

Attributes

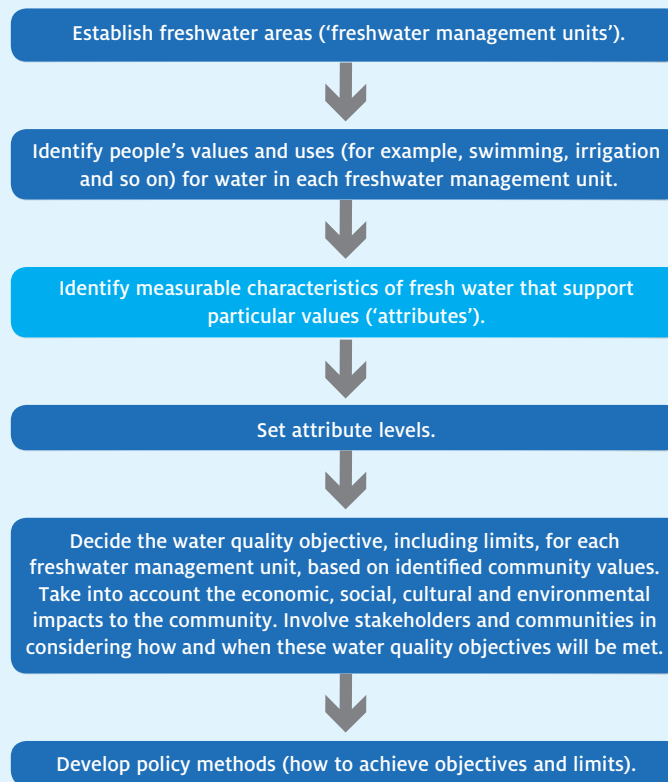
What they are

Attributes are measurable characteristics of fresh water, including physical, chemical and biological properties, which support particular values. For example, water's clarity is an attribute that supports the value of human recreation.

Why they are needed

Attributes are part of the process for setting freshwater objectives and limits set out in central government's *National Policy Statement for Freshwater Management 2014*.

National Policy Statement for Freshwater Management 2014 process for setting freshwater objectives and limits



The CSG's draft list of attributes

An attributes expert panel, including Technical Leaders Group members, has been specifically tasked with recommending attributes to the Collaborative Stakeholder Group (CSG).

At a series of events and in an online survey between March and May 2015, the CSG asked for community and stakeholder feedback on a draft list of attributes for three values which are prominent in the *Vision and Strategy for the Waikato River/Te Ture Whaimana o Te Awa o Waikato*.

The CSG then confirmed a draft list of attributes at their July 2015 workshop. The three values in the draft attributes list are a subset of a wider list of values, set out in the CSG's *Values and uses for the Waikato and Waipa rivers*, available at waikatoregion.govt.nz/csgdocs.

Two of the values ('human health for recreation' and 'ecosystem health') are compulsory under the *National Policy Statement for Freshwater Management 2014*, which also sets out the attributes for these values.

The draft attribute set is tightly linked to nitrogen, phosphorus, bacteria and sediment. Limits will be set for these attributes.

Value	Attribute	Importance
Human health for recreation*	<i>E. coli</i>	Risk of infection/illness from contact/ingestion
	Clarity	Affects peoples' safety (ability to see obstacles in water) and desire to swim
	Cyanobacteria – planktonic**	Toxic algae, makes people sick. Risks include respiratory, irritation, allergy symptoms.
Ecosystem health*	Phytoplankton***	Excessive algal/plant growth impacts ecological communities
	Total nitrogen	
	Total phosphorus	
	Nitrate	Affects survival of some species
	Ammonia	
Mahinga kai (safe to eat)	<i>E. coli</i>	Risk of infection/illness from contact/ingestion
	Cyanobacteria – planktonic**	Toxic algae, makes people sick. Risks include respiratory, irritation, allergy symptoms.

* Compulsory national value under the *National Policy Statement for Freshwater Management 2014*

** Floating bacteria that can photosynthesise like true algae. Some species produce toxins.

*** Microscopic algae and cyanobacteria that drift or float in the water column and are able to produce oxygen through photosynthesis

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