

CONSULTANT NEEDS FOR THE RARITAN PROJECT (NON-TMDL)
 TECHNICAL ADVISORY COMMITTEE RECOMMENDATIONS – 6 MARCH 2002
 APPROVED BY RARITAN BASIN COUNCIL – 26 MARCH 2002

N&S Branch WMA Committee (31 Jan 02)	Lower Raritan WMA Committee (Final)	Millstone WMA Committee (No rankings)	TAC Recommendations
<p>1. Effects of development on ground water supplies (ranked #1 priority by WMA Committee). TAC Recommendation: NJGS method is applicable to this need and NJWSA should be able to assess. Also, Hunterdon Smart Growth Project is looking into these issues.</p>	<p>1. Determine relative impacts of various types of development upon the environment for use by planning boards. This analysis should also include a determination of what is specifically attributable to land uses as nonpoint source pollution. [Note: Manual/handbook? Turn into an 'expert system' for PC analysis.] TAC Recommendation: Manuals and handbooks exist. More useful would be the improvement of assessment models for use with build-out analyses. See TAC Priority #2. Also, TAC Priority #1 will help refine water quality impact estimates.</p>	<p>NOTE: Although no rankings were available yet from the Millstone WMA Committee, the TAC did review the full list of suggestions from the Millstone Steering Committee and various subcommittees. Many match the priorities for the Lower Raritan and N&S Branch Raritan. TAC Priority #1 addresses the highest priority of the NPS Subcommittee. TAC Priority #2 addresses the build-out issue suggested by the Steering Committee. Steering Committee 1. Zoning and Build-out, Imperviousness, Water Supply and Budget a. How to do b. Application levels (What do you get at what cost) c. How do municipal and county zoning interrelate 2. TMDL – methods of allocation 3. Identifying non-point source targets 4. Determining ground water quality 5. Phosphorus Control Strategies 6. Ground Water Recharge a. Methods of Analysis b. BMPs 7. Municipal Knowledge Survey a. What information do they use? b. What information should they use? c. How is existing information distributed? 8. Understanding Agricultural, Industrial, and Residential water supply 9. Traffic – relate to land use management and water resources issues</p>	<p>1. Nonpoint source loading coefficients (e.g., for phosphorus) to support TMDL development and the analysis of development impacts on surface water quality. These coefficients would replace the use of national coefficients that may be less appropriate for New Jersey, thereby increasing the credibility of any NPS modeling.</p>
<p>2. Build-out analyses to identify for the public the impacts of local zoning decisions on water resources (tied for #2 by WMA Committee). TAC Recommendation: Hunterdon County is evaluating build-out methods and will be implementing one county-wide. Regional Planning Partnership has developed "Goal Oriented Zoning" which has been used in Mercer and Somerset County. The shortfall of such programs is in their ability to assess water resources impacts. See TAC Priority #2.</p>	<p>2. Identify the most cost effective approach for developing watershed based stormwater management plans incorporating existing structures. TAC Recommendation: Probably premature, as there is only limited field experience available in doing stormwater management plans that incorporate water quality (i.e., most focus on flow only). Good idea for future project.</p>	<p>2. TMDL – methods of allocation 3. Identifying non-point source targets 4. Determining ground water quality 5. Phosphorus Control Strategies 6. Ground Water Recharge a. Methods of Analysis b. BMPs 7. Municipal Knowledge Survey a. What information do they use? b. What information should they use? c. How is existing information distributed?</p>	<p>2. Enhancing existing build-out analysis models/methods through the generation of better methods to include the assessment of water resource impacts from various build-out scenarios. In this manner, models such as "Goal Oriented Zoning" by Regional Planning Partnership and the Hunterdon County build-out method can be significantly improved without developing yet another build-out analysis method.</p>
<p>3. What BMPs, to address water quality, are functional and financially do-able which can be applied to existing developed and disturbed land use activities? (tied for #2 by WMA Committee). TAC Recommendation: BMPs of this type exist and are well documented in the Mid-Atlantic region. Can be pulled together by NJWSA with volunteer help.</p>	<p>3. Document successes and failures of BMPs to address identified pollution problems in New Jersey. TAC Recommendation: The Center for Watershed Protection developed a major study on this issue for the Chesapeake Bay Program. Newer BMPs do not have enough history to allow for assessment. Also, this is a field research project. Defer.</p>	<p>8. Understanding Agricultural, Industrial, and Residential water supply 9. Traffic – relate to land use management and water resources issues</p>	<p>3. Developing a detailed protocol and literature review for creating a watershed-based phosphorus criterion as provided for in the Surface Water Quality Standards, including a cost analysis. Violations of the Total Phosphorus numerical criterion are common, but the regulations recognize the possibility that the numerical criterion can be higher or lower than what is really appropriate for a specific stream or lake, and allows for watershed-specific criteria. The questions are – how is one developed and what would it cost? Based on the answer, stakeholders can decide whether the next steps should be taken or the current numerical criterion should be used.</p>

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<p>4. Mapping of Headwater Areas in the WMA for distribution to all 38 municipalities (tied for #4 by WMA Committee). TAC Recommendation: NJWSA is preparing maps of headwaters streams. Digital Elevation Modules in GIS aren't sensitive enough to delineate headwaters subwatersheds. Having a consultant do this by hand would be far too expensive.</p>	<p>4. Basin-wide monitoring plan; sampling points, frequency, parameters. The plan should also include a determination of accurate parameters to measure watershed health. TAC Recommendation: NJDEP has specified that it is the lead for development of sampling plans, the TMDL detailed work plan, etc. In addition, the new water quality data, which includes more stations in the Lower Raritan, are apparently available through STORET and NJWSA will get them. Future monitoring should be guided by the results of the TMDL model. The TMDL Expert Panel will be involved with this full issue.</p>	<p>Water Supply 10. Identify critical water recharge areas in the Millstone WMA a. Recharge areas available for us to use (i.e. Hopewell fault gets 95" of recharge per year) b. Edna Mahan Prison (Clinton) c. Long Valley d. Both existing data and ground truthing e. Pilot project to demonstrate how infiltration can be used to improve recharge 11. Build-out analyses to understand water demands 12. Identification of areas with lowering ground water levels (areas that are being depleted)</p>	
<p>5. Identification of wetland functions and values for protection and restoration. (tied for #4 by WMA Committee). TAC Recommendation: Good project for group of volunteer experts.</p>	<p>20. Develop evaluation criteria and methodology for prioritizing restoration activities. The criteria should include a way to determine what is a 'successful' project. The criteria and methodology should be applicable on an individual project scale and on a subwatershed level. TAC Recommendation: TRC Omni has a simple method that they will provide. Upper Delaware WMA has developed a "river health" assessment method and is preparing a publication of benefits and methods for restoration. Make use of these other efforts.</p>	<p>Nonpoint Source 13. Determine the difference in NPS loading from developing farmland and forests. Determine what BMPs will mitigate the effects of land use conversion and other effects. 14. Nitrate dilution model: what does it predict for different soil types. 15. New stormwater management rules that include a recharge amount for new developments: in what areas will this work? Fail? 16. Calculate the non-point source loads for sample subwatersheds (monitoring sheds) with literature loading rates based on land use information to compare with the USGS as a reality check for the methodology used to estimate the non-permitted load. 17. Identify locations with eutrophication problems and relate them to phosphorus concentrations. (Chlorophyll-a might not be a good indicator because rooted macrophytes are a problem in the Millstone WMA). 18. Ideas for how to deal with Fecal Coliform</p> <p>Education and Outreach 19. Media Consultant for outreach</p>	