Draft 2016 Ambient Water Monitoring Strategy for Iowa: Stakeholder Comments and Iowa DNR Responses

The Iowa Department of Natural Resources (DNR) received 33 comments from DNR staff and external stakeholders relating to the September 30, 2016 Draft Ambient Water Monitoring Strategy. The individual comments and DNR's responses are listed below. The comments span a range of topics including some that are not relevant to the strategy. For example, comments relating to targeted (issue-specific) or public outreach and education- related monitoring programs, such as DNR State Park swimming beach monitoring and Iowater volunteer monitoring, are outside of the scope of the Ambient Water Monitoring Program. The ambient program focuses on monitoring a resource across broad geographic areas with a focus on assessing status and trends in resource categories such as fish tissue contaminants, groundwater, lakes and reservoirs, rivers and streams, and wetlands.

Another apparent point of confusion involves the prioritization of improvement recommendations. The strategy purposely identifies high impact improvements that can be accomplished with existing funding and staffing resources as the first opportunity for implementation. For the sake of full transparency in the strategy development process, high impact improvements that would require additional resources are represented in the second and third implementation tiers. This does not diminish the importance or value of these potential improvements, rather the order of the tiers reflects a practical need to emphasize improvements that can be started immediately using currently available resources.

(Comments 1-7 provided by the State Hygienic Laboratory at the University of Iowa: Christopher Atchison, Director; Don Simmons, Interim Associate Director, Environmental Health Division; Michael Schueller, Interim Assistant Director, Environmental Health Division)

1. Strategy (general)

Comment:

The State Hygienic Laboratory (SHL) welcomes the opportunity to provide comments to the Department's Draft Ambient Water Monitoring Strategy. We appreciate the substantial effort that went into the development of this document and we believe that the comprehensive agenda this plan should reflect can provide Iowa with a path forward to guide and improve water quality over the next five years. For our part we wish to express the commitment of the SHL to provide the scientific support necessary for the achievement of many of the objectives in this plan including the development of a comprehensive surveillance strategy for the State of Iowa.

Response:

The DNR appreciates the commitment of scientific support from the State Hygienic Laboratory.

2. Strategy (stakeholder input and timeliness)

Comment:

We will lead with the observation that the solicitation of stakeholder input is a strength in the development of this water monitoring strategy. The inclusion of stakeholders and the convening of listening groups undoubtedly provided valuable feedback for IDNR in the development and

prioritization of specific recommendations. However, the final IDNR prioritization is based on input that is greater than one year old. Given the changing context in Iowa's environmental discussions it could be advantageous to revisit the inclusiveness of this report.

Response:

The DNR recognizes that monitoring needs and priorities can shift over time; therefore, the strategy recommends that monitoring stakeholders are engaged regularly, the objectives and priorities of the individual monitoring programs are reviewed annually, and that the strategy is updated every five years, (see Executive Summary, page vii).

3. Strategy (emphasis on human health concerns)

Comment:

Greater emphasis should be placed on how water quality is affecting human health. Specifically, while the six ambient monitoring categories proposed in this five-year plan support, in part, the objective of reporting on the status and trends of water quality in the State of Iowa, the climate of assessing water quality in the state is moving from topical questions about "what is in my water" to cogent and inclusive discussions on how a range of water quality conditions can lead to adverse human health outcomes. Thus, the omission of beach monitoring and the only modest discussion of harmful algal blooms (HAB) leaves potentially significant gaps in the scope of the plan. The dimensions of health concerns the plan should address are extensive.

Response:

One of the strengths of the ambient monitoring program has been its consistency over time, without which it could not serve the long-term trend monitoring objective. Any reallocation of limited ambient monitoring resources in pursuit of emerging contaminants or water quality issues must be carefully weighed against the potential impact on trend monitoring sustainability. Evaluation of the beach monitoring program, as well as investigation of other emerging health-related monitoring needs such as HABs are initially better served by short-term targeted monitoring or research initiatives that provide the flexibility to respond to emerging water quality issues without jeopardizing long-term monitoring objectives.

4. Data storage and accessibility

Comment:

The availability of data/results from all categories of water quality monitoring is mentioned prominently in this strategy and is implicated as needing improvement in accessibility by public and private stakeholders. IDNR has accumulated a wealth of monitoring data over an extended period of time. However, the transparency of this data including meaningful analytics is "opague" at best for many professional and public entities. A centralized data utility that includes information for all monitoring categories and is made accessible through a single web portal would mitigate the fragmented state of data storage and accessibility. The real and/or contrived perception that monitoring data is purposely being made difficult to access is a problematic issue which should be addressed.

Response:

The desire for central access to monitoring data and information about Iowa's water quality was a consistent theme expressed at listening sessions with monitoring stakeholders. The strategy includes many recommendations that address shortcomings in data management and accessibility as well as the need to improve informational products and services. The DNR Ambient Water Monitoring Program acknowledges the importance of these needs and using the strategy as a guide

will continue striving to improve access to data and information about the condition of Iowa's water resources.

5. Monitoring Products and Services (measures of success)

Comment:
As important as comprehensive surveillance is the value from this investment will be determined by agreed upon measurable outcomes utilizing metrics that are defined to measure success and return on investment of the monitoring program. Each level of prioritization in the monitoring plan includes a "Products and Services" discussion that contains 2 – 5 actionable items. These actionable items could be strengthened by attaching quantifiable metrics to them as measures of success. The strategy already contains the framework for these measures. We greatly encourage IDNR to relate these measures of success to the impacts on human health.
Response:
Adding measurable objectives to serve as measures of success in providing new or improved monitoring products and services is a good suggestion. Staff of the Ambient Water Monitoring Program can take this into consideration when completing the annual review of monitoring plans and priorities as recommended by the strategy.

6. Strategy (utilization of volunteer monitors)

Comment:
As mentioned, there is a growing number of individuals and organizations expressing their active concern about water quality. We encourage IDNR to leverage the strengths of those who wish to contribute to a better water quality future for Iowa. For example, a once prominent fixture in the IDNR water monitoring program was the volunteer monitoring initiative. These volunteers, when fully trained, can provide the needed "boots on the ground" to accommodate more frequent and strategic monitoring at very low cost. We at the State Hygienic Laboratory have developed the capacity to offer expertise in maximizing the contributions of these volunteers. We offer limnologists, chemists and microbiologists as experts in their respective disciplines in data analysis, interpretation and report/journal article preparation (e.g coldwater index of biotic integrity development). Their assistance could allow for more extensive water monitoring and the production of information well beyond baseline regulatory requirements.
Response:
The DNR appreciates SHL's offer of expertise in regards to preparing volunteers to assist with monitoring. However, the use of volunteers to enhance the collection of credible data (per Iowa Code sections 455B.193 to 455B.195) would require the Department to also have a Quality Assurance Project Plan (QAPP) for each volunteer or group of volunteers and then to regularly conduct field audits of the volunteers to ensure compliance with the QAPP. The resources for this level of effort are not currently available to the Department.

7. Strategy (technical advisory input)

Comment:
Finally, inclusion and transparency is a continuing struggle. Assuring that the best intentions meet constituent needs requires a focused and innovative scientific support network. We would suggest the reestablishment of the water monitoring technical advisory committee that once served as a regular sounding board and advisory group to IDNR. It was comprised of several water quality professionals from various disciplines (ecology, hydrology, chemistry, etc.) and met on a regular

basis. Diversity of thought on monitoring strategies will lend strength to the validity of the program and 360° support.
Response:
The strategy recognizes the value of receiving input from technical experts inside and outside of the DNR as evidenced by several recommendations calling for the formation of technical advisory groups to support the individual monitoring programs (e.g., Fish Tissue, page 23; Stream Biological, page 48; Stream Water Quality, page 59).

(Comments 8-9 provided by Eric Hurley, Nutrient Management Specialist, USDA-Natural Resources Conservation Service)

8. Groundwater (data management - availability of public well data)
Comment:
It would be useful to compile, analyze, and publish all the public well test data. My understanding is that currently the finished water data is reported, i.e. as found on the Source Water Tracker website. Unavailable is the data for the water as extracted from each individual well including wells that are no longer used due to contamination. It would be useful to see this data and the location of the wells in order to target conservation programs to protect source water.
Response:
The Ambient Groundwater Monitoring program collects groundwater quality data across the State.The data is currently collected from select municipal wells in a cooperative effort with the water operator for the municipality. This data is available on the Departments web site via the IASTORET application.

9. Strategy (monitoring information services - map-based watershed reports)
Comment:
I appreciate and support that you are looking for better ways to present the data. I would look at the Source Water Protection reports as a model. These are well done. For NRCS and our clients it would be useful to have a GIS layer of a watershed and within the data table a link to the current water quality report for that watershed. Obviously, the smaller the watershed the better, but a reasonable target would be HUC 8. Make it bigger if necessary and smaller if possible, but ideally there would be a report for every acre in Iowa. Reports at a larger scale resolutions (e.g. Upper Mississippi basin, etc.) could also be of value. The idea is to be able to have a discussion with a landowner or operator using as local of water quality data as possible.
Response:
The DNR agrees that GIS map-based access to water quality monitoring information organized at various watershed scales or other organizational units such as aquifers would be beneficial to stakeholders and the public. The Iowa DNR's Water Monitoring and Watershed Atlas and BioNet applications are examples of internet applications that feature access to monitoring data via interactive maps. Strategy recommendations for improving the Hydrogeologic Atlas (GW-20) and building a new lake information system that includes interactive mapping features (LR-20) are examples of improvements the DNR would like to make. The development of internet GIS-based services is technically complex work requiring a significant investment of time and staff, which is challenging to obtain because of competing demands and finite resources within the ambient water monitoring program.

(Comments 10-16 provided by Larry Gullett, Director, Johnson County Conservation Board)

10. Strategy (general - value of water monitoring)

Comment:

I have read through most of the draft Water Monitoring Strategy document and have a few comments for what it is worth. I am committed to doing everything we can to improve and maintain good water quality in Iowa, for all aquatic life, in addition to humans that depend on clean water. All of this starts with having an understanding of what is in the water, chemically and biologically. I often wonder how people can comment about their impact on water when they really don't monitor it. Monitoring is most fundamental element of a water quality program, without it, we have nothing.

Response:

The IDNR agrees that water monitoring is an essential function that supports management and policy decisions affecting water quality.

11. Strategy (prioritization of recommendations)

Comment:

On page 75 the priorities are listed as 1, 2 and 3. From a monitoring standpoint I feel the priorities are in reverse order. If indeed we are assessing this from a monitoring viewpoint, priority #3 should be #1. Priority #2 should stay number 2 and the Priority #1 should be our 3rd Priority.

Response:

The comment points out a communication issue regarding the first, second, and third priority levels. The levels represent implementation tiers reflecting varying amounts of monitoring resources needed to fully implement recommendations within a given tier. High priority improvement recommendations received a rating of high or moderately high program impact (benefit). These recommendations occur within panels 1, 2a, and 2b of the Impact/Difficulty plot (Figure 12, Page 68).

The descriptions of the priority levels in the strategy need to be changed to match their intended purpose reflecting different levels of resources needed to implement the high impact improvement recommendations within each tier. The first tier contains high impact recommendations that can be implemented at current levels of funding and staffing, while the implementation of high impact recommendations in the second and third tiers would require additional resources.

12. Strategy (Iowater volunteer monitoring as part of ambient monitoring program)

Comment:

In working through strategic planning processes, in almost every case, citizens have expressed that partnerships are one of the most important things we do as government workers to help control costs and leverage resources. I may have missed it, but was the Iowater Monitoring program mentioned and assessed for its leveraging of resources? As we all know, labor costs are often the most expensive and hardest to secure funding for. With hundreds of people statewide interested in helping monitor our water (and the educational value of this) and thousands of hours they contribute, Iowater should be a staple of the water monitoring program in Iowa? People expect this type of program from government agencies and the IDNR is positioned to be the statewide leader in this.

Response:

The Iowater volunteer monitoring program is acknowledged as one of a few non-ambient outreach and education programs supported by the IDNR Water Quality Monitoring and Assessment Section.

Because of the unique aspects of Iowater including educating citizens in an effort to increase public awareness about water quality conditions in local waters, the strategy development team decided to not combine the strategy's evaluation of professional ambient monitoring programs with an evaluation of the outreach and education efforts of the Iowater program.

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13. Strategy (Iowater volunteer monitoring as part of ambient monitoring program)

Comment:

The JCCB is now spending about $8,000 annually just in equipment and supply costs for water monitoring the effectiveness of our program and documenting the need for additional work we need to do. The reason we do this is to help not only people, but also all the fish and wildlife that depend on our actions. Supplies and equipment provided by the Iowater program are very important to our overall program and monitoring the wise use and funding decisions we make. Without the background information provided by monitoring the water quality, we potentially could be wasting millions of dollars of taxpayers money.

Response:

As previously noted, the ambient monitoring strategy does not address the outreach and education programs, such as the Iowater program.

14. Strategy (monitoring objectives)

Comment:

The strategy also seems to be lacking in terms of addressing the CWA objectives listed on page 9. If you apply those objectives to our most significant problems in Iowa, nutrient reduction and possible pesticide issues, the strategy needs more emphasis on these two areas. Does EPA have standards for nutrients in surface waters? And if so what is Iowa doing to comply with EPA standards, especially relative to the NRS? If you examine the CWA related monitoring questions also on page 9, then it seems between the objectives and questions that need answered, the overall program priorities should be reversed. Again, this is an area where the Iowater program could be very helpful in terms of baseline information and documenting successful projects.

Response:

As Table 4 (page 9) in the draft strategy indicates, the existing ambient monitoring program does address all of the CWA-related monitoring objectives, although the degree to which those objectives are addressed among the individual monitoring categories varies. Shortfalls in how well CWA objectives are addressed in the monitoring program is reflected by the strengths and weaknesses identified within the individual monitoring projects and the recommendations to address monitoring gaps and weaknesses program-wide in the "Ambient Monitoring Program Evaluation" section of the strategy and which are also itemized in Appendix 3.

With respect to the specific water quality concerns identified by the commenter as needing more emphasis, both (nutrient reduction and pesticides) were raised by stakeholders (and Table 6) and addressed at multiple places in the strategy. Iowa's Nutrient Reduction Strategy (NRS) is one of three monitoring needs given special consideration in the development of the ambient monitoring strategy (Executive Summary, page xi). Provision of nutrient data for calculation of N & P loads in Iowa's rivers is one of the key ways the ambient program supports the NRS. The ambient program has included monitoring of pesticide compounds in fish tissue, groundwater, and streams. Testing for pesticide compounds is expensive and is accommodated to the extent that is practical given existing monitoring resources.

15. Strategy (monitoring design - site selection)

Comment:
Because of the benefits and costs associated with monitoring in terms of labor, fuel, vehicles and equipment, we are very particular about selecting sites for monitoring. In order to monitor the effectiveness of our BMP's we always try to monitor upstream and downstream of a project. As such, anywhere we have a concentrated population center and require adherence to the CWA, we should be monitoring the effectiveness of those communities wastewater sites on rivers, streams and lakes. If a problem exists then data gathered through monitoring can help the local community leverage federal and state funds to help fix the problem. Without the data, we are at a disadvantage competitively.
Response:
The DNR Ambient Water Monitoring Program considers the type of monitoring described by the commenter as targeted monitoring, which serves local needs and specific management objectives. While this type of monitoring is certainly desirable for the purposes described above, and ideally, water quality monitoring data would be available to evaluate the effectiveness of BMPs or wastewater improvement technologies for each local waterbody, this is not practical given available monitoring resources. Realigning the ambient program with targeted monitoring objectives would also be counterproductive in terms of the ambient program's ability to achieve water quality status and trends monitoring objectives at a statewide scale.

16. Strategy (lack of clarity/connection to water quality issues)
Comment:
I thought the document content was inclusive of a lot of information, but lacked clear and concise statements related to summarizing where we are in terms of water quality and what we need. It was a little confusing to me? But we need some clarity related to major issues in Iowa and how those issues will be monitored through the program.
Response:
The strategy has a specific intended purpose, which is to provide guidance for the ambient monitoring program in the form of specific recommendations that when implemented can improve the effectiveness of the program. As such, the strategy is not intended to summarize the status of water quality or discussion of major issues. This type of information is more appropriately presented in an informational or policy document intended for a broader audience including the general public.
The strategy contains specific recommendations dealing with how the ambient monitoring program can address gathering and disseminating information on significant water resource issues such as nutrients, habitat degradation, emerging contaminants and toxic substances. A description of the main issues, strengths and weaknesses of the current monitoring approach, and improvement recommendations is contained in the evaluations for the individual monitoring programs (e.g., fish tissue, groundwater, lakes/reservoirs, etc.).

(Comments 17-25 provided by Chad Kelchen, Park Manager, Big Creek State Park)

17. Strategy (information accessibility)
Comment:
Overall, the general movement of making information more pertinent and easier to access will be a great benefit. I have found at times, it's difficult to find information on water quality and in some cases didn't know some information existed.
Response:

Agreed. The difficulty of accessing monitoring data/information and lack of awareness of existing data were problems mentioned by other individuals in the stakeholder listening sessions. The strategy includes several key recommendations addressing these issues (e.g., Appendix 3, FT-12, GW-8, GW-9, GW-10, LR-13, SB -28, SWQ-24, SWQ-35, WE-4).

18. General (water quality in farm ponds)

[In reference to Strategy page 19 – "Incorporate a probabilistic design either as part of the annual monitoring effort or on a periodic basis (e.g., every 3rd or 5th year). This design would include ponds (farm/urban) in addition to the large rivers and SPOLs. This will allow the DNR to report statistically valid estimates of the attainment of fish consumption uses for the CWA Section 305(b) report."]

Comment:

What are the ramifications of having very poor water quality on farm ponds?

Response:

Private farm ponds are a significant resource for Iowa's anglers. Fish tissue contaminant monitoring data collected from both private and public waterbodies are needed to inform the public about risks associated with consuming fish from Iowa's waters and to provide an unbiased assessment of fish tissue contaminant levels throughout the state.

19. Fish tissue monitoring (training for new sampling personnel)

[In reference to Strategy page 19 – "Consider having DNR, staff other than fisheries biologists, collect samples in order to (1) increase the total number of sample sites and (2) increase the number of sites on small streams or in other locations having difficult access or other logistical sampling issues. This will increase the program's ability to detect waterbodies with high contaminant levels and provide more complete information to the public."]

Comment:

Fisheries staff takes samples as part of their lake sampling, how would other staff take samples, what kind of training would be provided?

Response:

Staff availability and expertise as well as training needs are among the key issues to be considered in developing a plan to successfully implement this recommendation. A detailed assessment of how issues like these will be resolved is not available at this time. However, the ambient monitoring program's long-term experience administering the fish tissue contaminant monitoring program and the working relationships with the Fisheries Bureau, the State Hygienic Laboratory, and the Iowa Department of Public Health (IDPH) should provide a solid foundation on which to build.

20. Fish tissue monitoring (access to consumption advisory information)

[In reference to Strategy page 20 – "The timing of advisory-related (follow-up) sampling and availability of results (data) may be more of an issue than sample frequency. That is, follow-up data may be received too late in the year (late fall/winter) to be able to include any new consumption advisories in the DNR "Fishing Regulations" booklet (the primary means of advisory communication to the public)."]

Comment:

As a fisherman, I went to find the information for consumption advisory. My first thought was to go to the fisheries tab to research the information. It was only after I used the search function that I found the information on the water quality page. Is it possible to put a link or move the information to the fisheries pages? I have also found that I have overlooked the information about consumption in the regulation booklets. Add to that, I typically keep a book in my truck or the boat. Sometimes

this booklet is a year or two old – but mostly the laws haven't really changed. The consumption advisories do – should there just be a blurb on going to the website to find the information.
Response:
The suggestion to add a link to the Fish Tissue Advisory web page from the Fisheries website is potentially useful as is the suggestion to post something like a news release item on the DNR's website when new advisories or changes to existing advisories are made. Staff of the Ambient Water Monitoring Program will explore the commenter's suggestions and other potential ways to improve the accessibility and visibility of advisory information.

21. Fish tissue monitoring (IDPH taking the lead in consumption advisory issuance)
[In reference to Strategy page 22 – "Move the responsibility of consumption advisory issuance to the Iowa Department of Public Health (IDPH). Because IDPH deals with the health of Iowans in many areas, it is logical that this agency would also assume the role of informing Iowans about the risks, or lack thereof, of eating fish caught in Iowa. When merged with other related health information delivered by IDPH, fish consumption advisory information is likely to reach and resound with more Iowans."]
Comment:
Based on experience with the reservation system and our campgrounds, I have noticed our users becoming frustrated with the system when the outside entity cannot answer questions about the product. If IDPH takes over the notifications, whoever is in charge of this responsibility should have a working knowledge of the program and our waterways. (Chad Kelchen, Park Manager, Big Creek State Park)
Response:
This is a valid point that will need to be considered to avoid confusion and frustration. The DNR Water Monitoring and Assessment Section and Fisheries Bureau would continue to work in cooperation with IDPH to develop and communicate fish consumption advisory information.

22. Groundwater monitoring (private well sampling)
[In reference to Strategy page 25 – "In order to more accurately assess the potential levels of exposures to all of Iowa's citizens, private well sampling should be considered. Discussions with public health department staff and others should be continued to determine whether there is a need for additional sampling of private wells, and how best to meet these needs given the available resources."]
Comment:
In the cases of private wells, who gets permission and what are the ramifications of a bad test. I could see private owners being wary of govt interference on this testing proposal.
Response:
The recommendation was to develop discussions on potentially developing a similar test of private wells that was conducted in 1989 and 2008. Potential issues brought up by this comment would be addressed in any future work plan as they were in the previous work.

23. Groundwater monitoring (sampling collaboration)
[In reference to Strategy page 25 – "Assess the condition of existing dedicated well nests, develop a preliminary monitoring design, and collaborate with IIHR (for water levels), USGS, state parks, county conservation staff, and other partners to develop a plan for sampling, maintenance, and construction of dedicated wells nests."]
Comment:

Please keep state parks management appraised of the progress of this strategy, so that the parks system can prepare, plan and budget.
Response:
The ambient monitoring program will keep the Parks Bureau informed about plans for groundwater monitoring that might involve staff or other park resources.

24. Lake/Reservoir monitoring (urban lake monitoring results)

[In reference to Strategy page 31 - Several highly used urban lakes are not currently included in the network (e.g., Ada Hayden, DMACC pond, Gray's Lake, and Blue Heron Lake). Therefore, some lakes that are heavily used by the public currently have little to no data.]
Comment:
DMACC pond is primarily fed by waters from runoff on parking lots and urban streets. Will the results from this testing skew the results? Are there other testing sites like this that are similar.
Response:
Although it is less common, the ambient lake monitoring program does include lakes receiving significant amounts of urban runoff (e.g., Easter Lake, Polk County). If this recommendation is implemented, the monitoring data from the DMACC pond would not negatively impact or skew the ambient lake monitoring data set as a whole or the ability to assess individual lakes. The data could be a valuable addition by providing a better understanding of water quality dynamics in Iowa's urban watersheds.

25. Lake/Reservoir monitoring (sampling technology)

[In reference to Strategy page 33 – "Sampling for lake biological indicators is currently limited to phytoplankton and zooplankton taxa composition and biomass. The program does not sample other important components of lake aquatic communities (e.g., fish, macroinvertebrates, and vegetation). This limitation makes it difficult to accurately describe lake biological condition and assess support status of designated aquatic life uses for the CWA Integrated Report."]
Comment:
Can drones be used to gather this data?
Response:
No, use of drones is not feasible for this type of monitoring. Sampling of biological assemblages such as fish, macroinvertebrates, and vegetation is a labor- intensive activity that would not lend itself to use of remote sampling technology.

(Comments 26-32 provided by Rick Robinson, Environmental Policy Advisor, Iowa Farm Bureau Federation on behalf of the Agribusiness Association of Iowa, the Iowa Corn Growers Association, the Iowa Pork Producers Association, and the Iowa Farm Bureau Federation)

26. Strategy (general)

Comment:
The undersigned organizations appreciate the opportunity to file these comments on the IDNR Draft Ambient Water Monitoring Strategy for 2016-2021. The organizations support collection of information that demonstrates the increased adoption of conservation practices to support the implementation of the Iowa Nutrient Reduction Strategy (INRS). We also support additional funding for soil conservation and water quality. That's why we support actions by the department that put more conservation on the ground now in ways we know will yield real water quality benefits in the long-run before expanding the ambient water quality monitoring network.

Response:
While the ambient water monitoring strategy includes specific recommendations for improving the program's support for the INRS, specifically in terms of providing more representative data for calculating nitrogen and phosphorus loads (e.g., widespread deployment of continuous nitrate sensors) it's use goes beyond just the INRS needs. However, the medium and large watersheds represented in the ambient stream monitoring network are not well-suited for evaluating the short to mid-term impact from adoption of nutrient management practices concentrated in small watersheds.

The ambient water monitoring strategy intentionally addresses the collection and dissemination of information on many other water resource issues beyond nutrient loading. Examples include biological integrity, habitat degradation, and the occurrence of emerging contaminants such as pharmaceutical compounds. The strategy lays out implementation priorities that start with accomplishing improvements using existing monitoring resources and goes on to identify high impact improvements that can only be made with additional resources. Some of the latter recommendations would provide benefits to measuring the impact of the INRS, while others are designed to serve other important CWA needs.

27. Stream Water Quality (nutrient load estimation)

Comment:
The INRS outlines in its Accountability and Verification Measures section how the department will define the process for providing a regular nutrient load estimate based on the ambient water quality data network. This will include specifying the most appropriate mathematical model, the acceptability of the data, and a process for making future adjustments based on the latest information and advancements in science and technology.
Response:
The Ambient Water Monitoring Program will consider and, when feasible, implement monitoring improvements that support the Department's commitment to provide regular nutrient load estimates as specified by the INRS.

28. Stream Water Quality (data analysis and reporting related to PS nutrient reduction progress tracking)

Comment:
Regarding point sources, the INRS charges the department with convening a technical work group, as it has done, to define the process for providing a regular nutrient load estimate for point sources. The department will track progress for implementing the point source nutrient reduction strategy using several parameters, the strategy outlines, including the number of permits issued that require nutrient reduction feasibility studies, the number of studies submitted, and the number of permits amended with nutrient removal/reduction construction schedules. The INRS also tasks the IDNR with tracking the number of point source facilities monitoring nutrients in their effluent, the total nitrogen and phosphorus load discharged, and results from comprehensive annual ambient stream monitoring and analysis utilizing existing permanent monitoring locations and focused study areas.
Response:
As specified in the INRS, the DNR is prepared to continue providing nutrient load estimates from data collected by the Ambient Water Monitoring Program (AWMP). Work related to tracking and reporting on point source nutrient reduction measures will involve the DNR wastewater permitting program and will be accomplished outside of the ongoing activities of the AWMP.

29. Strategy (expansion of monitoring networks to support INRS)

Comment:

Regarding nonpoint sources, the INRS tasks the state to develop new and expanded frameworks to track progress, beyond the traditional ambient water quality monitoring networks. It encourages expansion of geographic coverage and frequent statistical surveys that characterize on-farm actions to adopt nutrient reduction practices. The strategy outlines development of new frameworks through ag retailers and certified crop advisors (CCAs) to characterize farmer and landowner adoption of new technologies and practices that reduce nutrient transport to water from nonpoint sources.

Response:

The Department agrees with the information in this comment. The recent report, "Stream Water-Quality Monitoring Conducted in Support of the Iowa Nutrient Reduction Strategy," prepared by the Iowa Department of Natural Resources in collaboration with the Iowa Department of Agriculture and Land Stewardship, Iowa State University and the IIHR Hydroscience and Engineering Center, addresses monitoring issues and needs with respect to supporting the Iowa Nutrient Reduction Strategy (INRS). Nutrient monitoring data collected by the Ambient Water Monitoring Program (AWMP) played a key role in the development of the INRS and continues to serve as the data source for calculating nutrient loads leaving the state.

The AWMP continues to look for adjustments in the ambient program that increase support of the INRS objectives while preserving the integrity of the ambient program. This might include enhancements like the deployment of additional nitrate sensors at fixed monitoring stations. However, other enhancements, such as targeted monitoring in small watersheds where adoption of nutrient management practices has been accelerated, would be more appropriately accomplished by an INRS-specific monitoring initiative.

30. GIS - mapping of conservation practices

Comment:

The department should also accelerate work on its Conservation Practice Mapping Project. This project has so far mapped at least 284 HUC 12s and found at least 4,000 farm ponds/dams, more than 48,000 acres of grassed waterways, more than 38,000 field terraces, more than 17,000 water control basins, more than 57,000 acres of contour buffer strips, and at least 10,000 acres of strip-cropping. This is the kind of data specified in the INRS as a priority for nonpoint sources. It needs to be collected statewide to be used for establishing the current status and historic baseline and measuring future progress.

Response:

While very important and valuable, the Conservation Practice Mapping Project is not related to the development of a strategy to improve the Ambient Water Monitoring Program.

31. Strategy (resources used to support INRS objectives)

Comment:

In addition, existing and new funding should focus on targeted implementation on conservation practices identified in the INRS. Farmers overwhelmingly adopt these practices through our state and federal cost-share programs. The backlog for these programs is well-documented. Iowa farmers' requests for state soil conservation cost-share dollars to match with their own money to protect Iowa's soil and water exceeded funds available by more than $18.5 million. The backlog for the federal Environmental Quality Incentive Program was more than $44 million last year.

There's plenty of demand for limited state resources to put more conservation on the ground in ways we know will yield real water quality benefits in the long-run. The undersigned groups ask the DNR to focus on these immediate needs before expanding the ambient water quality monitoring network.

Response:

The strategy's first tier of improvements can be implemented without additional funding.

(Comment 32 verbally provided by Don Peterson, Director of Governmental Relations, Iowa Farm Bureau Federation)

32. Strategy (monitoring stakeholders)

Comment:

The strategy document should include a list of the groups asked to attend one of the stakeholder listening sessions held by the DNR in 2015.

Response:

The Department agrees with this comment. The purpose of the listening sessions was to obtain feedback on the ambient monitoring program from outside stakeholders and DNR program staff. The meeting notes and list of attendees for each listening session are provided in Appendix 1; however, the complete list of stakeholder groups invited to attend the listening sessions was not included. In keeping with a high level of transparency in the strategy development process, the list of stakeholders invited to attend a listening session will be added to Appendix 1 of the strategy document along with a preamble to explain the timeline for the meetings.

(Comment 33 provided by Elaine Douskey, Supervisor, IDNR Underground Storage Tanks Section)

33. Strategy (general)

Comment:

This looks very comprehensive and thorough. Nice job on this. I had one of my folks give a quick review looking specifically for groundwater monitoring and how it might relate to or affect the tanks program. We have no comments or edits to add.

Response:

The Ambient Water Monitoring Program will continue to communicate any monitoring-related developments that could affect the Underground Storage Tanks program.