

# WOWMAP

Watch Our Water -  
Maharakeke And Porangahau

Justin King

# Maharakeke and Porangahau Catchment

- ▶ 15,800Ha
- ▶ 109 properties over 20Ha
- ▶ 700-1000mm rainfall annually
- ▶ Alluvial and ash soils with lots of areas of pan
- ▶ 125km of waterways
- ▶ Takapau Village, Population 680
- ▶ Freezing Works



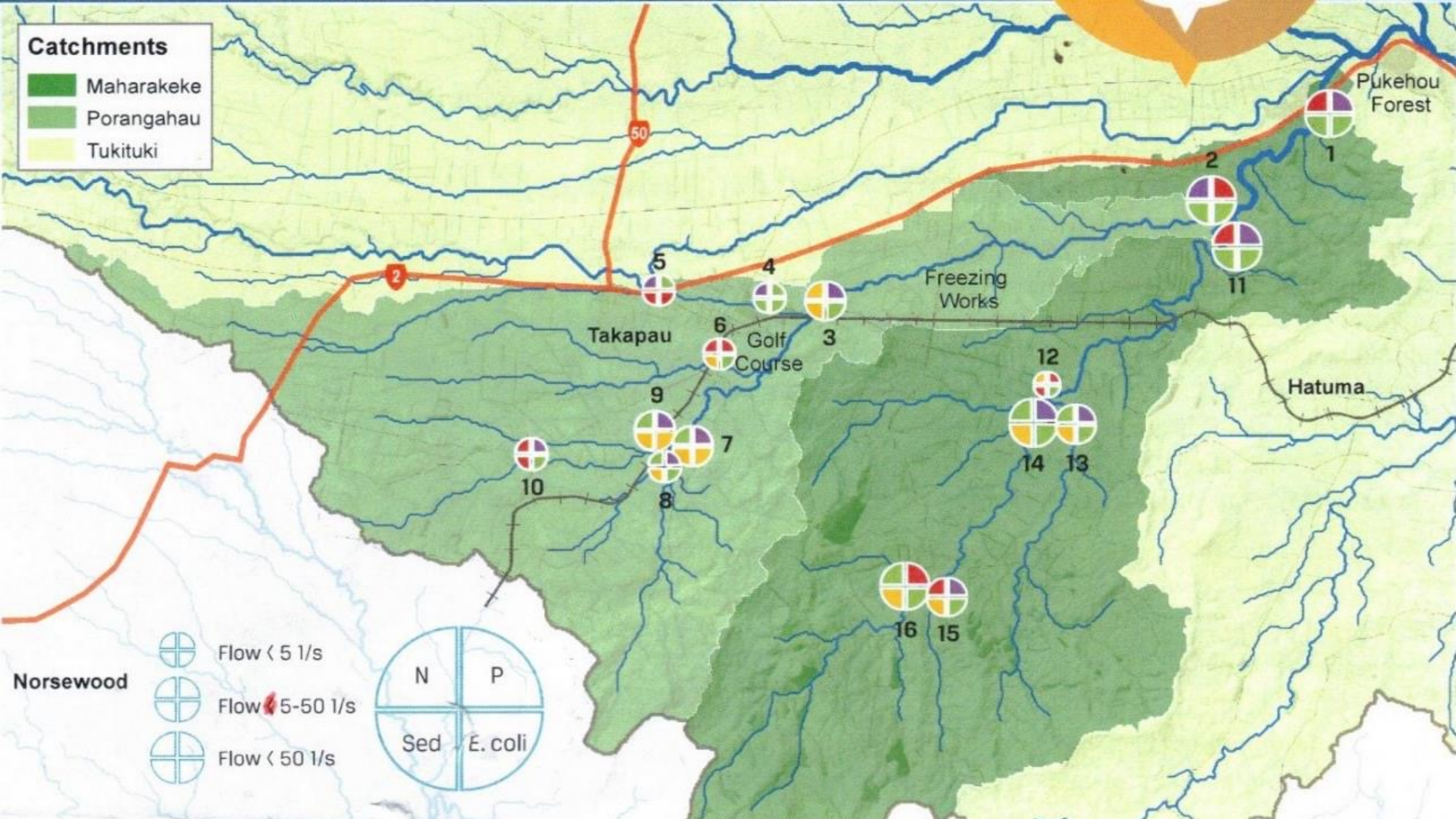






### Catchments

- Maharakeke
- Porangahau
- Tukituki



Pukehou Forest



2



11



Freezing Works

5



4



Takapau

6



Golf Course



3

9



7



10

8



12



Hatuma



14



13



16



15



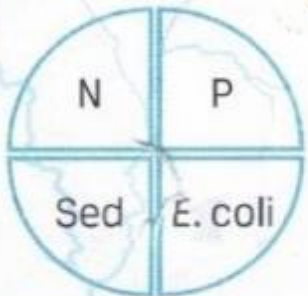
Flow < 5 l/s



Flow 5-50 l/s



Flow < 50 l/s



N

P

Sed

E. coli

Norsewood



Indicator	Measure	Unit	Statistic	Green	Amber	Red	Purple
Nitrogen	Dissolved Inorganic Nitrogen	mg/l	Mean	<0.64	0.64 - 0.8	0.8 - 1.6	>1.6
Phosphorus	Dissolved Reactive Phosphorus	mg/l	Mean	<0.12	0.12 - 0.15	1.5 - 3.0	>3.0
Sediment	Turbidity	NTU	Median	<0.9	0.9 - 4.1	4.1 - 8.2	>8.2
Faecal	<i>Escherichia coli</i>	cfu/100ml	Median	<130	130 - 260	260 - 540	>540

Handwritten notes: 0.16, -0.03, -0.052, 0.054

SITE	NITROGEN	PHOSPHORUS	SEDIMENT	FAECAL	FLOW	SAMPLE SIZE
1. Maharakeke Stream at SH 2	1.583	0.033	0.79	68	403	7
2. Porangahau Stream US Maharakeke Stream	3.29	0.02	0.8	120	121	7
3. Porangahau Stream at Oruawhara Rd	0.781	0.04	1.04	90	80	7
4. Te Matau Stream u/s Porangahau stream @ Takapau golf club	3.003	0.004	0.88	31	0	3
5. Te Matau Stream at Sydney St	3.411	0.012	5.05	365	1	4
6. Porangahau Stream Trib at Paulsens Stock Route	1.176	0.015	3.5	70	9	7
7. Porangahau Stream Trib at Paulson Rd	0.408	0.032	2	140	30	7
8. Otutatahi Stream US Porangahau Stream	0.103	0.037	2.9	33	7	7
9. Porangahau Stream US Otutatahi Stream	0.486	0.166	1.61	250	15	7
10. Porangahau Stream at Takapau Ormondville Rd	0.819	0.121	5	70	4	7
11. Maharakeke Stream US Porangahau Stream	1.397	0.051	0.8	70	252	7
12. Awanui Stream US Maharakeke Stream	0.718	0.231	5.95	61.5	3	6
13. Maharakeke Trib at Seeforth	0.286	0.105	1.81	38	29	7
14. Maharakeke Stream US Seeforth Trib	0.581	0.039	2.4	100	138	7
15. Maharakeke Trib at Marlow Hill Station	1.034	0.031	2.5	80	16	7
16. Maharakeke Stream at Hinerangi Rd	0.634	0.029	1.01	80	92	7

Sampling undertaken 2015/16.

## In 2018

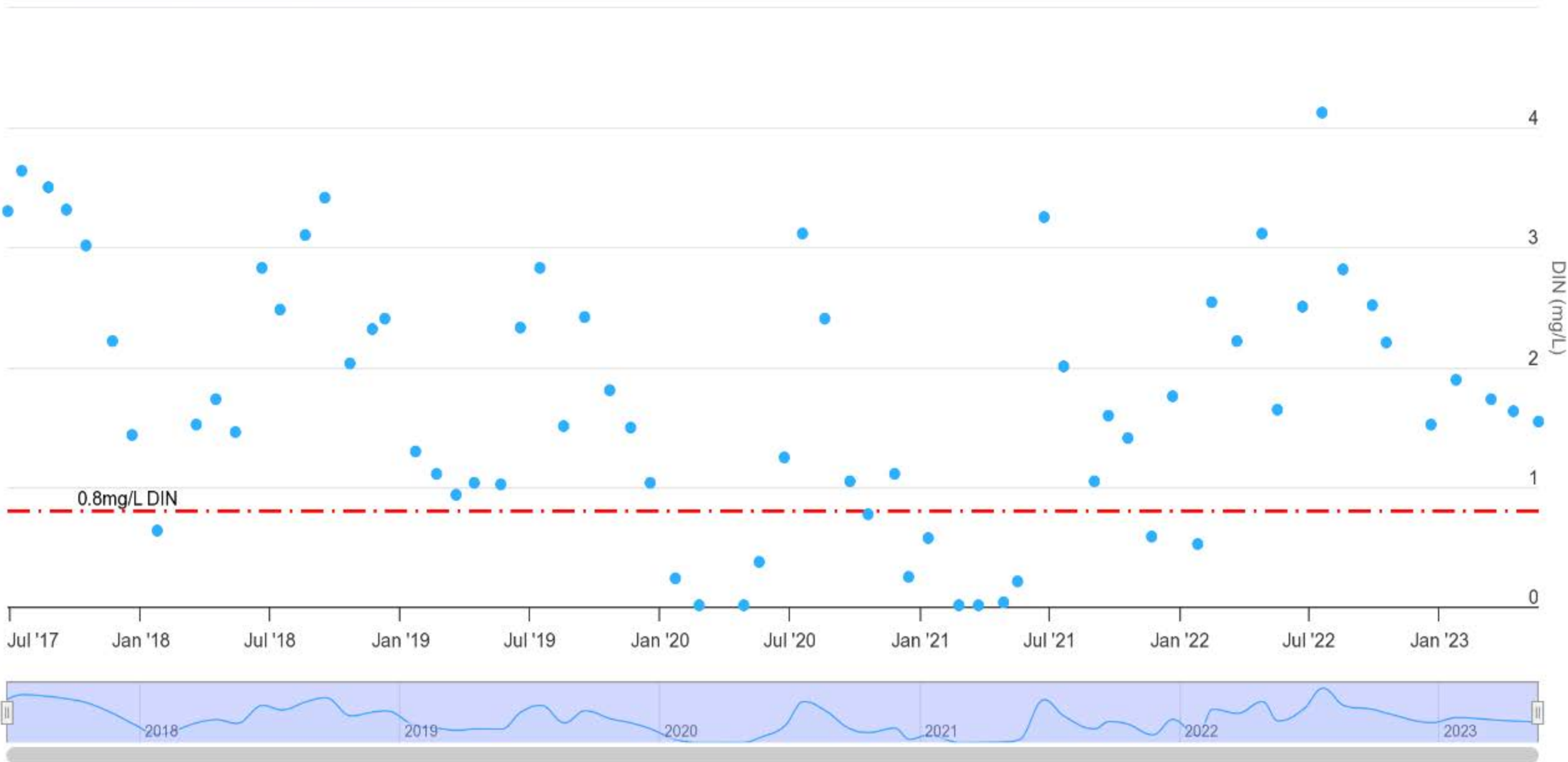
- ▶ 78% of Porangahau had stream edge disturbance
- ▶ 90% of Maharakeke had stream edge disturbance
- ▶ So, why were e coli tests at an acceptable level?





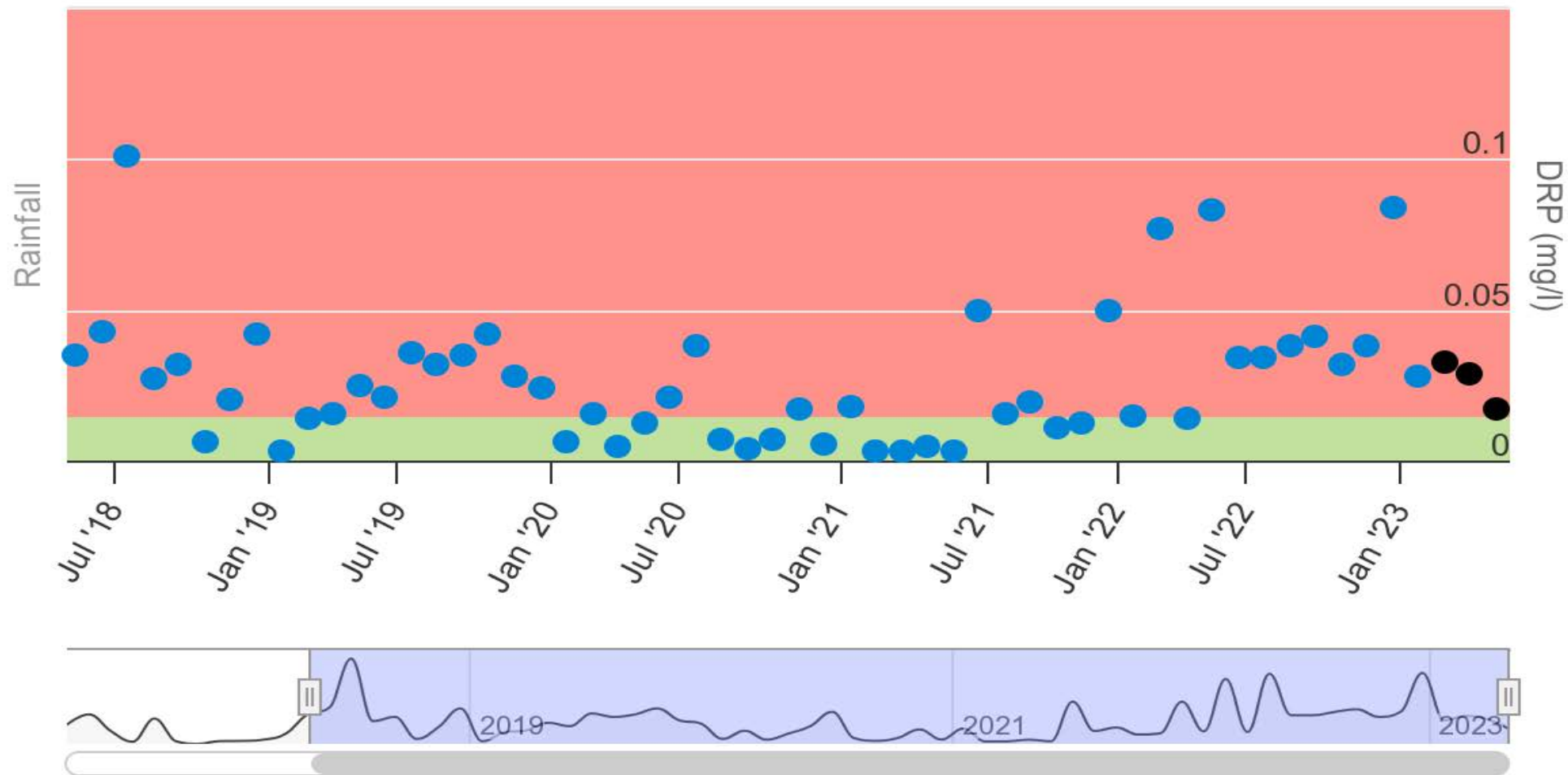
# Nitrogen (DIN) for T8 Maharakeke

Zoom **1 Year** 2 years 3 years **All**



# Phosphorous (DRP) for Porangahau Strm US Maharakeke Strm

Zoom **1 Year** **3 Years** **5 years**

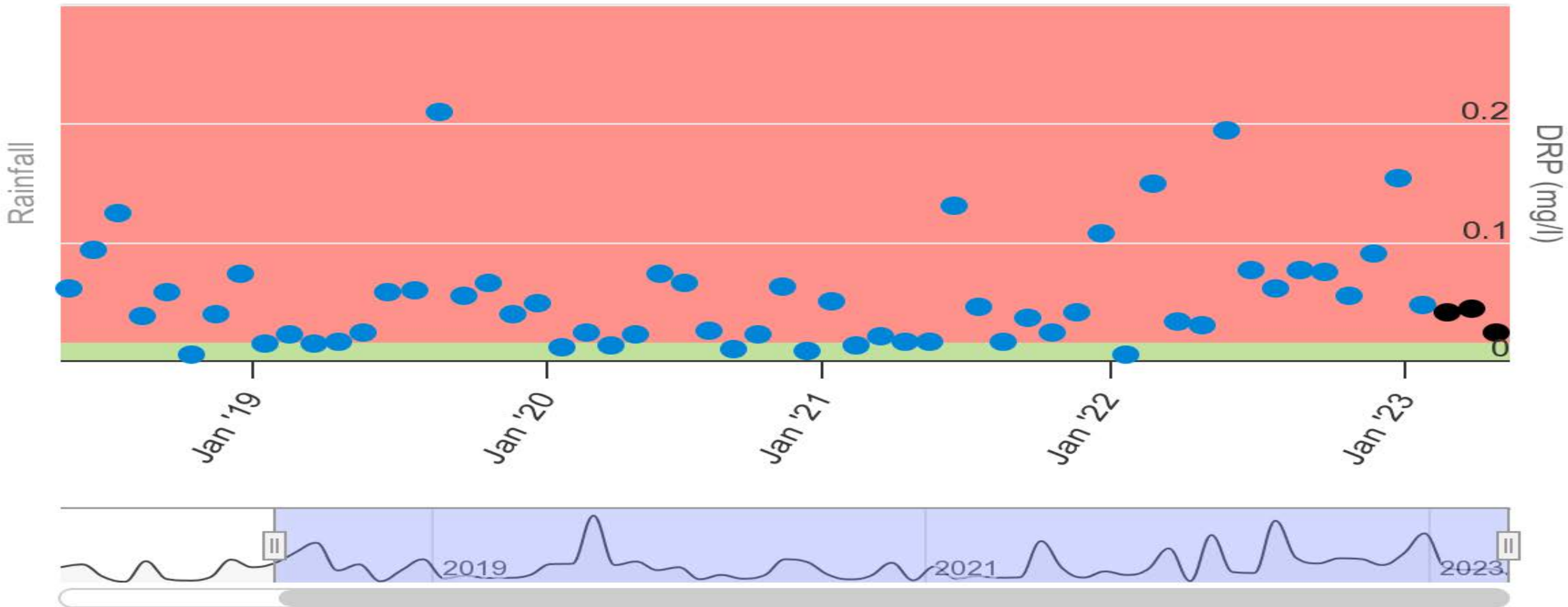


● Porangahau Strm US Maharakeke Strm ● Rainfall



# Phosphorous (DRP) for Maharakeke Stream at State Highway 2 Br

Zoom **1 Year** **3 Years** **5 years**




● Maharakeke Stream at State Highway 2 Br ● Rainfall

- ▶ WOWMAP's Survey to landowners in 2021 resulted in an estimated 70% of our required waterways had stock exclusion (they were fenced);
- ▶ Nitrogen tests were reducing
- ▶ Phosphate tests were reducing
- ▶ It wasn't raining - water table levels were extremely low;
- ▶ Then it rained, and rained, and rained.



# My FEMP from 2015

- ▶ N output of 22kgN/Ha/Yr
- ▶ P output of 1.3kgP/Ha/Yr
- ▶ Recommendations were:
  - ▶ 10km fencing off of waterways, plant poplar poles
- ▶ Post recommendations:
- ▶ N output of 19kgN/Ha/Yr
- ▶ P output of 1.1kgP/Ha/Yr

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- ▶ Fencing waterways is a tool to improving waterway health, but;
  - ▶ **What else is going on that effects the nutrients in water at the source?**