BOARD OF WATER AND SOIL RESOURCES

Planning Guidebook

Setting Measurable Goals

Supporting information for Minnesota Rule 8410.0080 and Section III.D of the One Watershed, One Plan-Plan Content Requirements

Good watershed management relies on setting measurable goals that relate to your watershed's priority issues and locations. Measurable goals use data to describe the current resource condition relative to needs and anticipated changes that will result from implementation. Measurable goals allow watershed managers to demonstrate effectiveness of their work, track progress over time, and be accountable for expenditures of public dollars.

Plans developed under the metropolitan water management (Minnesota Rule 8410) and One Watershed, One Plan (Minnesota Statutes §103B.801) frameworks must contain measurable goals.

- M.R. 8410: "Each plan or ten-year plan amendment shall contain **specific measurable goals**...The goals must contain **sufficient detail** to provide direction regarding what the goals should accomplish, provide direction to the organization's board, and **allow for the success or failure of the goals to be measured**.
- M.S. §103B.801: ... plan content must include, at a minimum: **measurable goals** to address the issues and concerns...
- One Watershed, One Plan – Plan Content Requirements: "Plans that do not contain **sufficient measurable goals to indicate an intended pace of progress** for addressing the priority issues will not be approved"

During the planning process, it's important to have robust discussions about how to strive for the most measurable plan possible. This document provides definitions, examples, and considerations for setting measurable goals.

What Makes a Goal Measurable?

Goals should be specific and clearly defined. **Goals beginning with words like "encourage" or "promote" are rarely measurable.** A goal that starts with "improve" or "reduce" may be measurable, but only if it includes **a quantifiable element**. BWSR will determine if a goal is measurable based on whether it contains quantifiable elements, which are necessary to both evaluate achievement and to measure progress.

When designing your goals, ask the following question: "will we be able to show that we have been successful in achieving this goal when we assess our implementation of the plan in the future?" Think about what you want to accomplish, who will be involved, how long it will take, the location, and the purpose. To be able to report success, your goals must ultimately be specific enough to answer five W's: What? Who? When? Where? and Why?

See examples in the "Making Goals Measurable" section below.

What If We Don't Achieve Our Goals?

Watershed plans are simply *plans*. Plans provide the foundation for and guide and guidance for watershed management work, including setting expectations for the use of public dollars. While they may refer to or provide justification for regulatory programs, plans themselves are not regulatory documents.

BWSR will periodically examine progress toward plan goals via the Performance Review and Assistance Program (PRAP). This program is not punitive. Rather, it exists to provide feedback about what's working well and offer suggestions for improvement. There are no "penalties" from BWSR for not achieving a goal provided the organization(s) are making a good faith effort. See 'uncertainty' below. Furthermore, plans can be amended to adjust measurable goals if appropriate (e.g., if new information becomes available or if unanticipated external factors affect progress toward goals).

Definitions

Desired future condition (a.k.a. long-term outcome, goal) - the attributes (water quality, water availability, habitat quality) you are striving to attain, regardless of time frame. The desired future condition (DFC) sets the direction for planning and future management. It should be described for priority water resources and should reflect stakeholder interests.

Measurable goal (a.k.a. plan goal) – the quantifiable change in resource condition you expect after you implement the 10-year plan. The measurable goal should relate to the desired future condition and express how much progress toward the DFC you will make during the plan period. As you evaluate progress, measurable goals can be predicted through modeling the results of your outputs/outcomes, or they can be measured directly via monitoring.

Outcome (a.k.a. result) – what, specifically, will happen because of the project you installed or the service you provided? The sum of outcomes from your individual activities should get you to your measurable goal (e.g. pollution reduction). Outcomes may also express changes in knowledge or behavior which lead to actions that contribute to measurable goals.

Output (a.k.a. widget) – countable projects, activities, services, or products. Counting outputs is useful for tracking the steps towards achieving your goals, but outputs are not goals in and of themselves because they do not quantify a change in resource condition.

It's difficult to demonstrate progress if you don't know your starting point. Having a baseline measurement is essential to setting a truly measurable goal. If you lack the necessary data, consider using a surrogate goal that would allow you to measure based on what you do know, or include an action item in your plan to fill information gaps.

Indicator (a.k.a. metric, benchmark) – the "measuring stick" you use to determine progress toward achieving your goal. In some situations where a metric is not clear or feasible, your indicator might be the number of inputs or outputs themselves (e.g., hours of staff time spent on landowner engagement or number of BMPs installed)

Issue	Desired future condition	Measurable goal	Outcome	Output	Indicator(s)
Round Lake phosphorus	Average summer water clarity of 7 feet in Round Lake results in removing Round Lake from the impaired waters list.	Maintain an in-lake summer average total phosphorus concentration in Round Lake of less than 60 µg/L.	An infiltration basin will treat a 150 acre subwatershed and infiltrate 0.5 inches of runoff, reducing total phosphorus inputs to Round Lake by 105 pounds annually.	Round Lake Watershed District installed one regional infiltration basin.	Secchi disk readings.
Sandy County groundwater quality	All wells in Sand Township have nitrate levels of 3 ppm or less.	Reduce the number of contaminated wells with more than 3 ppm nitrate in Sand Township from 30 to 20 in 10 years (33% toward DFC).	50 Sand Township producers will attend a cover crop workshop. 40% of attendees will ask for additional information about the cost share program. 20% of workshop attendees will plant cover crops (5,000 acres) which will collectively reduce nitrate losses by 22,700 lbs/year.	Sandy County sealed 10 wells in a drinking water supply management area; Sandy SWCD hosted 5 workshops (45 people total in attendance), conducted 6 site visits, and established a cost share program.	Nitrate concentrations in private wells; Number of people participating in a cost share program.
Middle City Creek trout population	Middle City Creek supports a population of naturally reproducing trout.	Stormwater runoff volume from new development or redevelopment at the outlet of Middle City Creek will not increase.	100% of development projects will adhere to Middle City volume control requirements.	Middle City updated their stormwater volume rules for new development and redevelopment.	Trout population health; Proportion of developments and redevelopments adhering to stormwater volume rules.
Scenic Lake chloride	No additional waters are impaired for chloride.	In-lake chloride concentrations in Scenic Lake do not exceed 230 mg/L more than once every 3 years.	Total application of road salt in the Scenic Lake drainage area will decrease by 30%.	Scenic Lake watershed held smart salting workshops attended by 10 snow removal providers and 15 businesses in the watershed.	In-lake chloride concentrations; Number of attendees at smart salting workshops.

Organizing Your Goal-Setting Discussions

In planning, it is important to differentiate between measurable goals, outcomes, and outputs. **Logic models** can be a useful framework for thinking about and establishing measurable goals, relating your outputs and outcomes to your desired future condition, measuring your progress as you implement your plan. See the Planning Information webpage for a logic model template and sample questions to ask during the planning process.

Logic models encourage you to ask a series of questions throughout the planning process:

- Can we state the **issue** in a way that links to what people care about?
- What is the **desired future condition**? **What** needs to change, and **by how much**, in order to get there?
- How much of that change can we make during the 10-year plan period? (**measurable goal**)
- What will we do to work toward our goal (**output**), and what, specifically, do we expect to accomplish (**outcome**)?
- Can our outcomes be measured directly? What indicator will we use?
- Who else needs to be involved, what is their role, and what can we do to motivate them?
- What other **assumptions** are we making about the results of our work? What **evidence** (e.g. existing data, models, literature values, anecdotes) leads us to believe our collective actions will lead to the desired results? How **confident** are we?
- Do people **care** enough about the issue to make the **required investments** to reach the goal?

Considerations for Establishing Measurable Goals

BWSR acknowledges that there are constraints and limitations to setting and achieving goals. Natural systems are complex, and there are variables outside your control. You may lack necessary data, information, or models. Understanding and identifying what you can control, what you can influence, and what is truly outside your control will help you clarify your goals and the actions you will take. Some goals will be more measurable than others. You might include a small number of "aspirational" goals, but the vast majority should have a measurable component. The following points describe factors to consider and discuss while setting goals.

Uncertainty

- In some situations, you may need to use a surrogate to quantify the effects of your actions. In other words, the "measurability" aspect of your goal may be an output that has a meaningful relationship to your goal Examples:
  - You may not be able to directly measure a reduction in nitrates in a groundwater aquifer (because groundwater systems are complex), but you can measure (or predict) a reduction in nitrogen-based fertilizer application that results from your work with agricultural producers (if the goal is improvement in groundwater quality, the measurable indicator is pounds of fertilizer reduced).

- You may not be able to claim a pollution load reduction from a land protection activity, but you can cite research that shows the relationship between land disturbance and water quality (if the goal is maintaining a healthy lake, the indicator is acres protected).
- You may not be able to predict the contaminants avoided from sealing wells, but it's well established that well sealing protects groundwater quality (if the goal is groundwater quality, the indicator is wells sealed).

- Despite your best efforts, external factors (e.g., land conversion, drain tile installation, changing precipitation patterns) may undo or negate the effects of your good work. You may want to consider adding an action item in your plan to track those factors if possible so you can evaluate whether your management actions were ineffective or if they prevented more severe degradation.
- Often, success hinges on the willingness of landowners and residents to modify their behaviors. A variety of social science techniques (e.g., surveys, focus groups) are available to measure the effectiveness of your education, outreach, and marketing activities.

Scale

- Measurable goals can be set for any scale in the watershed. While some actions in the plan will apply watershed-wide, your plan should also identify priority water resources or sub-watersheds where you will focus your efforts. Setting measurable goals for targeted lakes, stream reaches, or drinking water supply management areas will increase your chances for demonstrating success.

Achievability

- Consider what types of activities can be implemented with local resources versus what additional goals could be achieved given outside funding. BWSR encourages goal setting that stretches and challenges your group, but not to the extent that the goals feel demotivating or impossible. Take the time to understand the range of skills and resources available, and where you will need to grow to achieve your goals.
- Not all water bodies have the potential to be restored to meet water quality standards or public expectations. Each water body must be evaluated for realistic expectations for measurable improvement within the limitations of science and funding.

Challenge your group to set a goal that is as measurable as possible but **be realistic and take a balanced approach.**

Widgets and metrics are certainly countable, but how meaningful are they when it comes to your ultimate goal? Is the number that's easy to collect a distraction from the **hard work** of watershed management?

Don't get so caught up with what you will **measure** that you lose sight of what you hope to **accomplish.**

Protection

- If your goal is protection, the long-term goal may be no change in resource condition. Instead, you may be able to quantify risk of negative change (e.g. acres of forest that could get developed or converted to cropland), determine the level of change the resource can withstand while still achieving the desired future condition (e.g. no less than 75% forest cover), and set a measurable goal for prevention (e.g. maintain forest cover on the needed portion of at-risk acres via private forest management, zoning, or easements).

Making Goals Measurable

The following examples illustrate how specificity can be added so that goals meet the test for measurability.

Example 1: *"Protect and improve water quality"*

1. Specify *what* "protect and improve" means
2. Determine *when* your goal will be achieved
3. Identify *where* you will focus your work

More measurable: *Achieve decreasing phosphorus trends[1] over ten years[2] in Round Lake,[3] Straight Lake[3], and Triangle Lake[3] and ensure Rhombus[3] Lake's water quality continues to exceed water quality standards[1] for designated uses (fishable and swimmable).*

Example 2: *"Restore/rehabilitate and protect self–sustaining Brook Trout populations in as many of the original, native habitats as is practical."*

1. Specify *what* "restored" means for the Brook Trout population
2. Clarify *where* the population will be restored
3. Determine *when* your goal will be achieved

More measurable: *Restore Brook Trout populations to a minimum of 100 individuals per mile[1] (or increase populations by 25%) in Amity, Chester, and Keene Creeks[2] by 2026[3].*

Example 3: *"Educate the public on how to conserve and protect our surface water resources."*

1. Specify in *what* way you will educate the public
2. Determine *when* your goal will be achieved
3. Clarify *why* you want to educate the public

More measurable: *Host two cover crop workshops for landowners[1] per year[2], with 40% of workshop attendees enrolling in our cost-share program[3].*

Getting to a Quality Plan

At the end of this process, you should have a set of quantifiable goals that clearly conveys expected changes in water resources during the 10-year timeframe of your watershed plan. Your goals should be a balance of broad versus focused, and shorter-term versus longer-term, relating directly to your prioritized issue statements and locations. Your goals should indicate an intended pace of progress for addressing your watershed's priority issues. This will ultimately allow you to demonstrate your progress to the public, key stakeholders, and potential funders.