

Wildfire Reserve Closure Plan



*Note: All trigger points are based on the Fire and Emergency NZ (FENZ)
“Establish triggers for voluntary restrictions on high fire risk activities” (2022) publication.*

Version 3, December 2025

Purpose

The purpose of this document is to create a standardised methodology that will be used to monitor wildfire risk in high exposure reserves and to implement reserve closures where necessary during periods of elevated wildfire danger. Closures mitigate the risk of fires starting by removing people and their associated activities that can start fires and prevent loss of life by removing people from harm's way if a fire were to occur.

Assessing trigger points to establish the Forest Fire Risk Management Code Level as tabled below should be used as a guideline.

The delegated responsibility to close a public reserve is with Queenstown Lakes District Council (QLDC).

Point of contact: parksrequest@qldc.govt.nz

The intended audience of this document is QLDC and long term users of the reserves, permit holders, lessees and the general public.

This document and further wildfire information can be sourced on QLDC's web page www.qldc.govt.nz/managing-wildfire-risk



Fire risk assessment

To assess the levels of wildfire risk to reserves, Queenstown Lakes District Council has adopted assessment protocols based on FENZ assessment publications for determining “Trigger Points”.

Reserve closures may be necessary during periods of elevated wildfire danger.

Closing a reserve will be enforced through QLDC legal powers under the Reserves Act 1977. QLDC will monitor and assess the changing levels of risk in consultation with FENZ.

The CEO or their designated authority (refer **QLDC Register of Delegations**) has accountability to activate a reserve closure. Refer to the responsibility matrix on page 4 for more detail.

Reserves identified as ‘high risk’

Reserves across the district have been prioritised for risk mitigation and listed below:

Site Name	Location	Risk Level
Te-Taumata-o-Hakitekura Ben Lomond	Queenstown	Extreme
Te Tapunui Queenstown Hill	Queenstown	Extreme
Mount Iron	Wānaka	Extreme

Maps showing reserve closure area to be found on www.qldc.govt.nz/community/managing-the-risk-of-wildfire



Closure approval and responsibility matrix

Forest Fire Risk Code Level	Experts / Advisors	QLDC Parks Team	QLDC Delegated Authority	QLDC Elected Members	FENZ	Impacted Stakeholders	Reserve Users
Monitor / Assessment of Code Levels							
Orange	C	R	A	I	S	I	I
Red	C	R	A	I	S	I	I

R – Responsible A – Accountable C – Consulted I – Informed S – Support

How we'll communicate a reserve closure

The fastest way for the public to find out about a reserve closure is to sign up for our e-txt service. QLDC will send a txt message to inform when a reserve needs to close or has been reopened.

Sign up here and select either Queenstown or Wānaka as the location for reserve closures:



www.qldc.govt.nz/community/managing-the-risk-of-wildfire

We'll also:

- > Communicate directly with relevant leaseholders and groups such as business chambers and regional tourism organisations
- > Display onsite signage
- > Share the message with local news outlets via a media release
- > Update our webpage and publish an alert on the Council homepage
- > Share on social media channels

Please be aware that QLDC won't be staffing entrance points to reserves during the closure periods; entering a reserve while it's closed is dangerous and will be at people's own risk.

Forest Fire Risk Management Code Level

The identified trigger points for the Forest Fire Risk Management Code Level, are based on the FENZ fire weather indices and codes. The Build Up Index (BUI) is a measure of how much fuel is dried out and available to burn, and the Fire Weather Index (FWI) is a measure of fire intensity that indicates how damaging a fire may be and how hard it will be to control. Using the data below, a decision will be made by QLDC to determine a reserve closure. Closures could be for the entire reserve for a period of days, or for certain parts of reserves, or at peak times of fire risk during the day (often in the afternoons). See page 7 for case study data and page 8 for trigger point level fire behaviour.

The table below identifies the BUI trigger point for closing a Reserve:

BUI range	Reserve Status
<80: Normal conditions	Reserve open
80-120: Elevated danger	Reserve may close
>120: Extreme danger	Reserve closed

If the FWI codes are elevated within BUI range QLDC may choose to close certain parts of a Reserve.

Please Note: QLDC uses the NIWA/FENZ Fire Weather indices to forecast Reserve Closures. QLDC cannot react to sudden daily spikes in indices and will base its closures on the forecast data available at the time of assessment.

When the BUI is between 80 and 120 (amber), reserve closure decisions will be based on a review of quantitative and qualitative risk assessments.

How the decision is made

The assessment focuses on three key components:

Likelihood: How likely is it that a fire could start under current conditions.

Consequence: If a fire does start, how severe could the impacts be for people, the reserve, the environment.

Vulnerability: How exposed or sensitive the reserve is at that time, for example, whether there are dry fuels, high visitor numbers, or limited resources for fire response.

Factors considered in the assessment

A range of environmental and situational factors are reviewed, including:

Climatic and seasonal conditions: Whether the area is in a dry spell, seasonal heat, or transitional weather patterns that increase fire potential.

Forecast weather: Predictions of temperature, humidity, wind speed, and wind direction, all of which significantly influence fire behaviour.

Fire-weather indices: Metrics such as the Fine Fuel Moisture Code and Fire Weather Index.

Initial Spread Index (ISI): A measure of how quickly a fire would spread if it started. A high ISI signals fast-moving fire potential.

Recent local fire history: Whether there have been fires recently.

Anticipated recreational reserve use and visitor numbers: High levels of reserve use elevate the risk of ignition and increase the complexity of a response.

Other major events or incidents: Large events, emergency situations elsewhere, or resource constraints may reduce the ability to respond quickly to a fire.

What this means

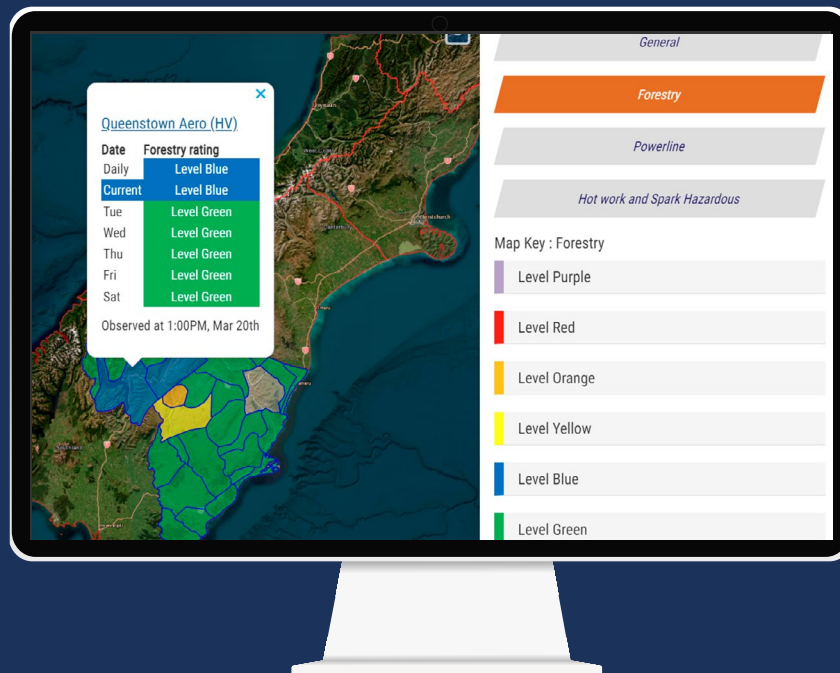
In the amber BUI range, QLDC look not only at fuel dryness, but at weather, people, fire history, and potential impacts. If the combination of factors suggests an elevated or unmanageable fire risk, the reserve may be closed proactively to protect public safety and environmental values.

NIWA/FENZ Fire Weather Website to establish indices (BUI and FWI)

Disclaimer: This link is to the FENZ / NIWA fire weather website. The link was accurate on the date of publication of this document, over time the web page format and information may change and you may have to search for the correct information.

1. Go to the NIWA/FENZ fire weather site fireweather.niwa.co.nz/region/Otago to determine the 'Forestry' code level or forecasted and daily BUI figure.
2. Click on the 'Forestry' tab, located on the right-hand side.
3. Scroll down under the map to view the Fire indices for Otago.

4. The table below the map indicates where to find BUI. Note for Queenstown Reserves use the "Aero (HV) site" and for Mount Iron in Wānaka use the "Hāwea Flat (HV) site".



Current dd/mm/2022

Daily (observed) Current Today (forecast) Wed Thu Fri Sat Sun

Fire indices for Otago (observed at 8:00 AM, Oct 17 2023)

STATION NAME	FOREST	SCRUB	GRASS	FFMC	DMC	DC	ISI	BUI	FWI	TEMP	RH	DIR	WSP	RN24	GC%
Mueller Hut (NW)	L	L	L	42.8	0	2	0.1	0	0	-2.6	96	0	0	0	40
Tara Hills Aws (MS)	L	L	L	9.4	6.4	5.1	0	5.9	0	4.2	92	221	3.6	11	60
Otematata (HV)	L	L	L	7.8	17.1	216.7	0	28.6	0	5.9	94	79	9.4	11.4	70
Hawea Flat (HV)	L	L	L	5.1	6.8	30.5	0	8.7	0	4.8	96	151	2.2	13.8	40
Wanaka Aws (MS)	L	L	L	6.6	7	27.7	0	8.6	0	4.5	97	128	3.6	13.2	40
Mt Larkins (NW)							0	0.5	0						60
Damaru North (HV)	L	L	L	12.7	16.5	226.1	0	27.8	0	7.6	88	216	8.6	9.6	50
Damaru Airport Aws (MS)	L	L	L	7.8	17.1	158.5	0	26.9	0	7.5	95	254	11.2	11.2	50
Naseby Forest (HV)	L	L	L	7.4	15.1	87	0	21.1	0	2.3	100	279	5.8	11	50
Windsor (NW)	L	L	L	8.1	29	297.4	0	46.6	0	7.1	95	266	2.5	10.4	50
Queenstown Aero (HV)	L	L	L	12.2	6	35.6	0	8.5	0	5.1	98	42	4.7	9.6	40
Queenstown Aws (MS)	L	L	L	12.3	5.5	26.1	0	7.2	0	5.1	95	5	3.6	10.4	40

Go to page 7 to see list of acronyms explained!

Recorded Reserve Closures

Table 1

Days per year that reserves were closed since Wildfire Reserve Closure plan implemented.

Year	Queenstown	Wānaka (half days)	Wānaka (full days)
2023/24	0	3	0
2024/25	0	3	0
Total Average	0 per year	3 per year	0 per year

Case studies of potential closure days based on historical data

(1 December 2018 to 15 March 2023)

Table 2

Forestry Levels: Predicted days per year that reserve closures would have occurred on days with a BUI >120.

Year	Queenstown (mainly afternoons)	Wānaka (mainly full days)
2019	2	4
2020	5	17
2021	0	10
2022	6	14
2023	11	29
Total Average	5 per year	15 per year

Acronyms list

Temp	Temperature
RH	Relative humidity
FFMC	Fine fuel moisture code

DMC	Duff moisture code
DC	Dry chemical
BUI	Build up index



Fire behaviour assumptions for reserve closure

Reserve closures BUI >120 or >80 if other wildfire risk conditions exist.

Based on the above values a fire starting at the base of Te-Taumata-o-Hakitekura Ben Lomond, could reach the base building (approx. 800m) in around 20 minutes with an intensity of 35,000kw (well above the 10,000kw aircraft suppression level).

For Mt Iron, a fire starting off Aubrey Road, could reach the top of the mountain (approx. 1000m) in around 20 minutes with an intensity of 50,000kw.¹

The QLDC trigger points are based around uncontrollable fires, that allow around 20 minutes warning for people at the top of Bobs Peak or the top of Mt Iron to escape or prepare for a fires impact. Despite the many extreme fire danger days over the past 15 years, there has not been a fire that has burnt to the top of either site.

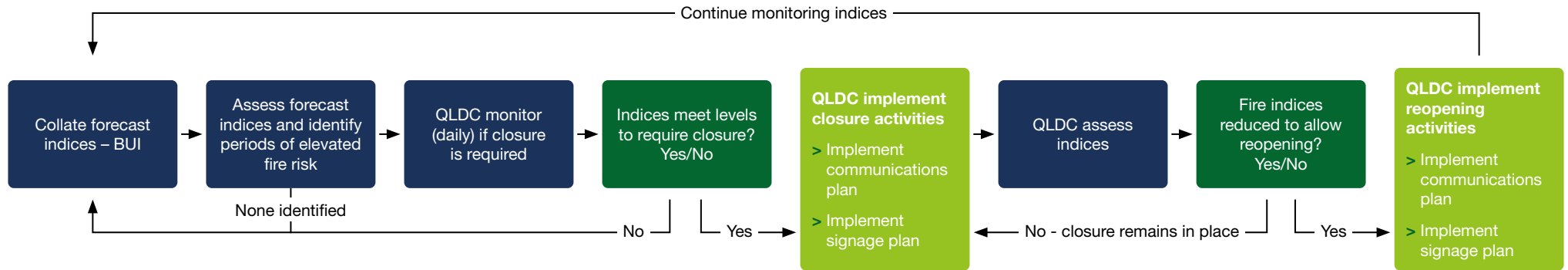
The trigger points have been created as guidelines to recognise the fire danger of the reserves in this area and to balance this against the many users of the reserves both privately and commercially. If QLDC wishes to increase the amount of time for people to be warned or escape a fire, the trigger levels will need to be reduced.

¹Fire weather inputs: Temp 30, RH 35, Wind 15km/hr, FFMC 91, DMC 50, DC 500, BUI 80- Queenstown Mature Pines at 35 deg slope, Wānaka Scrub Manuka/Kanuka 3m high on 10 deg slope. Fires obtaining 90% of equilibrium in 30 mins. EXTREME fire danger.

Go to page 7 to see list of acronyms explained!




Reserve closure flowchart



Document Control

Version 3

Date:	11 December 2025
Approver:	Kenneth Bailey, General Manager Community Services
Approvers signature:	
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