Kaipātiki Project
share in nature's revival

Kaipatiki Project School Stream Care Network

Results Summary May 2021– June 2022

Birkdale Intermediate School – Strive for Excellence

Space

Chelsea Estate Heritage Park Regional Park Assn. (Inc.)

Windy Ridge School

eia
Environmental Impact Assessments Ltd
Sustainable Water Solutions

The Programme

- 8 stream sites
- 7 catchments
- Water quality – 7 analytes measured quarterly
- Aquatic invertebrates and fish quarterly
- 6 schools, 2 community groups
- Funded by Kaipatiki Local Board & Auckland Council


Legend
Community Stream Monitoring Sites - Kaipatiki
ENVIRONMENTAL IMPACT ASSESSMENTS LTD
SUSTAINABLE WATER SOLUTIONS
N
Glendhu Reserve
Kahika
Oruamo
Ako Space
Castleton
Awataha US
Waimanawa
Cherpa 3
Cherpa 2
Cherpa 1
1 0 1 2 3 4 km

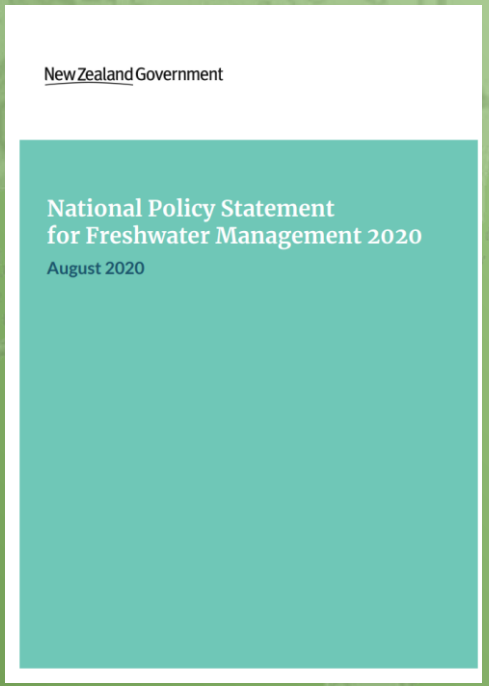
NATIONAL POLICY STATEMENT FOR FRESHWATER MANAGEMENT (NPSFM)

Contains enforceable water quality and ecology standards

There are two primary goals of this statement:

Improving sites that fail to meet these standards

Maintaining those that already do.



Invertebrate Sensitivity

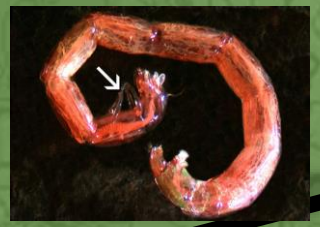
Free-living Caddisfly (*Plectronemia*)

10

Woody-cased caddisfly (*Triplectides*)

Mayfly (*Zephlebia*)

Midge (*Chironomus*)



Snail (*Potamopyrgus*)

1

Segmented worm (*Oligochaete*)

Damselfly(*Xanthocnemis*)

The Macroinvertebrate Community Index (MCI) scores invertebrate species on their sensitivity to water conditions (1-10, less sensitive to more sensitive).

The above species have been observed during the stream care program

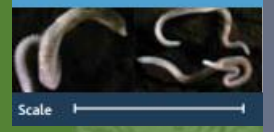
Common Invertebrate Species in Kaipatiki

Oligochaete worm

1

(common in medium or low quality streams)

- Segmented worms that look like miniature garden worms
- Some bright red (especially i… low oxygen environments)
- Are very stretchy but also co… into tight, tangled bundles
- Body length mostly under 3…

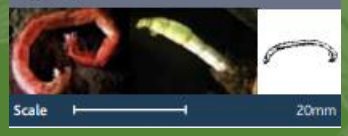


Midge

2

(common in high, medium or low quality streams)

- Small worm-like larvae with small head (distinguishes them from worms)
- Some bright red (especially in low oxygen environments)
- Tail end has tiny prolegs used for attachment
- Some larvae swim using a thrashing motion
- Body length up to 20mm (most less than 10mm)



Rounded snail

3

(common in high, medium or low quality streams)

Very common group, includes:

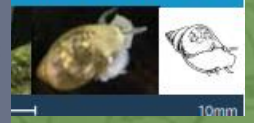
Potamopyrgus:

- Dark, thick-shelled and the most common

…cate shell and common …d sites

…t and trails in sample …easy to observe

…th less than 10mm …pecies



Shrimp

5

(common in lowland, weedy streams)

- Five pairs of walking legs
- Semi-transparent body
- No large claws or pincers
- Can walk, hover or flick backwards
- Length up to 30mm

Damselfly

5

(common in medium to high quality streams and wetlands)

- Damselfly nymphs have slender bodies
- Tail has three leaf-like gills at its tip
- Prey are ambushed using extendable gin-trap-like mouthparts
- May wave their abdomen to circulate water past tail gills
- Crawls slowly but usually stationary
- Body length up to 25mm

Amphipod and isopod

5

(common in slow flowing streams)

Small crustaceans:

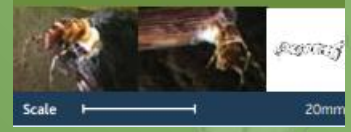
- Amphipods; appear to be compressed sideways
- Isopods (less common) resemble wood lice (slaters)
- Amphipods and estuarine isopod species are fast swimmers
- Body length usually less than 5mm

Woody-cased caddisfly

5

(common in medium to high quality streams)

- Caddis larvae sheltering in stick or plant cases
- Abdomen may have small tentacle-like gills
- Long stripy legs visible outside the woody case
- Larvae crawl around with case
- Body length up to 20mm



Rarer Invertebrate Species in Kaipatiki

Flat mayfly

8

(common in high quality streams)

- Nymph with a flat body shape
- Tail has three slender filaments (though can break off)
- Sides of the abdomen have gills
- Usually hugs stream bed but also swims awkwardly
- Body length up to 20mm

Crayfish (Koura)

5

(common in medium to high quality streams)

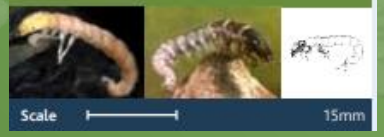
- Small crayfish (compared to our marine species)
- Pincers are powerful and pointed – beware!
- Can walk slowly forwards or shoot quickly backwards with a tail flick
- Body length usually less than 150mm

Free-living caddisfly

5

(common in medium to high quality streams)

- Grub-like larvae with soft abdomen and no portable case
- May or may not have gills under the abdomen
- Pupae may be protected by a stony shelter
- Crawls rather than swims
- Body length up to 15mm (some species)

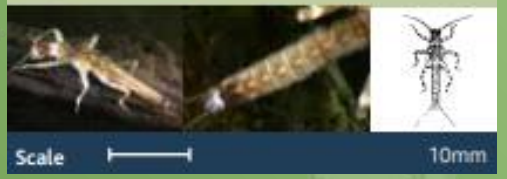


Spotty stonefly

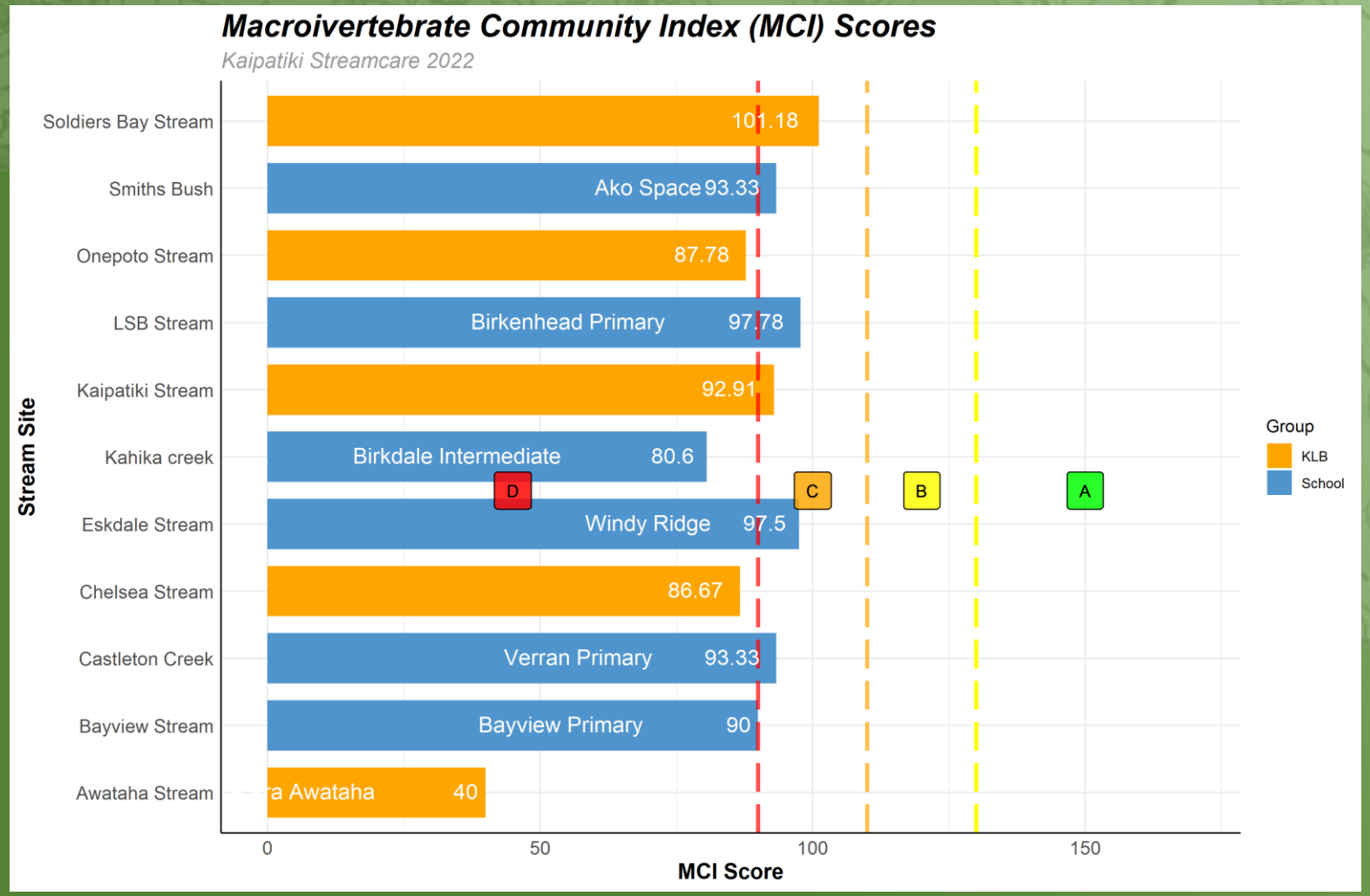
5

(common in high quality streams)

- Nymphs have pale spots on body and legs, unlike most other tail gill stoneflies
- No gills along the side of the abdomen
- Active crawlers like other stoneflies
- Body length less than 10mm



What Are The Critters In Our Awa?



Macroinvertebrate communities within the Kaipatiki region are dominated by low sensitivity species. Under the NPSFM,MCI scores <90 are graded 'D'. Some sites feature rarer, more sensitive macroinvertebrates (e.g., mayflies and caddisflies) and score higher (C grade). Macroinvertebrate communities are indicators for in-stream health, as well indicating suitable habitat for their adult forms on land

Our Fish (Ika)

Banded kokopu

Common bully

Redfin bully

Longfin/shortfin eel

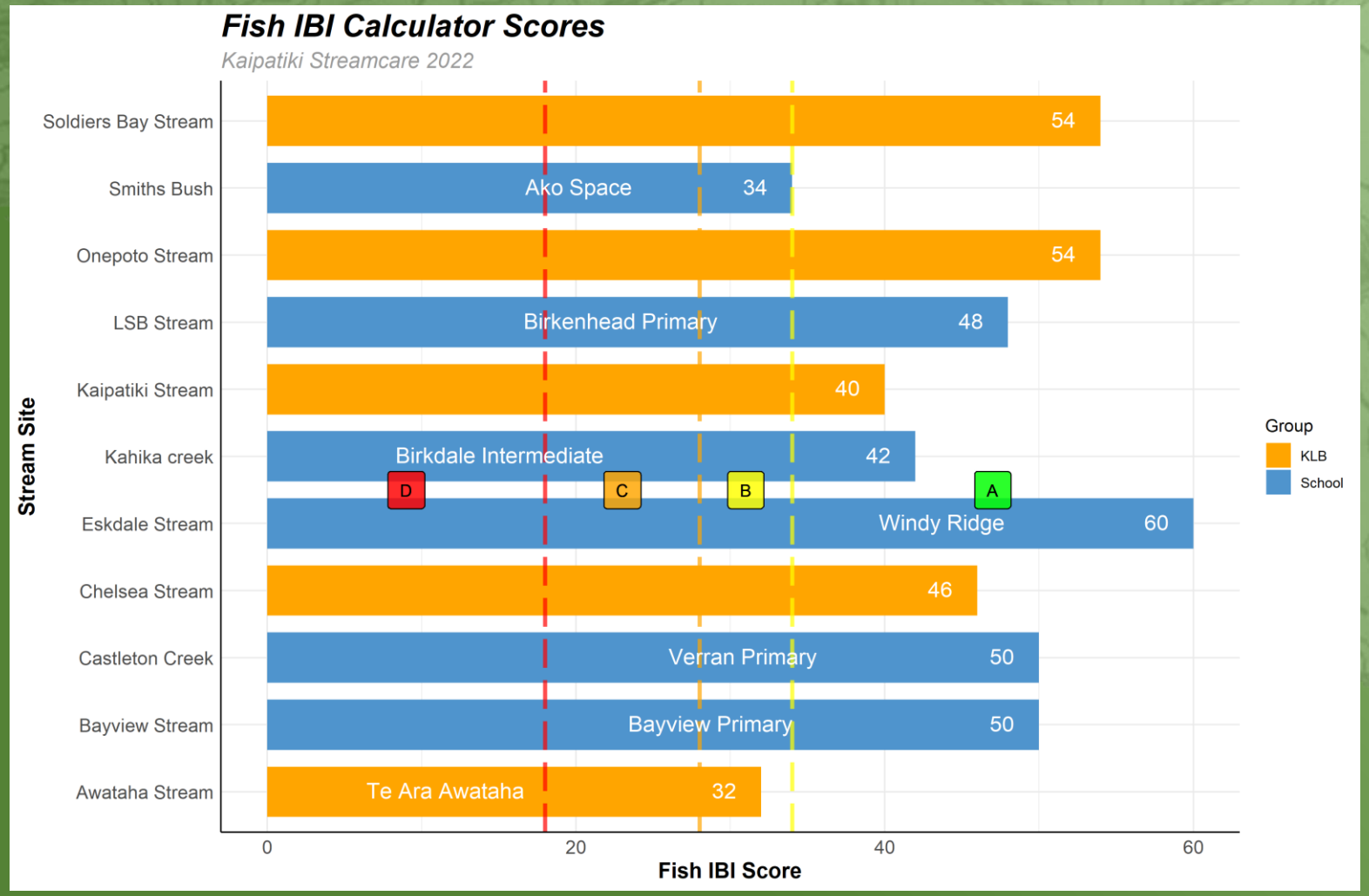
Uncommon Ika In Kaipatiki

Inanga (whitebait)

Giant Kokopu

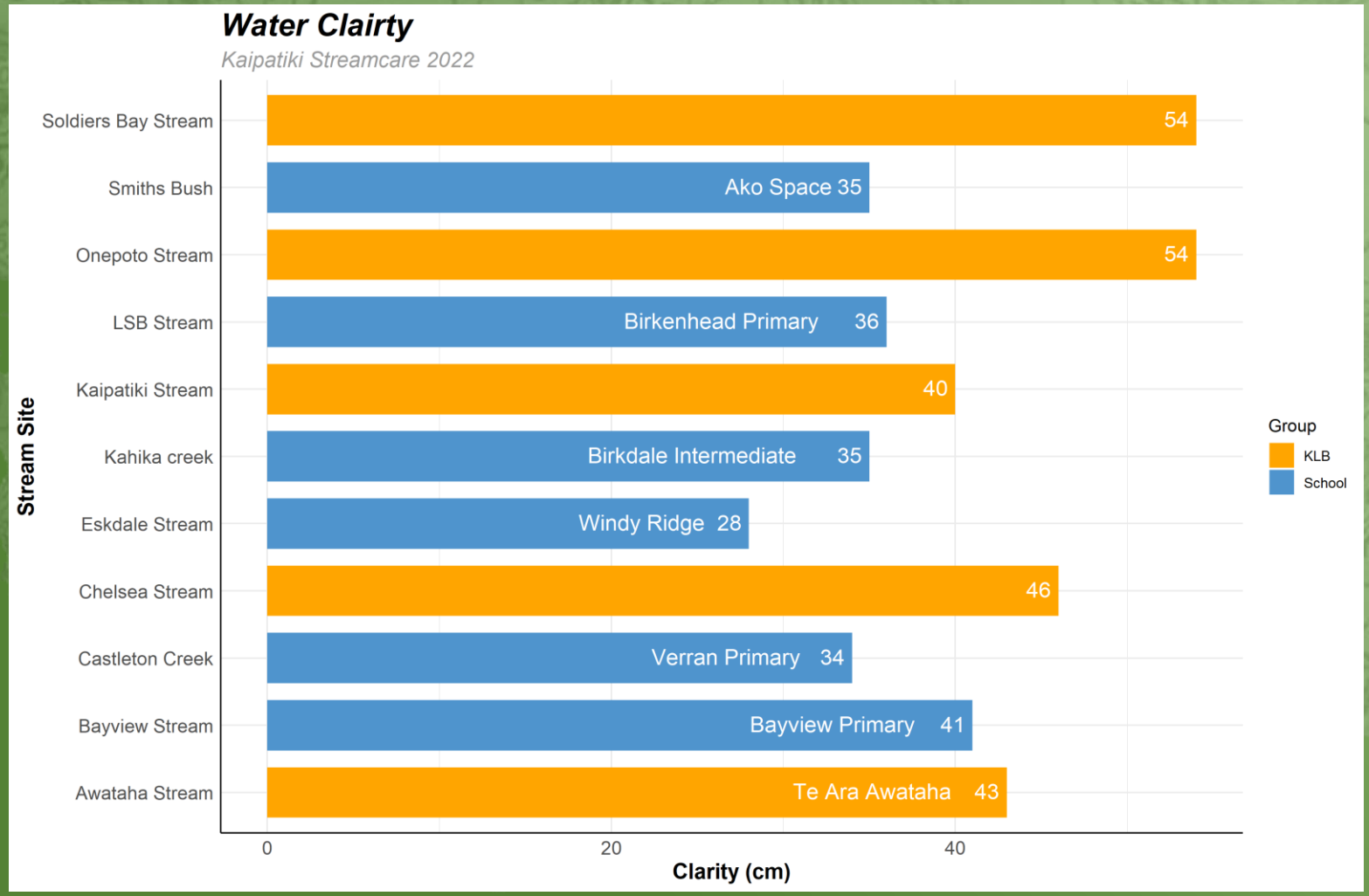
Common Smelt

Fish Populations in Kaipatiki



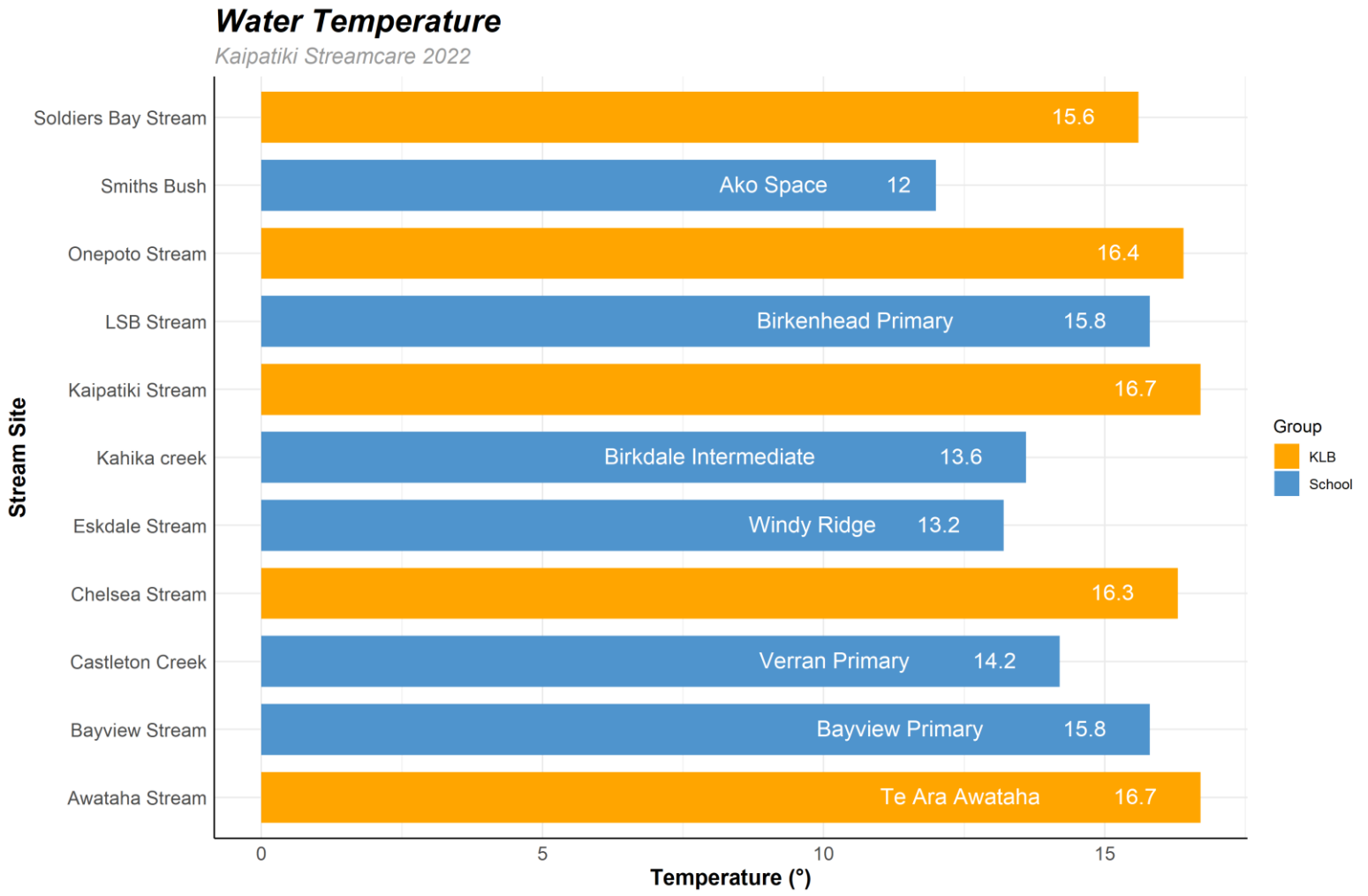
The Kaipatiki region is fortunate to contain streams with functional vegetation cover and adequate access to sea. The streams monitored by this program are home to several common fish species, which are in healthy abundance. Streams with considerable man-made obstacles to fish passage (e.g., Awataha and Smith's Bush) exhibit lower fish IBI scores.

How Clear Are Our Awa?



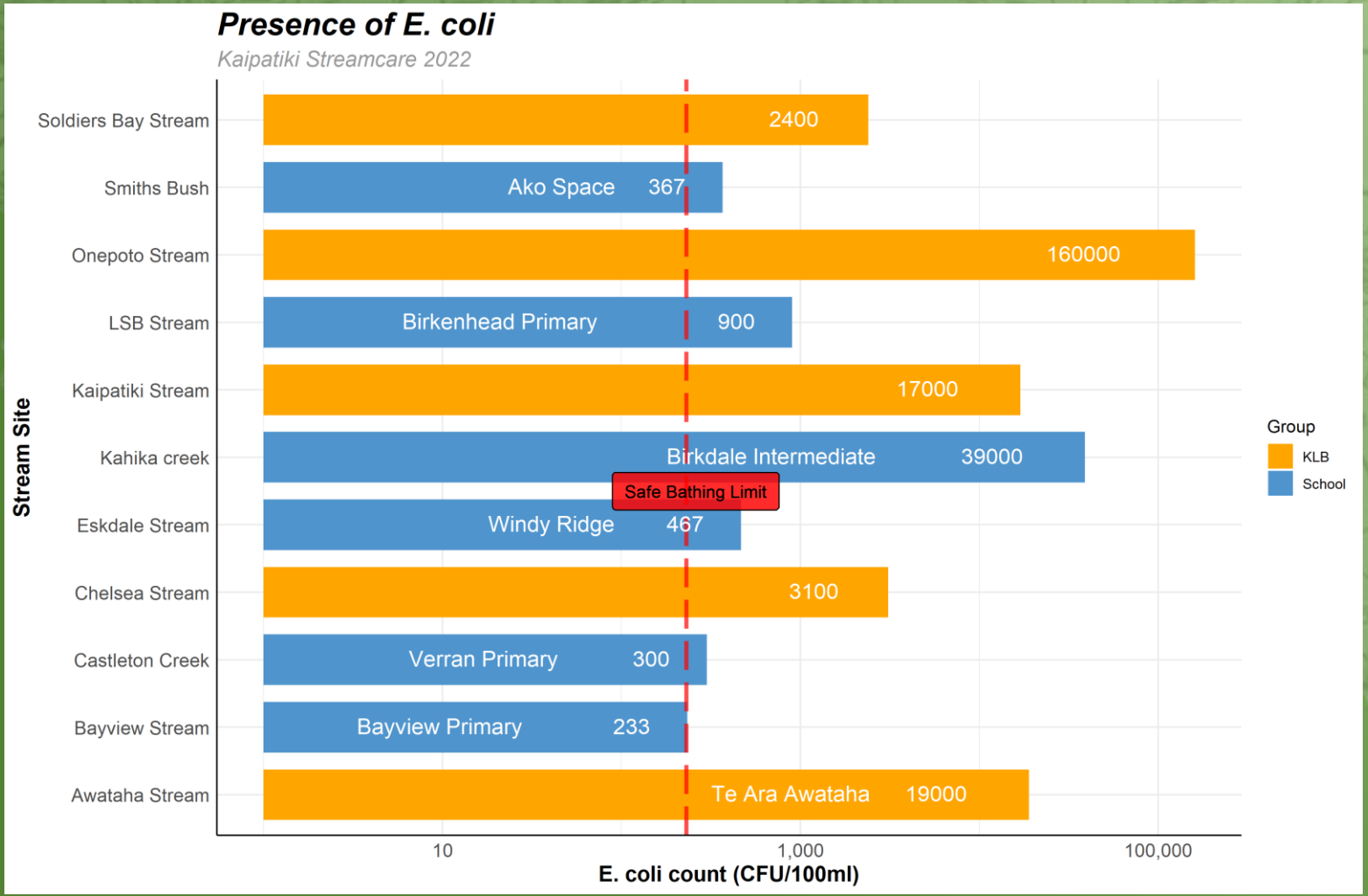
Water clarity in the Kaipatiki area can fluctuate greatly. Urban development, heavy rain events, substrate type, and limited vegetation are key influences on clarity. These clarity readings reflect winter conditions and are as expected.

How Cool Are Our Awa?



Vegetation cover, as well as human inputs, are key factors In a regulation of stream temperature. Rain events and time of sampling also effect stream temperature. These temperature readings are in-line with winter conditions.

How Clean Are Our Awa?



The presence of E. coli within urban streams is of serious concern to public health. Only one stream (Bayview) exhibited E. coli presence under the safe bathing limit(260 CFU/100ml. Extreme values (e.g., 160,000) were recorded during heavy storm events.

*This graph uses a logarithmic scale, please see X axis

Takiwa Website

- Fully interactive database
- All monitoring is accessible for your stream
- Photographs and community contacts are included

https://environmenthubs.takiwa.co/map