

DNR Watershed Priorities for the Zumbro River Watershed

This document was prepared by efforts led by the Department of Natural Resources (DNR), Division of Ecological and Water Resources (EWR). Region 3 staff from DNR divisions (Fisheries, Wildlife, Parks and Trails, and Ecological and Water Resources) were engaged in several meetings to develop watershed priorities for the Zumbro River Watershed. The meetings focused on gathering input from staff based upon professional judgement from their combined experience and local knowledge from working within the watershed.

The information gathered is presented in a series of tables organized by DNR divisions and reflects different priorities based on each division's individualistic mission. Information presented on the tables is organized by the 10-digit hydrologic unit code (HUC) number and associated name, along with the appropriate 12-digit HUC subwatershed name(s). Priorities identified during this process varied from protection, restoration, regulatory (protection and/or restoration), and technical guidance and/or assistance) types of strategies and are presented in no particular order.

While every attempt was made to provide information for the entire Zumbro River Watershed at the 10-digit HUC scale, some subwatersheds' priorities at the HUC 12 scale were left blank. Blank cells should not be interpreted as 'not important,' rather, they should be viewed as 'more information needs to be collected' to determine specific priorities. Conversely, cells where strategies are identified should not be viewed as inclusive, rather, priority strategies identified represent the opinions of the Region 3 staff.

The final table presents a summary of available information from the Watershed Health Assessment Framework (<http://www.dnr.state.mn.us/whaf/index.html>). This framework calculates a health score for a variety of watershed variables. Scores are presented at the 12-digit subwatershed scale, where data was available, and a watershed-wide mean health score was calculated for each watershed variable. Scores are color-coded based upon score range.

Item	Source	Link or Contact
Water Quality Condition	MNPCA TMDL Study and Report	https://www.pca.state.mn.us/sites/default/files/wq-ws3-07040004b.pdf
MN Stream Habitat Assessment Score	MNPCA Stressor ID Report	https://www.pca.state.mn.us/sites/default/files/wq-ws5-07040004a.pdf
MDH Drinking Water and Wellhead Protection	MNDNR GIS Layer	file:///V:/gdrs/data/pub/us_mn_state_health/water_wellhead_protection_areas/metadata/metadata.html#Top
DNR Permitted Water Use and Wells	MNDNR GIS Layer	file:///V:/gdrs/data/pub/us_mn_state_dnr/water_state_use_data_system/metadata/metadata.html
Known Mapped Springsheds	MNDNR Groundwater Specialist	Jeff Green-MDNR Rochester
Karst Features	MNDNR GIS Layer	file:///V:/gdrs/data/pub/us_mn_state_dnr/geos_karst_feature_inventory_pts/metadata/metadata.html
Scientific and Natural Areas	MNDNR GIS Layer	file:///V:/gdrs/data/pub/us_mn_state_dnr/bdry_scientific_and_nat_areas/metadata/metadata.html
Areas of Biodiversity Significance	MNDNR GIS Layer	file:///V:/gdrs/data/pub/us_mn_state_dnr/biota_mcbs_sites_of_biodiversity/metadata/metadata.html
Number of Live Mussel Species	MNDNR Survey Report	Ward, Nicole. 2013. The status of native mussels in the Zumbro River watershed, Minnesota.
Redside Dace Presence	MNDNR Fisheries Stream Survey Reports	Contact Lake City Area Fisheries Office
Rare Fishes Presence	MNDNR Fisheries Stream Survey Reports	Contact Lake City Area Fisheries Office
DNR Fisheries Mangement Plan	MNDNR Fisheries Stream Mangement Plans	Contact Lake City Area Fisheries Office
Heritage Strain Brook Trout Presence	MNDNR Fisheries Research	Contact John Hoxmeier, Lake City Fisheries Office
Wildlife Management Areas	MNDNR GIS Layer	file:///V:/gdrs/data/org/us_mn_state_dnr/bdry_dnr_wildlife_mgmt_areas/metadata/metadata.html
Angling Easements	MNDNR GIS Layer	file:///V:/gdrs/data/pub/us_mn_state_dnr/plan_mndnr_fisheries_acquisition/metadata/metadata.html
Dams and Barriers	MNDNR GIS Layer	file:///V:/gdrs/data/pub/us_mn_state_dnr/loc_mn_dams_inventory/pub/m
Habitat Improvement Projects	MNDNR Fisheries	Contact Lake City Area Fisheries Office
High Conservation Value Forests	MNDNR GIS Layer	file:///V:/gdrs/data/org/us_mn_state_dnr/biota_hcvf/metadata/metadata.html
Emerald Ash Borer Quarantines	MNDNR GIS Layer	file:///V:/gdrs/data/pub/us_mn_state_mda/env_emerald_ash_borer/metadata/metadata.html
Minnesota State Trails	MNDNR GIS Layer	file:///V:/gdrs/data/pub/us_mn_state_dnr/trans_state_trails_minnesota/metadata/metadata.html
Minnesota Water Trails	MNDNR GIS Layer	file:///V:/gdrs/data/pub/us_mn_state_dnr/trans_water_trails_minnesota/metadata/metadata.html
WHAF Scores	MNDNR GIS Layer	file:///V:/gdrs/data/pub/us_mn_state_dnr/env_watershed_health_assessment/metadata/metadata.html

ZUMBRO RIVER WATERSHED WRAPS
DIVISION OF ECOLOGICAL AND WATER RESOURCES PRIORITY DESCRIPTIONS

Row No.	10-digit HUC Name (Name & HUC No.)	12-digit HUC Name (Name & HUC No.)	Trout Stream Designation (Name & Kittle No.)	Water Quality Condition Impaired Streams (2014 draft, MPCA) (Impairment, Use, Name)	MDH Drinking Water Supply Management Areas (DWSMA), Wellhead Protection Areas (WPA) & Source Water Assessment (SWA) Areas DWSMA: Name & Vulnerability WPA: Name SWA: Name *portions indicates if DWSMA/WPA/SWA is within multiple HUC12s	DNR Permitted Water Use and Wells Total No. Water Use Permits / Total No. Verified Wells	Known Mapped Springsheds (Object ID #/Name; Type (subsurface or surface springshed); acres and additional HUC 12 subwatersheds encompassed) (MGS Bedrock Geology/Work with Jeff Green in future to identify the bedrock units where sinkholes, karst features, springs and sinks are likely to occur)	Sinkholes/Karst Features (Total No.)	Springs (Total No.)	Sinks (Total No.)	Calcareous Fens (Name)	DNR Land Resource Scientific and Natural Areas (SNAs)	Area of Biodiversity & Significance HUC-10 O=Outstanding H=High M=Moderate B=Below	Number of mussel species found live in 2010-2011	Redside Dace Population Present and Persistent	Rare Fish Species Present
1	North Fork Zumbro River (0704000404)	Headwaters North Fork Zumbro River (070400040401)		Impaired for Aquatic Life-Invertebrates and Aquatic Recreation-Bacteria	Two DWSMA totalling 2,844 acres	32 Water Use Permits 415 Verified Wells	ID: 72543; Surface: 1,369 acres Id: 72649; Surface: 450 acres	25	8	2	1	64 Acres	O=524 acres; M=162 acres	Mainstem 7 species Tributaries 3 species	Yes-5 collections from 1967 to 2015	
		Mazeppa Creek (070400040404)	Trout Brook (M-034-049-001) Unnamed Creek (M-034-049-001-006)	Impaired for Aquatic Life-Invertebrates and Aquatic Recreation-Bacteria									M=435 acres		No	
		North Fork Zumbro River (070400040405)		Insufficient Data									O=46 acres; H=199 acres; M=1,275 acres		Yes-Tributary in Woodvury WMA in 2015.	
		Pearl Creek-North Fork Zumbro River (070400040402)		No Data									O=461 acres; H=173 acres; M=258 acres		Yes-19 collections from 1960 to 2012	
		Shingle Creek-North Fork Zumbro River (070400040403)		Impaired for Aquatic Life-Invertebrates									O=481 acres; H=137 acres; M=225 acres		Yes-19 collections from 1960 to 2013	
2	Middle Fork Zumbro River (0704000403)	City of Concord-Middle Fork Zumbro River (070400040303)		Impaired for Aquatic Life-Invertebrates-TSS and Aquatic Recreation-Bacteria	Three DWSMA totalling 638 acres	31 Water Use Permits 905 Verified Wells		94	69	0	0	0	O=737 acres; H=101 acres		No	
		County Ditch No 1 (070400040302)		Insufficient Data									O=5 acres	No		
		Harcom Creek-Middle Fork Zumbro River (070400040305)		Fully Supporting for Aquatic Life									H=118 acres; M=299 acres	No-1 collection in 1970		
		Headwaters Middle Fork Zumbro River (070400040301)		Impaired for Aquatic Life-Invertebrates-TSS and Aquatic Recreation-Bacteria										No		
		Milliken Creek (070400040304)		Fully Supporting for Aquatic Life									M=441 acres	No		
		Middle Fork Zumbro River (070400040307)		Impaired for Aquatic Life-Invertebrates-TSS and Aquatic Recreation-Bacteria									O=179 acres; H=118 acres; M=905 acres	Mainstem 11 species Tributaries 6 species	No	Ozark Minnow 2012 Black Redhorse 2012
		North Branch Middle Fork Zumbro River (070400040306)		Fully Supporting for Aquatic Life									O= 5 acres; H=202 acres; M=1,034 acres	Mainstem 4 species	Yes-20 collections 1967 to 2012	Ozark Minnow 2012 Redfin Shiner 2012

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3	South Branch Middle Fork Zumbro River (0704000402)	Headwaters Dodge Center Creek (070400040202)		Impaired for Aquatic Life-Invertebrates and Fish	Three DWSMA totalling 1,952 acres Five WPA totalling 1,242 acres	41 Water Use Permits 1,222 Verified Wells		97	39	0	2	39 Acres	H=611 acres; M=5 acres		No	
		Dodge Center Creek (070400040203)		Impaired for Aquatic Life-Invertebrates and TSS and Aquatic Recreation-Bacteria									H=570 acres; M=1,207 acres		No	
		Rice Lake-South Branch Middle Fork Zumbro River (070400040201)		Impaired for Aquatic Life-Invertebrates-Turbidity									H=1,825 acres; M=227 acres		Yes-2009 collection	
		Masten Creek-South Branch Middle Fork Zumbro River (070400040204)		Fully Supporting for Aquatic Life									O=216 acres; M=707 acres		No	
		South Branch Middle Fork Zumbro River (070400040205)		Impaired for Aquatic Life-Invertebrates-TSS									O=356 acres; H=345 acres; M=2,052 acres	Mainstem 7 species	No	Ozark Minnow 2012 Black Redhorse 2012
4	South Fork Zumbro River (0704000401)	Badger Creek (070400040105)		Impaired for Aquatic Life-Fish	14 DWSMA covering 38,853 acres 26 WPA totalling 31,828 acres	145 Water Use Permits 4,022 Verified Wells		415	195	2	9	0			No	
		Bear Creek (070400040106)		Impaired for Aquatic Recreation-Bacteria									O=500 acres; M=450 acres		No	
		Cascade Creek (070400040109)		Impaired for Aquatic Life-Invertebrates and Fish											No	
		City of Rochester-South Fork Zumbro River (070400040108)		Impaired for Aquatic Life-TSS and Aquatic Recreation-Bacteria									H=379 acres; M=545 acres		No	
		Headwaters South Fork Zumbro River (070400040101)		Fully Supporting for Aquatic Life									M=161 acres		No	
		Salem Creek (070400040103)		Impaired for Aquatic Life-Invertebrates and Aquatic Recreation-Bacteria									H=6 acres; M=1,166 acres	Mainstem 10 species Tributaries 9 species	No	Ozark Minnow 2012
		Silver Creek (070400040107)		Impaired for Aquatic Life-TSS									M=192 acres		No	
		South Fork Zumbro River (Salem Cr. To Bear Cr.) (070400040110)		Impaired for Aquatic Life-Invertebrates and TSS and Aquatic Recreation-Bacteria									M=1,030 acres		No	

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		Town of Rock Dell-South Fork Zumbro River (070400040102)		Fully Supporting for Aquatic Life									O=145 acres; H=6 acres; M=1,076 acres		No	Ozark Minnow 2012							
		Willow Creek (070400040104)		Candidate for Delisting (TSS)									H=27 acres; M=344 acres		No								
5	Zumbro River (704000405)	City of Zumbro Falls-Zumbro River (070400040504)	Hammond Creek (M-034-041)	Impaired for Aquatic Recreation-Bacteria	Seven DWSMA totalling 14,650 acres	29 Water Use Permits 815 Verified Wells		210	48	3	0	506 Acres	H=983 acres; M=2,637 acres	Mainstem 6 species	No								
		Cold Creek (070400040503)	Cold Spring Brook (M-034-048)	Impaired for Aquatic Life-Invertebrates																		No	
		Dry Run Creek (070400040501)		Impaired for Aquatic Recreation-Bacteria																M=211 acres		No	
		Long Creek (070400040505)	Long Creek (M-034-022)	Impaired for Aquatic Recreation-Bacteria																		No	
		Middle Creek (070400040506)	Middle Creek (M-034-021)	Impaired for Aquatic Recreation-Bacteria																H=906 acres; M=565 acres		No	
		Silver Spring Creek-Zumbro River (070400040507)	Long Creek (M-034-022) Middle Creek (M-034-021)	Impaired for Aquatic Recreation-Bacteria																H=1,344 acres; M=2,292 acres		No	
		Spring Creek (070400040509)	Spring Creek (M-034-020)	Impaired for Aquatic Life-Fish and Aquatic Recreation-Bacteria																H=910 acres; M=910 acres		No	
		Trout Brook (070400040511)	Trout Brook (M-034-009)	Impaired for Aquatic Recreation-Bacteria																H=449 acres; M=91 acres		No	
		West Albany Creek (070400040508)	West Albany Creek (M-034-020-001)	Fully Supporting for Aquatic Life											ID: 72944; Surface; 2,989 acres					H=438 acres; M=303 acres		No	
		West Indian Creek (070400040510)	West Indian Creek (M-034-017)	Impaired for Aquatic Recreation-Bacteria																O=1,277 acres; M=1,119 acres		No	
		Zumbro Lake-Zumbro River (070400040502)		Impaired for Aquatic Recrecreation																O=182 acres; H=244 acres; M=2,986 acres		Yes-2 collections in the 1980's	
		Zumbro River (070400040512)	Zell Creek (M-034-013)	No Data																O=1,588 acres; H=3,945 acres; M=4,774 acres			Crystal Darter 1980

ZUMBRO RIVER WATERSHED WRAPS
DIVISION OF ECOLOGICAL AND WATER RESOURCES PRIORITIES

Strategy Categories
Protection
Restoration
Regulation
Technical Guidance

Row No.	10-digit HUC Name (Name & HUC No.)	12-digit HUC Name (Name & HUC No.)	Trout Stream Designation (Name & Kittle No.)	Priority Strategies	Protection	Restoration	Regulation	Technical Guidance
1	North Fork Zumbro River (0704000404)	Headwaters North Fork Zumbro River (070400040401)			State Wildlife Action Plan: Protect high quality terrestrial and aquatic habitats and their connections among public and private conservation lands by acquisition, restoration, technical guidance, monitoring, and data collection.			
		Mazeppa Creek (070400040404)	Trout Brook (M-034-049-001) Unnamed Creek (M-034-049-001-006)	Protect two surface water sinks south of the City of Goodue, through local zoning and surface runoff management.				
		North Fork Zumbro River (070400040405)						
		Pearl Creek-North Fork Zumbro River (070400040402)						
		Shingle Creek-North Fork Zumbro River (070400040403)						
2	Middle Fork Zumbro River (0704000403)	City of Concord-Middle Fork Zumbro River (070400040303)		Conduct springshed mapping in the eastern 1 /3 of the 12 digit HUC.	State Wildlife Action Plan: Protect high quality terrestrial and aquatic habitats and their connections among public and private conservation lands by acquisition, restoration, technical guidance, monitoring, and data collection.			
		County Ditch No 1 (070400040302)						
		Harcom Creek-Middle Fork Zumbro River (070400040305)		Conduct springshed mapping in the northwest corner of the 12 digit HUC.				
		Headwaters Middle Fork Zumbro River (070400040301)						
		Milliken Creek (070400040304)						
		Middle Fork Zumbro River (070400040307)		Improve riparian connectivity from Harcom Creek to Oronoco along the corridor of the Middle Fork Zumbro River.				
		North Branch Middle Fork Zumbro River (070400040306)		Conduct springshed mapping from Hwy 57 downstream to Roscoe WMA .				
3	South Branch Middle Fork Zumbro River (0704000402)	Headwaters Dodge Center Creek (070400040202)			State Wildlife Action Plan: Protect high quality terrestrial and aquatic habitats and their connections among public and private conservation lands by acquisition, restoration, technical guidance, monitoring, and data collection.			
		Dodge Center Creek (070400040203)						
		Rice Lake-South Branch Middle Fork Zumbro River (070400040201)						
		Masten Creek-South Branch Middle Fork Zumbro River (070400040204)						

Row No.	10-digit HUC Name (Name & HUC No.)	12-digit HUC Name (Name & HUC No.)	Trout Stream Designation (Name & Kittle No.)	Priority Strategies					
		South Branch Middle Fork Zumbro River (070400040205)							
4	South Fork Zumbro River (0704000401)	Badger Creek (070400040105)				State Wildlife Action Plan: Protect high quality terrestrial and aquatic habitats and their connections among public and private conservation lands by acquisition, restoration, technical guidance, monitoring, and data collection.	Expand the DNR observation well monitoring network to increase understanding of groundwater quantity. Ensure all water users are in compliance with appropriation permits and existing laws.	Stream Habitat Program: Conduct stream restorations where feasible to address water quality impairments and improve aquatic habitat.	Nongame Program: Enforce invasive species regulations to prevent establishment and expansion of regulated species.
		Bear Creek (070400040106)							
		Cascade Creek (070400040109)		Monitor the effects of stream channel restoration on water quality, hydrology, and stream ecological features.					
		City of Rochester-South Fork Zumbro River (070400040108)		Conduct springshed mapping upstream from Mayowood Lake.					
		Headwaters South Fork Zumbro River (070400040101)							
		Salem Creek (070400040103)							
		Silver Creek (070400040107)							
		South Fork Zumbro River (070400040110)							
		Town of Rock Dell-South Fork Zumbro River (070400040102)		Protect surface water sinks through local zoning and acquisition.					
		Willow Creek (070400040104)							
5	Zumbro River (704000405)	City of Zumbro Falls-Zumbro River (070400040504)	Hammond Creek (M-034-041)		Improve forest quality and maintain riparian connectivity through active forest management and opportunistic acquisition.	State Wildlife Action Plan: Protect high quality terrestrial and aquatic habitats and their connections among public and private conservation lands by acquisition, restoration, technical guidance, monitoring, and data collection.	Expand the DNR observation well monitoring network to increase understanding of groundwater quantity. Ensure all water users are in compliance with appropriation permits and existing laws.	Stream Habitat Program: Conduct stream restorations where feasible to address water quality impairments and improve aquatic habitat.	Nongame Program: Enforce invasive species regulations to prevent establishment and expansion of regulated species.
		Cold Creek (070400040503)	Cold Spring Brook (M-034-048)	Collect base flow discharge measurements at Fisheries long-term monitoring sites	Obtain funding and implement a channel restoration project following results of the WARSSS assessment.				
		Dry Run Creek (070400040501)			Protect habitat diversity and restore riparian and shoreland habitat through acquisition and private lands management.				
		Long Creek (070400040505)							
		Long Creek (070400040505)	Long Creek (M-034-022)						
		Middle Creek (070400040506)	Middle Creek (M-034-021)						
		Silver Spring Creek-Zumbro River (070400040507)	Long Creek (M-034-022) Middle Creek (M-034-021)		Improve forest quality and maintain riparian connectivity through active forest management and opportunistic acquisition.				
		Spring Creek (070400040509)	Spring Creek (M-034-020)	Conduct a WARSSS assessment to identify sediment sources and causes for altered hydrology.	Improve forest quality and maintain riparian connectivity through active forest management and opportunistic acquisition.				
				Trout Brook (070400040511)	Trout Brook (M-034-009)				

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		West Albany Creek (070400040508)	West Albany Creek (M-034-020-001)	Protect the surface water sink five mile east of Zumbro Falls, through local zoning and surface runoff management.						
		West Indian Creek (070400040510)	West Indian Creek (M-034-017)	Collect base flow discharge measurements at Fisheries long-term monitoring sites						
		Zumbro Lake-Zumbro River (070400040502)		Protect the surface water sink in the southwestern section of HUC 12 through local zoning and surface runoff management.	Protect habitat diversity and restore riparian and shoreland habitat through acquisition and private lands management.					
		Zumbro River (070400040512)	Zell Creek (M-034-013)							

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DIVISION OF FISHERIES PRIORITY DESCRIPTIONS

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1	North Fork Zumbro River (0704000404)	Headwaters North Fork Zumbro River (070400040401)		Impaired for Aquatic Life-Invertebrates and Aquatic Recreation-Bacteria	46		21.9	2012				33.7 (Poor)	28 (Fairly Stable)			O=524 acres; M=162 acres	
		Mazeppa Creek (070400040404)	Trout Brook (M-034-049-001) Unnamed Creek (M-034-049-001-006)	Impaired for Aquatic Life-Invertebrates and Aquatic Recreation-Bacteria	56	23.42	10.73	2014	Yes	Buck Family WMA-159 acres Tiedemann WMA-136 acres	0.8 miles	65.5 (Fair)	95 (Severely Unstable)	Hadler Detention		M=435 acres	
		North Fork Zumbro River (070400040405)		Insufficient Data	60		25.8	2012		Woodbury WMA-76 acres		52.5 (Fair)	58 (Moderately Unstable)	Mazeppa		O=46 acres; H=199 acres; M=1,275 acres	
		Pearl Creek-North Fork Zumbro River (070400040402)		No Data	41		14.4	No						Kenyon Embankment		O=461 acres; H=173 acres; M=258 acres	
		Shingle Creek-North Fork Zumbro River (070400040403)		Impaired for Aquatic Life-Invertebrates	37		6.9	No					44.8 (Poor)	NA	Wanamingo; Jackson Pond 2		O=481 acres; H=137 acres; M=225 acres
2	Middle Fork Zumbro River (0704000403)	City of Concord-Middle Fork Zumbro River (070400040303)		Impaired for Aquatic Life-Invertebrates-TSS and Aquatic Recreation-Bacteria	24		18.2	2012				63.6 (Fair)	70 (Moderately Unstable)	Buehler Detention		O=737 acres; H=101 acres	
		County Ditch No 1 (070400040302)		Insufficient Data	16		11.8	No								O=5 acres	
		Harkcom Creek-Middle Fork Zumbro River (070400040305)		Fully Supporting for Aquatic Life	29		11.16	2002					59.6 (Fair)	54 (Moderately Unstable)	Alberts-Rueg Group		H=118 acres; M=299 acres
		Headwaters Middle Fork Zumbro River (070400040301)		Impaired for Aquatic Life-Invertebrates-TSS and Aquatic Recreation-Bacteria	29		17.3	2012					50.7 (Fair)	NA			
		Milliken Creek (070400040304)		Fully Supporting for Aquatic Life	31		20.74	No					64.8 (Fair)	23 (Stable)			M=441 acres
		Middle Fork Zumbro River (070400040307)		Impaired for Aquatic Life-Invertebrates-TSS and Aquatic Recreation-Bacteria	31		8.4	2012					76.2 (Good)	37 (Fairly Stable)	Hoehnd Bros. Pond; Lake Shady (removal)		O=179 acres; H=118 acres; M=905 acres
		North Branch Middle Fork Zumbro River (070400040306)		Fully Supporting for Aquatic Life	58		26.48	2012		Roscoe WMA-49 acres			67.6 (Good)	21 (Stable)	Overland Pond		O= 5 acres; H=202 acres; M=1,034 acres

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DIVISION OF FISHERIES PRIORITY DESCRIPTIONS**

Row No.	10-digit HUC Name (Name & HUC No.)	12-digit HUC Name (Name & HUC No.)	Trout Stream Designation (Name & Kittle No.)	Water Quality Condition Impaired Streams (2014 draft, MPCA) (Impairment, Use, Name)	HUC 12 Total Area (square miles)	Trout Stream Length (miles)	DNR Stream Length (miles)	DNR Fisheries Stream Management Plan (MP Name, Amend., date)	Heritage Strain Brook Trout Present	DNR Land Resource (WMA Name & Acres)	Angling Easement Length (miles)	MN Stream Habitat Assessment Score and (Rating)	Channel Condition and Stability Assessment Rating	Dams and Barriers	Habitat Improvement Projects (Stream name, length in feet, year, if known, otherwise Unk = unknown) *updated June 2015	Area of Biodiversity & Significance: O=Outstanding H=High M=Moderate
3	South Branch Middle Fork Zumbro River (0704000402)	Headwaters Dodge Center Creek (070400040202)		Impaired for Aquatic Life-Invertebrates and Fish	43		3.1	No		McMartin WMA-37 acres		41.1 (Poor)	51 (Moderately Unstable)			H=611 acres; M=5 acres
		Dodge Center Creek (070400040203)		Impaired for Aquatic Life-Invertebrates and TSS and Aquatic Recreation-Bacteria	47		22.8	No				61.7 (Fair)	56 (Moderately Unstable)	Donaldson Pond		H=570 acres; M=1,207 acres
		Rice Lake-South Branch Middle Fork Zumbro River (070400040201)		Impaired for Aquatic Life-Invertebrates-Turbidity	42		15.46	2012				NA	NA	Rice Lake Outlet		H=1,825 acres; M=227 acres
		Masten Creek-South Branch Middle Fork Zumbro River (070400040204)		Fully Supporting for Aquatic Life	34		4.56	No		Phesants Forever WMA-297 ac		65.45 (Fair)	22 (Stable)	Mantorville Twp 18; Mantorville Dam		O=216 acres; M=707 acres
		South Branch Middle Fork Zumbro River (070400040205)		Impaired for Aquatic Life-Invertebrates-TSS	50		30	2012		Naylor AMA-39 acres Naylor WMA-270 acres		67.9 (Fair)	44 (Fairly Stable)	LaMoynne Detention	Oxbow Park 600 ft	O=356 acres; H=345 acres; M=2,052 acres
4	South Fork Zumbro River (0704000401)	Badger Run (070400040105)		Impaired for Aquatic Life-Fish	16		9.25	1996				48 (Fair)	85 (Severely Unstable)			
		Bear Creek (070400040106)		Impaired for Aquatic Recreation-Bacteria	36		16.3	1985				52.36 (Fair)	93.2 (Severely Unstable)	BR-1		O=500 acres; M=450 acres
		Cascade Creek (070400040109)		Impaired for Aquatic Life-Invertebrates and Fish	38		20.6	2012				56.1 (Fair)	90 (Severely Unstable)	KR-3; KR-76; KR-7		
		City of Rochester-South Fork Zumbro River (070400040108)		Impaired for Aquatic Life-TSS and Aquatic Recreation-Bacteria	19		10.9	2000				70 (Good)	73 (Moderately Unstable)	Maywood; Silver Lake		H=379 acres; M=545 acres
		Headwaters South Fork Zumbro River (070400040101)		Fully Supporting for Aquatic Life	19		15.1	2000				67 (Good)	59 (Moderately Unstable)			M=161 acres
		Salem Creek (070400040103)		Impaired for Aquatic Life-Invertebrates and Aquatic Recreation-Bacteria	62		23.9	2012		Bud Jensen WMA-102 acres		68 (Good)	40 (Fairly Stable)			H=6 acres; M=1,166 acres
		Silver Creek (070400040107)		Impaired for Aquatic Life-TSS	20		7.7	No		Gordon Yeager WMA-203 acres		75 (Good)	59 (Moderately Unstable)	SR-2; Century Hills Detention		M=192 acres

**ZUMBRO RIVER WATERSHED WRAPS
DIVISION OF FISHERIES PRIORITY DESCRIPTIONS**

Row No.	10-digit HUC Name (Name & HUC No.)	12-digit HUC Name (Name & HUC No.)	Trout Stream Designation (Name & Kittle No.)	Water Quality Condition Impaired Streams (2014 draft, MPCA) (Impairment, Use, Name)	HUC 12 Total Area (square miles)	Trout Stream Length (miles)	DNR Stream Length (miles)	DNR Fisheries Stream Management Plan (MP Name, Amend., date)	Heritage Strain Brook Trout Present	DNR Land Resource (WMA Name & Acres)	Angling Easement Length (miles)	MN Stream Habitat Assessment Score and (Rating)	Channel Condition and Stability Assessment Rating	Dams and Barriers	Habitat Improvement Projects (Stream name, length in feet, year, if known, otherwise Unk = unknown) *updated June 2015	Area of Biodiversity & Significance: O=Outstanding H=High M=Moderate
		South Fork Zumbro River (070400040110)		Impaired for Aquatic Life-Invertebrates and TSS and Aquatic Recreation-Bacteria	56		12.5	2000		Keller WMA- 196 ac; High Forest WMA-69 ac; Seuss WMA-54 ac		75.1 (Good)	NA	Rochester 50th Ave; Glen Herman Stabilizer; Simonson Detention; Dresser Valley		M=1,030 acres
		Town of Rock Dell-South Fork Zumbro River (070400040102)		Fully Supporting for Aquatic Life	58		18.9	2000		S. Fk. Zumbro- 29 ac Rock Dell-494 ac		71 (Good)	49 (Moderately Unstable)			O=145 acres; H=6 acres; M=1,076 acres
		Willow Creek (070400040104)		Candidate for Delisting (TSS)	29		14.6	No				48 (Fair)	98 (Severely Unstable)	WR-4; WR-6		H=27 acres; M=344 acres
5	Zumbro River (704000405)	City of Zumbro Falls-Zumbro River (070400040504)	Hammond Creek (M-034-041)	Impaired for Aquatic Recreation-Bacteria	39	2.4	22.6	No	Yes			69 (Good)	54 (Moderately Unstable)			H=983 acres; M=2,637 acres
		Cold Creek (070400040503)	Cold Spring Brook (M-034-048)	Impaired for Aquatic Life-Invertebrates	46	2.2	3.26	2001	Yes		1.8 miles	67 (Good)	82 (Severely Unstable)	Bear Valley S-16A; S-21B; S-22B	4,673 ft	
		Dry Run Creek (070400040501)		Impaired for Aquatic Recreation-Bacteria	30		22.1	No		Izaak Walton League WMA-78 acres		NA	NA			M=211 acres
		Long Creek (070400040505)	Long Creek (M-034-022)	Impaired for Aquatic Recreation-Bacteria	33	11.5	8.9	2000	Yes		1.5 miles	86 (Good)	32 (Fairly Stable)		1,879 ft	
		Middle Creek (070400040506)	Middle Creek (M-034-021)	Impaired for Aquatic Recreation-Bacteria	18	4.6	4.9	1993	Yes		0.8 miles	52 (Fair)	62 (Moderately Unstable)	Pletsch Pond; Hudell Pond		H=906 acres; M=565 acres
		Silver Spring Creek-Zumbro River (070400040507)	Long Creek (M-034-022) Middle Creek (M-034-021)	Impaired for Aquatic Recreation-Bacteria	34		12.9	No	Yes			NA	NA	DeFrang Pooling		H=1,344 acres; M=2,292 acres
		Spring Creek (070400040509)	Spring Creek (M-034-020)	Impaired for Aquatic Life-Fish and Aquatic Recreation-Bacteria	36	8.8	8.8	2014			1.5 miles	53 (Fair)	56 (Moderately Unstable)			H=910 acres; M=910 acres
		Trout Brook (070400040511)	Trout Brook (M-034-009)	Impaired for Aquatic Recreation-Bacteria	22	3.4	3.4	1997				36 (Poor)	78 (Moderately Unstable)	Kackmann Pond		H=449 acres; M=91 acres
		West Albany Creek (070400040508)	West Albany Creek (M-034-020-001)	Fully Supporting for Aquatic Life	27	5.7	5.7	No			0.8 miles	NA	NA	Myers Pond		H=438 acres; M=303 acres
		West Indian Creek (070400040510)	West Indian Creek (M-034-017)	Impaired for Aquatic Recreation-Bacteria	27	7.2	7.2	2000			5.8 miles	64 (Fair)	42 (Fairly Unstable)		8,231 ft	O=1,277 acres; M=1,119 acres

**ZUMBRO RIVER WATERSHED WRAPS
DIVISION OF FISHERIES PRIORITY DESCRIPTIONS**

Row No.	10-digit HUC Name (Name & HUC No.)	12-digit HUC Name (Name & HUC No.)	Trout Stream Designation (Name & Kittle No.)	Water Quality Condition Impaired Streams (2014 draft, MPCA) (Impairment, Use, Name)	HUC 12 Total Area (square miles)	Trout Stream Length (miles)	DNR Stream Length (miles)	DNR Fisheries Stream Management Plan (MP Name, Amend., date)	Heritage Strain Brook Trout Present	DNR Land Resource (WMA Name & Acres)	Angling Easement Length (miles)	MN Stream Habitat Assessment Score and (Rating)	Channel Condition and Stability Assessment Rating	Dams and Barriers	Habitat Improvement Projects (Stream name, length in feet, year, if known, otherwise Unk = unknown) *updated June 2015	Area of Biodiversity & Significance: O=Outstanding H=High M=Moderate
		Zumbro Lake-Zumbro River (070400040502)		Impaired for Aquatic Reecreation	35		12.5	2009				NA	NA	Lake Zumbro; Sibley Pond		O=182 acres; H=244 acres; M=2,986 acres
		Zumbro River (070400040512)	Zell Creek (M-034-013)	No Data	46	2	2	2006				52 (Fair)	64 (Moderately Unstable)	Jordan Pond		O=1,588 acres; H=3,945 acres; M=4,774 acres

ZUMBRO RIVER WATERSHED WRAPS DIVISION OF FISHERIES PRIORITIES

Strategy Categories

- Protection
- Restoration
- Regulation
- Technical Guidance

Row No.	10-digit HUC Name (Name & HUC No.)	12-digit HUC Name (Name & HUC No.)	Trout Stream Designation (Name & Kittle No.)	Priority Strategies				
1	North Fork Zumbro River (0704000404)	Headwaters North Fork Zumbro River (070400040401)				Work closely with counties to identify culverts which are barriers to fish passage or impacting hydrology and geomorphology. Educate local staff in applying the MESBOAC system for setting culverts such that stream geomorphology and connectivity are maintained.	Work with local zoning officials to make certain that best management practices are being followed in the development and operation of quarries.	Maintain an acquisition priority list and acquire AMA Conservation Easements from landowners willing to sell.
		Mazeppa Creek (070400040404)	Trout Brook (M-034-049-001) Unnamed Creek (M-034-049-001-006)	Implement a channel and habitat restoration project in the Tiedmann WMA to reduce sediment loading from bank erosion and improve aquatic and riparian habitat.				
		North Fork Zumbro River (070400040405)		Rehabilitate the river channel in the area upstream from the former Mazeppa dam and one mile downstream to eliminate severe bank erosion and improve fish habitat.	Implement a channel and habitat restoration project in the Woodbury WMA to reduce sediment loading from bank erosion and improve aquatic and riparian habitat.			
		Pearl Creek-North Fork Zumbro River (070400040402)						
		Shingle Creek-North Fork Zumbro River (070400040403)						
2	Middle Fork Zumbro River (0704000403)	City of Concord-Middle Fork Zumbro River (070400040303)				Work closely with counties to identify culverts which are barriers to fish passage or impacting hydrology and geomorphology. Educate local staff in applying the MESBOAC system for setting culverts such that stream geomorphology and connectivity are maintained.	Work with local zoning officials to make certain that best management practices are being followed in the development and operation of quarries.	Maintain an acquisition priority list and acquire AMA Conservation Easements from landowners willing to sell.
		County Ditch No 1 (070400040302)						
		Harcom Creek-Middle Fork Zumbro River (070400040305)						
		Headwaters Middle Fork Zumbro River (070400040301)						
		Milliken Creek (070400040304)						
		Middle Fork Zumbro River (070400040307)						
		North Branch Middle Fork Zumbro River (070400040306)		Implement a channel and habitat restoration project in the Roscoe WMA to reduce sediment loading from bank erosion and improve aquatic and riparian habitat.				
3	South Branch Middle Fork Zumbro River (0704000402)	Headwaters Dodge Center Creek (070400040202)				Work closely with counties to identify culverts which are barriers to fish passage or impacting hydrology and geomorphology. Educate local staff in applying the MESBOAC system for setting culverts such that stream geomorphology and connectivity are maintained.	Work with local zoning officials to make certain that best management practices are being followed in the development and operation of quarries.	Maintain an acquisition priority list and acquire AMA Conservation Easements from landowners willing to sell.
		Dodge Center Creek (070400040203)						
		Rice Lake-South Branch Middle Fork Zumbro River (070400040201)		Rice Lake-Work with DNR Wildlife to improve effectiveness of carp barriers at the lake outlets.				
		Masten Creek-South Branch Middle Fork Zumbro River (070400040204)		Implement a channel and habitat restoration project in the Pheasants Forever WMA to reduce sediment loading from bank erosion and improve aquatic and riparian habitat.				
		South Branch Middle Fork Zumbro River (070400040205)		Implement a channel and habitat restoration project in the Naylor WMA to reduce sediment loading from bank erosion and improve aquatic and riparian habitat.	Implement a channel and habitat restoration project in the McMartin WMA to reduce sediment loading from bank erosion and improve aquatic and riparian habitat.			
4	South Fork Zumbro River (0704000401)	Badger Creek (070400040105)						
		Bear Creek (070400040106)						

Row No.	10-digit HUC Name (Name & HUC No.)	12-digit HUC Name (Name & HUC No.)	Trout Stream Designation (Name & Kittle No.)	Priority Strategies				
		Cascade Creek (070400040109)		Continue sampling fish and invertebrates as part of the multi-agency watershed restoration plan.		Work closely with counties to identify culverts which are barriers to fish passage or impacting hydrology and geomorphology. Educate local staff in applying the MESBOAC system for setting culverts such that stream geomorphology and connectivity are maintained.	Work with local zoning officials to make certain that best management practices are being followed in the development and operation of quarries.	Maintain an acquisition priority list and acquire AMA Conservation Easements from landowners willing to sell.
		City of Rochester-South Fork Zumbro River (070400040108)						
		Headwaters South Fork Zumbro River (070400040101)						
		Salem Creek (070400040103)		Implement a channel and habitat restoration project in the Bud Jensen WMA to reduce sediment loading from bank erosion and improve aquatic and riparian habitat.				
		Silver Creek (070400040107)						
		South Fork Zumbro River (070400040110)		Implement a channel and habitat restoration project in the Keller WMA to reduce sediment loading from bank erosion and improve aquatic and riparian habitat.	Implement a channel and habitat restoration project in the Suess, High Forest, and Marion Marshal WMAs to reduce sediment loading from bank erosion and improve aquatic and riparian habitat.			
		Town of Rock Dell-South Fork Zumbro River (070400040102)		Implement a channel and habitat restoration project in the Rock Dell WMA to reduce sediment loading from bank erosion and improve aquatic and riparian habitat.				
		Willow Creek (070400040104)						
5	Zumbro River (704000405)	City of Zumbro Falls-Zumbro River (070400040504)	Hammond Creek (M-034-041)			Work closely with counties to identify culverts which are barriers to fish passage or impacting hydrology and geomorphology. Educate local staff in applying the MESBOAC system for setting culverts such that stream geomorphology and connectivity are maintained.	Work with local zoning officials to make certain that best management practices are being followed in the development and operation of quarries.	Maintain an acquisition priority list and acquire AMA Conservation Easements from landowners willing to sell.
		Cold Creek (070400040503)	Cold Spring Brook (M-034-048)	Develop and obtain funding for implementing the EWR developed stream restoration plan to address the high instream sediment load.				
		Dry Run Creek (070400040501)						
		Long Creek (070400040505)	Long Creek (M-034-022)					
		Long Creek (070400040505)						
		Middle Creek (070400040506)	Middle Creek (M-034-021)					
		Silver Spring Creek-Zumbro River (070400040507)	Long Creek (M-034-022) Middle Creek (M-034-021)					
		Spring Creek (070400040509)	Spring Creek (M-034-020)		Conduct a WARSSS assessment to identify sediment sources and causes of instability.			
		Trout Brook (070400040511)	Trout Brook (M-034-009)					
		West Albany Creek (070400040508)	West Albany Creek (M-034-020-001)					
		West Indian Creek (070400040510)	West Indian Creek (M-034-017)	Implement a channel and habitat restoration project in a two mile-long reach under angling easement; the project will improve aquatic habitat for trout as well as riparian habitat.				
		Zumbro Lake-Zumbro River (070400040502)						
		Zumbro River (070400040512)	Zell Creek (M-034-013)					

ZUMBRO RIVER WATERSHED WRAPS
DIVISION OF FORESTRY PRIORITY DESCRIPTIONS

Row No.	10-digit HUC Name (Name & HUC No.)	12-digit HUC Name (Name & HUC No.)	Trout Stream Designation (Name & Kittle No.)	Water Quality Condition Impaired Streams (2014 draft, MPCA) (Impairment, Use, Name)	High Conservation Value Forests	DNR Land Resource (WMA & SNA) & MN State Parks	Area of Biodiversity & Significance; O=Outstanding H=High M=Moderate	Emerald Ash Borer Quarantine
1	North Fork Zumbro River (0704000404)	Headwaters North Fork Zumbro River (070400040401)		Impaired for Aquatic Life- Invertebrates and Aquatic Recreation-			O=524 acres; M=162 acres	
		Mazeppa Creek (070400040404)	Trout Brook (M-034-049-001) Unnamed Creek (M-034-049-001-006)	Impaired for Aquatic Life- Invertebrates and Aquatic Recreation- Bacteria		Buck Family WMA-159 acres Tiedemann WMA-136 acres	M=435 acres	Quarantine (southeast)
		North Fork Zumbro River (070400040405)		Insufficient Data		Woodbury WMA-76 acres	O=46 acres; H=199 acres; M=1,275 acres	Quarantine (southeast)
		Pearl Creek-North Fork Zumbro River (070400040402)		No Data			O=461 acres; H=173 acres; M=258 acres	
		Shingle Creek-North Fork Zumbro River (070400040403)		Impaired for Aquatic Life- Invertebrates			O=481 acres; H=137 acres; M=225 acres	
2	Middle Fork Zumbro River (0704000403)	City of Concord-Middle Fork Zumbro River (070400040303)		Impaired for Aquatic Life- Invertebrates-TSS and Aquatic Recreation- Bacteria			O=737 acres; H=101 acres	Quarantine
		County Ditch No 1 (070400040302)		Insufficient Data			O=5 acres	Quarantine (southern half)
		Harcom Creek-Middle Fork Zumbro River (070400040305)		Fully Supporting for Aquatic Life			H=118 acres; M=299 acres	Quarantine
		Headwaters Middle Fork Zumbro River (070400040301)		Impaired for Aquatic Life- Invertebrates-TSS and Aquatic Recreation- Bacteria				Quarantine
		Milliken Creek (070400040304)		Fully Supporting for Aquatic Life			M=441 acres	Quarantine
		Middle Fork Zumbro River (070400040307)		Impaired for Aquatic Life- Invertebrates-TSS and Aquatic Recreation- Bacteria			O=179 acres; H=118 acres; M=905 acres	Quarantine
		North Branch Middle Fork Zumbro River (070400040306)		Fully Supporting for Aquatic Life		Roscoe WMA-49 acres	O= 5 acres; H=202 acres; M=1,034 acres	Quarantine (southern boundary)
3	South Branch Middle Fork Zumbro River (0704000402)	Headwaters Dodge Center Creek (070400040202)		Impaired for Aquatic Life- Invertebrates and Fish		McMartin WMA-37 acres	H=611 acres; M=5 acres	Quarantine
		Dodge Center Creek (070400040203)		Impaired for Aquatic Life- Invertebrates and TSS and Aquatic Recreation- Bacteria			H=570 acres; M=1,207 acres	Quarantine
		Rice Lake-South Branch Middle Fork Zumbro River (070400040201)		Impaired for Aquatic Life- Invertebrates-Turbidity			H=1,825 acres; M=227 acres	Quarantine
		Masten Creek-South Branch Middle Fork Zumbro River (070400040204)		Fully Supporting for Aquatic Life		Phesants Forever WMA-297 ac	O=216 acres; M=707 acres	Quarantine
		South Branch Middle Fork Zumbro River (070400040205)		Impaired for Aquatic Life- Invertebrates-TSS		Naylor AMA-39 acres Naylor WMA-270 acres	O=356 acres; H=345 acres; M=2,052 acres	Quarantine
4	South Fork Zumbro River (0704000401)	Badger Creek (070400040105)		Impaired for Aquatic Life- Fish				Quarantine

**ZUMBRO RIVER WATERSHED WRAPS
DIVISION OF FORESTRY PRIORITY DESCRIPTIONS**

Row No.	10-digit HUC Name (Name & HUC No.)	12-digit HUC Name (Name & HUC No.)	Trout Stream Designation (Name & Kittle No.)	Water Quality Condition Impaired Streams (2014 draft, MPCA) (Impairment, Use, Name)	High Conservation Value Forests	DNR Land Resource (WMA & SNA) & MN State Parks	Area of Biodiversity & Significance; O=Outstanding H=High M=Moderate	Emerald Ash Borer Quarantine
		Bear Creek (070400040106)		Impaired for Aquatic Recreation-Bacteria			O=500 acres; M=450 acres	Quarantine
		Cascade Creek (070400040109)		Impaired for Aquatic Life- Invertebrates and Fish				Quarantine
		City of Rochester-South Fork Zumbro River (070400040108)		Impaired for Aquatic Life- TSS and Aquatic Recreation-Bacteria			H=379 acres; M=545 acres	Quarantine
		Headwaters South Fork Zumbro River (070400040101)		Fully Supporting for Aquatic Life			M=161 acres	Quarantine
		Salem Creek (070400040103)		Impaired for Aquatic Life- Invertebrates and Aquatic Recreation- Bacteria		Bud Jensen WMA-102 acres	H=6 acres; M=1,166 acres	Quarantine
		Silver Creek (070400040107)		Impaired for Aquatic Life- TSS		Gordon Yeager WMA-203 acres	M=192 acres	Quarantine
		South Fork Zumbro River (070400040110)		Impaired for Aquatic Life- Invertebrates and TSS and Aquatic Recreation- Bacteria		Keller WMA- 196 ac; High Forest WMA-69 ac; Seuss WMA- 54 ac	M=1,030 acres	Quarantine
		Town of Rock Dell-South Fork Zumbro River (070400040102)		Fully Supporting for Aquatic Life		S. Fk. Zumbro- 29 ac Rock Dell-494 ac	O=145 acres; H=6 acres; M=1,076 acres	Quarantine
		Willow Creek (070400040104)		Candidate for Delisting (TSS)			H=27 acres; M=344 acres	Quarantine
5	Zumbro River (704000405)	City of Zumbro Falls-Zumbro River (070400040504)	Hammond Creek (M-034-041)	Impaired for Aquatic Recreation-Bacteria			H=983 acres; M=2,637 acres	Quarantine
		Cold Creek (070400040503)	Cold Spring Brook (M-034-048)	Impaired for Aquatic Life- Invertebrates				Quarantine
		Dry Run Creek (070400040501)		Impaired for Aquatic Recreation-Bacteria		Izaak Walton League WMA-78 acres	M=211 acres	Quarantine southeast section)
		Long Creek (070400040505)		Impaired for Aquatic Recreation-Bacteria				Quarantine
		Long Creek (070400040505)	Long Creek (M-034-022)	Impaired for Aquatic Recreation-Bacteria			H=906 acres; M=565 acres	Quarantine
		Middle Creek (070400040506)	Middle Creek (M-034-021)	Impaired for Aquatic Recreation-Bacteria			H=1,344 acres; M=2,292 acres	Quarantine
		Silver Spring Creek-Zumbro River (070400040507)	Long Creek (M-034-022) Middle Creek (M-034-021)	Impaired for Aquatic Life- Fish and Aquatic Recreation-Bacteria			H=910 acres; M=910 acres	Quarantine
		Spring Creek (070400040509)	Spring Creek (M-034-020)	Impaired for Aquatic Recreation-Bacteria			H=449 acres; M=91 acres	Quarantine
		Trout Brook (070400040511)	Trout Brook (M-034-009)	Fully Supporting for Aquatic Life			H=438 acres; M=303 acres	Quarantine
		West Albany Creek (070400040508)	West Albany Creek (M-034-020-001)	Impaired for Aquatic Recreation-Bacteria			O=1,277 acres; M=1,119 acres	Quarantine
		West Indian Creek (070400040510)	West Indian Creek (M-034-017)	Impaired for Aquatic Recreation	Upper West Indian Creek Valley		O=182 acres; H=244 acres; M=2,986 acres	Quarantine

**ZUMBRO RIVER WATERSHED WRAPS
DIVISION OF FORESTRY PRIORITY DESCRIPTIONS**

Row No.	10-digit HUC Name (Name & HUC No.)	12-digit HUC Name (Name & HUC No.)	Trout Stream Designation (Name & Kittle No.)	Water Quality Condition Impaired Streams (2014 draft, MPCA) (Impairment, Use, Name)	High Conservation Value Forests	DNR Land Resource (WMA & SNA) & MN State Parks	Area of Biodiversity & Significance; O=Outstanding H=High M=Moderate	Emerald Ash Borer Quarantine
		Zumbro Lake-Zumbro River (070400040502)		No Data			O=1,588 acres; H=3,945 acres; M=4,774 acres	Quarantine
		Zumbro River (070400040512)	Zell Creek (M-034-013)		Zumbro Bottoms			Quarantine

ZUMBRO RIVER WATERSHED WRAPS
DIVISION OF FORESTRY PRIORITIES

Protection
Restoration
Regulation
Technical Guidance

Row No.	10-digit HUC Name (Name & HUC No.)	12-digit HUC Name (Name & HUC No.)	Trout Stream Designation (Name & Kittle No.)	Priority Strategies			
1	North Fork Zumbro River (0704000404)	Headwaters North Fork Zumbro River (070400040401)		Identify parcels where highly erodible land currently in crop production can be restored to forest land through the agricultural lease program	Where recreational trails are present, implement BMPs from the Guidelines and Standard Operating Procedures for "Problematic" User-developed OHV Trails as well as State Forest access roads.	Adhere to riparian forest management guidelines where state forest lands occur in riparian corridors. Maintain stream crossings using best management practices listed in the State Forest Management Guidelines.	Work with local zoning to assure that ordinances and policies do not force development onto forested lands.
		Mazeppa Creek (070400040404)	Trout Brook (M-034-049-001) Unnamed Creek (M-034-049-001-006)				
		North Fork Zumbro River (070400040405)					
		Pearl Creek-North Fork Zumbro River (070400040402)					
		Shingle Creek-North Fork Zumbro River (070400040403)					
2	Middle Fork Zumbro River (0704000403)	City of Concord-Middle Fork Zumbro River (070400040303)		Identify parcels where highly erodible land currently in crop production can be restored to forest land through the agricultural lease program	Where recreational trails are present, implement BMPs from the Guidelines and Standard Operating Procedures for "Problematic" User-developed OHV Trails as well as State Forest access roads.	Adhere to riparian forest management guidelines where state forest lands occur in riparian corridors. Maintain stream crossings using best management practices listed in the State Forest Management Guidelines.	Work with local zoning to assure that ordinances and policies do not force development onto forested lands.
		County Ditch No 1 (070400040302)					
		Harcum Creek-Middle Fork Zumbro River (070400040305)					
		Headwaters Middle Fork Zumbro River (070400040301)					
		Milliken Creek (070400040304)					
		Middle Fork Zumbro River (070400040307)					
		North Branch Middle Fork Zumbro River (070400040306)					
3	South Branch Middle Fork Zumbro River (0704000402)	Headwaters Dodge Center Creek (070400040202)		Identify parcels where highly erodible land currently in crop production can be restored to forest land through the agricultural lease program	Where recreational trails are present, implement BMPs from the Guidelines and Standard Operating Procedures for "Problematic" User-developed OHV Trails as well as State Forest access roads.	Adhere to riparian forest management guidelines where state forest lands occur in riparian corridors. Maintain stream crossings using best management practices listed in the State Forest Management Guidelines.	Work with local zoning to assure that ordinances and policies do not force development onto forested lands.
		Dodge Center Creek (070400040203)					
		Rice Lake-South Branch Middle Fork Zumbro River (070400040201)					
		Masten Creek-South Branch Middle Fork Zumbro River (070400040204)					
		South Branch Middle Fork Zumbro River (070400040205)					
4	South Fork Zumbro River (0704000401)	Badger Creek (070400040105)					
		Bear Creek (070400040106)					
		Cascade Creek (070400040109)					

Row No.	10-digit HUC Name (Name & HUC No.)	12-digit HUC Name (Name & HUC No.)	Trout Stream Designation (Name & Kittle No.)	Priority Strategies			
		City of Rochester-South Fork Zumbro River (070400040108) Headwaters South Fork Zumbro River (070400040101) Salem Creek (070400040103) Silver Creek (070400040107) South Fork Zumbro River (070400040110) Town of Rock Dell-South Fork Zumbro River (070400040102) Willow Creek (070400040104)		Identify parcels where highly erodible land currently in crop production can be restored to forest land through the agricultural lease program	Where recreational trails are present, implement BMPs from the Guidelines and Standard Operating Procedures for "Problematic" User-developed OHV Trails as well as State Forest access roads.	Adhere to riparian forest management guidelines where state forest lands occur in riparian corridors. Maintain stream crossings using best management practices listed in the State Forest Management Guidelines.	Work with local zoning to assure that ordinances and policies do not force development onto forested lands.
5	Zumbro River (704000405)	City of Zumbro Falls-Zumbro River (070400040504) Cold Creek (070400040503) Dry Run Creek (070400040501) Long Creek (070400040505) Long Creek (070400040505) Middle Creek (070400040506) Silver Spring Creek-Zumbro River (070400040507) Spring Creek (070400040509) Trout Brook (070400040511) West Albany Creek (070400040508) West Indian Creek (070400040510) Zumbro Lake-Zumbro River (070400040502) Zumbro River (070400040512)	Hammond Creek (M-034-041) Cold Spring Brook (M-034-048) Long Creek (M-034-022) Middle Creek (M-034-021) Long Creek (M-034-022) Middle Creek (M-034-021) Spring Creek (M-034-020) Trout Brook (M-034-009) West Albany Creek (M-034-020-001) West Indian Creek (M-034-017) Zell Creek (M-034-013) Snake Creek	Identify parcels where highly erodible land currently in crop production can be restored to forest land through the agricultural lease program	Where recreational trails are present, implement BMPs from the Guidelines and Standard Operating Procedures for "Problematic" User-developed OHV Trails as well as State Forest access roads.	Adhere to riparian forest management guidelines where state forest lands occur in riparian corridors. Maintain stream crossings using best management practices listed in the State Forest Management Guidelines.	Work with local zoning officials to assure that ordinances and policies do not force development onto forested lands.

ZUMBRO RIVER WATERSHED WRAPS
DIVISION OF PARKS AND TRAILS PRIORITY DESCRIPTIONS

Row No.	10-digit HUC Name (Name & HUC No.)	12-digit HUC Name (Name & HUC No.)	Trout Stream Designation (Name & Kittle No.)		Water Quality Condition Impaired Streams (2014 draft, MPCA) (Impairment, Use, Name)	Trails	Park or Trail Management Plans	Water Trails (Designated Canoe Routes)	Canoe Launches and Public Access Points
1	North Fork Zumbro River (0704000404)	Headwaters North Fork Zumbro River (07040004041)			Impaired for Aquatic Life- Invertebrates and Aquatic Recreation-Bacteria			Zumbro River 19.6 miles	
		Mazeppa Creek (070400040404)	Trout Brook (M-034-049-001) Unnamed Creek (M-034-049-001-006)		Impaired for Aquatic Life- Invertebrates and Aquatic Recreation-Bacteria		Pioneer Trail-Goodhue County 2002		
		North Fork Zumbro River (070400040405)			Insufficient Data		Pioneer Trail-Goodhue County 2002		Zumbrota; Mazeppa
		Pearl Creek-North Fork Zumbro River (070400040402)			No Data				
		Shingle Creek-North Fork Zumbro River (070400040403)			Impaired for Aquatic Life- Invertebrates				
2	Middle Fork Zumbro River (0704000403)	City of Concord-Middle Fork Zumbro River (070400040303)			Impaired for Aquatic Life- Invertebrates-TSS and Aquatic Recreation-Bacteria				
		County Ditch No 1 (070400040302)			Insufficient Data				
		Harcorn Creek-Middle Fork Zumbro River (070400040305)			Fully Supporting for Aquatic Life	Douglas Trail 1.26 miles		Zumbro River 10.2 miles	
		Headwaters Middle Fork Zumbro River (070400040301)			Impaired for Aquatic Life- Invertebrates-TSS and Aquatic Recreation-Bacteria				
		Milliken Creek (070400040304)			Fully Supporting for Aquatic Life				
		Middle Fork Zumbro River (070400040307)			Impaired for Aquatic Life- Invertebrates-TSS and Aquatic Recreation-Bacteria	Douglas Trail 4.22 miles		Zumbro River 16.2 miles	Pine Island; Oronoco
		North Branch Middle Fork Zumbro River (070400040306)			Fully Supporting for Aquatic Life			Zumbro River 9.9 miles	Pine Island
3	South Branch Middle Fork Zumbro River (0704000402)	Headwaters Dodge Center Creek (070400040202)			Impaired for Aquatic Life- Invertebrates and Fish				
		Dodge Center Creek (070400040203)			Impaired for Aquatic Life- Invertebrates and TSS and Aquatic Recreation- Bacteria		Stagecoach Trail Master Plan, 2012		
		Rice Lake-South Branch Middle Fork Zumbro River (070400040201)			Impaired for Aquatic Life- Invertebrates-Turbidity		Stagecoach Trail Master Plan, 2012		
		Masten Creek-South Branch Middle Fork Zumbro River (070400040204)			Fully Supporting for Aquatic Life		Stagecoach Trail Master Plan, 2012	Zumbro River 2.2 miles	
		South Branch Middle Fork Zumbro River (070400040205)			Impaired for Aquatic Life- Invertebrates-TSS	Douglas Trail 4.73 miles	Stagecoach Trail Master Plan, 2012	Zumbro River 20.6 miles	Mantorville; Byron (Oxbow Park)
4	South Fork Zumbro River (0704000401)	Badger Creek (070400040105)			Impaired for Aquatic Life- Fish				

**ZUMBRO RIVER WATERSHED WRAPS
DIVISION OF PARKS AND TRAILS PRIORITY DESCRIPTIONS**

Row No.	10-digit HUC Name (Name & HUC No.)	12-digit HUC Name (Name & HUC No.)	Trout Stream Designation (Name & Kittle No.)		Water Quality Condition Impaired Streams (2014 draft, MPCA) (Impairment, Use, Name)	Trails	Park or Trail Management Plans	Water Trails (Designated Canoe Routes)	Canoe Launches and Public Access Points
		Bear Creek (070400040106)			Impaired for Aquatic Recreation-Bacteria	Chester Woods Trail 1.96 miles; City of Rochester Trails			
		Cascade Creek (070400040109)			Impaired for Aquatic Life- Invertebrates and Fish	City of Rochester Trails			
		City of Rochester-South Fork Zumbro River (070400040108)			Impaired for Aquatic Life- TSS and Aquatic Recreation- Bacteria	City of Rochester Trails		Zumbro River 14 miles	
		Headwaters South Fork Zumbro River (070400040101)			Fully Supporting for Aquatic Life				
		Salem Creek (070400040103)			Impaired for Aquatic Life- Invertebrates and Aquatic Recreation-Bacteria				
		Silver Creek (070400040107)			Impaired for Aquatic Life- TSS				
		South Fork Zumbro River (070400040110)			Impaired for Aquatic Life- Invertebrates and TSS and Aquatic Recreation-	Douglas Trail 5.81 miles		Zumbro River 16.5 miles	Rochester-Elton Hills Drive
		Town of Rock Dell-South Fork Zumbro River (070400040102)			Fully Supporting for Aquatic Life				
		Willow Creek (070400040104)			Candidate for Delisting (TSS)				
5	Zumbro River (704000405)	City of Zumbro Falls-Zumbro River (070400040504)	Hammond Creek (M-034-041)		Impaired for Aquatic Recreation-Bacteria			Zumbro River 21.4 miles	
		Cold Creek (070400040503)	Cold Spring Brook (M-034-048)		Impaired for Aquatic Life- Invertebrates				
		Dry Run Creek (070400040501)			Impaired for Aquatic Recreation-Bacteria				
		Long Creek (070400040505)			Impaired for Aquatic Recreation-Bacteria				
		Long Creek (070400040505)	Long Creek (M-034-022)		Impaired for Aquatic Recreation-Bacteria				
		Middle Creek (070400040506)	Middle Creek (M-034-021)		Impaired for Aquatic Recreation-Bacteria				
		Silver Spring Creek-Zumbro River (070400040507)	Long Creek (M-034-022) Middle Creek (M-034-021)		Impaired for Aquatic Life- Fish and Aquatic Recreation- Bacteria			Zumbro River 13.3 miles	
		Spring Creek (070400040509)	Spring Creek (M-034-020)		Impaired for Aquatic Recreation-Bacteria				
		Trout Brook (070400040511)	Trout Brook (M-034-009)		Fully Supporting for Aquatic Life				
		West Albany Creek (070400040508)	West Albany Creek (M-034-020-001)		Impaired for Aquatic Recreation-Bacteria				
		West Indian Creek (070400040510)	West Indian Creek (M-034-017)		Impaired for Aquatic Recreation				
		Zumbro Lake-Zumbro River (070400040502)			No Data	Douglas Trail 1.76 miles		Zumbro River 10.2 miles	Sandy Point; Ponderosa Access
		Zumbro River (070400040512)	Zell Creek (M-034-013)		No Data			Zumbro River 35.0 miles	Green Bridge; Zumbro Falls; Hammond; Theilman; Krueger; Kellogg

ZUMBRO RIVER WATERSHED WRAPS
DIVISION OF PARKS AND TRAILS PRIORITIES

Strategy Categories
Protection
Restoration
Regulation
Technical Guidance

Row No.	10-digit HUC Name (Name & HUC No.)	12-digit HUC Name (Name & HUC No.)	Trout Stream Designation (Name & Kittle No.)	Priority Strategies		
1	North Fork Zumbro River (0704000404)	Headwaters North Fork Zumbro River (070400040401)		Provide Guidance and Technical Assistance to LGU's on locations of potential trail routes and stabilization work.		Identify opportunities for state trail development and expansion throughout the watershed
		Mazeppa Creek (070400040404)	Trout Brook (M-034-049-001) Unnamed Creek (M-034-049-001-006)		Secure funding for connecting the Douglas Trail from Pine Island to Mazeppa and from Mazeppa to Zumbrota.	
		North Fork Zumbro River (070400040405)			Secure funding for connecting the Goodhue Pioneer Trail from Zumbrota to Red Wing and Bellchester.	
		Pearl Creek-North Fork Zumbro River (070400040402)				
		Shingle Creek-North Fork Zumbro River (070400040403)				
2	Middle Fork Zumbro River (0704000403)	City of Concord-Middle Fork Zumbro River (070400040303)		Provide Guidance and Technical Assistance to LGU's on locations of potential trail routes and stabilization work.		Identify opportunities for state trail development and expansion throughout the watershed
		County Ditch No 1 (070400040302)				
		Harcorn Creek-Middle Fork Zumbro River (070400040305)			Continue maintenance and management of the 10.2 mile-long state water trail.	
		Headwaters Middle Fork Zumbro River (070400040301)				
		Milliken Creek (070400040304)				
		Middle Fork Zumbro River (070400040307)			Continue maintenance and management of the 16.2 mile-long state water trail.	
		North Branch Middle Fork Zumbro River (070400040306)			Continue maintenance and management of the 9.9 mile-long state water trail.	
3	South Branch Middle Fork Zumbro River (0704000402)	Headwaters Dodge Center Creek (070400040202)		Provide Guidance and Technical Assistance to LGU's on locations of potential trail routes and stabilization work.		Identify opportunities for state trail development and expansion throughout the watershed
		Dodge Center Creek (070400040203)				
		Rice Lake-South Branch Middle Fork Zumbro River (070400040201)				
		Masten Creek-South Branch Middle Fork Zumbro River (070400040204)			Continue maintenance and management of the 2.2 mile-long state water trail.	
		South Branch Middle Fork Zumbro River (070400040205)			Continue maintenance and management of the 20.6 mile-long state water trail.	
4	South Fork Zumbro River (0704000401)	Badger Creek (070400040105)				
		Bear Creek (070400040106)				
		Cascade Creek (070400040109)				

Row No.	10-digit HUC Name (Name & HUC No.)	12-digit HUC Name (Name & HUC No.)	Trout Stream Designation (Name & Kittle No.)	Priority Strategies		
		City of Rochester-South Fork Zumbro River (070400040108)		Provide Guidance and Technical Assistance to LGU's on locations of potential trail routes and stabilization work.	Continue maintenance and management of the 14 mile-long state water trail.	Identify opportunities for state trail development and expansion throughout the watershed
		Headwaters South Fork Zumbro River (070400040101)				
		Salem Creek (070400040103)				
		Silver Creek (070400040107)				
		South Fork Zumbro River (070400040110)				
		Town of Rock Dell-South Fork Zumbro River (070400040102)				
		Willow Creek (070400040104)				
5	Zumbro River (704000405)	City of Zumbro Falls-Zumbro River (070400040504)	Hammond Creek (M-034-041)	Provide Guidance and Technical Assistance to LGU's on locations of potential trail routes and stabilization work.	Continue maintenance and management of the 21.4 mile-long state water trail.	Identify opportunities for state trail development and expansion throughout the watershed
	Cold Creek (070400040503)	Cold Spring Brook (M-034-048)				
	Dry Run Creek (070400040501)					
	Long Creek (070400040505)					
	Long Creek (070400040505)	Long Creek (M-034-022)				
	Middle Creek (070400040506)	Middle Creek (M-034-021)				
	Silver Spring Creek-Zumbro River (070400040507)	Long Creek (M-034-022) Middle Creek (M-034-021)			Continue maintenance and management of the 13.3 mile-long state water trail.	
	Spring Creek (070400040509)	Spring Creek (M-034-020)				
	Trout Brook (070400040511)	Trout Brook (M-034-009)				
	West Albany Creek (070400040508)	West Albany Creek (M-034-020-001)				
	West Indian Creek (070400040510)	West Indian Creek (M-034-017)				
	Zumbro Lake-Zumbro River (070400040502)				Continue maintenance and management of the 10.2 mile-long state water trail.	
	Zumbro River (070400040512)	Zell Creek (M-034-013)			Continue maintenance and management of the 30.5 mile-long state water trail.	

ZUMBRO RIVER WATERSHED WRAPS
DIVISION OF WILDLIFE PRIORITY DESCRIPTIONS

Row No.	10-digit HUC Name (Name & HUC No.)	12-digit HUC Name (Name & HUC No.)	Trout Stream Designation (Name & Kittle No.)	Water Quality Condition Impaired Streams (2014 draft, MPCA) (Impairment, Use, Name)	DNR Land Resource Wildlife Management Areas (WMA) and State Parks (Unit Name)	Area of Biodiversity & Significance; O=Outstanding H=High M=Moderate
1	North Fork Zumbro River (0704000404)	Headwaters North Fork Zumbro River (07040004041)		Impaired for Aquatic Life- Invertebrates and Aquatic Recreation- Bacteria		O=524 acres; M=162 acres
		Mazeppa Creek (070400040404)	Trout Brook (M-034-049-001) Unnamed Creek (M-034-049-001-006)	Impaired for Aquatic Life- Invertebrates and Aquatic Recreation- Bacteria	Buck Family WMA-159 acres Tiedemann WMA-136 acres	M=435 acres
		North Fork Zumbro River (070400040405)		Insufficient Data	Woodbury WMA-76 acres	O=46 acres; H=199 acres; M=1,275 acres
		Pearl Creek-North Fork Zumbro River (070400040402)		No Data		O=461 acres; H=173 acres; M=258 acres
		Shingle Creek-North Fork Zumbro River (070400040403)		Impaired for Aquatic Life- Invertebrates		O=481 acres; H=137 acres; M=225 acres
2	Middle Fork Zumbro River (0704000403)	City of Concord-Middle Fork Zumbro River (070400040303)		Impaired for Aquatic Life- Invertebrates-TSS and Aquatic Recreation-Bacteria		O=737 acres; H=101 acres
		County Ditch No 1 (070400040302)		Insufficient Data		O=5 acres
		Harcorn Creek-Middle Fork Zumbro River (070400040305)		Fully Supporting for Aquatic Life		H=118 acres; M=299 acres
		Headwaters Middle Fork Zumbro River (070400040301)		Impaired for Aquatic Life- Invertebrates-TSS and Aquatic Recreation-Bacteria		
		Milliken Creek (070400040304)		Fully Supporting for Aquatic Life		M=441 acres
		Middle Fork Zumbro River (070400040307)		Impaired for Aquatic Life- Invertebrates-TSS and Aquatic Recreation-Bacteria		O=179 acres; H=118 acres; M=905 acres
		North Branch Middle Fork Zumbro River (070400040306)		Fully Supporting for Aquatic Life	Roscoe WMA-49 acres	O= 5 acres; H=202 acres; M=1,034 acres
3	South Branch Middle Fork Zumbro River (0704000402)	Headwaters Dodge Center Creek (070400040202)		Impaired for Aquatic Life- Invertebrates and Fish	McMartin WMA-37 acres	H=611 acres; M=5 acres
		Dodge Center Creek (070400040203)		Impaired for Aquatic Life- Invertebrates and TSS and Aquatic Recreation-Bacteria		H=570 acres; M=1,207 acres
		Rice Lake-South Branch Middle Fork Zumbro River (070400040201)		Impaired for Aquatic Life- Invertebrates-Turbidity		H=1,825 acres; M=227 acres
		Masten Creek-South Branch Middle Fork Zumbro River (070400040204)		Fully Supporting for Aquatic Life	Pheasants Forever WMA-297 ac	O=216 acres; M=707 acres
		South Branch Middle Fork Zumbro River (070400040205)		Impaired for Aquatic Life- Invertebrates-TSS	Naylor AMA-39 acres Naylor WMA- 270 acres	O=356 acres; H=345 acres; M=2,052 acres
4	South Fork Zumbro River (0704000401)	Badger Creek (070400040105)		Impaired for Aquatic Life-Fish		
		Bear Creek (070400040106)		Impaired for Aquatic Recreation- Bacteria		O=500 acres; M=450 acres

ZUMBRO RIVER WATERSHED WRAPS
DIVISION OF WILDLIFE PRIORITY DESCRIPTIONS

Row No.	10-digit HUC Name (Name & HUC No.)	12-digit HUC Name (Name & HUC No.)	Trout Stream Designation (Name & Kittle No.)	Water Quality Condition Impaired Streams (2014 draft, MPCA) (Impairment, Use, Name)	DNR Land Resource Wildlife Management Areas (WMA) and State Parks (Unit Name)	Area of Biodiversity & Significance; O=Outstanding H=High M=Moderate
		Cascade Creek (070400040109)		Impaired for Aquatic Life-Invertebrates and Fish		
		City of Rochester-South Fork Zumbro River (070400040108)		Impaired for Aquatic Life-TSS and Aquatic Recreation-Bacteria		H=379 acres; M=545 acres
		Headwaters South Fork Zumbro River (070400040101)		Fully Supporting for Aquatic Life		M=161 acres
		Salem Creek (070400040103)		Impaired for Aquatic Life-Invertebrates and Aquatic Recreation-Bacteria	Bud Jensen WMA-102 acres	H=6 acres; M=1,166 acres
		Silver Creek (070400040107)		Impaired for Aquatic Life-TSS	Gordon Yeager WMA-203 acres	M=192 acres
		South Fork Zumbro River (070400040110)		Impaired for Aquatic Life-Invertebrates and TSS and Aquatic Recreation-Bacteria	Keller WMA- 196 ac; High Forest WMA-69 ac; Seuss WMA-54 ac	M=1,030 acres
		Town of Rock Dell-South Fork Zumbro River (070400040102)		Fully Supporting for Aquatic Life	S. Fk. Zumbro- 29 ac Rock Dell-494 ac	O=145 acres; H=6 acres; M=1,076 acres
		Willow Creek (070400040104)		Candidate for Delisting (TSS)		H=27 acres; M=344 acres
5	Zumbro River (704000405)	City of Zumbro Falls-Zumbro River (070400040504)	Hammond Creek (M-034-041)	Impaired for Aquatic Recreation-Bacteria		H=983 acres; M=2,637 acres
		Cold Creek (070400040503)	Cold Spring Brook (M-034-048)	Impaired for Aquatic Life-Invertebrates		
		Dry Run Creek (070400040501)		Impaired for Aquatic Recreation-Bacteria	Izaak Walton League WMA-78 acres	M=211 acres
		Long Creek (070400040505)		Impaired for Aquatic Recreation-Bacteria		
		Long Creek (070400040505)	Long Creek (M-034-022)	Impaired for Aquatic Recreation-Bacteria		H=906 acres; M=565 acres
		Middle Creek (070400040506)	Middle Creek (M-034-021)	Impaired for Aquatic Recreation-Bacteria		H=1,344 acres; M=2,292 acres
		Silver Spring Creek-Zumbro River (070400040507)	Long Creek (M-034-022) Middle Creek (M-034-021)	Impaired for Aquatic Life-Fish and Aquatic Recreation-Bacteria		H=910 acres; M=910 acres
		Spring Creek (070400040509)	Spring Creek (M-034-020)	Impaired for Aquatic Recreation-Bacteria		H=449 acres; M=91 acres
		Trout Brook (070400040511)	Trout Brook (M-034-009)	Fully Supporting for Aquatic Life		H=438 acres; M=303 acres
		West Albany Creek (070400040508)	West Albany Creek (M-034-020-001)	Impaired for Aquatic Recreation-Bacteria		O=1,277 acres; M=1,119 acres
		West Indian Creek (070400040510)	West Indian Creek (M-034-017)	Impaired for Aquatic Recreation		O=182 acres; H=244 acres; M=2,986 acres
		Zumbro Lake-Zumbro River (070400040502)		No Data		O=1,588 acres; H=3,945 acres; M=4,774 acres
		Zumbro River (070400040512)	Zell Creek (M-034-013)	No Data		

**ZUMBRO RIVER WATERSHED WRAPS
DIVISION OF WILDLIFE PRIORITIES**

Strategy Categories
Protection
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Row No.	10-digit HUC Name (Name & HUC No.)	12-digit HUC Name (Name & HUC No.)	Trout Stream Designation (Name & Kittle No.)	Priority Strategies					
1	North Fork Zumbro River (0704000404)	Headwaters North Fork Zumbro River (070400040401)							
		Mazeppa Creek (070400040404)	Trout Brook (M-034-049-001) Unnamed Creek (M-034-049-001-006)	Tiedemann WMA: Maintain 50 acres of restored prairie.					
		North Fork Zumbro River (070400040405)							
		Pearl Creek-North Fork Zumbro River (070400040402)		Woodbury WMA: Maintain 60 acres of restored prairie.					
		Shingle Creek-North Fork Zumbro River (070400040403)							
2	Middle Fork Zumbro River (0704000403)	City of Concord-Middle Fork Zumbro River (070400040303)							
		County Ditch No 1 (070400040302)							
		Harcorn Creek-Middle Fork Zumbro River (070400040305)							
		Headwaters Middle Fork Zumbro River (070400040301)							
		Milliken Creek (070400040304)		Schletty WMA: Manage brushland habitat for native wildlife.					
		Middle Fork Zumbro River (070400040307)							
		North Branch Middle Fork Zumbro River (070400040306)		Roscoe WMA: Maintain restored prairie; actively managed for invasive species control	Roscoe WMA: Channel restoration to improve water quality and aquatic habitat.	Reintroduce rare mussel species after channel restoration is completed.			
3	South Branch Middle Fork Zumbro River (0704000402)	Headwaters Dodge Center Creek (070400040202)							
		Dodge Center Creek (070400040203)		McMartin WMA: Protect forest habitat in the riparian corridor.					
		Rice Lake-South Branch Middle Fork Zumbro River (070400040201)		Naylor WMA: Maintain habitat diversity for multiple wildlife species.	Wasioja WMA: Protect wet prairie and fen habitats by managing encroachment of woody plants and invasives.	Teapail WMA: Restore habitat diversity by timber management and controlling buckthorn.	Wasioja WMA: Restore the drainage ditch to a natural channel condition.	Rice Lake-Increase the frequency of major winter drawdowns to reduce abundance of common carp.	Rice Lake-Work with DNR fisheries to improve effectiveness of carp barriers at the lake outlets.
		Masten Creek-South Branch Middle Fork Zumbro River (070400040204)		Pheasants Forever WMA: Restore and maintain brush prairie and wetland habitats.					
		South Branch Middle Fork Zumbro River (070400040205)							
4	South Fork Zumbro River (0704000401)	Badger Creek (070400040105)							
		Bear Creek (070400040106)							

Row No.	10-digit HUC Name (Name & HUC No.)	12-digit HUC Name (Name & HUC No.)	Trout Stream Designation (Name & Kittle No.)	Priority Strategies					
		Cascade Creek (070400040109)							
		City of Rochester-South Fork Zumbro River (070400040108)							
		Headwaters South Fork Zumbro River (070400040101)							
		Salem Creek (070400040103)			Bud Jensen WMA: Protect diverse riparian corridor habitat.				
		Silver Creek (070400040107)							
		South Fork Zumbro River (070400040110)			Keller WMA-Channel restoration to improve water quality and aquatic habitat.			Reintroduce rare mussel species after channel restoration is completed.	
		Town of Rock Dell-South Fork Zumbro River (070400040102)			Rock Dell WMA-Channel restoration to improve water quality and aquatic habitat.			Reintroduce rare mussel species after channel restoration is completed.	
		Willow Creek (070400040104)							
5	Zumbro River (704000405)	City of Zumbro Falls-Zumbro River (070400040504)	Hammond Creek (M-034-041)						
		Cold Creek (070400040503)	Cold Spring Brook (M-034-048)						
		Dry Run Creek (070400040501)							
		Long Creek (070400040505)							
		Long Creek (070400040505)	Long Creek (M-034-022)						
		Middle Creek (070400040506)	Middle Creek (M-034-021)						
		Silver Spring Creek-Zumbro River (070400040507)	Long Creek (M-034-022) Middle Creek (M-034-021)						
		Spring Creek (070400040509)	Spring Creek (M-034-020)						
		Trout Brook (070400040511)	Trout Brook (M-034-009)						
		West Albany Creek (070400040508)	West Albany Creek (M-034-020-001)						
		West Indian Creek (070400040510)	West Indian Creek (M-034-017)						
		Zumbro Lake-Zumbro River (070400040502)							
		Zumbro River (070400040512)	Zell Creek (M-034-013)						

ZUMBRO RIVER WATERSHED WRAPS Watershed Health Assessment Scores

Watershed health scores range from a low of 0 (poor) to a high of 100 (good) →

Row No.	10-digit HUC Name (Name & HUC No.)	12-digit HUC Name (Name & HUC No.)	Trout Stream Designation (Name & Killis No.)	Water Quality Condition Impaired Streams (2014 draft, MPCA) (Impairment, Use, Name)	AUI in catchment and upstream area	Headfish in catchment and upstream	% Cultivated Land Upstream	% Perennial Cover Upstream	Score Range		Hyd. Index Perennial Cover 2011 NLCD (0-100)	Hyd. Index Impermeable Cover 2011 NLCD	Hyd. Index Water Withdrawal Total Permitted Volume	Hyd. Index Water Withdrawal Vulnerability	Hyd. Index Loss of Water Storage	Hyd. Index Wetland Loss	Hyd. Index Altered Watercourses	Soil Erosion Potential using slope and erodibility factor	Terrestrial Habitat Quality	Stream Species Quality Fish IBI (Score is based on distance from threshold (50))	Stream Species Quality Fish IBI extrapolated	Stream Species Quality Invertebrate IBI	Stream Species Quality Invertebrate IBI	Stream Species Quality Mussel Score	Stream Species Quality Mussel Score extrapolated	Riparian Connectivity	Aquatic Connectivity	Point Sources-Total	Point Sources-Potential Contaminants	Point Sources-Superfund Sites	Point Sources-Waste Water Treatment Plants	Point Sources-Septic Systems	Point Sources-Animal Units	Point Sources-Upstream Animal Units	Non-point Source-Phosphorus Risk Uploads
									9-25	26-50																									
1	North Fork Zumbro River (0704000404)	Headwaters North Fork Zumbro River (070400040401)		Impaired for Aquatic Life-Invertebrates and Aquatic Recreation-Bacteria	24268	154	83	10	14	82	100	100	61	71	49	62	3	66	64	37	37		47	33	73	76	100	100	100	95	34	63	18		
		Maappa Creek (070400040404)	Trout Brook (M-034-049-001) Unnamed Creek (M-034-049-001-006)	Impaired for Aquatic Life-Invertebrates and Aquatic Recreation-Bacteria	25563	264	65	30	34	75	100	100	75	98	51	47	1	58	56	33	47		44	74	96	81	95	100	99	97	49	80	20		
		North Fork Zumbro River (070400040405)		Insufficient Data	50666	459	62	31	42	63	100	100	88	94	81	48	7	49	49	61	61	44	44	82	50	71	93	100	64	93	59	47	31		
		Pearl Creek-North Fork Zumbro River (070400040402)		No Data	40445	256	82	11	13	61	100	100	70	73	66	57	3	78	71	42	39	46	46	41	81	80	86	100	95	94	62	54	18		
		Shingle Creek-North Fork Zumbro River (070400040403)		Impaired for Aquatic Life-Invertebrates	74646	521	79	14	18	68	100	100	84	87	81	52	1	26	38	15	22	31	21	45	87	91	94	100	98	97	85	38	19		
2	Middle Fork Zumbro River (0704000403)	City of Concord-Middle Fork Zumbro River (070400040303)		Impaired for Aquatic Life-Invertebrates TSS and Aquatic Recreation-Bacteria	7464	60	84	10	23	42	100	100	80	88	71	55	6		48		31	60		53	20	86	94	100	95	92	77	66	22		
		County Ditch No 1 (070400040302)		Insufficient Data	2519	17	91	3	3	82	100	100	41	52	29	73	0				60	60	20	85	90	100	100	100	94	75	88	11			
		Harcom Creek-Middle Fork Zumbro River (070400040305)		Fully Supporting for Aquatic Life	29587	183	69	25	41	60	100	99	92	97	86	48	8		74		55	49	49	56	54	76	97	100	100	85	44	37	34		
		Headwaters Middle Fork Zumbro River (070400040301)		Impaired for Aquatic Life-Invertebrates TSS and Aquatic Recreation-Bacteria	1853	19	92	3	3	85	100	100	41	51	31	73	0	48		31			60	13	72	94	99	100	100	95	88	91	12		
		Milliken Creek (070400040304)		Fully Supporting for Aquatic Life	6287	34	83	10	10	75	100	100	55	60	50	69	2	74		55		55		39	21	82	99	100	100	95	50	71	16		
		Middle Fork Zumbro River (070400040307)		Impaired for Aquatic Life-Invertebrates TSS and Aquatic Recreation-Bacteria	207970	1244	70	22	51	43	100	100	81	99	63	52	14		76		54	43		68	85	78	83	100	96	73	83	6	40		
		North Branch Middle Fork Zumbro River (070400040306)		Fully Supporting for Aquatic Life	23814	124	77	16	22	75	100	100	65	77	52	61	4	76	76	54	54	55	54	46	37	78	96	100	100	94	43	64	21		
3	South Branch Middle Fork Zumbro River (0704000402)	Headwaters Dodge Center Creek (070400040202)		Impaired for Aquatic Life-Invertebrates and Fish	7456	26	91	5	4	84	100	100	24	45	3	82	1	36		35		53		29	93	84	99	100	100	98	53	66	13		
		Dodge Center Creek (070400040203)		Impaired for Aquatic Life-Invertebrates and TSS and Aquatic Recreation-Bacteria	33158	134	84	8	16	49	100	100	61	67	54	71	5		36		35	39		48	73	77	85	100	97	90	56	62	24		
		Rice Lake-South Branch Middle Fork Zumbro River (070400040201)		Impaired for Aquatic Life-Invertebrates Turbidity	23376	82	74	15	14	74	100	100	48	71	25	67	9	67	67	51	51	34	32	46	86	75	99	100	100	94	29	73	20		
		Masten Creek-South Branch Middle Fork Zumbro River (070400040204)		Fully Supporting for Aquatic Life	36574	158	73	13	16	16	100	100	60	76	43	59	4		77		42	23	23	51	22	72	77	95	85	82	74	47	26		
		South Branch Middle Fork Zumbro River (070400040205)		Impaired for Aquatic Life-Invertebrates TSS	86327	448	60	32	56	75	100	100	89	96	80	49	16	77	77	62	62	24	13	72	64	83	95	97	96	77	81	32	46		

4	South Fork Zumbro River (0704000401)	Badger Creek (070400040105)		Impaired for Aquatic Life-Fish	2926	19	34	48	48	13	100	100	75	98	51	60	0	56		52				62	15	31	42	100	100	38	8	87	43	
		Bear Creek (070400040104)		Impaired for Aquatic Recreation-Bacteria	27808	135	45	40	39	32	100	100	68	93	43	65	7	40	55	34	48		47	64	72	76	63	100	100	77	86	68	45	
		Cascade Creek (070400040109)		Impaired for Aquatic Life-Invertebrates and Fish	10566	132	48	27	20	8	99	99	48	86	9	55	1	64	63	52	48	40	25	27	60	66	37	91	99	85	86	88	37	
		City of Rochester-South Fork Zumbro River (070400040108)		Impaired for Aquatic Life-TSS and Aquatic Recreation-Bacteria	61768	362	59	30	25	8	100	100	85	95	74	63	8					51	41	28	50	52	19	82	92	60	99	8	52	
		Headwaters South Fork Zumbro River (070400040101)		Fully Supporting for Aquatic Life	4939	26	78	15	15	79	100	100	54	79	29	61	2		87		58		43	55	45	75	95	100	100	93	34	77	21	
		Salem Creek (070400040103)		Impaired for Aquatic Life-Invertebrates and Aquatic Recreation-Bacteria	25895	155	79	15	22	77	100	100	56	81	31	61	3	56	70	39	39	43	43	43	91	60	85	99	100	100	88	66	70	24
		Silver Creek (070400040107)		Impaired for Aquatic Life-TSS	3870	24	50	40	40	28	99	99	75	95	55	61	8						51	58	73	80	66	100	100	88	86	91	46	
		South Fork Zumbro River (070400040110)		Impaired for Aquatic Life-Invertebrates and TSS and Aquatic Recreation-Bacteria	131727	843	46	36	36	24	98	98	66	96	36	53	5	43	55	39	55	51	52	53	95	63	40	100	76	77	94	49	46	
		Town of Rock Dell-South Fork Zumbro River (070400040102)		Fully Supporting for Aquatic Life	25000	138	66	28	35	82	100	100	62	85	37	59	6	87	87	58	98	43	43	35	55	87	99	100	100	89	73	71	27	
Willow Creek (070400040104)		Candidate for Delisting (TSS)	11905	22	36	49	47	28	100	100	68	89	47	56	9	69	69	57	57	43	43	75	38	79	74	100	100	79	82	73	40			
5	Zumbro River (0704000405)	City of Zumbro Falls-Zumbro River (070400040504)	Hammond Creek (M-034-041)	Impaired for Aquatic Recreation-Bacteria	602637	4157	60	29	66	83	99	99	85	100	70	46	22		59		50	51	51	81	87	82	64	100	100	96	84	8	51	
		Cold Creek (070400040503)	Cold Spring Brook (M-034-048)	Impaired for Aquatic Life-Invertebrates	28836	156	52	44	46	85	100	100	71	100	42	41	1							43	94	74	98	100	99	97	26	56	21	
		Dry Run Creek (070400040501)		Impaired for Aquatic Recreation-Bacteria	5574	48	61	34	34	80	100	100	76	96	55	47	4	62					39	51	28	84	99	100	100	94	57	74	22	
		Long Creek (070400040505)		Impaired for Aquatic Recreation-Bacteria	5521	44	54	42	42	84	100	100	85	100	69	41	11		69		39			94	83	86	100	100	100	96	63	75	26	
		Long Creek (070400040505)	Long Creek (M-034-022)	Impaired for Aquatic Recreation-Bacteria																														
		Middle Creek (070400040506)	Middle Creek (M-034-021)	Impaired for Aquatic Recreation-Bacteria	1857	17	44	50	50	60	99	99	88	100	75	42	12		69		39			85	88	88	90	100	100	97	79	91	34	
		Silver Spring Creek-Zumbro River (070400040507)	Long Creek (M-034-022) Middle Creek (M-034-021)	Impaired for Aquatic Life-Fish and Aquatic Recreation-Bacteria	220571	1568	64	29	45	87	100	100	87	98	76	45	12		69		39		55	85	92	92	97	100	100	95	84	48	27	
		Spring Creek (070400040509)	Spring Creek (M-034-020)	Impaired for Aquatic Recreation-Bacteria	18376	141	39	57	55	88	100	100	82	100	63	40	8							87	89	82	100	100	100	97	50	58	32	
		Trout Brook (070400040511)	Trout Brook (M-034-009)	Fully Supporting for Aquatic Life	4355	38	21	76	75	91	100	100	92	100	84	36	13						21	76	93	90	100	100	100	97	70	90	52	
		West Albany Creek (070400040508)	West Albany Creek (M-034-020-001)	Impaired for Aquatic Recreation-Bacteria	6286	43	33	62	62	83	100	100	78	100	82	37	6							92	87	82	99	100	100	96	49	71	34	
		West Indian Creek (070400040510)	West Indian Creek (M-034-017)	Impaired for Aquatic Recreation	8713	49	45	50	50	74	100	100	89	100	77	43	13		81		41		30	82	90	75	98	100	100	96	26	60	37	
		Zumbro Lake-Zumbro River (070400040502)		No Data	276136	1721	58	32	56	75	99	99	82	98	66	46	17		62			38	39	78	93	83	92	96	100	78	84	32	42	
Zumbro River (070400040512)	Zell Creek (M-034-013)	No Data	991125	7017	56	34	71	73	99	99	90	100	79	53	36		81	78	41	41	41	30	75	92	88	93	100	99	96	75	8	60		
Watershed Mean Score or %					80983	539	63%	29%	35	63	100	100	71	87	55	55	7	61	66	45	47	44	41	58	69	79	86	99	97	89	64	59	31	