NORTH DAKOTA'S

Nutrient Reduction Strategy

Planning Team Meeting Summary

April 11, 2013 • Bismarck, ND • 10:00 a.m. – 3:00 p.m.

Background

Nutrient pollution is consistently one of the nation's leading causes of water quality degradation. In North Dakota, many lakes and streams are not fully supporting beneficial uses such as fishing and recreation because of excess nutrients (e.g., nitrogen and phosphorus). On a national level, nutrient management – including the development of state specific water quality numeric standards for nutrients – is a priority for EPA. In response to state and federal interest, the North Dakota Department of Health (NDDoH) is facilitating the development of a state nutrient reduction strategy for North Dakota. To assist in this process, various agency and organization representatives were asked to serve on a planning team. The first meeting of the planning team took place on November 20, 2012. The second meeting of the planning team was held on April 11, 2013 to:

- Receive an update on other states' progress towards nutrient management strategies;
- Approve the draft outline of North Dakota's Statewide Nutrient Reduction Strategy; review processes and procedures for prioritizing watersheds/waterbodies for nutrient reduction; and
- Develop technical work groups to forward the development of the statewide strategy.

List of Attendees:

Name	Affiliation
Ronnette Chase Alone	North Dakota Tribes, Standing Rock Sioux Tribe
Ted Alme	Natural Resources Conservation Service
Al Basile[1]	US EPA Region 8
Randy Binegar	Tesoro Refinery/North Dakota Water Pollution Board
Keith Demke	City of Bismarck
Mike Ell	North Dakota Department of Health, Division of Water Quality
Scott Elstad	North Dakota Game and Fish Department
Rebecca Fisher	Tetra Tech
Joel Galloway	US Geological Society
Dave Glatt	North Dakota Department of Health, Environmental Chiefs Office
Doug Goehring	North Dakota Department of Agriculture
Jessica Johnson	US Fish and Wildlife Service
Larissa Wolf Necklace	North Dakota Tribes, Standing Rock Sioux Tribe
Mike Noone	North Dakota SWC
Verle Reinicke	Dakota Resource Council
Karl Rockeman	North Dakota Department of Health, Division of Water Quality
Greg Sandness	North Dakota Department of Health, Division of Water Quality

Connie Sprynczynatyk	North Dakota League of Cities
Erik Silvola	LEC-Great River Energy
Barry Tonning	Tetra Tech
Leo Walker	Dakota Resource Council
Peter Wax	North Dakota Department of Health, Division of Water Quality

[1] Participated via conference call

Welcome and Introductions

Mr. Barry Tonning, the meeting Facilitator, introduced himself and asked everyone in the room to do the same, stating their name and affiliation. Mr. Tonning then introduced Mr. Alfred Basile from EPA Region 8, who was joining the meeting via phone.

Dave Glatt, Chief, Environmental Health Section, NDDoH

Mr. Glatt began by thanking everyone for attending the second planning team meeting, stating that this meeting would be focused on receiving more information and guidance from the planning team regarding the statewide nutrient reduction strategy outline. He added that a key objective of this meeting was to develop a framework that would allow NDDoH to move forward with this effort through the use of subcommittees, thereby lessening the need for frequent planning team meetings.

Mr. Glatt also pointed out that ND's neighbors have been forging ahead with various nutrient related studies and/or regulations. This necessitates action from ND, but action that is supported by sound science and is technological feasibility. Mr. Glatt stated that his goal for this meeting is to gain enough input from the members in attendance so that NDDoH can start moving forward on the statewide strategy, so ND could be in control of its own destiny.

Update on Progress

Barry Tonning, Facilitator, Tetra Tech

Mr. Tonning reviewed the materials that each attendee picked up upon entering the room, which included the agenda, prioritization vocabulary sheet, and draft outline of the statewide nutrient reduction strategy.

Mr. Tonning then discussed the goals that were set at the last meeting, which were to develop options for watershed prioritization, develop a draft statewide strategy, and provide educational webinars for the planning team members if deemed necessary. Mr. Tonning asked if there were any other goals from the last meeting, no one suggested any other goals. He then asked Mr. Basile to update the group on other states' progress.

Mr. Basile began with an explanation of the newly released draft National Rivers and Streams Assessment (EPA, 2013). The take home message from the report is that a high percentage of our nation's rivers and streams are in fair to poor biological health. The leading problems identified by the survey are nutrient pollution and habitat degradation.

Mr. Basile then discussed states progress on numeric nutrient criteria development. A lack of progress by some states prompted EPA to issue a memo in 2011 strongly encouraging states to develop nutrient

reduction strategies to demonstrate near-term progress while they continue to work on numeric nutrient criteria. EPA has been under considerable pressure to ensure that states are making progress in reducing nutrient pollution. And ultimately, it is to the benefit of states to reduce nutrient pollution to ensure that citizens have access to clean lakes, streams, and drinking water for generations to come.

Mr. Basile then discussed the progress in Wisconsin regarding their statewide nutrient reduction strategy, outlining the purpose, schedule, and content of that strategy. He pointed out that WI and ND are in relatively similar places in terms of developing a statewide strategy. WI has successfully held various work group meetings to help the Department of Natural Resources identify key issues in the state. Mr. Basile stated that all of the incremental progress states are making demonstrates to EPA and the public that they are moving in the right direction.

Mr. Tonning then discussed the various nutrient reduction strategies implemented in the Chesapeake Bay watershed to give the planning team members an idea of how various states have been working together on nutrient reduction efforts. Additionally, the Chesapeake Bay is a good example of what happens when water quality become so bad that public concern begins to drive regulatory action. Mr. Tonning discussed the Bay TMDL's Watershed Implementation Plans (WIPs), which prompt states to offset new pollutant loads from development, agriculture, etc. Mr. Tonning reviewed the various urban and rural approaches to nutrient reduction, and noted a study that detailed the relative contribution of delivered loads from WV's portion of the Chesapeake Bay watershed by sector (Figure 1). A member of the planning team asked whether ND had information such as this for any of the state's watersheds. Mr. Mike Ell from NDDoH stated that ND has similar data from SPARROW[1] (i.e., SPAtially Referenced Regressions On Watershed attributes) for some watersheds but not at the level of detail that WV seems to have.

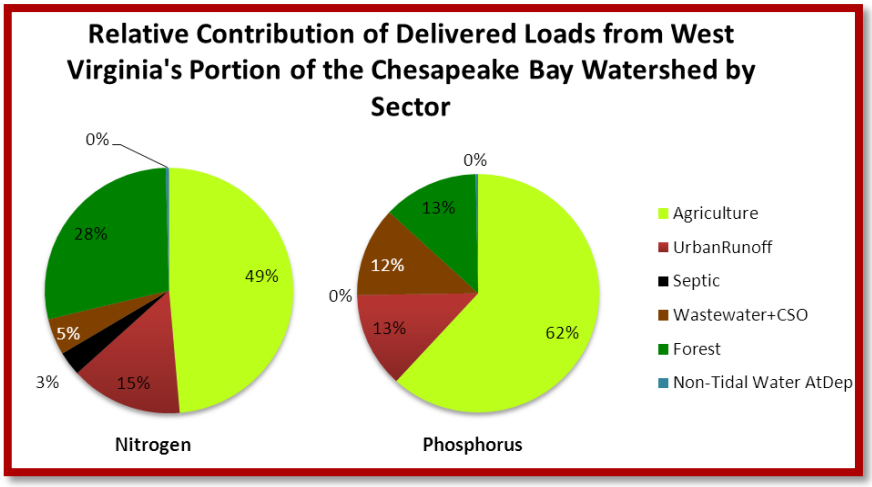


Figure 1

Another member of the planning team pointed out that while such studies are helpful, this type of reporting is difficult to use when looking at nutrients because it take so long for changes in behaviors to show up in water quality samples. He cautioned NDDoH against relying too heavily on studies of past data because of the long lag times between implementation and results.

[1] SPARROW is a GIS-based watershed model that integrates statistical and mechanistic modeling approaches to simulate long-term mean annual stream nutrient loads as a function of a wide range of known sources and climatic (precipitation, temperature), landscape (e.g., soils, geology), and aquatic factors affecting nutrient fate and transport.

Presentation on North Dakota's Nutrient Reduction Strategy Draft Outline

Mike Ell, NDDoH

Mr. Ell began by explaining that he intended to go through the elements of the strategy first then ask the planning team for modifications and/or edits. He walked through each section of the draft outline, explaining his thought process and rationale for each element. Mr. Ell stated that nutrient management relates to other programs in the state and could help to strengthen ND's overall water quality goals. The elements of the statewide nutrient reduction strategy were predominantly influenced by EPA's Nancy Stoner Memo, released in 2011.[2]

A member of the planning team suggested adding a section that detailed past efforts and lessons learned from other programs or projects related to nutrient management in ND. This would include a list of management practices that have worked or failed in the past. This section could also include a description of what the state is currently doing to address nutrient issues.

An attendee asked if NDDoH saw the strategy as a two part approach, first developing the strategy while also getting started on nutrient criteria development. Mr. Ell stated that was one way of going about it, but he believes that ND first needs to develop a process to assess whether a nutrient problem exists in a watershed, and then use TMDLs or other methods to assess the waterbody and develop potential control measures for the watershed.

Mr. Ell brought up a conversation he had with representatives from Kansas, where water quality regulators have identified nutrients as the number one problem in the state's waters. Kansas public agency personnel want to show that they are serious about nutrient pollution, and are using a TMDL process to identify where the largest loads occur so they can implement reduction strategies based on that information.

Facilitated Discussion on North Dakota's Nutrient Reduction Strategy

Barry Tonning, Facilitator, Tetra Tech

Mr. Tonning reviewed the responses from the survey Mr. Ell sent to the planning team prior to the meeting. The responses are included in Appendix I.

Mr. Tonning then began the facilitated discussion on the draft strategy outline. Everyone in attendance agreed that the first section (Background) was very well done. There was a recommendation for the second section (Why a nutrient strategy for ND?) to include some text that states that while this strategy is being pursued with EPA support, the overarching goal is to meet the needs of North Dakotans. Another attendee suggested including a subsection on parts of ND that have succeeded in reducing nutrient loads, somewhat like a "success stories" section. The text of this section should describe where these waterbodies are, what management practices were used, and how the success was verified (sampling, etc.). One attendee asked how NDDoH has been publicizing success stories in the

[2] Working In Partnership With States To Address Phosphorus and Nitrogen Pollution Through Use of a Framework For State Nutrient Reductions, also called the Stoner Memo, was issued by Nancy Stoner, EPA's Acting Assistant Administrator for Water on March 16, 2011.

past. Another attendee advised caution, noting that if NDDoH publicizes "success" stories that turn out to be unsuccessful, credibility could be tarnished. This is particularly possible given the lag times associated with nutrient reduction practices.

Mr. Ell explained that in the third section of the outline (How does a nutrient management strategy relate to other watershed and water quality management programs and activities in the state?), he focused on programs that related to NDDoH's work, but there were probably other regulatory programs in the state that could be integrated into the strategy. One attendee suggested mentioning air quality controls for NOx emissions, which affect the amount of nitrogen delivered to waterbodies in ND. Another attendee suggested adding tribal initiatives in this section; everyone agreed that these were important additions.

The planning team had some additions for the fourth section (Elements of the Strategy), including water quality trading for point sources (nested under reduction strategies) and reporting specifics. Mr. Ell noted that the heaviest lifting will be in completing the subsections titled "Loads and Targets and Source Reduction Strategies." Mr. Glatt stated that this reporting section should include what didn't work in the past and what has worked in the past, to frame how this strategy will report nutrient levels in ND's waterbodies. One attendee asked who the audience for the report would be. The general consensus of the planning team was that there should be two forms of reporting, one to internal stakeholders and one to the general public. An attendee said that the key here will be convincing legislators that this strategy will be effective and efficient, good for ND, and worthy of their support.

The fifth section (Outreach and Education Plan) was deemed to be extremely important based on the survey responses: 75% of responders said that they believe that the issue of nutrient pollution is not well known in the state. The planning team agreed that there would need to be two paths for the outreach and education plan: 1) directed towards internal stakeholders to educate them about the statewide strategy and how it will impact them and improve ND's waters; and 2) directed towards the general public in ND to raise awareness of nutrient pollution in general and to build support for possible funding for management practices. The first outreach task (Stakeholder Outreach) was well-outlined in the draft outline of the strategy. The second outreach task (Public Outreach) could involve simple educational materials presented on television, in local newspapers, or at town hall meetings. Attendees emphasized the need to address these tasks in tandem, with clear and concise messaging tailored to each target audience.

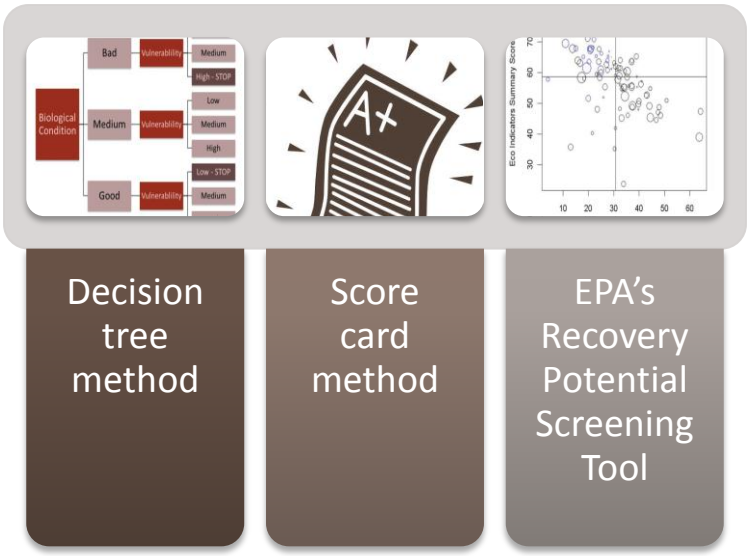
Options for Watershed Prioritization in North Dakota

Mike Ell, NDDoH

Mr. Ell began by stating that at the last planning team meeting, the group gave him the task of outlining a watershed prioritization strategy as the first step in the state's progress towards a statewide nutrient reduction strategy. However, with some research, he realized that there are many options for prioritization and a lot of detailed questions that need to be answered before a prioritization process specific to nutrients and to North Dakota can be developed. Mr. Ell stated that based on his research and the responses from the survey, a technical work group would be needed to develop a prioritization plan for ND.

Mr. Ell then outlined the results of his research on the various prioritization methods and metrics available to ND. He discussed the Watershed Prioritization Key Parameter Definitions sheet that Tetra Tech had created based on EPA's Recovery Potential Screening Tool. Mr. Ell showed a map of the different hydrological unit code (HUC) levels to show that prioritization can be tiered. For example, Tier 1 as 8 digit sub-basins, Tier 2 as 10 or 12 digit watersheds, and Tier 3 as stream segments, lakes, or reservoirs. Prioritization could occur at all of these levels. He then described all of the various indicators that can feed into prioritization and grouped them into ecological, stressor, and social indicators. Mr. Ell also explained that to find the right indicators you must look at your available data and find indicators that vary across the state.

Figure 2



Mr. Ell showed the planning team three different prioritization decision tools (Figure 2) and explained the pros and cons of each approach. He stated that it would be the task of a technical work group to determine which tool would work best with ND's goals, available data, and timeframe. The three decision tools are a decision tree, score card, and parameters listed in EPA's Recover Potential Screening Tool.

Next Steps

Barry Tonning, Facilitator, Tetra Tech

Mr. Tonning began by asking the planning team about the process for moving forward with the draft outline. Mr. Ell stated that he would start filling in sections of the outline that did not require work group input, such as the Background, why a nutrient strategy is needed for ND, and how the strategy relates to other programs in the state. He said that as NDDoH completes those sections, they will be distributed to the planning team for comments. While NDDoH works on the strategy, planning team work groups could address some of the pressing issues within the strategy. Mr. Tonning led the planning team through a discussion that resulted in a general outline of the structure and composition of several work groups that would be organized under the general direction of the planning team.

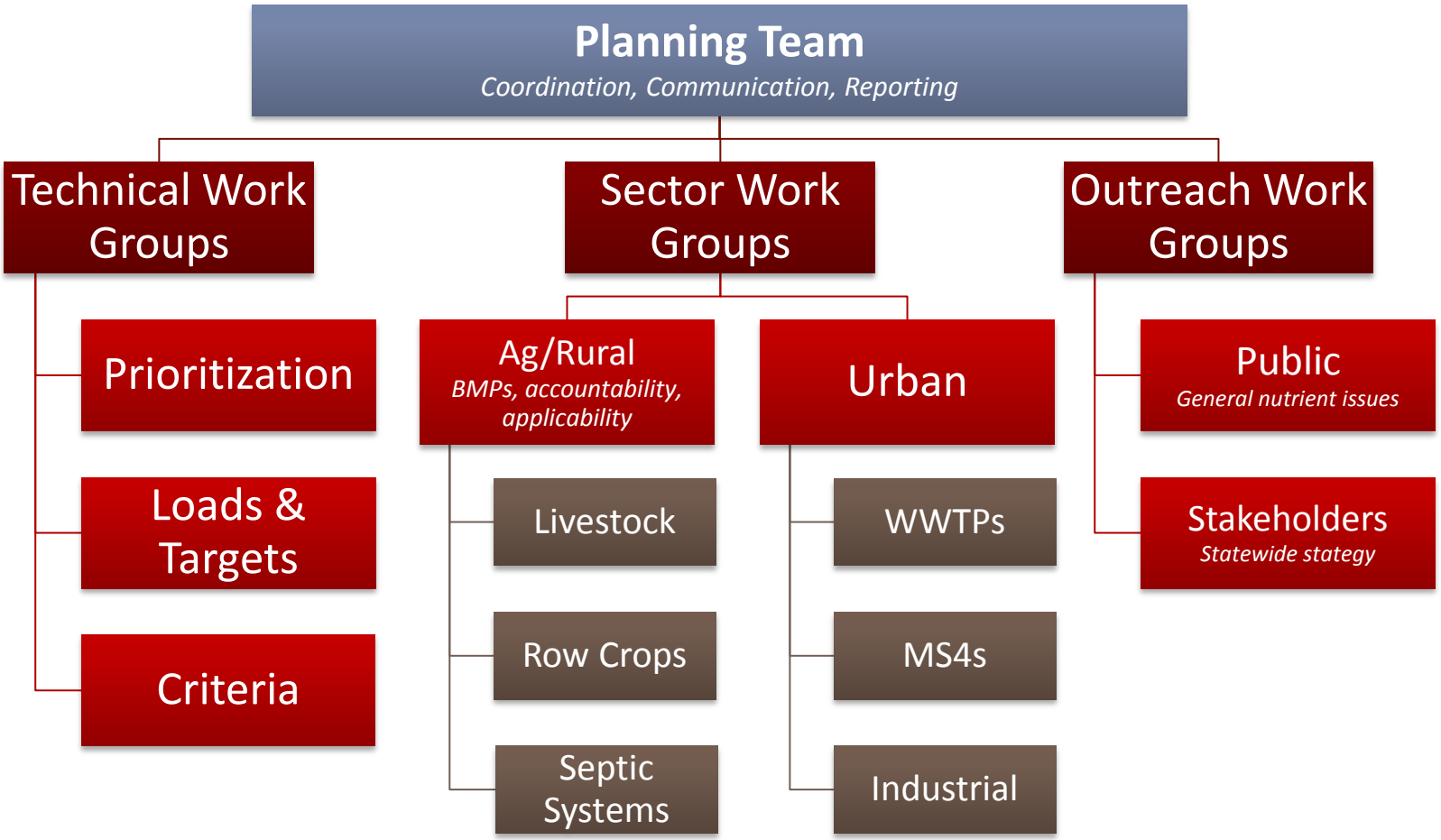
Mr. Tonning then asked for volunteers to serve on each of the three larger work groups. The list of volunteers include the following:

1. Technical Work Group: Prioritization, Loads & Targets, and Criteria
    - Randy Binegar, Jessica Johnson, Joel Galloway, Scott Elstad, Ronnette Chase Alone, Larissa Wolf Necklace, Peter Wax, and a representative from NRCS (place holder).

2. Sector Work Group: Agricultural/Rural and Urban Issues
    - Eric Silvola, Greg Sandness, Karl Rockeman, and Keith Demke.
3. Outreach: Public and Stakeholder
    - Doug Goehring, Randy Binegar, Verle Reinicke, Leo Walker, Ted Alme, and Ronnette Chase Alone.

Mr. Tonning suggested creating a planning team list serve to request more volunteers, especially for the work group chair positions. An attendee suggested involving more representatives from the eastern side of the state to ensure representation from that region. Others suggested having more municipalities involved, and people from the Red River Basin. Mr. Ell pointed out that it is important to keep the planning team at a manageable size, but considerable opportunities were available to broaden the base of the effort via the various work groups and through the stakeholder process. He encouraged planning team members to solicit others to join the work groups.

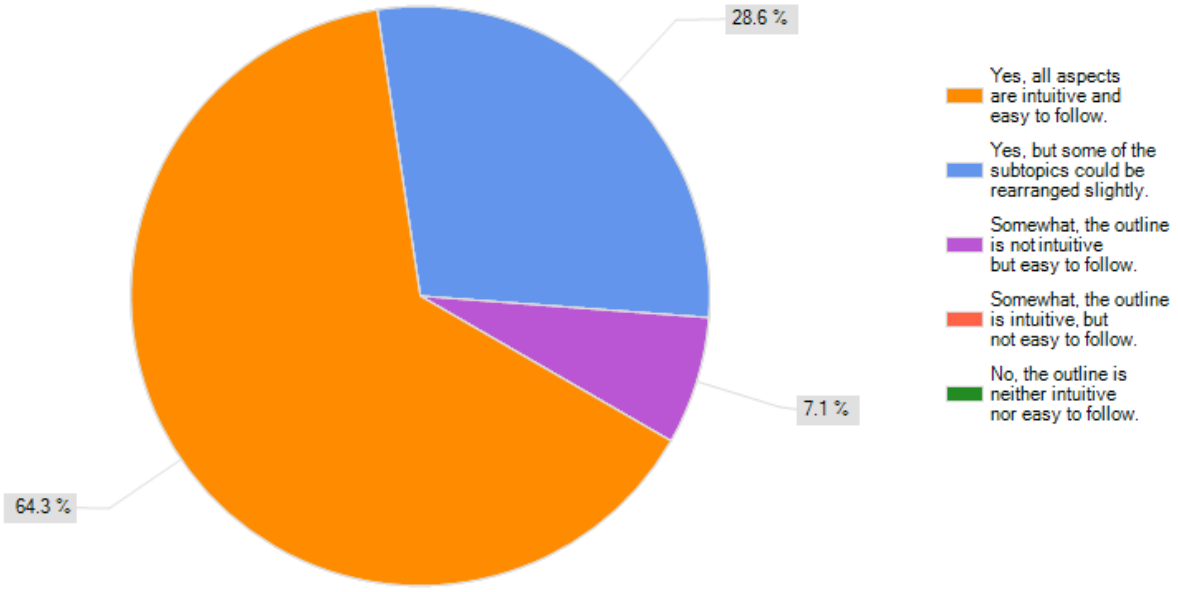
The planning team requested a meeting summary and copy of the presentation used at the meeting, and Mr. Ell stated that they would receive both materials in three weeks. Mr. Ell thanked everyone for attending and adjourned the meeting.



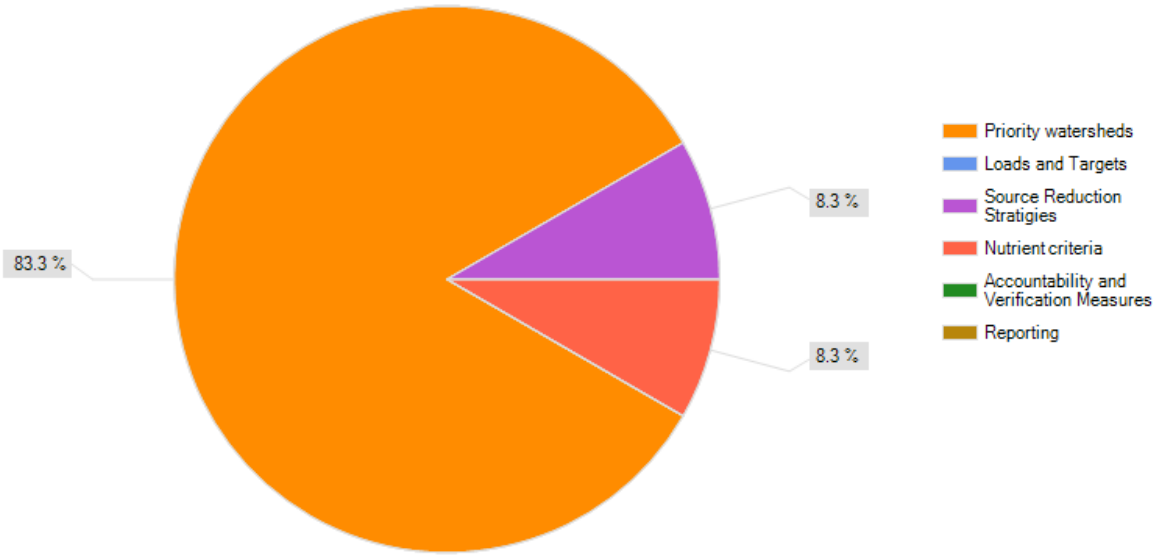
NORTH DAKOTA DEPARTMENT of HEALTH

Appendix I: North Dakota's Draft Outline Survey Results

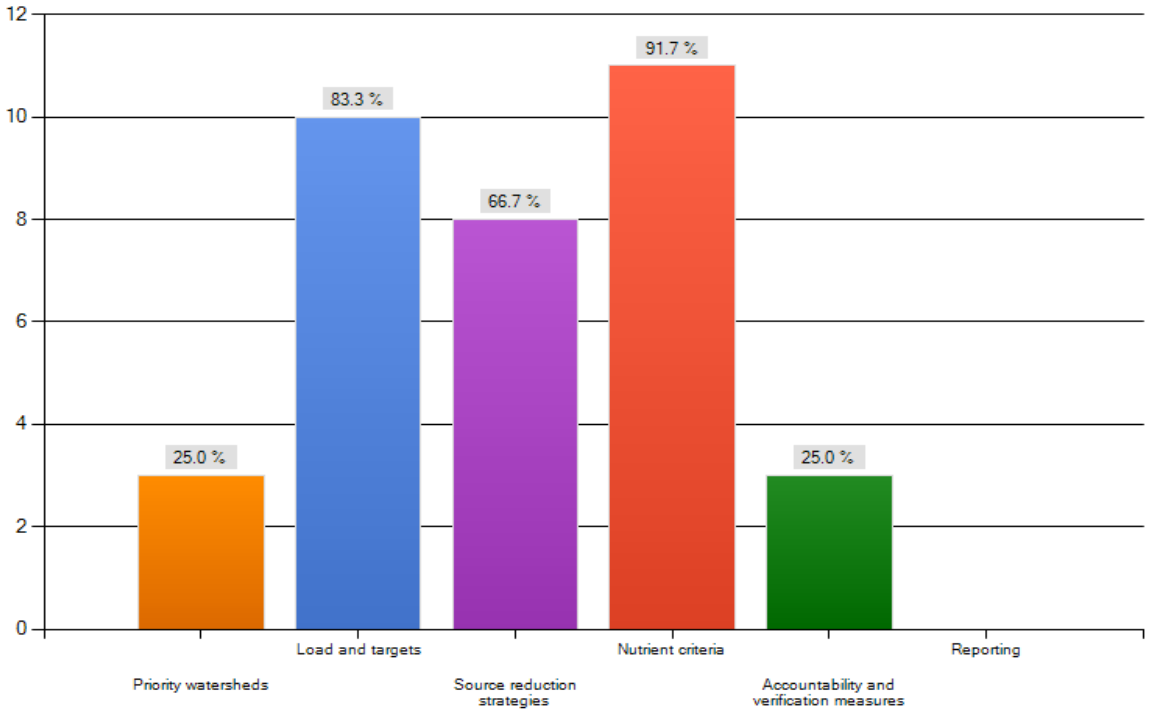
Do you find the structure of the outline intuitive and easy to follow given its content?



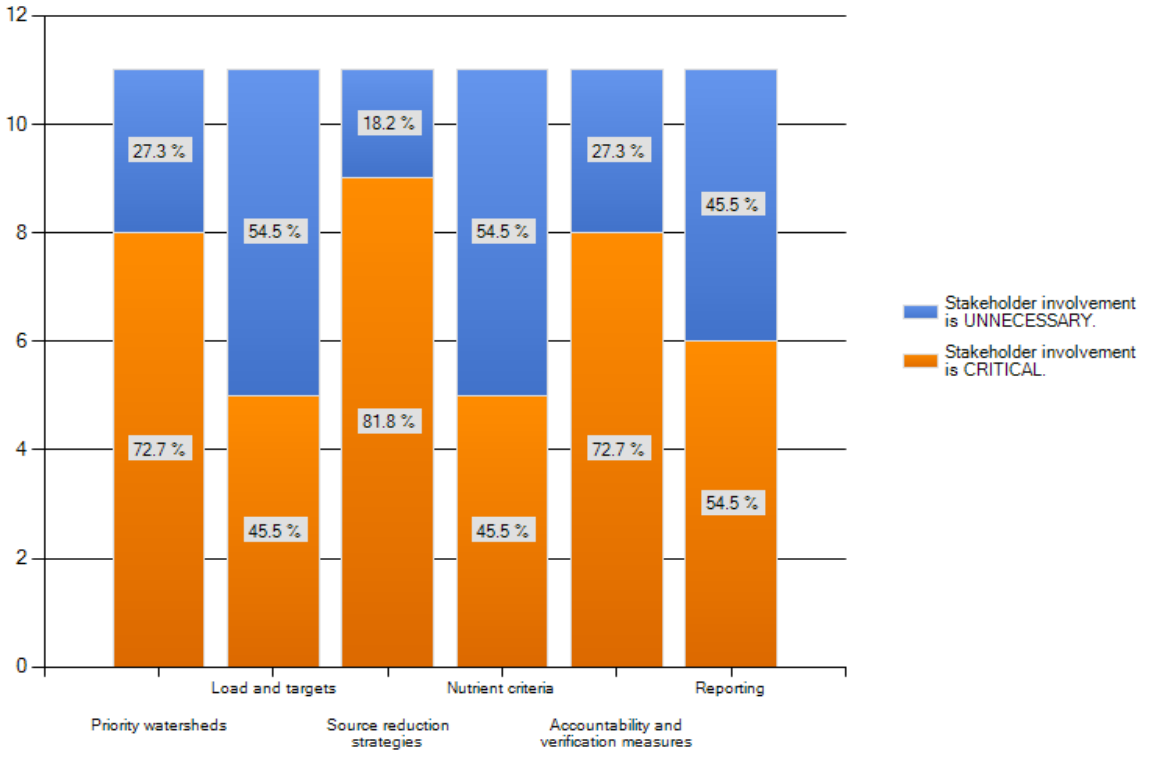
Of the elements listed in Section 4, which do you think need to be addressed first?



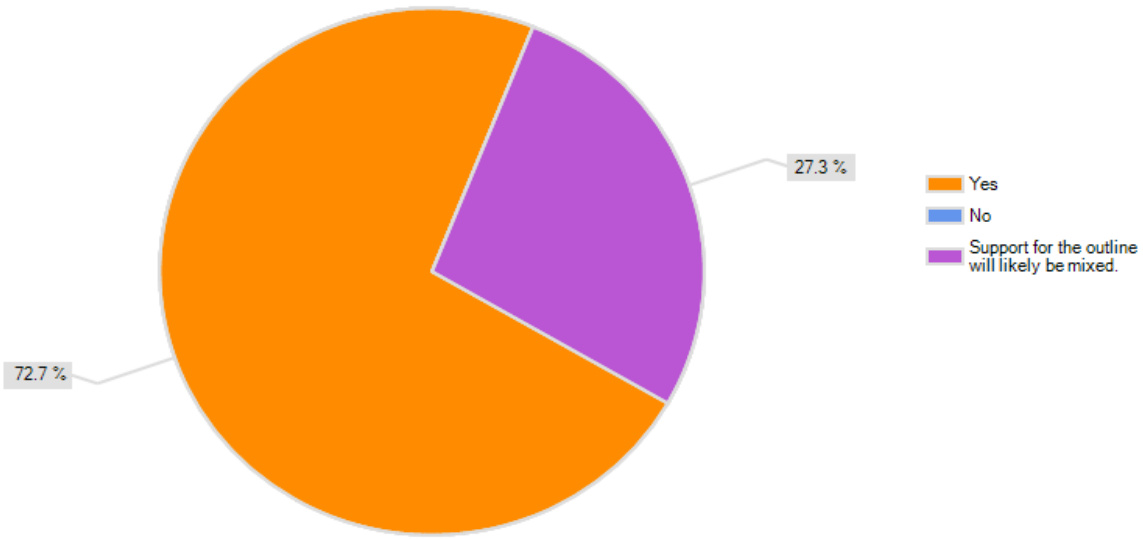
Which of these elements do you see the need for a technical work group of experts in the field?



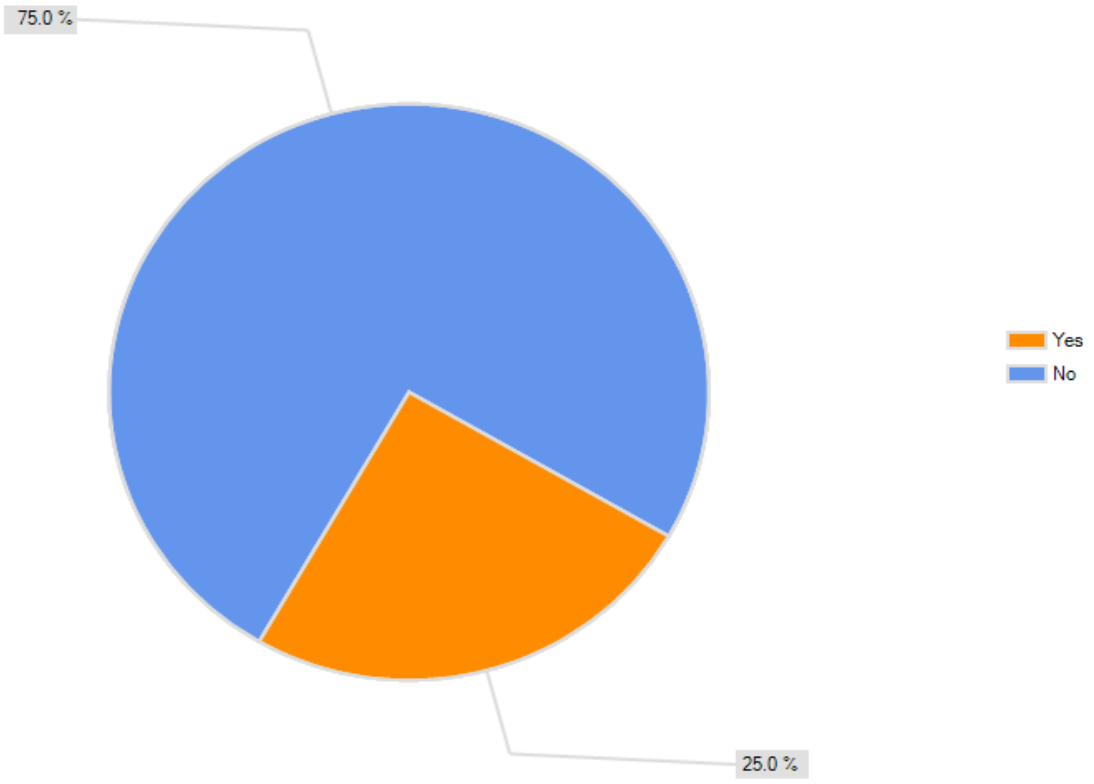
Of the elements in Section 4, which do you see stakeholder involvement being critical?



Do you think your colleagues or constituents would support this outline?



Do you think the issue of nutrient pollution is well known in the state?



Would you recommend bringing together a large stakeholder group?