

**Watershed Plan Review Tool**      **Final Version -- Feb 15, 2007**  
**Comparison with US EPA Watershed-Based Planning Guidance**

**Reviewer Name - Affiliation:** NPS Program

**Review Date:** Friday, May 15, 2009

**Watershed Plan Title - Date:** Rouge River WMP

**Watershed Name and Location:** Rouge River, SE MI

Each element of the US EPA Guidance is presented below, with specific review criteria for subelements.

**Score Key**

- 1 Incomplete
- 2 Partially Complete
- 3 Adequate

**(a) Identification of the causes and sources of impairment or threats to the waterbody**

Review Criteria	Score (1-3)	Comments	Page and Section	Recommendations
1. Water body use designations (from relevant Water Quality Standards) are listed for waters in the planning area	3		3-6	
2. Water quality criteria (from relevant Water Quality Standards) for the use designations are cited	3	List water quality criteria for dissolved oxygen, temp, E.coli, Phosphorus, TSS.	3-9 to 3-14	
3. Impaired, partially impaired, and/or threatened uses (from state 303[d] or integrated report) are listed by water segment or area	2	Lists TMDLs for E. coli, aquatic life and dissolved oxygen on Johnson Creek.	3-4	Please also include watershed wide 303d listing for dissolved oxygen (with TMDL to be completed by 2012). (Cover nps related 303d listings as appropriate.)

4. Specific causes and sources (303[d]) of impairments and/or threats (if applicable) are listed by waterbody segment or area	Causes and sources are listed - but generally.	Chapter 3; Chapter 4	Please discuss different sources and causes by area or water body segment given different land use, septic usage, etc. Please clarify what activities are causing problems in particular areas. If additional work is needed to identify sources/causes please include this additional work as tasks in the plan. Please prioritize geographic areas that will be worked on.
2			

**(a) Identification of the causes and sources of impairment or threats to the waterbody (continued)**

5. Causes of impairment (or threats) are listed as loads, WQC exceedance amounts/ percentages, or via other quantifiable method	3	Loads are shown on subshed maps for each subarea. Includes loads for Fecal, Total P, TSS, annual runoff volume. Also includes impervious cover by subshed.	Chapter 3	
6. Sources of impairments/threats (if applicable) are mapped or identified by area, category/subcategory, facility type, etc.	2	Loads are mapped, by subshed.	Chapter 3	Please discuss modeling results in light of different sources in certain areas given different land use, septic usage, etc. Please be sure to include agricultural sources as well.
7. Contributions from each source location or category is quantified by load, percentage, priority, or other method	2	Event mean concentrations levels are given for various landuses. Loads are quantified by subshed.	3-18, Chapter 3 for maps.	Additional work is needed to identify the causes/sources of loads mapped in the plan.
8. Estimates, assumptions, or data used in the analysis is presented or cited and appears reasonable	3	WMM is summarized on page 3-16	3-18, Chapter 3 for maps. Appendix B, in loading analysis - page 3-19. Appendix C	Please clarify whether City Green was used
<b>Number unacceptable</b>	<b>4</b>			

**(b) Estimate of the load reductions expected from the proposed management measures**

Review Criteria	Score (1-3)	Comments	Page and Section	Recommendations
1. Load reductions needed to address each impairment and threat (if applicable) are listed, and are quantified by weight, concentration, percentage reduction needed, etc	2	Load reductions are based on stormwater reductions in each subshed.	6-8	Please address watershedwide dissolved oxygen impairments. Please ensure that actions are proposed to head off threats to water quality in headwaters.

2. Listed load reduction estimates are linked to each cause and source location or category	2	Load reductions are linked to spatial areas and based on stormwater quantity reductions. The plan states that higher quality reaches and tribs should be identified as the critical areas for targeted volume reduction. Please do this, and include it in the plan. Method used to inventory sources does not appear to be included in plan.	6-2 thru 6-6; 6-7; Table 7-4	Please further lay out a prioritized strategy to restore and protect watershed. Based on the modeling results, which areas are highest priorities for action? What causes and sources are highest priorities within those geographic areas? Which areas are highest priority for protection? Intersection of modeling results may facilitate identification of priority restoration and protection priorities. Please also include the method used to inventory sources. Additionally, please associate each education goal (Table 7-4) with either a critical area or subwatershed, and a pollutant, source, and cause.
3. Load reductions will achieve water quality criteria, address threats (if applicable), or achieve other goals	2	Estimated fecal coliform, total phosphorus and total suspended solids reductions are provided based on proposed volume reductions.	6-8	Need to address dissolved oxygen impairments. Also explicitly state how load reductions will impact aquatic life in Chapter 6. The Wiley Seelbach model may be a useful tool in this.
4. Estimates, assumptions, or data used in the analysis are presented or cited and appear reasonable	2	WMM pollutant loadings are shown based on short and long term volume reductions.	6-7	Please include more detail in the main plan regarding how the load reductions that are included in Chapter 6 were calculated. What BMPs were assumed? Please include a menu of BMPs and describe how the BMPs will be implemented by subwatershed. Please provide information regarding the stormwater volume reductions that would be realized from implementation of a certain type of BMP.
Number unacceptable		4		

**(c) Description of the management measures needed to achieve the proposed load reductions**

Review Criteria	Score (1-3)	Comments	Page and Section	Recommendations

1. Water quality and other watershed goals are listed for each water body segment in the planning area	2	Goals are included, but goals listed are very general, and many goals are listed as applying watershedwide.	5-1	Need to narrow the scope of the goals, so that they can guide to specific actions, in specific geographic areas. Also - should include a goal to achieve water quality standards.
2. Management measures needed to address each cause and source of pollution or impairment (or threat) are listed, described, and prioritized	2	Many ARC member communities did not commit to any specific community actions in this plan. Draft partner resolutions are included in Chapter 9. Additionally, a number of categories of practices are mentioned in the plan but not yet included in the plan - Including the ARC IDEP/TMDL Plan, and the Collaborative PEP Plan. It is difficult fully assess the plan without those actions. Method used to prioritize sources does not appear to be described.	6-10 and beyond; Appendix D	Please pull Appendix D into the main document. In Table D-3, please use the modeling results and other knowledge about the landscape to better define more specific critical geographic areas. In Table D-3, please also elaborate on the IDEP/TMDL Plan related BMPs that will be used to address pathogen issues. Please also integrate these pathogen related BMPs into the proposed actions in Chapter 6. Please add Ag related BMPS to Table D-3 and Chapter 6 as well. Please provide rational for why certain BMPs and actions have been determined to be priorities. How will you determine how a specific project will help achieve the plan goals? Please clarify watershed community commitments to plan implementation. Please also include the method used to prioritize sources.
3. Proposed management measures are applicable to causes and sources and are feasible	2	No actions are proposed by headwater communities in Middle 1 and Lower 1 watersheds. These are the highest quality remaining waters in the watershed and are a protection priority. Additionally, many restoration projects are proposed in Chapter 6 but specific protection measures are not included.	structural bmps- Table 6-7, non-structural 6-14 to 6-18	Please ensure that specific protection BMPs and actions are included. Please add Ag BMPS. Consider adding municipal BMPs?
4. Critical locations or high-priority sites for each management measure are mapped or described	2	Many BMPs have critical areas specified as watershedwide or subshed wide.	6-10 and beyond; Appendix D	Please use the modeling results to create more specific geographic priority areas for specific BMPs. Include headwater protection actions. Please also provide the rationale for the prioritization that was included. How is it decided what high priority projects are?

5. Load reductions linked to each management measure are listed and quantified via reasonable estimates	2	Load reductions that would be achieved by volume reductions are mapped for fecal, P and TSS. Does not explain which BMPs will be used to achieve load reductions.	Chapter 6; Appendix B	Please explain which specific BMPs will be used to achieve the calculated load reductions.
6. Estimates, assumptions, or data used in the analysis is presented or cited and appear reasonable	2		Chapter 6; Appendix B	Additional details regarding methodology are needed, as noted above and in the general comments.
<b>Number unacceptable</b>		<b>6</b>		

**(d) Estimate of the amount of technical, financial, and regulatory assistance needed**

Review Criteria	Score (1-3)	Comments	Page and Section	Recommendations
1. General type & amount of technical assistance needed to implement the management measures are listed	2	Available technical resources are listed. Did not address how much technical assistance will be needed, or tie it to proposed management measures.	6-29	Please describe how much technical assistance is needed to implement plan and who will help with which specific activities/specific bmps.
2. Actual or potential/possible sources of the needed technical assistance are identified	3	Sources of technical assistance are listed.	6-29	Consider adding USDA, NRCS and MI Dept of Ag.
3. Overall costs for implementing, operating, and maintaining the management measures are estimated and listed	2	Specific implementation costs are listed by action - page 6-19 and beyond. General implementation, operation and management costs are listed in Table 6-17.	6-19 and beyond; 6-28	Please also include costs for implementing, operating, and maintaining the I and E management measures included in Chapter 7. Please clarify whether the \$5,000 Collaborative Public Education Plan budget is to implement all of the public education, and if so, if that is feasible.
4. Possible/potential sources of financial assistance needed to implement the management measures are listed	3	Potential sources listed.	6-28 and 6-29.	
5. Regulatory or other authorities responsible for (or needed) to implement the management measures are listed; entities exercising the regulatory or other authorities are identified	2	Specific actions have potential stakeholders listed. We are unsure what it means to be a potential stakeholder.	6-19 and beyond	Please clarify who the authorities are that will be responsible for/needed to implement actions. Please include a more specific ordinance review and update task. Various ordinances are needed to achieve watershed goals. Additionally, ordinance review and update is a very important task in watershed restoration and protection. It would be useful to expand on the tools that will be used for ordinance review, the types of ordinances that may need to be updated, necessary updates, etc. EPA's new Water Quality Scorecard is a useful tool for communities to use to evaluate SW oriented policies.

Number unacceptable



**(e) Public information, education, and participation**

Review Criteria	Score (1-3)	Comments	Page and Section	Recommendations
1. Information, education, and public participation goals and objectives for the management program are listed	3	Each education goal (Table 7-4) should be associated with either a critical area or subwatershed, and a pollutant, source, and cause. Additionally, Table 7-4, Each education activity in the public education plan needs: <ul style="list-style-type: none"><li>o A specific message for the public related to each activity</li><li>o Timeline or ranking of some sort to prioritize actions</li><li>o Expected costs for the activity</li><li>o Evaluation criteria for the components, especially for those activities which will not be measured using the "Public Survey" from page 8-4; this will allow the Rouge to show progress towards meeting each education goals that are not quantifiable in a social survey.</li></ul>	7-7; 7-1	Please clarify - what is the difference between the plan included in Chapter 7 and the collaborative PEP plan, for the purposes of the watershed plan and 319 requirements? When will the collaborative PEP plan be submitted? Please ensure WMP has an I & E plan. Please add required content listed in the comments section to the I and E plan.
2. An overall strategy or plan for the public information, education, and participation component is provided	2	Table 7-4, Each education activity is a long-range goal. Are there any smart goals that are quantifiable in the short-run? An example would be something like having 50% of the Rouge watershed understand what polluted runoff (NPS) is in 5 years, or something like that. All of the goals are exceptionally broad. How would an agency implementing this plan show interim progress towards meeting these education goals?	7-7,	Please refine goals to ensure that they are specific enough to allow short term progress quantification.
Number unacceptable <input type="text" value="1"/>				

**(f) Reasonably expeditious schedule for implementation**

Review Criteria	Score (1-3)	Comments	Page and Section	Recommendations

1. An overarching timeline or schedule showing projected dates for developing and implementing each management measure is presented	2	Actions in Tables in Chapter 6 are categorized by short or long term, however the long term (until 2035) is too long. Timeline is not included for I & E activities listed in Table 7-4.	6-19 and beyond; 7-4	Please add a mid-term timeframe, or reduce the length of the long term time period. Please include an I & E timeline.
2. The timeline or schedule indicates the actions, steps, or accomplishments associated with implementing the management measures in the plan	2	Timelines are assigned to specific actions. E.coli will be addressed through the IDEP/TMDL plan, but those actions are not included in the WMP yet. PEP activities will be addressed through the PEP plan, but those actions are not included in the WMP yet. Chapter 6 (6-8) includes load reductions that would be achieved if volume reductions are achieved.	6-19 and beyond; 6-8	Please include an I & E timeline. It is difficult fully assess the plan without the IDEP, TMDL and PEP actions. Method used to prioritize sources does not appear to be described.
3. The timeline or schedule follows a logical sequence for implementing the management measures	2	The overall temporal strategy - the sequencing for the specific actions committed generally supports the strategy of focusing on SW volume as the highest priority task.		Please ensure that the timeline indicates that actions that would correct a problem caused by stream erosion would occur after measures have been taken to correct flow issues upstream.
4. The timeline or schedule lists short-term (up to 3 yrs) and long-term (up to 10 or more yrs) implementation steps	2	Actions in Chapter 6 are categorized by short or long term.	6-19 and beyond	Please add a mid-term timeframe, or reduce the length of the long term time period. Please include an I & E timeline.
<b>Number unacceptable</b>		<b>4</b>		

**(g) Interim measurable milestones for implementing the management measures**

Review Criteria	Score (1-3)	Comments	Page and Section	Recommendations
1. A list of reasonable and attainable interim milestones, benchmarks, phases, or steps for implementing each group of management measures or control actions is provided	2	Short and long term volume reductions are listed in Table 6-2. Milestones are not included in action tables in Chapter 6. For example, for animal waste management, what is the milestone target number for number of management measures installed?	6-7; Table 6-2	Please ensure that each action includes a milestone.
2. A logical sequence of dates for achieving the milestones, benchmarks, phases, or steps is listed	2		6-7; Table 6-2; 6-19 and beyond	Please ensure that each action includes a milestone date.
Number unacceptable		2		

**(h) Criteria to determine whether or not load reductions are being achieved**

Review Criteria	Score (1-3)	Comments	Page and Section	Recommendations
1. Criteria are identified that are linked to the causes and/or sources of impairments/threats (if applicable)	2	Good, fair, poor water quality criteria listed in Table 3-4. Linked to stormwater generally throughout document.	3-15; Chapter 6	What is the role of table 3-4 in this plan? Will these criteria be used to determine if load reductions are being achieved? Is it being provided as a summary of historical work, or are these criteria also being used as current goals as well? Need to clarify the connection of the old targets from the old plans to the new targets. Need a dissolved oxygen target.

2. The listed criteria include numeric and/or narrative water quality criteria, instream physical habitat assessment criteria, or other criteria linked to the causes/sources	2	Target for pathogens 6-2; Target for hydrology per 3-15; Chapter 6 subshed 6-7, Table 6-2; Target for Inverts and fish - P51 Acceptable, for biota, 6-9; Secondary target for sediment 80 mg/l; Target for nutrients 0.05 mg/l page 6-5.	Need a dissolved oxygen target. Land based targets can be useful for measuring protection/progress such as % imperviousness, frog and toad survey, wetland and forest loss. etc. Please include some ag targets too. Buffer width, etc? Could also include instream RBP habitat target score. How can City Green results be used to set targets? Public involvement targets are not set. Also- please clarify if group is also aiming for "good" rankings for criteria listed in Table 3-4, and other "good" values listed in Chapter 3, in addition to explicitly stated targets in Chapter 6.
3. Listed criteria include those incorporated into any TMDLs developed or to be developed for waterbodies addressed by the plan	2	Do not include a dissolved oxygen target.	Watershed wide dissolved oxygen 303 d listing must be addressed.
4. Provisions for reviewing progress and revising the plan or any TMDLs involved are addressed	2	Plan details ARC meetings that will occur, and includes partner resolutions.	Frequency of evaluation of progress? Please clarify what the group's plans are to update the plan, and what would trigger an update. Please clarify plans to reevaluate progress towards achieving volume reduction targets.
Number unacceptable		4	

**(i) Monitoring component to evaluate the effectiveness of implementation**

Review Criteria	Score (1-3)	Comments	Page and Section	Recommendations
1. An approach for establishing monitoring sites or procedures and relevant parameters is provided, or procedures for acquiring and reviewing other monitoring data is described	3	ARC collaborative approach and individual community approach to measuring progress. Monitoring plan developed. Annual review of plan planned. It is noted that monitoring result summary will be developed by tech committee twice every MS4 permit cycle. # of Geomorphology sites to be surveyed is listed as X.	8-1 to 8-4	Please clarify plans for review and analysis of data collected/ acquired through monitoring plan. Specifically, will chem and biota results be summarized in reports? When will progress towards flow volume targets be assessed?
2. Non-environmental monitoring parameters are clearly identified and provide a reasonable yardstick for measuring progress toward implementing the management measures	2	It is noted that City Green will used. It is noted that a future public involvement survey may be conducted.	8-4 to 8-9	Targets are not established for land cover / City Green, and public involvement.
3. Monitoring parameters include the criteria identified in (h) and the milestones, benchmarks, phases, or steps cited in (g) above	3	All parameters committed to as targets are listed in the monitoring plan. ARC is relying on DEQ to monitor pathogens, nutrients, TSS, fish and instream habitat. 7 gages are operated by USGS, and 5 others are suggested. Aquatic inverts will be monitored by FOTR/ARC.	8-1 to 8-4	Please clarify whether the ARC is committing to support the 5 suggested gages, or suggesting that they be supported by others. Edit document to note that MDEQ will likely not conduct much chemistry sampling in 2010 in the Rouge.
4. Frequency of monitoring or schedules for assessing implementation progress is included in the plan	3	Schedules are included in the monitoring plan.	8-1 to 8-4	Please note whether in general the group expects these types of monitoring efforts to continue beyond 2013.
5. Parties responsible for implementing the monitoring program are listed	2			Please ensure that responsibility is clearly listed for every line of table.
6. Quality Assurance Project Plans for water quality parameters are referenced or cited, if appropriate	3		To be included in final.	ARC does not necessarily need to include the QAPPs in the final WMP. These will be required when they are required in other programs.
<b>Number unacceptable</b>	<b>2</b>			