

Southern Tairāwhiti Catchment Advisory Group - Hui 2

Date: 18 June 2025

Subject: Vision, Values, Environmental Outcomes and FMU / MA options

1. Introduction

The National Policy Statement for Freshwater Management (NPS-FM) 2020 provides a framework for achieving the community's long-term vision for freshwater. It's called the National Objectives Framework – or 'NOF'. It represents a series of steps that our group will work through to develop the Southern Tairāwhiti Catchment Plan.

In the last hui we introduced Visions, Freshwater Management Units (FMUs), Management Areas (MAs), and Values. These are all important parts of the plan which will end up driving the decisions made about what objectives, policies, rules, limits and targets are contained within the catchment plan.

In this hui we will discuss:

- Vision(s) for the catchment(s)
- Values
- Environmental Outcomes
- Management areas
- Outstanding / Scheduled Waterbodies

We will also review the current state of the environment.

Refining our thinking around these parts of the plan will help us set appropriate targets for water quality and quantity. This will also help us identify actions for improving the state of freshwater where it is not providing for the values and outcomes.

2. Vision(s)

While long-term visions are the pinnacle of the NOF process, these are often difficult to describe at the start of the catchment planning process. By working through values and environmental outcomes, we start appreciating what suitable long-term visions could look like.

Only through engagement with communities and tangata whenua can Council identify long-term visions. A critical aspect of this piece of work is collectively setting timeframes for achieving long-term visions.

The NPS-FM defines long-term visions as below:

(2) Long-term visions:

- a. may be set at FMU, part of an FMU, or catchment level; and
- b. must set goals that are ambitious but reasonable (that is, difficult to achieve but not impossible); and
- c. identify a timeframe to achieve those goals that is both ambitious and reasonable (for example, 30 years after the commencement date).

(3) Every long-term vision must:

- a. be developed through engagement with communities and tangata whenua about their long-term wishes for the water bodies and freshwater ecosystems in the region; and
- b. be informed by an understanding of the history of, and environmental pressures on, the FMU, part of the FMU, or catchment; and
- c. express what communities and tangata whenua want the FMU, part of the FMU, or catchment to be like in the future.
- (4) Every regional council must assess whether each FMU, part of an FMU, or catchment (as relevant) can provide for its long-term vision, or whether improvement to the health and well-being of water bodies and freshwater ecosystems is required to achieve the vision.

Listed below are the themes expressed in hui 1 that could form part of the long-term vision for the Southern Tairāwhiti Catchment:

- Inter-connectedness (ki uta ki tai) the need for holistic approaches.
- Catering for natural character.
- The ability for all sectors of communities to connect with water and have ownership and responsibility for outcomes.
- Inter-generational outcomes (short, medium, long term).
- Continuous / progressive improvement.
- Sustainable land use.
- Improved resilience.

Question:

Any other themes to add at this stage?

We will continue to develop the vision as we step through the NOF process, meaning there are plenty of opportunities for adding or removing themes and working on the wordsmithing.

3. Values

In hui 1 the advisory group considered the compulsory and additional values provided in the NPS-FM and identified their own values.

Compulsory Values

- Ecosystem health
- Human contact
- Threatened species
- Mahinga kai

Values that must be considered

- · Natural form and character
- Drinking water supply

- Wai tapu
- Transport and tauranga waka
- Fishing
- Hydro-electric power generation
- Animal drinking water
- Irrigation, cultivation, and production of food and beverages
- Commercial and industrial use

We have tabulated feedback / input on values from hui 1 with comments provided in Table 1.

Please consider the values in **Table 1** and be prepared to review them in hui 2.

<u>Note</u>: Where information provided in hui 1 relates to actions / implementation – we will keep those for when we get to those stages in the NOF process.

The more we know about our freshwater values, the easier it is to craft environmental outcomes that are aligned to them.

Questions:

1. Are there missing values from the list in Table 1?

As a reminder, here are some questions to think about when considering values:

- How important is this value in the FMUs? Where is it most important?
- Does it vary across the catchment area?
- What is the current state of this value?

Table 1: Values identified through Hui 1 workshop

Values		Comments
Compulsory values	Ecosystem health	Support from the group for all compulsory values.
(NPS-FM)		
	Human contact	Particularly important waterbodies, and locations within waterbodies, significant for human contact,
Note: Every		threatened species, and mahinga kai to be identified, improved, and protected. E.g., protection and
waterbody is	Threatened	improvement of fish spawning areas.
deemed to have	species	
these values – but it		Degraded waterbodies should also be improved over time.
is useful to know	Mahinga kai	
how important /		Mahinga kai values require input from mana whenua / whānau. Incl. e.g., the use of mosses and other
prominent /		fibres (important to recognise historical uses, e.g., for nappies). Consider fauna and flora (fruiting forests,
significant they are		mosses, etc.). Access to mahinga kai sites is important.
for a particular		
waterbody.		Connections / effects on downstream estuaries are important. Receiving environments are important.
Values that must be	Natural form and	Strong support from the group for natural form and character. Includes:
considered (NPS-FM)	character	
		- Flows
		- Water clarity
		- Species
		- Habitat
		- Hard- versus soft-bottomed
		Strong views on allowing waterbodies to function naturally. "Natural behaviour". Support for ecological
		corridors (also important for other values).
		Relates to water retention in the catchment. Natural canopy understorey plants and riparian margins play
		an important role in absorbing and slowing down rainfall.
	Wai tapu	Cultural values were strongly supported, including aspects such as wai tapu.
	Transport and	This did not come out as a significant value in these catchments.
	tauranga waka	

Values		Comments	
	Fishing	Fishing was recognised as important , in terms of mahinga kai and trout fishing (tourism). This is in freshwater and coastal areas affected by freshwater.	
		Trout fishing – this was debated as a value, considering its contribution to the catchment. It may be a value that does not have direct community / catchment benefit. To be discussed further (also, considering the below).	
		Comment: Does it impact cultural and environmental learning, restoration outcomes if tourism is specific to only a tourism activity? I.e. It pays no attention to what the wider communities are trying to engage with. Responsibility for management?	
	Drinking water supply	This is a critical value in this catchment , with the Waingake Dams and water treatment plant being a source of clean drinking water for Gisborne City, Muriwai, and Manutuke.	
	Animal drinking water	The importance of water for animal drinking water, across the catchment, was noted.	
	Irrigation, Cultivation, and	There are parts of the catchment that are irrigated and cultivated and farmed for livestock.	
	Production of Food and Beverages	The catchment also has significant commercial forestry areas.	
	Commercial and Industrial Use	Not applicable / important for this catchment.	
	Hydro-Electric Power Generation	Not applicable in this catchment.	
Additional values (identified by the community and	Flood mitigation	The advisory group recognised the ecosystem service provided by natural channels, floodplains, and vegetation in storing flood waters and trapping sediment and woody debris.	
advisory group)		Floodplain engagement	
		The importance of sustainable land use was stressed, linking land use to freshwater values.	

Values		Comments
	Kaitiekitanga /	The group as a whole expressed a desire for provision for kaitiekitanga, for the community to be enabled
	Guardianship	to take care of their environment.
		Tangata whenua and all New Zealanders.
		Relates to investment, responsibility, and ownership of outcomes.
		Also, this is important for education and awareness.
	Māori freshwater	Considering:
	values – <i>further</i>	- Taonga species (incl. fauna and flora)
	work required	
		Tuna and freshwater mussels. Functionally-linked species (e.g., bullies).
		- Wahi tapu
		- Manaakitanga
		- Mātauranga Wai
		Consideration of Maramataka, Matariki, etc.
	Tourism as a	Considering:
	freshwater value	- Importance for the catchment area
		- Relationships to freshwater outcomes
		- Relevant waterways
		Comment: High user groups of anglers, rafting, kayak domestic and international visitors to river catchments.

4. State of Environment

Please review the Background Document that was shared as part of Hui 1 agenda pack. Alternatively you can find the background document online through this link.

We will be presenting and going through the data contained in that document at this hui.

Key issues:

- Sediment
- Phosphorus
- E. coli
- Periphyton

5. Environmental Outcomes

We are required to set Environmental Outcomes for the values identified. An environmental outcome identifies what we want for the future state of our waterways in relation to a particular value. **It describes what success looks like for each value**.

The environmental outcomes also link to the long-term vision - when the outcomes are achieved, the vision is achieved. Environmental Outcome statements need to be written in such a way that they can be used to assess how effective the catchment plan and action plans are in achieving the environmental outcome.

Our development of environmental outcomes will be iterative as we progress through the steps of the NOF.

Examples are provided in **Table 2** as a primer for conversation at our hui.

These are adapted from the draft Waimatā-Pakarae Catchment Plan to facilitate discussion at this hui. It is likely that some outcomes will be similar, while others may be unique to the Southern Tairāwhiti Catchment.

Questions:

- 1. Are there environmental outcomes per value?
- 2. What outcomes are missing?
- 3. Can the outcomes be measured?

 Table 2: Environmental outcomes examples

Value	Description	Environmental Outcomes
Ecosystem Health (Compulsory Value)	The ability of Southern Tairāwhiti Catchment waterbodies to support thriving aquatic ecosystems. Freshwater ecosystems include springs, rivers, wetlands and lakes and their health is fundamentally connected to the health of the land. Mana whenua and the community also recognise that their own wellbeing is intrinsically connected to the health of these ecosystems. There are five biophysical components that contribute to freshwater ecosystem health, and it is necessary that all of them are managed. They are water quality, water quantity, habitat, aquatic life, and ecological processes. In a healthy freshwater ecosystem, all five components are suitable to sustain the indigenous aquatic life expected in the absence of human disturbance or alteration.	E-01 The water quality, flows, and habitat in the rivers, streams, estuaries, and wetlands support a diverse and abundant range of native species including invertebrates, plants, fish, and birds. This in freshwater and estuarine areas, including riparian margins. E-02 Catchments are considered holistically, mountains to the sea, ki uta ki tai, and managed with downstream values in mind. Areas of coastal and freshwater interface such as estuaries and river mouths maintain healthy physical and ecological connections between the coastal and freshwater systems. E-03 No further wetlands are drained, wetland rehabilitation is encouraged; over time regaining flow mitigation benefits of wetland areas.
	The mingling of freshwater and coastal waters, and surface waterbodies with groundwater provides critical habitats and ecosystems that are interconnected to and support the ecosystem health of the catchment.	
Human Contact – Swimming (Compulsory Value)	This refers to the extent to which an FMU or MA supports people being able to connect with the water through a range of activities such as swimming, waka, boating, fishing, mahinga kai, fishing, etc. in a range of different flows or levels. Matters to take into account include pathogens, water clarity, deposited sediment, plant growth (from macrophytes to periphyton to	 E-06 Rural runoff is managed to mitigate water quality effects on recreational areas. E-07 Swimming can be practiced year-round at primary contact sites, with no risk of infection from contact with water or sediment, and no health & safety risks associated with woody debris.

Value	Description	Environmental Outcomes
	phytoplankton), cyanobacteria, other toxicants, and litter. Some of the waterbodies within the Southern Tairāwhiti Catchment are used for swimming and bathing during the warmer months. Swimming and water sports are valued as recreational activities to all within the FMU.	 E-08 Water quality in rural waterholes and swimming spots is safe for the community, whānau and visitors to swim and play in during the swimming season (Oct – April). Bacterial contamination is reduced so that the waterbodies meet standards for recreational use.
	Wherowhero lagoon is regionally significant. Mana whenua value swimming because it enables them to connect physically and spiritually with their awa and maintain their whakapapa to wai and strong relationships to place. The broader community also has strong connections with water. Access and water quality impact peoples' ability to maintain strong connections to their waterways.	
Mahinga kai (Compulsory Value)	Mahinga kai is highly valued in the catchment. For this value kai must be safe to harvest and eat. Fundamental to mahinga kai is abundance. An abundant food source indicates a healthy waterway and reflects upon the ability and mana of whānau, hapū and iwi to exercise mana whakahaere, kaitiekitanga, and manaakitanga. Mahinga kai practices enable whānau, hapū and iwi members to maintain traditional practices and allow for intergenerational transfer of knowledge. This value relates to whakapapa, hononga, and whanaungatanga. Relationship between people and their traditional lands/ In terms of the NPS-FM, there are two aspects to mahinga kai:	E-09 Mana whenua can sustainably harvest mahinga kai plants and animals that are important to them, for whānau and marae events, year-round. Mahinga kai is safe to eat or use. E-10 Whānau, from kaumātua to mokopuna, can undertake their local and unique mahinga kai customs and practices (tikanga and kawa, and reo, in the ways of their tīpuna) in awa, repo, lagoons, and wai tai. The people are healthy. Kai can be harvested at sufficient levels that marae and whānau are able to offer manaakitanga in accordance with tikanga.

Value	Description	Environmental Outcomes
	 Mahinga kai – kai is safe to harvest and eat. Mahinga kai generally refers to freshwater species that have traditionally been used as food, tools, or other resources. It also refers to the places those species are found and to the act of catching or harvesting them. Mahinga kai provide food for the people of the rohe and these sites give an indication of the overall health of the water. For this value, kai would be safe to harvest and eat. Transfer of knowledge is able to occur about the preparation, storage and cooking of kai. In FMUs or parts of MAs that are used for providing mahinga kai, the desired species are plentiful enough for long-term harvest and the range of desired species is present across all life stages. Mahinga kai – Kei te ora te mauri (the mauri of the place is intact). In FMUs or MAs that are valued for providing mahinga kai, customary resources are available for use, customary practices are able to be exercised to the extent desired, and tikanga and preferred methods are able to be practised. 	
Threatened Species (Compulsory Value)	This refers to the extent to which an FMU or MA that supports a population of threatened species has the critical habitats and conditions necessary to support the presence, abundance, survival, and recovery of the threatened species.	 E-11 Water quality, quantity, and habitat are suitable for threatened species and they are able to flourish. The populations of species that have become threatened increase in the rivers, streams and wetlands. E-12 Fish passage is uninterrupted so that threatened species can maintain all parts of their life cycle.

Value	Description	Environmental Outcomes
	Despite a decline in abundance, remnant populations of threatened species are still present in the catchment.	E-13 Riparian areas are sufficient in width and in good health to support breeding populations.
	All the components of ecosystem health must be managed, as well as (if appropriate) specialised habitat or conditions needed for only part of the life cycle of the threatened species.	
Natural Form and Character (Other Values That Must be Considered)	Waterways within the Southern Tairāwhiti Catchment area are valued for their natural form and character. While most parts are highly modified, pockets of relatively unmodified or recovering ngahere exist. Mātauranga Māori through placenames and history contribute to better understanding of natural form and character in place. Matters contributing to the natural form and character of an FMU are its biological, visual and physical characteristics, including: • its biophysical, ecological, geological, geomorphological and morphological aspects • the natural movement of water and sediment including hydrological and fluvial processes • the natural location of a water body and course of a river • the relative dominance of indigenous flora and fauna • the presence of culturally significant species • the colour of the water	E-14 The existing natural character of the rivers and streams is maintained. Further straightening or relocation of the rivers and streams is minimised and damming of the main rivers is avoided. E-15 Waterways are protected from higher volume, more frequent, and longer duration flows during heavy rainfall events. E-16 Existing crossings and access structures are protected from erosion, soft engineering methods for erosion protection are preferred where possible. E-17 The riparian environment is improved through planting to reduce the impact of bank erosion on this value. Natural character is improved over time. E-18 Floodplains are protected from further modification. E-19 River mouths and estuaries are protected from further modification. (Environmental outcomes strengthen resilience of waterways and riparian areas to mitigate impacts of climate change/ higher and more frequent rainfall.)
	• the colour of the water	

Value	Description	Environmental Outcomes
	the clarity of the water.	
	Important aspects identified include natural flow variability, continuity of flow, ki uta ki tai, the natural hydrological cycle, etc.	
Drinking Water supply (Other Values That Must be Considered)	The Waingake dam catchment area can meet people's drinking water needs in reticulated urban areas.	 E-20 Tributary streams and springs within the catchment continue to provide for safe domestic use. E-21 The municipal supply is adequate to assure year-round water supply. E-22 Activities are managed to protect the drinking water supplies of ahi kaa and marae.
Wai Tapu (Other Values That Must be Considered)	This is of critical importance to mana whenua. Wai tapu represent the places in an FMU or MA where rituals and ceremonies are performed, or where there is special significance to tangata whenua.	E-24 Wai tapu sites and other culturally important freshwater sites, areas, and routes, including associated mātauranga, are recognised by their original Te Reo Māori names, safeguarded against unauthorised use and impact through land-legal, planning, and other mechanisms, and whānau are able to actively manage these places.
	Rituals and ceremonies include, but are not limited to, tohi (baptism), karakia (prayer), waerea (protective incantation), whakatapu (placing of rāhui), whakanoa (removal of rāhui), and tuku iho (gifting of knowledge and resources to future generations).	E-25 Their historical cultural value is recognised. Mana whenua connections are acknowledged and enabled.
		E-26 Wai tapu are protected and continue to connect whanau and hapu to their whakapapa.
		E-27 Wai tapu are free from human and animal waste, pollutants and excess sediment. Identified taonga in the wai are protected.
	Wai tapu include places that had tapu placed upon them due to particular events that happened in or at that site and the responsibility of mana whenua to ensure the safety of those who choose to go to those sites.	
	In providing for this value, the wai tapu are free from human and animal waste, contaminants and excess sediment, with valued features and unique properties of the wai protected. Other matters that may be important are that there is no artificial	

Value	Description	Environmental Outcomes
	mixing of the wai tapu and identified taonga in the wai are protected.	
Fishing (Other Values That Must be Considered)	For FMUs or MAs valued for fishing, the numbers of fish are sufficient and suitable for human consumption. In some areas, fish abundance and diversity provide a range in species and size of fish, and algal growth, water clarity and safety are satisfactory for fishers. The Southern Tairāwhiti Catchment area supports fisheries of species allowed to be caught and eaten. Fishing is an integral part of whānau and community life, both in terms of day-to-day activities and sustenance, as well as manaakitanga, sharing, and connection to the awa. Fishing was also fundamental to trade, traditional economies, and cultural exchange.	 E-30 Trout fishing? E-31 The catchment continues to support healthy populations of fish for fishing. The numbers are sufficient and suitable for people to consume. Fish stocks increase in abundance. E-32 Fishers can access waterways to fish at a range of locations. Fishing in waterways remains a valued experience for locals and visitors alike.
Animal Drinking Water (Other Values That Must be Considered)	Water quality and quantity meets the needs of farmed animals, including where it is palatable and safe.	E-33 Healthy drinking water is provided for stock, while not impacting on other values of the FMU.
Irrigation, Cultivation, and Production of Food and Beverages (Other Values That Must be Considered)	The Southern Tairāwhiti Catchment includes irrigation water takes. Increased irrigation can improve economic returns. Water quality and quantity is suitable for irrigation and food production needs, including supporting the cultivation of food crops and the production of food from farmed animals Attributes need to be specific to irrigation and food production requirements.	E-34 Expansion of irrigation to support economic activities is supported where this does not impact on other values of the catchment. E-35 Continued sustainable livestock farming that protects freshwater. E-36 Continued commercial forestry that protects freshwater.

Value	Description	Environmental Outcomes
Commercial and Industrial Use Hydro-Electric Power Generation (Other Values That Must be Considered)	These values are not considered further at this stage	because of very limited or no applicability to this catchment.
Flood	People and property are protected from the effects	E-36 Floodplains and river channels naturally flood during heavy rainfall
mitigation (Additional	of flooding to property and health and safety.	events, with intact riparian margins slowing flows and trapping sediment and woody debris.
value)	Kainga/pā/nohoanga are protected to maintain a	
,	connection to our ancestral places, spaces and practice.	E-37 No further loss of flood storage capacity in floodplains.
	produce.	E-38 Woody debris does not reduce flood conveyance.
Kaitiekitanga (Additional value)	dditional restore, enhance, and sustainably use freshwater	E-39 Mana whenua can access and connect with waterways, lagoons, and estuaries to undertake their mahi as kaitieki, undertaking restoration and monitoring actions, in-line with their mātauranga, tikanga, and kawa.
value		E-40 The ability for tangata whenua to express their mana motuhake over their areas of interest for the purpose of meaningful decision making.
	Kaitiekitanga of our awa, of our taonga wai, fulfilling our obligation to our atua Māori, our past and future generations and maintain balance.	their dreas of interest for the purpose of interining ar decision making.
	Taiao sustainability via the use of maramataka	
	Traditional practice of our indigenous time keeping systems has been developed from the understanding of the taiao, which have guided Māori and the sustainable harvest practices for centuries	
	The use of tirohanga (sight, sound, smell, touch, feel, taste) to monitor the state of mauri)	

Value	Description	Environmental Outcomes
Environmental stewardship (Additional value)	The obligation of all New Zealanders to manage freshwater in a way that ensures it sustains present and future generations.	E-41 Everyone who lives and works in the catchment is acknowledged for their role in enhancing the health of the environment and downstream water quality.
	The community takes care of the waters and environments in the areas they live in and associate with.	E-42 The community can access and connect with waterways, lagoons, and estuaries to undertake restoration work and monitoring actions, in-line with community aspirations.
	All landowners are responsible for guardianship of the fresh waters on their land.	
Taonga species (Additional value)	Taonga species are central to the identity and wellbeing of many Māori. For generations these species have sustained tangata whenua and helped	E-43 Native taonga plant, bird and animal species are abundant enough to support cultural practices and collection. Taonga species flourish.
value	transfer customary practices and knowledge from one generation to the next.	(Environmental outcomes are also reflected in Ecosystem Health, Threatened Species, Natural Form and Character, and Mahinga kai attributes)
	Customary practices and knowledge are transferred from one generation to the next.	
	Whanaungatanga and connection to our taonga species, the relationships that have sustained our people and the mutual respect we share with and for these taonga.	
Māori	Mana whenua identified Māori freshwater values.	To be developed
freshwater	To be developed.	
values identified		

6. Freshwater Management Units (FMUs) and Management Areas (MAs)

Freshwater Management Units (FMUs) represent the whole catchment area. We have historically called these catchment areas 'Catchments', however the NPS-FM is requesting consistency in terminology used across councils. This requires us to change our language slightly from what is currently used in our 2015 Regional Freshwater Plan and Waipaoa Catchment Plan.

To reflect the request for consistency, going forwards, what was previously an FMU in our 2015 freshwater plans is now a Management Area (MA).

As discussed at hui 1, we have the ability to identify MAs to reflect changes in landuse activities, values or issues.

Council will present on how MAs have been considered in other catchment plan areas.

Questions:

- 1. Discussion on approaches in other catchments planning areas.
- 2. What approach is preferred by the advisory group?
- 3. How do we ensure that smaller-scale place-based values are catered for?

7. Outstanding / Scheduled Waterbodies

The catchment includes several outstanding or scheduled waterbodies. These can be viewed on Tairawhiti Maps, with link in email (please reach out to a Council staff member if you have issues accessing this link.)

G1 Area of Significant Conservation Value Site

Wherowhero estuary; Whareongaonga

Schedule G15: Aquatic Ecosystem Waterbodies

Schedule G15A contains the nationally and regionally significant habitats and migratory habits of native fish.

Waipaoa (Wherowhero Stream, Pakowhai Stream); Te Puna (Wharekakaho Stream, Waikara Stream); Takararoa (Takararoa Stream)

Schedule G15B contains the additional key habitats for Long Finned Eel – a nationally threatened native species which the Gisborne region is recognised as providing a national stronghold for populations.

None

Schedule G15C contains the freshwater habitats of threatened indigenous flora and fauna.

Waipaoa (Wherowhero Stream); Hangaroa (Hangaroa River)

Ruakituri (Ruakituri River and Headwater Streams, incl. Okaura Stream, Pukakaho Stream, Anini Stream, Whakaretu Stream, Tupunui Stream, Owhakarotu Stream, Ngawapurua Stream)

Lake Karangata (Tiniroto Lakes), Lake Rotokaha (Tiniroto Lakes), Tiniroto Lakes.

Schedule G15D contains the known whitebait spawning sites in the region.

Pakowhai Stream

Schedule G15E contains the important habitats of trout.

Ruakituri (Ruakituri River and tributaries); Hangaroa (Hangaroa River and tributaries)

Schedule G17: Regionally Significant Waterbodies

Hangaroa (Noble-Campbell Road Wetlands, Tawaroa Wetland)

G18 Schedule: Outstanding Waterbodies

Wairoa (Ruakituri River from the headwaters to the Gisborne District Council boundary on the track from Papanui Road)

Questions:

- 1. Are there any water bodies missing from the above list?
- 2. How can we safeguard / address the issues in other important water bodies that may not fall within the above categories?

8. Next steps:

Following on from hui 2, we will dive deeper into:

- Outstanding / Scheduled waterbodies
- Water quality current state and attributes
- Water quantity potential limits and allocation

At hui 3 we will start looking at ways to measure outcomes, which the NPS-FM refers to as attributes. These are things like the amount of nutrients, bacteria and sediment in the water. We also need to consider the life and health of aquatic ecosystems, using attributes such as Macroinvertebrate Community Indicator (MCI) (for aquatic insects) and the fish biotic index.