

Lake Ōkāreka Outlet – Guidelines for Operation of Structure

1. Introduction

Lake Ōkāreka has no natural outlet and outflow is controlled by a valve on a pipe that discharges into the Waitangi Stream (which flows into Lake Tarawera).

BOPRC holds consent #60776 for this structure, granted in May 2001 and expiring in 2026. Condition 8.2 of the consent includes a requirement for Guidelines for setting of the valve in response to lake level readings

2. Target Range

Condition 8.1 gives the target range for the lake level as 353.5m to 353.9m (Moturiki Datum 1953). The rate of discharge in the Waitangi Stream shall not exceed 239 litres per second (Condition 6.1) and as far as practicable have a minimum discharge rate of 100 litres per second (Condition 6.2).

3. Day-to-day management

Responsibility for day-to-day management of the outlet structure is delegated to the Bay of Plenty Regional Council's Engineering team.

4. Monitoring of Lake Level

Lake levels are to be checked at least weekly by BOPRC's Engineering team. Daily lake levels can be viewed from the telemetry data on BOPRC's Live Monitoring website.

5. Regular Checking of Pipe Intake

The trash rack above the intake structure traps debris. The trash rack is to be checked and cleared weekly when the valve is partially or fully opened. The pipes between Lake Ōkāreka and the canal (above intake structure) will be checked and cleared at the same time as the intake by a local contractor organised by BOPRC.

6. Other Considerations

Any adjustment of the pipeline valve, i.e. changes to the rate of outflow into Waitangi Stream, will be made after consultation with Fish and Game New Zealand. Fish and Game New Zealand require flow in the Waitangi Stream from April to the beginning of December. 303 Spencer Road through which the Waitangi Stream runs contains a trout fishery. The peak of the trout spawning season is from May – July inclusive, with eggs hatching August – September. and rearing is usually complete by the beginning of December. February and

March is the period when the juvenile fish move out of the stream mouth into the lake. If the valve does require closing prior to December, Fish and Game would prefer this to be done in graduated steps.

7. Valve Operation Guidelines

The valve will be adjusted as needed according to Figure 1 attached.

Figure 1 shows that there shall generally be four settings:

- fully closed
- open at approximately 50 l/s
- open at approximately 100 - 150 l/s
- open valve to 8.5 turns (approximately 239 l/s)

Discretion is available to vary the settings as considered appropriate to meet the objectives of maintaining lake levels within the target range and flows in the Waitangi Stream for fish habitat protection.

8. Communication

The Engineering team (consent holder) shall advise BOPC's Consents team under Condition 11.3 if:

- the discharge into Waitangi Stream falls below the minimum 100 litres per second
- the pipeline has to be closed off for any specific reason
- when flow through the pipeline resumes.

Interested parties will be advised of any adjustment of the pipeline valve, (i.e. changes to the rate of outflow into Waitangi Stream) via the @Okareka Pipeline Operation group email. Interested parties include:

- Fish and Game New Zealand
- Department of Conservation
- Lake Ōkāreka residents
- Applicable Rotorua Lakes Council and BOPRC staff
- Three Lake Tarawera properties with water takes from Waitangi Stream (includes 303 Spencer Road)
- Others requesting to join group email

Out of consideration for the downstream properties with water takes, it is helpful to give 1-2 days warning of valve adjustments (particularly closing of the valve or resuming flow).

7. Monitoring and Review of Guidelines

The operational guidelines shall be reviewed every five years (or earlier as required) by the Bay of Plenty Regional Council (the consent holder).

Figure 1 Valve Operation Guidelines

The flow chart below is a general guide only. The operator is allowed to use their judgement to adjust flows as necessary to meet the purpose of the consent. Consideration of current month, weather forecasts and whether the lake level is rising or falling needs to be taken into account.

(Note – all flows are approximate only)

