

Essential Freshwater

NPS-FM – monitoring and reporting requirements

Overview of the following topics

- monitoring and reporting requirements*
- freshwater accounting systems and*
- exemptions for large hydro-electric generation schemes*

Webinar 7

Ministry for the Environment, 2 December 2020





Mana Atua – Mana Tangata – Mana Whenua

Te Mana o te Wai

The health of our Wai: The health of our Nation

Incorporated into Policy

OBLIGATION

- 1** The first is to the water, to protect its health and its mauri
- 2** The second is providing for essential human health needs such as drinking water
- 3** The third is for other consumption provided that such use does not adversely impact the mauri of freshwater

PRINCIPLES

- Mana whakahaere
- Kaitiakitanga
- Manaakitanga
- Governance
- Stewardship
- Care, respect

LEADERSHIP

- Iwi/Hapū/Māori Landowners/Whānau/Hapori
- Crown / Community
Central & local governance

NGĀ RITENGA

- Te Tiriti o Waitangi te tāhuhu o te Kaupapa o te wai
- Te Mana o te wai – Te Mauri o te wai
- Te Mana Motuhake o ia wai o ia iwi o ia hapū ki te wai
- Te Kaitiakitanga o ngā hapū me ngā iwi ki te wai
- Te Mana Whakahaere o ngā hapū me ngā iwi ki te wai



Monitoring and reporting under the NPS-FM

Monitoring serves two related purposes for giving effect to the NPS-FM:

- to determine baseline states and develop the evidence base required for setting target attribute states, limits, and action plan development under the NOF
- ensuring waterbodies and freshwater ecosystems are monitored over time and allow action to be taken to halt and reverse freshwater degradation

Monitoring and reporting under the NPS-FM

The NPS-FM 2020 requires annual and five-yearly reporting:

Annually – to provide data on each component of ecosystem health, the human contact value, and any other monitoring data undertaken for freshwater management

Five-yearly – to provide for assessment of NPS-FM implementation in each region (eg, target state progress) and publish an ecosystem health scorecard

New Zealand Government

National Policy Statement
for Freshwater Management 2020
August 2020

Key changes in NPS-FM 2020

- Several new attributes in Appendix 2A and 2B of the NPS-FM to inform limit setting/action plan development
- Specific monitoring requirements for wetlands, rivers and primary contact sites
- Reporting requirements for five ecosystem health components and detailed s35 reporting (produced at least every five years).

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NPS-FM 2020 – New or changed attributes

Water quality and physical habitat

- Ammonia (toxicity) in rivers and lakes
- Nitrate (toxicity) in rivers and lakes
- Dissolved reactive phosphorus (rivers)*
- Suspended fine sediment (rivers)
- Deposited fine sediment (wadeable rivers)*
- Dissolved oxygen in rivers*
- Lake-bottom dissolved oxygen*
- Mid-hypolimnetic dissolved oxygen (seasonally stratifying lakes)*

Aquatic life and ecosystem processes

- Macroinvertebrates – MCI, QMCI (wadeable rivers)*
- Macroinvertebrates – ASPM (wadeable rivers)*
- Fish (rivers)*
- Submerged plants (natives) in lakes*
- Submerged plants (invasive species) in lakes*
- Ecosystem metabolism (rivers)*

Human contact

- *E.coli* in lakes and rivers (primary contact sites)

* = *action plan (Appendix 2B) attribute*

NPS-FM 2020 – Other attribute development

- Two further compulsory values (Threatened species and mahinga kai) where attributes must be identified where practicable
- Monitoring may be required to determine baseline states for attributes developed in consultation with tangata whenua and communities
- Potential to utilise existing monitoring (eg, cultural monitoring for aspects of mahinga kai)

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NPS-FM 2020 – Monitoring methods

Methods must be established to monitor progress towards achieving target states and environmental outcomes

Must include measures of:

- Mātauranga Māori
- Health of indigenous flora/fauna

Monitoring methods will **inform**:

- Assessment of attribute state trends (including sufficient frequency and distribution)
- Responses to degradation

NPS-FM 2020 – Other specific monitoring requirements

Wetlands and rivers

- Specific monitoring plans required to monitor condition of natural inland wetlands and rivers
- Must enable plan assessment and include methods to respond if loss of extent or values detected

Primary contact sites

- Monitored for risk to human health and suitability for activities

Monitoring and reporting under the NPS-FM

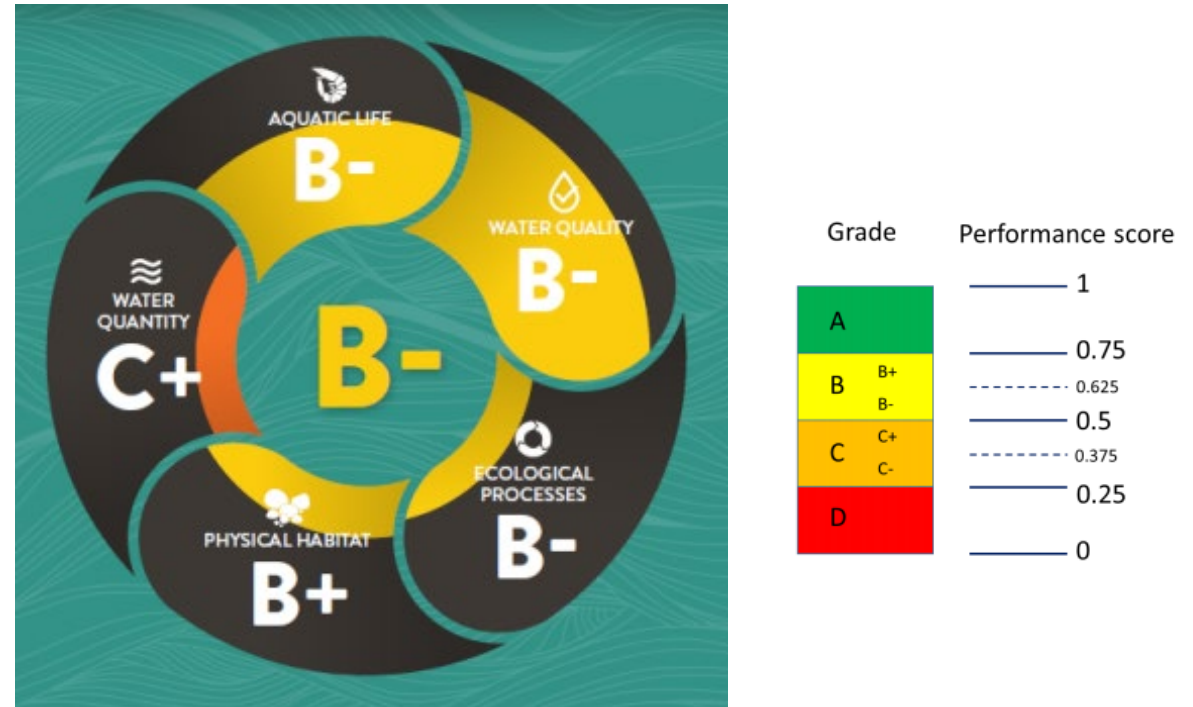
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NPS-FM 2020 – Ecosystem health reporting

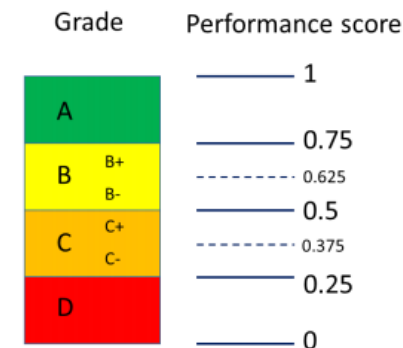
- Annual reporting of data on each component of ecosystem health obtained from monitoring sites for relevant attributes
- Alongside s35 review (produced at least every five years) ecosystem health scorecard must be published that:
 - Reports on and gives a score for each component of ecosystem health in each FMU
 - Identifies where data/information missing
 - Provides overall score for ecosystem health for each FMU



Report card and grading scale example – Clapcott et al. 2019

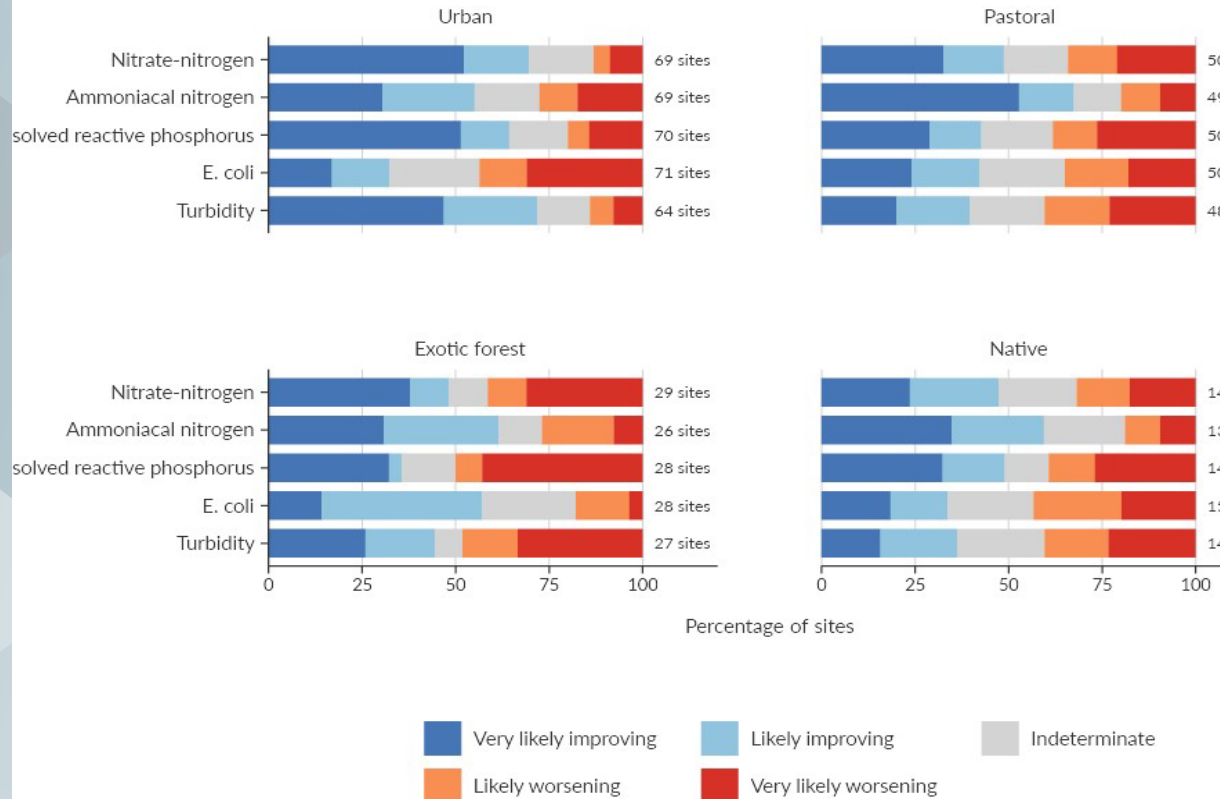
NPS-FM 2020 – Ecosystem health reporting

Component, Indicator, Metric	Score	Suitability weighting	Grade	Availability scale
Water Quality	0.617	2.40	B-	0.80
Dissolved oxygen	0.574	2.00	B-	0.67
<i>Minimum dissolved oxygen</i>	<i>0.574</i>	<i>2.00</i>	<i>B-</i>	
Temperature	0.352	2.00	C+	0.67
<i>Cox-Rutherford Index</i>	<i>0.352</i>	<i>2.00</i>	<i>C+</i>	
Suspended sediment	0.530	3.00	B-	1.00
<i>Turbidity</i>	<i>0.530</i>	<i>3.00</i>	<i>B-</i>	
Nutrients	0.675	3.00	B+	1.00
<i>Dissolved reactive phosphorus</i>	<i>0.637</i>	<i>3.00</i>	<i>B-</i>	
<i>Dissolved inorganic nitrogen</i>	<i>0.704</i>	<i>3.00</i>	<i>B+</i>	
Contaminants	0.966	2.00	A	0.44
<i>Ammonia toxicity</i>	<i>0.990</i>	<i>2.00</i>	<i>A</i>	
<i>Nitrate toxicity</i>	<i>0.941</i>	<i>2.00</i>	<i>A</i>	



Calculation of water quality component score for New Zealand rivers based on above metrics, factored for data suitability and data availability – Clapcott et al. 2019

Freshwater accounting systems



Data source

A 'balance sheet' to:

- Inform the setting of target states, flows and levels, and limits
- Assess over-allocation
- Track cumulative effects over time

Freshwater accounting systems

For each FMU, councils must regularly **measure, model or estimate** indicators of freshwater quality and quantity.

Core indicators are set in the NPS-FM but can be added to.

Quality accounting

= contaminants (levels, sources, allocated %)

Quantity accounting

= water takes (amounts, uses, allocated %)

all takes, not just consented and metred takes

Reporting

= publish **regularly** in a **suitable form**.

Suitable form

= comprehensible, accessible and containing all relevant information, with explanations of missing or uncertain data



Implementation Support

- Data and System Performance Oversight identified as a priority project by the Freshwater Implementation Group
- Scope TBC by the group, but could include:
 - Understanding priority data and implementation needs for councils and communities
 - Monitoring and data standards
 - Performance indicators and action plans with councils
 - Good practice sharing
 - National information systems (eg, land use mapping)
 - Guidance (including Fish IBI)



Questions

1. Whether monitoring excludes/includes modelling/freshwater accounting systems (AKL)
2. Who and how will TMoTW priorities be monitored (Kaipara DC)
3. What changes (if any to NPS) may occur with any change in government? Is there a plan B (WRC)
4. Please explain change to regional reporting (GWRC)
5. Does cultural monitoring matter? Should councils be involving kaitiaki? (Te Rūnanga o Ngaī Te Rangi Iwi)
6. Wetland monitoring and reporting requirements
7. Saltwater intrusion into groundwater

Large hydro-electric generation schemes



Regional councils are able to set target attribute states below national bottom lines in water bodies affected by New Zealand's five largest hydro-electric generation schemes:

- Manapouri
- Waitaki
- Clutha
- Tongariro
- Waikato

The policy **does not provide a wholesale exception** to the provisions of the NPSFM

Regional councils can still choose to set target attribute states above national bottom lines

Hydro-electric schemes: Establishing a target attribute state below national bottom line



Freshwater ecosystem health must already be below national bottom lines, **no degradation is permitted**

If improvement can be made without negatively affecting the benefits provided by the scheme then **regional councils must manage for that improvement**

Benefits of the scheme of particular importance are its contribution to climate change obligations and ensuring New Zealand's security of electricity supply

Treaty settlements as primary legislation have primacy over provisions in the NPSFM

The legal frameworks and agreements made between the Crown and hapū/iwi guide the decision-making in respective catchments

Summary of existing, upcoming and possible Guidance 2020–21

Possible Guidance Coming

Synthetic Nitrogen Cap

- Guidance on synthetic nitrogen use
- Stock holding/intensification further guidance

Threatened species

- Investigating support options for threatened species attributes

Monitoring and reporting

- NPS - Update national fish IBI & create automated report templates

Other short term guidance pieces not discussed in the webinar series include

- Guidance on water metering regulations
- Updating existing periphyton attribute guidance to take NPS-FM 2020 into account

Existing and Upcoming Guidance

Intensive Winter Grazing, Stock Ex, Stock Holding and Intensification

- Low slope methodology, incl. how land user can calculate
- IWG good management practice guidelines
- Further guidance for stock holding/intensification

Rivers and Wetlands

- Recently released Guidance on effects management hierarchy to explain RMA difference to effects management hierarchy

Wetlands and Stream/River Loss

- Technical guidance on the effects management hierarchy in the NPS-FM, including methods for assessing aquatic offsets and compensation
- Guidance on coastal wetlands in the NES-F

Fish Passage

- Technical guidance for fish passage policy and regulations, utilising common questions received

Mahinga kai

- Future guidance including options of methods for determining current and target attribute states

Threatened species

- Guidance on identifying the location of freshwater habitats of threatened species
- MfE has released a report on a summary of current tools and resources for Identifying the Location of Freshwater Habitats of Threatened Species in New Zealand