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## STARTING A VOLUNTEER MONITORING PROGRAM

There are many details to consider when beginning a new volunteer monitoring program.

### *Considerations*

The **first questions** are: Why do you want to monitor water quality? What questions do you want to answer with the data you collect? Answering these questions will help you guide the entire planning process and help you define the goals of your program.

Defining **specific goals** will help you define your monitoring objectives, which in turn will ensure that the correct suite of data are collected and analyzed to meet your objectives.

Before developing specific objectives you should become familiar with any **other water quality monitoring efforts** under way in your watershed. Do data already exist, where are the data gaps?

Be sure to **plan ahead**. It takes time to develop a plan and monitoring requires knowledge, equipment and time. Planning ahead allows you to make sure resources are available.

**Who** will be part of the volunteer monitoring effort? Who will collect the data, secure funding, write your SAP, maintain and calibrate equipment, deliver samples, manage and enter data into databases, analyze data, write reports, give presentations, etc? How will you plan to recruit and retain volunteers? Where will volunteers be trained (MMW can help)?

**Working safely** in the field is critical. Be sure to have a plan to minimize risk, carry safety equipment and have communication and emergence response plans.

What level of funding is required to meet your goals and objectives? Determine what **resources** you have and identify and budget for all anticipated costs (e.g., equipment, supplies, mileage, training, lab analytical costs, data management, equipment maintenance, etc).

### *More on Identifying Goals and Objectives*

First identify why you want to start monitoring. Then identify your program's goals and objectives. Your program goal can be broad while objectives are more focused, including specific details about things that can be measured.

Here are some examples of common types of goals and objectives from MSU Extension:

Common **goals** for monitoring efforts:

1. Fostering stewardship of water resources (could include youth, landowners, or other groups).

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2. Assessing baseline (current) conditions and/or identifying trends
3. Collecting data to inform management decisions
4. Identifying locations for restoration projects

Examples of **Objectives** include:

1. To assess baseline nitrate concentrations during the nuisance algae season for the town section of Spring Creek where the highest septic density occurs.
2. To determine changes in the distribution of beaver dams and number of brown trout spawning beds in response to riparian and flow enhancement projects on Beaver Creek.

Taking the time to describe your program's goals and objectives is critical to ensure that your monitoring program will produce the outcomes you are interested in. It will also ensure that the correct analytes are selected, that no data are missed, and that unneeded data are not collected. Ideally, partners or other stakeholder groups involved and affected by the work should be involved at the beginning when goals are defined. If your group has an idea of why they want to monitor, MMW can assist with developing detailed objectives.

### *Components of a Monitoring Plan*

Successful monitoring programs have plans or documents in place for the following program components:

- Assign Roles and Responsibilities
  - Most successful volunteer monitoring programs have a single on-the-ground coordinator who is engaged in all aspects of the program. Programs need to be led and administered at the local level. For each of the program components determine who will lead and which local volunteers could provide support. MMW is available to provide scientific and technical support when needed.
- Write a Sampling and Analysis Plan (SAP)
  - Your SAP will detail will describe collection efforts in detail (what, where, when, why). It will also include a detailed analytical budget (outlining the total number of samples by analyte) as well as required cost match information.
- Write or a select Standard Operating Procedures
  - Your SOP details methods used and ensures that personnel have the necessary documentation to take in the field, as well as know required preservation methods and handling time requirements.
- Obtain funding to conduct the monitoring and analyze samples
  - Outline sample plans, needs and costs in your SAP. Then determine how funds will be obtained (MMW funding, MT DEQ Volunteer Monitoring Laboratory Analysis Funding or other?)

- Obtain gear and equipment needed for monitoring
    - MMW offers funds to support gear purchases
- Recruit and train volunteers
- Calibrate equipment as needed
- Coordinate volunteers and gear during the sampling season
- Collect, manage and maintain equipment after the season
- Ship or deliver samples after collection
- Compile data and perform quality assurance checks
- Submit data to databases
- Analyze data to address objectives
- Present data to volunteers and/or the public
- Evaluate the program/objectives, refine and update the SAP/SOP for next season.

*More resources on Starting a Volunteer Monitoring Program*

MSU Extension WQP: Starting a Volunteer Monitoring Program
https://waterquality.montana.edu/vol-mon/starting_a_volmon_program/index.html

MT DEQ/ MSU Extension: Volunteer Monitoring Planning Catalogue
https://deq.mt.gov/Portals/112/Water/WQPB/Monitoring/Volunteer/Catalogue_VMPlanning.pdf

*Examples of Successful Volunteer Monitoring Programs*

The Gallatin Stream Teams, a volunteer stream monitoring program operated in partnership between the Gallatin Local Water Quality District and Gallatin Watershed Council:

https://www.gallatinwatershedcouncil.org/gallatin-stream-teams