

MEMORANDUM

Job 10690

To: Darren de Klerk (Central Hawke's Bay District Council)
From: Sam Morris (Lowe Environmental Impact)
Date: 25th of March 2021
Subject: T:B.13 – Existing Farming System

This memo provides an overview of the existing farm management system for land owned and operated by Malcolm and Doug Drummond surrounding the Takapau Wastewater Treatment Plant (WWTP). A summary of the OverseerFM models for the farm is provided in a subsequent memo ('LEI:T:C.14a Existing/ Future Farming System and OverseerFM Analysis') and details the existing farm system for OverseerFM losses, as well as presents a series of future farm system scenarios and modelled nutrient losses following application of wastewater to various properties from the neighbouring Takapau Wastewater Treatment Plant. This memo however, presents the background information for which that Overseer modelling is based on.

BACKGROUND

Malcolm and Doug Drummond own and operate four properties, encompassing five land parcels, used for cropping and sheep and beef farming within the vicinity of the Takapau community, Central Hawke's Bay. These properties are located along Burnside Road and State Highway 50 north of the Takapau township and have a collective area of 69.8 ha. Additionally, the Drummonds lease a further two land parcels equating to a further 37.2 ha of land along State Highway 2. Figure 1 represents the location of these properties. Table 1 represents property details for these properties.

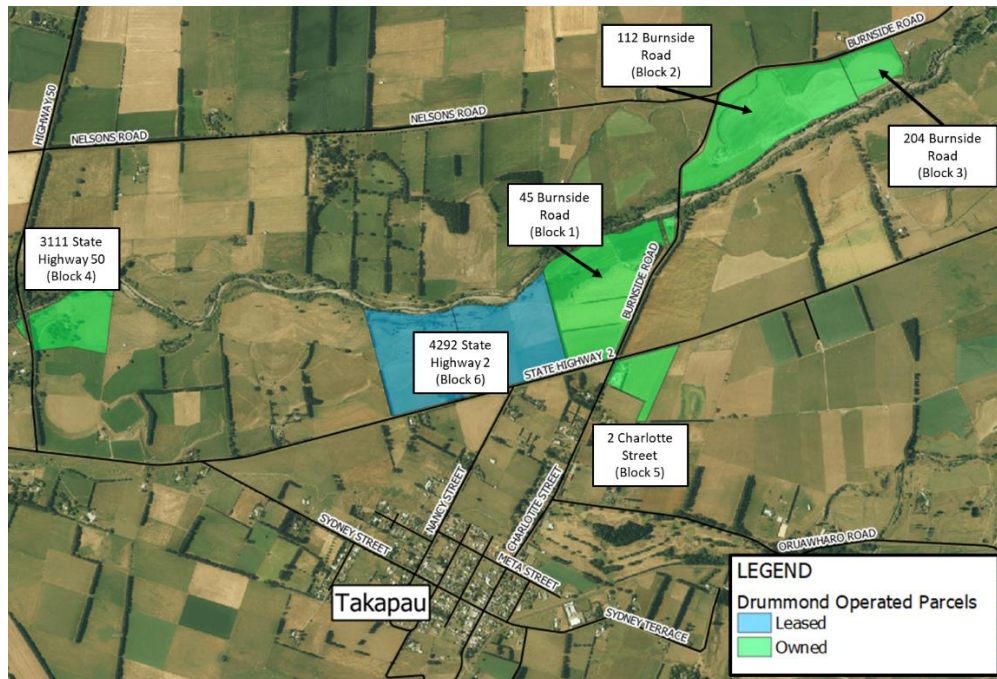


Figure 1: Distribution of Drummond Operated Land

Table 1: Property Details for Drummond Operated Land

| Block | Address | Area (ha) | Legal Description | Land Use |
|-------|-----------------------|-----------|--|-------------------------------|
| 1. | 45 Burnside Road | 23.5 | PT LOT 1 DP 15623 BLKS II III TAKAPAU SD | Pasture & Rotational Cropping |
| 2. | 112 Burnside Road | 24.6 | LOT 1 DP 399164 | Pasture & Rotational Cropping |
| 3. | 204 Burnside Road | 5.0 | LOT 3 DP 399164 | Pasture & Rotational Cropping |
| 4. | 3111 State Highway 50 | 9.9 | LOTS 1-2 DP 22714 BLK III TAKAPAU SD | Pasture |
| 5. | 2 Charlotte Street | 5.6 | PT LOT 1 DP 16740 – BAL AT 10800/73 | Rotational Cropping |
| 6. | 4292 State Highway 2 | 37.2 | LOT 1 DP 16445 LOT 1 DP 20596 LOTS 1 2 DP 313211 | Pasture & Rotational Cropping |

*Green represents owned land; blue represents leased land.

These properties are located within the Makaretu River or Porangahau Stream catchments, both of which are tributaries of the Tukituki River and are therefore subject to the Tukituki River Plan Change 6 (PC6) requirements. In accordance PC6, these properties were required to have a Farm Environment Management Plan (FEMP) produced by the 1st of June 2018, becoming operative on the 1st of June 2020.

One of the key requirements relating to farming land use in PC6 is the need to comply with nitrogen leaching losses per Land Use Capability (LUC) class. Table 5.9.1D of PC6 provides



the limits for a land use to be considered a permitted activity (PA). If leaching is 30 % above the PA limits then the activity is considered a restricted discretionary activity (RDA) and requires a resource consent.

In order to determine how much nitrogen was leaching under the existing farming system an OverseerFM assessment was produced and supplied to Hawke's Bay Regional Council as part of the PC6 requirements. A summary of the OverseerFM model for the existing farm is provided within (LEI, 2021:T:C.14a)¹ which will follow on from this memo.

The information around the existing farm practices for each of these properties was provided by Malcolm Drummond. The Drummond's primary land use across these properties is rotational cropping of barley, peas, maize and oats for export, with cut and carry systems of ryegrass also occurring. Where paddock size is small and irregular, or soil conditions are not desirable for cropping, the Drummonds operate a lower intensity sheep and beef system on pasture, with winter grazing of leafy turnips occurring.

Due to variation between properties, the Drummonds restrict intensive cropping to areas of Blocks 1, 2 and 3, with only occasional cropping occurring on the remaining blocks (Table 1).

The Drummond's hold a resource consent (AUTH-125346-01) to take surface water from the Makaretu River to be used for irrigation. Block 2 is divided into a number of smaller paddocks with 10.7 ha of the 24.6 ha block irrigated by a 200 m centre pivot system adjacent to the Makaretu River. At Block 1, 12.1 ha of the 23.5 ha; and at Block 5, 4.7 ha of the 5.6 ha, is irrigated by two travelling gun irrigators.

As the land use across the blocks is predominantly rotational cropping, the number of animals is relatively small. Collectively across the six blocks, the Drummond's graze on average 65-90 one to two-year-old steers, with these being purchased at approximately 250 kg and sold at 500-600 kg. As mentioned, these animals graze across pasture paddocks and winter graze leafy turnips.

The report by LEI (2020:T:B.15)² provides a detailed summary of the owned land parcel at 45 Burnside Road, as well as for the neighbouring leased parcel at 4292 State Highway 2 which are proposed to receive wastewater from the adjacent Takapau WWTP. This proposed wastewater application will be discussed further within a separate memorandum, LEI 2021:T:C.14a.

If you have any questions, please do not hesitate to get in contact.

Yours sincerely,

Low Environmental Impact

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¹ LEI. (2021:T:C.14a). *Existing/Future Farming System and Overseer Analysis.*

² LEI. (2020:T:B.15). *Evaluation of Soils Receiving Takapau Wastewater.*