

Dry weather water management SITUATION REPORT



SitRep number: WSAE21-22:05 **SitRep effective as at:** 8 June 2022

Key points



- This is the fifth and final SitRep related to the summer of 2021/2022.
- La Niña conditions continue to be a key climate driver.
- Temperatures are very likely to be above average for the Bay of Plenty over winter but expect cold snaps at time. The first of these cold snaps is likely in mid-late June.
- Aotearoa New Zealand's coastal waters continue to be above average for this time of year.
- Soil moisture levels have recovered with the arrival of cooler and wetter weather and are now near normal.
- In general, groundwater levels across the Bay of Plenty show some recovery compared to last year but are yet to recover to levels seen five years ago.
- Rivers flows throughout most of the region have shown a recovery towards normal levels for this time of the year.

A continued watch is being taken on those rivers that formed part of the Rotorua Focus Zone (RFZ). These rivers still had low base flows leading into late May and it is yet to be seen if winter rainfall will see a sustained lift in these base flows.

- The Rotorua Focus Zone (RFZ) remains at Level 1 of the Water Shortage SOP, while the rest of the Bay of Plenty remains at Level 0.

Weather forecast



[NIWA forecasts](#) June 2022 to August 2022 suggests:

- Winter temperatures are likely to be warmer than average across Aotearoa New Zealand. This is due to an expected lack of southerly quarter winds, warmer than average sea surface temperatures, and a continuation of La Niña for at least part of the season. Cold snaps and frosts will occur, such as during mid-June, but their duration and/or frequency may be less than normal.
- The atmospheric imprint of La Niña continues to be strong; the Southern Oscillation Index (SOI) during May was the 2nd-highest May value on record since at least 1876.
- Around the country, sea surface temperatures (SSTs) ranged from 0.5°C to 2.0°C above average during May.
- Winter rainfall is most likely to be above normal in the north of the North Island. More frequent low-pressure systems in the Tasman Sea may direct plumes of sub-tropical moisture and humid air toward the country at times, causing heavy rainfall and potential flooding.
- Soil moisture levels and river flows are likely to be above normal in the Bay of Plenty.

Forecast information from local and global guidance models is used to indicate the deviation from equal chance expected for the coming three-month period, with the following outcomes the most likely (but not certain) for this region:

- Temperatures are very likely to be above average (60% chance). A predicted lack of southerly winds and warmer than average coastal seas will likely reduce the frequency and intensity of cold spells, although a colder than average period is likely in mid-June.
- Rainfall totals are most likely to be above normal (50% chance). Plumes of sub-tropical moisture will cause heavy rainfall and increase the chance for flooding at times.
- Soil moisture levels and river flows are most likely to be above normal (50-55% chance).

Rainfall



May 2022 brought average rainfall across the region and we are now seeing year to date rainfall totals also being near average.



Bay of Plenty Regional Council
Thriving together. Mō te taiao, mō ngā tāngata

Rainfall Summary

Rainfall.Rainfall Summary Report

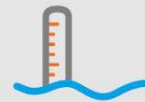
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Period Selected: 2022-06-06 00:00 to End of Record

Location Name	Most Recent Sample	Intensity (mm/hr)	Today (mm)	Yesterday (mm)	Last 5 days (mm)	This Month (mm)	Last Month (mm)	Last Month % of Normal	Year To Date - Complete Months (mm)	Year To Date % of Normal
Tuapiro at Farm Bridge	08/06/2022 11:00:00	0.0	0.0	18.0	65.5	84.5	205.8	114 %	683.4	83 %
Te Puna at Odey Rd	08/06/2022 11:00:00	0.0	0.0	37.5	83.5	126.0	218.5		775.0	
Wairoa at Lower Kaimai	07/06/2022 09:03:00		0.0	7.0	51.0	88.5	211.0	137 %	690.0	94 %
Ngongotaha at Relph Rd	08/06/2022 11:00:00	0.0	1.0	33.0	63.0	118.5	248.0	133 %	687.4	107 %
Rotorua at Upper Oturoa Rd	08/06/2022 09:00:00		0.5	37.5	55.0	120.0	280.5	132 %	668.6	78 %
Waimapu at Glue Pot Rd	08/06/2022 11:00:00	0.0	4.0	44.5	77.5	110.5	217.5	124 %	726.6	90 %
Waimapu at McCarrolls	08/06/2022 11:00:00	0.0	1.0	30.0	64.5	89.5	151.0	113 %	500.0	72 %
Rotorua at Whakarewarewa	08/06/2022 11:00:00	0.0	3.5	38.5	61.0	104.5	165.0	138 %	487.8	93 %
Paraiti (Mangorewa) at Kaharo	07/06/2022 11:25:00		0.0	5.5	47.0	87.0	199.0	108 %	681.9	89 %
Okaro at Okaro Rd	08/06/2022 11:00:00	0.0	6.5	43.5	57.0	105.0	147.5	109 %	479.0	91 %
Lake Rotoiti at Okawa Bay	08/06/2022 10:50:00	0.0	1.5	47.0	73.5	109.0	187.0	122 %	571.6	87 %
Paraiti (Mangorewa) at Upper	08/06/2022 02:18:00		1.5	0.0	46.5	86.5	187.0	106 %	841.3	105 %
Paraiti (Mangorewa) at Link	08/06/2022 11:00:00	0.0	16.0	69.5	166.0	200.0	174.5	101 %	819.7	112 %
Raparapahoe at Collins Lane	08/06/2022 10:50:00	0.0	11.5	55.0	129.0	149.5	130.0	113 %	605.5	84 %
Kaituna at Marshalls Farm	08/06/2022 11:00:00	0.0	6.0	29.0	97.0	133.0	111.5	109 %	469.4	78 %
Kaituna at Te Matai	08/06/2022 11:00:00	0.0	10.5	44.5	110.0	135.0	130.0	107 %	573.1	103 %
Rangitaiki at Kokomoka (Bore 1	08/06/2022 11:06:00	0.0	9.0	16.5	27.0	100.5	142.0	95 %	587.2	103 %
Pongakawa at Pongakawa Bush	08/06/2022 11:00:00	0.0	11.0	54.0	124.0	178.5	161.1	102 %	708.5	107 %
Outlet at Waitangi Soda Spring	08/06/2022 11:00:00	14.5	55.5	62.5	140.5	186.0	217.5		790.4	
Te Whaiti at Minginui	08/06/2022 11:00:00	0.0	18.0	29.5	49.0	92.5	159.5		524.7	
Kawerau at Plunket St	08/06/2022 10:00:00	5.5	21.0	82.0	118.5	171.5	194.0		707.4	
Tarawera at Hogg Rd	07/06/2022 04:00:00		0.0	29.5	43.5	87.0	156.5		721.6	
Ohinekoao at Harris Saddle	08/06/2022 11:00:00	0.0	5.0	54.0	81.5	129.5	153.5	82 %	717.0	87 %
Galatea Basin at Horomanga R	06/06/2022 19:00:00		0.0	0.0	2.5	38.5	96.0	78 %	490.5	95 %
Waihua at Clearing	08/06/2022 11:00:00	0.0	26.0	46.0	74.0	134.0	169.0	106 %	681.0	94 %
Rangitaiki at Te Teko	08/06/2022 11:00:00	0.0	5.5	89.0	101.5	141.5	131.0	111 %	623.4	118 %
Edgecumbe at Edgecumbe	08/06/2022 03:00:00		3.5	61.5	71.5	122.0	128.0	91 %	639.0	108 %
Tarawera at Awakaponga	08/06/2022 11:00:00	0.0	5.0	69.5	84.5	129.5	108.5	79 %	609.9	105 %
Rangitaiki Plains at Flax Rd	07/06/2022 12:00:00		0.0	35.5	46.0	92.0	110.5	77 %	633.0	100 %
Tarawera at ORC Pump Station	08/06/2022 11:00:00	0.0	0.5	31.5	38.0	78.5	84.0	72 %	469.5	107 %

Location Name	Most Recent Sample	Intensity (mm/hr)	Today (mm)	Yesterday (mm)	Last 5 days (mm)	This Month (mm)	Last Month (mm)	Last Month % of Normal	Year To Date - Complete Months (mm)	Year To Date % of Normal
Whakatane at Kopeopeo	08/06/2022 11:00:00	0.0	1.5	31.0	37.0	100.0	107.0	71 %	534.8	101 %
Rangitaiki at Thornton	08/06/2022 11:00:00	0.0	0.5	58.5	63.5	130.5	99.5	90 %	522.9	107 %
Whakatane at Huiarau Summit	08/06/2022 11:05:00	0.0	25.5	33.0	64.0	130.0	229.5	98 %	1181.0	129 %
Whakatane at Huitieke rain	08/06/2022 11:00:00	0.0	22.0	39.5	63.0	121.5	153.5	124 %	675.0	126 %
Whakatane at Awahou Rd	08/06/2022 07:00:00		10.5	70.5	86.5	150.0	191.5		670.7	
Wainui-te-whara at Munro's	08/06/2022 11:00:00	0.0	3.5	47.5	61.0	143.0	149.0	101 %	633.6	103 %
Tauranga at Omahuru (Ogilvies	08/06/2022 11:00:00	0.0	20.5	46.0	67.5	177.0	170.0		789.2	
Nukuhou at Nukuhou North	08/06/2022 11:00:00	0.0	7.5	44.0	54.5	150.5	217.5		709.7	
Ohope Spit at Ohope Golf Course	08/06/2022 11:00:00	0.0	2.5	20.5	28.0	74.0	97.0		500.0	
Waioeka at Koranga	08/06/2022 11:00:00	0.0	13.0	33.0	47.0	109.5	156.5	87 %	821.9	110 %
Waioeka at Cableway	08/06/2022 11:05:00	0.0	27.5	67.5	96.5	244.5	238.5	102 %	853.0	95 %
Waioeka at Mouth of Gorge	08/06/2022 11:05:00	0.0	8.0	32.0	41.5	141.1	183.9	118 %	809.4	123 %
Otara at Opotiki Wharf	08/06/2022 11:00:00	0.0	12.5	29.0	43.0	99.0	120.0	87 %	596.1	117 %
Otara at Tutaeotoko	08/06/2022 11:00:00	0.0	39.5	44.5	85.0	192.0	195.5	88 %	848.8	94 %
Otara at Browns Bridge	08/06/2022 11:00:00	0.0	14.5	22.0	37.0	110.3	123.7	90 %	555.1	103 %
Pakihī at Pakihī Station	08/06/2022 09:00:00		29.0	20.0	49.0	209.5	165.0	82 %	787.7	95 %
Pakihī at Rakanui	08/06/2022 11:00:00	0.0	28.0	14.5	43.0	153.0	180.0	95 %	829.2	114 %
Haparapara at Haparapara	08/06/2022 11:00:00	0.0	35.5	49.5	87.5	241.5	331.0	74 %	1388.0	88 %

River flows



Rivers flows throughout most of the region have shown a recovery towards normal levels for this time of the year.

A continued watch is being taken on those rivers that formed part of the Rotorua Focus Zone (RFZ) which have their headwaters in the Mamaku area behind Rotorua. These rivers still had low base flows leading into late May and it is yet to be seen if winter rainfall will see a lift in these base flows.

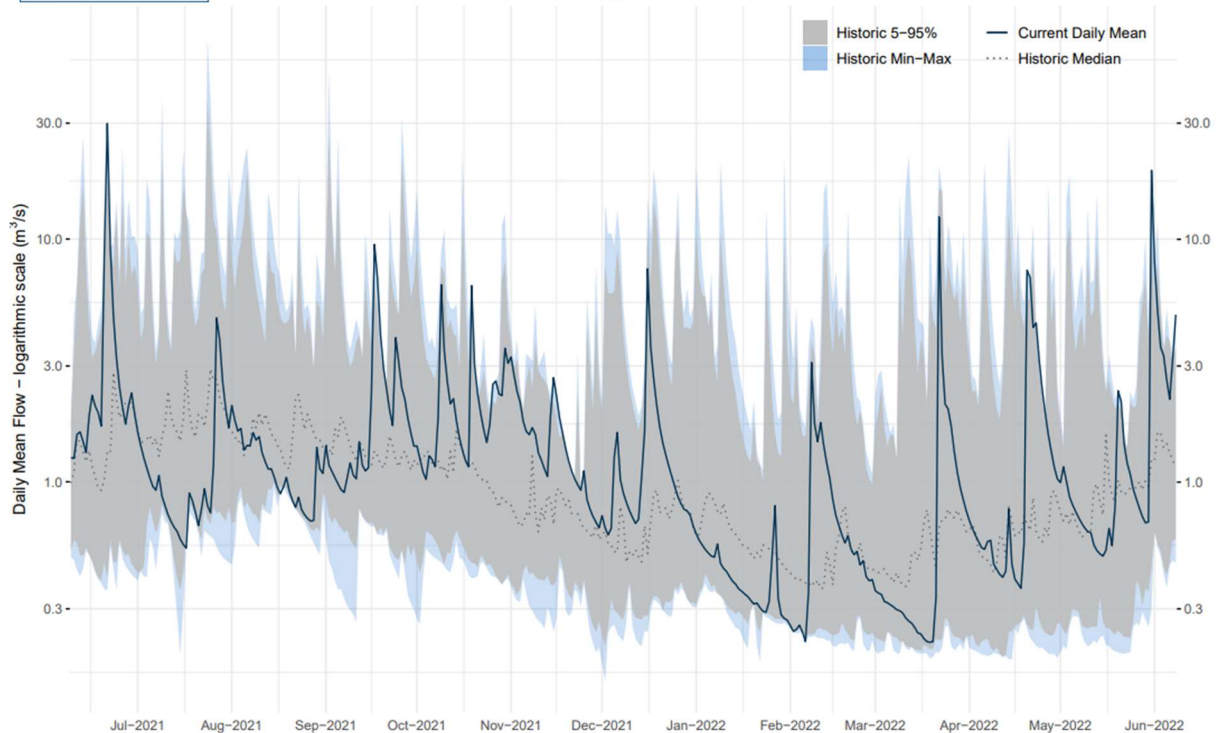
Note: The following graphs are based upon preliminary data and will undergo refinement as further information is collected.

Representative western Bay of Plenty rivers



Tuapiro at Farm Bridge – Current vs Historic Daily Mean Flow

Flow Record Begins – 02 Dec 2010

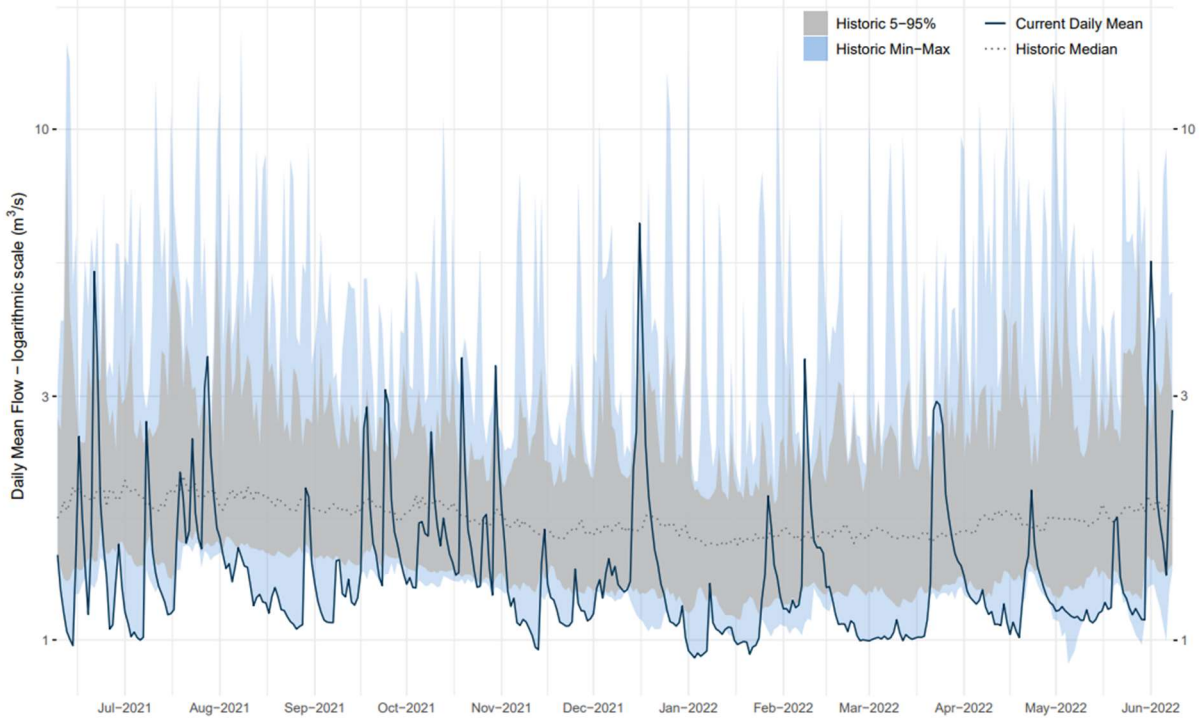


* Solid line shows the daily mean flow at this site over the last 12 months (logarithmic scale). Historic values show the range of flow for the same time period over the entire record. Users should be aware that the most recent discharge data may contain raw data directly from the Councils telemetry system which has yet to go through quality assurance processes.



Kopurererua at SH29 – Current vs Historic Daily Mean Flow

Flow Record Begins – 29 Jun 1990



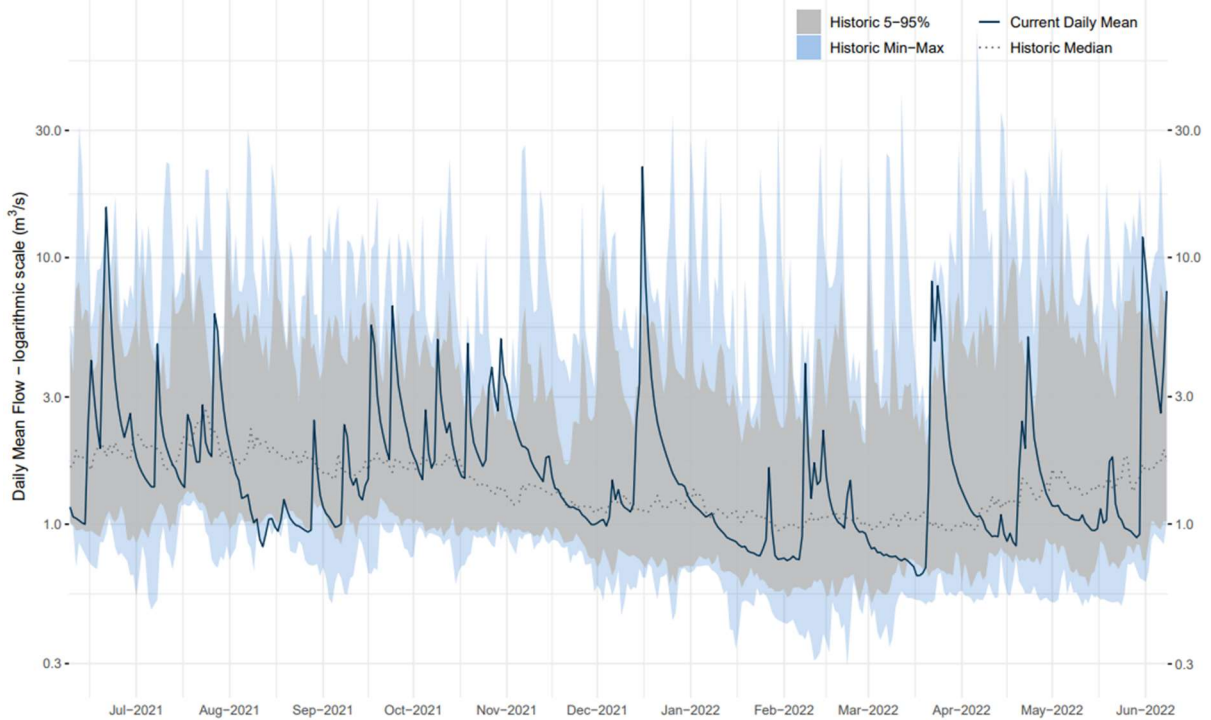
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Representative central Bay of Plenty rivers



Raparapahoe at Above Drop Structure – Current vs Historic Daily Mean Flow

Flow Record Begins – 14 Oct 1991

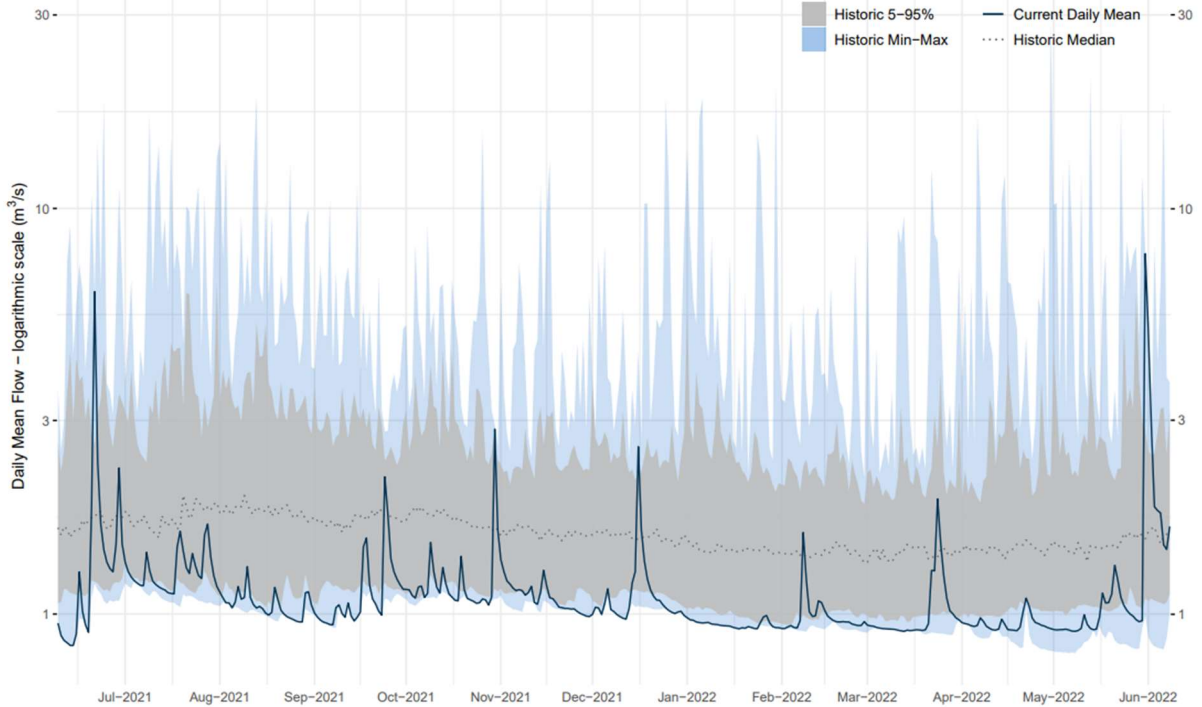


* Solid line shows the daily mean flow at this site over the last 12 months (logarithmic scale). Historic values show the range of flow for the same time period over the entire record. Users should be aware that the most recent discharge data may contain raw data directly from the Councils telemetry system which has yet to go through quality assurance processes.



Ngongotaha at SH5 – Current vs Historic Daily Mean Flow

Flow Record Begins – 03 Jun 1975

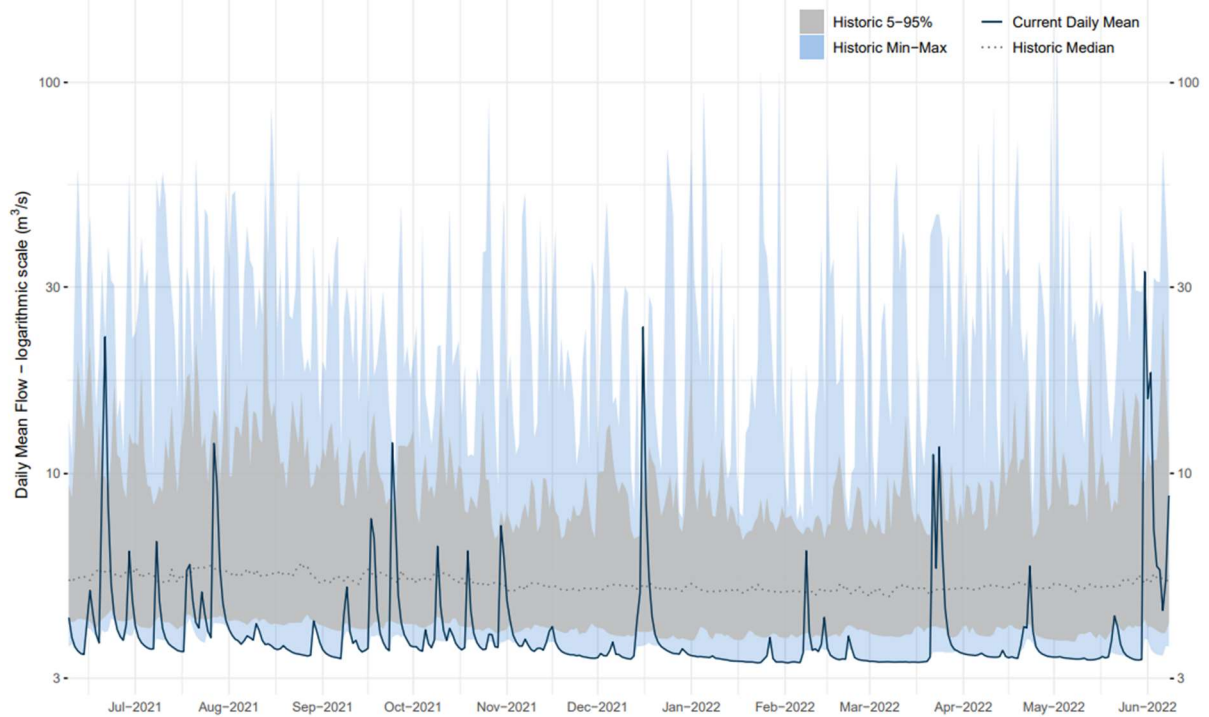


* Solid line shows the daily mean flow at this site over the last 12 months (logarithmic scale). Historic values show the range of flow for the same time period over the entire record. Users should be aware that the most recent discharge data may contain raw data directly from the Councils telemetry system which has yet to go through quality assurance processes.



Paraiti (Mangorewa) at Saunders – Current vs Historic Daily Mean Flow

Flow Record Begins – 05 Aug 1967



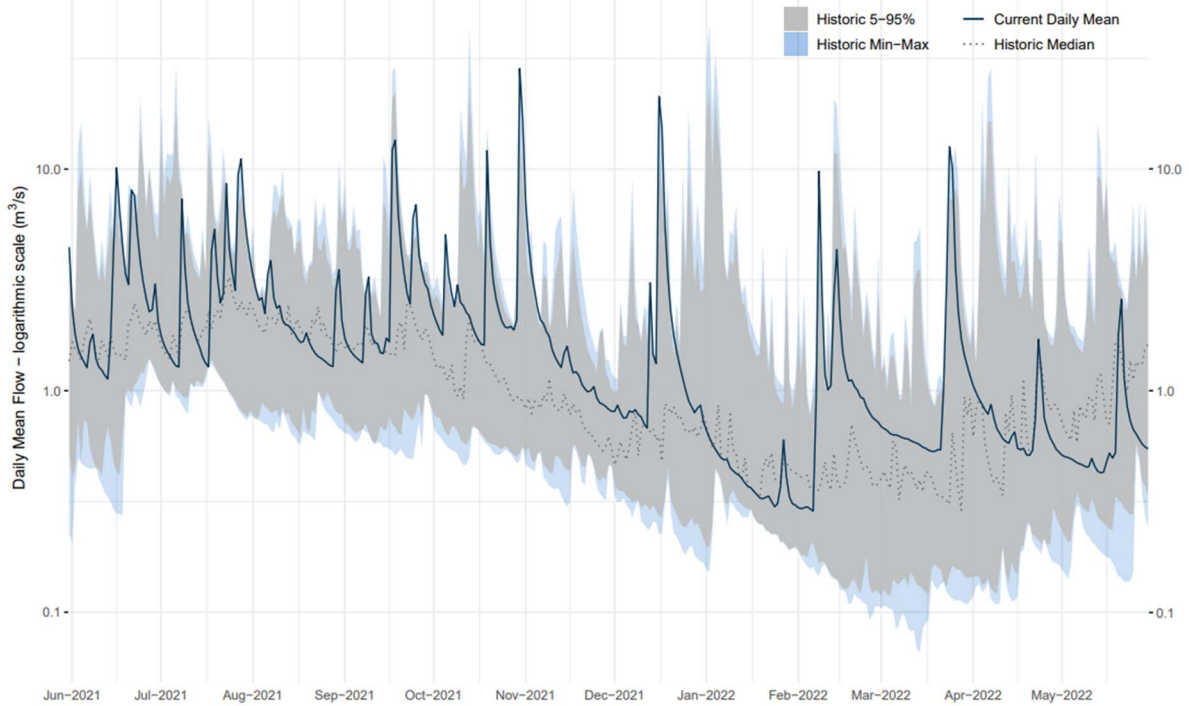
* Solid line shows the daily mean flow at this site over the last 12 months (logarithmic scale). Historic values show the range of flow for the same time period over the entire record. Users should be aware that the most recent discharge data may contain raw data directly from the Councils telemetry system which has yet to go through quality assurance processes.

Representative eastern Bay of Plenty rivers



Nukuhou at Glenholme Rd – Current vs Historic Daily Mean Flow

Flow Record Begins – 07 Oct 2011

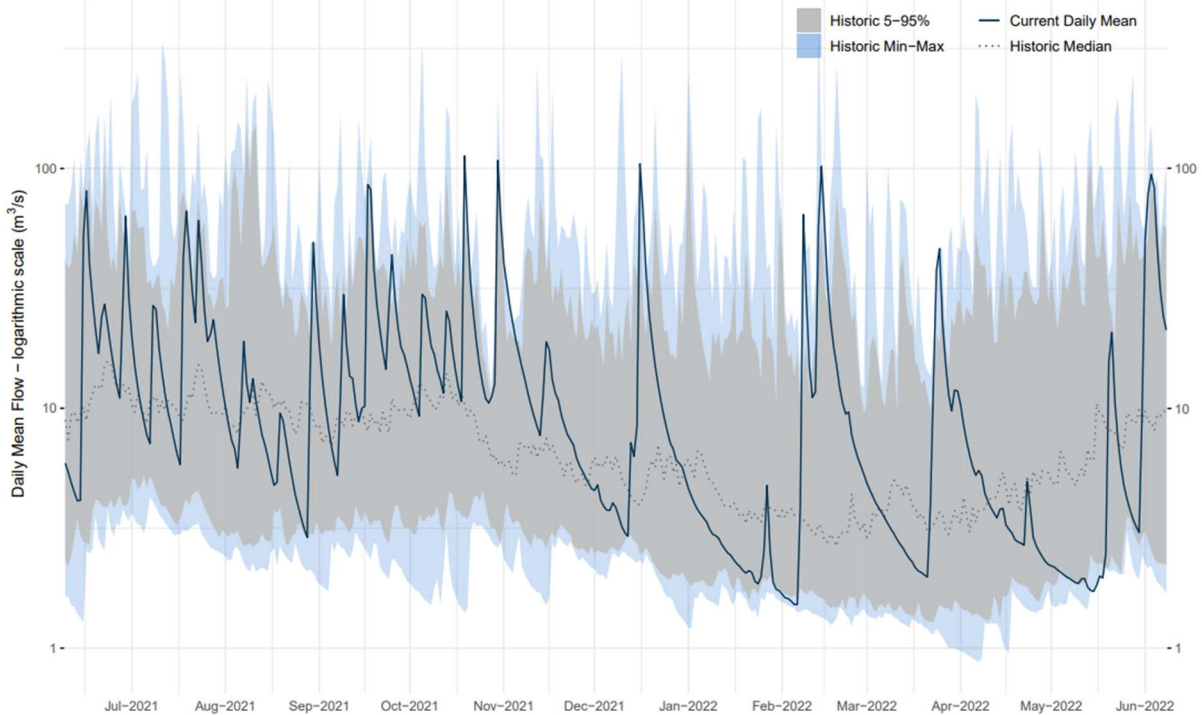


* Solid line shows the daily mean flow at this site over the last 12 months (logarithmic scale). Historic values show the range of flow for the same time period over the entire record. Users should be aware that the most recent discharge data may contain raw data directly from the Councils telemetry system which has yet to go through quality assurance processes.



Otara at Browns Bridge – Current vs Historic Daily Mean Flow

Flow Record Begins – 08 Jan 1990



* Solid line shows the daily mean flow at this site over the last 12 months (logarithmic scale). Historic values show the range of flow for the same time period over the entire record. Users should be aware that the most recent discharge data may contain raw data directly from the Councils telemetry system which has yet to go through quality assurance processes.

Groundwater



In general, groundwater levels across the Bay of Plenty show some recovery compared to last year. However, they are yet to recover to levels seen five years ago, with many aquifers showing short term declining trends.

Summer rainfall has resulted in some recharge occurring which is reflected in water levels not being quite as low as last year. The summer rainfall may have also reduced abstraction demand.

Higher use aquifers (Kaituna-Pongakawa area) have shown improvement on low summer minimums reached in 2021 and 2022.

Rotorua groundwater levels remain down compared to levels experienced in 2018/2019 but show some winter recovery.

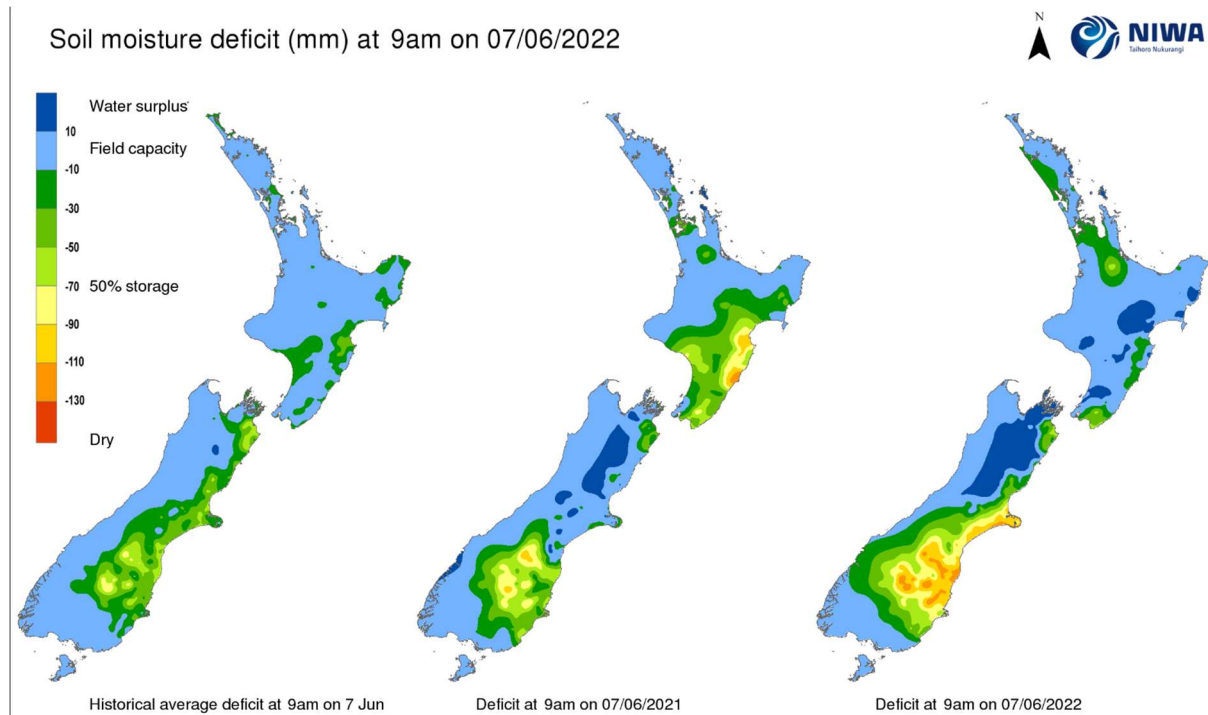
Upland areas, upper Rangitāiki and Tarawera Lakes remain stable with summer minimums showing elevated levels compared to the previous two summers. Galatea area in the Rangitāiki catchment shows a short-term trend of declining water levels, and lower Rangitāiki monitoring indicates normal levels.

The Otara-Waioeka gravel aquifers remain stable.

Soil moisture



Soil moisture levels have improved as we approach the cooler months and are near average for this time of the year.



Water Shortage Event Status



There has been no change to the Alert Level status across the Bay of Plenty. The Rotorua Focus Zone (RFZ) waterways are still showing reduced flows however they have not dropped to a level where a raise in Alert Levels is required. There are no immediate concerns for waterways over the rest of the Bay of Plenty.

Therefore, the Alert Level for the RFZ remains at 'Level 1 – Reducing Water Availability'. The rest of the Bay of Plenty will remain at 'Level 0'.



Water Shortage Standard Operating Procedure (July 2021)

The following Levels can be in place for the whole of the Bay of Plenty, or only apply to certain Focus Zones. Focus Zones can refer to specific waterbodies, whole catchments, multiple catchments, or districts. The Focus Zones will always be identified via a Focus Zone map.



No Water Shortage Concerns – Streams, groundwater and rainfall within expected range. No issues of concern

- Normal BAU review of data from Council's monitoring network



Reducing Water Availability – Lower than expected levels of any of the following occurring: Rainfall, stream flows, groundwater and/or soil moisture

- Appoint Water Shortage Manager
- Increased review of stream, soil and groundwater state
- Analysis of short and long-range weather forecasts
- Review and refresh (if needed) Stakeholders Communications Plan
- Update webpage
- Commence issuing of regular Situation Reports (usually 1-2 monthly)



Impending Water Shortage – Any or all of the following occurring: Continued reduction in stream flows and/or groundwater levels, lack of rainfall i.e. growing risk to waterway health

- Closer assessment of forecasts, rainfall, stream, soil and groundwater state
- Convene subject matter expert meeting to evaluate all available data
- Increase frequency of Situation Reports (at least monthly) – place on website
- Define catchments/waterbodies of interest (known as Focus Zones)
- Generate list of potentially affected consent holders (ensure contact details are accurate)
- Communicate as per Stakeholders Communications Plan – keep webpage updated
- Specifically, inform consent holders, iwi/ hapū, Councillors, stakeholders, local authorities within Focus Zones of elevated risk of water shortage event



Water Shortage Event – Low flow and/or drought conditions affecting waterways i.e. risk to waterway health

- Focus Zone Situation Reports increased to every two weeks (unless no change)
- Convene Water Shortage Decision Group (WSDG) made up of at least four of the following: GM Regulatory Services, GM Integrated Catchments, Environmental Data Services Manager, Science Manager and a Regulatory Compliance Manager (or a senior/experienced delegate)
- The WSDG shall review recommendations from Water Shortage Manager, including any possible Water Shortage Direction before recommending to CE for approval
- CE approves issuing a Water Shortage Direction as allowed for by s.329 RMA
- Inform affected consent holders, iwi/hapū, Councillors and stakeholders at least 5 working days prior to issuing a Water Shortage Direction (NB: this may not always be possible)
- Increase compliance monitoring of consented and unconsented (where possible) water takes and discharges (if relevant)
- Water Shortage Manager to review Water Shortage Direction every 14 days. Decision to cancel or re-issue to be reviewed by WSDG, prior to CE approval (if decision is to re-issue)