

Tabled at Hearing 14/10/14.

Variation 1 to the Proposed Canterbury Land and Water Plan

Evidence of Jonathan Hugh Bailey for NZ King Salmon Co. Ltd

Introduction

1. My name is Jonathan Hugh Bailey. I am the Freshwater Manager for NZ King Salmon. I have been involved in fish farming for over 22 years in the UK and in NZ. In all of my roles I have managed freshwater fish farms and hatcheries. I have been employed by NZ King Salmon since September 2001.
2. I am responsible for all freshwater operations for NZ King Salmon, including the management of the Tentburn Hatchery, and am authorised to give this evidence on behalf of the Company.
3. My evidence is intended to:
 - a. provide a brief description of the operation of the Tentburn Hatchery, with a particular focus on the uniqueness of its groundwater takes;
 - b. describe the consequences of Variation 1 for NZ King Salmon's groundwater takes, and particularly the consequences of the submission of the Department of Conservation; and
 - c. describe the relief NZ King Salmon seeks.

Introduction to NZ King Salmon

4. NZ King Salmon was formed in 1996 as the result of a merger between Regal Salmon Ltd and Southern Ocean Seafoods Ltd, and is now the largest producer of Pacific King Salmon in the world. The company is majority owned by Evergreen Holdings Ltd (whose parent company is the Tiong Group) and Direct Capital. NZ King Salmon has a current staff of around 440.
5. NZ King Salmon farms approximately 6,000 tonnes of Chinook (Pacific King Salmon) in the Marlborough Sounds. The company currently operates eight salmon farms in the Sounds and has recently been granted consent by the Supreme Court for three new farms.
6. NZ King Salmon operations generate significant regional and national economic benefits. In addition, the company provides significant contributions to support services such as freight, road, sea and air haulers, charter boats, specialist divers, hardware suppliers, feed producers, science providers and a host of other New Zealand-based companies. NZ King Salmon predicts growth in revenue between 2015 and 2020 as production from its new farms comes on line.

Description of the Tentburn Hatchery

7. The Tentburn Hatchery is located within the Selwyn-Waihora catchment adjacent to the coast, near the mouth of the Rakaia River. It is located below the confluence of the Tentburn and Lee Rivers, and immediately upstream of where these rivers discharge via a box culvert to the sea (refer to the plan in **Attachment 1** of my evidence).
8. The hatchery is the sole rearing location of NZ King Salmon's juvenile salmon (smolt). All eggs are delivered to the hatchery from the breeding centre in Golden Bay, where they are hatched and reared to smolt before being transported to the seafarms in the Marlborough Sounds for on-growing. The hatchery produces three million smolt annually.
9. The hatchery is located in the Little Rakaia Zone. Previous investigations by Environment Canterbury have indicated that the north branch of the Rakaia River is the main source of groundwater recharge for the zone, with variations in groundwater levels driven by changes in flow. The Tentburn and Lee Rivers are spring-fed, and spring flows are generally reliable near the coast and in the middle branch of the Lee River, which tend to remain stable even when surrounding groundwater levels drop.¹
10. The hatchery modifies the flows of the Lee and Tentburn Rivers. A radial arm gate below the confluence of the two rivers diverts water up an intake channel at the head of the hatchery, where it is then continuously pumped into the hatchery raceways. The current consent for that diversion allows up to 194,000 m³ of water per day to be diverted at a maximum rate of 2,250 l/s.² Any water that is not diverted passes through the radial gate and box culvert out to sea.
11. In addition, groundwater from two bores within the hatchery is used to obtain better quality water for incubation and development of the smolt during the early stages of the lifecycle. The current consent for those takes enables up to 25,920 m³/day at a rate of 300 l/s to be taken from bore M37/242, which has a depth of 19.6 metres, and up to 13,133 m³/day at a rate of 152 l/s to be taken from bore M37/0131, which has a depth of 17.5 metres.³ The existing groundwater takes are stream-depleting, and are recorded as having a moderate stream depletion effect greater than 5 l/s.⁴

¹ The Surface and Groundwater Resources of the Little Rakaia Zone, ECAN Report U03/35, June 2003.

² CRC990593.

³ CRC010751.1.

⁴ Section 2.5.3, page 37 - Review of the Environmental Flow Regimes for Ellesmere 3, ECAN, August 2007.

12. After being circulated through the hatchery raceways, all surface and groundwater enters a discharge channel, and mixes with river water, prior to discharge through the box culvert to the sea. The current consent for the discharge restricts the rate of discharge to 2,500 l/s from the fish races, and 38 l/s from the farm settling ponds.⁵
13. Unlike groundwater that is taken for irrigation purposes, the take and use of stream-depleting groundwater at the hatchery is considered to be unique for the following reasons:
 - a) The hatchery is located at the most downstream point of the rivers, prior to them discharging to the sea. Any stream depletion effect from the groundwater take would therefore have no downstream impact;
 - b) The stream-depleting groundwater that is abstracted is eventually returned to a discharge channel, and helps maintain water levels in the Tentburn and Lee Rivers; and
 - c) The rates and volumes of groundwater being returned are in excess of that being extracted from the rivers as a result of stream depletion.

Consequences of Variation 1 for New Zealand King Salmon

14. Variation 1 primarily affects NZ King Salmon's Tentburn operations by introducing an amended regime for the management of groundwater takes. Non-consumptive surface water takes and diversions will continue to be addressed under the region-wide rules of the Proposed Land & Water Plan (particularly rule 5.126 and 5.127).
15. NZ King Salmon's submission supported Variation 1 in so far as it seeks better management of catchment water resources to improve flows in lowland streams. While the hatchery's current groundwater consent does not expire until 2035, it wishes to ensure that the rules continue to provide appropriately for the continuation of stream-depleting groundwater takes where there are unique circumstances, as is the case with NZ King Salmon's operation.
16. NZ King Salmon's submission requested a range of relief. My evidence, however, focuses on only one aspect of its submission and further submission, relating to proposed rule 11.5.32. Rule 11.5.32 provides that the taking and use of groundwater is a restricted discretionary activity, subject to compliance with conditions. Condition 3 requires groundwater takes with a direct or high stream depletion effect greater than 5 l/s to comply with the minimum flow and restriction regime for that water body in table 11(c) and (d). Non-compliance with condition 3 is to be considered as a non-complying activity under rule 11.5.35.

⁵ CRC990594.

17. The Department of Conservation (DOC) has sought in its submission that non-compliance with the minimum flow and restriction regime instead becomes a prohibited activity.⁶ The consequences for NZ King Salmon are that if stream-depleting groundwater takes cannot comply with the minimum flow and restriction regime, there would be no ability for the unique circumstances of NZ King Salmon's operation to be considered on its merits through the resource consent process.
18. In this regard, Environment Canterbury has previously recognised that the hatchery's groundwater takes should not be subject to a minimum flow regime. The ECAN report 'Review of the Environmental Flow Regimes for Ellesmere 3', dated August 2007, identified:
'two bores (one groundwater permit) adjacent to the coast with moderate stream depletion effects greater than 5 L/s, but discharging directly into salmon holding pens and then via a fish ladder to the sea. The permit need not be included in the allocation block, nor should it be subject to the minimum flow for the Tentburn Stream.'
19. I consider this provides implicit support for the exemption of the hatchery's groundwater takes from any minimum flow or restriction requirements for these rivers.

Amendments Sought to Variation 1

20. NZ King Salmon is uncertain of the impact that the minimum flow and restriction regime for the Tentburn and Lee Rivers may have for extracting groundwater at the current consented volume and rate of take. However, in recognition of the potential consequences for its future operations, NZ King Salmon's submission opposed the submission of DOC seeking that non-compliance with the minimum flow and restriction regime becomes a prohibited activity.
21. The Council s42A report has recommended that DOC's submission be allowed, partly on the basis that it would bring the activity status in line with the prohibited status that applies elsewhere in the region. That is incorrect. Region-wide rule 5.129 of the Proposed Land & Water Plan clearly provides that the replacement of a lawfully established groundwater take that does not comply with the flow and allocation regime is a restricted discretionary activity. Only new takes that do not comply are a prohibited activity.
22. Prohibited activity status would not appropriately enable any unique circumstances of a stream-depleting groundwater take to be considered through resource consent on its merits. I understand the intention of Variation 1 is for stream-depleting takes ultimately to

⁶ Submitter 52225, submission point 244.

be replaced with takes from deeper groundwater. However, I consider that is unnecessary for those takes such as NZ King Salmon's, which occur immediately adjacent to the coast and where the groundwater is returned to assist maintain water levels in the rivers. I therefore consider it is reasonable that some flexibility is retained within the proposed rules.

23. NZ King Salmon therefore requests that the submission of DOC be rejected, and the non-complying activity status for non-compliance with condition 3 of rule 11.5.32 be retained, as per Variation 1 as notified.

Jonathan Hugh Bailey
On behalf of NZ King Salmon



Data Source:
 Projection: NZGD 2000 New Zealand Transverse Mercator

Legend

Attachment 1 - Tentburn Hatchery

Date: 10 October 2014 | Revision: 0