

**Appendix J.**  
**Implementation: Nonpoint Source Strategy**

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## Content

J-2	Main Sources of Best Management Practices.....	20
J-3	Main Sources of Funding.....	20
J-4	Program Summaries.....	20
J-4.1	Ohio EPA.....	20
J-4.2	Ohio Department of Agriculture.....	23
J-4.3	Ohio Department of Health.....	23
J-4.4	H2Ohio Plan.....	244
J-4.5	United States Department of Agriculture.....	244

## Tables

Table J-1.	Summary of Black River Watershed Aquatic Life Use Impairments and Recommended Nonpoint Source Implementation.....	5
Table J-2.	Summary of Black River Watershed Recreation Use Impairments and Recommended Nonpoint Source Implementation.....	12

## Figures

Figure J-1.	Map of the aquatic life use attainment status at sampling locations in the Black River basin, 2012.....	4
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## J-1 Recommended Implementation Actions

This appendix provides an overview of recommended implementation actions for the waters impaired by nonpoint sources for both aquatic life and recreation uses. Specific actions and projects to address the impairments should be further detailed through locally developed plans, such as Ohio Nine-Element Nonpoint Source Implementation Strategic Plans. Implementation will require cooperation among federal, state and local agencies and interested stakeholders. The following subsections describe recommended actions for each watershed assessment unit (WAU) and programs that play a role in implementation.

Although not addressed with a TMDL in this project, the following impairments are addressed in this appendix:

- Bacterial slimes from a landfill (1 impaired site in a single WAU)
- Direct habitat alteration from channelization, channel erosion from upstream hydromodifications, or loss of riparian habitat (8 impaired sites across 4 WAUs)
- Fish passage barrier from a dam or impoundment (2 impaired sites across 2 WAUs)
- Other flow regime alterations from urban runoff/storm sewers (3 impaired sites in a single WAU).

The Black River mainstem is divided into two sections, the free-flowing portion and the Lake Erie influenced portion. Figure 1 depicts the attainment status of the locations sampled in 2012. Only one site sampled in the free-flowing portion of the Black River mainstem was not in full attainment of the Warmwater Habitat aquatic life use (RM 9.8, Ford Rd.). The lake influenced portion of the mainstem indicated poor macroinvertebrate communities and mostly fair to marginally good fish communities, caused by flow regime alterations.

As for the branches, the East Branch watershed was generally of higher water quality with 19 of 34 sites in attainment. The West Branch watershed only had three of 27 sites in attainment. Future recovery of fish communities in the West Branch may be limited due to waterfalls at the confluence of the East and West branches.

Recreation use impairment was ubiquitous throughout the watershed, only 10% of the sites assessed attained the recreation use water quality criteria.

The watershed is impacted by both point source and nonpoint sources. Implementation efforts will need to address both. The point source implementation is detailed in Appendix I. This Appendix starts with tables indicating where nonpoint implementation efforts are needed to address the aquatic life use and recreation use impairments. Table J-1 summarizes information from Section 5 of the TMDL report (aquatic life use linkage analysis) and Table J-2 summarizes information from Section 6 of the TMDL report (recreation use linkage analysis). Then resources are listed on where suggested best management practices can be found for projects to address the impairments, also detailed in Section 8 of the report. The main sources of available project funding are summarized. A summary of state and federal programs is included.

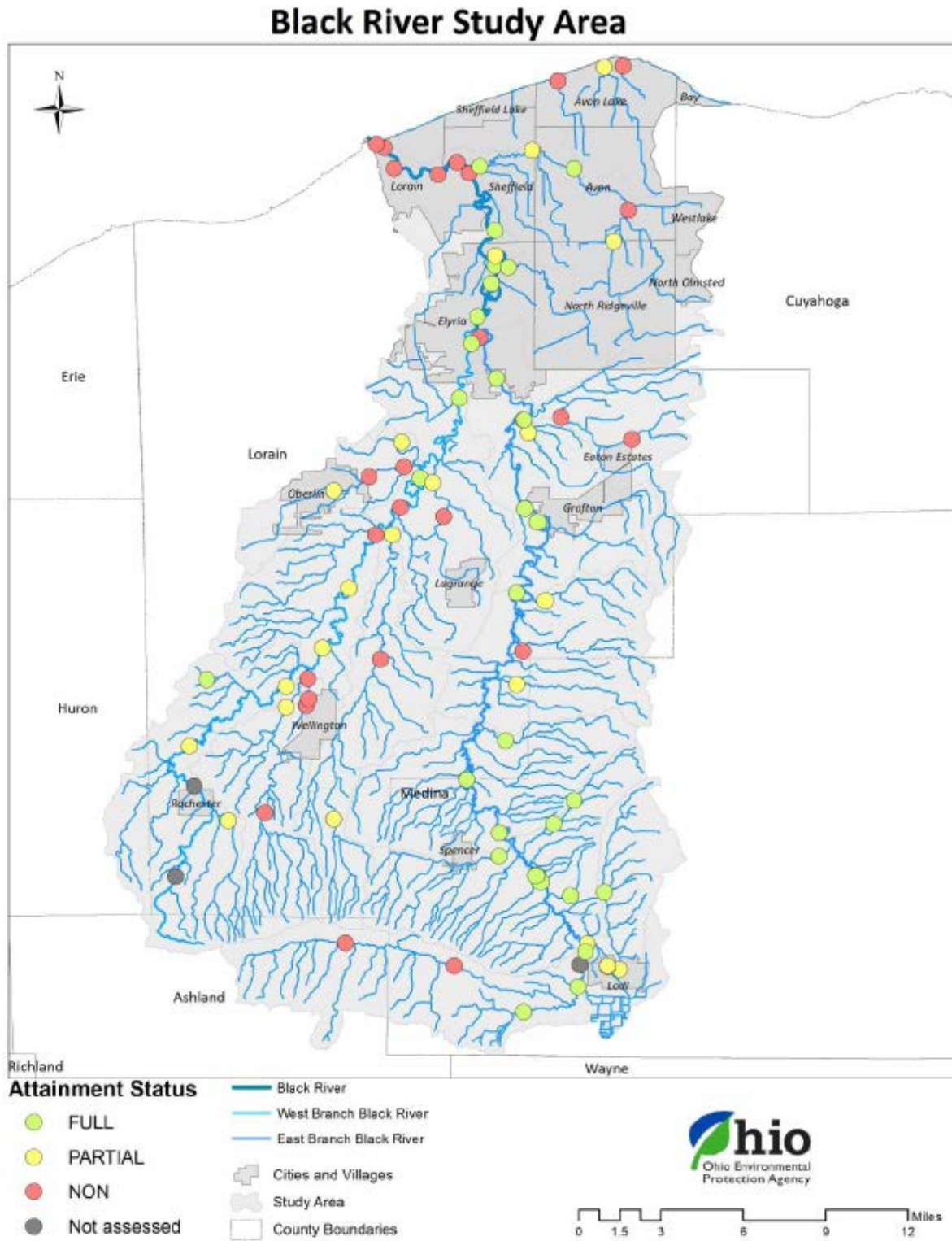


Figure J-1. Map of the aquatic life use attainment status at sampling locations in the Black River basin, 2012.

**Table J-1. Summary of Black River Watershed Aquatic Life Use Impairments and Recommended Nonpoint Source Implementation**

Stream name <sup>a</sup>	Site Name <sup>b</sup>	RM	STORET	Attainment	Causes	Sources	TMDL	Needs NPS Implementation
<b>Headwaters East Branch Black River (04110001 03)</b>								
<b>East Branch Black River (04110001 03 01)</b>								
East Fork East Branch Black River	N of Lodi at Chippewa Lake Rd.	5.84	B01W12	<b>FULL</b>				
	at Lodi at Lodi City Park	2.67	B01S36	<b>PARTIAL</b>	Other flow regime alterations	Urban runoff/storm sewers	TSS TMDL at WAU outlet	Yes – urban storm water BMPs in Lodi & ag runoff BMPs
	75 ft. upstream of. Lodi WWTP	1.73	B01W11	<b>PARTIAL</b>	Other flow regime alterations	Urban runoff/storm sewers	TSS TMDL at WAU outlet	Yes – urban storm water BMPs in Lodi & ag runoff BMPs
	downstream of Lodi WWTP	1.60	B01S35	<b>PARTIAL</b>	Other flow regime alterations	Urban runoff/storm sewers	TSS TMDL at WAU outlet	Yes – urban storm water BMPs in Lodi & ag runoff BMPs
	at mouth at Richmond Rd.	0.06	B01W10	<b>PARTIAL</b>	Sedimentation/siltation	Urban runoff/storm sewers	TSS TMDL at WAU outlet	Yes – urban storm water BMPs in Lodi & ag runoff BMPs
<b>Headwaters West Fork East Branch Black River (04110001 03 02)</b>								
West Fork East Branch Black River	at Twp. Rd. 391	13.97	301931	<b>NON</b>	Organic enrichment	Natural sources		
					Natural conditions (flow or habitat)	Natural sources		
	at Homer at St. Rt. 301	8.90	201609	<b>NON</b>	Organic enrichment	Natural sources		
					Natural conditions (flow or habitat)	Natural sources		
	W of Lodi, downstream of St. Rt. 421 and railroad	2.30	201607	<b>FULL</b>				
	W of Lodi at Hidden Hollow Park	1.15	201606	--				
at Sanford Rd.	0.34	B01W13	<b>FULL</b>					
Clear Creek	SW of Lodi at Pawnee Rd.	1.80	201615	<b>FULL</b>				
<b>Coon Creek-East Branch Black River (04110001 03 03)</b>								

East Branch Black River	NW of Lodi at Shaw Rd. (Twp. Rd. 99)	41.45	B01S34	<b>PARTIAL</b>	Sedimentation/siltation	Dam or impoundment	TSS TMDL	Yes – ag runoff BMPs, potential dam removal
	NW of Lodi, upstream of Old Mill Dam (Twp. Rd. 68)	40.80	302107	<b>(FULL)</b>				
	NW of Lodi at Old Mill Rd. (Twp. Rd. 68)	40.47	B01K07	<b>FULL</b>				
UT EBBR (RM 41.41)	at Shaw Rd. (Lower)	0.35	302006	<b>FULL</b>				
UT EBBR (RM 39.06)	at Spencer Lake Rd. (2013)	3.60	B01K13	<b>FULL</b>				
	at Spencer Lake Rd.	2.16	Q01K04	<b>FULL</b>				
Coon Creek	at River Corners Rd.	0.88	301933	<b>FULL</b>				
<b>East Branch Black River (04110001 04)</b>								
<b>Town of Litchfield-East Branch Black River (04110001 04 01)</b>								
East Branch Black River	W of Spencer Lake at River Corners Rd.	36.80	201591	<b>FULL</b>				
	at Lorain/Medina Co. line (Smith Rd.)	32.42	B01S33	<b>(FULL)</b>				
UT EBBR (RM 28.65)	at Foster Rd.	1.50	201599	<b>FULL</b>				
<b>Salt Creek-East Branch Black River (04110001 04 02)</b>								
East Branch Black River	SE of LaGrange at Short Rd.	24.60	201589	<b>FULL</b>				
	E of LaGrange at Vermont St. (Co. Rd. 62)	18.94	B01S32	<b>FULL</b>				
Crow Creek	NE of Penfield at Vermont Rd.	0.80	201602	<b>PARTIAL</b>	Natural conditions (flow or habitat)	Natural sources		
UT EBBR (RM 22.65)	at Vermont Rd.	0.60	B01K09	<b>NON</b>	Natural conditions (flow or habitat)	Natural sources		
Salt Creek	at Chamberlain Rd.	0.53	301934	<b>PARTIAL</b>	Natural conditions (flow or habitat)	Natural sources		
<b>Willow Creek (04110001 04 03)</b>								
Willow Creek	upstream of Eaton Estates at Island Rd.	6.59	301935	<b>NON</b>	Organic enrichment	On-site treatment systems (septic)	TP & TSS TMDLs at site B01S38	Yes – ag runoff BMPs, urban runoff BMPs, stream restoration, Eaton Homes WWTP, HSTS repair/replacement

					Nutrient/eutrophication biological indicators	On-site treatment systems (septic)	TP & TSS TMDLs at site B01S38	Yes – ag runoff BMPs, urban runoff BMPs, stream restoration, Eaton Homes WWTP, HSTS repair/replacement
					Sedimentation/Siltation	Agriculture	TP & TSS TMDLs at site B01S38	Yes – ag runoff BMPs, urban runoff BMPs, stream restoration
					Direct habitat alterations	Channelization	TP & TSS TMDLs at site B01S38	Yes – ag runoff BMPs, urban runoff BMPs, stream restoration
	SE of Elyria at Durkee Rd. (upstream of crossing)	2.85	B01S38	<b>NON</b>	Organic enrichment	On-site treatment systems (septic)	TP & TSS TMDLs at site B01S38	Yes – ag runoff BMPs, urban runoff BMPs, stream restoration, Eaton Homes WWTP, failing HSTS
					Nutrient/eutrophication biological indicators	On-site treatment systems (septic) Municipal point source discharge	TP & TSS TMDLs at site B01S38	Yes – ag runoff BMPs, urban runoff BMPs, stream restoration, Eaton Homes WWTP, failing HSTS
					Sedimentation/Siltation	Agriculture	TP & TSS TMDLs at site B01S38	Yes – ag runoff BMPs, urban runoff BMPs, stream restoration
					Direct habitat alterations	Channelization	TP & TSS TMDLs at site B01S38	Yes – ag runoff BMPs, urban runoff BMPs, stream restoration
<b>Jackson Ditch-East Branch Black River (04110001 04 04)</b>								
East Branch Black River	at Grafton at Parsons Rd.	11.34	B01S31	<b>FULL</b>				
	downstream of Grafton WWTP at Indian Hollow Park	10.50	B01S30	<b>FULL</b>				

	S of Elyria, upstream of Brentwood Tributary	6.00	B01S29	<b>PARTIAL</b>	Natural conditions (flow or habitat)	Natural sources		
	upstream of Elyria at Fuller Rd.	3.07	B01S11	<b>FULL</b>				
	at Elyria at Washington St.	0.36	B01P07	<b>NON</b>	Sedimentation/Siltation	Dam or impoundment	TSS TMDL at EBBR mouth	Yes – ag runoff BMPs, elimination Grafton SSOs, potential dam removal
UT EBBR (RM 5.89) (Brentwood tributary)	at Waterfall Dr.	1.00	301936	<b>PARTIAL</b>	Natural conditions (flow or habitat)	Natural sources		
	at Robson Dr.	0.10	301937	<b>FULL</b>				
<b>West Branch Black River (04110001 05)</b>								
<b>Charlemont Creek (04110001 05 01)</b>								
Charlemont Creek	at Baker Rd.	8.55	301938	<b>NON</b>	Nutrient/eutrophication biological indicators	On-site treatment systems (septic)	TP TMDL at site 301938	Yes – ag runoff BMPs, urban runoff BMPs
	W of Wellington at Pitts Rd.	2.20	201634	<b>PARTIAL</b>	Nutrient/eutrophication biological indicators	On-site treatment systems (septic)	TP TMDL at WAU outlet	Yes – ag runoff BMPs, urban runoff BMPs
	downstream of Wellington at Peck-Wadsworth Rd.	0.39	B01P05	<b>NON</b>	Nutrient/eutrophication biological indicators	Municipal point source discharge	TP TMDL at WAU outlet	Wellington WWTP
UT Charlemont Creek (RM 0.51)	upstream of Wellington WWTP	1.00	301940	<b>NON</b>	Impairment unknown	Source unknown	TP TMDL at site 30194	Wellington WWTP
	downstream of Wellington WWTP	0.76	301943	<b>NON</b>	Nutrient/eutrophication biological indicators	Municipal point source discharge	TP TMDL at site 30194	Wellington WWTP
<b>Upper West Branch Black River (04110001 05 02)</b>								
West Branch Black River	S of Rochester at Stewart Rd.	48.10	201627	--				
	at Rochester at St. Rt. 511 (upstream of crossing)	41.67	B01S41	--	--	--		
	S of Brighton at St. Rt. 511 (downstream of crossing)	37.30	201624	<b>PARTIAL</b>	Sedimentation/siltation	Agriculture	TSS TMDL at WAU outlet	Yes – ag runoff BMPs
	NW of Wellington at Pitts Rd.	28.50	B01K21	<b>PARTIAL</b>	Sedimentation/siltation	Agriculture	TSS TMDL at WAU outlet	Yes – ag runoff BMPs
Buck Creek	SE of Rochester at Bursley Rd.	0.95	B01S46	<b>PARTIAL</b>	Natural conditions (flow or habitat)	Natural sources		
East Creek	at Stocking Road	0.56	B01W23	--				
<b>Wellington Creek (04110001 05 03)</b>								



Wellington Creek	at Bursley Rd.	17.10	201633	<b>NON</b>	Natural conditions (flow or habitat)	Natural sources		
	at Wellington at Cemetery Rd.	13.09	B01S43	<b>NON</b>	Natural conditions (flow or habitat)	Natural sources		
	NE of Wellington at Webster Rd.	8.40	201632	<b>PARTIAL</b>	Nutrient/eutrophication biological indicators	On-site treatment systems (septic)	TP TMDL at WAU outlet	Yes – ag runoff BMPs, HSTS repair/replacement
	near mouth at Nickel Plate Rd.	0.60	201630	<b>PARTIAL</b>	Nutrient/eutrophication biological indicators	On-site treatment systems (septic)	TP TMDL at WAU outlet	Yes – ag runoff BMPs, HSTS repair/replacement
<b>Middle West Branch Black River (04110001 05 04)</b>								
West Branch Black River	N of Wellington at St. Rt. 58	25.30	B01S40	<b>PARTIAL</b>	Sedimentation/siltation	Agriculture	TSS TMDL at WAU outlet	Yes – ag runoff BMPs in WAU & upstream WAU
	E of Pittsfield at St. Rt. 303	19.60	201620	<b>PARTIAL</b>	Sedimentation/siltation	Agriculture	TSS TMDL at WAU outlet	Yes – ag runoff BMPs in WAU & upstream WAU
	at West Rd. (Kipton Nickel Plate Rd.)	16.56	B01W19	<b>NON</b>	Sedimentation/siltation	Agriculture	TSS TMDL at WAU outlet	Yes – ag runoff BMPs in WAU & upstream WAU
Fish passage barrier					Dam or impoundment		Yes – potential dam removal	
<b>Plum Creek (04110001 05 05)</b>								
Plum Creek	at Oberlin at Morgan St.	5.57	301944	<b>NON</b>	Sedimentation/siltation	Urban runoff/storm sewers	TSS TMDL at WAU outlet	Yes – ag runoff BMPs, urban runoff BMPs
	upstream of Oberlin WWTP at St. Rt. 511	3.19	B01P03	<b>NON</b>	Sedimentation/siltation	Urban runoff/storm sewers	TSS TMDL at WAU outlet	Yes – ag runoff BMPs, urban runoff BMPs
	just downstream of Oberlin WWTP	2.80	B01S10	<b>NON</b>	Sedimentation/siltation	Urban runoff/storm sewers	TSS TMDL at WAU outlet	Yes – ag runoff BMPs, urban runoff BMPs
	E of Oberlin at Oberlin-Elyria Rd.	0.83	B01P02	<b>PARTIAL</b>	Bacterial slimes	Landfills		No – Agency address through follow up monitoring
<b>Lower West Branch Black River (04110001 05 06)</b>								
West Branch Black River	at Metro Parks Equestrian Area	10.60	201619	<b>FULL</b>				
	at Butternut Ridge Rd.	7.68	B01P01	<b>PARTIAL</b>	Sedimentation/siltation	Agriculture	TSS TMDL at site B01P01	Yes – ag runoff BMPs
Fish passage barrier					Dam or impoundment		Yes – potential dam removal	

	upstream of Elyria at Oberlin-Elyria Rd.	4.18	B01S13	<b>FULL</b>				
	at Elyria, upstream of Third St.	1.20	B01K18	<b>(FULL)</b>				
Elk Creek	at Metro Park property off Parsons Rd.	0.15	301945	<b>NON</b>	Nutrient/eutrophication biological indicators	Agriculture	TP TMDL at site 301945	Yes – ag runoff BMPs
					Direct habitat alterations	Channelization (upstream)		Yes – stream restoration
Kelner Ditch	E of Oberlin at Parsons Rd.	3.00	201629	<b>NON</b>	Nutrient/eutrophication biological indicators	On-site treatment systems (septic), Agriculture	TP TMDL at site B01W15	Yes – ag runoff BMPs
	E of Oberlin at Nickel Plate Diagonal Rd.	1.00	B01W15	<b>PARTIAL</b>	Nutrient/eutrophication biological indicators	On-site treatment systems (septic), Agriculture	TP TMDL at site B01W15	Yes – ag runoff BMPs
<b>Black River (04110001 06)</b>								
<b>French Creek (04110001 06 01)</b>								
French Creek	E of Elyria at Mills Rd.	10.41	B01P19	<b>PARTIAL</b>	Nutrient/eutrophication biological indicators;	On-site treatment systems (septic)	TP TMDL at site B01P18	Yes – urban runoff BMPs, HSTS repair/replacement
					Direct habitat alterations	Channelization		Yes – stream restoration
	SE of Avon at Riegelsberger Rd.	9.02	B01P18	<b>NON</b>	Nutrient/eutrophication biological indicators	On-site treatment systems (septic)	TP TMDL at site B01P18	Yes – urban runoff BMPs, HSTS repair/replacement
					Direct habitat alterations	Channelization		Yes – stream restoration
	at Bridge Point Trail	5.50	301953	<b>FULL</b>				
	NE of Lorain at Abbe Rd. (St. Rt. 301)	3.20	B01P32	<b>PARTIAL</b>	Impairment unknown	Source unknown		Follow up sampling, AOC work
near Lorain at E. River Rd.	0.54	B01S14	<b>FULL</b>					
<b>Black River (04110001 06 02)</b>								
Black River	at Elyria at Cascade Park	14.95	501520	<b>FULL</b>				
	downstream of Elyria, near Spring Valley Golf Club	11.50	B01S09	<b>FULL</b>				
	250 feet upstream of Elyria WWTP	10.70	B01W07	<b>(FULL)</b>				
	downstream of Elyria WWTP at Ford Rd.	9.80	501510	<b>Partial</b>	Specific Conductance	Municipal point source discharge	TDS TMDL at site 501510	Addressed through NPDES

					Nutrient/eutrophication biological indicators		TP TMDL at site 501510	Yes – ag runoff BMPs, urban runoff BMPs, CSOs/SSOs
	at Sheffield at North Ridge Rd.	8.35	B01S07	<b>FULL</b>				
	at East 31st Street	6.20	B01S06	--				
UT BR (RM 10.18)	at Gulf Rd.	0.68	301954	<b>FULL</b>				
<b>Heider Ditch-Frontal Lake Erie(04110001 06 03)</b>								
Heider Ditch	at Electric Ave.	0.25	301955	<b>PARTIAL</b>	Direct habitat alterations	Channel erosion from upstream hydromodifications		Yes – stream restoration
Gable Ditch	at Electric Ave.	0.30	301956	<b>NON</b>	Direct habitat alterations	Channel erosion from upstream hydromodifications		Yes – stream restoration
Powdermaker Ditch	at Electric Ave.	0.15	301958	<b>NON</b>	Direct habitat alterations	Channel erosion from upstream hydromodifications, Loss of riparian habitat		Yes – stream restoration

Source: Ohio EPA 2016.

Notes

RM = rivermile.

a. Stream name abbreviations: Black River (BR), East Branch Black River (EBBR), rivermile (RM), and un named tributary (UT).

b. Site name abbreviations: Avenue (Ave.), east (E), north (N), northeast (NE), northwest (NW), road (Rd.), southeast (SE), state route (St. Rt.), street (St.), township (Twp), and wastewater treatment plant (WWTP).

Table J-2. Summary of Black River Watershed Recreation Use Impairments and Recommended Nonpoint Source Implementation

Stream name <sup>a</sup>	Site Name <sup>b</sup>	RM	STORET	Attainment	Sources	TMDL	Needs NPS Implementation
<i>Headwaters East Branch Black River (04110001 03)</i>							
<i>East Branch Black River (04110001 03 01)</i>							
East Fork East Branch Black River	N of Lodi at Chippewa Lake Rd.	5.84	B01W12	--			
	at Lodi at Lodi City Park	2.67	B01S36	<b>FULL</b>			
	75 ft. upstream of Lodi WWTP	1.73	B01W11	--			
	downstream of Lodi WWTP	1.60	B01S35	--			
	at mouth at Richman Rd.	0.06	B01W10	<b>NON</b>	Nonpoint sources, except Lodi WWTP in low/dry flow conditions	E. coli TMDL at WAU outlet	Yes, nonpoint source BMPs
<i>Headwaters West Fork East Branch Black River (04110001 03 02)</i>							
West Fork East Branch Black River	at Twp. Rd. 391	13.97	301931	<b>NON</b>	Nonpoint sources	E. coli TMDL at WAU outlet	Yes, ag runoff BMPs
	at Homer at St. Rt. 301	8.90	201609	<b>NON</b>	Nonpoint sources	E. coli TMDL at WAU outlet	Yes, ag runoff BMPs
	W of Lodi, downstream of St. Rt. 421 and railroad	2.30	201607	--			
	W of Lodi at Hidden Hollow Park	1.15	201606	--			
	at Sanford Rd.	0.34	B01W13	<b>NON</b>	Nonpoint sources	E. coli TMDL at WAU outlet	Yes, ag runoff BMPs
Clear Creek	SW of Lodi at Pawnee Rd.	1.80	201615	<b>NON</b>	Nonpoint sources	E. coli TMDL at WAU outlet	Yes, ag runoff BMPs
<i>Coon Creek-East Branch Black River (04110001 03 03)</i>							

Stream name <sup>a</sup>	Site Name <sup>b</sup>	RM	STORET	Attainment	Sources	TMDL	Needs NPS Implementation
East Branch Black River	NW of Lodi at Shaw Rd. (Twp. Rd. 99)	41.45	B01S34	<b>NON</b>	Nonpoint sources	E. coli TMDL at WAU outlet	Yes, ag runoff BMPs
	NW of Lodi, upstream of Old Mill Dam (Twp. Rd. 68)	40.80	302107	<b>FULL</b>			
UT EBBR (RM 41.41)	at Shaw Rd. (Lower)	0.35	302006	<b>NON</b>	Nonpoint sources	E. coli TMDL at WAU outlet	Yes, ag runoff BMPs
UT EBBR (RM 39.06)	at Spencer Lake Rd. (2013)	3.60	B01K13	--			
	at Spencer Lake Rd.	2.16	Q01K04	--			
Coon Creek	at River Corners Rd.	0.88	301933	<b>FULL</b>			
<i>East Branch Black River (04110001 04)</i>							
<i>Town of Litchfield-East Branch Black River (04110001 04 01)</i>							
East Branch Black River	NW of Lodi at Old Mill Rd. (Twp. Rd. 68)	40.47	B01K07	--			
	W of Spencer Lake at River Corners Rd.	36.80	201591	--			
	at Lorain/Medina Co. line (Smith Rd.)	32.42	B01S33	<b>NON</b>	Nonpoint sources	E. coli TMDL at WAU outlet	Yes, ag runoff BMPs
UT EBBR (RM 28.65)	at Foster Rd.	1.50	201599	<b>NON</b>	Nonpoint sources	E. coli TMDL at WAU outlet	Yes, ag runoff BMPs
<i>Salt Creek-East Branch Black River (04110001 04 02)</i>							
East Branch Black River	SE of LaGrange at Short Rd.	24.60	201589	--			
	E of LaGrange at Vermont St. (Co. Rd. 62)	18.94	B01S32	<b>NON</b>	Nonpoint sources	E. coli TMDL at WAU outlet	Yes, multiple BMPs
Crow Creek	NE of Penfield at Vermont Rd.	0.80	201602	<b>NON</b>	Medina Meats	E. coli TMDL at WAU outlet	Yes, multiple BMPs

Stream name <sup>a</sup>	Site Name <sup>b</sup>	RM	STORET	Attainment	Sources	TMDL	Needs NPS Implementation
UT EBBR (RM 22.65)	at Vermont Rd.	0.60	B01K09	<b>NON</b>	Nonpoint sources	E. coli TMDL at WAU outlet	Yes, multiple BMPs
Salt Creek	at Chamberlain Rd.	0.53	301934	<b>NON</b>	Nonpoint sources	E. coli TMDL at WAU outlet	Yes, multiple BMPs
<i>Willow Creek (04110001 04 03)</i>							
Willow Creek	upstream of Eaton Estates at Island Rd.	6.59	301935	<b>NON</b>	Nonpoint sources	E. coli TMDL at WAU outlet	Yes, ag and urban runoff BMPs
	SE of Elyria at Durkee Rd. (upstream of crossing)	2.85	B01S38	<b>NON</b>	Eaton Homes WWTP, Nonpoint sources	E. coli TMDL at WAU outlet	Yes, ag and urban runoff BMPs
<i>Jackson Ditch-East Branch Black River (04110001 04 04)</i>							
East Branch Black River	at Grafton at Parsons Rd.	11.34	B01S31	--			
	downstream of Grafton WWTP at Indian Hollow Park	10.50	B01S30	<b>NON</b>	Nonpoint sources, Grafton WWTP & SSOs	E. coli TMDL at WAU outlet	Yes, ag and urban runoff BMPs
	S of Elyria, upstream of Brentwood Trib.	6.00	B01S29	<b>NON</b>	Nonpoint sources	E. coli TMDL at WAU outlet	Yes, ag and urban runoff BMPs
	upstream of Elyria at Fuller Rd.	3.07	B01S11	<b>NON</b>	Nonpoint sources	E. coli TMDL at WAU outlet	Yes, ag and urban runoff BMPs
	at Elyria at Washington St.	0.36	B01P07	<b>NON</b>	Nonpoint sources	E. coli TMDL at WAU outlet	Yes, ag and urban runoff BMPs

Stream name <sup>a</sup>	Site Name <sup>b</sup>	RM	STORET	Attainment	Sources	TMDL	Needs NPS Implementation
UT EBBR (RM 5.89) (Brentwood trib)	at Waterfall Dr.	1.00	301936	--			
	at Robson Dr.	0.10	301937	<b>NON</b>	Nonpoint sources	E. coli TMDL at WAU outlet	Yes, ag and urban runoff BMPs
<i>West Branch Black River (04110001 05)</i>							
<i>Charlemont Creek (04110001 05 01)</i>							
Charlemont Creek	at Baker Rd.	8.55	301938	<b>NON</b>	Nonpoint sources	E. coli TMDL at WAU outlet	Yes, ag and urban runoff BMPs
	W of Wellington at Pitts Rd.	2.20	201634	<b>NON</b>	Nonpoint sources	E. coli TMDL at WAU outlet	Yes, ag and urban runoff BMPs
	downstream of Wellington at Peck-Wadsworth Rd.	0.39	B01P05	<b>NON</b>	Wellington WWTP, Nonpoint sources	E. coli TMDL at WAU outlet	Yes, ag and urban runoff BMPs
UT Charlemont Creek (RM 0.51)	upstream of Wellington WWTP	1.00	301940	--			
	downstream of Wellington WWTP	0.76	301943	--			
<i>Upper West Branch Black River (04110001 05 02)</i>							
West Branch Black River	S of Rochester at Stewart Rd.	48.10	201627	--			
	at Rochester at St. Rt. 511 (upstream of crossing)	41.67	B01S41	<b>FULL</b>			
	S of Brighton at St. Rt. 511 (downstream of crossing)	37.30	201624	--			
	NW of Wellington at Pitts Rd.	28.50	B01K21	<b>FULL</b>			
Buck Creek	SE of Rochester at Bursley Rd.	0.95	B01S46	<b>NON</b>	Nonpoint sources	E. coli TMDL at WAU outlet	Yes, ag runoff BMPs
East Creek	at Stocking Road	0.56	B01W23	<b>FULL</b>			
<i>Wellington Creek (04110001 05 03)</i>							

Stream name <sup>a</sup>	Site Name <sup>b</sup>	RM	STORET	Attainment	Sources	TMDL	Needs NPS Implementation
Wellington Creek	at Bursley Rd.	17.10	201633	<b>NON</b>	Nonpoint sources	E. coli TMDL at WAU outlet	Yes, ag runoff BMPs
	at Wellington at Cemetery Rd.	13.09	B01S43	<b>NON</b>	Nonpoint sources	E. coli TMDL at WAU outlet	Yes, ag runoff BMPs
	NE of Wellington at Webster Rd.	8.40	201632	--			
	near mouth at Nickel Plate Rd.	0.60	201630	<b>NON</b>	Nonpoint sources	E. coli TMDL at WAU outlet	Yes, ag runoff BMPs
<i>Middle West Branch Black River (04110001 05 04)</i>							
West Branch Black River	N of Wellington at St. Rt. 58	25.30	B01S40	--			
	E of Pittsfield at St. Rt. 303	19.60	201620	<b>NON</b>	Nonpoint sources	E. coli TMDL at WAU outlet	Yes, ag runoff BMPs
	at West Rd. (Kipton Nickel Plate Rd.)	16.56	B01W19	<b>NON</b>	Nonpoint sources	E. coli TMDL at WAU outlet	Yes, ag runoff BMPs
<i>Plum Creek (04110001 05 05)</i>							
Plum Creek	at Oberlin at Morgan St.	5.57	301944	<b>NON</b>	Nonpoint sources	E. coli TMDL at WAU outlet	Yes, ag runoff BMPs
	upstream of Oberlin WWTP at St. Rt. 511	3.19	B01P03	<b>NON</b>	Nonpoint sources	E. coli TMDL at WAU outlet	Yes, ag runoff BMPs
	just downstream of Oberlin WWTP	2.80	B01S10	--			
	E of Oberlin at Oberlin-Elyria Rd.	0.83	B01P02	<b>NON</b>	Nonpoint sources	E. coli TMDL at	Yes, ag runoff BMPs



Stream name <sup>a</sup>	Site Name <sup>b</sup>	RM	STORET	Attainment	Sources	TMDL	Needs NPS Implementation
						WAO outlet	
<i>Lower West Branch Black River (04110001 05 06)</i>							
West Branch Black River	at Metro Parks Equestrian Area	10.60	201619	<b>NON</b>	Nonpoint sources	E. coli TMDL at WAO outlet	Yes, ag runoff BMPs
	at Butternut Ridge Rd.	7.68	B01P01	--			
	upstream of Elyria at Oberlin-Elyria Rd.	4.18	B01S13	<b>NON</b>	Nonpoint sources	E. coli TMDL at WAO outlet	Yes, ag runoff BMPs
	at Elyria, upstream of Third St.	1.20	B01K18	<b>NON</b>	Nonpoint sources	E. coli TMDL at WAO outlet	Yes, ag runoff BMPs
Elk Creek	at Metro Park property off Parsons Rd.	0.15	301945	--			
Kelner Ditch	E of Oberlin at Parsons Rd.	3.00	201629	--			
	E of Oberlin at Nickel Plate Diagonal Rd.	1.00	B01W15	<b>NON</b>	LaGrange WPCP & SSOs, Nonpoint sources	E. coli TMDL at WAO outlet	Yes, ag runoff BMPs

<i>Black River (04110001 06)</i>							
<i>French Creek (04110001 06 01)</i>							
French Creek	E of Elyria at Mills Rd.	10.41	B01P19	--			
	SE of Avon at Riegelsberger Rd.	9.02	B01P18	<b>FULL</b>			
	at Bridge Point Trail	5.50	301953	--			
	NE of Lorain at Abbe Rd. (St. Rt. 301)	3.20	B01P32	<b>NON</b>	French Creek WWTP,	E. coli TMDL at	Yes, urban storm water runoff BMPs

Stream name <sup>a</sup>	Site Name <sup>b</sup>	RM	STORET	Attainment	Sources	TMDL	Needs NPS Implementation
					Urban storm water	WAU outlet	
	near Lorain at E. River Rd.	0.54	B01S14	<b>NON</b>	French Creek WWTP, Urban storm water	E. coli TMDL at WAU outlet	Yes, urban storm water runoff BMPs
<i>Black River (04110001 06 02)</i>							
Black River	at Elyria at Cascade Park	14.95	501520	<b>NON</b>	MS4	E. coli TMDL at Station 501510	Yes, urban storm water runoff BMPs
	downstream of Elyria, near Spring Valley Golf Club	11.50	B01S09	--			
	250 ft. upstream of Elyria WWTP	10.70	B01W07	--			
	downstream of Elyria WWTP at Ford Rd.	9.80	501510	<b>NON</b>	Elyria WWTP, CSOs, SSOs, MS4	E. coli TMDL at Station 501510	Yes, urban storm water runoff BMPs
	at Sheffield at North Ridge Rd.	8.35	B01S07	--			
	at East 31st Street	6.20	B01S06	<b>FULL</b>			
UT BR (RM 10.18)	at Gulf Rd.	0.68	301954	<b>NON</b>	MS4	E. coli TMDL at Station 501510	Yes, urban storm water runoff BMPs
<i>Heider Ditch-Frontal Lake Erie (04110001 06 03)</i>							
Heider Ditch	at Electric Ave.	0.25	301955	<b>NON</b>	Nonpoint sources	E. coli TMDL at Station 301955	Yes, urban storm water runoff BMPs
Gable Ditch	at Electric Ave.	0.30	301956	<b>NON</b>	Nonpoint sources	E. coli TMDL at Station 301956	Yes, urban storm water runoff BMPs

Stream name <sup>a</sup>	Site Name <sup>b</sup>	RM	STORET	Attainment	Sources	TMDL	Needs NPS Implementation
Powdermaker Ditch	at Electric Ave.	0.15	301958	<b>NON</b>	Nonpoint sources	E. coli TMDL at Station 301958	Yes, urban storm water runoff BMPs

Source: Ohio EPA 2016.

Notes

RM = rivermile.

a. Stream name abbreviations: Black River (BR), East Branch Black River (EBBR), rivermile (RM), and unnamed tributary (UT).

b. Site name abbreviations: Avenue (Ave.), east (E), north (N), northeast (NE), northwest (NW), road (Rd.), southeast (SE), state route (St. Rt.), street (St.), township (Twp), and wastewater treatment plant (WWTP).

## J-2 Main Sources of Best Management Practices

Need to tie this into Section 8.4 of the report

- Ohio's Nonpoint Source Management Plan, 2020 Update ([epa.ohio.gov/Portals/35/nps/2019-NPS\\_Mgmt\\_Plan.pdf](http://epa.ohio.gov/Portals/35/nps/2019-NPS_Mgmt_Plan.pdf))
- Ohio's *Rainwater and Land Development Manual* (December 2018 online edition available at: [epa.ohio.gov/dsw/storm/technical\\_guidance#176135061-rainwater-and-land-development-manual](http://epa.ohio.gov/dsw/storm/technical_guidance#176135061-rainwater-and-land-development-manual))
- Ohio Department of Health Sewage Treatment Systems ([odh.ohio.gov/wps/portal/gov/odh/known-our-programs/sewage-treatment-systems/resources/Sewage-Treatment-Systems](http://odh.ohio.gov/wps/portal/gov/odh/known-our-programs/sewage-treatment-systems/resources/Sewage-Treatment-Systems))
- Ohio State University Extension AgBMPs webpage ([agbmpps.osu.edu/bmp](http://agbmpps.osu.edu/bmp))
- Ohio Natural Resources Conservation Service Field Office Technical Guide, Section IV, Conservation Practice Standards ([efotg.sc.egov.usda.gov/#/details](http://efotg.sc.egov.usda.gov/#/details))
- H2Ohio Program ([h2.ohio.gov/](http://h2.ohio.gov/))

## J-3 Main Sources of Funding

Implementation project funding can come from federal, state or local agencies. The following list of project funding sources represents the most used and is not comprehensive. Development of a Nonpoint Source Implementation Strategies Plan (a.k.a. 9 Element Plan) is a prerequisite for some federal and state grant programs.

- Ohio EPA Nonpoint Source Program Section 319 Grants ([epa.ohio.gov/dsw/nps/index](http://epa.ohio.gov/dsw/nps/index))
- Ohio EPA Division of Environmental and Financial Assistance ([epa.ohio.gov/defa/](http://epa.ohio.gov/defa/))
- H2Ohio Program ([h2.ohio.gov/](http://h2.ohio.gov/))
- United States Environmental Protection Agency Great Lakes Restoration Initiative ([epa.gov/great-lakes-funding/great-lakes-restoration-initiative-glri](http://epa.gov/great-lakes-funding/great-lakes-restoration-initiative-glri))
- United States Department of Agriculture programs (Natural Resources Conservation Service [nrcs.usda.gov/wps/portal/nrcs/site/national/home/](http://nrcs.usda.gov/wps/portal/nrcs/site/national/home/), Farm Service Agency [fsa.usda.gov/](http://fsa.usda.gov/), Rural Development <https://www.rd.usda.gov/>)
- Clean Ohio ([development.ohio.gov/cleanohio/](http://development.ohio.gov/cleanohio/))

## J-4 Program Summaries

The recommendations made in this TMDL report will be carried out if the appropriate entities work to implement them. Activities that do not fall under regulatory authority require that there be a committed effort by state and local agencies, governments, and private groups to carry out and/or facilitate such actions. The availability of adequate resources is also imperative for successful implementation.

The following discusses organizations and programs that have an important role or can help with meeting the goals and recommendations of this TMDL. This section establishes why it is reasonable to be assured of successful implementation.

### J-4.1 Ohio EPA

The several programs that Ohio EPA Division of Surface Water (DSW) administers are designed to control pollution from point sources and certain storm water discharges as well as help with abating nonpoint sources of pollution. Other divisions within the Ohio EPA provide assistance such as funding, technical assistance, and education for water resource related issues. Information regarding the specific

programs within the Ohio EPA DSW can be found on the web at [epa.ohio.gov/dsw/](http://epa.ohio.gov/dsw/), and information about the Division of Environmental and Financial Assistance (DEFA) at [epa.ohio.gov/defa/](http://epa.ohio.gov/defa/). What follows are summaries of programs within the Agency that are especially important for the implementation of this TMDL.

### **NPDES Program**

National Pollution Discharge Elimination System (NPDES) permits authorize the discharge of substances at levels that meet the more stringent of technology or water-quality-based effluent limits and establish requirements related to combined sewer overflows, pretreatment, and sludge disposal. All entities that wish to discharge to the waters of the state must obtain a NPDES permit and both general and individual permits are available for coverage. Through the NPDES program ([epa.ohio.gov/dsw/permits/index.aspx](http://epa.ohio.gov/dsw/permits/index.aspx)), the Ohio EPA will use its authority to ensure that recommended effluent limits are applied to the appropriate permit holders within the watershed. Ohio EPA staff in the NPDES Program can provide technical assistance for permitted entities when needed. Permits issued under the NPDES program must be consistent with the point source recommendations in a TMDL that has been approved by the U.S. EPA.

### **Combined Sewer Overflow Program**

Ohio EPA implements combined sewer overflow (CSO) controls through provisions included in NPDES permits and by using orders and consent agreements when appropriate. The NPDES permits for CSO communities require the implementation of nine minimum control measures ([epa.ohio.gov/dsw/cso/csindex.aspx](http://epa.ohio.gov/dsw/cso/csindex.aspx)). Requirements to develop and implement Long Term Control Plans are also included where appropriate. Through the CSO program, the Ohio EPA will use its authority to ensure that recommended control activities are conducted by the permit holders within the watershed.

### **Storm Water Program**

Ohio EPA implements the federal regulations for storm water dischargers. The following fact sheet describes which discharges are regulated: [epa.ohio.gov/portals/35/storm/phase2factsheet.pdf](http://epa.ohio.gov/portals/35/storm/phase2factsheet.pdf). Both general and individual permits can be used for coverage of storm water effluent. The following website provides a list of Ohio EPA permitted storm water discharges: [epa.ohio.gov/dsw/permits/gplist.aspx](http://epa.ohio.gov/dsw/permits/gplist.aspx).

Through the Storm Water Program, the Ohio EPA will ensure that the storm water permit related recommendations of this TMDL are applied. Staff within the Storm Water Program provides technical assistance to permitted entities when needed. The Storm Water Technical Assistance Section has been responsible for the development and maintenance of the Rainwater Manual for the State of Ohio which provides guidance regarding storm water management and sediment and erosion control measures. District Office staff within the Storm Water Program respond to and investigate complaints received by individuals and organizations.

### **401 Water Quality Certification Program**

In Ohio, anyone wishing to discharge dredged or fill material into the waters of the United States, regardless of whether on private or public property, must obtain a Section 404 permit from the U.S. Army Corps of Engineers (Corps) and a Section 401 Water Quality Certification (WQC) from the state. Ohio EPA administers the Section 401 Program ([epa.ohio.gov/dsw/401/permitting](http://epa.ohio.gov/dsw/401/permitting)).

Stream and wetland mitigation are used as a condition for granting 401 certificates and is the means of ensuring that water resources do not experience a net decline in quality. When a wetland or stream segment is impacted, an appropriate mitigation is required such that there is no net loss of wetlands or unimpaired stream length. Restoration, creation, or other forms of enhancement is required at a level that depends upon the original quality of the resource.

### **Wetland Protection Program**

House Bill 231 established a permanent permitting process for isolated wetlands. Reviewers in the 401 Water Quality Certification Section are responsible for the isolated wetland permits required by this state law. Ohio EPA staff will conduct reviews and issue permits to provide the most reasonable protections and improvements of surface waters in the watershed ([epa.ohio.gov/dsw/401/permitting#149524500-isolated-wetland-permits](http://epa.ohio.gov/dsw/401/permitting#149524500-isolated-wetland-permits)).

### **Enforcement Program**

When Ohio EPA is unable to resolve continuing water quality problems because of violations of permitting rules or laws, the DSW may recommend that enforcement action be taken. The enforcement and compliance staffs work with Ohio EPA attorneys, as well as the Attorney General's Office to resolve these cases. Where possible, an added emphasis and priority is given to actions in sensitive watersheds. All completed enforcement actions are posted on the DSW web page ([epa.ohio.gov/dsw/enforcement/enf](http://epa.ohio.gov/dsw/enforcement/enf)).

### **208 Program (State Water Quality Management Plans)**

Ohio EPA oversees the State Water Quality Management (WQM) Plan ([epa.ohio.gov/dsw/mgmtplans/208index](http://epa.ohio.gov/dsw/mgmtplans/208index)). The State WQM Plan is like an encyclopedia of information used to plot and direct actions that abate pollution and preserve clean water. A wide variety of issues are addressed and framed within the context of applicable law and regulations. The TMDL becomes a part of the State WQM Plan when it is approved by U.S. EPA and the recommendations found therein align with and support the state's overall plan for clean waters. More importantly, the requirement and intention to review and update the State WQM Plan on an annual basis creates an avenue to apply adaptive management and make adjustments in these recommendations as necessary.

Local governments typically conduct planning to meet the sewage disposal needs of the community. Ohio EPA has established guidelines for planning that are useful in the context of Section 208 and the State WQM Plan. Local governments that follow these guidelines are more likely to have the results of their planning work incorporated into the State 208 plan prepared by Ohio EPA. The Areawide Planning Agencies have established their own operating protocols, committees and processes to involve local governments in shaping their 208 plans.

Planning should account for long range sewer and treatment needs by looking at projections for community growth and development. Comprehensive land use planning, where available, is an excellent tool that can help those assessing the sewage disposal needs of a community or group of communities. In highly populated areas regional solutions involving several communities have proven to be a cost-effective means to solve sewage disposal problems in urban and suburban areas.

### **Nonpoint Source Program**

Ohio EPA's Nonpoint Source (NPS) program ([epa.ohio.gov/dsw/nps/index](http://epa.ohio.gov/dsw/nps/index)) focuses on identifying and supporting implementation of management practices and measures that reduce pollutant loadings, control pollution from nonpoint sources and improve the overall quality of these waters. Ohio EPA receives federal Section 319(h) funding to implement a statewide nonpoint source program, including offering grants to address nonpoint sources of pollution. Staff from the NPS program work with state and local agencies, governments, watershed groups, and citizens.

Section 319(h) grants are expected to be directed to projects that eliminate or reduce water quality impairments caused by nonpoint sources of pollution. To be eligible for funding, a project must be described in a U.S. EPA approved Nine-Element Nonpoint Source Implementation Strategy (9-Element

NPS-IS) plan. Guidance and templates for developing 9-Element NPS-IS plans is available here: [epa.ohio.gov/dsw/nps/index#120845363-9-element-nps-is-development-tools](http://epa.ohio.gov/dsw/nps/index#120845363-9-element-nps-is-development-tools).

### **Lake Erie Area of Concern Program**

The Ohio Areas of Concern (AOCs) ([epa.ohio.gov/dsw/lakeerie/index#125073718-areas-of-concern](http://epa.ohio.gov/dsw/lakeerie/index#125073718-areas-of-concern)) were initially identified in the early 1980s as the most environmentally degraded areas along Ohio's Lake Erie coast. The Great Lakes Water Quality Agreement (GLWQA) lays out 14 beneficial use impairments (BUIs) that must be remediated in order to restore the AOCs. The goal of the AOC Program is to delist the AOCs by restoring all beneficial uses to these rivers. The AOC Program has been implemented with the assistance of many partners from the state, federal and local governments as well as interested stakeholders. The actions taken to restore BUIs will also help to restore water quality impairments identified in this TMDL report.

### **Division of Environmental and Financial Assistance**

The Division of Environmental and Financial Assistance (DEFA) ([epa.ohio.gov/defa/](http://epa.ohio.gov/defa/)) provides incentive financing, supports the development of effective projects, and encourages environmentally proactive behaviors through the Ohio Water Pollution Control Loan Fund (WPCLF). Municipal wastewater treatment improvements that are available for financing include: wastewater treatment plant improvements/expansion, new/replacement sewers, excess sewer infiltration/inflow correction, facilities for unsewered areas including HSTS systems, and combined sewer overflow correction. Nonpoint pollution control projects that are eligible for financing include: agriculture/silviculture improvements and best management practices, wellhead protection, landfill closure, stream corridor restoration/protection and hazardous waste cleanup (brownfields). The Water Resource Restoration Sponsor Program (WRRSP) is a part of the WPCLF and directs funding toward stream protection and restoration projects. The primary focus of this program is to improve and protect stream habitat.

#### **J-4.2 Ohio Department of Agriculture**

##### **Division of Soil and Water Conservation**

Ohio Department of Agriculture's Division of Soil and Water Conservation (ODA-DSWC, [agri.ohio.gov/wps/portal/gov/oda/divisions/soil-and-water-conservation/about-us/](http://agri.ohio.gov/wps/portal/gov/oda/divisions/soil-and-water-conservation/about-us/)) "provides leadership and services enabling Ohioans to conserve, protect, and enhance soil, water and land resources". The division provides guidance, training and support to local Soil and Water Conservation Districts (SWCDs), provides support to the Ohio Soil and Water Conservation Commission, implements the agricultural and nonpoint source pollution abatement program, supports local watershed-based planning and implementation and implements a comprehensive statewide soils information program.

#### **J-4.3 Ohio Department of Health**

##### **Sewage Treatment Systems Program**

Ohio Department of Health (ODH)'s Sewage Treatment Systems program ([odh.ohio.gov/wps/portal/gov/odh/know-our-programs/sewage-treatment-systems/welcome-to](http://odh.ohio.gov/wps/portal/gov/odh/know-our-programs/sewage-treatment-systems/welcome-to)) regulates sewage treatment systems across the state for one, two and three-family dwellings and small flow on-site sewage treatment systems (systems that treat up to 1,000 gallons per day). Local health districts, which may adopt more stringent rules for these systems, conduct the permitting, inspections and enforcement. ODH provides technical assistance and training on sewage treatment systems, collaborates with other agencies regarding sewage treatment system issues, develops the rules for design, installation and operation of sewage treatment systems, and provides technical review and support for the Sewage Treatment System Technical Advisory Committee.

#### J-4.4 H2Ohio Plan

The H2Ohio plan, unveiled by Governor Mike DeWine in November 2019, is an investment in targeted solutions to help reduce phosphorus runoff and prevent algal blooms through increased implementation of agricultural best practices and the creation of wetlands; improve wastewater infrastructure; replace failing home septic systems; and prevent lead contamination in high-risk daycare centers and schools. The Ohio General Assembly invested \$172 million in the plan in July 2019 to support water quality improvements in the Lake Erie basin and other areas of the state under the plan.

#### J-4.5 United States Department of Agriculture

Federal Farm Bill programs are administered by the local United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) and Farm Service Agency (FSA) offices. NRCS is responsible for the Environmental Quality Incentives Program (EQIP), while FSA is responsible for set-aside programs such as the Conservation Reserve Program (CRP).

##### **Environmental Quality Incentives Program**

EQIP is an incentive-based, voluntary program designed to increase the use of agriculturally-related best management and conservation practices. EQIP is available to operators throughout the entire watershed irrespective of whether they own or rent the land that they farm. Through this program operators receive cost share and/or incentive payments for employing conservation management practices.

Eligible conservation practices cover broad categories such as nutrient and pesticide management, conservation tillage, conservation crop rotation, cover cropping, manure management and storage, pesticide and fertilizer handling facilities, livestock fencing, pastureland management, and drainage water management among others. More information on this program is available on the NRCS website at [nrcs.usda.gov](http://nrcs.usda.gov).

##### **Conservation Reserve Program**

The Conservation Reserve Program (CRP, [fsa.usda.gov/programs-and-services/conservation-programs/conservation-reserve-program/index](http://fsa.usda.gov/programs-and-services/conservation-programs/conservation-reserve-program/index)) is a land conservation program. In exchange for a yearly rental payment, farmers enrolled in the program agree to remove environmentally sensitive land from agricultural production and plant species that will improve water quality and habitat for threatened and endangered species.