

MAKE YOUR STREAM MONITORING DATA COUNT!

Overview for community and catchment groups

The national quality assurance (QA) framework for community-based monitoring (CBM) is a resource to support community and catchment-based monitoring groups to collect freshwater data of a known quality that are 'fit for purpose'. The framework will also help to increase the visibility and use of your data in freshwater management.



Photo: Terry Parmenter



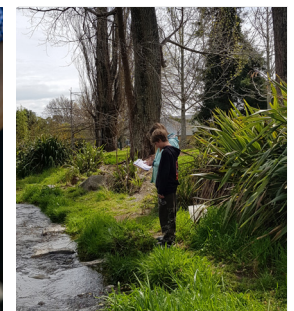
Why is there a national framework?

There are hundreds of CBM groups across Aotearoa New Zealand involved or interested in monitoring the health of our streams. The national QA framework was developed to provide groups like yours the confidence that the stream data you collect will:

- meet your needs
- be recognised by regional councils and other organisations as being credible and fit for purpose, and
- support catchment-based freshwater management and potential re-use by third parties (e.g., in freshwater modelling and reporting).



©Wilderlab

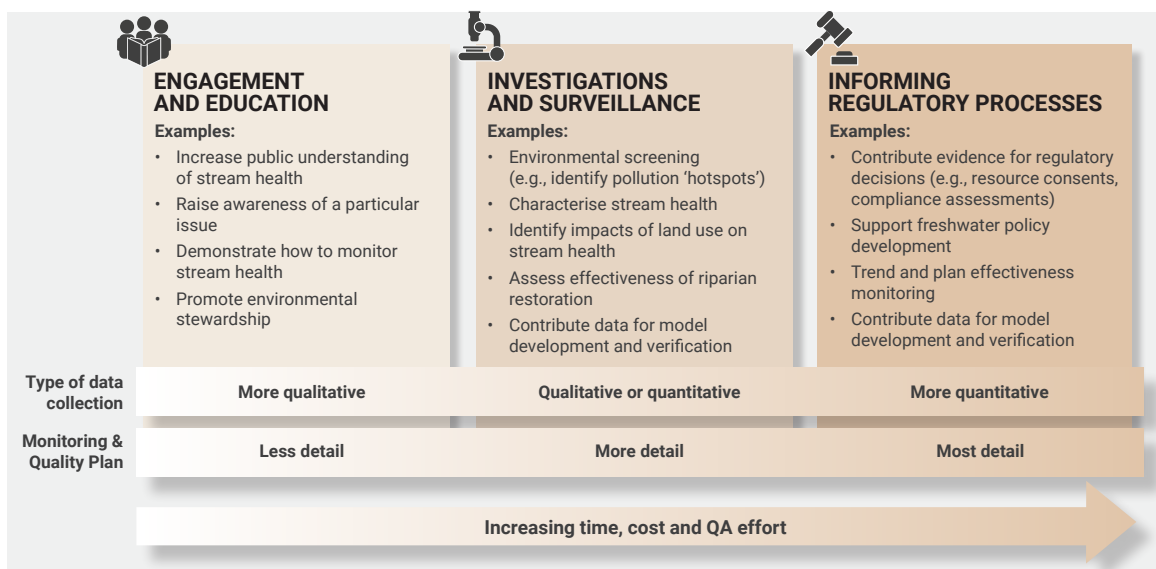


What resources does the framework provide?

- An electronic **Monitoring and Quality Plan** template to establish a clear monitoring purpose (the "why") and what where, how and when your monitoring will be carried out.
- A **guidance document** to support completion of a Monitoring and Quality Plan. This includes, for each monitoring indicator, details of the measurement methods and supporting information to record, as well as recommended training and quality checks.
- **Electronic field form templates** for use on a mobile phone, tablet or computer to capture your stream health monitoring data in an efficient and standard way. The forms include built-in, automated quality checks and calculations.

A background report is also available that explains how the framework was developed and the selection of indicators and measurement methods.





Data use categories in the national CBM QA framework with examples of possible data collection purposes that sit in each.

Framework development

The framework was developed by NIWA, on behalf of regional councils, in partnership with a range of government, not-for-profit and other organisations. It builds on existing national monitoring and CBM guidance as well as a review of overseas approaches to CBM QA.

Monitoring purpose

The framework is based around three broad categories of data use to recognise that monitoring purpose and data use often differ across CBM groups. The categories span a continuum, where planning, time, cost and QA requirements increase from left to right. Your group's monitoring questions and intended data use should guide the level of investment you make.

Monitoring indicators

The framework is built around an initial set of 28 indicators of stream health relevant to nationally recognised values of fresh water such as aquatic ecosystem health and recreation. The 28 indicators describe physical, chemical and microbiological water quality (e.g., visual clarity, nutrients), aquatic life (e.g., macroinvertebrates, fish), physical stream habitat (e.g., shade) and water quantity (e.g., velocity, rainfall). Some of the indicators are also relevant to monitoring of lakes and coastal waters.

Measurement methods

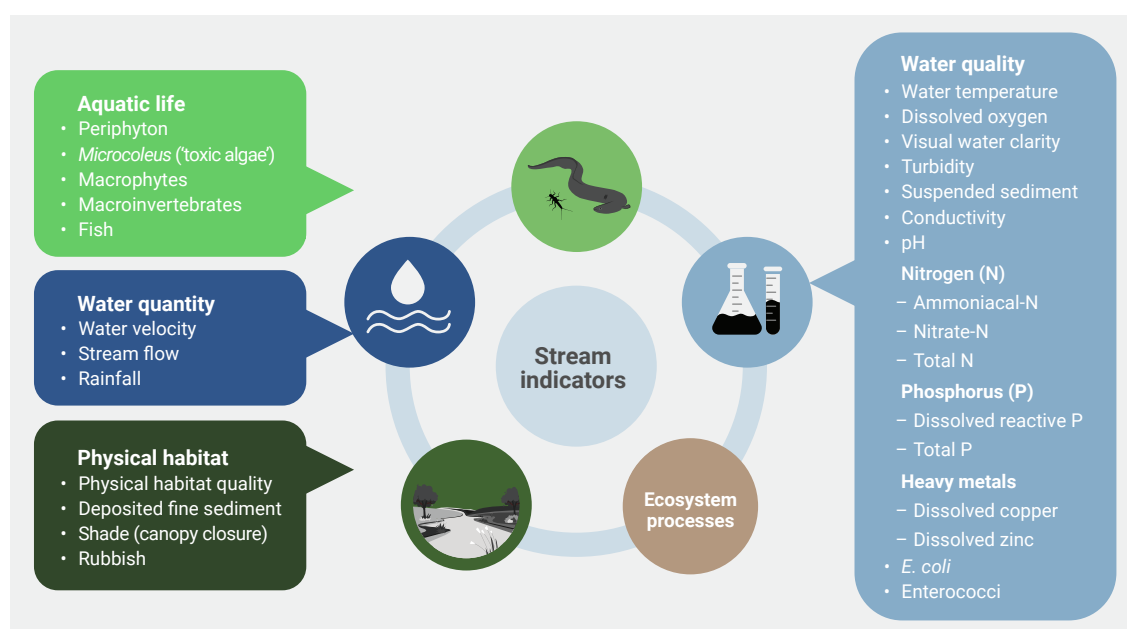
The measurement methods included in the framework have been selected or adapted from existing nationally recognised standards and guidance. Some of the methods are used by regional councils and others were designed specifically for CBM groups.

More than one method is available for most indicators because different monitoring purposes call for different methods and quality standards. Each method option includes relevant additional information needed to support interpretation of your monitoring data or allow the quality of the data to be assessed.

Electronic templates

Both the Monitoring and Quality Plan and the monitoring field forms are available in electronic templates.

The Monitoring and Quality Plan is available as both a Microsoft Excel and Google Forms template. The field forms have been created using Esri's ArcGIS Survey123 software. ArcGIS software is widely used across the country, providing your group with some choice in the organisation that 'hosts' your forms. Having a host organisation allows your group to use the forms for free without the need for an ArcGIS licence.



Indicators of stream health in the national CBM QA framework.
The indicators are grouped according to the five components of ecosystem health in the National Policy Statement for Freshwater Management.

How does my group get started under the framework?



DEVELOP A MONITORING AND QUALITY PLAN

The first step is developing a Monitoring and Quality Plan or, if your group already has a plan, reviewing it against the CBM framework. **Section 3 of the guidance document and a short instructional video outline how to complete the template provided in the framework.**

Your group is likely to require input from someone experienced in stream monitoring to help complete the plan. Depending on your monitoring purpose and methods, you may also wish to have an external specialist independently check that the plan is fit for purpose.



IDENTIFY A HOST ORGANISATION

As part of developing or reviewing your Monitoring and Quality Plan, identify the organisation (e.g., council) that will host your ArcGIS Survey123 electronic field forms. This organisation will need to receive a copy of the "minimum essential information" identified on the Monitoring and Quality Plan to set up your group name and site locations on the electronic field forms. This information includes whether you wish to share your monitoring data with others and for what purposes. At this time your group should also discuss how you will access the monitoring data you submit using the forms as well as data privacy and storage.

"WHY?"

A: Monitoring Purpose

"WHERE?"

B: Monitoring sites

"WHAT?"

C: Monitoring indicators

"HOW?"

D: Measurement methods

"HOW?"

E: Training & quality checks

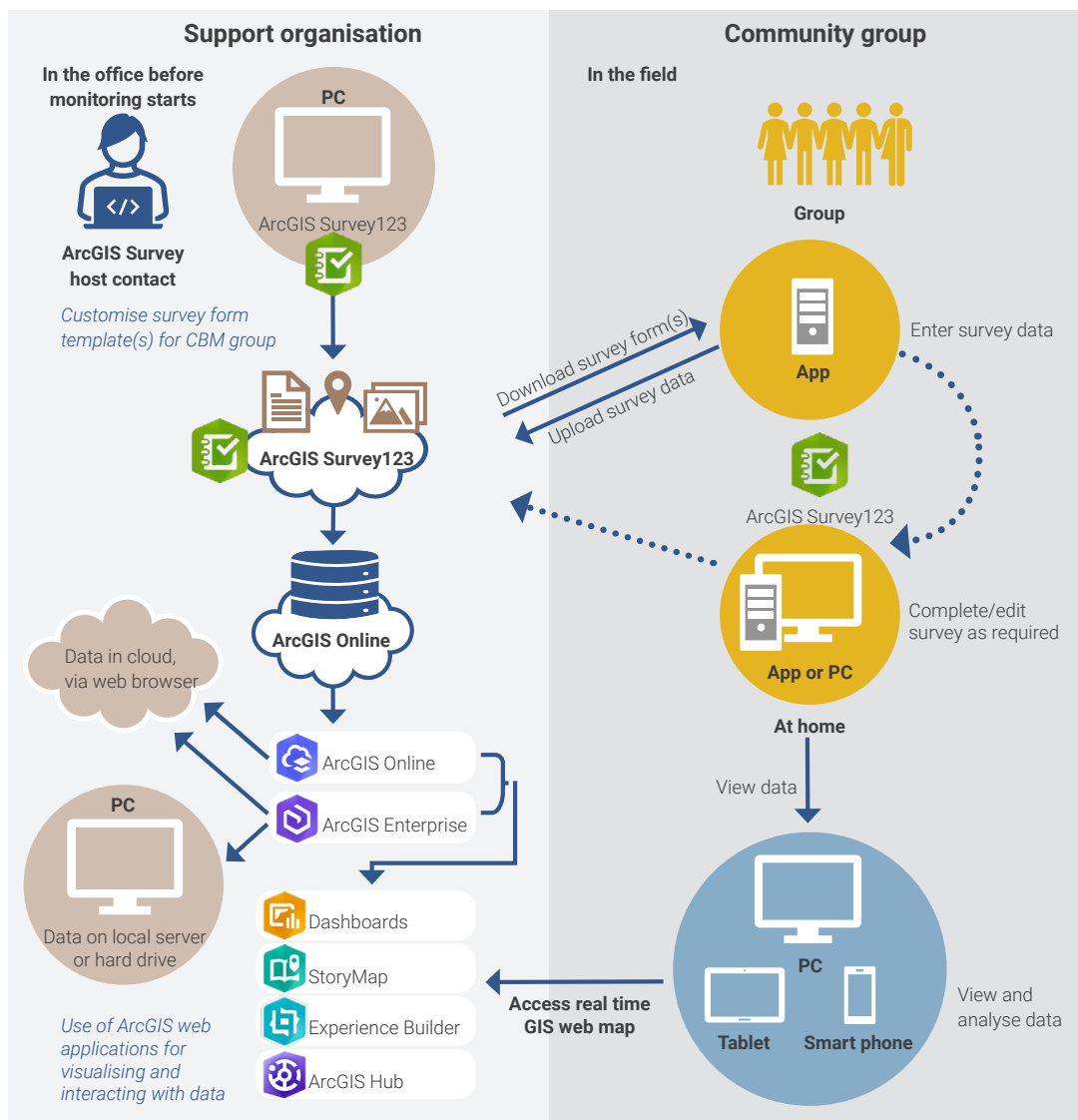
"WHEN?"

F: Monitoring frequency and timing

"WHO?"

G: Roles, responsibilities and review

The different forms that make up the Monitoring and Quality Plan template.



An overview of data collection under the national CBM QA framework and how the data might be accessed and shared. A support organisation (left) with an ArcGIS licence will add your group's name and site details to the CBM framework field template(s) using information from your Monitoring and Quality Plan and provide you with a link to enter and submit your stream monitoring data.

How do I find a host organisation?

Most of the organisations that supported the development of the national CBM QA framework have ArcGIS software. As a starting point, contact your regional council, Wai Connection or the Mountains to Sea Conservation Trust (MTSCT).

What happens to monitoring data entered electronically into Survey123 field forms?

Data entered into Survey123 field forms is transferred via the cloud to your host organisation's ArcGIS system. Exactly what happens next will depend on their ArcGIS licence type, internal IT systems and resources. As a starting point, unless otherwise agreed with your host organisation, the data should be downloaded and returned as an electronic file (e.g., spreadsheet) to your group. Some organisations will likely be able to create dashboards for your group to visualise and interact with your data. Keep an eye on the Wai Connection website for more details.

Who can access our data?

All CBM groups are required to record in their Monitoring and Quality Plan whether they are willing to share their data and, if so, for what purposes. Where a group chooses to share their data, access to it may depend on the arrangements a CBM group has with the organisation hosting its electronic field forms.

Although the national CBM QA framework does not include a database or portal to store or display CBM group data, the use of ArcGIS Survey123 templates facilitates sharing of data in a standard format between different organisations and the potential future development on-line portal(s) that pool and display data across groups. The development of on-line portals dedicated to CBM and other freshwater monitoring data has already started to increase regionally and nationally. Check the Wai Connection website to keep up-to-date on a proposed national portal for CBM data.

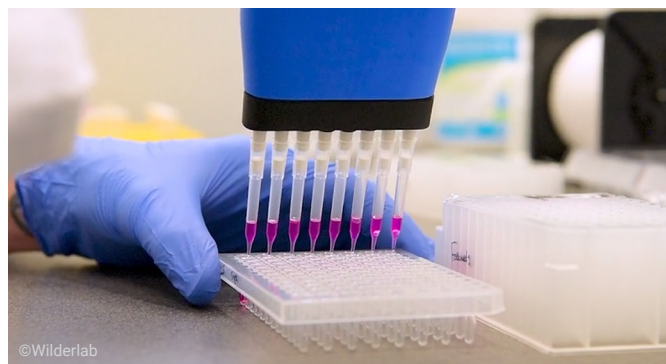
How is the national CBM QA framework managed and kept up to date?

The regional councils of New Zealand initiated the development of this framework. Future updates are likely to involve a similar multi-organisational effort that was involved in developing it. Check with your regional council or the Wai Connection website as a starting point.

Additional indicators and/or measurement methods may be added to the framework in future if, and when, resources allow.



Photo: Friends of Maitai



©Wilderlab

Find out more

The national CBM QA framework resources are available on the Resources section at www.waiconnection.nz.

For queries: info@waiconnection.nz

The national CBM QA framework is supported by:

