

## Appendix B: Prioritized Recommended Actions and Gap Analysis

Resource Area	Area	Recommendation	H, M, L	Responsible Group
All	Performance Measure	Review and update the Water Resources Monitoring Strategy (2014) annually to refine streams, rivers, lakes, wetlands and springs monitoring to incorporate new science and tools, water condition needs, water quality and watershed program priorities, and USEPA expectations. Prepare an annual report on the implementation success of the Monitoring Strategy by January 1st of each year.	High	Monitoring Section
All	Performance Measure	Assemble <b>strategy implementation workgroup</b> to identify and oversee implementation of key priorities and work products with goals, specific staff/teams, timelines, and accountability measures on an ongoing basis and update these priorities and accomplishments through online tools.	High	Monitoring Section
All	Performance Measure	Build upon existing - and create new - lines of communication within the program and with partners to succeed in implementing a successful monitoring program.	High	Strategy Implementation Work Group
All	Strategy Implementation	The strategy implementation workgroup will assemble in the summer of 2015 to inventory progress on strategy priorities, identify appropriate tracking and communication tools, update the DNR's internal and public facing websites with the updated monitoring message, and create a calendar/schedule for coordination work in the coming biennium.	High	Strategy Implementation Work Group
All	Performance Measure	Complete and document the status of work for <b>statewide probabilistic and fixed site monitoring</b> as described in the monitoring strategy and as required in annual work plan for Field Season 2015-16 including: Natural Community Random and Long Term Trend (LTT) Streams; Long Term Trend Rivers and River Macroinvertebrates and Lake Satellite, Long Term Trend Lakes, and Reference Aquatic Plant Lakes.	High	
All	Performance Measure	Complete <b>Prescribed Monitoring</b> (Targeted Watershed, Follow-up, and Directed Lakes) projects that are approved and funded. Projects are created and maintained in SWIMS and data is entered and reviewed for completeness (stations, labslips, field data, methods/procedures, equipment, data quality, and final reports). Each year, final reports are linked in SWIMS and new findings are incorporated into the WATERS system through watershed planning and/or narrative updates.	High	
All	Performance Measure	Complete Local Needs and CWA Section 319 Project Eligible monitoring as approved and funded. Data is entered in SWIMS and reviewed for completeness (stations, data quality, and applicable final reports). Each year, final reports for projects are linked in SWIMS and new findings are incorporated into the WATERS system in a timely manner.	High	

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All	Performance Measure	Complete <b>sporadic response monitoring and evaluation activities</b> as appropriate, such as responding to fish kills, storm events, spills, harmful algal blooms, etc., or responding to requests for evaluation of water quality data to support permit issuance and compliance (APM, Chapter 30, WPDES, high capacity wells, FERC, etc.).	High	
Rivers/ Streams	Streams Technical Issues	<p><u>SOP Development</u>: Continue to update SOPs and Study Designs as needed.</p> <p><u>Habitat and Sedimentation</u>: Refine or develop monitoring and assessment measures for physical habitat and sedimentation in streams and rivers.</p> <p><u>Flow monitoring</u>: Increase capability to collect high frequency and event based flow monitoring.</p> <p><u>Wadeable Trend Reference Sites</u>: Review network and determine if adding addition or rotating sites are necessary. Add high frequency chemical data collection to reference site network.</p> <p><u>Follow Up monitoring</u>: refine monitoring protocols when following up on "Poor" biologic scores including protocols to detect less frequent or less widespread stressors.</p> <p><u>Reporting</u>: Increase frequency of reporting on Baseline and TWA monitoring programs.</p>	High	Rivers / Streams Technical Team
Lakes	Lakes Technical Issues	<p><u>Data Management</u>: give SWIMS the capacity to capture aquatic plant data and calculate new biocriteria metrics</p> <p><u>Levels and Flows</u>: Lake level monitoring by volunteers (partnered with professional surveyors) is being initiated on approximately 20 lakes in 2015.</p> <p><u>Parameter creation</u>: work on developing and refining lake assessment parameters (e.g., aquatic plant biocriteria, diatom biocriteria, shoreland habitat health, etc.) for both the integrated reporting process as well as the designated use/biocriteria refine monitoring protocols when following up on "Poor" biologic scores including protocols to detect less frequent or less widespread stressors.</p> <p><u>Reporting</u>: continue to work on providing improved and accessible data for lakes both through online system and consistent reports.</p>	Medium	Lakes Technical Team
Wetlands	Wetlands Technical Team	<p><u>SOP Development</u>: Continue to update wetland monitoring and assessment procedures and study designs and outcomes to be published and shared.</p> <p><u>Restoration assessment</u>: Assess whether the restoration/ mitigation projects meet restoration or ecosystem goals.</p> <p><u>Reporting</u>: Increase frequency and accessibility of wetland assessment or condition data.</p>	Medium	Wetlands Technical Team

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All	Performance Measure	Design and implement a regular safety and training program for water quality biologists that may include modules related to bioassessment, aquatic plant identification, fluvial geomorphology, water quality monitoring and modeling, statistical analyses, and related.	High	WR PMT Training Coordinator and Technical Teams
All	Performance Measure	Maintain professional high-level infrastructure tools including SWIMS, WATERS, SWDV, intranet SWDV, Water Condition Viewer, dynamic webpages, and statistical packages such as R and custom tools such as the Targeted Watershed Site Selection Tool.	High	IT group
All	Performance Measure	Update the Water Quality Bureau Information Technology plan from 2008 with specific emphasis on adapting the plan to new technologies and program changes and needs and incorporating specific attention to training and help guides for supported IT products.	High	IT group
Groundwater	Lakes, GW Teams	Develop a groundwater quantity and quality monitoring program including water level and flow to assess groundwater / baseflow quantity information needs. Additional parameters related to groundwater quality could also be developed.	High	Lakes Implementation Team
Lakes, Rivers	WES Assessment Designated Use Biocriteria	Develop methods and monitor for direct impacts of eutrophication.	High	Biocriteria Designated Use Assessment Team
Mississippi	Monitoring	Mississippi River CWA Collaborative Interstate Funding Increase Monitoring (\$15,000/yr 1; \$75,000/yr 2) This initiative is a one-time pilot-project to implement portions of the UMR CWA monitoring strategy and would be coordinated with similar efforts proposed by the Minnesota Pollution Control Agency. This proposal builds on existing Mississippi River budget allocations, and is tiered to allow flexibility in allocation of budget resources.	Low	<i>Funding issues on hold</i>
Mississippi	Laboratory Analyses	Insufficient lab support (funding) for contaminant monitoring.	Low	<i>Funding issues on hold</i>
Mississippi	Program Development	Insufficient field support to carry out system-wide CWA assessments following new biological assessment procedures/methods.	Medium	Needs clarification
Mississippi	IT Systems	Improvements to enhance the SWIMS and Fisheries data management systems and greater emphasis on training and knowledge to make better use of monitoring data by agency staff and the public.	High	IT Team(s)

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Mississippi	WES Assessment	WQ assessment procedures need to be developed for off-channel aquatic areas including impounded, backwaters and wetlands.	Low	Triennial Standards Review
Mississippi	Monitoring and WES Coordination	Need an improved process for capturing LTRM data and using it state CWA assessments, including the derivation of Fish and SAV IBIs.	Medium	Monitoring Communications & WES Coordination
Mississippi	WES Assessment	UMR States need to develop consistent assessment procedures for the Mississippi River rather than having five state assessment procedures for the river.	Medium	Triennial Standards Review
Mississippi	WES Assessment	There is a need to focus on implementing consistent CWA assessment procedures for the Upper Mississippi River that may follow protocols developed by the UMRBA WQ Task Force or which may influence UMRBA recommendations.	Medium	Triennial Standards Review
Mississippi	Monitoring	The Mississippi River Unit needs to obtain funding to support implementation of the UMRBA WQ Task Force WQ Monitoring Strategy for the UMR.	Low	<i>Funding issues on hold</i>
Mississippi	Monitoring Reporting	Future monitoring assessments should not focus solely on 305b/303d evaluations but be supportive of more WQ program needs.	Medium	Monitoring Communications
Mississippi	WES Assessment	Future WQ standards, sediment criteria and FCAs for the UMR should be consistent between states where appropriate.	Medium	Triennial Standards Review
Monitoring	Water Quantity	Water Quantity Information Funding Increase \$175,000 in year 1, \$125,000 in year 2 and annually to support existing contracts with USGS, UW Extension volunteer monitoring programs, and LTE support to increase the capacity for lake and wetland water level and stream flow monitoring, and identify and upload historical data. This funding would build capacity for water quantity information required under the Great Lakes Compact and to assist with water withdrawal permitting decisions - water levels, stream flows and springs)	Low	<i>Funding issues on hold</i>
Monitoring Program	Work Planning	Prioritize Evaluation monitoring for delisting and overall improvement (including pre implementation monitoring. 1) Get information on where projects are going to be implemented in order to get pre-implementation data 2) Track progress of implementation to understand when we should go back to monitor for success 3) Return to watershed to monitor for success	High	Monitoring Work Planning Guidance
Program Integration	Technical Tool Development	Determine which technical tasks are needed to complete to elevate the Midwest Biological Institute elements document to the maximum score in each area (streams, lakes, wetlands, etc.).	Medium	Monitoring and WES Coordination

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Program Integration	WES Assessment / Designated Use Biocriteria	Design the template for tiered aquatic life uses and numeric biological criteria for wadeable streams and test their application in the two pilot watersheds that were assessed in 2010 and 2011.	High	Biocriteria Designated Use Assessment Team
Program Integration	WES Assessment / Designated Use Biocriteria	<ul style="list-style-type: none"> <li>• Apply the Natural Communities model to determine the appropriate class and as validated by the ambient biological, chemical, and physical data; Supports WPDES</li> <li>• Determine the appropriate TALU tier that applies to each stream and stream segment;</li> <li>• Complete an aquatic life use assessment using the appropriate TALU tier biocriteria for each assemblage as the primary basis for attainment or non-attainment;</li> <li>• Use the accompanying chemical/physical and other stressor data to determine the proximate causes and sources of impairment and threat;</li> <li>• Use the results of the attainment and stressor analyses to determine how to assign appropriate management recommendations and/or actions to include WPDES permitting, TMDLs, nonpoint source management, or any other management program; and,</li> <li>• Utilize this experience to determine what tools are needed and if any existing tools need additional development.</li> </ul>	High	Biocriteria Designated Use Assessment Team
Runoff	Work Planning	Runoff management monitoring studies for BMP Evaluation (Monitoring to evaluate the success of best management practices); Nine Key Element Plan Development (Monitoring to collect data for the development of a Nine Key Element Plans); TMDL Development – Runoff Dominated (Monitoring to develop TMDLs for runoff dominated catchments with waters impaired primarily due to diffuse pollutant sources).	High	Monitoring Work Planning Guidance
Streams	Study Design	Target land use measurements to determine stream monitoring locations. We should target land uses and practices to determine where we have the greatest monitoring needs.		Monitoring Strategy
Streams	Metrics	Refine/develop habitat and sedimentation metrics for assessment Supports WPDES		Monitoring Strategy
Streams	Study Design	Finalize and increase reference site network, include new sites on a rotating basis and a regular reporting element.		Monitoring Strategy
Streams	Monitoring	Develop capability and increase frequency of flow monitoring including paired biologic and physical sampling Supports WPDES		Monitoring Strategy
Streams	Monitoring	Collect high frequency chemical data at a subset of reference sites to understand natural variation		Monitoring Strategy
Streams	Monitoring	Develop a “toolbox” of stressors to monitor for when following up on a “Poor” biologic sample. May be different stressors regionally.		Monitoring Strategy

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Streams	Monitoring	Develop a protocol to determine what length of stream is represented by a single station (may be parameter specific) using scientific justification.		Monitoring Strategy
Streams, Rivers	Work Planning	Assign staff to regularly analyze and report on baseline monitoring programs		Monitoring Strategy
Streams, Rivers	Monitoring	Collect more event based samples at targeted sites		Monitoring Strategy
TMDLS	Program Development	A stable funding source is needed for TMDL monitoring and model development, particularly for large scale projects.		Monitoring Strategy
Volunteer	Monitoring	Citizen-based Water Monitoring Data Quality Funding Increase Coordinator (1 FTE): \$~90,000 annually. This position would provide stable funding and support for volunteer water monitoring to ensure that the data being collected are useful for Department decision-making. This work is currently supported by LTE employees through the EPA Monitoring Initiative funding.		Budget initiative
Water Program	EPA Reporting	Wisconsin intends to amend its portion of the Environmental Performance Partnership Agreement (EnPPA) between the State and EPA to reflect the changes that this strategy recommends.		Monitoring Strategy
Water Program	It Systems	To meet Clean Water Act requirements and provide information on the status of beneficial uses of Wisconsin's surface waters, the Water Division should continue to emphasize IT system maintenance and upgrades for monitoring and assessment program protocols results (WisCALM) and monitoring strategy (2015-2020) compliance.		Monitoring Strategy
Water Program	It Systems	Help ensure stable systems with adequate backup, adequate memory, 'bug/error' monitoring and journaling of actions to identify problem actors, users.		SWIMS Integrity Strategy
Water Program	It Systems	Long-term vision team to modernize and enhance system accessibility including mobile options, tablet forms, infield data entry, topical search and display and more.		SWIMS Integrity Strategy
Water Program	It Systems	Continue working with partnership monitoring programs currently coordinated through the Bureau IT staff and linking with federal partners through the Environmental Data Exchange Network and hosted by the Water Division to increase data comparability, increase the potential for true collaboration with other entities collecting ambient water quality information, and make data available to the public.		SWIMS Integrity Strategy

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Water Program	It Systems	Water Information Systems enhancements Funding Increase \$100,000 annually. Funds programming support to implement needed integration and upgrades to core water information systems used for federal and state reporting, permit decisions, and condition information (SWIMS, WATERS, SWDV). This funding supplements existing funding (WWI) which has been static and not keeping up with increased demands.		Budget initiative
Water Program	TWA Development	Baseline water quality monitoring for lakes, wetlands, and streams funding increase \$400,000 annually. Additional funding for the targeted watershed approach, address emerging monitoring needs, and enable more waterbodies and watersheds to be sampled on an annual basis. These funds would be used to augment existing funds for lab analysis, contracts, equipment and supplies, travel, and LTE support.		Budget initiative
Water Program	Monitoring	Water Resources Monitoring Technicians Funding Increase (4 FTE): ~\$225,000 Annually This request would create 4 new technician level positions to conduct baseline and targeted monitoring of lakes, wetlands, streams, and rivers throughout the state.		Budget initiative
Water Program	Partnership Outreach	Wisconsin should continue to work closely with stakeholders to develop and implement the most effective data collection, evaluation, and reporting tools so that we can communicate a consistent message regarding Wisconsin's water quality.		Monitoring Strategy
Water Program	Partnership Outreach	Wisconsin also emphasizes improving intra-agency, inter-agency, and stakeholder coordination of programs and data sharing.		Monitoring Strategy
Water Program	Partnership Outreach	Wisconsin should annually publish the results of monitoring in online reports that are easily accessible to the public.		Monitoring Strategy
Water Program	Partnership Outreach	Build stronger partnerships with agencies, watershed groups, volunteer monitors, and others to facilitate the sharing of information, the collection of comparable data, and the use of monitoring tools.		Monitoring Strategy
Water Program	Program Evaluation	Develop and promote the use of multiple monitoring tools, such as statistically based surveys, judgmental surveys, predictive modeling, risk assessments, expert systems, and newer information and monitoring technologies.		Monitoring Strategy
Water Program	Program Mgmt	This strategy update will serve the state's Water Quality Monitoring Program for 2015-2020, with the expectation that an update will be initiated in 2019 prior to the end of the effective timeframe for the current strategy.		Monitoring Strategy
Water Program	Program Mgmt	Confirm a formal schedule, complete with study design, protocols, funding, and implementation schedule to incorporate key resource areas into the work planning process using technical teams and WR PMT Managers. The following are suggested years for rolling resource monitoring into the TWA approach.		Monitoring Strategy

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Water Program	Program Mgmt	Support Intra-bureau communication plan to ensure program guidance is developed to implement all or a portion of the TWA processes. Guidance would include planning, implementation, analysis of results and sharing those results through water quality planning and other means.		Monitoring Strategy
Water Program	Program Mgmt	Develop and evaluate measures to determine the effectiveness of our program activities and make modifications to improve that effectiveness.		Monitoring Strategy
Water Program	Program Mgmt	Wisconsin's Water Quality Bureau Strategic Plan proposes developing the systems and processes to measure and demonstrate quantitative improvements in and the maintenance of water quality, monitoring and smart collection design to achieve these goals.		Monitoring Strategy
Water Program	Quality Assurance	Completed high-quality, easily accessible, documented methods and protocols;		Monitoring Strategy
Water Program	Quality Assurance	Top quality training for biologists and accessible documentation of training records for each employee;		Monitoring Strategy
Water Program	Quality Assurance	Evaluation of how methods have been carried out in the field through follow up procedures including surveys, discussions, focus groups or technical team reminders and check-ins.		Monitoring Strategy
Water Program	Quality Assurance	The information gathered from monitoring activities (regardless of which "tier") must be readily accessible and useful in an electronic database.		Monitoring Strategy
Water Program	Quality Assurance	Carry out SWIMS Data Integrity Plan developed in 2013 (incorporate the plan elements into the Bureau's strategic IT plan)		Monitoring Strategy
Water Program	Quality Assurance	Ensure that data is easily accessible as well as product reports and summary information for use in final product [reports, maps, analyses, published studies] (*)		Monitoring Strategy
Water Program	Quality Assurance	Update quality assurance management plan and quality assurance program plan, both established in accordance with USEPA policy, to ensure the validity of monitoring and laboratory activities and fulfillment of state reporting requirements with credible and comparable data.		Monitoring Strategy
Water Program	Quality Assurance	The updated quality assurance management plan should be updated to include new study designs, project manager perspectives, database capabilities, and requirements from federal, state and local entities.		Monitoring Strategy
Water Program	Quality Assurance	Develop specific quality assurance guidelines for each study design. Recommendations will work through technical teams and will be incorporated into database "controls" to reinforce data entry rules and ability to more readily fill out information.		Monitoring Strategy

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Water Program	Quality Assurance	Consult with quality assurance project plan officer consultation when creating quality assurance project plans for large studies.		Monitoring Strategy
Water Program	Quality Assurance	Quality assurance project plans (for large studies) or quality assurance checklist (to be developed) are submitted with project proposals as a prerequisite for funding (Appendix I)		Monitoring Strategy
Water Program	Quality Assurance	Ensure all studies have completed quality assurance aspects documented (see QA Checklist)		Monitoring Strategy
Water Program	Quality Assurance	Complete an ongoing inventory and strategic gap analysis of monitoring protocols, methods and procedures.		Monitoring Strategy
Water Program	Springs - Data	The Wisconsin Geological and Natural History Survey (WGNHS) manage a database of springs. Data from this study will be added to the WGNHS database as well as the WDNR's Register of Waterbodies and the Water Assessment, Tracking and Electronic Reporting System (WATERS). Geolocating springs in the WATERS database is a component of the state's surface water assessment work.		Monitoring Strategy
Water Program	Study Design	Create Targeted Watershed Approach (TWA) procedures and methods and store them in the SWIMS system. Supports WPDES		Monitoring Strategy
Water Program	Quality Assurance	Wisconsin's strategy update includes a thorough section on quality assurance measures to be incorporated in the monitoring program and throughout the project planning, as well as a template for both detailed QAPP documents for large monitoring projects an auto generated "QAPP" for all projects in the SWIMs database.		Monitoring Strategy
Water Program	Quality Assurance	The success of these QAPPs are only as good as the <b>monitoring methods and protocols</b> that outline the steps biologists may take, the <b>training the biologists have had in the methods</b> , and the <b>follow up evaluation</b> to determine if the steps have been followed. Therefore, as a logical extension of incorporating QAPPs in monitoring program work, Wisconsin will include in its five-year implementation strategy creation of a quality assurance program initiative that will address the three legs of this quality assurance goal.		Monitoring Strategy
Water Program	Quality Assurance	Completed high-quality, easily accessible, documented methods and protocols for all core media studies. [A major element of Monitoring Strategy implementation work will involve completion of an ongoing inventory and strategic gap analysis of monitoring protocols, methods and procedures. Not only will the presence of a documented procedure be evaluated but the training and implementation of that documented procedure will be evaluated to ascertain whether sufficient training and support is provided for new and		Monitoring Strategy

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		veteran staff to carry out their work successfully.]		
Water Program	Quality Assurance	Top quality training for biologists and accessible documentation of training records for each employee;		Monitoring Strategy
Water Program	Quality Assurance	Evaluation of how methods have been carried out in the field through follow up procedures including surveys, discussions, focus groups or technical team reminders and check ins.		Monitoring Strategy
Water Program	TWA Development	The creation of formal documented TWA procedures and methods must be written up and stored in the SWIMS system. Supports WPDES		Monitoring Strategy
Water Program	TWA Development	A formal schedule for incorporating key resource areas as into the work planning process and follow through by technical teams and WR PMT Managers. Supports WPDES <ul style="list-style-type: none"> <li>• Streams, Rivers (2013-14)</li> <li>• Aquatic Invasive Species (2014-15)</li> <li>• Lakes (2015-16)</li> <li>• Wetlands (2016-17)</li> <li>• Springs (2016-17)</li> </ul>		Monitoring Strategy
Water Program	TWA Development	Intra-bureau communication to ensure that the program guidance is developed to implement all or a portion of the idealized TWA processes as described above. Supports WPDES		Monitoring Strategy
Water Program	Technical Tool Development	Develop relationships between the habitat assessment tool and the biocriteria indices as this will be needed in the determination of the appropriate TALU tier within the Natural Community class in which it applies. Habitat is a critical factor in the attainability of aquatic life uses for warm water streams and rivers. Supports WPDES		Bioassessment Review
Water Program	Technical Tool Development	When a biological impairment exists habitat is the key variable in the determination of use attainability absent the confirming evidence of biological attainment. As part of this approach strong consideration needs to be given to using a quantitative or qualitative habitat evaluation index (QHEI) given its practical-to-apply characteristics and its demonstrated use for this purpose elsewhere. Supports WPDES		Bioassessment Review
Water Program	Technical Tool Development	Develop relationships between key chemical/physical and other common stressors and the biological indices and their attributes. This specifically refers to the use of biological assessment data to develop relationships between measures of biological response and anthropogenic stressors. This includes the exploration of developing biological response signatures in addition to correlative analysis with chemical/physical parameters and indicators.		Bioassessment Review

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Water Program	Technical Tool Development	A capability for developing these relationships extends the use of biological assessments from assessing condition to informing identification of causes and sources of a biological impairment at multiple scales.		Bioassessment Review
Water Program	Technical Tool Development	The association of biological response with stressors and their sources affecting aquatic systems requires a comprehensive database that should include: <ul style="list-style-type: none"> <li>o Biological, chemical, physical, and Whole Effluent Toxicity (WET) data and information;</li> <li>o Detailed watershed and land use information;</li> <li>o Locations of discharges and discharge monitoring;</li> <li>o Geographic Information System (GIS) capability to assemble watershed and discharge information and relate them to the correct sampling sites.</li> </ul>		Bioassessment Review
Water Program	Technical Tool Development	Creation of paired biological and other relevant environmental data support developing quantitative stress-response relationships is needed along with a relational database that enables data export and analysis via query.		Bioassessment Review
Water Program	Technical Tool Development	Wisconsin should continue to develop and evaluate measures to determine the effectiveness of our program activities and make modifications to improve that effectiveness. (ie., Best Management Practices, etc.)		Bioassessment Review
Water Program	Technical Tool Development	Wisconsin should continue to work closely with stakeholders to develop and implement the most effective data collection, evaluation, and reporting tools so that we can communicate a consistent message regarding Wisconsin's water quality.		Bioassessment Review
Water Program	Technical Tool Development	Secure adequate and accurate monitoring and assessment procedures, as they are the corner-stones to preserving, enhancing, and restoring water quality.		Bioassessment Review
Water Program	It Systems	The information gathered from monitoring activities (regardless of which "tier") must be readily accessible and useful in an electronic database.		Bioassessment Review
Water Program	Partnership Outreach	Wisconsin should annually publish the results of monitoring in online reports that are easily accessible to the public.		Bioassessment Review
Water Program	It Systems	Wisconsin should provide a summary report regarding what percentage of waters in WATERS are navigable and assessed in its Integrated Report on online.		Bioassessment Review
Water Program	It Systems	Water Division should continue to emphasize IT system maintenance and upgrades for monitoring and assessment program protocols results (WisCALM) and monitoring strategy (2015-2020) compliance.		Bioassessment Review

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Water Program	AWQM Planning	Wisconsin DNR also has a goal to coordinate a statewide framework of high quality, consistent, and scientifically defensible methods and strategies to improve the monitoring, assessment, reporting, implementation and most importantly, the condition, of Wisconsin's water. This framework is part of the state's continuous planning process (CPP) Plan, which should be updated every five to ten years.		Bioassessment Review
Wetlands	Assessment	A plan for using the Wisconsin Wetland Rapid Assessment Methodology of Function and Condition (WRAM) in the water quality program needs to be developed.		Monitoring Strategy
Wetlands	Assessment	Develop Routine FQA Monitoring and Incorporate into Clean Water Act reporting.		Monitoring Strategy
Wetlands	Assessment	As FQA benchmarks are linked to Tiered Aquatic Life Uses the Department will be in a position to incorporate FQA surveys into the water resources monitoring program, with staffing and a funding structure. At this point in time we envision applying FQA to provide a measure of wetland condition at a watershed scale through the use of probabilistic survey design.		Monitoring Strategy
Wetlands	Assessment	As FQA benchmarks are linked to Tiered Aquatic Life Uses the Department will be in a position to incorporate FQA surveys into the water resources monitoring program, with staffing and a funding structure. At this point in time we envision applying FQA to provide a measure of wetland condition at a watershed scale through the use of probabilistic survey design.		Monitoring Strategy
Wetlands	Assessment	Apply Benchmarks in NWCA and in probabilistic surveys. Survey areas to be determined – Omernick ecoregions would be the most efficient or clusters of Water Basins. Results would be reported in "report card" format. Disturbance analysis would be used to assess cause of results. Methodological questions and additional research questions that arise from peer review can be addressed in future surveys.		Monitoring Strategy
Wetlands	Assessment	"Rapid FQA" – After 2017 we will have a large data set in the neighborhood of 700 sites. Through data analysis and an expert group process we may be able to select a subset of species that can be tested for use in a "Rapid FQA" as MN has done. FQA metrics would be calculated using the subset of species to see if they yield similar results compared to the full species list. A list of 200-300 species would allow practitioners to focus on learning these rather than the full WI wetland flora.		Monitoring Strategy
Wetlands	Wetlands - Data	The wetland datasets and monitoring results need to be moved to a shared location and better integrated with the SWIMS system and SDE feature class environment so that staff may use the fruits of the wetlands evaluation and assessment tools more readily. Further,		Monitoring Strategy

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		wetland site level functional assessments need to be integrated into the water resource monitoring system, with staffing and training needs assessed.		
Wetlands	Wetlands - Metric	The program evaluation of the usefulness of Floristic Quality Assessment in all sectors of the Department where it is in use, be conducted after 2-3 years of implementation, and subsequently every 5 years.		Monitoring Strategy
Wetlands	Program Development	Train staff in the use of the WRAM v. 2		Monitoring Strategy
Wetlands	Program Development	Opportunistically gather WRAM v. 2 assessments from water regulatory staff. Continue to provide training to water regulatory staff. Incorporate the assessment data into SWIMS.		Monitoring Strategy
Wetlands	Program Development	Complete the conversion of the Wisconsin Wetland Inventory to National Wetland Inventory system. Design a stratified random sampling scheme based on hydro geomorphic (NWI+) class for targeted watersheds.		Monitoring Strategy
Wetlands	Program Development	Integrate the watershed scale and the site scale functional assessments. Use WAWFA for coarse level planning uses and as a screen for selecting Assessment Areas for on the ground WRAM v.2 functional assessments. WRAM v 2 Assessments can serve as ground truth for watershed scale assessments. Apply this approach to pilot targeted watershed in 2017-2019. Evaluate results of pilot project and refine methods.		Monitoring Strategy
WPDES	Study Design	Develop a rotational monitoring program within TWA to support WPDES needs.		Monitoring Strategy
WPDES	Quality assurance	Train staff on utilization of WET testing and other methods to support enforcement actions using case studies		Monitoring Strategy
WPDES	Quality Assurance	Limit calculators need access to wetland expertise.		Monitoring strategy
WQ Standards	It Systems	Integration of new findings and model results, including modeled natural communities based on flow and temperature projections, into database infrastructure to identify specific biological potential of a stream or river or lake. (John Lyons, Methodology for Streams Natural Communities, 2013).		Monitoring Strategy
WQ Standards	It Systems	Procedures to validate or change modeled natural community/temperature classes for flowing waters. (John Lyons, Methodology for Streams Natural Communities, 2014).		Monitoring Strategy