Figure 2: Re-Calibrated Model Mass Balance Summaries, TN: Relative Proportions

## Waikato River at Ohaaki:



Waikato River at Waipapa:


Waikato River at Waingaro:


- Daíry
- Horticulture
- Dairy Support

Residential

Figure 2: Baseline Model Mass Balance Summaries, TN: Relative Proportions

Waikato River at Ohaaki:


Waikato River at Waipapa:


Waipa River at Waingaro:
$2 \%-4 \% 2 \%$

$\begin{array}{lll}\text { - Dairy } & \text { DairySupport * Dry Stock } \\ \text { - Horticulture Forest }\end{array}$
(HS1: Figure 2, Page 21 in EIC.)

Figure 3a: 2018 Landuse Mass Balance Summaries, TP: Relative Proportions


Waikato River at Waipapa:


4\%
Waipa River at Waingaro:


Waikato River at Ohakuri:


Waikato River at Horotiu:


4\%
Waikato River at Port Waikato:


- Dairy Support = Dry Stock
- Forest
- Miscellaneous a Point Source
(New figure; not in evidence)

Figure 3: Baseline Model Mass Balance Summaries, TP: Relative Proportions

Waikato River at Ohaaki:


Waikato River at Waipapa:


Waipa River at Waingaro:


Waikato River at Ohakuri:


Waikato River at Horotiu:


Waikato River at Port Walkato:


* Dairy * Dairy Support * Dry Stock *Forest
* Dairy * Dairy Support * Dry Stock *Forest
* Horticulture = Residential - Miscellaneous * Point Source
* Horticulture = Residential - Miscellaneous * Point Source
(HS1: Figure 3, Page 22 in EIC.)

Table 3: Equal Allocation Modelling Results: Existing PC1 Long-Term Targets

| Waikato <br> River <br> Station | Upstream <br> Drainage <br> Area (ha) | Assumed <br> Flow (cms) | Current <br> Median <br> Conc. <br> (mg/L) | Target <br> Median <br> Conc. <br> (mg/L) | Current <br> Condition <br> Equal <br> Allocation <br> Export <br> Coeff. <br> (kg-N/ha/yr) | Target <br> Equal <br> Allocation <br> Export <br> Coeff. <br> (kg-N/ha/yr) | Required <br> Diffuse <br> Load <br> Reduction¹ |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| Qhakuri | 160,477 | 209 | 0.28 | 0.16 | 28 | 11.5 | $69 \%$ |
| Whakamaru | 241,422 | 214 | 0.37 | 0.16 | 27 | 8.5 | $80 \%$ |
| Waipapa | 333,000 | 238 | 0.41 | 0.16 | 26 | 6.3 | $90 \%$ |
| Narrows | 465,871 | 315 | 0.63 | 0.35 | 31 | 15.5 | $57 \%$ |
| Horotiu | 497,368 | 330 | 0.68 | 0.35 | 30 | 13.5 | $63 \%$ |
| Huntly | 876,303 | 540 | 0.88 | 0.35 | 28 | 9.5 | $77 \%$ |
| Mercer | $1,042,981$ | 557 | 0.92 | 0.35 | 26.5 | 9 | $78 \%$ |
| Tuakau | $1,067,000$ | 629 | 0.83 | 0.35 | 29.5 | 10 | $76 \%$ |

${ }^{1}=$ relative to load in excess of natural background load

Table 4: Equal Allocation Modelling Results: Proposed Freshwater Ecosystem Outcomes

| Waikato |  |  |  |  |  |  |  |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| River <br> Station | Upstream <br> Drainage <br> Area (ha) | Assumed <br> Flow (cms) | Current <br> Median <br> Conc. <br> (mg/L) | Target <br> Median <br> Conc. <br> (mg/L) | Current <br> Condition <br> Equal <br> Allocation <br> Export <br> Coeff. <br> (kg-N/ha/yr) | Target <br> Equal <br> Allocation <br> Export <br> Coeff. <br> (kg-N/ha/yr) | Required <br> Diffuse <br> Load <br> Reduction |
| Qhakuri | 160,477 | 209 | 0.28 | 0.25 | 28 | 24 | $17 \%$ |
| Whakamaru | 241,422 | 214 | 0.37 | 0.25 | 27 | 16 | $48 \%$ |
| Waipapa | 333,000 | 238 | 0.41 | 0.25 | 26 | 14 | $55 \%$ |
| Narrows | 465,871 | 315 | 0.63 | 0.51 | 31 | 24.5 | $24 \%$ |
| Horotiu | 497,368 | 330 | 0.68 | 0.51 | 30 | 21.5 | $33 \%$ |
| Huntly | 876,303 | 540 | 0.88 | 0.8 | 28 | 25 | $13 \%$ |
| Mercer | $1,042,981$ | 557 | 0.92 | 0.8 | 26.5 | 22.5 | $18 \%$ |
| Tuakau | $1,067,000$ | 629 | 0.83 | 0.8 | 29.5 | 25 | $18 \%$ |

${ }^{1}=$ relative to load in excess of natural background load
(Tables 3 \& 4, Pages 15-16 in EIC.)

Table 10: LUC-Based Allocation Modelling Results: Nitrogen Allocations to Achieve Proposed Freshwater Ecosystem Water Quality Outcomes

| LUC Class | Upper <br> Waikato <br> (kg-N/ha/yr) | Middle <br> Waikato <br> (kg-N/ha/yr) | Lower <br> Waikato <br> (kg-N/ha/yr) | Waipa <br> (kg-N/ha/yr) |
| :---: | :---: | :---: | :---: | :---: |
| I | 29.7 | 29.7 | 26.4 | 29.7 |
| III | 25.3 | 24.2 | 22 | 25.3 |
| III | 17.6 | 18.7 | 19.8 | 19.8 |
| IV | 17.6 | 18.7 | 17.6 | 19.8 |
| V | 15.4 | 15.4 | 15.4 | 15.4 |
| VII | 13.2 | 15.4 | 13.2 | 15.4 |
| VII | 8.8 | 9.9 | 8.8 | 11 |
| VIII | 4.4 | 4.4 | 4.4 | 4.4 |

(Table 10, Page 26 in EIC.)

