

## **Schedule C: Surface Water Quantity**

## Schedule C: Surface *Water*<sup>^</sup> Quantity

Schedule C is a component of Part II - the Regional Plan.

Schedule C only applies to *rivers*<sup>^</sup>.

### How to use the contents of this schedule:

**Step 1:** Identify which *Water Management Sub-zone*<sup>\*</sup> your proposed abstraction lies in (go to Schedule A).

**Step 2:** Refer to Table C.1 to identify which cumulative core allocation limits and minimum flows apply to your *Water Management Sub-zone*<sup>\*</sup>.

### Advice Note:

In accordance with Policy 5-15(b), the taking of *water*<sup>^</sup> for hydroelectricity generation that was lawfully established as at 31 May 2007 falls outside the cumulative core allocation limits and minimum flows in this Schedule.

The cumulative core allocation in any *Water Management Sub-zone*<sup>\*</sup> is only available where:

- (a) the point of take is downstream of the locations described in Table C.2 which identifies the location of infrastructure related to existing hydroelectricity generation schemes, or
- (b) the point of take is upstream of the locations described in the Table C.2 and the quantity of *water*<sup>^</sup> to be taken is no more than was lawfully allocated to be taken upstream of those locations as at 31 May 2007.

**Table C.1: Cumulative Core Allocation Limits and Minimum Flows by *Water Management Sub-zone*<sup>\*</sup>**

| <i>Water Management Zone</i> <sup>*</sup> | <i>Sub-zone</i> <sup>*</sup> | Minimum flow<br>(m <sup>3</sup> /s) | Flow monitoring site     | Flow monitoring site location | Cumulative core<br>allocation limit<br>(m <sup>3</sup> /day) |
|---|------------------------------|-------------------------------------|--------------------------|-------------------------------|--|
| Upper Manawatu<br>(Mana_1)                | Upper Manawatu<br>(Mana_1a)  | 1.600                               | Manawatu at Weber Rd     | U23:751-027                   | 17,712   |
|   | Mangatewainui<br>(Mana_1b)   | 1.600                               | Manawatu at Weber Rd     | U23:751-027                   | 5,616  |
|   | Mangatoro<br>(Mana_1c)       | 0.700                               | Mangatoro at Mangahei Rd | U23:813-019                   | 10,368   |

**Table C.1: Cumulative Core Allocation Limits and Minimum Flows by *Water Management Sub-zone\****

| <i>Water Management Zone*</i>  | <i>Sub-zone*</i>                               | Minimum flow<br>(m <sup>3</sup> /s) | Flow monitoring site        | Flow monitoring site location | Cumulative core<br>allocation limit<br>(m <sup>3</sup> /day) |
|--|--|-------------------------------------|-----------------------------|-------------------------------|--|
| <b>Whole Zone (Mana_1)</b>   |  |                                     |                             |                               | <b>17,172</b>  |
| Weber-Tamaki<br>(Mana_2)   | Weber-Tamaki<br>(Mana_2a)                      | 1.600                               | Manawatu at Weber Rd        | U23:751-027                   | 21,600   |
|  | Mangatera<br>(Mana_2b)                         | 1.600                               | Manawatu at Weber Rd        | U23:751-027                   | 3,888  |
| <b>Catchment cumulative allocable volume (Mana_1 + Mana_2)</b>                                     |  |                                     |                             |                               | <b>21,600</b>  |
| Upper Tamaki<br>(Mana_3)   | Upper Tamaki<br>(Mana_3)                       | 0.240                               | Tamaki at Water Supply Weir | U23:709-111                   | 6,912  |
| Upper Kumeti<br>(Mana_4)   | Upper Kumeti<br>(Mana_4)                       | 0.055                               | Kumeti at Te Rehunga        | T24:616-899                   | 864  |
| Tamaki-Hopelands<br>(Mana_5)   | Tamaki-Hopelands<br>(Mana_5a)                  | 2.980                               | Manawatu at Hopelands       | T24:616-899                   | 83,808   |
|  | Lower Tamaki<br>(Mana_5b)                      | 0.360                               | Tamaki at Stephensons       | U23:707-022                   | 12,096   |
|  | Cumulative allocable volume (Mana_3 + Mana_5b) |                                     |                             |                               | 12,096   |
|  | Lower Kumeti<br>(Mana_5c)                      | 2.980                               | Manawatu at Hopelands       | T24:616-899                   | 5,184  |
|  | Cumulative allocable volume (Mana_4 + Mana_5c) |                                     |                             |                               | 5,184  |
|  | Oruakeretaki<br>(Mana_5d)                      | 0.208                               | Oruakeretaki at SH2 Napier  | T23:679-014                   | 13,651   |
|  | Raparapawai<br>(Mana_5e)                       | 0.035                               | Raparapawai at Jacksons Rd  | T24:645-938                   | 1,296  |
| <b>Catchment cumulative allocable volume (Mana_1 + Mana_2 + Mana_3 + Mana_4 + Mana_5)</b>          |  |                                     |                             |                               | <b>83,808</b>  |
| Hopelands-Tiraumea<br>(Mana_6)   | Hopelands-Tiraumea<br>(Mana_6)                 | 2.980                               | Manawatu at Hopelands       | T24:616-899                   | 90,720   |
| <b>Catchment cumulative allocable volume (Mana_1 + Mana_2 + Mana_3 + Mana_4 + Mana_5 + Mana_6)</b> |  |                                     |                             |                               | <b>90,720</b>  |
| Tiraumea<br>(Mana_7)   | Upper Tiraumea<br>(Mana_7a)                    | 2.040                               | Tiraumea at Ngaturi         | T24:578-780                   | 3,456  |

**Table C.1: Cumulative Core Allocation Limits and Minimum Flows by *Water Management Sub-zone\****

| Water Management Zone*  | Sub-zone*   | Minimum flow (m³/s) | Flow monitoring site                 | Flow monitoring site location | Cumulative core allocation limit (m³/day) |
|---|---|---------------------|--------------------------------------|-------------------------------|---|
|   | Lower Tiraumea (Mana_7b)                                  | 2.040               | Tiraumea at Ngaturi                  | T24:578-780                   | 23,328                                    |
|   | Mangaone River (Mana_7c)                                  | 2.040               | Tiraumea at Ngaturi                  | T24:578-780                   | 1,728                                     |
|   | Makuri (Mana_7d)  | 1.700               | Makuri at Tuscan Hills               | T24:583-717                   | 8,640                                     |
|   | Cumulative allocable volume (Mana_7a + Mana_7c + Mana_7d) |                     |                                      |                               | 8,640                                     |
|   | Mangaramarama (Mana_7e)                                   | 2.040               | Tiraumea at Ngaturi                  | T24:578-780                   | 2,160                                     |
| Whole Zone (Mana_7)   |   |                     |                                      |                               | 23,328                                    |
| Mangatainoka (Mana_8)   | Upper Mangatainoka (Mana_8a)                              | 0.370               | Mangatainoka at Larsons Road         | T25:308-596                   | 1,728                                     |
|   | Middle Mangatainoka (Mana_8b)                             | 1.305               | Mangatainoka at Pahiatua Town Bridge | T24:501-802                   | 5,184                                     |
|   | Lower Mangatainoka (Mana_8c)                              | 1.305               | Mangatainoka at Pahiatua Town Bridge | T24:501-802                   | 27,913                                    |
|   | Makakahi (Mana_8d)  | 0.320               | Makakahi at Hamua                    | T25:424-676                   | 2,694                                     |
|   | Cumulative allocable volume (Mana_8a + Mana_8b + Mana_8d) |                     |                                      |                               | 5,184                                     |
| Whole Zone (Mana_8)   |   |                     |                                      |                               | 27,913                                    |
| Catchment cumulative allocable volume Mangatainoka and Tiraumea (Mana_7 + Mana_8) |   |                     |                                      |                               | 51,241                                    |
| Upper Gorge (Mana_9)  | Upper Gorge (Mana_9a)                                     | 9.175               | Manawatu at Upper Gorge              | T24:494-933                   | 198,288                                   |
|   | Mangapapa (Mana_9b)                                       | 0.035               | Mangapapa at Troup Road              | T24:520-922                   | 1,296                                     |
|   | Mangaatua (Mana_9c)                                       | 0.070               | Mangaatua at Hutchinsons             | T24:581-932                   | 432                                       |
|   | Upper Mangahao (Mana_9d)                                  | 1.415               | Mangahao at Ballance                 | T24:468-818                   | 7,344                                     |
|   | Lower Mangahao (Mana_9e)                                  | 1.415               | Mangahao at Ballance                 | T24:468-818                   | 7,344                                     |

**Table C.1: Cumulative Core Allocation Limits and Minimum Flows by *Water Management Sub-zone\****

| Water Management Zone*   | Sub-zone*  | Minimum flow (m³/s) | Flow monitoring site         | Flow monitoring site location | Cumulative core allocation limit (m³/day) |
|--|--|---------------------|------------------------------|-------------------------------|---|
|  | Cumulative allocable volume (Mana_9d + Mana_9e)              |                     |                              |                               | 7,344                                     |
| Whole Zone (Mana_9)  |  |                     |                              |                               | 198,288                                   |
| Catchment cumulative allocable volume (Mana_1 + Mana_2 + Mana_3 + Mana_4 + Mana_5 + Mana_6 + Mana_7 + Mana_8 + Mana_9)           |  |                     |                              |                               | 198,288                                   |
| Middle Manawatu (Mana_10)  | Middle Manawatu (Mana_10a)                                   | 12.240              | Manawatu at Teachers College | T24:331-892                   | 264,384                                   |
|  | Upper Pohangina (Mana_10b)                                   | 1.960               | Pohangina at Mais Reach      | T23:467-053                   | 9,936                                     |
|  | Middle Pohangina (Mana_10c)                                  | 1.960               | Pohangina at Mais Reach      | T23:467-053                   | 39,312                                    |
|  | Cumulative allocable volume (Mana_10b + Mana_10c)            |                     |                              |                               | 39,312                                    |
|  | Lower Pohangina (Mana_10d)                                   | 1.960               | Pohangina at Mais Reach      | T23:467-053                   | 39,312                                    |
|  | Cumulative allocable volume (Mana_10b + Mana_10c + Mana_10d) |                     |                              |                               | 39,312                                    |
|  | Aokautere (Mana_10e)   | 12.240              | Manawatu at Teachers College | T24:331-892                   | 432                                       |
| Whole Zone (Mana_10)   |  |                     |                              |                               | 264,384                                   |
| Catchment cumulative allocable volume (Mana_1 + Mana_2 + Mana_3 + Mana_4 + Mana_5 + Mana_6 + Mana_7 + Mana_8 + Mana_9 + Mana_10) |  |                     |                              |                               | 264,384                                   |
| Lower Manawatu (Mana_11)   | Lower Manawatu (Mana_11a)                                    | 12.240              | Manawatu at Teachers College | T24:331-892                   | 336,096                                   |
|  | Turitea (Mana_11b)   | 0.041               | Turitea at Ngahere Park      | T24:354-852                   | 37,100                                    |
|  | Kahuterawa (Mana_11c)  | 0.180               | Kahuterawa at Johnsons Rata  | T24:323-808                   | 864                                       |
|  | Upper Mangaone Stream (Mana_11d)                             | 0.035               | Mangaone at Milson Line      | T24:311-953                   | 432                                       |
|  | Lower Mangaone Stream (Mana_11e)                             | 0.035               | Mangaone at Milson Line      | T24:311-953                   | 864                                       |

**Table C.1: Cumulative Core Allocation Limits and Minimum Flows by *Water Management Sub-zone\****

| <i>Water Management Zone*</i>   | <i>Sub-zone*</i>   | Minimum flow<br>(m <sup>3</sup> /s) | Flow monitoring site                   | Flow monitoring site location | Cumulative core<br>allocation limit<br>(m <sup>3</sup> /day) |
|---|--|-------------------------------------|--|-------------------------------|--|
|   | Cumulative allocable volume (Mana_11d + Mana_11e)            |                                     |  |                               | 1,296  |
|   | Main Drain<br>(Mana_11f)                                     | 12.240                              | Manawatu at Teachers College           |                               | 10% of MALF*   |
| <b>Whole Zone (Mana_11)</b>   |  |                                     |  |                               | <b>336,096</b>   |
| <b>Catchment cumulative allocable volume (Mana_1 + Mana_2 + Mana_3 + Mana_4 + Mana_5 + Mana_6 + Mana_7 + Mana_8 + Mana_9 + Mana_10 + Mana_11)</b>           |  |                                     |  |                               | <b>336,096</b>   |
| Oroua<br>(Mana_12)  | Upper Oroua<br>(Mana_12a)                                    | 1.005                               | Oroua at Almadale                      | T23:365-113                   | 34,128   |
|   | Middle Oroua<br>(Mana_12b)                                   | 1.030                               | Oroua at Kawa Wool                     | S23:287-038                   | 34,992   |
|   | Lower Oroua<br>(Mana_12c)                                    | 1.085                               | Oroua at Awahuri Bridge                | S23:243-002                   | 37,152   |
|   | Cumulative allocable volume (Mana_12a + Mana_12b + Mana_12c) |                                     |  |                               | 37,152   |
|   | Kiwitea<br>(Mana_12d)  | 0.150                               | Kiwitea at Haynes Line                 | T23:366-207                   | 1,296  |
|   | Makino<br>(Mana_12e)   | 0.075                               | Makino at Boness Road                  | S23:254-023                   | 1,296  |
| <b>Whole Zone (Mana_12)</b>   |  |                                     |  |                               | <b>37,152</b>  |
| <b>Catchment cumulative allocable volume (Mana_1 + Mana_2 + Mana_3 + Mana_4 + Mana_5 + Mana_6 + Mana_7 + Mana_8 + Mana_9 + Mana_10 + Mana_11 + Mana_12)</b> |  |                                     |  |                               | <b>373,248</b>   |
| Coastal Manawatu<br>(Mana_13)   | Coastal Manawatu<br>(Mana_13a)                               | 12.240                              | Manawatu at Teachers College           | T24:331-892                   | 598,752  |
|   | Upper Tokomaru<br>(Mana_13b)                                 | 0.240                               | Tokomaru at Riverland Farm             | S24:218-772                   | 1,296  |
|   | Lower Tokomaru<br>(Mana_13c)                                 | 0.240                               | Tokomaru at Riverland Farm             | S24:218-772                   | 14,688   |
|   | Cumulative allocable volume (Mana_13b + Mana_13c)            |                                     |  |                               | 14,688   |
|   | Mangaore<br>(Mana_13d)                                       | MALF*                               | Mangaore at d/s Mangahao Power Station | S25:173-670                   | 10% of MALF*   |
|   | Koputaroa<br>(Mana_13e)                                      | 12.240                              | Manawatu at Teachers College           | T24:331-892                   | 432  |

**Table C.1: Cumulative Core Allocation Limits and Minimum Flows by Water Management Sub-zone\***

| Water Management Zone*   | Sub-zone*                                       | Minimum flow (m³/s) | Flow monitoring site    | Flow monitoring site location | Cumulative core allocation limit (m³/day) |
|--|---|---------------------|-------------------------|-------------------------------|---|
|  | Foxton Loop (Mana_13f)                          | MALF*               |                         |                               | 10% of MALF*                              |
| Whole Zone (Mana_13)   |   |                     |                         |                               | 598,752                                   |
| Catchment cumulative allocable volume (Mana_1 + Mana_2 + Mana_3 + Mana_4 + Mana_5 + Mana_6 + Mana_7 + Mana_8 + Mana_9 + Mana_10 + Mana_11 + Mana_12 + Mana_13) |   |                     |                         |                               | 598,752                                   |
| Upper Rangitikei (Rang_1)  | Upper Rangitikei (Rang_1)                       | n/a                 |                         |                               | 0   |
| Middle Rangitikei (Rang_2)   | Middle Rangitikei (Rang_2a)                     | 5.000               | Rangitikei at Pukeokahu | U21:713-708                   | 21,600                                    |
|  | Pukeokahu-Mangaweka (Rang_2b)                   | 12.250              | Rangitikei at Mangaweka | T22:504-513                   | 52,704                                    |
|  | Cumulative allocable volume (Rang_2a + Rang_2b) |                     |                         |                               | 52,704                                    |
|  | Upper Moawhango (Rang_2c)                       | n/a                 |                         | T21:557-745                   | 0   |
|  | Middle Moawhango (Rang_2d)                      | n/a                 |                         | T21:557-745                   | 0   |
|  | Lower Moawhango (Rang_2e)                       | n/a                 |                         | T21:557-745                   | 0   |
|  | Upper Hautapu (Rang_2f)                         | 0.640               | Hautapu at Alabasters   | T21:486-683                   | 9,936                                     |
|  | Lower Hautapu (Rang_2g)                         | 0.640               | Hautapu at Alabasters   | T21:486-683                   | 12,960                                    |
|  | Cumulative allocable volume (Rang_2f + Rang_2g) |                     |                         |                               | 12,960                                    |
| Whole Zone (Rang_2)  |   |                     |                         |                               | 52,704                                    |
| Catchment cumulative allocable volume (Rang_1 + Rang_2)  |   |                     |                         |                               | 52,704                                    |
| Lower Rangitikei (Rang_3)  | Lower Rangitikei (Rang_3a)                      | 12.100              | Rangitikei at Onepuhi   | S23:201-222                   | 141,696                                   |
|  | Makohine (Rang_3b)                              | 0.040               | Makohine at Viaduct     | T22:395-450                   | 864                                       |

**Table C.1: Cumulative Core Allocation Limits and Minimum Flows by *Water Management Sub-zone\****

| <i>Water Management Zone*</i>  | <i>Sub-zone*</i>                | Minimum flow<br>(m <sup>3</sup> /s) | Flow monitoring site    | Flow monitoring site location | Cumulative core<br>allocation limit<br>(m <sup>3</sup> /day) |
|--|---------------------------------|-------------------------------------|-------------------------|-------------------------------|--|
| <b>Whole Zone (Rang_3)</b>   |                                 |                                     |                         |                               | <b>141,696</b>   |
| <b>Catchment cumulative allocable volume (Rang_1 + Rang_2 + Rang_3)</b>          |                                 |                                     |                         |                               | <b>141,696</b>   |
| Coastal Rangitikei<br>(Rang_4)   | Coastal Rangitikei<br>(Rang_4a) | 10.230                              | Rangitikei at McKelvies | S24:033-985                   | 213,840  |
|  | Tidal Rangitikei<br>(Rang_4b)   | 10.230                              | Rangitikei at McKelvies | S24:033-985                   | 285,120  |
|  | Porewa<br>(Rang_4c)             | 12.100                              | Rangitikei at Onepuhi   | S23:201-222                   | 0  |
|  | Tutaenui<br>(Rang_4d)           | 10.230                              | Rangitikei at McKelvies | S24:033-985                   | 6,653  |
| <b>Whole Zone (Rang_4)</b>   |                                 |                                     |                         |                               | <b>285,120</b>   |
| <b>Catchment cumulative allocable volume (Rang_1 + Rang_2 + Rang_3 + Rang_4)</b> |                                 |                                     |                         |                               | <b>285,120</b>   |
| Upper Whanganui<br>(Whai_1)  | Upper Whanganui<br>(Whai_1)     | 26.6                                | Whanganui at Te Maire   |                               | 518  |
| <b>Whole Zone (Whai_1)</b>   |                                 |                                     |                         |                               | <b>518</b>   |
| Cherry Grove<br>(Whai_2)   | Cherry Grove<br>(Whai_2a)       | 26.6                                | Whanganui at Te Maire   |                               | 15,121   |
|  | Upper Whakapapa<br>(Whai_2b)    | 26.6                                | Whanganui at Te Maire   |                               | 3,937  |
|  | Lower Whakapapa<br>(Whai_2c)    | 26.6                                | Whanganui at Te Maire   |                               | 5,517  |
|  | Piopiotea<br>(Whai_2d)          | 26.6                                | Whanganui at Te Maire   |                               | 80   |
|  | Pungapunga<br>(Whai_2e)         | 26.6                                | Whanganui at Te Maire   |                               | 0  |
|  | Upper Ongarue<br>(Whai_2f)      | 26.6                                | Whanganui at Te Maire   |                               | 1,270  |
|  | Lower Ongarue<br>(Whai_2g)      | 26.6                                | Whanganui at Te Maire   |                               | 1,422  |



**Table C.1: Cumulative Core Allocation Limits and Minimum Flows by *Water Management Sub-zone\****

| <i>Water Management Zone*</i>  | <i>Sub-zone*</i>                       | Minimum flow<br>(m³/s) | Flow monitoring site | Flow monitoring site location | Cumulative core<br>allocation limit<br>(m³/day) |
|--|--|------------------------|----------------------|-------------------------------|---|
| <b>Whole Zone (Whai_2)</b>   |  |                        |                      |                               | <b>15,121</b>                                   |
| <b>Catchment cumulative allocable volume (Whai_1 + Whai_2)</b>                   |  |                        |                      |                               | <b>15,121</b>                                   |
| Te Maire<br>(Whai_3)   | Te Maire<br>(Whai_3)                   | MALF*                  |                      |                               | 10% of MALF*                                    |
| <b>Catchment cumulative allocable volume (Whai_1 + Whai_2 + Whai_3)</b>          |  |                        |                      |                               | <b>10% of MALF*</b>                             |
| Middle Whanganui<br>(Whai_4)   | Middle Whanganui<br>(Whai_4a)          | MALF*                  |                      |                               | 10% of MALF*                                    |
|  | Upper Ohura<br>(Whai_4b)               | MALF*                  |                      |                               | 10% of MALF*                                    |
|  | Lower Ohura<br>(Whai_4c)               | MALF*                  |                      |                               | 10% of MALF*                                    |
|  | Retaruke<br>(Whai_4d)                  | MALF*                  |                      |                               | 10% of MALF*                                    |
| <b>Whole Zone (Whai_4)</b>   |  |                        |                      |                               | <b>10% of MALF*</b>                             |
| <b>Catchment cumulative allocable volume (Whai_1 + Whai_2 + Whai_3 + Whai_4)</b> |  |                        |                      |                               | <b>10% of MALF*</b>                             |
| Pipiriki<br>(Whai_5)   | Pipiriki<br>(Whai_5a)                  | MALF*                  |                      |                               | 10% of MALF*                                    |
|  | Tangarakau<br>(Whai_5b)                | MALF*                  |                      |                               | 10% of MALF*                                    |
|  | Whangamomona<br>(Whai_5c)              | MALF*                  |                      |                               | 10% of MALF*                                    |
|  | Upper Manganui o te<br>Ao<br>(Whai_5d) | n/a                    |                      |                               | 0   |
|  | Makatote<br>(Whai_5e)                  | n/a                    |                      |                               | 0   |
|  | Waimarino<br>(Whai_5f)                 | 7 day MALF*            |                      |                               | 5% of 7 day MALF*                               |

**Table C.1: Cumulative Core Allocation Limits and Minimum Flows by Water Management Sub-zone\***

| <b>Water Management Zone*</b>   | <b>Sub-zone*</b>                  | <b>Minimum flow (m³/s)</b> | <b>Flow monitoring site</b> | <b>Flow monitoring site location</b> | <b>Cumulative core allocation limit (m³/day)</b> |
|---|-----------------------------------|----------------------------|-----------------------------|--------------------------------------|--|
|   | Middle Manganui o te Ao (Whai_5g) | 7 day MALF*                |                             |                                      | 5% of 7 day MALF*                                |
|   | Mangaturuturu (Whai_5h)           | n/a                        |                             |                                      | 0  |
|   | Lower Manganui o te Ao (Whai_5i)  | 7 day MALF*                |                             |                                      | 5% of 7 day MALF*                                |
|   | Orautoha (Whai_5j)                | 7 day MALF*                |                             |                                      | 5% of 7 day MALF*                                |
| <b>Whole Zone (Whai_5)</b>  |                                   |                            |                             |                                      | <b>10% of MALF*</b>                              |
| <b>Catchment cumulative allocable volume (Whai_1 + Whai_2 + Whai_3 + Whai_4 + Whai_5)</b>                   |                                   |                            |                             |                                      | <b>10% of MALF*</b>                              |
| Paetawa (Whai_6)  | Paetawa (Whai_6)                  | MALF*                      |                             |                                      | 10% of MALF*                                     |
| <b>Catchment cumulative allocable volume (Whai_1 + Whai_2 + Whai_3 + Whai_4 + Whai_5 + Whai_6)</b>          |                                   |                            |                             |                                      | <b>10% of MALF*</b>                              |
| Lower Whanganui (Whai_7)  | Lower Whanganui (Whai_7a)         | MALF*                      |                             |                                      | 10% of MALF*                                     |
|   | Coastal Whanganui (Whai_7b)       | MALF*                      |                             |                                      | 10% of MALF*                                     |
|   | Upokongaro (Whai_7c)              | MALF*                      |                             |                                      | 10% of MALF*                                     |
|   | Matarawa (Whai_7d)                | MALF*                      |                             |                                      | 10% of MALF*                                     |
| <b>Whole Zone (Whai_7)</b>  |                                   |                            |                             |                                      | <b>10% of MALF*</b>                              |
| <b>Catchment cumulative allocable volume (Whai_1 + Whai_2 + Whai_3 + Whai_4 + Whai_5 + Whai_6 + Whai_7)</b> |                                   |                            |                             |                                      | <b>10% of MALF*</b>                              |
| Upper Whangaehu (Whau_1)  | Upper Whangaehu (Whau_1a)         | 8.700                      | Whangaehu at Karioi         | S21:218-864                          | 47,520   |
|   | Waitangi (Whau_1b)                | 0.470                      | Waitangi at Tangiwai        | T21:316-886                          | 9,504  |

**Table C.1: Cumulative Core Allocation Limits and Minimum Flows by *Water Management Sub-zone\****

| Water Management Zone*  | Sub-zone*   | Minimum flow (m³/s) | Flow monitoring site          | Flow monitoring site location | Cumulative core allocation limit (m³/day) |
|---|---|---------------------|-------------------------------|-------------------------------|---|
|   | Tokiahuru (Whau_1c)                                       | 3.840               | Tokiahuru at Junction         | S21:217-870                   | 41,472                                    |
| Whole Zone (Whau_1)   |   |                     |                               |                               | 47,520                                    |
| Middle Whangaehu (Whau_2)   | Middle Whangaehu  | 9.650               | Whangaehu at Aranui           | S21:175-627                   | 52,272                                    |
| Catchment cumulative allocable volume (Whau_1 + Whau_2)                   |   |                     |                               |                               | 52,272                                    |
| Lower Whangaehu (Whau_3)  | Lower Whangaehu (Whau_3a)                                 | 11.770              | Whangaehu at Kauangaroa       | S22:045-397                   | 127,008                                   |
|   | Upper Makotuku (Whau_3b)                                  | 0.095               | Makotuku at Below Race Intake | S20:091-002                   | 2,506                                     |
|   | Lower Makotuku (Whau_3c)                                  | 0.165               | Makotuku at Raetihi           | S20:065-955                   | 3,802                                     |
|   | Upper Mangawhero (Whau_3d)                                | 1.020               | Mangawhero at Pakihi Road     | S20:100-945                   | 20,736                                    |
|   | Lower Mangawhero (Whau_3e)                                | 2.405               | Mangawhero at Ore Ore         | S21:045-794                   | 24,624                                    |
|   | Makara (Whau_3f)  | 0.045               | Makara at d/s Airstrip        |                               | 0   |
|   | Cumulative allocable volume (Whau_3b + Whau_3f)           |                     |                               |                               | 2,506                                     |
|   | Cumulative allocable volume (Whau_3b + Whau_3c + Whau_3f) |                     |                               |                               | 3,802                                     |
| Whole Zone (Whau_3)   |   |                     |                               |                               | 127,008                                   |
| Catchment cumulative allocable volume (Whau_1 + Whau_2 + Whau_3)          |   |                     |                               |                               | 127,008                                   |
| Coastal Whangaehu (Whau_4)  | Coastal Whangaehu (Whau_4)                                | 11.770              | Whangaehu at Kauangaroa       | S22:045-397                   | 127,008                                   |
| Catchment cumulative allocable volume (Whau_1 + Whau_2 + Whau_3 + Whau_4) |   |                     |                               |                               | 127,008                                   |
| Turakina (Tura_1)   | Upper Turakina (Tura_1a)                                  | 0.340               | Turakina at Otairi            | S22:236-471                   | 3,024                                     |
|   | Lower Turakina (Tura_1b)                                  | 0.805               | Turakina at O'Neills Bridge   | S23:006-287                   | 12,528                                    |

**Table C.1: Cumulative Core Allocation Limits and Minimum Flows by *Water Management Sub-zone\****

| <i>Water Management Zone*</i>                         | <i>Sub-zone*</i>             | Minimum flow<br>(m <sup>3</sup> /s) | Flow monitoring site          | Flow monitoring site location | Cumulative core<br>allocation limit<br>(m <sup>3</sup> /day) |
|---|------------------------------|-------------------------------------|-------------------------------|-------------------------------|--|
|   | Ratana<br>(Tura_1c)          | 0.805                               | Turakina at O'Neills Bridge   | S23:006-287                   | 10% of MALF  |
| <b>Whole Zone (Tura_1)</b>                            |                              |                                     |                               |                               | <b>12,528</b>  |
| <b>Catchment cumulative allocable volume (Tura_1)</b> |                              |                                     |                               |                               | <b>12,528</b>  |
| Ohau<br>(Ohau_1)                                      | Upper Ohau<br>(Ohau_1a)      | 0.820                               | Ohau at Rongomatane           | S25:072-577                   | 24,192   |
|   | Lower Ohau<br>(Ohau_1b)      | 0.820                               | Ohau at Rongomatane           | S25:072-577                   | 24,192   |
| <b>Whole Zone (Ohau_1)</b>                            |                              |                                     |                               |                               | <b>24,192</b>  |
| <b>Catchment cumulative allocable volume (Ohau_1)</b> |                              |                                     |                               |                               | <b>24,192</b>  |
| Owahanga<br>(Owha_1)                                  | Owahanga<br>(Owha_1)         | 0.030                               | Owahanga at Branscombe Bridge | U25:893-587                   | 432  |
| East Coast<br>(East_1)                                | East Coast<br>(East_1)       | MALF*                               |                               |                               | 10% of MALF*   |
| Akitio<br>(Akit_1)                                    | Upper Akitio<br>(Akit_1a)    | 0.045                               | Akitio at Weber               | U24:919-832                   | 864  |
|   | Lower Akitio<br>(Akit_1b)    | 0.145                               | Akitio at Mouth               | U25:988-655                   | 2,592  |
|   | Waihi<br>(Akit_1c)           | 0.050                               | Waihi at SH52                 | U24:892-804                   | 1,296  |
| <b>Catchment cumulative allocable volume (Akit_1)</b> |                              |                                     |                               |                               | <b>2,592</b>   |
| Northern Coastal<br>(West_1)                          | Northern Coastal<br>(West_1) | MALF*                               |                               |                               | 10% of MALF*   |
| Kai Iwi<br>(West_2)                                   | Kai Iwi<br>(West_2)          | 0.445                               | Kai Iwi at Handley Road       | R22:726-455                   | 3,888  |
| Mowhanau<br>(West_3)                                  | Mowhanau<br>(West_3)         | MALF*                               |                               |                               | 10% of MALF*   |
| Kaitoke Lakes<br>(West_4)                             | Kaitoke Lakes<br>(West_4)    | MALF*                               |                               |                               | 10% of MALF*   |

**Table C.1: Cumulative Core Allocation Limits and Minimum Flows by Water Management Sub-zone\***

| <b>Water Management Zone*</b>     | <b>Sub-zone*</b>                  | <b>Minimum flow (m³/s)</b> | <b>Flow monitoring site</b>   | <b>Flow monitoring site location</b> | <b>Cumulative core allocation limit (m³/day)</b> |
|-----------------------------------|-----------------------------------|----------------------------|-------------------------------|--------------------------------------|--|
| Southern Whanganui Lakes (West_5) | Southern Whanganui Lakes (West_5) | MALF*                      |                               |                                      | 10% of MALF*                                     |
| Northern Manawatu Lakes (West_6)  | Northern Manawatu Lakes (West_6)  | MALF*                      |                               |                                      | 10% of MALF*                                     |
| Waitarere (West_7)                | Waitarere (West_7)                | MALF*                      |                               |                                      | 10% of MALF*                                     |
| Lake Papaitonga (West_8)          | Lake Papaitonga (West_8)          | MALF*                      |                               |                                      | 10% of MALF*                                     |
| Waikawa (West_9)                  | Waikawa (West_9a)                 | 0.220                      | Waikawa at North Manakau Road | S25:987-530                          | 6,048  |
|                                   | Manakau (West_9b)                 | 0.040                      | Manakau at SH1 Bridge         | S25:968-512                          | 432  |
| <b>Whole zone (West_9)</b>        |                                   |                            |                               |                                      | <b>6,048</b>                                     |
| Lake Horowhenua (Hoki_1)          | Lake Horowhenua (Hoki_1a)         | MALF*                      |                               |                                      | 10% of MALF*                                     |
|                                   | Hokio (Hoki_1b)                   | MALF*                      |                               |                                      | 10% of MALF*                                     |

**Table C.2: Location of Existing Hydroelectricity Generation Scheme Infrastructure**

| <b>Water Management Zone*</b> | <b>Sub-zone*</b>         | <b>Intake/Dam Name</b> | <b>Locality Descriptions</b> |
|-------------------------------|--------------------------|------------------------|------------------------------|
| Middle Rangitikei (Rang_2)    | Upper Moawhango (Rang_2) | Moawhango Dam          | T20:472-962                  |
| Upper Whanganui (Whai_1)      | Upper Whanganui (Whai_1) | Okupata Intake         | S19:287-351                  |
| Upper Whanganui (Whai_1)      | Upper Whanganui (Whai_1) | Taurewa Intake         | T19:305-356                  |
| Upper Whanganui (Whai_1)      | Upper Whanganui (Whai_1) | Tawhitikuri Intake     | T19:311-359                  |

**Table C.2: Location of Existing Hydroelectricity Generation Scheme Infrastructure**

| <b>Water Management Zone*</b> | <b>Sub-zone*</b>             | <b>Intake/Dam Name</b>                          | <b>Locality Descriptions</b> |
|-------------------------------|------------------------------|---|------------------------------|
| Upper Whanganui<br>(Whai_1)   | Upper Whanganui<br>(Whai_1)  | Mangatepopo Intake                              | T19:313-361                  |
| Upper Whanganui<br>(Whai_1)   | Upper Whanganui<br>(Whai_1)  | Whanganui Intake                                | T19:353-386                  |
| Upper Whanganui<br>(Whai_1)   | Upper Whanganui<br>(Whai_1)  | Te Whaiau Dam                                   | T19:357-398                  |
| Upper Whanganui<br>(Whai_1)   | Upper Whanganui<br>(Whai_1)  | Otamangakau Dam                                 | T19:367-410                  |
| Cherry Grove<br>(Whai_2)      | Upper Whakapapa<br>(Whai_2b) | Whakapapa Intake minimum flow site (footbridge) | S19:226-295                  |
| Te Maire<br>(Whai_3)          | Te Maire<br>(Whai_3)         | Whanganui River at Te Maire                     | S19:998-490                  |
| Upper Whangaehu<br>(Whau_1)   | Upper Whangaehu<br>(Whau_1a) | Makahikatoa                                     | T20:401-984                  |
| Upper Whangaehu<br>(Whau_1)   | Upper Whangaehu<br>(Whau_1a) | Unnamed tributary of the Whangaehu River        | T20:404-984                  |
| Upper Whangaehu<br>(Whau_1)   | Upper Whangaehu<br>(Whau_1a) | Unnamed tributary of the Whangaehu River        | T20:407-985                  |
| Upper Whangaehu<br>(Whau_1)   | Upper Whangaehu<br>(Whau_1a) | Unnamed tributary of the Whangaehu River        | T20:409-985                  |
| Upper Whangaehu<br>(Whau_1)   | Upper Whangaehu<br>(Whau_1a) | Unnamed tributary of the Whangaehu River        | T20:419-985                  |
| Upper Whangaehu<br>(Whau_1)   | Upper Whangaehu<br>(Whau_1a) | Unnamed tributary of the Whangaehu River        | T20:424-985                  |
| Upper Whangaehu<br>(Whau_1)   | Upper Whangaehu<br>(Whau_1a) | Unnamed tributary of the Wahianoa River         | T20:393-986                  |
| Upper Whangaehu<br>(Whau_1)   | Upper Whangaehu<br>(Whau_1a) | Unnamed tributary of the Wahianoa River         | T20:393-986                  |
| Upper Whangaehu<br>(Whau_1)   | Upper Whangaehu<br>(Whau_1a) | Unnamed tributary of the Wahianoa River         | T20:394-986                  |
| Upper Whangaehu<br>(Whau_1)   | Upper Whangaehu<br>(Whau_1a) | Unnamed tributary of the Wahianoa River         | T20:394-986                  |
| Upper Whangaehu<br>(Whau_1)   | Upper Whangaehu<br>(Whau_1a) | Unnamed tributary of the Wahianoa River         | T20:397-986                  |

**Table C.2: Location of Existing Hydroelectricity Generation Scheme Infrastructure**

| <b>Water Management Zone*</b> | <b>Sub-zone*</b>          | <b>Intake/Dam Name</b>                   | <b>Locality Descriptions</b> |
|-------------------------------|---------------------------|--|------------------------------|
| Upper Whangaehu (Whau_1)      | Upper Whangaehu (Whau_1a) | Unnamed tributary of the Wahianoa River  | T20:397-986                  |
| Upper Whangaehu (Whau_1)      | Upper Whangaehu (Whau_1a) | Unnamed tributary of the Whangaehu River | T20:413-986                  |
| Upper Whangaehu (Whau_1)      | Upper Whangaehu (Whau_1a) | Unnamed tributary of the Whangaehu River | T20:416-986                  |
| Upper Whangaehu (Whau_1)      | Upper Whangaehu (Whau_1a) | Unnamed tributary of the Whangaehu River | T20:417-986                  |
| Upper Whangaehu (Whau_1)      | Upper Whangaehu (Whau_1a) | Unnamed tributary of the Wahianoa River  | T20:387-987                  |
| Upper Whangaehu (Whau_1)      | Upper Whangaehu (Whau_1a) | Unnamed tributary of the Wahianoa River  | T20:387-987                  |
| Upper Whangaehu (Whau_1)      | Upper Whangaehu (Whau_1a) | Tomowai                                  | T20:414-987                  |
| Upper Whangaehu (Whau_1)      | Upper Whangaehu (Whau_1a) | Unnamed tributary of the Wahianoa River  | T20:378-988                  |
| Upper Whangaehu (Whau_1)      | Upper Whangaehu (Whau_1a) | Unnamed tributary of the Wahianoa River  | T20:378-988                  |
| Upper Whangaehu (Whau_1)      | Upper Whangaehu (Whau_1a) | Unnamed tributary of the Wahianoa River  | T20:383-988                  |
| Upper Whangaehu (Whau_1)      | Upper Whangaehu (Whau_1a) | Unnamed tributary of the Wahianoa River  | T20:383-988                  |