Bennett: 10 acres of lowland woods with a branch of Honey Creek; open to the public with increasing access as a Township preserve
25. Taylor: 10 acres of steep wooded slopes with 1,500' of frontage on the Huron River; conservation easement purchase
26. Equestrian Holdings LLC: 9 acres of farm fields adjacent to the University of Michigan Saginaw Forest; conservation easement donation
27. Mersereau: 26 acres of woods and fields between the Scherdt and Kempter-Levine properties; soon to be open to the public as a Township preserve
28. Smith: 10 acres of lowland woods with a branch of Honey Creek; conservation easement purchase with access easement to connect township-owned properties and an option to purchase fee interest in the future
29. Aprill: 161 acres of farm fields with historic house and barn at the highly visible intersection of Zeeb Rd. and Scio Church Rd.; fee simple purchase and subsequent sale to an organic farmer with purchase agreements to sell conservation easements when funds are assembled (2021)

	30. Haas: 44 acres of woods and old fields; conservation easement purchase with option to purchase fee interest in the future
Washtenaw County Water Resources Commission	Ongoing Catch Basin Inspection and Maintenance Program
	BMPs for Municipal Landscaping Practices (i.e. Integrated Pest Management, Soil Testing, and Native Plantings)
	Create and Maintain a Public Education Campaign for Soil Erosion, OSDS, Illicit Discharge and Improper Disposal of Hazardous Wastes
	Maintain website for watershed education and information
	Continue the Drain Commissioner's Field Inspection Division Apprenticeship Program
	Develop School Curriculum for Storm Water. Rain Garden lessons developed by WCWRC and in use by request.
	Establish and Maintain GIS Database to assist hydraulic, hydrologic, and water quality modeling. Washtenaw County has developed multiple GIS layers that are useful in local government agency and citizen watershed management practices.
	Ongoing staff training to implement and enforce doil Erosion/dedimentation and IDEP policies and procedures
	Identify and Eliminate Illicit Discharges and Connections
	Rain Garden program, rain garden signage, school raingardens
Webster Township	Portage on Flook Dam improved (HRWC's RiverUp project)
	Ordinaces: water detention ponds, drainage and storm water management are required in site plan application (approved in 2017) and per Webster Township Zoning Ordinance (Article 8, Site Plan Review and Article 14, Storm Water Management, adopted in 2011
	Improvements seen in Joy Road spring flooding after these ordinances applied to a new development (Arlington Hills)
	2019: In 2019, the Washtenaw County Road Commission completed a repair project on Joy Road which included bank reinforcement, culvert repair and shoulder maintenance.
	Farmland and Open Sapce Preservation program has preserved 2,136 acres since 2008. (about 66% is farmland, and 33% is natural features/open space)
	Additional land protected by Ann Arbor Greenbelt, HCMA, Legacy, County Parks, Private Open Land At Baselake, UM, another 2154
	Total preserved lands up to 4290 acres (which is 18.8% of the townshp).

<p>Webster township has adopted the Natural Rivers Protection for the Huron River, Arms Creek, and Mill Creek. (they have just the mouth of mill creek in their township)</p>
<p>The current Webster Township Zoning Ordinance adopted in 2011 provides strong protections including those within the Environmental Regulations (Article 16), specifically: Groundwater Protection Overlay (Section 16.15), Surface Water Protection Overlay (Section 16.20), Wetlands Protection Area (Section 16.25), and Natural Rivers Overlay District (Section 16.30, adopted May 15, 2018).</p>
<p>-The Groundwater Protection Overlay (Section 16.15) focusses on highly sensitive areas for recharge based on soil types adding restrictions on uses beyond those given for the zoning district.</p>
<p>The Surface Water Protection Overlay (Section 16.20) prohibits all building 100 feet from the watershed's rivers, streams and lakes greater than 5 acres, as shown in the Surface Water Overlay Zone Map, and includes a requirement to maintain a 25 foot vegetated buffer. There are also restrictions on land uses that pose water pollution hazards.</p>
<p>The Wetland Protection Area (Section 16.25) defines and regulates wetlands of over 5 acres providing protections and requirements for restoration and mitigation.</p>
<p>The Natural River District Overlay (Section 16.30, adopted May 15, 2018) protects and limits uses for land within 400 feet from the Huron River and Arms Creek. Setbacks for structures and buildings are 125 feet for the Huron River and 50 feet for Arms Creek and Mill Creek. A 50 foot vegetation strip must be maintained</p>
<p>Boyden Creek is protected through zoning ordinances in Webster Township (Section 16.20, Surface Water Protection Overlay). Webster Township has protected the Boyden Creek by prohibiting all building 100 feet from the watershed's rivers, streams and lakes greater than 5 acres, including a requirement to maintain a 25 foot vegetated buffer along the creek.</p>
<p>2015 Webster Township Master Plan adopted a Natural Features Preservation Overlay Map (Map 17) which highlights high priority natural features based on the HRWC Bioreserve Project. The Bioreserve project assesses natural features and then ranks them based on the ecological services that they provide. The ranking criteria include assessment of size, presence of wetlands, rivers or lakes, potential for ground water recharge and high density or remnant ecosystems. Areas voluntarily proposed for preservation with recognized natural features as identified by the Natural Features</p>

Preservation Overlay are encouraged to be preserved as natural features open space.

Webster Township has strong Storm Water Management Regulations (Article 14, adopted in 2011) which promote avoidance of water resource degradation by reducing and/or avoiding the negative hydrologic impacts of uncontrolled storm water. The standards applied are those of the Washtenaw County Water Resources Commissioner for storm water devices and techniques. Wetland protections from damaging modifications are included. Storm Water Management Regulations (Article 14) in the Webster Township Zoning Ordinance are proposed for review and revision consideration by the Planning Commission in 2021.

Per the 2010 and 2015 Webster Township Master Plans (and the 2020 Master Plan Draft under development), establishment of privately owned central water sewage systems is not desirable because it permits urban development (residential densities greater than one dwelling per acre) in an area that is rural in character and where such densities would be incompatible with the existing natural features and agricultural operations. In October 2006, the Webster Municipal Services Committee examined municipal services options for the Township and concluded that the risk and cost of a Township municipal sewer and water system could not be undertaken by the Township in the near future. These continuing land use policies support the existing natural features and rural character in Webster Township.

The 2015 Webster Township Master Plan included a Green Infrastructure Map which has been updated for the 2020 Master Plan draft. The Site Plan Review Ordinance (Article 9) targeted for review and revision consideration by the Planning Commission in 2021 will include additional Green Infrastructure concepts for discussion.

The Loch Alpine Lakes Project included creation of pathways around the upper and lower lakes, and since then a natural vegetative border of grasses has been established creating a natural vegetative barrier between many sections of the pathways and lakes providing improved filtration.

The Loch Alpine Improvement Association maintains a low phosphorus shoreline and does not mow grass to the creek in most areas. No pesticides or insecticides or fertilizers have been used on the former Ann Arbor Country Club golf course.

The Loch Alpine Improvement Association manages the goose population on the lakes which reduces feces. E. coli levels in the lakes remain very low as shown by twice yearly testing.

In 2008, MDEQ improved the hazard rating on the dams in Loch Alpine from moderate to low (the best rating) based on their operations and positive safety report. (The hazard classification is an indication of the potential for loss of life and economic loss due to failure of the dam.)

After several years of engineering studies and planning, in 2015 major dam improvements were completed (Loch Alpine homeowners were assessed \$300,000) to meet MDEQ safety standards. The Greenook dam was modified with an auxiliary overflow spillway and armoring to meet a 100-year storm event; and armoring was installed in the Bridgeway dam overflow spillway

The upper and lower dams on Bridgeway and Greenook lakes, respectively, continue to function satisfactorily as demonstrated in the last dam safety inspection reports from 2017.