

Table 16. In-Lake/Instream Processes Implementation Plan Elements.

Plan Element	NPS Category Elements	Target/ Milestone	Completion Dates
1. stakeholders	<ul style="list-style-type: none"> - Point and non-point sources - Lake Allegan and Kalamazoo River riparian land owners - Land Conservancies - Superfund PRPs 	Engage as many basin-wide public & private site sources as funds allow	2003-ongoing
2. regulations	<ul style="list-style-type: none"> - Federal Clean Water Act, TMDL for P, Superfund, Inland Lakes & Streams (floodplains, wetlands), Subwatershed Management Plans, MI PA 451, zoning ordinances and local municipal statutes 	Identify and incorporate as pertinent to project	Ongoing
3. goals	<ul style="list-style-type: none"> - Quantify as part of 43% reduction for NPS (streambank erosion throughout watershed, internal loading from sediment P release and bedload resuspension in Lake Allegan) - Reduce internal P loading in Lake Allegan - Implement a streambank improvement tracking program (county DOTs) 	<ul style="list-style-type: none"> -Collect new water chemistry data, P budget, lake biota, rough fish survey, water quality modeling, Morrow Lake monitoring, coordinate and manage all data, -Evaluate and implement best options -Watershed-wide assessment of road crossings and streambank erosion sites 	<p>2002-2006 and beyond as needed</p> <p>2003-2006</p> <p>2003-2008</p>
4a. ongoing efforts	<ul style="list-style-type: none"> - Streambanks: 3-county CMI grant, Graphic Packaging Erosion Control Project, Water Quality trading projects, 319 projects, other - Sediment release/Bedload resuspension: TMDL assessment (K&A); Superfund evaluations - Education programs through public and private sources - Carp: WMU Goldsworth Valley Pond Study, TMDL assessment - Part 91 agencies/MDEQ compliance and enforcement activities 	<ul style="list-style-type: none"> -Calculate loading, implement BMPs and publish -Coordinate & consolidate data for this application -Expand awareness and use of materials by public/private sources -Pre-monitoring, carp removal, post monitoring - Efforts conducted as needed 	<p>1999-ongoing</p> <p>2000-ongoing</p> <p>2000-ongoing</p> <p>2000-ongoing</p> <p>Ongoing</p>

4b. recommendations	<ul style="list-style-type: none"> - Streambank erosion controls: bank shaping & stabilization, native vegetation planting and buffer programs - In-lake treatment: carp removal - Modeling/monitoring evaluations 	<ul style="list-style-type: none"> -Implement BMPs wherever and whenever possible to reduce P and sediment loading from erosion sites -Reduce carp population by 80-90% -See goals above; conduct and coordinate data management for public accessibility 	<p>2003-continue as allowed</p> <p>2003-2005</p> <p>current and to continue through TMDL</p>
5. funding resources	<p>Superfund, grants for habitat improvement (e.g., Great Lakes Aquatic Habitat Network and Fund), land conservancies, Ducks/Trout Unlimited, property owners, private corporations, foundations, conservation easements, water quality trading</p>	<ul style="list-style-type: none"> -Submit grants to obtain funds to initiate desired elements -Maintain funding levels required for work 	<p>2002-2003</p> <p>2003-ongoing</p>
6. program resources	<p>319 projects, CMI grants, public/private partnerships</p>	<p>Coordinate into cooperative participants for program support</p>	<p>2002-2004</p>
7. cost optimization	<ul style="list-style-type: none"> - Quantification/prioritization of impacts/costs - Riparian property owner opportunities - Conservation easements - Water quality trading - Determination of most critically eroding areas/valuable habitat/restoration costs - Determine areas already targeted for erosion control under Superfund 	<ul style="list-style-type: none"> -Monitoring and analyses done -List types of and prepare outreach tool -Promote and increase number in watershed -Promote mechanisms and implement -Conduct, map, make available -Obtain, catalog and map locations 	<p>2003-2004</p> <p>2003-2004</p> <p>2003-continuing</p> <p>2003-continuing</p> <p>2003-2005</p> <p>2003</p>

8. data gaps	<ul style="list-style-type: none"> - Where is erosion occurring? - How does P cycle within the river and Lake Allegan? <ul style="list-style-type: none"> - What is the magnitude of P internal loading in Lake Allegan? - How much do carp activities really affect P (bioturbation, fecal deposition)? - Is the current water quality database adequate for setting TMDL goals and providing timely feedback on how the goals are being achieved? - Is Morrow Lake the best site for comparison? 	<ul style="list-style-type: none"> -Conduct survey, map and prioritize -Most crucial question; conduct one (minimum) comprehensive study that will include answers to the other questions listed in the column to the left 	<p>2003-2004</p> <p>2003-2006</p>
9. accountability structure	<ul style="list-style-type: none"> - Implementation Committee, public/private partnerships/contractual obligations, reporting to MDEQ/EPA, public access to and dissemination of results 	<ul style="list-style-type: none"> -Implementation Committee (IC) to meet at least twice/year -Reports and other information made public through presentations, publications and website 	2002-ongoing
10. reporting	<ul style="list-style-type: none"> - Part of the TMDL process as well as for any funded elements 	<ul style="list-style-type: none"> -Minimum of summaries for all annual reports put on website 	As needed per project
11. timeline	<ul style="list-style-type: none"> - Research that has already been initiated - Additional proposals being written - Broader assessment starts late 2002 and continues through 2005 	<ul style="list-style-type: none"> -Water quality trading & related; MSUE NPS tracking; land use relationships; Superfund efforts; CMI projects; Section 319 projects; <i>others</i> -Watershed Initiative; Construction Management; Road crossing; <i>many others</i> -Ensure funding for continuation 	<p>1998-2003</p> <p>2002-2003</p> <p>2002-2003</p>

12. tracking	One database for all of TMDL process/website	-Explore potential and methods that would improve present situation -Implement practical alternative	2003 2004-2006
13. monitoring	- MDEQ monitoring - MDNR fisheries studies - Program/project tracking (streambanks) (CMI, 319) - Additional monitoring/analysis/modeling	-Continue and expand when/where possible -Continue and expand when/where possible -Continue to fund and expand; results to web/published -See targets under #3 above	2002- beyond as necessary 2002-beyond as necessary 2002-2006 2002-2006 & beyond as needed
14. contingency plan	- Re-examine NPS load allocations with new data - Identify and target specific program options to address prioritized problems/needs - Seek land use management alternatives and additional local control measures to achieve water quality goals if necessary - Strive for voluntary positive options versus negative actions - Regulation as last course of action	-Better quantification of current NPS loading -Eliminate “open” approach with IP committee to focus on targeted sites -More applicable local zoning and statutes implemented -Track use of alternate approaches -Federal/State action	2003-2006 2006-2009 2006-2009 2004-2009 as needed
15. updating strategy	- Assess impacts after two years of monitoring - Establish plans at third year - Implement improvement strategies in years 4-5 - Re-assess goals/overall TMDL IP at five years	-Share efficacies with IP committee and public -Next steps approved by IP committee -More target-specific and strategies to maximize results -IC with input from MDEQ & EPA	2004-2005 2005-2006 2007-2008 2006