

# PROPOSED PLAN CHANGE 2 RECALIBRATION OF NITROGEN LEACHING NUMBERS

A technical update of One Plan Table 14.2 in response to OVERSEER® improvements.

In 2017 an evaluation of the policy for managing nutrients in Horizons' Regional Plan (the One Plan) demonstrated that a problem exists within the regulatory framework. Proposed Plan Change 2 (PPC2) will recalibrate Table 14.2 with OVERSEER version 6.3.0 and focuses on the controlled activity pathway for managing nutrients. The aim is to notify PPC2 by the end of 2018.



## WHY IS IT NEEDED?

Nitrogen leaching numbers in Table 14.2 are out of date because:

- They were calculated using OVERSEER in 2007
- OVERSEER has since been updated eight times to improve its accuracy
- Modelled nitrogen leaching has changed by 60%
- The nitrogen leaching numbers have not been updated following version changes
- Managing nitrogen has been adversely affected by this
- **Proposed Plan Change 2 updates N leaching numbers to those calculated using the latest version of OVERSEER**



## WHAT WILL IT MEAN?

- The One Plan will achieve what it intended - better water quality within the means of most farms
- The One Plan will be realigned with the most up to date science
- Farmers will need to achieve at least as much nitrogen leaching reduction as originally intended
- The river will see the same reduction in nitrogen as intended
- No changes to water quality targets
- No other changes to the One Plan

## WHAT DOES THE PLAN CHANGE SAY?

### PROPOSED PLAN CHANGE 2

Cross reference Operative One Plan, Chapter 14, Table 14.2, page 14-8. [2018 additions in **blue** and 2007 deletions in **red**]. Table 14.2 sets out the *cumulative nitrogen leaching maximum\** for the land used for intensive farming land use activities within each specified *land use capability class\**.

Table 14.2 *Cumulative nitrogen leaching maximum\* by Land Use Capability Class\**  
Kgs of N per hectare per year

Period (from the year that the rule has legal effect)	LUC* I	LUC* II	LUC* III	LUC* IV	LUC* V	LUC* VI	LUC* VII	LUC* VIII
Year 1	<b>51</b> <del>30</del>	<b>45</b> <del>27</del>	<b>40</b> <del>24</del>	<b>29</b> <del>18</del>	<b>25</b> <del>16</del>	<b>24</b> <del>15</del>	<b>11</b> <del>8</del>	<b>3</b> <del>2</del>
Year 5	<b>46</b> <del>27</del>	<b>42</b> <del>25</del>	<b>35</b> <del>21</del>	<b>26</b> <del>16</del>	<b>20</b> <del>13</del>	<b>16</b> <del>10</del>	<b>8</b> <del>6</del>	<b>3</b> <del>2</del>
Year 10	<b>44</b> <del>26</del>	<b>37</b> <del>22</del>	<b>32</b> <del>19</del>	<b>23</b> <del>14</del>	<b>20</b> <del>13</del>	<b>16</b> <del>10</del>	<b>8</b> <del>6</del>	<b>3</b> <del>2</del>
Year 20	<b>43</b> <del>25</del>	<b>35</b> <del>21</del>	<b>30</b> <del>18</del>	<b>21</b> <del>13</del>	<b>19</b> <del>12</del>	<b>16</b> <del>10</del>	<b>8</b> <del>6</del>	<b>3</b> <del>2</del>



## HOW CAN MODELLED N LEACHING INCREASE UNDER AGRICULTURAL LAND AND NOT IN THE RIVER?

- Some nitrogen lost under agricultural land gets to the river dissolved in groundwater, however the rest is converted to gas before it gets to the river.
- Horizons knows how much nitrogen gets into the river because we measure it.
- If the OVERSEER model predicts more nitrogen is lost under agricultural land and measurements show the loss to the river is the same, it means that the amount converted to gas must be more than originally estimated.



## WILL PPC2 RESOLVE EVERYTHING?

- No, however this is a technical change we can do immediately to assist implementation without changing the intended water quality outcomes of the One Plan.
- Another plan change process will be needed to propose ways to resolve other implementation issues - this requires a lot more evidence and public input.