

Appendix G: Wisconsin's Targeted Watershed Approach

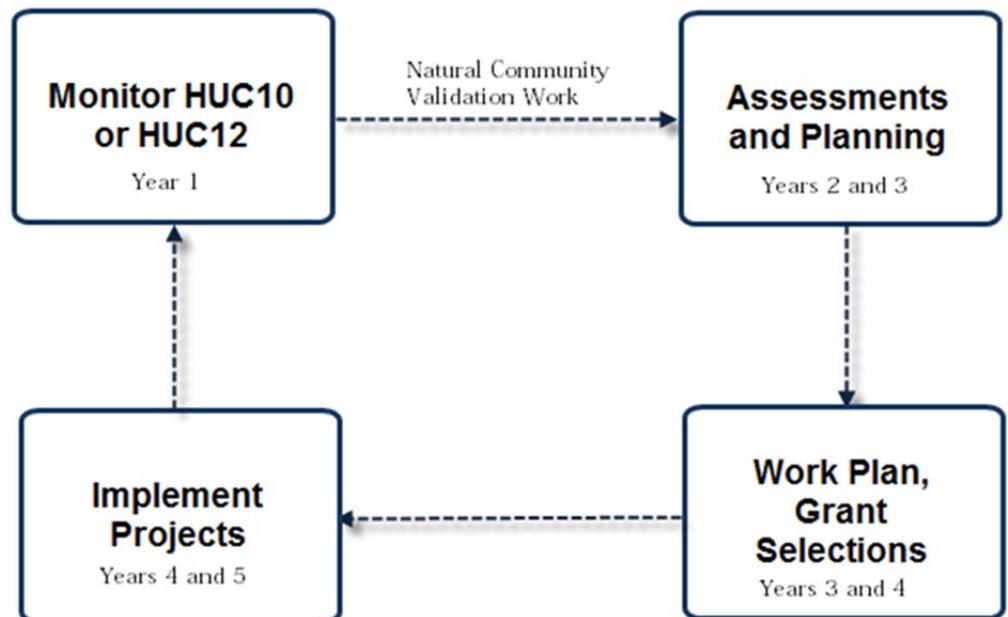
Targeted Watershed Assessment (TWA) Approach is a new study design proposed as the foundation for Wisconsin's cross-program water integration work. This approach is designed to reinforce the flow of work that the water program conducts on a daily basis. Figure 3 below visually depicts the connectivity and flow between monitoring, assessments, and management/reporting.

The TWA strategy advances an integrated monitoring-assessment-planning-management approach that hinges on conducting specific work in a defined areal extent on a rotating basis – i.e., the “rotating watershed approach” for water resources management. This concept is not new to Wisconsin. In the 1980s, WDNR used a basin (“HUC 8 equivalent”) rotation schedule on a five-year cycle for monitoring, assessments, planning and management.

The Monitoring Section proposes introducing a Targeted Watershed Approach (TWA) as an organizing framework for the FY16-FY18 work planning cycle for monitoring, assessment, planning and implementation work. The TWA holds significant promise for enhancing horizontal integration among dependent programs through providing a sequential cycle of standard actions that advance core water resources program work. One of the more prominent advantages of using the TWA as an organizing framework is the advanced scheduling of fieldwork and desktop analysis, preferably by biennium, which may help improve resource allocation, fieldwork efficiencies, and partnership collaboration success.

The TWA is an organizing framework that utilizes a flexible watershed selection process, a USEPA promoted network monitoring design, statistical and site specific assessment and planning tools to target high priority resources for key implementation work. This process can also tie in pass-through grant scoring criteria to help guide implementation work toward high priority areas, such as nine key element plan watersheds (TMDL Implementation areas), watersheds with a preponderance of data gaps

related to water quality standards attainment/impairment listings, high priority catchments identified in the nutrient reduction strategy, as well as protection/restoration areas identified through the healthy watersheds initiative and related work. Monitoring is the first of a series of specific activities that experts will carry out for the given hydrologic area. The specific work and time needed in each of the five “modules” will vary depending on the resources involved and the type of TWA (BMP effectiveness, baseline, impairment evaluation, etc.).



Wisconsin's Water Monitoring Strategy 2015 to 2020

What is involved in each element of the TWA process?

Targeted Watershed Assessment Monitoring – Year 1

1. Select watershed study area(s) based on priority variables.
2. Design study based on watershed / resources (intensity, parameters, sites etc.).
3. Create project/stations in SWIMS.
4. Generate fieldwork event labslips.
5. Prepare equipment, review protocols.
6. In spring, summer, fall collect samples and send to labs.
7. Begin fisheries data entry and habitat data entry (probably 5-6 up to 10, 15? fish/habitat combinations surveys at minimum per watershed?)

Natural Community Validation & Assessments – Year 1 – 2

1. Return to watershed to conduct follow up monitoring as necessary
2. Review natural communities for all waters in monitored watersheds.
3. Request and update NC data layers as per protocols.
4. Run FIBIs against updated natural communities.
5. Ensure GIS data reflects FIBI data (in CWA Viewer).

Assessments, Models, Watershed Planning – Year 2- 3

1. Receive macroinvertebrate data from UWSP in SWIMS (mIBI and other metrics).
2. Run FIBI, mIBI, chemistry, habitat reports and analyze data using multi-parameter Integrated Reporting 5-part assessment categorization protocols.
3. Enter assessment decisions into WATERS.
4. Document resource issues, goals, recommendations for monitoring projects, future work (WATERS)
5. Public Review/Comment period on watershed plan.
6. Transmit plan to USEPA for approval.

Work Plan with Watershed Plan Recommendations – Year 3- 4

1. Review recommendations from watershed plans (geolocated, mapped) and identify/create implementation projects.
2. Prepare work plans with items from #1 above in mind.
3. Document in WATERS/SWIMS which items will be followed up/conducted.

Implement or Fund Projects identified in previous year – Year 4- 5

(From recommendations based on funds and resource needs)

1. Work on projects stemming from monitoring and analysis, including: impaired waters listings/delistings, nine key elements planning, funding of grants (rivers, lakes, runoff, etc.).
2. Document updates in water quality or work implemented in SWIMS Actions on the Assessment Unit. (Note all these are reportable to USEPA).
3. List key waters/watersheds to track over time for follow up monitoring, actions or other work.

Wisconsin's Water Monitoring Strategy 2015 to 2020

Is the TWA a baseline study or a targeted study?

The monitoring element of the TWA approach is a blend of both baseline and targeted resources. The Water Resources Program will *identify high priority watersheds based on water condition, program priorities, and partnership readiness variables*. Individualized monitoring study designs will be created for watersheds to reflect both "baseline" elements as well as the additional needs of the resources. This may involve targeted or effectiveness monitoring depending on the resource issues and conditions. The local needs of the watershed will drive the content of the intensification areas.

Is the TWA just for streams and rivers or all water resources?

The Targeted Watershed Approach is envisioned as an integrated framework that will initially involve monitoring streams and which will gradually add lakes and wetlands. However the TWA study design may more efficiently and effectively address collection of AIS, baseflow and springs inventory data in the future. The following is a proposal for adding these types of elements to the TWA design.

- Streams, Rivers (2013-14)
- Aquatic Invasive Species (2014-15)
- Base flow (2015-16)
- Lakes (2015-16)
- Wetlands (2016-17)
- Springs (2016-17)

In many of the media-specific monitoring strategy sections, a placeholder for addressing the TWA framework is identified. As protocols and methods are developed to address the additional resource data gathering processes, and as trained staff expertise becomes available, formal TWA procedures and methods will adapt to include the collection of additional data for these additional resources of interest.

Key Steps to implement the Targeted Watershed Approach

- ➔ Create Targeted Watershed Approach (TWA) procedures and methods and store them in the SWIMS system.
- ➔ 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 Water Resources Policy and Management Team (WR PMT) Managers. The following are suggested years for rolling resource monitoring into the TWA approach.
 - Streams, Rivers (2013-14)
 - Aquatic Invasive Species (2014-15)
 - Base flow (2015-16)
 - Lakes (2015-16)
 - Wetlands (2016-17)
 - Springs (2016-17)
- ➔ Support Intra-bureau communication plan to ensure program guidance is developed to implement all or a portion of the idealized TWA processes as described above. The guidance would include planning, implementation, analysis of results and sharing those results through water quality planning and other means.