

River Water Quality in Tasman

Summary Maps

Water Quality State

Water quality was assessed using data from 29 river sites in Tasman (26 monitored by TDC, 3 monitored by NIWA) up to June 2021.

The current state of water quality at the river sites was evaluated using the National Objectives Framework of the National Policy Statement for Freshwater Management 2020. Under this framework, each combination of river site and water quality attribute is assigned to an attribute band. Attribute bands are named **A** through **D** (or **A** through **E** for the *E. coli* attribute) with the **D** (or **E**) band representing poor water quality.

Water quality attributes assessed

Nitrate-N	Nitrate-nitrogen
DRP	Dissolved reactive phosphorus
Ammonia	Total ammonia
Clarity	Black disc water clarity
<i>E. coli</i>	Faecal indicator bacteria levels

Technical Report

Full details including methods and a discussion of the trend results are available in:

McCallum, J. (2023). **Water quality trends in rivers of Tasman – Analyses of data ending in 2021**. Richmond, New Zealand: Tasman District Council.

Water Quality Trends

Trends were assessed over two time periods, 5 years (July 2016 to June 2021) and 15 years (July 2006 to June 2021). The summary maps show trend direction and confidence in the trend direction in five categories, from **Very likely improving** to **Very likely degrading**.

Confidence in the trend direction

“Very likely”	greater than 90% confidence
“Likely”	greater than 67% confidence
“Indeterminate”	about as equally likely to be improving as degrading

The trend assessment methods account for sampling design changes made by TDC in 2016, namely the increase in sampling frequency from four times per year (quarterly) to 12 times per year (monthly) and the shift from dry weather sampling to all-weather sampling.

Keep in mind when interpreting trend results:

- There can be high confidence in the trend direction but a very small trend rate (the rate of change in the water quality attribute is close to zero).
- Climate patterns may influence water quality trend results. This has been shown for New Zealand rivers using the Southern Oscillation Index (SOI). The influence of the SOI on water quality trends tends to decline for trends assessed over longer time periods. This means that trends over five years are more prone to influence by climate patterns than trends over 15 years.

Aorere Freshwater Management Unit

5 Year

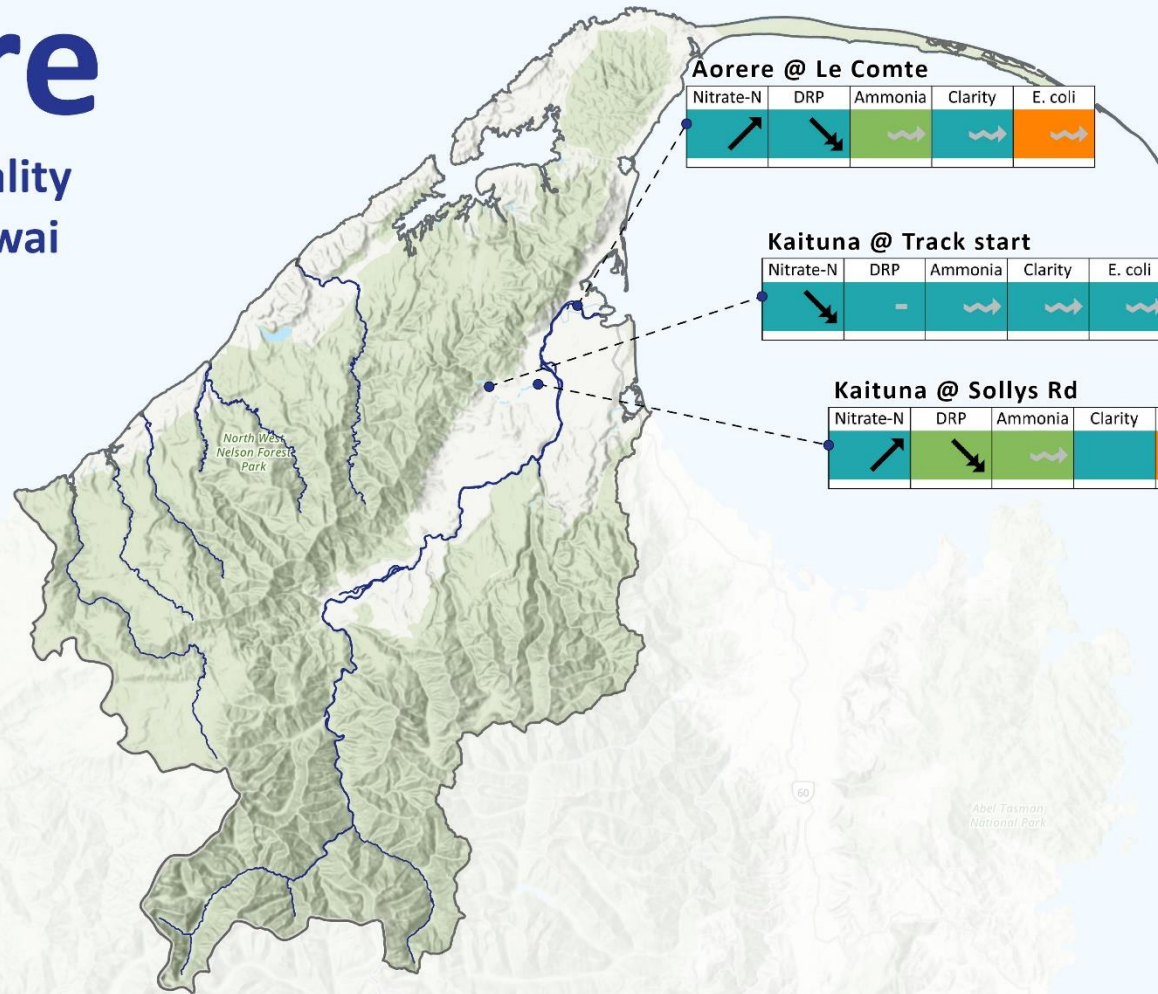


Aorere

River Water Quality Te kounga o te wai

State	Trend
A	↗ Very likely improving
B	↖ Likely improving
C	↔ Indeterminate
D	↘ Likely degrading
E	↙ Very likely degrading
-	- Insufficient data

Data ending in 2021



Aorere @ Le Comte

Nitrate-N	DRP	Ammonia	Clarity	E. coli
↗	↘	↔	↔	↔

Kaituna @ Track start

Nitrate-N	DRP	Ammonia	Clarity	E. coli
↘	-	↔	↔	↔

Kaituna @ Solllys Rd

Nitrate-N	DRP	Ammonia	Clarity	E. coli
↗	↘	↔	↔	↗

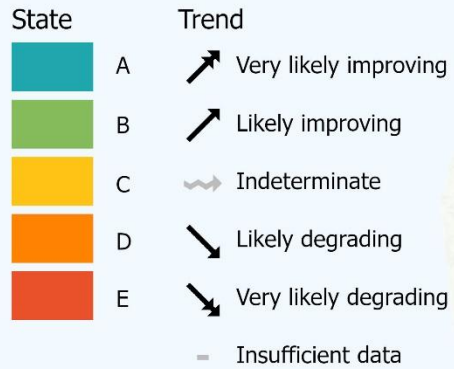
Freshwater Management Unit boundary is indicative only.

15 Year

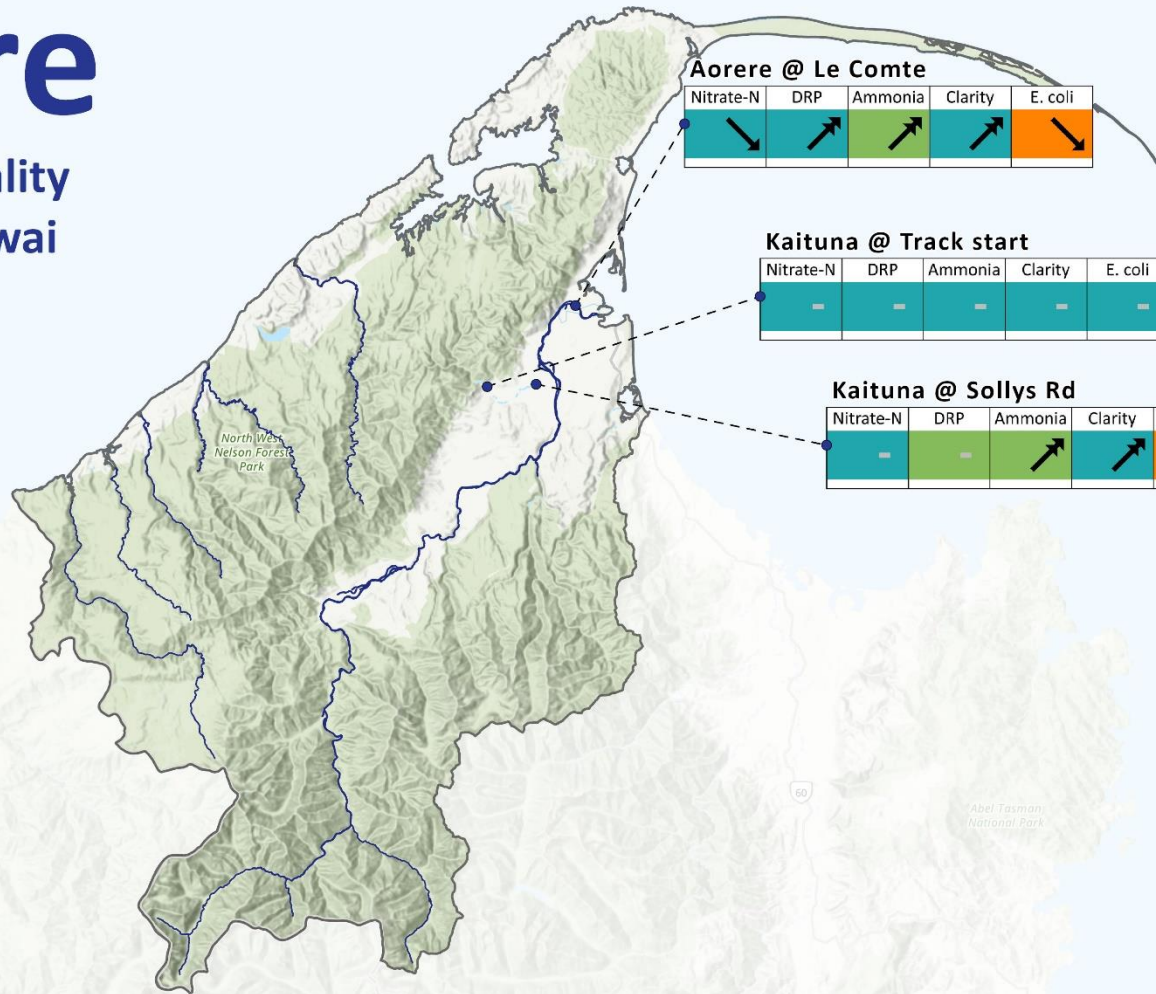


Aorere

River Water Quality Te kounga o te wai



Data ending in 2021



Aorere @ Le Comte

Nitrate-N	DRP	Ammonia	Clarity	E. coli
↘	↗	↖	↗	↘

Kaituna @ Track start

Nitrate-N	DRP	Ammonia	Clarity	E. coli
-	-	-	-	-

Kaituna @ Solllys Rd

Nitrate-N	DRP	Ammonia	Clarity	E. coli
-	-	↖	↗	↗

Freshwater Management Unit boundary is indicative only.

Takaka Freshwater Management Unit

5 Year



Takaka

River Water Quality
Te kounga o te wai

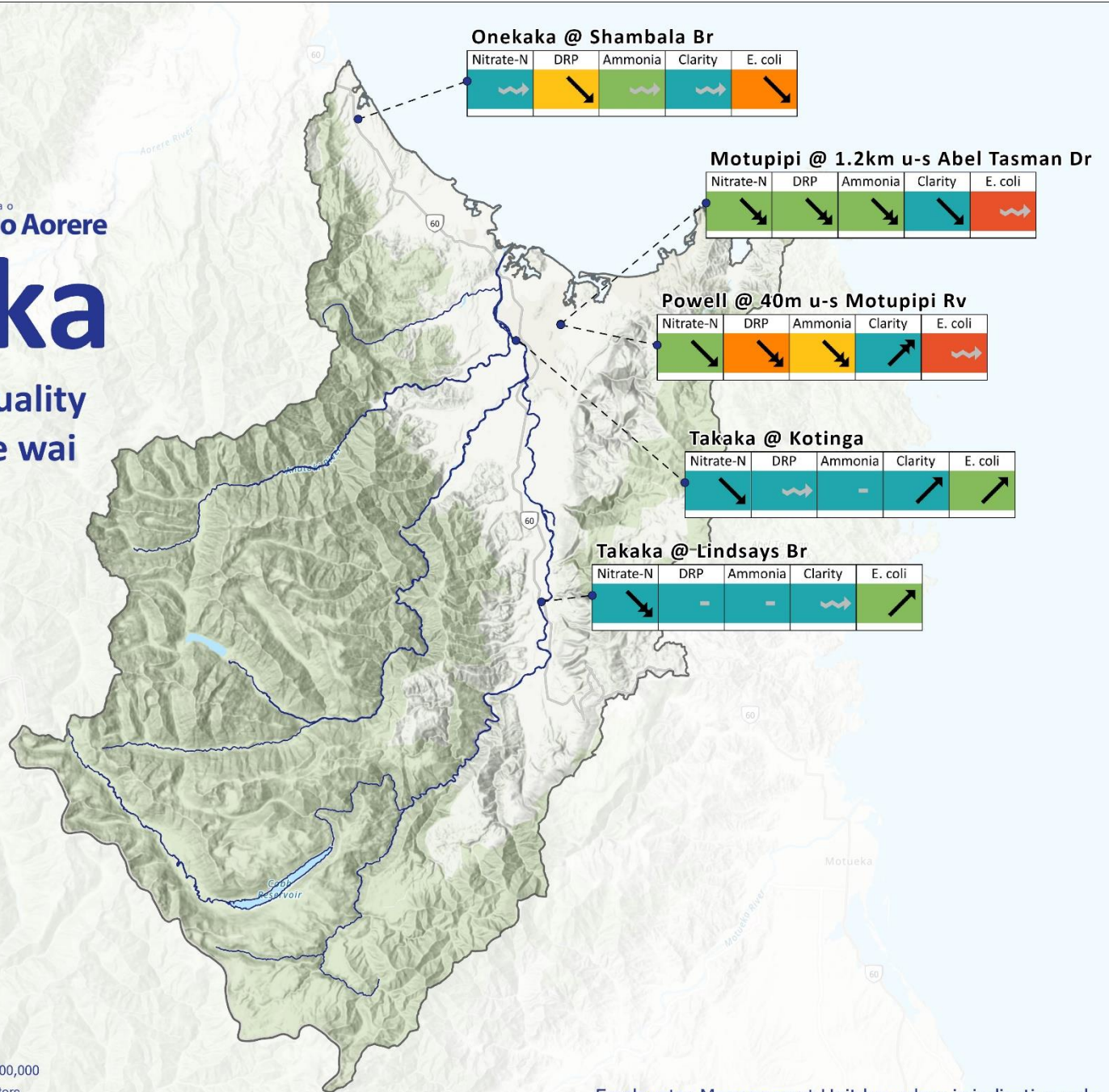
State

A	Very likely improving
B	Likely improving
C	Indeterminate
D	Likely degrading
E	Very likely degrading
-	Insufficient data

Trend

↗	Very likely improving
↖	Likely improving
↔	Indeterminate
↘	Likely degrading
↙	Very likely degrading
-	Insufficient data

Data ending in 2021



Freshwater Management Unit boundary is indicative only.

15 Year



Takaka

River Water Quality
Te kounga o te wai

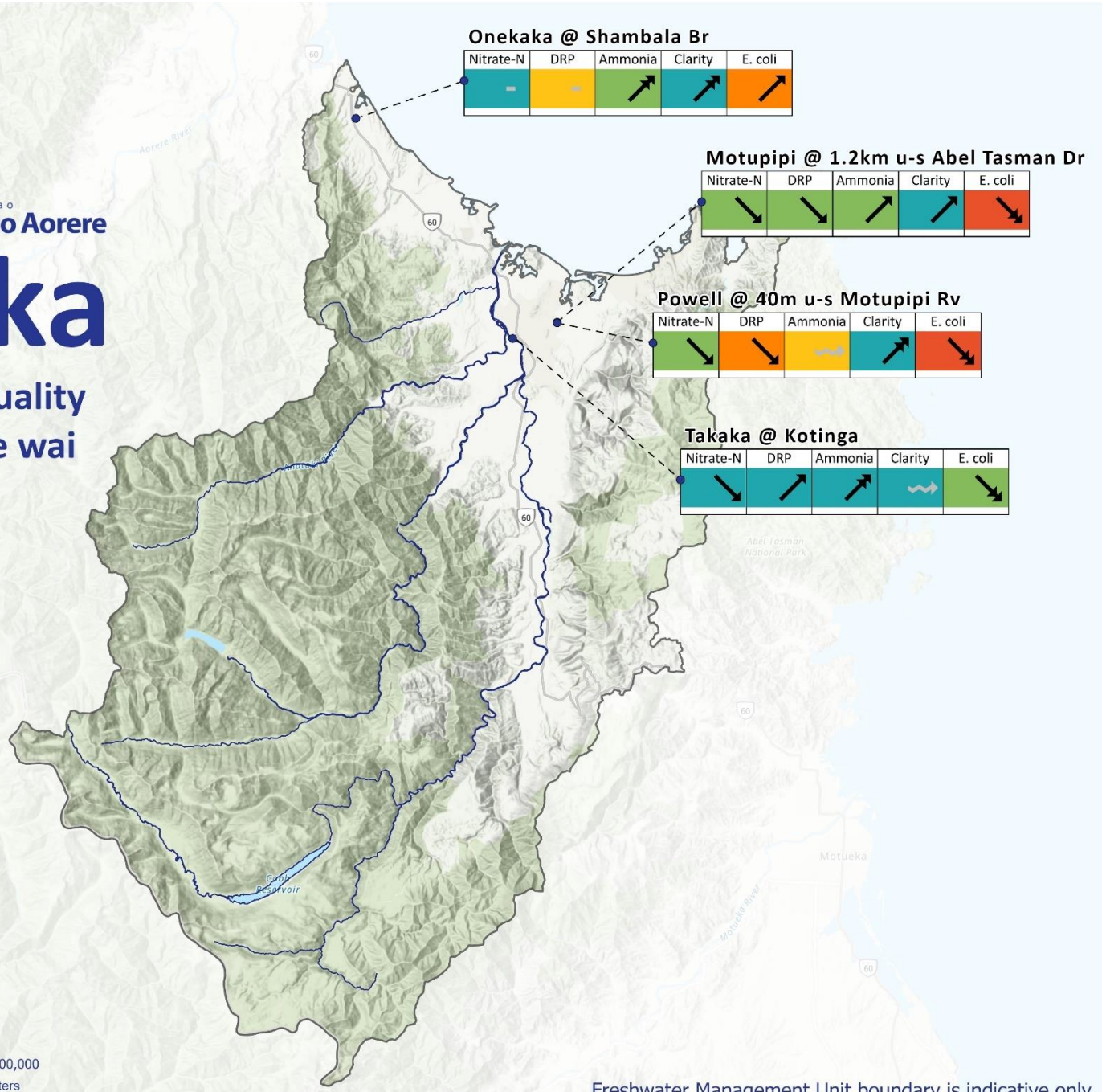
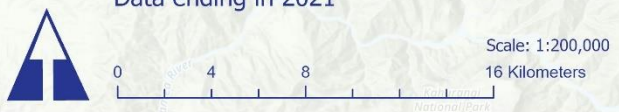
State

A	Very likely improving
B	Likely improving
C	Indeterminate
D	Likely degrading
E	Very likely degrading
-	Insufficient data

Trend

↗	Very likely improving
↘	Likely improving
↔	Indeterminate
↙	Likely degrading
↘	Very likely degrading
-	Insufficient data

Data ending in 2021



Freshwater Management Unit boundary is indicative only.

Motueka Freshwater Management Unit

5 Year

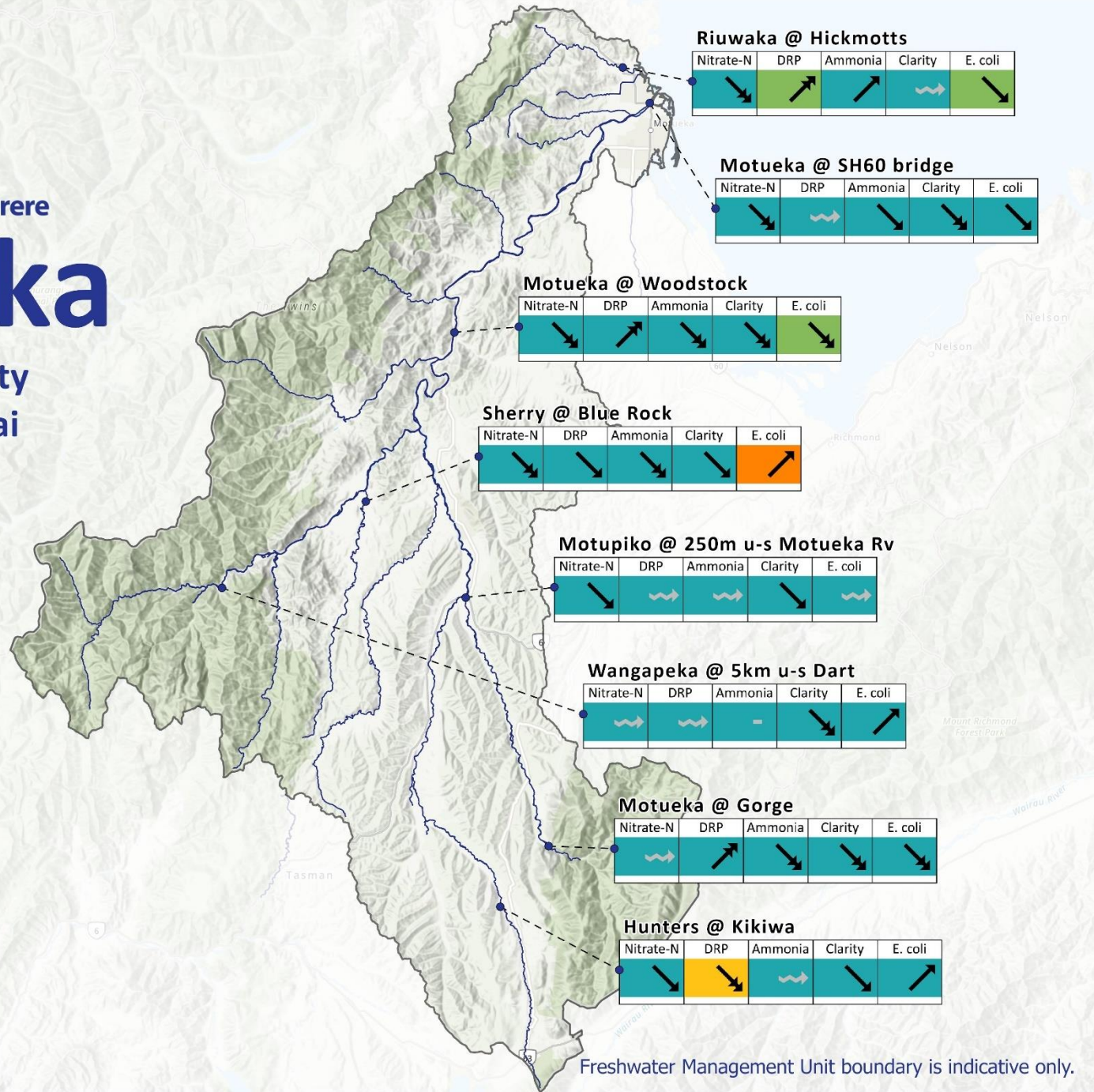


Motueka

River Water Quality Te kounga o te wai

State	Trend
A	↗ Very likely improving
B	↗ Likely improving
C	↔ Indeterminate
D	↘ Likely degrading
E	↘ Very likely degrading
-	- Insufficient data

Data ending in 2021



Freshwater Management Unit boundary is indicative only.

15 Year

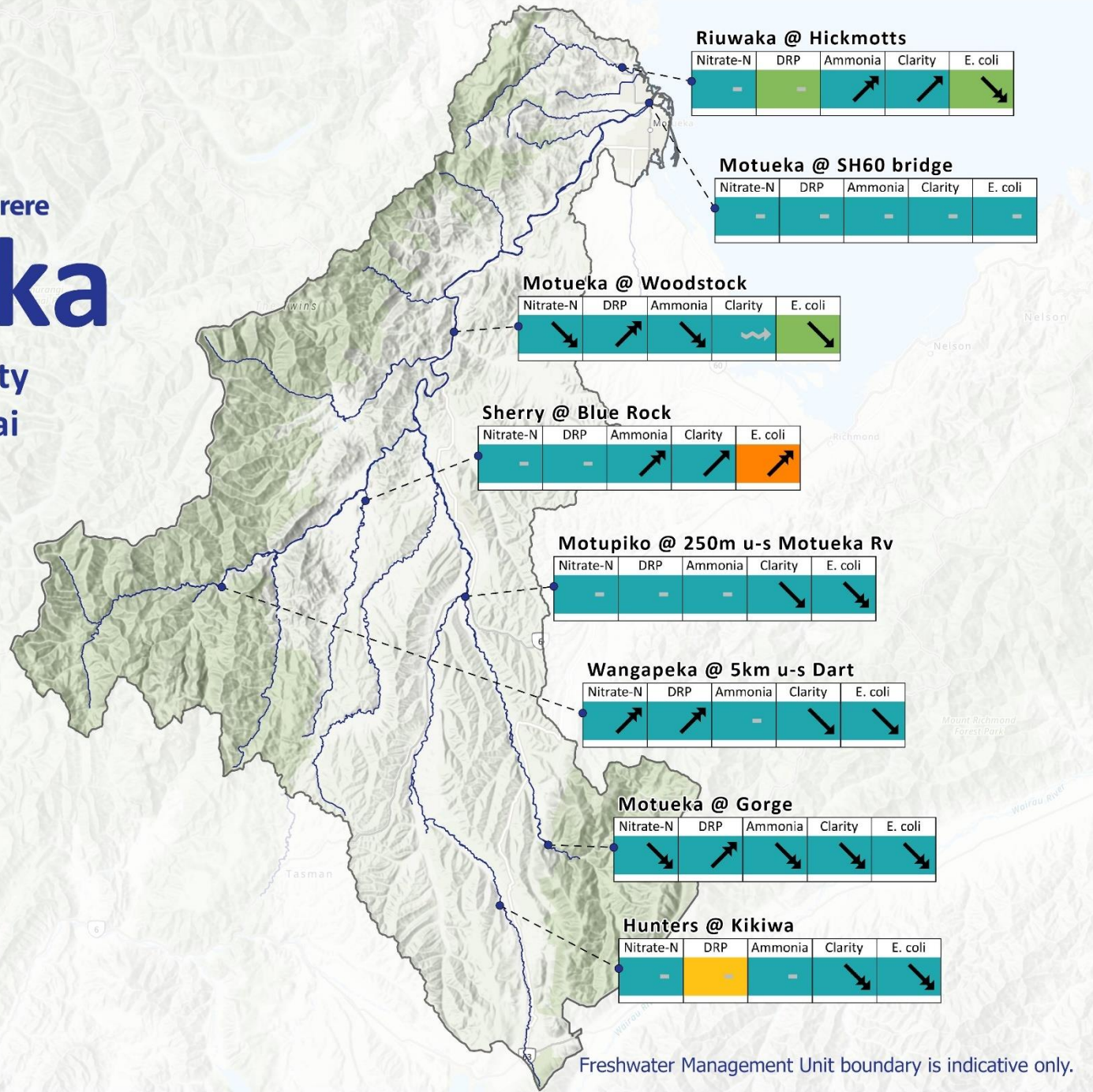


Motueka

River Water Quality Te kounga o te wai

State	Trend
A	↗ Very likely improving
B	↖ Likely improving
C	↔ Indeterminate
D	↘ Likely degrading
E	↙ Very likely degrading
-	- Insufficient data

Data ending in 2021



Moutere Freshwater Management Unit

5 Year



Moutere

River Water Quality
Te kounga o te wai

Moutere @ Riverside

Nitrate-N	DRP	Ammonia	Clarity	E. coli
↘	↘	↘	↗	↗

Tasman @ u-s Jesters Hse

Nitrate-N	DRP	Ammonia	Clarity	E. coli
↘	↔	↘	↘	↔

State	Trend
A	↗ Very likely improving
B	↗ Likely improving
C	↔ Indeterminate
D	↘ Likely degrading
E	↘ Very likely degrading
-	- Insufficient data

Data ending in 2021



Scale: 1:150,000
12 Kilometers

Freshwater Management Unit boundary is indicative only.

15 Year



Moutere

River Water Quality Te kounga o te wai

Moutere @ Riverside

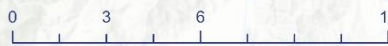
Nitrate-N	DRP	Ammonia	Clarity	E. coli
-	-	-	-	-

Tasman @ u-s Jesters Hse

Nitrate-N	DRP	Ammonia	Clarity	E. coli
-	-	↗	↗	↘

State	Trend
A	↗ Very likely improving
B	↗ Likely improving
C	↔ Indeterminate
D	↘ Likely degrading
E	↘ Very likely degrading
-	- Insufficient data

Data ending in 2021



Scale: 1:150,000
12 Kilometers

Freshwater Management Unit boundary is indicative only.

Waimea Freshwater Management Unit

5 Year



Waimea

River Water Quality
Te kounga o te wai

Waimea @ SH60 Appleby

Nitrate-N	DRP	Ammonia	Clarity	E. coli
↔	↔	-	↘	↔

Neimann Ck @ 600m us Lansdowne Rd

Nitrate-N	DRP	Ammonia	Clarity	E. coli
↗	↘	↔	↔	↘

Borck @ 400m ds Queen St

Nitrate-N	DRP	Ammonia	Clarity	E. coli
↘	↗	↔	↗	↗

Reservoir Ck @ 20m d-s Salisbury Rd

Nitrate-N	DRP	Ammonia	Clarity	E. coli
↘	↘	↘	↘	↔

Wai-iti @ 400m d-s Waimea W Rd

Nitrate-N	DRP	Ammonia	Clarity	E. coli
↘	↘	↘	↔	↗

Wairoa @ SH6

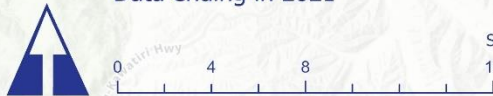
Nitrate-N	DRP	Ammonia	Clarity	E. coli
↗	↗	-	↘	↘

Lee @ Meads Br

Nitrate-N	DRP	Ammonia	Clarity	E. coli
↔	↔	-	↗	↘

State		Trend	
A	↗	↗	Very likely improving
B	↗	↗	Likely improving
C	↔	↔	Indeterminate
D	↘	↘	Likely degrading
E	↘	↘	Very likely degrading
-	-	-	Insufficient data

Data ending in 2021



Scale: 1:200,000
16 Kilometers

Freshwater Management Unit boundary is indicative only.

15 Year



Waimea

River Water Quality
Te kounga o te wai

Waimea @ SH60 Appleby

Nitrate-N	DRP	Ammonia	Clarity	E. coli
↗	↗	↗	↔	↘

Neimann Ck @ 600m us Lansdowne Rd

Nitrate-N	DRP	Ammonia	Clarity	E. coli
C	B	-	-	-

Borck @ 400m ds Queen St

Nitrate-N	DRP	Ammonia	Clarity	E. coli
C	↗	↗	↘	↘

Reservoir Ck @ 20m d-s Salisbury Rd

Nitrate-N	DRP	Ammonia	Clarity	E. coli
B	C	↗	↘	↘

Wairoa @ SH6

Nitrate-N	DRP	Ammonia	Clarity	E. coli
-	-	-	-	-

Lee @ Meads Br

Nitrate-N	DRP	Ammonia	Clarity	E. coli
-	-	-	↘	↗

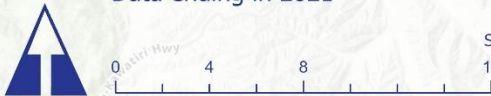
State

A	↗
B	↗
C	↔
D	↘
E	↘

Trend

- ↗ Very likely improving
- ↗ Likely improving
- ↔ Indeterminate
- ↘ Likely degrading
- ↘ Very likely degrading
- Insufficient data

Data ending in 2021



Scale: 1:200,000
16 Kilometers

Freshwater Management Unit boundary is indicative only.

Buller Freshwater Management Unit

5 Year

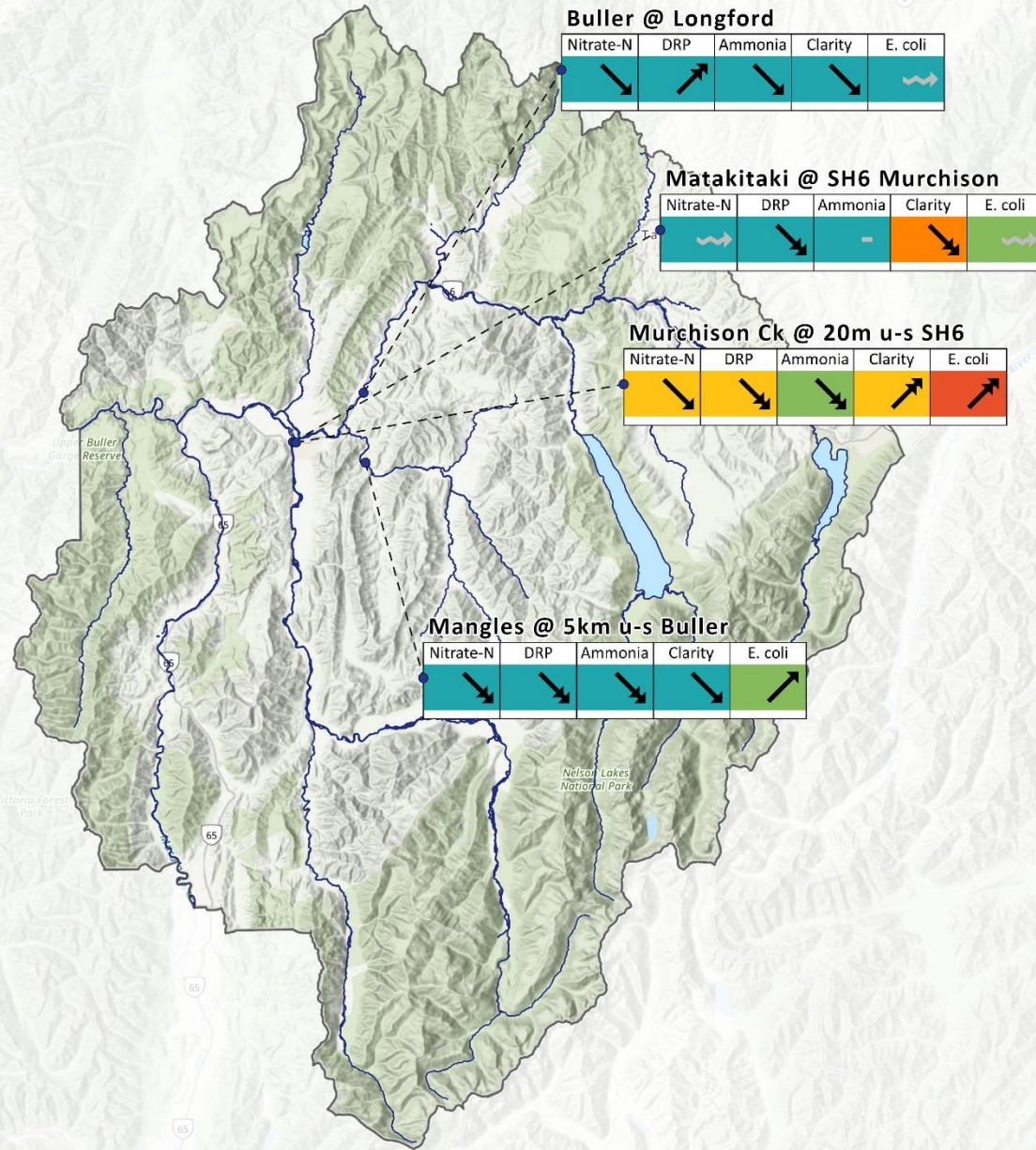


Buller

River Water Quality
Te kounga o te wai

State	Trend
A	↗ Very likely improving
B	↗ Likely improving
C	↔ Indeterminate
D	↘ Likely degrading
E	↘ Very likely degrading
-	- Insufficient data

Data ending in 2021



Freshwater Management Unit boundary is indicative only.

15 Year



Buller

River Water Quality
Te kounga o te wai

Buller @ Longford











Nitrate-N	DRP	Ammonia	Clarity	E. coli
↘	↗	↘	↘	↘

Mātakitaki @ SH6 Murchison

Nitrate-N	DRP	Ammonia	Clarity	E. coli
-	-	-	↘	↘

Murchison Ck @ 20m u-s SH6

Nitrate-N	DRP	Ammonia	Clarity	E. coli
-	-	↗	↘	↔

State	Trend
	A  Very likely improving
	B  Likely improving
	C  Indeterminate
	D  Likely degrading
	E  Very likely degrading
	- Insufficient data

Data ending in 2021



Scale: 1:350,000

Freshwater Management Unit boundary is indicative only.